Oregon
Tina Kotek, Governor

Oregon Climate Action Commission

OREGON DEPARTMENT OF ENERGY

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TIGHGER 2.0 Project (Transformational Integrated Greenhouse Gas Emissions Reductions) Draft Gap Measures and Scenarios Public Comments

The following is a compilation of written feedback received during the public comment period that extended from March 13, 2026 to April 10, 2026 for the TIGHGER 2.0 Project (Transformational Integrated Greenhouse Gas Emissions Reduction).

The TIGHGER Project aims to assess Oregon's progress toward meeting Oregon's greenhouse gas emission reduction goals of by 45 percent below 1990 levels by 2035 and 80 percent below 1990 levels by 2050.

The first iteration of the TIGHGER project, finalized in 2023 but incorporating data through 2018, found that the state had the program and policy infrastructure in place to meet its 2035 goal. In late 2025, the Oregon Department of Energy updated the forecast with data through 2023, taking into consideration the programs and policies in effect at the time of the analysis and changes to the energy landscape, for example actual and projected increases in load growth (primarily from data centers). This forecast – under the "Business-As-Planned" scenario – found that Oregon does *not* currently have the programs and policies in place to meet either its 2035 or 2050 goals.

On March 13, 2026, ODOE released a draft list of gap measures, as well as scenarios, for public comment. **The draft gap measures listed in that document, as well as those in the forthcoming updated list, are for informational purposes only and are not being proposed for implementation.** The gap measures are also not intended to prescribe program design elements or potential implementation pathways. Instead, these gap measures are being developed to calculate emissions reductions if they were to be implemented.

In the same list, ODOE identified draft scenarios that reflect potential changes to the baseline Business-As-Usual and Business-As-Planned scenarios which, if realized, would lead to different results in Oregon's forecasted greenhouse gas emissions reductions from the programs and regulations that have already been adopted. The scenarios are intended to reflect the risks associated with certain greenhouse gas emission reduction initiatives and uncertainty with respect to future energy growth and will also be used to calculate greenhouse gas emissions.

ODOE greatly appreciates the public comments that were submitted to date. In response to the comments received, ODOE has modified the gap measure list to remove, consolidate, and otherwise amend many of the measures. The gap measure list will now be used to generate calculations for greenhouse gas emissions reductions for each gap measure. The results from these calculations, as well as the greenhouse gas emissions reduction forecast completed in late 2025, will be incorporated into a final TIGHGER 2.0 report. A public comment period on the draft of this report is anticipated to open this summer.

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Open for Public Comment:

Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Please submit comments to OCAC@energy.oregon.gov no later than 5 p.m. on March 27, 2026.

The Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project aims to assess Oregon's progress toward meeting the greenhouse gas emission reduction goals established in Executive Order 20-04, specifically the reduction of greenhouse gas emissions by 45 percent below 1990 levels by 2035 and 80 percent below 1990 levels by 2050.

The first iteration of the TIGHGER project, finalized in 2023 but incorporating data through 2018, found that the state had the program and policy infrastructure in place to meet its 2035 goal. In late 2025, the Oregon Department of Energy updated the forecast with data through 2023, taking into consideration the programs and policies in effect at the time of the analysis and changes to the energy landscape, for example actual and projected increases in load growth (primarily from data centers). This forecast – under the "Business-As-Planned" scenario – found that Oregon does not currently have the programs and policies in place to meet either its 2035 or 2050 goals.

This document details a draft list of gap actions or measures, as well as scenarios, that ODOE intends to quantify in its modeling as part of the TIGHGER 2.0 project. The draft gap measures identified in this document are potentially new, or enhancements of existing, programs and policies which, if implemented and funded, could lead to quantifiable greenhouse gas emissions reductions. Again, these measures are either not currently being implemented or propose greater levels of regulation, efficiency, or clean energy deployment through existing programs.

The gap measures are not intended to prescribe program design elements or an implementation pathway. For many of the measures, there could be multiple ways of achieving the quantified greenhouse gas emission reductions. For example, a grant program could incentivize the adoption of a clean energy technology, while a statutory or regulatory change could require the adoption of that technology over a prescribed period. ODOE is modeling the greenhouse gas emissions reductions that could be achieved if the measure were implemented, not suggesting how that implementation should take place.

The four draft scenarios presented below reflect potential changes to the baseline Business-As-Usual and Business-As-Planned scenarios which, if realized, would lead to different results in Oregon's forecasted greenhouse gas emissions reductions. The scenarios are intended to reflect the risks associated with certain greenhouse gas emission reduction initiatives and uncertainty with respect to future energy growth. The scenarios are likely to demonstrate the importance of existing programs in meeting Oregon's greenhouse gas emissions reductions goals, and the consequent need for Oregon to adopt new measures or develop higher standards for existing programs if the scenarios are realized.

The gap measures and scenarios were developed through consultation with state interagency partners, sectoral subject matter experts, and ODOE's consultant and modeling expert, Sustainable Solutions Group, and are intended to be responsive to feedback received during Phase 1 of the TIGHGHER 2.0 project in 2025. ODOE welcomes comments on the gap measures and scenarios listed below. Finalization of the assumptions and modeling of the greenhouse gas emissions reduction amounts associated with the gap measures and scenarios is expected to occur in April 2026 after taking into account public comments. The following are questions for consideration, but ODOE welcomes comments on any aspect of the information presented below.

- Are there measures listed below that you think would be particularly important to model to quantify potential greenhouse gas emissions reductions? Are there particular assumptions ODOE should consider for that measure?
- Are there additional measures that ODOE should consider modeling to quantify potential greenhouse gas emissions reductions? If so, are there particular assumptions ODOE should consider for that measure?
- Are there additional scenarios that ODOE should consider modeling? If so, are there particular assumptions ODOE should consider for that scenario?

Please submit comments to OCAC@energy.oregon.gov no later than 5 p.m. on March 27, 2026.

Gap Measures

Measure	Sector	Assumption/Metrics
Energy Infrastructure Resilience Programs	Electricity	Expand ODOE's statewide energy infrastructure resilience programs, including the Community Renewable Energy Grant Program, to support projects that improve energy resilience. Quantify by MW installed and project out to 2050.
Large Load Renewable Power Program	Electricity	New large loads to be supplied with 100% clean energy resources.
Increased Nitrate Testing	Food and Agriculture	Testing for nitrates in the soil each Fall and seeking farming practice modifications to allowable limits as necessary.

Measure	Sector	Assumption/Metrics
Nitrogen Fertilizer Practices Program	Food and Agriculture	Targeted use and replacement of nitrogen fertilizer: ramp to 70% reduction by 2050.
Farm Irrigation Efficiency Program	Food and Agriculture	Reduce or upgrade pumps on site, e.g., by connecting to pressurized delivery, sprinkling and transition from flood irrigation to pressurized pump systems.
Farming Practices Program	Food and Agriculture	Adoption by farmers and ranchers of practices that reduce GHG emissions from farming practices. Could include technical assistance, adopting precision fertilizer practices, purchase of equipment or sharing of equipment, and biochar application or other amendments.
Uptake of Plant-Rich Diets Program	Food and Agriculture	Reduce beef and pork consumption 50% by 2050, and shift to seafood. Reduce poultry and egg consumption 30% by 2050. Reduce dairy consumption 30% by 2050. Shift to a different mix of food categories (fruit and vegetables, grains and cereals, other beverages).
Food Waste Reduction Program	Food and Agriculture	Reduce generation of food waste in Oregon by an additional 21% through source reduction (not diversion) by 2050.
Methane Emissions Program	Food and Agriculture	Reduction in statewide methane emissions by 40% below 2013 levels by 2030, including reduced livestock sector emissions.
Cement Industry Improvements	Industrial	Cement process optimization, through retrofits and new build rotary kilns to include direct, separation, oxy-combustion, biomass fuel, and carbon capture and storage.
Electrification	Industrial	Electrification of 100% of machine drives by 2035; 100% of low temperature heat by 2050; 50% of heat in bulk chemicals production by 2050; 25% of heat in glass production by 2050; 50% of integrated steam production by 2045; 100% of refrigeration by 2040; 75% of industrial HVAC loads by 2050; 80% of industrial vehicles, including in agriculture by 2050; and 50% of construction energy use by 2050.
HFC Product Reduction Program	Industrial	85% reduction in Oregon's hydrofluorocarbon emissions by 2036.
Hydrogen Fuel Adoption	Industrial	Hydrogen used for: 50% of heat in bulk chemicals by 2050; 20% of integrated steam production by 2050; 20% of construction energy use by 2050; and 20% of industrial vehicles by 2050.

Measure	Sector	Assumption/Metrics
Industrial Decarbonization and Innovation Partnership Program	Industrial	Implementation of an Industrial Symbiosis Exchange, including: Carbon Storage Deployment and Incentive Program (with to be determined removal and capture targets for 2030 and 2045); use waste heat from data centers for existing heating districts (potential for 3 steam-based energy districts); potential for wastewater thermal energy direct-to-district energy; and additional incentives for projects located in rural or disadvantaged communities.
Non-Climate Protection Plan Industrial Process Efficiency by 2050	Industrial	1% annual improvement in process efficiency compared to previous year across industries not regulated in the CPP through 2050.
Water Systems Energy Efficiency	Industrial	20% efficiency gain in water distribution system energy use by 2045 by fixing water leakage from older systems.
5% of Fuel Share from Pyrolysis of Biomass by 2040	Multi-Sector	5% of all of the fuel consumed in Oregon in 2040 is produced in Oregon from pyrolysis of biomass.
Low-Carbon Fuels by 2050	Multi-Sector	Low-carbon fuels (biogas/RNG, hydrogen, ammonia, etc.) providing 20% of current direct use gaseous fuel demand by 2050.
95-100% HP & WH in New Res by 2045	Residential and Commercial	95-100% heat pumps and electric water heaters in new residential homes by 2045.
Backup Battery Storage	Residential and Commercial	100% conversion of diesel backup power to battery storage by 2035.
Behind-the-Meter Solar PV	Residential and Commercial	350-400 MW of new behind-the-meter solar PV capacity by 2030.
Building Decarbonization Program	Residential and Commercial	Extend Building Performance Standard to Tier 2 buildings (e.g., special use; schools) to meet BPS targets.
Expanded Building Decarbonization Program	Residential and Commercial	Within the city of Portland, broader or stricter standards than the Building Performance Standards program's targets (specific GHG intensity/energy intensity targets to be determined).
Com Code Reduction 60% by 2030	Residential and Commercial	Commercial Code Energy Reduction: require new commercial buildings to use 60% less energy than base year by 2030 as per EO 17-20.
Embodied Carbon Program	Residential and Commercial	10% of non-governmental single-family units reduce per-unit GHG emissions 51% by 2050; 86% of government infrastructure projects reduce per-unit GHG emissions 28% by 2040 and

1

2

Measure	Sector	Assumption/Metrics
		70% by 2050; 86% of government buildings reduce per-unit GHG emissions 48% by 2040 and 73% by 2050; 86% of non-governmental, non-residential and multi-family buildings reduce per-unit GHG emissions 48% by 2040 and 73% by 2050.
PeakSmart Program	Residential and Commercial	PeakSmart building efficiency and electrification program with accelerated heat pump deployment and weatherization first strategy.
3 Energy Efficiency Incentive Program	Residential and Commercial	Accelerate energy efficiency electricity savings by 15%, and 20% in gas savings, over next 5 years.
4 Existing Res Buildings 95% HP by 2045	Residential and Commercial	95-100% of existing residential homes retrofitted with heat pumps by 2045.
5 Existing Res Buildings 95% HPWH by 2045	Residential and Commercial	95% heat pump water heater sales for existing residential buildings by 2045.
OHCS Manufactured Home Replacement Program	Residential and Commercial	Replace 85-100 manufactured homes; use same assumptions from Manufactured Home Replacement Program.
Home Fuel Cells 5% by 2030	Residential and Commercial	Fuel cells in 5% of residential homes by 2030.
Large Commercial Space Heating	Residential and Commercial	Electric heat pumps are 15%, and other electric/electric hybrid systems are 10%, of commercial HVAC sales by 2030; electric heat pumps are 50%, and other electric/electric hybrid systems are 40%, of sales by 2045.
Non-Heating Equip Elec in All Com by 2035	Residential and Commercial	95-100% appliance sales for new commercial buildings are electric by 2035; 100% of new sales of electric non-space/water heating by 2035 in commercial buildings.
6 Non-Heating Equip Elec in All Res by 2035	Residential and Commercial	95-100% new appliance sales for residential homes are electric by 2035; 100% of new sales of electric non-space/water heating by 2035 in residential buildings.
Res Code Reduction 60% by 2030	Residential and Commercial	New residential buildings to use 60% less energy than base year by 2030 as per EO 17-20.
Residential Space Heating	Residential and Commercial	65% of heating system sales are heat pumps by 2030; 90% by 2040. Households currently with wood stoves: by 2050, 75% will shift to air-source heat pump (ASHP) with woodstove hybrid, 20% woodstove only, 5% heat pump only.
RH2 Injection 15% by 2050	Residential and Commercial	Injection of 15% renewable hydrogen into natural gas distribution system by 2050.

Measure	Sector	Assumption/Metrics
Rooftop Solar PV	Residential and Commercial	5-6 GW of rooftop solar PV by 2050.
Small Commercial Space Heating	Residential and Commercial	65% of heating systems sales are heat pumps by 2030; 90% by 2040. Households currently with wood stoves: by 2050, 75% will shift to air-source heat pump (ASHP) with woodstove hybrid, 20% woodstove only, 5% heat pump only
Solar PV Program	Residential and Commercial	Increased access to solar PVs for low-income households and disadvantaged communities.
Weatherization in Existing Res by 2040	Residential and Commercial	Weatherize 95% of existing residential home envelopes by 2040; retrofit 95% of existing buildings by 2040; achieve a 50% reduction in space conditioning and non-space conditioning energy use.
10% Mode Shift MD to LD	Transportation	Shift 10% of medium duty vehicle miles traveled to light duty/electric micro-mobility in urban counties by 2035.
70% of Off-Road Vehicle Sales are ZEVs by 2050	Transportation	70% of new off-road vehicle sales (farm/agriculture, forestry, construction, and recreation) are ZEVs by 2050; remaining vehicles use renewable diesel or another low carbon drop in fuel.
Aviation Fuel	Transportation	100% sustainable aviation fuel by 2050.
Expanded CFEC and CGI Programs	Transportation	Expansion of CFEC 2027-9 biennium funding for voluntary planning by cities outside metropolitan areas. Proposed matching 2023-5 biennium funding of $2.7M for CFEC and $6.5M for CGI. Same assumptions as CFEC in Business-As-Planned, adjusted for population size.
Maritime Shipping Fuel	Transportation	Domestic ship fuel: 10% electric, 20% hydrogen, and 50% ammonia by 2050. International ship fuel: 20% hydrogen and 60% ammonia by 2050.
Medium- and Heavy-Duty ZEV Sales Shares	Transportation	100% ZEV sales by 2050 for transit and school buses, and 100% ZEV sales by 2050 for other Class 2b vehicles.
Rail Fuel	Transportation	Trains become 20% electric and 70% hydrogen by 2050.

Scenarios (will be compared to the Business-As-Planned scenario)

Scenarios	Sector	Assumptions
Delayed deployment of clean energy	Electricity	Investor-owned utilities to reduce greenhouse gas emissions associated with electricity sold to Oregon consumers to 80% below baseline

		emissions levels by 2035 (instead of 2030) and 100% by 2040.
Less data center load growth	Electricity	Model lower load growth than under the Northwest Power and Conservation Council's medium-high forecast.
Federal changes	Multi-Sector	Model the effects to programmatic emissions reductions that have resulted from Federal changes since the beginning of 2025, and that are not otherwise addressed by an existing state program.
Lower rate of EV adoption	Transportation	Lower EV adoption rate: 57% by 2050 for cars and 41% by 2050 for Heavy-Duty Trucks.

Oregon Department of Energy Climate Team
March 17, 2026

Re: Request for Extension of Public Comment Period – Oregon Greenhouse Gas Reduction Gap Measures

Dear Oregon Department of Energy Climate Team,

The undersigned organizations representing Oregon's agriculture, commercial forestry, and manufacturing sectors are writing to formally request an extension of the public comment period for the 48 proposed "gap measures" recently shared by the Oregon Department of Energy.

Currently, the public has been given **less than two weeks** to provide feedback, with a deadline of March 27, 2026. This timeframe is insufficient for meaningful stakeholder engagement for the following reasons:

- **Lack of Prior Notification:** Our organizations were not directly notified of these proposals and only became aware of them through recent press coverage. Given that these measures were solicited from other state agencies as early as last fall, it is concerning that the primary industries affected by these proposed policies have not yet been included in the conversation.
- **Prohibitive Timing:** The comment window opened immediately following the 2026 legislative session and coincides with spring break, when many of our staff and members have planned vacations, making it nearly impossible to coordinate a comprehensive technical review of 48 distinct actions across organizations.
- **Significant Impact on Natural Resource Sector:** Oregon's natural resource industry is currently dealing with burdensome regulatory changes, fluctuating global markets, and increasing operational costs. Several of the proposed measures—including reducing livestock methane emissions, limiting nitrogen-based fertilizer use, and reducing beef and pork consumption—have the potential to fundamentally impact the long-term economic viability of Oregon's agricultural and forestry sectors. To provide the "expert" feedback the Department is requesting, our members need time to analyze how these radical proposed shifts in consumption and production will impact the state's economic stability.
- **Significant Impact on Manufacturing:** Oregon manufacturers are in the midst of a multi-year, Oregon-specific manufacturing recession, with job losses exceeding the "great recession." Oregon's cascading, myriad environmental and energy policies and mandates present challenges that render Oregon increasingly uncompetitive for this critical Oregon industry. Even within DEQ's flawed Climate Protection Plan,

some recognition is provided for “energy intensive trade exposed” firms, which are nearly all manufacturers. Recognizing and accounting for the energy needs and realities of manufacturing and the jobs it creates cannot be achieved in a cursory two-week timeline.

The Department has stated it is looking for “experts from across the state to weigh in” on these goals. Our members are those very experts. To ensure the Department receives the high-quality, data-driven feedback necessary to model these scenarios accurately, we request an extension on the comment deadline of at least 30 to 60 days.

Thank you for your consideration of this request. We look forward to your response so that we may begin the thorough process of reviewing these measures and their potential impacts on Oregon’s natural resource economy.

Sincerely,

Oregonians for Food & Shelter
Associated Oregon Loggers
Oregon Business and Industry
Oregon Cattlemen’s Association
Oregon Dairy Farmers Association
Oregon Farm Bureau
Oregon Forest Industries Council
Oregon Golf Course Superintendents Association
Oregon Seed Council
Manufacturing Council of Oregon
Northwest Chicken Council
Weyerhaeuser Company

Kate Dwyer comments on TIGHGER 2.0 Gap Measures & Scenarios

Measure	Sector	Assumption/Metrics	Comments
Energy Infrastructure Resilience Programs	Electricity	Expand ODOE's statewide energy infrastructure resilience programs, including the Community Renewable Energy Grant Program, to support projects that improve energy resilience. Quantify by MW installed and project out to 2050.	Please address the inequities in applying for these funds. Small rural communities lack capacity and sometimes the skill set to succeed in these proposals. Simplify the process so that less sophisticated projects and applicants have a chance.
Large Load Renewable Power Program	Electricity	New large loads to be supplied with 100% clean energy resources.	Sounds good.
Increased Nitrate Testing	Food and Agriculture	Testing for nitrates in the soil each Fall and seeking farming practice modifications to allowable limits as necessary.	Empower local communities to test for nitrates in private wells also. Josephine County had tremendous success with this in 2017 or 2018. Do that again, on a wider scale.
Farming Practices Program	Food and Agriculture	Adoption by farmers and ranchers of practices that reduce GHG emissions from farming practices. Could include technical assistance, adopting precision fertilizer practices, purchase	Many of our farmers are barely making it, especially small farmers. To keep farmers innovating we must keep them thriving. Promote the local purchase of Oregon farm goods at fair prices. Help schools and institutions buy local food. Southern Oregon's primary farm crop is forage. Incentivize purchasing closer to home. Biochar is great. Help forest fuels reduction efforts make more of it and get it to farmers.

		of equipment or sharing of equipment, and biochar application or other amendments.	
Uptake of Plant-Rich Diets Program	Food and Agriculture	Reduce beef and pork consumption 50% by 2050, and shift to seafood. Reduce poultry and egg consumption 30% by 2050. Reduce dairy consumption 30% by 2050. Shift to a different mix of food categories (fruit and vegetables, grains and cereals, other beverages).	EGGS! Locally produced pastured eggs reduce shipping distance (unlike seafood which must be trucked inland.) Eggs are familiar, healthful, and sustainable protein. When raised well in smaller scale, they are not adding to these problems but helping solve them. Small-scale egg production can sustain families, increase local composting and food waste use, produces fertilizer for local use, and multi-purpose egg layer hens are still good to eat when they pass their laying prime. Eggs are only a problem when they are produced at industrial scale. Neighborhood eggeries are a step forward. Promote the Oregon omelet. Goats are also worth considering. They eat blackberry brambles and produce milk and meat. The problem is not the animals, it's the current scale and concentration.
Food Waste Reduction Program	Food and Agriculture	Reduce generation of food waste in Oregon by an additional 21% through source reduction (not diversion) by 2050.	Incentivize stores to use the Fresh Alliance program to donate unsold food to food banks. CHANGE Oregon insurance rules so that food can be given away in power outages rather than reimbursed only when declared a loss by discarding.
Methane Emissions Program	Food and Agriculture	Reduction in statewide methane emissions by 40% below 2013 levels by 2030, including reduced livestock sector emissions.	Biochar in feed and bedding reduces methane and captures nitrogen.
Electrification	Industrial	Electrification of 100% of machine drives by 2035; 100% of low temperature heat by 2050;	Replace two stroke gas engines (leaf blowers, weed whackers, lawnmowers) with electric through an incentive program. Look at this! https://www.heatinverse.com/about-us

		50% of heat in bulk chemicals	Science has largely solved waste heat. Now we need to invest in the technology and implement it!
Industrial Decarbonization and Innovation Partnership Program	Industrial	Implementation of an Industrial Symbiosis Exchange, including: Carbon Storage Deployment and Incentive Program (with to be determined removal and capture targets for 2030 and 2045); use waste heat from data centers for existing heating districts (potential for 3 steam-based energy districts); and additional incentives for projects located in rural or disadvantaged communities.	Look at this! https://www.heatinverse.com/about-us Science has largely solved waste heat. Now we need to invest in the technology and implement it! Establish a contest to redesign data centers to use far less energy, reduce or use waste heat, reduce water use, eliminate night-sky light pollution and eliminate noise. Data centers will make VERY FEW local jobs and will use a lot of resources. DO NOT give them tax breaks! DO NOT situate them in otherwise bucolic places.
Water Systems Energy Efficiency	Industrial	20% efficiency gain in water distribution system energy use by 2045 by fixing water leakage from older systems.	VERY high need!
			Direct solar water heating systems are low tech. My household heats all water for free from April through October. Teach people to use these systems and STOP burning fossil fuels to heat water in frost-free months. Often these systems are against code. Change that. Install frost-detecting automatic drains in the systems. Incentivize innovation in this area. Install systems on rooftops or yards of hospitals, congregate housing, apartment buildings, industry, etc. Keep it hot enough for health, step it down for safety (mixing valves.) Free hot water=good!
95-100% HP & WH in New Res by 2045	Residential and Commercial	95-100% heat pumps and electric water heaters in new residential homes by 2045.	Get those homes off the grid and independent! Look at what Vermont is doing.
Backup Battery Storage	Residential and Commercial	100% conversion of diesel backup power to battery storage by 2035.	Aggressively recycle stainless steel to reduce the threat of nickel mining for battery materials.

Behind-the-Meter Solar PV	Residential and Commercial	350-400 MW of new behind-the-meter solar PV capacity by 2030.	I have an off-grid solar system with battery storage. Education is important. Our system is simple but requires some learning. Promote more small shared power systems in rural and frontier communities, like they have in Blue Lake, Ca.
Incentivize community-wide reduction in power use			Evaluate communities for like size and power needs. Record current baselines. Team them "against" each other in friendly competition to reduce power usage. Reward winners at three months, six months, one year, ten years.
Incentivize reductions in power waste	Commercial	Identify and reduce wasteful practices that make people feel their own conservation will not matter.	Industrial and store lights left on at night when motion sensors could meet security needs might not have a huge impact, but it makes people believe their own efforts will not count. Set examples. Celebrate success.

Public Comment for March 11, 2026 meeting of the Elliott Research Forest Board of Directors

Thank you for the opportunity to share some thoughts regarding your efforts to market carbon credits from the Elliott. My name is Fergus Mclean. I'm a retired forester. Our family owns a cabin in the Umpqua canyon at Scottsburg directly across the river from the NE-most tip of the Elliott.

In her testimony to the February meeting of the State Land Board, Anew Climate's Lizzie Aldrich painted a positive picture for potential Elliott carbon offset sales. She told the SLB that Elliott carbon credits should fetch top dollar in the voluntary carbon market.

Since Anew Climate managed a large sale of forest carbon credits last summer for Weyerhauser at a price of $29/ton it's likely, based on Ms Aldrich's comments to the Land Board, that Elliott credits should be worth at least that much. This is great news for the Elliott's financial prospects.

In light of this value for Elliott carbon credits I am writing to update my comments on the value of Elliott carbon made in my BOP comments. These comments are based on Appendix C of the BOP-Timber Sale Volume and Revenue Summary

My previous analysis of the relative value of carbon vs logging in the 26 units designated for harvest in the initial BOP found a higher value for carbon than logging in just three stands: 25-2E, 25-2I and 25-2 RT, a total of 94 acres. This was based on a timber price of $750/mbf and $10/ton CO2e.

Based on Ms Aldrich's comments, the price estimate for carbon can be raised to a gross of $29/t; at an estimated 20% overhead cost the net price/ton is $23/t. Present stumpage appears to be at least $100/mbf less than the $750/mbf figure used in the BOP.

The Projects Summary table in Appendix C of the BOP shows a net profit of $8,923,156 on a volume of 35,131 mbf, for an average net profit of $254/mbf for the BOP. The $100/mbf drop in stumpage from the stumpage price used in the BOP indicates a present expected net value for BOP harvest of about $150/mbf.

As shown in the calculation below (included in my BOP comments) there are very close to five tons of CO2 equivalent in every thousand board feet. Multiplying the net value of $23/ton X 5 gives a carbon value for BOP stands of $115/mbf. A quick look at Appendix C shows, at these prices, a higher net value for carbon than logging on over 700 of the BOP's 2345 acres. For example: the first stand listed in Appendix C of the BOP, #25-1E, has a total volume of 3175 mbf, with a net logging value of $667,843, or $210/mbf net profit.

If we reduce the net logging value by the $100/mbf decline in stumpage price since the BOP was issued, net logging value becomes $114/mbf, $1/mbf less than the net carbon value. #25-1E is 329 acres, second largest in the BOP. It appears that eight stands totalling 618 acres have a present higher carbon than logging value. So it is clear: responsible management of the Elliott requires tracking carbon vs logging value.

But that's not the end of the story. When one considers that, whereas logging destroys value and "resets" forest ecologyical succession, carbon sales sustain and foster value. Stand 25-1E, if designated

a carbon reserve will, after the 40-year set aside, become an enormously valuable stand of mature timber, while the same unit, if harvested, will in 40 years barely be ready for a revenue-neutral thinning. Standard fiduciary practices mandate that the Elliott include an option for carbon management in selection of all harvest units.

Calculation of carbon content of cruised timber:

50% of wood is carbon

CO2 is heavier that carbon; so to convert from elemental C to CO2 you must multiply the weight of carbon by 3.67 to get the weight of CO2 in the lumber. (this includes the weight of the two added Oxygen atoms)
Multiply the weight of the CO2 in the lumber by the conversion factor of 1.85 to get total tree CO2 weight. This conversion factor can be found in Appendix G of BLM's 2016 Western Oregon Resource Management Plan.

For example, if a tree is cruised to have 1000 board feet of lumber, that's 83 cubic feet of wood (1000/12)
A cubic foot of dry wood weighs around 35#, so 1000 board feet weighs 83X35 or 2905#
Divide by 2 to get the weight of C in the weight of the cruised lumber: approximately 1400# C in 1000 board feet (1 mbf)
Multiply weight C by 3.67 to get weight CO2: 1400X3.67 + 5138#
To get total tree CO2 weight from the weight of the cruised lumber multiply by BLM's magic conversion factor of 1.85: 5138X1.85= 9505# CO2

9505# is very close to 5 tons CO2 in 1000 board feet (1 mbf). When you add in the expected carbon loss from soil carbon caused by logging, the CO2 in 1 mbf lumber is extremely close to 5 tons CO2.

Fergus Mclean

To whom it may concern:

I appreciate the Oregon Department of Energy (ODOE)'s work in helping to ensure our state reaches its greenhouse gas (GHG) reduction targets. Transportation is the largest contributor to Oregon's GHG emissions, comprising 35% of total emissions. I urge ODOE to consider the following additional transportation- and land use-related measures to address this sector's emissions.

1. **Meeting established VMT reduction targets.**

ODOE should model the effect of the Portland metropolitan area (Metro) reducing its per-capita GHG transportation emissions (using vehicle-miles traveled, or VMT, as a proxy) in accordance with OAR 660-044-0020. Specifically, the reduction targets are:

- A 20 percent reduction in per capita GHG emission below 2005 levels by 2035.
- A 25 percent reduction by 2040.
- A 30 percent reduction by 2045.
- A 35 percent reduction by 2050.

2. **Eliminating capacity expansion from freeway projects**

I also urge ODOE to model the impact of eliminating the roadway capacity expansion elements of freeway projects that the Oregon Department of Transportation (ODOT) is planning. These include:

- The Rose Quarter Improvement Project
- The Interstate Bridge Replacement (IBR) Project
- The I-205 Abernathy Bridge Project

Expanding roadway capacity with these and potentially other projects will increase VMT and GHG emissions through the well-documented phenomenon known as induced or latent demand. It's important to quantify the potential emissions reductions that could be achieved by modifying these projects so they do not increase roadway capacity.

3. **Implementing a road user charge (RUC)**

ODOE should evaluate the potential GHG reductions from implementing a universal RUC that charges drivers of light- and medium-duty vehicles a fee per mile driven, both with and without phasing out the state gasoline tax. Such a RUC would disincentivize driving and lower VMT. This modeling should include a sensitivity analysis of RUC amounts (e.g., $0.02 vs. $0.04 per mile) and fleet-wide fuel economy; it should include a scenario in which the RUC scales with vehicle weight.

4. **Tolling freeways**

Finally, I urge ODOE to assess the GHG impact of tolling freeways in the Portland metropolitan area. This measure would help policymakers understand the GHG emissions reduction potential of tolling freeways as they also weigh the congestion-relief and revenue-raising benefits. This measure should account for the sensitivity of GHG emissions to toll rates and fleet fuel economy.

5. Changes in public transportation funding

ODOE should evaluate the GHG impact of increasing statewide public transportation operating and capital funding. A potential sensitivity analysis could evaluate a 10%, 30%, and 50% increase in inflation-adjusted funding.

6. **Assess changes in land use density and building typology**

The proposed measures include expanded CFEC and CGI funding, but do not include a measure that directly measures the impact of higher land use density or intensity. I urge ODOE to evaluate the GHG impact of increased residential density and more mixed-use development in urban growth boundaries. This analysis should include potential VMT reduction, as well as efficiencies from an increased proportion of multifamily housing compared to single-family units (e.g., embodied carbon and reduced heating/cooling). This analysis could also include the impact of amending building codes to allow single-stair/point-access block buildings up to six stories, which make small-lot infill more feasible in urban areas.

Sincerely,

Anders Hart
3223 NE 7th Ave
Portland, OR 97212

March 22, 2026

923 SE Bay Blvd Space 29
Newport,, Oregon 97365

Oregon Department of Energy
550 Capital Street NE
Salem, Oregon 97301

Re: Tighger 2.0 Project Draft Measures

I would like to introduce a new topic – wildfire emissions - for consideration by the Oregon Department of Energy which has a significantly bigger impact to greenhouse emissions than many of these draft measures.

According to the nrcs.usda.gov data, Oregon's statewide snowpack is very low — roughly 25–35% of normal (about 30% of the 1991–2020 median) as of mid-March 2026. Oregon has also recorded and tied the warmest winter on record. Although it is too early to say, there is an extremely likely possibility that the 2026 wildfire season may be as bad as the 2020 wildfire season that decimated many west-side towns in the Oregon Cascades.

According to our AI Overlord chatgpt, the overall Oregon greenhouse emissions total approximately 60 million metric tons. The 2020 wildfires burned approximately 1.2 million acres which roughly equate to 15 to 25 million metric tons of greenhouse gas emissions. The AI Overlord points out that it is difficult to accurately assess the wildfire greenhouse emissions. However, if one assumes that the 15 to 25 million metric tons of greenhouse gas emissions, the 2020 wildfire emissions exceeded the power-sector emissions and possibly rivaled the transportation emissions of 20 to 25 million metric tons of greenhouse gas emissions.

While the severity of the wildfire season varies from year to year, there is little doubt that climate change is increasing the severity of the annual wildfires which will only get worse in the future.

The Oregon Department of Energy needs to account for likely wildfire greenhouse gas emissions in its future calculations. While this will likely "blow out" any meaningful chance to meet the 2035 and 2050 targets, we need to have an honest conversation about the impacts of wildfire emissions. Although I have completely given up any hope that there will ever be any meaningful fuels reduction work on public and private lands, we need to unflinchingly display the failure of homo sapiens (particularly Americans) to address climate change. We need to be honest as we watch homo sapiens destroy this planet.

Sincerely,

Martin Desmond

cc: Representative Dave Gomberg
State Senator Dick Anderson
Elders Climate Action

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Burning Forest Biomass Is Not an Effective Climate Mitigation Response and Conflicts With Biodiversity Adaptation

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ABSTRACT

Pathways are proposed for progressing the goal of decarbonizing economies that rely on burning forest biomass for heat and electricity (bioenergy) based on the proposition that this creates benefits for the climate. The potential for negative impacts on biodiversity are either assumed to be benign or ignored. We critically examined claims, and models used to support them, that bioenergy sourced from forest biomass, including logging residues, is either carbon neutral or will reduce net emissions. We also examined evidence about the impacts on forest ecosystem integrity and species' capacity for adaptation. We found that models used to evaluate bioenergy rely on key assumptions that are in themselves capable of delivering results supportive of bioenergy as an effective strategy. Yet there is abundant evidence that these assumptions are invalid and that burning forest biomass for energy is not carbon neutral or beneficial. From our assessment, we concluded that burning forest biomass, including logging residues, increases atmospheric CO_2 concentration; land sector reporting using net greenhouse gas inventories obscures the impact of forest harvesting on ecosystem carbon stocks; and biomass energy will most likely displace other renewable energy, rather than fossil fuels. We also found that the use of bioenergy results in major negative cascading impacts for forest ecosystem integrity and consequently a reduction in the resilience and natural adaptive capacity of species in the face of climate change impacts. Bioenergy use is therefore in direct conflict with the commitment to limit the rate of global warming so that ecosystems can adapt naturally to climate change. A rethink is warranted of its role in international and national climate policy, and it should not qualify under renewable energy policies including directives, targets, and other legislated instruments. Together, we conclude that burning forest biomass for bioenergy is not a pathway to climate resilient development.

1 | Introduction

Climate resilient development requires that mitigation and adaptation actions are synergistic and do not create additional climate risks or undermine adaptative capacities (Singh and Chudasama 2021). The climate crisis is driven primarily by the extensive use of fossil fuels, plus other factors including cement production (IPCC 2021), but the emissions from widespread deforestation and degradation also play an important role (Mackey and Lindenmayer 2014; IPCC 2021). Annual land-use change and forestry

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emissions (currently around 1.1 ± 0.7 GtC (Friedlingstein et al. 2024) have contributed 31.7% to the accumulated atmospheric CO_2 concentration (IPCC 2023). In response, a transition toward renewable energy and reducing fossil fuel emissions is underway globally (IEA 2021). Many countries are using forest biomass for heat and electricity (bioenergy) to meet renewable energy targets (Sikkema et al. 2021). However, the use of bioenergy is controversial as it undermines the goal of decarbonizing economies (Reid et al. 2020; Balanay and Halog 2024).

While the global land use, land-use change, and forestry (LULUCF) sector continues to function as a net sink (Friedlingstein et al. 2024; Pan et al. 2024), there has been a significant weakening in some regions of the world, due in part to the intensification of logging often driven by the demand for wood fuel (Ceccherini et al. 2020; Angelstam et al. 2021). The amount of carbon stored in the LULUCF sector by 2030 is projected to decline due to increased harvest rates driven, in part, by greater demand for bioenergy (Böttcher and Graichen 2015).

Assessing the climate effects of forest bioenergy is complex due to the diversity of bioenergy systems, and different case studies and methods used. This demands a comprehensive systems approach that considers the entire life cycle and broader impacts on carbon balances (Cowie et al. 2021). There is literature and case studies reporting that logging and burning biomass for energy can contribute to climate change mitigation (Lemprière et al. 2013; Calfapietra et al. 2015; Petersson et al. 2022). However other evidence, such as that summarized by the IPCC, supports the contrary conclusion, namely that burning biomass for energy increases net emissions, with particularly harmful impacts on both the climate (Holtsmark 2013; Ter-Mikaelian et al. 2015; Searchinger et al. 2018) and biodiversity (Giuntoli et al. 2022). International and national policies and programs for decarbonization and forest management should be informed by a scientific understanding of the key factors determining the carbon impact of burning forest biomass for energy, the role of forest ecosystems in the carbon cycle, and the climate mitigation benefits of forest protection.

Here, we examine the evidence for whether or not the increasing use of forest biomass for energy increases atmospheric concentrations of CO_2 and if there are negative impacts on biodiversity. We briefly explore current and projected use of, and demand for, forest biomass for energy and then consider four issues that are germane to widely held views regarding the benefits of bioenergy. We have a particular focus on the assumptions underpinning studies that conclude logging forests for bioenergy results in climate benefits. We then examine the impacts on, and risks to, forest ecosystem integrity and the consequences for the adaptive capacity of forest-dependent species. Our focus here is on naturally regenerating forests and not plantations (sensu FAO 2020).

2 | Current and Projected Use and Demand for Bioenergy

While emissions from deforestation and degradation have long been considered a problem for developing nations (Houghton 2013), emissions due to forest management for commodity production are also a critical mitigation issue for developed countries, including those in the European Union (EU27), United States, Canada, Russia, and Australia (Mackey et al. 2022). Forest biomass has been used for a long time for timber and pulpwood production and local fuelwood, but we are now witnessing a major increase in its use for large-scale commercial energy production, including an accelerating international trade in biomass for energy (Thrän et al. 2019).

The situation in the EU is of particular importance given the proportion of wood-based biomass used for energy (Camia et al. 2021). In response to incentives provided under the EU Renewable Energy Directive, the use of solid biomass in the EU more than doubled between 1990 and 2020, with the largest contribution coming from wood (Booth 2022; Booth and Giuntoli 2025).The overall EU target for renewable energy sources consumption by 2030 was raised to 32% in 2018 (E.U. 2018). The EU has recently reached an agreement on setting a binding renewable energy target of a minimum 42.5%, but aiming for 45%, by 2030 (E.C. 2023). Overall, bioenergy continues to be the main source of renewable energy in the EU, with a share of almost 60% (including liquid biofuels). The heating and cooling sector is the largest end user, using about 75% of all bioenergy Grassi et al. (2021, 2021). Wood burned in households for heating constitutes around half of wood burned in the EU Eurostat (2022). While characterizing the amounts and types of wood burned for energy is challenging, current use of wood for energy in the EU is likely more than 400 million tonnes per year, with around half of that sourced directly from forests (Camia et al. 2021).

An increasing amount of wood is converted to wood pellets that are burned both for residential heating and electricity generation in powerplants. Global wood pellet markets grew from 19.5 million tonnes in 2012 to 35.4 million tonnes in 2018, an average annual growth rate of 12%. In 2019, the aggregated size of global wood pellet markets was estimated to be $8.9 billion and is expected to reach $18.2 billion by 2027 (Yun et al. 2022). The United States is the largest exporter, accounting for over 7.2 million tonnes of wood pellets to overseas markets in 2020, which was a three-fold increase from 2012 (Parajuli 2021). Another major wood pellet producing country is Canada, with British Columbia producing 2.52 million tonnes of wood pellets in 2019 (56% of Canada's total pellet production), of which 99% was exported, including to the United Kingdom (71%), Japan (14%), Belgium (7.4%), and Italy (3.1%) (Yun et al. 2022). Estimates of the potential to produce bioenergy from various high forest cover countries such as Russia (Namsaraev et al. 2018), Australia (ARENA 2021) and China (Yan et al. 2020) signal potentially substantial increases in the use of forest biomass internationally.

3 | Scientific Evidence to Support Renewable Decarbonized Energy Policy

The production, trade, and use of forest biomass for energy is now a major growth industry globally that is increasing the area logged and/or the intensity of logging (Kim et al. 2018; Riddle 2018; Buchholz et al. 2019; Putz et al. 2022). This has significant consequences for the integrity of forest ecosystems (Beckmann et al. 2019; Munstermann et al. 2022; Blattert et al. 2023). These increasing land-use pressures come at the same time the natural

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resilience and adaptive capacity of forests is most needed in the face of escalating human-influenced climate change impacts (Pörtner et al. 2021).

To date, however, policymaking on using forest biomass for energy has largely been based on the assertion that forests constitute a renewable energy source that is carbon neutral, that is, when the carbon debt (from the logging emissions) is fully offset by carbon payback (from forest regrowth), yet it relies on complementary policies for compensation of gaps in carbon sequestration (Searchinger et al. 2018; Sterman et al. 2022). Claims of carbon neutrality are often based on two main arguments. First, that biomass is derived primarily from logging residues that would otherwise quickly decompose or be combusted on site and emit carbon to the atmosphere, thus burning this material does not produce a net increase in emissions. (Booth 2018). Second, that "sustainably harvested" biomass is carbon neutral, a framework that assigns removals from regrowth elsewhere in the forest landscape to immediately offset gross emissions from logging and burning biomass, even though it takes decades to centuries for the harvested forest to regrow and remove these emissions (Ter-Mikaelian et al. 2015; Booth 2022; Selivanov et al. 2023).

Despite repeated and well documented scientific critiques of these claims and their related assumptions (Birdsey et al. 2018; Searchinger et al. 2018; Norton et al. 2019), including from the same political institutions (Marelli et al. 2014; Korosuo et al. 2023; Booth and Giuntoli 2025), many national and regional renewable energy policies continue to promote burning forest biomass for energy. In the following sections, we critically examine four key issues that underpin science-based evidence regarding the climate and biodiversity impacts of burning forest biomass for energy: (1) burning forest biomass and net CO_2 emissions, (2) LULUCF sector reporting protocols and forest harvesting emissions, (3) using biomass energy to replace fossil fuels, and (4) emissions from burning of logging residues. We then consider the risks these bring for forest ecosystem integrity and consider the implications for biodiversity adaptation.

3.1 | Burning Forest Biomass and Net CO_2 Emissions

Whether it originates from burning coal or biomass, released CO_2 molecules have the same atmospheric radiative forcing. Since carbon is a major constituent of wood (~50% of dry weight), burning wood therefore produces significant CO_2 emissions, with wood-fired power plants generating more CO_2 per kWh than coal (Sterman et al. 2018). Emission rates for combustion units vary depending on the efficiency of a given facility, which is strongly affected by fuel moisture content (Booth 2018). Woody biomass feedstock contains moisture levels ranging from around 10% for wood pellets, 15% to 25% for seasoned air-dried logs, to over 50% for freshly cut green timber (Bryś et al. 2016). At a moisture content of 45%, burning wood emits just over 1 tonne of CO_2 for every tonne of wood burned (Booth 2018).

While the emissions from burning biomass are instantaneous, their net removals from the atmosphere by regrowth of trees are not. This means there is a significant time lag between when carbon is emitted and when an equivalent amount is removed and stored. This time lag can be understood as the time required after burning the biomass, for example, from a 40-year-old tree, for a tree of the same age to regrow. However, cumulative emissions from burning biomass are not just from that first year's harvest of 40-year-old trees, but the next year's, and each year after that, for as long as the facility operates. Considered at a landscape scale with an age distribution of forest stands that ensue from time since harvest, this adds layers of complexity to the time lag issue. When emissions accumulate at a faster rate in the atmosphere than removals from regrowth occur, an imbalance results that can persist for decades to centuries. The critical factor here is the "cumulative net emissions," that is, the CO_2 emitted and accumulated over time in the atmosphere by burning biomass compared to the CO_2 flux under an alternative scenario where the forest ecosystem is allowed to continue growing and sequestering carbon in vegetation and soils (Keith et al. 2022). The cumulative net emissions from a biomass energy system can exceed those from a fossil fuel energy system for decades to centuries because of the low efficiency of wood burning and the time lag for removals (Laganière et al. 2017). As long as a facility is operating, emissions will always exceed removals, resulting in a carbon debt. Forest regrowth can eventually "catch up" and remove the majority of the carbon emitted up to a given point in time, but full removal (i.e., repaying the carbon debt) can occur only after the power plant has ceased operations.

Given the global scale of the bioenergy industry, considerable effort has gone into modeling forest biomass energy and associated carbon flows, leading to an exponential increase in published articles (Creutzig et al. 2015; Welfle et al. 2020). Models differ in terms of (i) their purpose (e.g., carbon dynamics, timber supply, biodiversity), (ii) methodology (e.g., simulation, optimization), (iii) the temporal and spatial scales used, and importantly (iv) the key assumptions and limitations. This array of models can broadly be categorized as follows: (a) specialist models, which focus on specific components or processes within the system; (b) energy system models (ESMs), with a focus on representing energy flows; and (c) integrated assessment models (IAMs), which analyze interactions between economies and the environment on a global level (Welfle et al. 2020). The variety of models highlights the complexity of carbon accounting and resulting assessment of impacts, as they focus on different aspects, each with its own unique approaches (Lippke et al. 2011). However, this variation inevitably introduces uncertainties and biases within and between model outcomes. For instance, Giuntoli et al. (2020) show that model assumptions about forest management (e.g., harvest intensity, or replanting practices) can alone induce differing conclusions about bioenergy, underscoring the need to scrutinize these assumptions as carefully as model structure.

A key concern of the approaches of these models lies in how well they represent aspects of carbon dynamics (Table 1). The frequent a priori assumption of carbon neutrality (i.e., carbon emissions are balanced by an equal amount of removal/sequestration) in ESMs and IAMs running over long timescales is problematic because assessing carbon dynamics should be the outcome rather than a predefined input. Depending on context, specialist models may also assume carbon neutrality but can be sufficiently detailed to track relevant carbon pools in forests and/or products, account

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TABLE 1 | Factors related to modeling of carbon dynamics with review of their inclusion or assumptions in different categories of models used in forest management.

Factor	Specialist models (SMs)	Energy system models (ESMs)	Integrated assessment models (IAMs)
Carbon neutrality	Sometimes assumed depending on model detail and purpose	Typically assumed or represented through lifecycle emissions factors	Typically assumed over long time horizons
Carbon pools and flows	Multiple pools (e.g., aboveground, soil) and flows tracked but reliants on detailed data and calibration	Not modeled explicitly, instead represented as an emission factor	Typically simplified as a single (net) flux with limited resolve of pools
Carbon timescales	High level of accuracy requires detailed data and makes generalization difficult	Medium term focus, oversimplifies carbon through immediate emissions	Long-term projections overlook short-term carbon flows
Land use and change	Difficult to scale up when included	Simplified as static changes or omitted	Simplified as static changes or balanced over long-term projections
Disturbances (e.g., fires)	Difficult to scale up when included	Excluded unless as exogenous factor	Simplified or omitted
Reference level	Current managed forest at regional/national level	Current energy system at regional/national level	Business-as-usual scenario for managed forests/plantations at global level

for changes in land use, or implement disturbances such as wildfires. This allows these models to offer a higher level of accuracy; however, they rely on detailed data and calibrations making generalization and/or scaling up difficult. Long-term model projections by ESMs/IAMs simplify or overlook these dynamics.

Where the objective is to assess forest management strategies for their climate change mitigation benefit, it is essential that the modeling includes the dynamics of carbon pools and flows, and the outcome is assessed as total carbon storage and not just annual flows. Factors to consider in modeling carbon dynamics are itemized in Table 1 and their inclusion or assumptions described for each of the model categories.

Examples of specialist models that are centered around forest growth and carbon dynamics include biophysical models such as the carbon budget model (CBM) (Kurz et al. 2009) and the European forest information scenario model (EFISCEN) (Verkerk et al. 2016). The CBM was originally designed for Canadian forests as CBM-CFS3, but later adapted for international applications including in the form of EU-CBM for use on forests in member states of the European Union (Pilli et al. 2024). Similarly, EFISCEN was developed in Sweden and now used for European forests. While models have been developed independently and share input variables such as forest type and growth rates, they differ in scope. EFISCEN is more tailored toward broad-scale forest structure and long-term projections of harvesting dynamics, and therefore lacks capacity to represent fine-scale ecological processes or regional differences in forest structure (Nabuurs et al. 2001; Ťupek et al. 2010). Conversely, the CBM has a focused and detailed approach on carbon processes under different forest disturbance regimes, but relies on simplified growth dynamics and representation of disturbances (Kurz et al. 2009).

An example of a specialist model, though more focused on economics, is the global timber model (GTM), which used a framework in which global forest management decisions and timber supply are coupled to demand, costs, and market dynamics as well as carbon fluxes (Sedjo and Lyon 1996; Sohngen et al. 1999; Sohngen and Sedjo 2000). A number of studies have used the GTM to investigate the relationships between biomass energy and policy making on a decadal timestep, and concluded that increased demand for bioenergy resulted in short-term benefits for carbon sequestration but intensified forest management at the regional level (Baker et al. 2019; Favero et al. 2020; Daigneault and Favero 2021; Favero et al. 2023). However, in terms of representing accurate carbon dynamics, the GTM utilizes, among other sources, global forest area and inventory data from the United Nations Food and Agriculture Organization (UN FAO). While carbon pools are included, the GTM is applied to managed forests and this is used as the reference level to start the simulations and so ignores the depleted carbon stocks from the original harvesting of primary forest, and the potential for future sequestration by ongoing growth of forests without harvesting. The reduced carbon stock from maintaining forests at young ages on a harvesting cycle is significant in terms of the potential mitigation benefit of forest protection and restoration (Keith et al. 2024). Similarly, modeling approaches applied to the Southeastern United States wood pellet industry have made use of unrealistic or overly optimistic baseline scenarios, thereby possibly exaggerating the carbon benefits of increased wood pellet demand and associated consequences for forest management (Parish et al. 2017).

Agent-based models (ABM) encompass explicit and dynamic interactions between agents and their environment, and can also be considered specialist models (Ekström et al. 2024). Zupko and Rouleau (2019) designed an ABM for exploring the sustainable production of biomass as a feedstock for bioenergy under

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different forest management policies with agents representing private forest owners, harvesting entities, transporters, and finally consumers. This ABM relied on regional data and an annual timestep but was limited to only two tree species and ignored detailed carbon flows of the managed forest region, assuming carbon neutrality. Brown et al. (2022) developed a more extensive ABM framework for land-use changes in the United Kingdom under different shared socioeconomic pathways (SSP), but the authors concluded that the model was not sufficiently detailed to represent forestry dynamics and SPP policies were raised as model components that needed improvement.

The market and allocation model (MARKAL) is an example of a widely used ESM to investigate bioenergy and economic planning (Seebregts et al. 2002; Loulou et al. 2004). For instance, Mcdowall et al. (2012) used it to investigate bioenergy (wood and crops) development in the United Kingdom and highlighted the trade-off between land development for bioenergy production and costs of decarbonization. An example from Sweden investigated the ability to meet climate targets through different bioenergy scenarios and while results generally showed an increased usage of bioenergy, a high demand led to higher prices and transport costs (Börjesson et al. 2015). These uses of the MARKAL model both assume carbon emissions are neutral and exclude emissions due to land-use change (Mcdowall et al. 2012; Börjesson et al. 2015).

ESM remain influential in EU policy and practice. For example, the POTEnCIA (Policy Oriented Tool for Energy and Climate Change Impact Assessment) ESM is used to assess impacts of climate policies on the energy system by simulating member state pathways and aggregating outcomes to the EU level (Mantzos et al. 2017). Recently it was used to explore decarbonization pathways in accordance with European climate law (Neuwahl et al. 2024). POTEnCIA includes bioenergy pathways but does not model these directly, instead being highly dependent on the quality and scope of external model outputs such as the global biosphere management model (GLOBIOM) and the global forest model (G4M) for LULUFC components. Limitations in the functionality of ESM however can be addressed when they include additional detailed forest growth and land-use models. This enables more adequate accounting of carbon emissions and removals across the bioenergy supply chain, which can help counter the results from models that assume carbon neutrality (e.g., Mathew et al. 2018; Jåstad et al. 2021).

Bauer et al. (2020) applied 11 IAMs to estimate the use of large-scale bioenergy from managed forests between 2011 and 2100 to meet climate targets and argued that the results showed bioenergy to be a viable option, due to its role in reducing emissions under carbon budget scenarios and potential for integration with carbon capture and storage. However, they also concluded that bioenergy alone was insufficient to meet future total energy demand, emphasizing the need for integration with other energy technologies. The IAMs were simulated under harmonized scenarios of carbon budgets and climate policies, thereby making what we argue is a false assumption about the carbon neutrality of burning forest biomass for energy. Furthermore, the different IAM models differed in parameters such as carbon budget, prices, and spatial/temporal resolution, and did not always include land-use changes (Bauer et al. 2020). These limitations and assumptions limit the utility of IAMs to inform forest management policy.

A broader critique of IAMs highlights more limitations in their structure and transparency. For instance, in Bauer et al. (2020), details of underlying model functions and descriptive information were not presented casting further doubt on their ability to accurately provide guidance or inform policy making (Rosen 2015; Stern et al. 2022). Calvin et al. (2021) reported a narrow focus solely on greenhouse gas (GHG) reduction, a failure to capture government policy changes, and frequent omittance of key ecological and social impacts as key shortcomings of IAMs considered in the context of bioenergy. Otero et al. (2020) highlighted limited inclusion of demand-side changes such as reduced consumption, deemed critical for biodiversity loss and conservation efforts. Finally, a recent assessment of model scenarios used in the IPCC's sixth assessment report (Kanitkar et al. 2024) identified two fundamental issues related to inequity, namely scenario design (often assuming economic growth without differentiating between developmental needs of the global North and South) and the frameworks themselves (that aim for the most cost-effective global solutions while ignoring who bears the costs and how financial transfers could affect development and energy demand in lower income countries). Furthermore, as most IAMs forecast the need for a massive expansion of land needed for bioenergy production, this would require appropriation of a significant portion of existing agricultural for cultivation of bioenergy crops rather than food (R. King et al. 2023).

In summary, the above modeling approaches do not provide a valid basis for claims that burning forest biomass is carbon neutral or carbon positive. The science underpinning the emissivity of bioenergy and the time lag between the emissions from burning forest biomass and their subsequent removal and retention is well established (Booth 2018; Keith et al. 2024). Furthermore, there is a substantial body of evidence that burning forest biomass for energy increases atmospheric CO_2 concentrations compared with the counterfactual of forest protection and restoration (Keith et al. 2021, 2022).

3.2 | LULUCF Sector Reporting Protocols for Forest Harvesting Emissions

For many high forest cover countries, annual GHG inventory reporting under the UN climate change treaty (U.N. 1992) shows net emissions for forest land are negative (i.e., there have been more removals than emissions) despite extensive commercial logging (Mackey et al. 2022). However, the accounting and reporting of net emissions from forest land obscures gross emissions from logging, which are not reported directly but instead are reflected only to the extent that logging impacts the net forest carbon sink.

Emissions from logging occur from a relatively small area of land each year—typically < 2% of forest land (NFISC 2019)—whereas carbon sequestration by forest growth occurs over the whole area of forest land. Carbon gain therefore generally exceeds carbon losses for forest land on an annual basis, thus preserving the overall status of forests as net carbon sinks at the national or regional level.

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However, a recent assessment of the status of forests showed that while globally they have remained a sink, trends are moving toward forest regions becoming a source, especially in boreal and tropical forests (Pan et al. 2024). Indeed, nationally, there are significant and growing exceptions—with the above assessment and the latest UNFCCC data showing that the aggregate EU forest land sink has shrunk since 2010, three EU countries—Czechia, Estonia, and Ireland—have lost their forest carbon sink in recent years, with Finland, Latvia, and Portugal apparently on the verge of losing theirs (EEA 2023).

Because the UNFCCC data present only the net flux, gross emissions due to logging and subsequent combustion of biomass are not revealed. Nor is there any means of determining foregone sequestration, that is, the carbon uptake that forests would be capable of if they were not managed so intensively (Keith et al. 2022). To better assess the carbon impact of forestry activities, reporting should therefore include all carbon stocks and gross flows resulting from different forest activities and ecological processes, as described in the System of Environmental Economic Accounting Ecosystem Accounting (Keith et al. 2021; King et al. 2024; U.N. Division of Statistics 2024).

3.3 | Using Biomass Energy to Replace Fossil Fuels

While it is frequently claimed that bioenergy can be used in place of fossil fuels, especially coal, "substitution" arguments in favor of biomass burning have been strongly criticized for several reasons. These include the following: (i) underestimating carbon footprints, by assuming that forests are in a steady-state condition where harvest is balanced (quickly) by regrowth and sequestration, while ignoring slower rates of emissions, land-use changes, and foregone continuing forest growth and carbon accumulation (Pingoud et al. 2018; Kun et al. 2020); (ii) overestimating benefits, due to real-world market dynamics in which wood products do not perfectly replace non-wood products (Howard et al. 2021); and (iii) ignoring the fact that substitutions are effective only if the total amount of fuel consumption for energy is capped to address growing demand. The latter also applies to claims that substituting wood products for GHG-intensive materials like concrete and steel reduces net emissions. In reality, substitution benefits can only truly accrue if there is a global reduction in the production of non-wood materials and energy (Leturcq 2020).

The urgent need to transition away from fossil fuels requires a diverse set of strategies but comes with major challenges associated with the deployment of renewables (e.g., logistics, material costs, skilled labor). In this context, it has been proposed that bioenergy can play an important supporting role as a consistent and dispatchable power source (IRENA 2024). However, policy and institutional arrangements are key in determining whether biomass in fact substitutes for fossil fuels, or whether it is in fact displacing energy that is truly non-GHG emitting. Policies requiring that a certain proportion of energy be "renewable," as in the EU and Australia, create demand. If bioenergy is used to meet that demand, this can displace other forms of decarbonized renewable energy such as wind and solar (Macintosh et al. 2015). Similar issues arise with policies that offer broad incentives for renewable energy without differentiating between types of renewables or accounting for their lifecycle carbon impacts (Qadir et al. 2021; Vazifeh et al. 2023).

3.4 | Emissions From Burning Logging Residues

Logging residues are considered unmerchantable stemwood ("waste") from logging operations, as well as slash (tops, branches, twigs, leaves, needles), coarse woody debris, standing dead trees, stumps, and roots. Bioenergy is often claimed to reduce net emissions where the feedstock is logging residues (Loeffler and Anderson 2014; Brander et al. 2021). This argument is problematic on three counts. First, from an ecological perspective, there is no such thing as "waste" in a forest ecosystem, as all biomass, living and dead, is integral to an ecosystem's carbon–nutrient–water stocks and flows (Schimel et al. 1997). There is increasing evidence that removing logging residues significantly depletes soil and ecosystem carbon stocks (Achat, Deleuze, et al. 2015; Achat, Fortin, et al. 2015; Hamburg et al. 2019). Second, the carbon stock would have a longer residence time if logging residues remained in the forest and were not combusted for bioenergy or burnt in piles on site (Hudiburg et al. 2019). If biomass remains in the forest to decompose, it would be incorporated into the soil carbon stock or slowly emit CO_2 over years to decades. Burning this wood emits carbon immediately, adding to near-term atmospheric CO_2 (Booth 2018; Hudiburg et al. 2019).

Third, facilitating the use of logging residues for bioenergy increases demand for high volume, low value wood. For example, in south-eastern Australia in the late 1960s, an export woodchip industry was established to use logging residues from the sawlog industry (Routley and Routley 1975). However, this intensification of wood utilization resulted in logging being driven by the demand for woodchips, which constituted in excess of 90% of the wood harvested in some forests (Ajani 2007). Creating additional demand can result in two effects: (i) supporting and prolonging an otherwise low profitability industry and (ii) supporting an increase in the wood harvesting industry and area of forest, intensity, or frequency of logging (Ajani 2007; Lindenmayer 2024). These effects create a greater amount (area and biomass) of forest harvested, and hence, greater emissions to the atmosphere. Therefore, assessments of mitigation benefits of biomass burning should be based on both levels of bioenergy production and the increased amount of harvesting, compared with the current harvesting level.

4 | Risks to Forest Ecosystem Integrity

Previous experience of forest industry supply and demand suggests that an increasing demand for woody biomass fuel, in combination with the original wood products such as sawlogs, will intensify logging operations and result in substantial negative consequences for forest ecosystem integrity (IPCC 2022). The impacts on forest structure, composition, and function from the intensification of forest management for commodity production, and the consequences for biodiversity and key ecological processes have been widely reported (Bowd et al. 2021; Betts et al. 2022). Recent critical evaluations in the context of biodiversity and ecosystem value highlights that a variety of environmental

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impacts can occur when, in addition to sawlogs, residues are harvested for bioenergy (Ranius et al. 2018; Udali et al. 2024). Removal of these biomass components leads to losses of nutrients, reduced input to soil organic matter, and reduction in deadwood quantity and diversity due to substrate loss and destruction (Achat, Deleuze, et al. 2015; Achat, Fortin, et al. 2015; Camia et al. 2021; Giuntoli et al. 2022). This reduces soil protection against erosion and desiccation (Ough 2001) and reduces the abundance and richness of saproxylic species that depend on dead wood, including mosses, lichens, fungi, and invertebrates (Lindenmayer et al. 2002; Sandström et al. 2019; Thorn et al. 2020; Basile et al. 2022).

Examples of the impacts of intensified logging include in south-eastern Australia, a reduction in the dominant age class of canopy trees, the accelerated loss of large old trees (Lindenmayer et al. 2018), simplification of stand structural and compositional complexity (Lindenmayer and Franklin 2003), and the depletion of critical habitat resources (e.g., tree hollows and food trees) for threatened species (Au et al. 2019; Lefoe et al. 2022; Lindenmayer et al. 2002). In the Carpathian Mountains in eastern Europe, clearcut logging of old-growth forest between 1985 and 2010 led to a decrease in area of suitable habitat for the capercaillie (*Tetrao urogallus*) and reduced connectivity between remaining suitable patches (Mikoláš et al. 2017). In British Columbia, Canada, clearcut logging rates in the inland temperate rainforest (ITR) of the interior wetbelt (IWB) dramatically increased between the 1970s and 2010s, leading to a decline in area of primary forest. This impacted the available core suitable habitat of the endangered southern woodland caribou (*Rangifer tarandus caribou*) (Dellasala et al. 2021).

In addition to the provision of wood for bioenergy, Udali et al. (2024) argued there were ecological benefits of residue removal, namely a reduction in risk of wildfires through a reduction in fuel loads, mitigation of insect outbreaks, and facilitating forest regeneration through allowing seedlings to develop. In contrast, Driscoll et al. (2024) found that the largest effects of the 2019–2020 Australian mega-fires, on plants and animals were in areas characterized by frequent and/or recent past fires and within extensively burnt areas. While residue removal may be promoted as beneficial for some ecological responses, given the associated absence or reduction in the canopy layer due to logging, there are consequences for the forest floor microclimate including a decrease in biomass moisture content and an increase in flammability that can promote wildfire risk (Lindenmayer and Zylstra 2024). While the removal of residues may temporarily eliminate food sources or breeding habitat for pest insects, it may undermine the key ecological roles invertebrates play in forest ecosystems (Grove 2002; Hardersen and Zapponi 2018).

In summary, the consequences for forest ecosystem integrity of using logging residues as a feedstock for bioenergy are severe given the documented ecological degradation in areas where intensive forest management is practiced (Dellasala et al. 2025). These impacts may be particularly pronounced in the case of biomass harvesting due to the impacts on soil carbon and nutrient cycles (Achat, Deleuze, et al. 2015; Achat, Fortin, et al. 2015; Hamburg et al. 2019; Camia et al. 2021).

5 | Implications for Biodiversity Adaptation

The negative impacts of burning forest biomass for energy on forest ecosystem integrity have cascading impacts that reduce the resilience and adaptive capacity of biodiversity. Production of industrial scale supplies of biomass feedstock requires intensification of forest management resulting in a younger forest canopy tree age structure and a more open forest canopy, reduced floristic composition of the overstory, along with a degraded understory and ground cover due to mechanical disturbance (Pfeifer et al. 2016; Boucher et al. 2017; Rappaport et al. 2018; Mackey et al. 2023). A reduction in the floristic diversity of canopy tree species to be dominated by ones preferred commercially, and among understory and ground cover plants, reduces the capacity of the forest to adapt to changing climatic conditions (Campbell et al. 2009; Cannon et al. 2022). The loss of animal species undermines key ecological processes such as seed dispersal, pollination, and nutrient cycling (Dirzo et al. 2014). The accumulate impacts of such logging regimes result in forest ecosystems that have less biotic control on their forest interior microclimates, rendering them relatively drier and more exposed to external, meso-climatic extremes including dangerous fire weather conditions, heatwaves, and droughts (Bowd et al. 2021; Lindenmayer and Zylstra 2024; Nolan et al. 2016).

The underlying premise of climate resilient development is that actions to mitigate greenhouse gas emissions, including CO_2 from land use, land-use change, and forestry, do not result in maladaptation and exacerbate climate risks (IPCC 2022). Burning forest biomass for bioenergy is not a pathway to climate resilience for two reasons. First, as detailed above, it is an ineffective mitigation strategy and results in worse mitigation outcomes that the counter-factual of forest protection and ecological restoration. Second, it undermines the resilience of forest ecosystems and adaptive capacity of species. From a policy perspective, the loss of biodiversity and ecosystem integrity is in direct conflict with the commitment to limit the rate of global warming so that ecosystems can adapt naturally to climate change as expressed in Article 2 of the UN Framework Convention on Climate Change (UN Climate Change 1993).

Conversely, protecting and ecologically restoring forests deliver synergistic adaptation and mitigation benefits as ecosystem integrity is maximized. Mitigation actions are needed that support rather than undermine the natural adaptive capacities of species, which include those related to microevolution, phenotypic plasticity, dispersal, refugia, and range reductions (Mackey et al. 2011). Avoiding and reversing the loss and degradation of carbon- and species-rich ecosystems on land and in the ocean is of highest importance for combined biodiversity protection and climate change mitigation actions with large adaptation co-benefits (Pörtner et al. 2021). Additional effective adaptation strategies for ecosystems include avoiding extractive uses, controlling invasive plants and animals, assisted natural regeneration (IPCC 2022), and allowing logged forests to recover their natural canopy tree age structures (Keith et al. 2024). As degrading land uses and threatening processes are removed and reduced, the recovering forest continues to remove carbon from the atmosphere, which is accumulated in biomass and soil pools. It is the accumulated total ecosystem carbon stock that is a forest's

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principal mitigation benefit (Mackey et al. 2013). At the same time, the natural compositional biodiversity of a forest recovers and key ecological processes are restored. As the forest canopy matures, biotic control on the interior microclimate strengthens, generating enhanced resistance to external anthropogenic and natural stresses and perturbations, and more stable, long lived carbon stocks (Rogers et al. 2022). At a landscape level, large areas incorporating an interconnected network of patches are essential for many species, and restoration of previously lost and fragmented areas increases the likelihood of wildlife finding suitable resources, and the probability of their survival (Soulé et al. 2004).

6 | Conclusion

While eliminating fossil fuels is critically important to meet global climate targets, we contend that there is sufficient evidence to reliably conclude that replacing fossil fuels with forest biomass for energy generation results in an increase in CO_2 emissions and atmospheric concentrations of CO_2 over climate-relevant timescales. The research publications arguing that burning forest biomass is climate neutral or positive draw upon key model assumptions that ignore known facts regarding emissions (Section 3.1), do not use appropriate reference levels and rely on negotiated policy decisions (Section 3.2), are based on unrealistic scenarios (Section 3.3), and ignore an important carbon pool (Section 3.4). Current modeling approaches used for bioenergy estimations therefore rely on unrealistic assumptions about carbon neutrality, biomass availability, total carbon storage, carbon accounting, and policy implementation, while facing spatiotemporal scaling mismatches that limit their ability to capture ecological and economic dynamics. It is of concern that assumptions in these models are in themselves capable of delivering results supporting bioenergy as an effective climate mitigation strategy. Yet there is abundant evidence that burning forest biomass, including logging residues, for energy is not carbon neutral and it should not qualify under decarbonization pathways and renewable energy policies including directives, targets, and other legislated instruments. The increased intensity of logging impacts from using forest biomass for energy degrades forest ecosystems and reduces the adaptive capacity of species. Bioenergy modeling ignores the negative impacts on ecosystem integrity and use of bioenergy conflicts with those strategies that can assist biodiversity to adapt to climate change. Burning forest biomass for energy is not a pathway for climate resilient development.

Author Contributions

B.G.M., D.B.L., and H.K. conceived and designed the paper. J.d.B. contributed to the assessment of the literature. All authors contributed to writing and editing of the manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

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Tuesday, March 24, 2026

To: Oregon Climate Action Commission and the Oregon Department of Energy

From: Becky Steckler, AICP

RE: Feedback on Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Thank you for the opportunity to comment on draft gap measures and scenarios. There are several places of concern that I am submitting comments on. Note that I've included two general comments then provide comments on measures in the order in which they are listed in the Gap Measures table.

- **Add a column to the Gap Measures to indicate who implements the measure.** It makes sense that the gap measures are high level and don't provide implementation detail. That would be a very detailed table. That said, it would be helpful to understand who implements the measure. Is it government? Businesses? The public. Government related implementation is perhaps easier to complete compared to measures that require behavior change of the public (such as uptake of plant-rich diets program). That information would be informative.
- **Add a measure to include transportation measures to support walking, biking, and transit.** The Oregon Transportation Plan (2023) notes that transportation is the highest emitter of greenhouse gas (GHG) emissions. It describes strategies to invest in walking, biking, and transit as key to reducing vehicle miles traveled (VMT)[1] and GHG emissions. Given the recent legislative efforts to pull funding from Safe Routes to Schools for highway operations and maintenance, it is concerning that Oregon is prioritizing high carbon travel over low carbon travel (and even more concerning that this reallocation is at the detriment of some of the most vulnerable road users). Oregon will not be able to achieve the goals to reduce transportation-related emissions without continued investment in walk, bike, and transit infrastructure and programs and that should be called out in the gap measures.
- **Combine increased nitrate testing with nitrogen fertilizer practices program.** This measure seems slightly out of place compared to the other measures, as

[1] I heard a presentation by the consultant that worked on the OTP that Oregon would need to reduce VMT by 20 percent in addition to electrifying transportation to achieve our GHG emissions reduction goals. However, I could not find that reference in the OTP.

testing doesn't reduce GHG emissions directly. Should it be combined with nitrogen fertilizer practices program as testing is necessary to effectively implement the program?

- **What Building Decarbonization Program and Expanded Building Decarbonization Program.** Is the recommendation to adopt the City of Portland's Building Decarbonization Program across the state? I'm not opposed to that. From the gap measure description, it is hard to tell what that would entail. Is it for large buildings only (over 20,000 square feet or Tier 2 35,000+ square feet)? Or something else?
- **Balcony or small-scale solar**. I see that expanding rooftop solar to all Oregonians generally, as well as low-income Oregonians is listed in the measures. Has this body considered balcony or other small-scale solar as a cost-effective measure to increase renewable energy (especially for low-income renters)?
- **Include measure to electrify light-duty vehicles.** Given the federal pull-back on incentivizing light-duty vehicles, Oregon will need to be even more proactive to ensure the conversion of internal combustion engines to electric for light-duty vehicles. It seems like that measure should be highlighted here.

March 24, 2026

Oregon Climate Action Commission

Re: Comments on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Dear Commission Members:

Thank you for taking the lead in assessing Oregon's progress toward meeting the greenhouse gas emission reduction goals established in Executive Order 20-04, specifically the reduction of greenhouse gas emissions by 45 percent below 1990 levels by 2035 and 80 percent below 1990 levels by 2050.

I was a member of Clackamas County's Climate Action Task Force, which was tasked with gathering and studying similar information for their Climate Action Plan (completed in the fall of 2023). Several others and myself formed the Natural & Working Lands subcommittee of this task force to study those aspects of natural and working lands to accomplish goals in support of this plan. We came up with a variety of suggestions in diagrammatic form, which I have attached to this letter. I am including this information because it does not appear as if any forestry-related information has been considered in your list of topics (other than a minor reference in transportation). This sector offers tremendous benefits in many ways to assist in tackling emissions reductions and should not be overlooked. You will also note in the attached diagram the presentation of agricultural-related information; however, only a little of which also appears in your current list of topics.

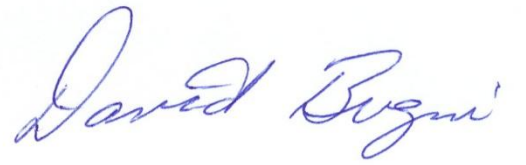
In 2021, the commission adopted a Natural and Working Lands Proposal, setting specific carbon sequestration and storage goals for Oregon's natural and working lands. They advised that these outcome-based goals be distinct from Oregon's legislated sector-based emissions reduction targets, including those updated in Governor Brown's Executive Order 20-04. Regardless of how topics are grouped, all should be evaluated and summarized to ensure a comprehensive and integrated approach. The public would expect this. To quote from the 2023 report of the Natural & Working Lands Proposal of the Commission, "If carefully designed, strategies for increasing sequestration in Oregon's natural and working lands will also provide multiple co-benefits from increased resilience to the impacts of climate change, to improved air quality, better fish and wildlife habitat, jobs and economic development opportunities, and to lower health and energy costs. While significant funding will be needed to achieve the sequestration and storage goals, the financial savings from avoiding the worst impacts of climate change and the value of the natural and working lands goods and services we protect will far exceed those costs."

It should also be pointed out that the forest and agricultural sectors can contribute other benefits beyond carbon sequestration and storage as outlined in the attached diagram. And there are probably others.

I also noticed that the consultant retained for this work, SSG, was the same consultant that Clackamas County retained for our efforts. While SSG offers a quality service in many ways, they appear to lack in-depth knowledge of how the forest sector works, the advantages of including this sector of our state in climate mitigation goals, and how to model the benefits of such a resource. In my opinion, another consultant to the OCAC (or a subconsultant to SSG) should also be retained to study and quantify forestry-related topics. Additionally, the Oregon Department of Forestry should be consulted for recommendations. **It is essential to evaluate and formally acknowledge the diverse contributions of Oregon's forests, which, alongside other major global forests, serve a critical function in sequestering and storing carbon at minimal cost, among other benefits, thereby helping to address this important challenge.**

Please do not hesitate to contact me if you have any questions.

Sincerely,



David Bugni, P.E., S.E. (retired)
Clackamas River Basin Council (past chair)
Oregon Tree Farm System (chair)
Oregon Department of Forestry's Committee for Family Forestlands (incoming chair)

Category: Food, Ag, Forestry & Land Use (countywide Ag/Forest activities) (Rev. 2, 9/17/2021)

Emissions

Contributing Processes:

Agriculture

- Growing & Harvesting
- Processing
- Transport, delivery, food preparation & waste

Forest Operations & Natural Tree Mortality

- During growing cycle
- Logging
- Processing
- Transport, delivery, implementation, waste & disposition

High Level Actions:

- Implement livestock emissions reductions
- Purchase more locally grown crops
- Provide education & incentivize land use towards less meat production
- Minimize food waste
- Improve crop management, employ regenerative agriculture methods (e.g. climate-friendly nutrient management, biochar amendments, composting wastes and other greenhouse gas captures, cover cropping & mulching, no-till & reduced tillage, rotational grazing, silvopasture, sustainable & organic production systems)
- Install agrivoltaics systems (integrating solar with farming) including incentives and education for farmers to implement
- Provide incentives to convert or purchase more fuel/energy efficient or electrically-powered equipment (Ag/Forestry)
- Continue to research & amend state building codes to promote & utilize more mass timber and cross-laminated timber in low & mid-rise bldg. construction & promote wood as a more sustainable building material
- Promote other forest management growing activities to reduce wildfire risks (e.g. pruning, thinning & species diversity incl hardwoods)
- Educate woodland owners to implement American Tree Farm System (or similar) management practices for sustainable forestry
- Supplements to wood products where appropriate (e.g. hemp for pulp)
- Enact more stringent fire risk reduction policies (e.g. entry into public forests during periods of extreme heat/drought/east winds)

Target Outcomes: **Reduce** countywide emissions due to Ag/Forest activities

Carbon Storage & Sequestration (CSS)

Agriculture

- In soils
- In crops

Forests

- In live trees
- In dead trees
- In down wood
- On the forest floor
- In soils/roots
- Greatest contribution

Manmade carbon capture/conversion and storage

- Removal of CO_2 from the atmosphere through a variety of means
- Conversion or storage of CO_2

- Aggregate farmers & small woodland owners into groups to enter the carbon market (Ag/Forestry)
- Implement land use policies to promote ecologically-appropriate afforestation & greater reforestation (Ag/Forestry)
- Increase tree species diversity and species adaptability for a warming climate
- Develop policies & incentives to increase, and more quickly implement, manmade carbon capture/conversion/storage measures
- Promote logging harvest practice alternatives to clear cutting (e.g. thinning, retention harvesting)
- Incentivize grassland protection & restoration
- Revisit the O&C Act of 1937 to incorporate the value of CSS in timber management decisions
- Incentivize pollinator habitat restoration
- Increase greenspaces in urban & community areas (Urban Forestry)
- Work with the Oregon Global Warming Commission to promote CSS policy incentives at county & state levels to encourage participation by farmers & woodland owners (Ag/Forestry)
- Reduce conversion of forestlands to development or other non-forest uses
- Consolidate, enhance, and implement CO2e reduction & CSS efforts between public & private (small woodland & industrial) forests and engage all owners
- Draw lessons from the environmental stewardship of indigenous peoples to care for the land, which will also aid in maximizing CSS (Ag/Forestry)
- Enact a forest carbon sequestration program to incentivize private forestland owners to increase tree harvest rotations

Target Outcomes: **Increase** countywide carbon storage & sequestration

Notes pertaining to the chart above:

1. Natural carbon storage and sequestration (CSS) through agriculture, forests and rangelands are currently working for us. Large scale implementation of any manmade CSS strategies are, unfortunately, years way. Therefore, policies to increase (maximize) natural CSS on these lands is low hanging fruit and should be addressed immediately.
2. The amounts of CO2e we are currently emitting in these sectors, what we can sequester and what goals we should attain are highlighted in yellow in the above diagram. (We don't know these numbers yet, but assistance to quantify these amounts is being provided by Glenn Ahrens of the OSU Extension Service and the Oregon Departments of Forestry and Environmental Quality.)
3. There are many side benefits to what we are recommending above. For example, developing policies and related incentives for carbon storage and sequestration will have direct, beneficial impacts on our forests, watersheds and wildlife by promoting longer durations (rotations) between timber harvests and more sustainable forestry practices.
4. Through conservation, restoration, and improved land management, we can address a significant percentage of our county's emissions. The county's natural and working lands (across the entire county reflecting all private and public owners of natural and working lands) should be included in strategies to sequester carbon and is vital natural infrastructure for adaptation and resilience to the effects of climate change on water, fire, human health, and the economy. Therefore, without a dedicated investment in rural areas and natural lands, the county will miss a critical opportunity to address climate change and its impacts.
5. Clackamas County should work with the Oregon Department of Forestry and Legislature to establish a climate fund to support the climate-smart forestry efforts on private lands and develop accountability standards to ensure incentives are awarded to landowners, organizations, or managers who are practicing verifiable climate-smart forestry or will adopt verifiable, high standards of climate-smart forestry
6. Based upon previous experience working with those in the agricultural and forestry sectors, one must be able to address impacts to these sectors by providing incentives and/or reductions to some economic impacts. Such impositions range from increased fuel prices for field equipment to higher natural gas costs. Many wood manufacturing plants rely on natural gas or propane to process raw products. Therefore, measures would need to be adopted to alleviate any excessive natural gas price increases as a result of any county (or state) climate program; otherwise, they could not be able to fairly compete with other mills outside of the county or state. Additionally, the longer rotations between tree harvests will need to be thought through to ensure an adequate log supply given the reduction in rotation duration (from 60 – 80 years down to 30 – 40 years) that has occurred over the years.
7. The county will need to continually work with state legislators to not allow bills at the state level to adversely constrain any voluntary CSS programs that would be put in effect. Such efforts in the past at the state level have included potential bills that would require forestland owners to cut their timber earlier than planned due to excessive, new taxation policies, which is contrary to any effective CSS program.
8. Forest products taken from forestlands under a carbon sequestration program should be certified as such, similar to some wood products harvested with currently-defined sustainable forestry practices.

Land Use Considerations (beyond what is presented in the chart above) – the CATF should consider placing these within a separate Land Use category and add to other recommendations about Land Use

1. Provide incentives and education for the use of distributed energy co-ops and other community-based mechanisms to either finance and/or implement the use of photovoltaic systems for neighborhoods, communities, etc.
2. Eliminate or minimize cul-de-sac developments and require transportation distance modeling.
3. Increase housing density and limit sprawl where practicable.
4. Study the feasibility, and implement where appropriate, buffer enhancements around wetlands and other critical bodies of water. (Buffers, to varying degrees, are currently required by the Oregon Departments of Forestry & State Lands)
5. Increase community green spaces.
6. Study and implement procedures and policies to prevent, or at least minimize, heat islands in new and existing urban land use policies.
7. Require emissions analyses for proposed land use changes where such changes may increase CO2e emissions.
8. Minimize expansion of impermeable surfaces (e.g. roads, parking lots) on lands within the county. Incorporate more permeable surfaces where practicable.

Public Comment on TIGHGER 2.0 Draft Gap Measures and Scenarios

Submitted by: Building Owners and Managers Association (BOMA) Oregon
To: Oregon Climate Action Commission / Oregon Department of Energy
Re: Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER 2.0) Project

BOMA Oregon appreciates the opportunity to comment on the TIGHGER 2.0 Draft Gap Measures and Scenarios. BOMA Oregon represents owners, managers, developers, and service providers responsible for the operation and stewardship of millions of square feet of commercial real estate across Oregon.

Our members are committed to improving energy efficiency, reducing emissions, and supporting Oregon's long-term climate goals. Commercial building owners have made meaningful progress through benchmarking, Building Performance Standards, energy efficiency investments, and voluntary sustainability initiatives.

To be successful, future policy must continue to recognize the diversity of commercial buildings, market-based constraints, and the importance of flexibility, incentives, and predictable implementation timelines.

1. Support for Performance-Based Building Policies with Flexible Compliance

BOMA Oregon supports the continued use and expansion of performance-based policies—including Building Performance Standards—provided they remain flexible and outcome-driven rather than prescriptive.

Commercial buildings vary significantly by:

- Age and construction type
- Use (office, retail, industrial, mixed-use, healthcare)
- Tenant energy control and lease structure
- Access to capital and refinancing cycles

We recommend any expansion of BPS to additional building types or stricter targets:

- Maintain *multiple compliance pathways,* including emissions intensity, energy use intensity, and renewable energy procurement
- Avoid technology-specific mandates that do not account for site constraints
- Provide clear, predictable compliance timelines aligned with typical capital planning cycles

Performance-based frameworks allow owners to tailor solutions while still achieving measurable emissions reductions.

2. Align Commercial Building Electrification with Grid Capacity and Site Feasibility

BOMA Oregon recognizes the role electrification can play in reducing emissions. However, the proposed modeling assumptions—particularly for commercial HVAC, non-heating equipment, and backup power—must reflect real-world feasibility.

Many existing commercial buildings face:

- Limited electrical capacity
- Long lead times for utility upgrades
- Physical constraints for new equipment
- Situations where tenants, not owners, control major energy uses

We recommend:

- Coordinating electrification targets with demonstrated utility and grid readiness
- Allowing hybrid systems or phased electrification where full conversion is not immediately feasible
- Incorporating deferral or alternative compliance mechanisms when electrification would require disproportionate cost or disruption

Premature or infeasible electrification requirements could undermine investment confidence without accelerating emissions reductions.

3. Pair Regulatory Measures with Scaled Incentives and Financing Support

Achieving deep emissions reductions in existing commercial buildings will require *substantial* capital investment. BOMA Oregon strongly encourages ODOE to ensure robust, accessible incentives and financing options accompany any new requirements.

We recommend:

- Expanding utility and state incentive programs for commercial retrofits
- Providing low-interest or credit-enhanced financing targeted to existing buildings
- Ensuring incentives remain available throughout compliance windows—not just in early years
- Offering technical assistance for small- and mid-sized owners who lack internal engineering or sustainability staff

Without sufficient financial support, aggressive modeling assumptions may prove unattainable for much of the existing building stock.

4. Avoid Compressed Timelines That Strain Labor and Supply Chains

BOMA Oregon urges caution against modeling scenarios that rely on rapid, large-scale retrofits within short timeframes.

Compressed timelines risk:

- Inflated construction and equipment costs
- Labor shortages
- Disruption to tenant occupancy and business operations

We recommend implementation schedules that:

- Align with natural equipment replacement cycles
- Allow owners to sequence improvements logically
- Avoid overlapping requirements that force multiple major system replacements simultaneously

Predictable, phased timelines reduce cost while improving compliance outcomes.

5. Recognize the Value of Operations and Maintenance Improvements

Significant emissions reductions can be achieved through operational and behavioral strategies, including:

- Retro-commissioning
- Improved building controls and scheduling
- Ongoing performance monitoring
- Tenant engagement and education

BOMA Oregon recommends that TIGHGER 2.0 modeling explicitly account for these lower-cost, high-impact strategies alongside capital-intensive retrofits. Recognizing operational excellence encourages continuous improvement and faster emissions reductions.

6. Approach Embodied Carbon Requirements with Market Awareness

BOMA Oregon supports long-term reductions in embodied carbon but cautions against near-term mandates that outpace market readiness.

We recommend:

- Beginning with disclosure and benchmarking
- Piloting embodied carbon reduction programs before imposing mandates
- Coordinating policy development with regional and national material supply trends

Cost volatility in construction materials can directly impact project feasibility, especially for commercial redevelopment and adaptive reuse projects.

7. Encourage Energy Resilience and On-Site Generation

Commercial buildings can contribute meaningfully to energy resilience through on-site solar, storage, and peak load management. BOMA Oregon supports these goals provided regulatory barriers are minimized.

We recommend:

- Streamlining permitting and interconnection processes
- Coordinating backup power conversion goals with life-safety and critical-use requirements
- Recognizing resilience benefits as part of overall emissions reduction strategies

BOMA Oregon and its members are committed to being active, constructive partners in Oregon's climate transition. Policies that emphasize **flexibility, feasibility, incentives, and collaboration** will

enable the commercial real estate sector to deliver durable emissions reductions while continuing to support jobs, housing, and economic vitality.

We respectfully urge ODOE to ensure the final TIGHGER 2.0 measures reflect the operational realities of commercial buildings and leverage the full range of performance-based solutions available.

Without alignment between feasibility, financing, and timelines, certain modeling scenarios may inadvertently accelerate building obsolescence, reduce reinvestment in older commercial assets, and increase cost pass-through to small business tenants.

Thank you for the opportunity to comment.

4/2/2026

To

Oregon Climate Action Committee
550 Capitol St. NE
Salem, Oregon 97301

Dear Oregon Climate Action Committee,

I have reviewed the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHTER 2.0) Project Draft Gap Measures and Scenarios for Analysis.

Douglas County Farm Bureau has an annual membership of about 300 – 350 individuals (not counting spouses/family members) that raise a variety of products including timber, hay, livestock (mostly cattle, sheep and goats), berries, fruit and nut orchards, as well as seed and vegetable crops. Several of your recommended measures regarding agriculture show an appalling ignorance of agricultural systems as well as a disregard for food production systems and the people that raise food for Oregonians to live well.

Measures 3 and 4 regarding nitrate testing and replacing nitrate fertilizer have no bearing on greenhouse gas emissions in Oregon. These are completely outside the stated scope of this project and should be thrown out.

Measure 5 regarding farm irrigation: It is admirable to aspire to upgrade pumping systems to make them more efficient both with water and electricity. Many agriculturists would be happy to do this if money was no object. However, these upgrades can be extremely costly and should not be mandated resulting in an expense that farmers bear exclusively. The idea that transitioning from a flood irrigation system to a pressurized pump system somehow reduces greenhouse gasses is ludicrous. Flood irrigation uses free gravity with no greenhouse gasses emitted. There are, in fact, other benefits to using pumped systems vs. flood irrigation, but these are outside the scope of this project.

Measure 6 regarding general farming practices: Most of the stated activities are practiced to varying degrees by farmers already and should be voluntary.

Measure 7 regarding reducing consumption of beef, pork, poultry and dairy products: It would seem, that choices Oregonians make about food consumption are covered under “Life, Liberty and the Pursuit of Happiness” and are therefore outside the

Douglas County Farm Bureau

1545 Azalea-Glen Road
Azalea, OR 97410

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scope of your department. Oregon's Right to Farm laws prohibit the categorization of farm/forest products as nuisances. It would seem from several of these gap measures that the Oregon Department of Energy/Oregon Climate Action Commission consider livestock to be nuisances. Perhaps that view should be revisited. There are a wide variety of soil types, slopes, aspects and levels of precipitation within Douglas County. Not all locations are conducive to all types of agriculture. A rancher on steep hillside pasture, cannot farm that ground and plant strawberries or lettuce or carrots. Landowners choose the livestock or crops they grow based on the characteristics of the land available to them. To suggest that a beef producer change his operation to growing blueberries is foolish. Additionally, one of the main purposes of grazing animals in Douglas County is to reduce vegetation. We already see that the reduction of grazing animals has increased fire hazards and noxious weeds. This will only be exacerbated by a further reduction in grazing animals. Furthermore, fruits, vegetables and grain are highly dependent on cultivation which requires machinery (and resulting greenhouse gasses) that animals don't require. Finally, the suggestion that consumers of beef and pork are going to shift their consumption to seafood is ludicrous. Those food items are at widely different price points, and one cannot simply replace the other. An increased demand for seafood would be wonderful for our fisherman. However, with the current state regulatory system and other pressures, I don't see how that increased production is possible.

Measure 8 regarding food waste at the source: I understand this to mean that you think "the source" (farmers) are just throwing food away. There are too many costs associated with growing food for farmers to throw it away before selling it.

Measure 9 regarding methane emissions: Please note my comments regarding farm products being considered a nuisance in Measure 7.

Measure 43 regarding off-road vehicles: As indicated in the name, off-road vehicles are used off road in remote locations. Generally, a farmer, rancher or logger hauls the fuel to the machine because it is time consuming, cost-prohibitive or impossible to get the machine to the fuel. So, how does the Department of Energy propose to get electric "fuel" to those ZEV's miles away from a charging station?

There are many measures within the industrial, residential and commercial sectors that also affect farmers and ranchers because they have homes, shops, storage and processing facilities that would be affected by these measures. Of particular concern to me are the measures surrounding household heat and insistence that everything be dependent on electricity and requiring the replacement of manufactured homes.

Our local electric co-op has repeatedly said that there is not enough electricity in the Oregon system for current uses. Why is the Department of Energy, then, pushing for more electrical consumption when the system can't handle it? Many of our members live in rural locations where power goes out in the winter and now they suffer "safety shut-offs" in the summer. To mandate what kind of back up electrical system they have or what type of heating system they have shows a disregard for human health and safety as well as their financial well-being. To that point Measures 19, 20, 28, 30, 34, 36 and 39 should be thrown out altogether.

Thank you for your time and attention to this matter.

Sincerely,
Sarah Schartz
President

ENERGY INNOVATION
POLICY & TECHNOLOGY LLC®

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98 Battery Street, Suite 202
San Francisco, CA 94111
policy@energyinnovation.org

Oregon Department of Energy
550 Capitol St. NE
Salem, OR, 97301

April 6, 2026

Re: Draft Gap Measures and Scenarios for TIGHGER 2.0 Project

Dear ODOE team:

I am writing in response to the question: "Are there measures that ODOE should consider amending or removing from this list and not modeling for potential greenhouse gas emissions reductions because of technical or practical infeasibility or another reason?" In this brief comment, I share publicly available evidence that suggests Measure 37 (RH2 Injection 15% by 2050)—which would assess "injection of 15% renewable hydrogen into natural gas distribution system by 2050"—is unlikely to play a viable or meaningful role in reducing carbon emissions. Additionally, to the extent Measure 18 (Low-Carbon Fuels by 2050) implicates the gas distribution system in assessing "low-carbon fuels (biogas/RNG, hydrogen, ammonia, etc.) providing 20% of current direct use gaseous fuel demand by 2050," redirecting support for low-carbon fuels away from the gas distribution system and toward industrial uses would be a lower-cost, more effective approach to meeting climate goals.

There is overwhelming research and empirical evidence that hydrogen has at best a negligible role in reducing greenhouse gas emissions from the natural gas distribution system. The pursuit of hydrogen blending is much more likely to raise customer costs, worsen health outcomes and safety risks, and delay more effective climate solutions than it is to meaningfully contribute to Oregon's emissions reduction goals. Likewise, while renewable natural gas (RNG) is a drop-in replacement for fossil natural gas, it has limited availability and ought to be prioritized in more challenging-to-decarbonize applications like chemicals production. A sample of relevant evidence and commentary includes the following resources:

- A meta-analysis of 54 studies on hydrogen's role in heating found that "the scientific evidence pertaining to hydrogen heating is unambiguous" and that "none of the independent studies analyzed in this review suggests a significant role for hydrogen in space or hot water heating." Specifically, it found the share of hydrogen of final energy demand for heating in cost-optimal pathways was less than 2% for most studies (median of 1%), with only four studies exceeding 4% and one outlier at approximately 10%. Where studies do show a limited role for hydrogen, it is typically in "areas with industrial clusters with high hydrogen use and production" or in regions with "very cold temperatures" as a rarely-used supplement to electric heat pumps—not as a broadly applicable complement to electrification.
- The literature approximates a ceiling of 20% hydrogen blending by volume with methane in existing pipeline networks and for use in residential appliances (see this paper, for example). Due to hydrogen's lower volumetric energy density, this implies hydrogen cannot exceed a 7% greenhouse gas emissions reduction for the gas distribution system, with this level assuming the use of zero-carbon hydrogen (difficult to achieve in practice) and no hydrogen leaks (given hydrogen has its own climate-warming impact of approximately 11x that of carbon dioxide over a 100-year period).

- An Energy Innovation paper on hydrogen's role in a clean economy assessed hydrogen's prospects for decarbonization across 12 sectors. It ranked hydrogen in buildings as a "terrible" use-case, recommended "regulators should deny hydrogen-blending requests given their generally worse climate, health, safety, and cost outcomes relative to alternatives," and concluded "the prevalence of gas utility hydrogen blending proposals does not imply value as a climate solution—instead, these proposals allow gas utilities to profit from new infrastructure investments while delaying meaningful emissions reduction efforts." (See the Hydrogen in Buildings factsheet on pages 15-16 for more detail, including on hydrogen's public health and safety risks.) From an economy-wide perspective, the need for hydrogen in industrial sectors like refining, fertilizer, steel, and e-fuels for long-distance marine shipping (e.g., ammonia or methanol) and aviation (e.g., sustainable aviation fuel) will likely far outstrip clean supply, meaning both hydrogen and sustainable bioresources should be prioritized for these applications.
- Michael Liebreich's "Hydrogen Ladder" similarly ranks potential hydrogen use-cases by the likelihood that they will end up "being a significant user of hydrogen," awarding domestic heating the lowest grade ("G – the Row of Doom") and concluding "there is essentially no role for hydrogen in heating."
- My recent op-ed in the LA Times explains why California regulators should reject gas utilities' petition to blend 5% hydrogen in their distribution systems, highlighting the steep cost that utilities would pass through to customers without significant benefits.
- A global, comprehensive Energy Transitions Commission report on "Bioresources within a Net-Zero Emissions Economy" finds sustainable bioresources (including RNG) are limited and ought to be prioritized in materials and feedstocks (e.g., timber, chemicals to make plastics), with aviation as "the only clear priority sector beyond materials."

Collectively, this research suggests that a 15% blend of renewable hydrogen would have negligible impact on greenhouse gas emissions; that higher blends would not be compatible with the existing network of pipelines and appliances (with a wholesale retrofit being extraordinarily expensive); and that there will not be sufficient RNG to be able to offer a fully clean fuel option (i.e., a blended hydrogen and RNG product with no fossil methane) to residential and commercial customers. A 15% hydrogen blend would therefore waste resources and raise costs while driving continued dependence on a gas system that will remain emissions-intensive.

For these reasons, many other jurisdictions in the U.S. and across the world have rejected hydrogen blending and RNG trials as potential strategies for reducing emissions from gas distribution systems. For example:

- Per Massachusetts Order 20-80 in December 2023: "The [Department of Public Utilities] will no longer allow cost recovery for gas infrastructure without proof that non-gas alternatives were considered or for the promotion of natural gas expansion. […] The DPU rejected the recommendation […] to enable inclusion of renewable natural gas (RNG) due to cost and availability concerns, as well as the uncertain status of RNG as a zero-emissions fuel. The order found that, while hydrogen may play a role in some hard-to-decarbonize sectors of the economy, it is unlikely to be considered as a primary fuel source for home heating also due to its uncertainty."
- Per Colorado Decision C24-0397 in June 2024: "We decline to adopt any level or budget or emission reductions for hydrogen [due to] questions regarding system compatibility for hydrogen blending, additional infrastructure or infrastructure costs, potential contract terms, and actual emission reduction potential…" Additionally, "it is unclear without a realistic vision of the role that green hydrogen would or could play as a safe and cost-effective solution on the system at large, in what way the demonstration project would be helpful or a prudent use of ratepayer dollars, in pursuit of a deeply decarbonized future system." On recovered methane (e.g., RNG from methane-emitting sources like landfills or dairy

manure lagoons), "the record […] does not establish that recovered methane is a cost-effective emissions reduction tool relative to beneficial electrification [BE] or demand-side management [DSM], especially considering how BE and DSM have persistent emissions benefits. In addition, while BE and DSM have the potential to reduce investments in gas infrastructure, recovered methane does not. Likewise, recovered methane does not produce [health benefits]."

- The Seventh Carbon Budget—a statutory report that provides climate policy direction to the UK Government—determined that "hydrogen is not a viable fuel for widespread decarbonisation of home heating" and that "using hydrogen for home heating would delay direct emissions reduction and significantly increase indirect emissions from the sector," eliminating hydrogen blending from consideration in its decarbonization plan. Additionally, the UK government scrapped plans for hydrogen heating trials in the towns of Whitby and Redcar following pervasive community pushback.
- Per reporting in the EU from Clean Energy Wire, "Most energy companies in Germany, Austria and Switzerland are planning to reduce investments in their gas grids, as nearly all have given up hope on using them for transporting hydrogen in a climate-neutral future, according to a survey by business consultancy Horvath cited by news magazine Der Spiegel. […] Theoretically, Germany's gas grid could be repurposed to carry climate-neutral fuels such as biogas or so-called green hydrogen produced with renewable energy sources. But these alternative fuels are expected to be prohibitively expensive and inefficient when it comes to heating buildings. More than 90 percent of the country's gas distribution grids are set to become useless, experts have estimated."

In sum, Measure 37 (and Measure 18 if not modified) risk failure to learn from others' experience. Adopting these measures would lead to a drawn-out, resource-intensive process in examining hydrogen and RNG that could delay lower-cost, more effective solutions like electrification and would very likely fail to discover a meaningful role for these fuels in decarbonizing Oregon's gas distribution systems. It is better to focus time, attention, and resources on the remaining suite of options that have their own challenges to work through but are consistently found to be capable of achieving deep decarbonization—at lowest cost and with benefits to public health and safety.

Please let me know if my colleagues and I can answer any questions or further support this effort.

Sincerely,

Dan Esposito
Manager, Fuels & Chemicals
dan@energyinnovation.org
www.energyinnovation.org

PACIFIC PROPANE GAS ASSOCIATION

April 7, 2026

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Re: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

Comments of the Pacific Propane Gas Association

On behalf of the Pacific Propane Gas Association (PPGA), which represents propane marketers, suppliers, distributors, and equipment manufacturers across the State of Oregon, we appreciate the opportunity to provide comment on draft gap measurers and scenarios for the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHTER) Project.

Our members provide clean-burning and critical energy to residential, commercial, and industrial customers across the state. The State of Oregon boasts a robust propane market, with more than 118,000 retail accounts, 30,000 primary home-heating customers, and contributing more than $441 million annually to the state economy.[1] In 2023, the Oregon Department of Energy (ODOE) published the first iteration of the TIGHTER project, which projected that the state had the policies in place to achieve state greenhouse gas (GHG) emissions goals, including reductions of: 45 percent below 1990 levels by 2035, and 80 percent below 1990 levels by 2050. Subsequently, the ODOE issued an updated forecast revealing that the state will be unable to meet either target.

In response to the ODOE's request for public comments regarding draft measures proposed by the Department to close the gap between projected emissions reductions and Oregon's 2035 and 2050 goals, the PPGA will address draft measures 32-34, 36, and 47. Specifically, draft measures pertaining to the full electrification of commercial space and water heating, and the electrification of medium-and heavy-duty transit and school buses.[2]

I. Electrification of Residential & Commercial Space & Water Heating

Draft measures 32-34 and 36 all pertain to the rapid electrification of the residential and commercial space and water heating sectors within the state. First, we would raise the financial and market considerations associated with these proposals. In draft measure 33 and 34, for example, the associated assumption/metrics suggest that 95-100% of new water heating appliance sales for residential homes are electric.[3] In order for this metric to be achieved, the ODOE presumably must either provide significant incentives to cover all or most of the cost that is traditionally borne by the consumer or effectively mandate non-electric competitors

[1] *Propane's Impact on Economy: 2021 Oregon,* National Propane Gas Association, https://www.npga.org/wp-content/uploads/2024/05/Oregon_2024.pdf
[2] Open for Public Comment: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis. (n.d.). Retrieved April 1, 2026, from https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/69bc83af0609584c6dfcc9d5/1773962160757/2026-TIGHGER2-Draft-Gap-Measures-Scenarios-Updated.pdf
[3] *Id.*

PACIFIC PROPANE GAS ASSOCIATION

out of the marketplace. It is the place of the government to ensure energy security, affordability, and reliability – not to dictate winners and losers in the free market.

In its issuance of seeking public comments, the ODOE noted that one of the reasons the state is unable to meet its GHG emissions reduction targets is due to actual and projected increases in load growth, primarily from data centers.[4] It is, therefore, critical to take energy reliability into consideration when developing metrics to meet GHG emissions reductions. Electrifying a home that previously used a non-electric primary energy source will simply increase the aggregate load on the electric grid The Energy Information Administration, for example, has documented that average electric system outage times have roughly doubled between 2013 – 2020.[5]

According to the North American Electric Reliability Corporation's 2025 Long-Term Reliability Assessment, WECC-Northwest is classified as "High Risk," meaning that the region exceeds the upper risk criteria levels. Specifically, that "planned resources as of July 2025 would result in energy shortfalls that exceed resource adequacy targets or baseline criteria for unserved energy or loss of load," and that the "assessment area would need additional resources to meet resource adequacy criteria."[6]

The inclusion of non-regulated fuels in thermal marketplaces, like propane, actually reduces upward pressure on the grid. Encouraging the elimination of reliable non-electric energy options in favor of all-electric energy appliances will decrease energy resilience and increase the negative effects experienced by customers during power outages. Energy security is best achieved through energy diversity, and should not be mutually exclusive with emissions reduction. As data centers continue to expand and distort load growth and electricity demand projections, homes and business utilizing low-carbon propane will reduce aggregate pressure on the electric grid.

The efficiency of electric applications should be brought to light as well. According to the U.S. Department of Energy, across the U.S. most electricity to power electric resistance heating is produced from conventional fuel source generators that convert only about 30% of the fuel's energy into electricity.[7] Because of the nature of electric generation and transmission, electric heat is often more expensive than heat produced via combustion appliances.[8] Unlike electricity, propane is a primary energy source and has an excellent source-site ratio of 1.01, which means that virtually no energy is lost from tank to application. Electricity from grid, in comparison, has a source-site ratio of 2.80.[9] Therefore, propane can not only be a more cost-effective energy choice, but can often be more energy efficient than grid electricity.

Additionally, it should be noted that propane is not only methane free,[10] but remains classified as a clean alternative fuel under the Clean Air Act Amendments of 1990 and the National Energy Policy Act of 1992.[11] Given the molecular structure of propane, it vaporizes when exposed to air, and therefore poses no threat

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[4] *Supra 2*
[5] U.S. electricity customers experienced eight hours of power interruptions in 2020, U.S. Energy Information Administration, (November 10, 2021), https://www.eia.gov/todayinenergy/detail.php?id=50316
[6] Long-Term Reliability Assessment. (2026). https://prod.nerc.com/globalassets/our-work/assessments/nerc_ltra_2025.pdf
[7] *Electric Resistance Heating,* U.S. DOE Energy Saver, https://www.energy.gov/energysaver/electric-resistance-heating
[8] *Id.*
[9] *Source Energy,* Energy Star Portfolio Manager, (August 2023), https://portfoliomanager.energystar.gov/pdf/reference/Source%20Energy.pdf
[10] U.S. Department of Energy. (2019). Alternative Fuels Data Center: Fuel Properties Comparison. Energy.gov. https://afdc.energy.gov/fuels/properties
[11] D-MT, M. (2025). Text - S.1630 - 101st Congress (1989-1990): Clean Air Act Amendments of 1990. Congress.gov. https://www.congress.gov/bill/101st-congress/senate-bill/1630/text

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to soil or groundwater, or marine ecosystems.[12] And, as a gaseous fuel, the combustion of propane produces extremely low levels of particulate matter.[13] Decarbonization and electrification are different things. Decarbonization entails utilizing a wide array of efforts to reduce the overall carbon footprint of various sectors. Electrification is switching reliance on one energy source to electricity exclusively. The inclusion of low-carbon, alternative fuels such as propane, accelerates the march towards decarbonization, not slows it.

Importantly, renewable propane is available in the Oregon thermal marketplace. Commercial-scale renewable propane is produced in renewable diesel refineries using a hydrotreated vegetable oil (HVO) process with feedstocks including plant and vegetable oils, animal fats, and used cooking oil. Renewable propane is also generated from the camelina plant, which is not a food crop and does not compete with food production.[14] Renewable propane maintains the same molecular structure as propane – C_3H_8 – which means that it can be utilized in all existing conventional propane infrastructure. However, at the point of combustion, it is carbon neutral, meaning no new carbon is being admitted into the atmosphere.[15]

In markets like Oregon which experience varied weather and cooler temperatures in certain parts of the state, particularly during winter months,[16] the inclusion of renewable propane in the residential and commercial space and water heating markets can reduce associated emissions as well as prevent unnecessary governmental market distortion via fuel-switching. Being that renewable propane can be utilized in existing propane infrastructure, there is no need for infrastructure upgrades. By expanded inclusion into the Oregon residential and commercial markets, GHG emissions can be reduced, markets can remain unadulterated, and reliability can remain robust.

II. Electrification of Medium-and Heavy-Duty Transit and School Buses

Draft measure 47 proposes 100% electric sales by 2050 for transit and school buses.[17] If the ODOE seeks to reduce greenhouse gas emissions while ensuring reliable and affordable transportation or Oregonians, the PPGA would encourage investment in propane autogas buses in lieu of electric buses, and to displace existing diesel fleets.

According to a 2018 study conducted by West Virginia University's Center of Alternative Fuels, Engines, and Emissions, a comparative test between a propane autogas bus and a diesel bus found that NOx emissions were 15 to 19 times higher for the diesel school bus over a hot-and cold-start city route. For this route, the propane autogas bus reduced NOx by 95 percent. NOx emissions were 34 times higher for the diesel school bus over a stop-and-go route similar to actual usage. For this route, NOx was reduced by 96

[12] *The Path to Zero: Propane's Environmental Fact Sheet,* Propane Education and Research Council, (February 2020), https://www.npga.org/wp-content/uploads/2020/11/PERC-Enviroment-FactSheet6-02-20.pdf
[13] *Emission Factor Documentation For AP-42 Section 1.5 Liquefied Petroleum Gas Combustion, Acurex Environmental Corporation, Edward Aul & Associates, Inc., E.H. Pechan and Associates, Inc.,* US Environmental Protection Agency (1993), https://www.epa.gov/sites/default/files/2020-09/documents/emission_factor_documentation_for_ap42_section_1.5_liquified_petroleum_gas.pdf
[14] Propane Education & Research Council. (2025, January 21). Renewable Propane, An Ultra-Low-Carbon Alternative. Propane. https://propane.com/2025/01/21/renewable-propane-an-ultra-low-carbon-alternative/
[15] Baldwin, R., Nimlos, M., Zhang, Y., (2022, October). *Techno-Economic, Feasibility, and Life Cycle Analysis of Renewable Propane,* National Renewable Energy Laboratory, https://docs.nrel.gov/docs/fy23osti/83755.pdf
[16] *Western Regional Climate Center*. (n.d.). Wrcc.dri.edu. https://wrcc.dri.edu/Climate/narrative_or.php
[17] *Supra 2*

PACIFIC PROPANE GAS ASSOCIATION

percent and carbon dioxide by 13 percent with the propane autogas bus.[18] In documented testing, propane reduces emissions dramatically compared to diesel.

Medium-and heavy-duty vehicles consume nearly 41 billion gallons of diesel annually.[19] Given diesel's lower heating value of 37.8 kWh per gallon and an average tank-to-wheels efficiency of 35%, this equates to approximately 542 TWh of traction energy demand. Replacing that energy with an electric powertrain operating at 80% efficiency would require about 678 TWh of electricity each year.[20] For context, total U.S. electricity consumption is roughly 4.10 trillion kWh annually.

These figures underscore that decarbonizing medium-and heavy-duty transportation will require a diversified approach. A combination of solutions – including continued advancements in internal combustion engines, hybrid systems, and electrification – alongside investments in renewable energy, low-carbon fuels, energy storage, and grid modernization will all play critical and complementary roles. Propane and transit buses will enable the state to decarbonize the transportation sector without placing additional pressure on the electric grid. We encourage the ODOE to consider propane autogas in lieu of high-emitting diesel and traditionally more expensive electric buses.

Oregonians utilizing propane for residential and commercial space and water heating reduce aggregate pressure on a grid already classified at high risk by national grid reliability modeling organizations, and the inclusion of propane autogas into transit and school bus fleets can materially reduce emissions compared to diesel fleets and produce notable financial savings compared to electric fleets. We also urge the ODOE to consider additional investment in renewable propane as a pathway to reduce GHG emissions from residential space and water heating, while avoiding unnecessary market distortion by promoting one energy source over another.

Thank you again for the opportunity to provide comment.

Respectfully submitted,

Matthew Solak
Executive Director
Pacific Propane Gas Association

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[18] Kerr, G., & Ryskamp, R. (2019). https://cloudinary.propane.com/images/v1601044101/website-media/WVU-School-Bus-Emissions-Final-Report-June-2019/WVU-School-Bus-Emissions-Final-Report-June-2019.pdf?_i=AA

[19] *Medium- and Heavy-Duty Vehicles | Transportation | 2024 | ATB | NLR*. (2024). Nrel.gov. https://atb.nrel.gov/transportation/2024/medium-_and_heavy-duty_vehicles

[20] Vishwanathan, G., (2022), *Propane vs. Electric School Bus: Don't Rush to Judgement,* *https://cloudinary.propane.com/images/v1655498780/website-media/Propane-vs.-Electric-School-Bus-Dont-Rush-to-Judgement/Propane-vs.-Electric-School-Bus-Dont-Rush-to-Judgement.pdf?_i=AA*

Oregon Department Energy
550 Capitol St NE
Salem, OR 97301

Subject: Comments on TIGHGER Project Gap measures and Scenarios

Thank you for considering my comments. In my opinion the GHG reduction programs in this state have taken on a mission way behind the use of fossil fuels. There are many GHG's that are generated by natural sources, are part of the natural cycle and are not a contributor to global warming. It is greenhouse gases generated by the consumption of fossil fuels that are the problem and where the focus should be. Reducing natural sources of GHG to compensate for the consumption of fossil fuels is a false solution to the global warming problem. Also, reducing electricity usage does not reduce greenhouse gases if the consumer is already using electricity generated by renewable energy. You are simply wasting your money by trying to solve the problem from both sides. Please make sure the TIGHGER project's measures are focused on reducing the use of fossil fuels.

Another complaint about the TIGHGER list is the concept of government trying to hit targeted energy/ carbon reductions in situations where they have no control over people's behavior. It is one thing to make targeted plans for government itself or for a regulated or municipal utilities where government has authority via monopoly power e.g. in situations where government can modify its own behavior. It is another to force people to, as an example, convert from gas to electric. I don't believe that is a power that I want to give to any elected officials or government bureaucrats. Since government power is limited in these situations stop making plans for reductions. Turn TIGHGER into a list of programs and incentives that people can use to reduce the cost of conversion and let people choose their options.

Many of these programs look like they are currently part of the Energy Trust or could be run through the Energy Trust, there is no need for a redundant program. These should be removed from consideration and added to the Energy Trust program portfolio.

Large Load Renewable Power Program	Methane Emissions Program	Cement Industry Improvements	Industrial Decarbonization Partnership Program
Water Systems Energy Efficiency	Backup Battery Storage	Behind-the-Meter Solar PV	Building Decarbonization Program
Expanded Building Decarbonization Program	Com Code Reduction	Embodied Carbon Program	Existing Residential Buildings HP's
Home Fuel Cells	OHCS Manufactured home Reduction	Large Commercial Space Heating	Non-Heating Equipment Elec. Commercial and Residential
Residential Code Reduction	Residential Space Heating	Rooftop Solar PV	Small commercial Space Heating
Solar PV Program	Weatherization in Existing Residential		

Many of the measures on the TIGHGER list look to me that they were inserted by and/or for the benefit of some special interest group. I see David Brown has gotten an audience for his hydrogen hub concept. The large loads behind the meter program looks to me that it is designed to benefit data centers. It looks like ODE is being used to get access to government funds for speculative investments that have a poor chance of serious reductions in GHG, but allow direct state spending to support certain industries. The private markets were created to fund businesses, these should be removed from the TIGHER list.

Energy Infrastructure Resiliency	Large Load Behind the Meter	Increased Nitrate Testing	Farm Irrigation Efficiency
Farming Practices	Uptake of Plant-Rich Diets	Food Waste Reduction	Electrification
Hydrogen Fuel Adoption	Fuel share from Pyrolysis of Biomass	Low Carbon Fuels	OHCS Manufactured Home Replacement
Home Fuel Cells	Aviation Fuel	Maritime Shipping Fuel	Rail Fuel

There are many measures on the list that use technologies that I know are unproven. Many of these technologies have no units in operation so their value, economic as well as GHG/energy savings, cannot be estimated accurately. How long have we been asking for reliable battery storage to match with solar and wind – where are the units? Some technologies like Home Fuel Cells have been around awhile but have shown technical limitations. How practical is it to try to force technology adoption by brute force of law when you are relying on investment capital you do not control to literally create the needed technology from scratch. And even if you are successful generating new technologies, prototypes and early units usually have startup problems and are rarely as efficient as expected. The wood waste to biofuels plant built in Lakeview a few years back is a scenario I see repeated again if we rely on immature technologies to obtain our energy savings. This doesn't mean we shouldn't support these technologies if an opportunity like the Lakeview biofuels plant becomes available. But I don't believe Oregon's energy future can rely on unproven technologies to get GHG reductions and these should be removed from the list. I would put the following measures in this category.

Hydrogen Fuel Adoption	Fuel Share from Pyrolysis of Biomass	Home Fuel Cells	RH2 Injection
Aviation Fuel	Maritime Shipping Fuel	Rail Fuel	Res Code Reduction

Please show me how making a situation "resilient" will reduce GHG levels. There might be a secondary benefit here because newer equipment might be more energy efficient, but in my opinion resiliency, by and of itself, does not lead to GHG reduction. The following measures should be removed from consideration.

Energy Infrastructure Resiliency Programs

The following measures look like they will save resources such as water, but they will not directly have an impact on GHG reduction. Then there are some that look to me that they don't fit at all. All these measures look like they were added to the list to get access to the GHG reduction funds without having to budget this activity in a more appropriate department (Department of Agriculture for instance). Does ODE have the technical proficiency to implement them properly? These should also be removed from the list.

Nitrogen Fertilizer Practices	Farm Irrigation Efficiency	Uptake of Plant-Rich Diets	Food Waste Reduction

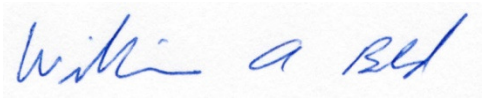
Finally I have a few comments on specific measures as follows.

3	How are you going to implement this one? Let me get this straight government is going to regulate what people eat. Over my dead body.
4	The impact of HFC's has already been reduced via past work and federal regulation. Many of the alternatives to HFC's do not work well or are hazardous materials to use e.g. flammable . In this case you are likely to force large capital investments to create small reductions in GHGs.
5	There are only 2 large sources of hydrogen: natural gas and water. Most natural gas comes from fossil fuels – which we are trying to eliminate. Getting natural gas from water is an immature technology with only prototype and test units in operation. We have been at the renewable natural gas development business for several years now. How many plants have been built? You push hydrogen and you will likely generate new demand for fossil fuels, not reduce them.
9	And how are you going to reduce the GHG from livestock? Breed less flatulent cows? Force people to eat less meat? I would need more details on this measures specific objectives before I can see it included on the TIGHGER list.

10	How many cement plants doe we have in the state? What is the size of the potential reduction in GHG? Is there enough potential reduction to justify an individual measure or is this a way of supporting these plants with tax dollars?
14	This measure looks like it creates a slush fund for people with ideas can go to get venture capital without those pesky financial reviews.
15	How are you going to measure current state? How are you going to force reductions. This looks more like a measurement metric than a program.
19	Doesn't the Energy Star program cover this already e.g. already in state law?
20	Backup generation with biofuels is a better option. Without electrical power to recharge the batteries they are only usable once. Biofuels don't rely on electricity and the tanks can be refilled any number of times as needed.
23	Why does the energy consumption of the city of Portland need its own measure compared to the rest of the state? Why does it need a special measure and separate programs?
24	What standard are you going to use here? How about LEED certification.
30	Why not a retrofit program that improves energy efficiency of manufactured homes. Why force people to buy new homes?
35	Best to use a standard like LEED rather than a GHG reduction figure. Does the technology exist to make this goal happen?
36	What happened to ground source heat pumps? Why are they not on the list of options.
37	H2 has a lower energy content than natural gas. That has the effect of lowering the energy content of the natural gas that people and businesses buy. This means that customers have to consume more fuel to get the same energy output. Has the public, particularly gas users, reviewed and approved these plans? Will the natural gas/ hydrogen mixture meet industry quality standards.

I recommend ODE change its strategy. It is ok to estimate the potential GHG reductions from individual measures but ODE should then rank each of them from highest to lowest in terms of potential savings. Then systematically fund incentive programs from highest to lowest. Let people choose the technologies and options for themselves and their own unique situation. In other words don't try to force people to make GHG reductions by writing regulations for each individual measure since implementation is out of your control and often the technologies are not mature to be reliable.

Sincerely



April 8, 2026

Oregon Climate Action Commission
550 Capitol Street NE
Salem, OR 97301

RE: STATEWIDE TRANSPORTATION STRATEGY MONITORING REPORT REVIEW

Commissioners:

350 Salem advocates for and supports state, regional and local efforts to reduce greenhouse gas emissions. The Climate Action Commission plays a key role in providing oversight and direction for state efforts to achieve the state's greenhouse gas emissions goals.

Four months ago, in December, we provided detailed comments - attached - encouraging you to carefully and thoroughly review the forthcoming STS Monitoring Report to assure that it accurately reflects progress in implementing actions to reduce climate pollution in the transportation sector. We made that recommendation because previous STS monitoring reports - and related reports from ODOT and sister agencies - have dramatically overstated progress and have provided only minimal opportunities for public review and comment.

We remain concerned that the process for preparing the 2026 Monitoring Report will continue this trend. ODOT says it expects to update the modeling and the TE website by July, but has not indicated that it would provide opportunity for public comment or respond to public comments on draft updates to modeling or the TE website. Since this work provides the foundation for assessing progress and deciding the scale of additional actions, it's critical that it accurately reflect all available information.

Accordingly, we encourage OCAC and ODOT to provide a meaningful opportunity for public review of the updated modeling and TE website including making supporting data and information available for review and responding in writing to public comments.

Sincerely,

Phil Carver & Bob Cortright
350 Salem

Attachment: 350 Salem to Climate Action Commission, December 11, 2025

December 11, 2025

Oregon Climate Action Commission
550 Capitol Street NE
Salem, OR 97301

RE: TRANSPORTATION AND CLIMATE BRIEFING

Commissioners:

350 Salem advocates for and supports state, regional and local efforts to reduce greenhouse gas emissions. The Climate Action Commission plays a key role in providing oversight and direction for state efforts to achieve the state's greenhouse gas emissions goals. Oregon has fallen behind in fulfilling its commitments to reduce emissions in the transportation sector and substantial work is needed to get the state on track.

For more than 10 years - through the Statewide Transportation Strategy (STS) and LCDC's target rules Oregon - has had a detailed road map for reducing carbon emissions in the transportation sector. These plans and rules are based on extensive assumptions about improvements in vehicle technology and fuels and specific trajectories for state and local actions to reduce emissions by reducing vehicle travel.

Available information shows that we're making much less progress than these plans call for.

- We expected cars to get much cleaner, much faster and that emissions would drop by 4% each year.
- We expected local governments would make changes to land use and transportation plans that would expand transportation options and incentives and promote walkable mixed use neighborhoods to reduce the need for travel.
- We expected that the state would provide a range of incentives and changes to transportation pricing to encourage less driving and a shift to other modes of travel.

As the attached comments show, our assumptions and efforts are way off the mark. It's time for state agencies - and OCAC - to honestly evaluate the status of state efforts and identify steps to get the state back on track to meeting emissions goals.

We are disappointed to say that reports prepared by state agencies (ODOT, DLCD and ODOE) dramatically overstate progress and imply that the state is pretty much on-track to meet emissions goals for the transportation sector. 350 Salem has provided detailed

comments on the 2022 ODOT STS Monitoring Report and the 2025 Target Rule Review Report - attached - which show that claims of progress are either unsupported or contrary to available evidence. We are further disappointed to say that for neither of these reports did the agencies produce a draft for public review, nor did they respond to detailed written comments we provided.

In the next several months, the Oregon Department of Transportation will be preparing an updated STS Monitoring Report. This is a critical opportunity to conduct a complete and accurate review of our progress and for state agencies and stakeholders to engage in discussions about necessary actions to get the state back on track to meeting emissions goals, including updates and amendments to the Statewide Transportation Strategy.

Reducing climate pollution is urgent and the challenge of our times. We know that meeting emission reduction goals will require substantial changes in the way we plan communities and the transportation system. It's essential that we honestly and openly assess progress, acknowledge that we're behind and identify steps that are needed to get the state on track to meet emissions goals. We strongly encourage the OCAC to provide the leadership needed to make sure this happens.

Sincerely,

Phil Carver & Bob Cortright
350 Salem

Attachments
350 Salem to Oregon Transportation Commission, March 8, 2023
350 Salem to Department of Land Conservation and Development, September 11, 2025

OREGON AUTO DEALERS ASSOCIATION

April 8, 2026

RE: Transformational Integrated Greenhouse Gas Emissions Reductions

My name is Greg Remensperger, and I am the Executive Vice President of the Oregon Auto Dealers Association, OADA. OADA is a statewide trade association that represents over 200 franchised new car and truck dealerships across Oregon, a $12 billion industry supporting over 27,000 jobs.

I am writing today concerning TIGHGER project gap measures and scenarios. There are several issues with TIGHGER recommendations around electric vehicle sales medium duty and off-road vehicles. With limited options and current production levels Oregon citizens and businesses will have issues with cost, product choice, infrastructure readiness, and practicality. A concise version is even if the mandates could be met by manufacturers and Dealers it would force a faster transition than the market, power grid, and charging network can comfortably support.

Main arguments

- Higher upfront costs: EVs often cost more to buy than comparable gas cars, which can price out lower-income buyers and small family businesses.
- Less consumer choice: Mandates can be seen as government picking winners instead of letting buyers choose the vehicle that best fits their needs that they can afford and have access to in certain areas.
- Charging gaps: Many places still lack enough reliable public charging, and some drivers cannot easily charge at home or business.
- Range and convenience concerns: EVs can be less convenient for long trips, towing, cold weather or rural use where charging is sparse.
- Grid and infrastructure strain: A rapid shift could require major upgrades to electricity generation, transmission, and charging infrastructure especially as it applies to rural or off-road use.
- Economic disruption: mandates will hurt dealerships, repair shops, and parts of the broader auto supply chain tied to gasoline vehicles and manufacturers currently will not be able to supply vehicles and parts to meet these standards.
- Risk of unrealistic targets: these sales targets set by governments are intended to move faster than consumer demand and industry capacity can realistically adapt which as seen will not be able to be met and dealerships will be punished. The State is trying to force out of state manufacturers to meet an unreasonable standard and Oregon Businesses and consumers will be caught in the middle.

Oregon Auto Dealers Assoc.
7357 SW Beveland St. Tigard, OR 97223
p. 503.233.5044 f. 503.231.4728
oregonautodealers.org

Simply Put

EV sales mandates will raise prices, limit consumer choice, and outpace charging and grid readiness, especially for rural and lower-income drivers. The State is trying to push a unrealistic standard and it will cost Oregon consumers more money and punish Oregon businesses for not meeting a standard that cannot be met.

This is an argument against an unrealistic mandate, not an argument against EVs themselves. Many still support EV adoption through incentives and market demand rather than required sales quotas

Greg Remensperger
Executive Vice President

Coos-Curry County Farm Bureau
87518 Davis Creek Lane, Bandon, Oregon 97411

April 8, 2026

ODOE Comments emailed on April 9, 2026 to: OCAC@energy.oregon.gov

RE: Request for ODOE to take a step back on the Rulemaking -Oregon Greenhouse Gas Reduction Gap Measures

Dear Oregon Department of Energy Climate Team:

The Coos-Curry County Farm Bureau members represent a cross section of Oregon's agriculture (livestock, hay, berries, etc.) and forestry industry on the southern Oregon coast. There is obviously a need for adequate time to evaluate the impacts of these "gap measures" on our industries. We need to know exactly what these "gap measures" entail, their impact to our operations, and what will be gained.

As Oregon's agriculture and timber industry faces continual burdensome regulatory changes, increased operational costs, and market challenges, CCFB is very concerned the impacts of the proposed "gap measures" will have drastic impacts on the economics of our ranchers, timberland owners, our county and people's livelihood. Several of the proposed measures which include reducing livestock methane emissions, limiting nitrogen based fertilizer use, and reducing beef and pork consumption, will dramatically impact the economy of our county and the livelihood of our producers. It is not the ODOE's job to tell people what they should eat for their protein source and how can a government entity require reducing pork and beef consumption? Many of our members are multi-generational farm and ranch families and Oregon's Goal 3 is to maintain and protect agriculture land and Goal 4 to maintain and protect forestry land.

The Climate Team and ODOE needs to let the public know the specifics of each "gap measure", the impact on the natural resource industries and the economy, as well as impacts on the price of food and lumber, etc. Will these "gap measures" have a direct impact on the reduction of farm, ranch, and timber lands in Oregon? When farmers and ranchers can no longer make a living on the land, what do you suppose they are going to do? Sell to developers? Let the land turn into brush land with weeds and unmanaged forest making these once productive lands prime targets for wildfires. You can bet there will be more foreign grown food products in the stores and the prices of locally grown food will be more expensive.

The Coos-Curry County Farm Bureau recommends the ODOE Climate Team take a step back on this rulemaking process and get an aerial view of the overall impacts on these proposals. Research concerning the carbon sequestration of forages and trees need to be utilized in this process. Provide the public with how these "gap measures" are going to be achieved and what will be the impacts to rural and urban Oregonians besides the natural resource industry in Oregon.

Thank you for the opportunity to comment on this important issue to our producers.

Respectfully,

Marc Van Camp

Marc Van Camp, President

Oregon Department of Energy
Attn: Director Janeen Benner and TIGHGER Project Team
Re: Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project – Draft Recommendations

Dear Director Benner,

On behalf of the Oregon Pork Producers, we write to express serious concerns not only with the substance of the draft recommendations, but with the process by which they were developed and released.

As currently structured, this process falls short of the standards stakeholders should expect from a transparent, inclusive, and well-coordinated public engagement effort. The Department did not meaningfully engage agricultural producers or industry stakeholders prior to releasing recommendations that directly affect our sector. At the same time, the timeline provided for public comment is unreasonably compressed given the scope and complexity of the proposals under consideration.

Taken together, these factors significantly limit the ability of stakeholders to provide informed, constructive input. For proposals of this magnitude, a process that allows for thoughtful review, interagency coordination, and meaningful stakeholder engagement is not only appropriate—it is necessary. The absence of these elements raises serious concerns about both the development of the recommendations and the integrity of the process moving forward.

Accordingly, we strongly urge the Department to pause and restart this process. At a minimum, this should include withdrawing the current draft recommendations, engaging relevant state agencies such as the Oregon Department of Agriculture, and establishing a stakeholder-driven framework with a reasonable and clearly defined public comment period.

Beyond these process concerns, we remain strongly opposed to several of the draft recommendations. Importantly, even under a revised and appropriately structured process, we would oppose the inclusion of any recommendation that seeks to reduce consumption of pork products. Such a proposal is fundamentally inappropriate, falls outside the proper scope of emissions reduction policy, and unfairly targets a specific sector of Oregon's agricultural economy.

Oregon's natural resource sector is already operating in a challenging environment defined by increasing regulatory pressures, volatile markets, and rising input costs. The measures outlined in the draft recommendations would impose additional burdens on an industry that is foundational to the state's economy, rural communities, and food system.

It is also important to recognize that the pork industry, both nationally and within Oregon, has made significant, measurable progress in improving environmental outcomes over time. Through advances in genetics, nutrition, animal care, and manure management, producers have reduced their environmental footprint while increasing productivity. Ongoing investments in methane capture, renewable energy, precision feeding, and other innovations continue to drive further improvements.

The proposed "gap measures" targeting livestock production and consumption, including recommendations to reduce beef and pork consumption by 50 percent by 2050, represent a significant expansion of state policy beyond traditional emissions reduction strategies. Approaches that seek to influence consumer demand introduce broader economic and structural impacts that extend well beyond the intended scope of this work.

Additionally, these recommendations do not adequately account for the progress already being achieved by producers and risk discouraging continued investment in practical, innovation-driven solutions. A policy framework that prioritizes reductions in consumption over improvements in production overlooks decades of demonstrated success in reducing environmental impacts while maintaining output.

Collectively, these measures would have significant implications for the long-term viability of Oregon's livestock producers and the broader agricultural supply chain, including feed suppliers, processors, transporters, and rural communities throughout the state.

For these reasons, we strongly urge the Department to remove the proposed agricultural "gap measure" recommendations from future iterations and to refocus its efforts on solutions that are science-based, production-focused, and developed in coordination with impacted stakeholders.

However, before advancing any revised recommendations, it is essential that the Department address the deficiencies in its current process. A transparent, inclusive, and well-vetted approach is critical to ensuring outcomes that are both credible and workable.

We appreciate the opportunity to provide input and expect that future engagement will reflect a more deliberate and stakeholder-informed process.

Sincerely,

Oregon Pork Producers

WRLC
Western Resources
LEGAL CENTER

April 9, 2026

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

VIA EMAIL: OCAC@energy.oregon.gov

RE: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

The Western Resources Legal Center ("WRLC") respectfully submits these comments in response to the Oregon Department of Energy's request for public input on the Draft Gap Measures and Scenarios for the TIGHGER 2.0 Project.

WRLC represents agricultural producers, ranchers, and natural-resource-dependent communities throughout Oregon. As practicing attorneys specializing in natural resources law, we are acutely aware of how abrupt or ill-considered regulatory shifts can impose significant and often unlawful burdens on the industries we serve. It is against this backdrop that we provide the following comments and express significant concerns regarding the agriculture-related draft measures.

Several of the proposed measures – particularly those concerning fertilizer application, irrigation practices, methane-emission controls, and dietary-behavior interventions – raise not only serious policy and practical feasibility issues, but also potential conflicts with established state and federal law. Specifically, we raise concerns with the following measures:

> "5. Farm Irrigation Efficiency Program […] Reduce or upgrade pumps on site, e.g., by connecting to pressurized delivery, sprinkling and transition from flood irrigation to pressurized pump systems."

> "6. Farming Practices Program […] Adoption by farmers and ranchers of practices that reduce GHG emissions from farming practices. Could include technical assistance, adopting precision fertilizer practices, purchase of equipment or sharing of equipment, and biochar application or other amendments."

> "7. Uptake of Plant Rich Diets Program […] Reduce beef and pork consumption 50% by 2050, and shift to seafood. Reduce poultry and egg consumption 30% by

2050. Reduce dairy consumption 30% by 2050. Shift to a different mix of food categories (fruit and vegetables, grains and cereals, other beverages)."

"9. Methane Emissions Program - Reduction in statewide methane emissions by 40% below 2013 levels by 2030, including reduced livestock sector emissions."

While we understand that these measures are not proposed for implementation at this time, we believe it is important to highlight several legal constraints the Department (and any other state agency) must consider before advancing similar policies. These concerns are not exhaustive, and additional legal and practical issues are likely to arise if the agency elects to pursue these measures in any substantive form.

Implementation Could Run Afoul of State Protections

When the Oregon Legislature enacted the state's comprehensive land use planning system through Senate Bills 100 and 101 (1973), it expressly codified statutory protections for agricultural producers operating on land zoned for farm use, shielding them from unreasonable governmental restrictions and regulatory overreach. See ORS 215.253. The Legislature reaffirmed and strengthened these protections again in 1995 with Senate Bill 766, commonly known as the "Right to Farm" law. Today, ORS 215.253 continues to prohibit both state and local governments from regulating "accepted farm practices," except where such regulation is directly and narrowly tied to public health, safety, and welfare of Oregonians.

Because ORS 215.253 expressly prohibits state and local governments from regulating "accepted farm practices" on land zoned for farm use, any measure that directly or indirectly compels changes to fertilizer use, pesticide application, irrigation methods, livestock production, or the use of standard farm equipment risks running afoul of the statute. Unless a regulation is narrowly and demonstrably tied to public health, safety, or welfare, state agencies may not restrict or interfere with these practices. Thus, if these proposed measures turn into mandates, conditions on permits, coercive incentives, or other forms of regulatory compulsion, they could constitute unlawful regulation of accepted farm practices under ORS 215.253.

We also have deep concerns about the ability of the agency to limit farm uses in a manner that directly conflicts with the legislature's agricultural land use policy expressed in ORS 215.243 as implemented by the Land Conservation and Development Commission pursuant to Statewide Planning Goal 3. As you know, ORS 197.180 requires your agency to enact rules that are compatible with your obligations to comply with Oregon's land use planning system. Enacting rules that will inhibit farm use in areas designated for those uses is a breach of your compliance obligations under that statute.

Implementation Could Run Afoul of Constitutional Protections

Policies that infringe on established rights warrant scrutiny as they create uncertainty for producers who depend on stable regulatory frameworks and may undermine public trust in the agency's authority.

Depending on how they are structured and enforced, these measures could amount to a compensable regulatory taking. Actions that force producers to abandon established systems, replace functional equipment, alter core practices, or sharply restrict livestock operations can significantly interfere with investment-backed expectations and reduce the economically viable use of agricultural property. Proposals requiring a full transition to sustainable fuel sources (many of which do not yet exist) raise similar risks. If ODOE or any other agency pursues these measures, the state should be prepared to compensate property owners for resulting losses to their investment-backed interests.

ODOE's proposed measures may also be vulnerable to an ultra vires challenge because the agency lacks statutory authority to regulate core agricultural practices such as irrigation methods, fertilizer use, or livestock operations – areas assigned by the Legislature to other agencies. When an agency acts beyond its delegated powers, it not only violates basic administrative law principles, but also risks triggering constitutional concerns, including separation-of-powers limits that prohibit executive agencies from assuming regulatory authority the Legislature has not granted.

WRLC appreciates the opportunity to provide these comments, but we must underscore the seriousness of the concerns outlined above. Oregon's agricultural producers form the backbone of the state's rural economy, food system, and natural-resource stewardship, and the stability of these operations depends on a regulatory environment that is lawful, predictable, and respectful of long-established protections for farm use.

Should ODOE or any other state agency proceed with regulations that conflict with state or federal law, infringe constitutional protections, or otherwise exceed delegated powers, WRLC will be prepared to pursue all appropriate legal remedies. Oregon's agricultural producers are entitled to the full protection of the laws the Legislature and Congress have enacted. We remain committed to ensuring that the rights of agricultural communities are safeguarded and that state agencies adhere to the limits the Legislature has set.

Thank you for the opportunity to provide these comments.

Respectfully,

Samantha Bayer
Staff Attorney
Western Resources Legal Center

David Hunnicutt
Staff Attorney
Western Resources Legal Center

Oregon Department of Energy
Attn: Director Janeen Benner and TIGHGER Project Team
Re: Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project – Draft Recommendations

Dear Director Benner,

We appreciate the Oregon Department of Energy's efforts to identify meaningful strategies to reduce greenhouse gas emissions. Agriculture shares these objectives and has made measurable, science-based progress in reducing environmental impacts while continuing to provide safe, affordable, and nutrient-dense food.

The National Pork Producers Council represents our country's 60,000-plus hardworking men and women who carefully and responsibly produce our country's pork, and we must, however, respectfully oppose the proposed gap calling for a 50 percent reduction in red meat consumption. Based on extensive life-cycle evidence, existing sustainability commitments, and federal nutrition policy, this proposal is overly broad, unlikely to deliver proportional climate benefits, and risks unintended consequences for nutrition, rural economies, and climate policy effectiveness.

1. Emissions Intensity from Pork Production Has Declined Substantially

According to the U.S. Environmental Protection Agency's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022* (released 2024), emissions associated with pork production account for approximately 0.5 percent—one-half of one percent—of total U.S. greenhouse gas emissions. Within this broader context, a policy call to reduce pork consumption by 50 percent would be expected to have little to no measurable impact on overall greenhouse gas emissions, particularly relative to other sectors with significantly larger emissions profiles.

This underscores the importance of aligning policy focus with mitigation strategies that can deliver meaningful, scalable emissions reductions rather than relying on consumption-based targets focused on low-contribution sectors.

Additionally, the National Pork Board commissioned a comprehensive life cycle assessment examining U.S. pork production over a 50-year period that clearly

demonstrates environmental performance has improved dramatically due to industry efficiency gains—not reductions in consumer demand.

Between 1959 and 2009:

- Greenhouse gas emissions per pound of pork declined by approximately one third.
- Land use per unit of production declined by nearly 80 percent.
- Water use per pound declined by more than 40 percent.

These outcomes were driven by advances in animal health, genetics, feed efficiency, manure management, and crop productivity. During the same period, overall pork output nearly doubled, illustrating that both emissions and resource use can be reduced through innovation, even as food production increases. This evidence directly challenges the assumption that large-scale consumption reductions are a necessary or primary climate solution for red meat consumption.

2. The Proposed Gap Misaligns Climate Policy with Proven Mitigation Tools

Climate and energy policy is most effective when it focuses on measurable emissions outcomes and controllable levers. A consumption-based reduction target shifts focus away from the areas where the greatest and most durable emissions reductions have occurred—on the production side—and instead jeopardize public health by seeking to deprive access to essential nutrition. Pork is an essential, affordable source of protein and nutrients for U.S. families—and one that is of high cultural value in many American populations and communities.

The agriculture industry has evidence-based documentation that greenhouse gas reductions achieved to date have been driven largely by voluntary, market-based improvements and efficiency gains. These approaches reduce emissions intensity across the entire system rather than relying on uncertain, uneven changes in consumer behavior. Policies that emphasize demand suppression risk displacing production, increasing imports, or shifting emissions geographically rather than reducing them overall.

3. Agriculture Has Established and Is Advancing Clear Sustainability Commitments

The pork sector has adopted a formal sustainability framework that integrates environmental performance, transparency, animal wellbeing, food safety, and public health. These commitments include measurable goals related to greenhouse gas

emissions, land and water use, sourcing and traceability, and continuous improvement grounded in science and data.

This framework, developed among producers and their partners throughout the supply chain, recognizes that sustainability is multi-dimensional and that climate progress must be balanced with food security, nutrition, and economic viability. A policy gap focused narrowly on consumption reduction does not reflect these ongoing commitments or the progress already being made.

4. Federal Dietary Guidelines Underscore the Importance of Meat in a Healthy Diet

The 2025–2030 Dietary Guidelines for Americans, released in early 2026, reaffirm the role of animal-source foods, including red meat, as part of a healthy dietary pattern when consumed in appropriate forms and portions. The guidelines emphasize:

- Prioritizing nutrient-dense, whole foods.
- Highlights animal-based proteins.
- Increasing overall protein intake to support health across life stages.

Red meat is recognized for providing high-quality protein and essential nutrients such as iron, zinc, and vitamin B12—nutrients that for many populations are difficult to obtain in adequate amounts from plant sources alone. The federal guidelines do not recommend arbitrary reductions in red meat consumption but instead emphasize balanced diets and moderation within a broader nutritional context.

Climate strategies that promote large, across-the-board reductions in red meat consumption risk conflicting with current federal nutrition policy and oversimplifying complex dietary and equity considerations.

5. Economic and Community Implications Deserve Consideration

Livestock production supports rural jobs, local tax bases, and associated energy and manufacturing sectors. Signals that encourage major reductions in red meat consumption may discourage investment, disproportionately affect smaller producers, and accelerate consolidation, outcomes that agricultural and economic policy generally seeks to avoid.

In Oregon, these impacts would be felt most acutely by local and specialty producers, as well as the restaurants, food service businesses, and grocers that prioritize Oregon-raised,

Oregon-processed products. Smaller based production systems often operate at higher per-unit costs and lower volumes than national supply chains, yet they deliver significant economic, cultural, and community value. A broad consumption-reduction signal would place outsized pressure on these local systems, even though they play an important role in preserving regional food identity, rural livelihoods, and consumer choice.

Oregon's pig population represents approximately 0.1 percent of the national swine population, meaning that a proposed 50 percent reduction in pork consumption would translate to an estimated 0.05 percent reduction in total greenhouse gas emissions, while disproportionately impacting local producers, processors, and the rural communities that rely on them, as outlined above.

Oregonians take pride in locally produced foods that reflect regional tastes, agricultural traditions, and ways of life. Policies that implicitly discourage consumption of locally produced meat risk undermining these community assets while favoring larger, less locally rooted alternatives.

Experience with climate disclosure and reporting proposals has shown that well-intentioned policies can inadvertently shift costs and risks downstream to producers and rural communities without delivering commensurate climate benefits. These considerations are relevant when evaluating consumption-based policy gaps.

6. Recommended Alternative Approach

We encourage the Oregon Department of Energy to replace the proposed consumption-reduction gap with strategies that:

- Focus on nutritional needs of Oregon residents.
- Align with federal dietary guidance and existing agricultural sustainability frameworks.
- Focus on emissions intensity and measurable outcomes, not dietary quotas.
- Recognize documented efficiency gains in livestock production, and the emerging technologies which have continued to drive emission down and increase overall livestock production efficiencies, including improved feed and nutrient management, emissions capture technologies and renewable energy adoption.

This is an approach agriculture has already embraced and that would better achieve your intended goals by leveraging proven mitigation tools while supporting nutrition, economic stability, and climate resilience.

Reducing greenhouse gas emissions is a shared priority. However, the proposed gap calling for a 50 percent reduction in red meat consumption does not reflect the demonstrated environmental progress of pork production and other agriculture sectors, the most effective climate policy levers, or current federal nutrition guidance.

We respectfully urge the Oregon Department of Energy to remove or substantially revise this proposed gap and to pursue climate strategies that emphasize efficiency, innovation, and science-based emissions reductions rather than broad consumption targets.

Thank you for the opportunity to provide input. If you would like to know more about the pork industry's commitment to sustainability and their 50 year look back, please visit: https://porkcheckoff.org/wp-content/uploads/2021/02/16-214-THOMA-final-rpt.pdf

For study results and additional information, please contact me.

Sincerely,

Cody McKinley

National Pork Producers Council

mckinleyc@nppc.org

Oregon Department of Energy
Attn: TIGHGER Project Team
Re: Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project

Dear Director and Members of the Project Team,

On behalf of the Oregon Potato Commission (OPC), we appreciate the opportunity to provide information on the draft recommendations included in the TIGHGER Project.

We would like to offer several observations regarding the process associated with the development and release of these recommendations. The draft was developed and circulated without meaningful engagement from agricultural stakeholders or coordination with key agencies such as the Oregon Department of Agriculture, despite the direct implications for working lands. As a result, stakeholders are being asked to respond to complex and far-reaching proposals without the benefit of prior consultation or a clear understanding of how these recommendations were developed.

In addition, the timeline provided for public comment is limited relative to the scope and complexity of the proposals. The breadth of the recommendations, many of which touch on established agricultural practices, regional production differences, and existing regulatory frameworks, warrants a more deliberate and iterative engagement process. A compressed comment period makes it difficult for stakeholders to fully evaluate potential implications, coordinate with technical experts, and provide meaningful, data-informed feedback.

We also note the importance of ensuring alignment and coordination across state agencies. Greater coordination would help avoid duplication, ensure consistency with existing programs, and better leverage the work already underway across the state.

Given these considerations, additional time and a more structured stakeholder engagement process would support a more informed and constructive path forward.

By way of context, Oregon potato producers are already utilizing a range of practices aimed at improving efficiency and environmental outcomes, many of which align with the concepts reflected in the draft recommendations. These efforts are typically implemented based on agronomic, economic, and region-specific considerations.

We encourage continued coordination with producers, researchers, and relevant state agencies to ensure that any future strategies are informed by existing practices and developed through a transparent, inclusive, and well-coordinated process.

Sincerely,
Gary Roth, Executive Director
Oregon Potato Commission

Albany Area Chamber of Commerce
435 W 1st Ave
Albany, OR 97321
(503) 926-1517
www.AlbanyChamber.com
April 9, 2026

Dear Oregon Department of Energy,

I am writing on behalf of the businesses we represent throughout Linn, Benton, Marion, Polk, and Lane Counties and beyond, to formally express strong concern and opposition to the current list of 48 draft measures under consideration to expedite the state's climate goals.

While we undoubtedly support responsible environmental stewardship, the proposals as presented lack the transparency, economic grounding, and practical consideration necessary for informed public engagement. It is deeply concerning that ODOE is advancing, or even modeling, sweeping measures that would affect what people eat, how they heat their homes, and what appliances they are allowed to purchase, all without providing any cost estimates or ratepayer impact analysis.

This is not a minor oversight. It is irresponsible to ask Oregonians to comment on significant policy concepts with no dollar amounts attached. Families, farmers, and businesses deserve clear, honest information about what these proposals would cost them before being asked to weigh in. I strongly urge that any future proposals include detailed cost projections, household impact ranges, and economic analyses.

The potential real-world consequences of these measures are substantial:

- **Oregon families** could face significantly higher costs of living through forced home retrofits, appliance replacements, and energy transitions. Many households are already struggling with inflation and rising utility costs. Removing affordable energy options like natural gas without viable, cost-effective alternatives will only deepen that strain while reducing consumer choice.
- **Small businesses** are already operating on tight margins, and would be burdened with expensive compliance requirements, equipment changes, and increased energy costs. This could lead to reduced hiring, higher prices for consumers, or even business closures in some cases. Our state is already seeing a mass exodus of businesses. Do we really want to force the ones that are still here to shut down or move out of state as well?
- **Farmers and ranchers** would be disproportionately impacted by proposals that target agricultural practices and equipment. Mandates related to electric off-road or farm vehicles fail to reflect current technological limitations, reliability needs, and cost realities in agriculture. Additionally, efforts to shift diets away from animal-based products directly threaten Oregon's agricultural economy and the livelihoods of producers across the state.

At the same time, these proposals do not appear grounded in the current realities of Oregon's energy infrastructure. We do not yet have sufficient electrical capacity to support widespread electrification mandates. Compounding this concern, one of our major utility providers, Pacific Power, is facing significant financial challenges that may affect its long-term viability. Pushing aggressive electrification policies under these conditions raises serious reliability risks for both households and businesses.

Taken together, these measures would increase the cost of living, reduce consumer choice, and place undue burdens on Oregon families, farmers, and small businesses—all without a clear understanding of the financial tradeoffs.

Oregonians expect state agencies to prioritize affordability, reliability, and transparency. What is being proposed here instead feels like an open-ended set of social engineering experiments, advanced without sufficient data, cost accountability, or practical implementation pathways.

I respectfully request that ODOE pause further advancement or modeling of these measures until:

- Comprehensive cost estimates are developed and published
- Ratepayer and taxpayer impacts are clearly outlined
- Infrastructure capacity and reliability concerns are addressed
- Stakeholders, including the agricultural and small business communities, are meaningfully engaged

A responsible path forward must be data-driven, transparent, and grounded in the real economic and operational impacts on the people of Oregon.

Thank you for the opportunity to provide comments.

Carmelle Bielenberg
President & CEO
Albany Area Chamber of Commerce

Portland General Electric
121 SW Salmon Street • Portland, OR 97204
portlandgeneral.com

April 9, 2026

Oregon Climate Action Commission
550 Capitol St. NE,
Salem, OR 97301

To the Oregon Climate Action Commission,

Portland General Electric (PGE) appreciates the opportunity to submit comments on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios.

PGE is an integrated electric company that generates, transmits, and distributes electricity to over 950,000 customers serving an area of 1.9 million Oregonians in seven counties and 51 incorporated cities. PGE directly and indirectly drives $4.6 billion in economic output and supports a total of 9,421 jobs. We are proud to be Oregon's largest provider of electricity.

PGE supports the state's ambitious greenhouse gas reduction goals and recognizes the importance of rigorous analysis through the TIGHGER 2.0 process. As Oregon's largest utility, we are managing rapid load growth while maintaining reliability amid increasing extreme weather risks, including wildfire, and complying with ambitious clean energy mandates—all while working to keep customer bills as low as possible. As the Oregon Department of Energy (ODOE) seeks feedback on specific gap measures and scenarios, we urge the Department to consider the context of current constraints facing the system or the results may risk providing an incomplete picture.

Wildfire

For example, none of the gap measures address the risk of wildfire, yet unbounded wildfire liability remains one of the most significant risks to the electric sector in Oregon. Customers are already paying the price – through higher insurance costs, higher borrowing costs, and higher mitigation costs. Oregon's economy is at risk, as liability uncertainty deters investment, raises the cost of new clean energy projects, and undermines the state's decarbonization and economic development goals. Without action at the state and/or federal level, this risk threatens Oregon's economy, limits clean energy deployment, and drives higher costs for all customers.

To meaningfully work toward affordable, reliable, clean energy in Oregon, the state must recognize the connections between wildfire risk and other many other energy policies and

prioritize addressing wildfire liability risk in the electric sector. This is not just a PGE problem – it is an Oregon problem that requires a statewide solution.

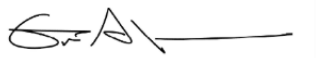
New Large Load Renewable Power
When considering the gap measure related to the new large load renewable power program, we encourage the Department to include modeling assumptions that reflect the full timeline and complexity of bringing new clean resources online, including siting and permitting challenges, the need for transmission capacity, interconnection delays among other issues. Without these considerations, modeled outcomes risk overstating near-term feasibility. In addition, requiring large loads to independently procure dedicated clean resources could create unintended cost pressures by increasing competition for a limited pool of projects. This issue should be considered in the modeling.

Delayed Deployment of Clean Energy Scenario
As the Department looks at additional scenarios that will be compared against the business as planned analysis, we encourage you to ensure that delayed deployment scenario is grounded in real-world development constraints. Clean energy timelines are shaped by factors such as transmission availability, interconnection queue delays, permitting and siting requirements, supply chain limitations, and workforce capacity. These constraints can materially affect the pace and sequencing of procuring and building projects and should be explicitly reflected in the analysis.

In addition, scenarios should evaluate the implications for system reliability and customer affordability. Delays in new resource development may extend reliance on existing generation resources and require additional flexible capacity to maintain reliable service, particularly during periods of extreme weather. At the same time, changes in the timing and scale of investment can have meaningful impacts on customer costs. Incorporating these considerations will result in a more realistic assessment and may also point to areas for near-term and longer-term actions.

Thank you for your consideration. We look forward to continued engagement on these important issues.

Sincerely,



Greg Alderson, Director of Government Affairs

April 10, 2026

Oregon Climate Action Commission
550 Capitol St. NE, 1st Floor
Salem, Oregon 97301

Submitted via email: OCAC@energy.oregon.gov

Re: Draft Gap Measures and Scenarios for Transformation Integrated Greenhouse Gas Emissions Reduction (TIGHGER) 2.0 Project

Dear Members of the Oregon Climate Action Commission,

On behalf of the National Wildlife Federation (NWF) and our millions of members and supporters, we submit these comments on the Oregon Department of Energy (ODOE) Transformational Integrated Greenhouse Gas Emissions Reduction 2.0 project - Gaps Measures and Scenarios (TIGHGER). Our organization views responsible offshore wind energy development as a critical climate solution to reduce greenhouse gas (GHG) emissions.[1] We support ODOE for prioritizing careful planning and thoughtful consideration of Oregon's climate commitments, by assessing Oregon's progress toward meeting the state's emission reduction goals. Please accept our comments on the Draft Gap Measures and Scenarios to help Oregon close the gap between the projected emissions reductions and the state's 2035 and 2050 goals.

Under Oregon Executive Order 20-04, which directs state agencies to take immediate, coordinated action to reduce GHG emissions, the state must urgently address the climate crisis and transition away from fossil fuels. The Order establishes critical, science-based targets: a 45% reduction below 1990 levels by 2035 and at least 80% by 2050. Achieving these benchmarks will require proactive action across key sectors, including transportation, utilities, and land use, and represents an essential commitment to protecting public health, strengthening climate resilience, and advancing a sustainable, low-carbon future for Oregon.[2]

TIGHGER is designed to evaluate Oregon's progress in achieving the GHG emissions reductions targets set forth in EO 20-04.[3] Under the "Business-As-Planned scenario outlined in TIGHGER's updated forecast in 2025, Oregon currently lacks sufficient programs and policies to achieve its 2035 and 2050 GHG

[1] Responsible development of offshore wind: (i) avoids, minimizes, mitigates, and monitors adverse impacts on wildlife and habitats, (ii) minimizes negative impacts on other ocean uses, (iii) includes robust consultation with Native American Tribes and communities, (iv) meaningfully engages state and local governments and other interested and affected parties from the outset, (v) includes comprehensive efforts to avoid impacts to underserved communities, and (vi) uses the best available scientific and technological data to ensure science-based community -informed decision making.
[2] Executive Order 20-04, Office of Governor of Or. (Mar. 10, 2020).
[3] Or. Glob. Warming Comm'n, *Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project Report* (Mar. 2023), https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/64275c449499a72eb55aa206/1680301133140/2023-TIGHGER-Project-Report.pdf

reduction targets. To address the shortfall in meeting Oregon's emissions targets, ODOE drafted proposed additional programs and strategies to be evaluated as part of its modeling for TIGHGER. However, we see room for improvement in the Draft Gap Measures and Scenarios to incorporate responsible offshore wind energy, an internationally recognized, science-based solution for addressing the climate crisis and accelerating the transition to clean energy.

Incorporating offshore wind explicitly into TIGHGER scenarios ensures that Oregon's emissions reduction planning reflects all the renewable technologies available to the state. We recommend that the Draft Scenarios integrate offshore wind energy development explicitly into the SSG modeling. These scenarios should account for lifecycle greenhouse gas emissions, including construction, operation, maintenance, and eventual decommissioning. They should also quantify net avoided emissions on both an annual and cumulative basis, include carbon payback periods to show when projects achieve net reductions, and consider grid integration and storage impacts to accurately reflect offshore wind's potential contribution to Oregon's decarbonization goals.

We see opportunities to integrate offshore wind with several of the Draft Gap Measures currently identified. For example, offshore wind can provide clean electricity for port electrification initiatives and support the goal of increasing domestic shipping to 10% electric. Offshore wind can reliably supply renewable power to large new load projects, ensuring these facilities are fully powered by clean energy. Offshore wind provides meaningful capacity value and complementary performance to other generation sources, helping bolster grid reliability, particularly during winter and nighttime stress periods, and can deliver dependable, fuel-free power close to major coastal load centers, offering among the highest reliability contributions of any renewable resource.[4] Additionally, offshore wind could be leveraged as part of industrial decarbonization and innovation partnership programs, including pilot projects for industrial electrification that rely on local renewable resources.

Importantly, with the recent release of Oregon's Draft Offshore Wind Roadmap,[5] by the Department of Land Conservation and Development (DLCD), we strongly urge close coordination between ODOE and DLCD to ensure consistent, interagency planning on renewable energy technologies, particularly offshore wind, within the TIGHGER 2.0 Project. Despite DLCD's year-long effort developing the Draft Offshore Wind Roadmap, the current TIGHGER Draft Gap Measures and Scenarios do not incorporate offshore wind, indicating a missed opportunity for inter-agency alignment and inclusion of this critical renewable energy pathway. Similarly, we intend to submit comments to DLCD on the Roadmap to incorporate emissions implications of each of its scenarios to better inform integrated energy and climate planning.

We recommend explicitly including offshore wind deployment within the Draft Scenarios, so that modeling accurately reflects the state's potential for planned development pathways and associated

[4] Oliver Stover et al., The Contribution of Offshore Wind to Grid Reliability & Resource Adequacy, Charles River Associates (Nov. 6, 2025) https://www.crai.com/insights-events/publications/the-contribution-of-offshore-wind-to-grid-reliability-resource-adequacy/

[5] *Oregon Offshore Wind Energy Roadmap: Public Review Draft*, Or. Dep't of Land Conservation & Dev. (Feb. 2026), https://www.oregon.gov/lcd/OCMP/Documents/OR-OSW-Roadmap_PublicDraft_DLCD.pdf

GHG emissions reductions. In modeling offshore wind energy, we recommend for ODOE to align scenario assumptions with the four pathways outlined in Oregon's Draft Offshore Wind Roadmap: no offshore wind development, economic participation only, pilot project development, and full-scale commercial deployment (1-3GW or larger).[6] Each pathway carries distinct implications for GHG reductions, grid reliability, and energy system integration.

Under the no-development scenario, modeling should reflect the status quo, capturing emissions outcomes based on existing renewable generation and fossil fuel displacement. The economic participation–only pathway can reflect limited capacity contributions, such as supply chain engagement or community ownership, with minimal direct energy generation impacts. Pilot project scenarios should include small-scale but operationally representative offshore wind installations, while full-scale deployment scenarios should assess robust energy output, lifecycle emissions reductions, and system-wide benefits, including support for decarbonizing high-load coastal infrastructure.

Across all pathways, it is important to recognize that emissions reductions alone provide only a partial picture of overall outcomes. Broader considerations, such as ecosystem impacts, biodiversity risks, and the implications of continued climate change in the absence of additional clean energy deployment, likely fall outside the scope of this modeling but remain critical for informed decision-making.

Life-cycle assessments show that most environmental impacts from wind occur during manufacturing and installation, with minimal emissions during operation, and that improved recycling and end-of-life management can further reduce overall impacts. As with all energy resources, each technology—including hydropower and solar—has trade-offs that should be evaluated holistically, including potential effects on ecosystems and biodiversity. This underscores the importance of comprehensive, science-based assessments across technologies to ensure that energy planning decisions reflect both climate and environmental considerations.

When considering how to model offshore wind, we strongly reiterate that ODOE should use the pathways outlined by DLCD, despite the stated preference in the Territorial Sea Plan for pilot projects.[7] While pilot projects may appear to be a lower-risk entry point, all development pathways involve trade-offs, and emissions reductions alone do not capture the full range of considerations. Using the full set of DLCD pathways will allow for a more comprehensive and transparent evaluation of offshore wind's potential contributions.

By integrating offshore wind into the TIGHGER modeling, ODOE will provide a more comprehensive picture of how to achieve emissions reductions goals under Executive Order 20-40. Responsible offshore wind energy represents a low-carbon and scalable solution capable of delivering significant emissions

[6] *Id*.

[7] Oregon Territorial Sea Plan: Part Five - Uses of the Territorial Sea 1 (2019), Oregon Coastal Management Program, Or. Dep't of Land Conservation & Dev., https://www.oregon.gov/lcd/OCMP/Documents/TSP_Part5_PublicationVersion_correctedEPs_01172023.pdf (last visited Apr. 10, 2026).

reductions, helping Oregon meet its 2035 and 2050 GHG. Omitting offshore wind from scenario modeling would leave a critical gap in understanding how to reach these targets and risk underestimating the state's potential to decarbonize at the scale and pace required.

Sincerely,

Lucy Lefkowitz
Policy Specialist and Staff Attorney
National Wildlife Federation

WORLD
RESOURCES
INSTITUTE

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April 10, 2026

Commission Chair Catherine Macdonald
550 Capitol St. NE
Salem, OR 97301

Re: Public comment for: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Dear Commission Chair Macdonald, Oregon Climate Action Commission Members, and the Oregon Department of Energy,

The World Resources Institute (WRI) appreciates the opportunity to comment on this important issue. Our organization has been significantly involved in assessing the greenhouse gas (GHG) emissions across the various sectors, including the food and agriculture sector. We strongly support the intent of the proposed TIGHGER 2.0 Project Draft Gap Measures and Scenarios for the Food and Agriculture sector. We also urge the state to establish a screening framework for higher-risk proposed measures in other sectors. These pathways should advance only where the state can first demonstrate that its negative externalities can be meaningfully limited, and where robust guardrails are in place to ensure real net public and climate benefit. Most importantly, food and feed crops, and other feedstocks grown on dedicated land, should not be used for aviation fuel. Corn and other food-based feedstocks fail to provide a robust or credible emissions advantage over conventional jet fuel once full life-cycle effects, including land-use effects and broader pressure on farmland and ecosystems, are considered. Likewise, ammonia-based pathways also warrant caution and should proceed only under strict regulation. Ammonia leakage can worsen particulate pollution, eutrophication, acidification, and indirect nitrous oxide emissions. In addition, ammonia combustion can generate nitrogen oxides (NO_x) and nitrous oxide, while ammonia cracking requires stringent controls to limit both residual ammonia and downstream hydrogen leakage. Hydrogen leakage is also not harmless. As an indirect greenhouse gas, it can prolong methane's atmospheric lifetime, increase tropospheric ozone, and raise stratospheric water vapor, thereby exacerbating warming.

Food and Agriculture Sector

We strongly support the Food and Agriculture practices included in the TIGHGER 2.0 draft gap measures, including Increased Nitrate Testing, the Nitrogen Fertilizer Practices Program, the Farm Irrigation Efficiency Program, the Farming Practices Program, the Uptake of Plant-Rich Diets Program, the Food Waste Reduction Program, and the Methane Emissions Program. These are exactly the kinds of measures Oregon should model because they address major sources of emissions throughout the food system

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rather than treating agriculture as a side issue. Many of these categories can meaningfully reduce emissions in the agriculture sector.

The draft specifically includes a 70% reduction in nitrogen fertilizer use by 2050, plant-rich diet shifts by 2050, additional food waste source reduction by 2050, and a 40% reduction in statewide methane emissions below 2013 levels by 2030.

Among these measures, Oregon should prioritize the Uptake of Plant-Rich Diets Program as it could have one of the largest impacts on the average Oregonian's GHG emissions and is appropriately ambitious. Oregon should promote, incentivize, and adopt dietary shifts toward lower GHG foods while also creating demand for Oregon farmers to grow commodities with a reduced GHG footprint. This transition should be guided by nutrition experts to achieve climate mitigation gains while fully meeting human dietary needs (Nelson et al., 2016; Willett et al., 2019). Well-designed diet shifts can support both climate and public health goals while opening new market opportunities for growers producing pulses, grains, fruits, vegetables, and other lower-emission foods (Tilman & Clark, 2014; Aleksandrowicz et al., 2016; Willett et al., 2019; Rockström et al., 2025). This includes the largest international body on climate change, the Intergovernmental Panel on Climate Change, recommending that one of the largest levers for climate mitigation in the land, water, and food sectors is the shift to sustainable, healthy diets (IPCC, 2023).

The evidence is strong that the average U.S. diet is associated with unnecessarily high GHG emissions and that healthier dietary patterns can significantly reduce those emissions (Rockström et al., 2025). A broad literature finds that foods from ruminant animals, especially beef, tend to have much higher greenhouse gas footprints than most plant-based foods and many other animal-source foods (Clune et al., 2017; Poore & Nemecek, 2018; Boehm et al., 2018; IPCC, 2023; Rockström et al., 2025). Studies also show that shifts toward healthier diets are often compatible with meaningful reductions in food-related emissions, land demand, and other environmental pressures (Tilman & Clark, 2014; Nelson et al., 2016; Aleksandrowicz et al., 2016). This is not a call to eliminate all animal products. It is a call to reduce the consumption of the most emissions-intensive foods, especially those from ruminant species, to levels more consistent with dietary guidance and long-term climate stability (Willett et al., 2019). Our work at WRI shows the total carbon cost and land occupation needs of various agricultural commodities (Figure 1 below) and that beef, lamb, and goat meat have outsized impacts on land-use needs and overall production emissions (Santo and Cho, 2026).

Commented [RW1]: You could also cite the 2015 US Dietary Guidelines Advisory Committee report (see e.g. bottom of page 7 in Exec Sum: https://ods.od.nih.gov/pubs/2015_dgac_scientific_report.pdf)

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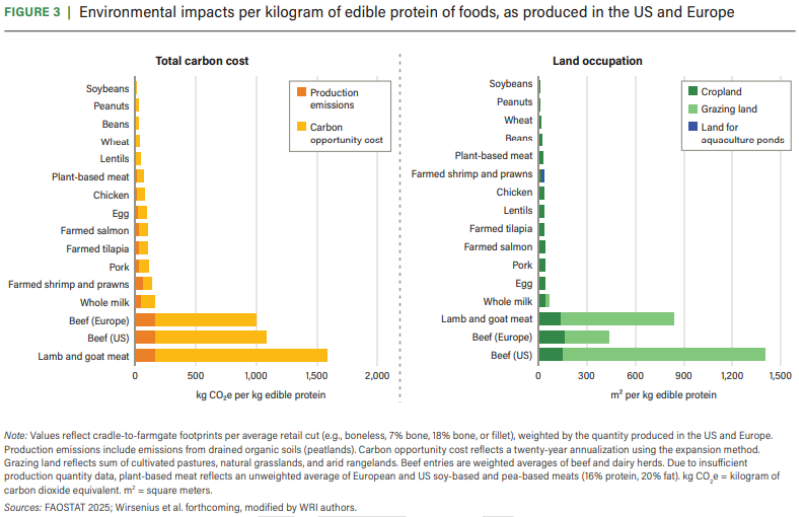
Figure 1. From Santo and Cho (2026), this figure shows the carbon cost and land occupation required for various commodities.



Note: Values reflect cradle-to-farmgate footprints per average retail cut (e.g., boneless, 7% bone, 18% bone, or fillet), weighted by the quantity produced in the US and Europe. Production emissions include emissions from drained organic soils (peatlands). Carbon opportunity cost reflects a twenty-year annualization using the expansion method. Grazing land reflects sum of cultivated pastures, natural grasslands, and arid rangelands. Beef entries are weighted averages of beef and dairy herds. Due to insufficient production quantity data, plant-based meat reflects an unweighted average of European and US soy-based and pea-based meats (16% protein, 20% fat). kg CO_2e = kilogram of carbon dioxide equivalent. m^2 = square meters.

Sources: FAOSTAT 2025; Wirsenius et al. forthcoming, modified by WRI authors.

Given the mounting risks of dangerous and potentially irreversible climate change, including the risk of crossing multiple climate tipping points, Oregon should treat diet shift as a central mitigation strategy, not a peripheral one (Armstrong McKay et al., 2022).

We also support the other Food and Agriculture measures because they work best as an integrated package. Increased nitrate testing, nitrogen management, irrigation efficiency, improved farming practices, food waste reduction, and methane reduction all address different parts of the food-system emissions problem and should be modeled together. We believe these measures are consistent with targeting the most significant sources of emissions in the agricultural sector, including nitrous oxide from fertilizer use, methane from enteric fermentation and manure management, and the lost resources and emissions associated with food waste.

While there is a clear need to reduce nitrogen application rates where possible (Badzmierowski, 2025), those reductions should ideally occur without reducing crop yields. To support this, Oregon should invest in nutrient fertility trials for its major high-acreage commodities to update existing fertilizer recommendations or establish them where they are currently lacking. Although the state likely has

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substantial potential to reduce nitrogen application rates, achieving a 70% reduction without materially affecting yields is improbable. Lower yields could, in turn, drive leakage, requiring additional acreage elsewhere (and incurring carbon losses elsewhere via land clearing) to maintain production of the same commodities.

In summary, demand-side change should not be treated as optional. Diet shifts are one of the few measures that can simultaneously reduce methane, lower demand for feed and fertilizer, reduce pressure on land and water, and complement farm-side mitigation rather than compete with it. Oregon should therefore give the plant-rich diet a prominent role in the final modeling assumptions.

Other Sectors

For other sectors and the proposed measures within them, we urge transparency, rigorous lifecycle accounting, and appropriate guardrails to ensure Oregon does not adopt pathways that could worsen climate outcomes. In particular, we are concerned about measures related to the use of aviation fuel, ammonia, and hydrogen.

Sustainable Aviation Fuel

The 100% sustainable aviation fuel (SAF) target by 2050 should not include crop-based feedstocks grown on dedicated land. Scaling up crop-based SAF would be an unsustainable pathway that would exacerbate food-system pressures by diverting large quantities of the world's most productive farmland from food production to fuel. It would also fail to reduce emissions from the aviation sector.

Research has demonstrated that food crop-based biofuels have lifecycle (from fertilizer production to crop production to processing and consumption) GHG emissions factors that are as high, or higher, than fossil fuels (Lark et al., 2022; Searchinger et al., 2023; Chen et al., 2025). The push for biofuels, particularly from food crops like corn and soy, has led to millions of acres of land being converted from grasslands and forests, coinciding with the use of significant quantities of nitrogen fertilizer (Lark et al., 2022; Rossi et al., 2023; Searchinger et al., 2008; Wang & Khanna, 2023). A central concern is the indirect land-use effects or "leakage." When food and feed crops are diverted to fuel, all else held equal, additional land must be brought into production elsewhere to compensate, releasing carbon stored in soils and biomass and reducing future sequestration potential. Calculating leakage is essential because these emissions are substantial and, in the case of dedicated crop-based fuels from corn and soy, large enough to exceed the claimed climate benefits of crop-based fuels (Chen et al., 2025; Lark et al., 2022; Searchinger et al., 2018). The Greenhouse Gas Protocol's *Land Sector and Removals Standard* (WRI and WBCSD, 2026) requires companies that purchase crop-based biofuels to account for and report leakage using the carbon opportunity cost metric to calculate carbon losses from replacing displaced crops at average yields. The state of Oregon should adopt a similar accounting approach.

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The leakage that has already occurred from biofuels is small compared to future goals, where the U.S. wants to reach 35 billion gallons of sustainable aviation fuel (SAF) by 2050 (Wang & Khanna, 2023). Reaching this stated goal would have enormous effects: using the 2022 U.S. average corn yield of 173.3 bushels per acre and a production rate of one bushel of corn needed to produce 3 gallons of ethanol (U.S. EIA and USDA data), it would require 114 million acres of corn, or 25% more than the total area planted with corn in the U.S. for all purposes in 2024. Soy-based biofuels have an even greater impact on land-use change, as soy is less efficient than corn at producing energy and thus would require even more land. Targets that increase use of food crops would also raise food prices (Chen et al., 2025), which would be harmful to low-income families who spend a larger share of their income on food.

Evidence also suggests that biofuel-driven commodity demand has contributed to a persistent shift in land use, including the conversion of grasslands to corn and soybean production (Wright et al., 2017; Wright & Wimberly, 2013). Supporting datasets and annual reporting have likewise documented large-scale cropland expansion into grasslands in recent years. Lark et al. (2020) found that cropland expanded by more than 1 million acres per year, with much of that new cropland producing below-average yields. The World Wildlife Fund's Plowprint analysis similarly found that 1.6 million acres of grassland in the U.S. and Canadian Great Plains were converted to cropland in 2021 and that more than 32 million acres have been converted since 2012 (World Wildlife Fund, 2023).

For these reasons, Oregon should adopt clear guardrails to ensure that sustainable aviation fuel does not come from food or feed crops, or other feedstocks grown on dedicated land. The European Union, United Kingdom, and China all already include guardrails disallowing food and feed crops. Any SAF pathway should be limited to feedstocks that do not compete with food production and agricultural land use (e.g., use of biomass wastes and residues, use of e-fuels made from additional and renewable energy) and that can credibly demonstrate real net greenhouse gas reductions under full lifecycle accounting. Oregon should instead prioritize measures that more clearly reduce aviation emissions, including electrification of short-haul flights where feasible, improved aircraft and aerodynamic efficiency, mode shifting to rail where practical, and overall reductions in flight demand.

Hydrogen and Ammonia

The proposal to use and expand hydrogen and ammonia as fuel sources needs significant guardrails. Before adopting these pathways, the state should first determine whether its negative externalities can be credibly avoided, minimized, or mitigated in practice. If they cannot, those measures should not move forward. If they can, then Oregon should impose clear, enforceable safeguards to ensure real net climate and public benefits.

Hydrogen's near-term warming potency is substantial. Recent assessments indicate that leaked hydrogen has a 20-year warming effect on the order of 30 to 40 times that of carbon dioxide by mass, so even modest leakage can erode near-term climate benefits (Sand et al. 2023), so even modest leakage across

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the vast number of proposed sectors erodes climate benefits in the very decades when Oregon needs cuts (Ocko and Hamburg 2022). Hydrogen leakage should be treated as a material climate risk. Hydrogen is not a direct greenhouse gas, but it is an indirect greenhouse gas that alters atmospheric chemistry in ways that prolong methane's atmospheric lifetime and increase tropospheric ozone and stratospheric water vapor. For that reason, hydrogen emissions should be treated as a material climate risk, and Oregon's scenario analysis should ensure that the full lifecycle climate impact of hydrogen pathways is assessed rather than focusing only on point-of-use emissions. For green hydrogen, this should include whether proposed pathways meet the "three pillars" needed to avoid worsening emissions relative to the status quo: additional clean electricity generation, temporal matching of electricity supply and demand, and deliverability between generation and electrolysis. For blue hydrogen pathways, upstream methane emissions must also be extremely low, with leakage rates on the order of 0.2% or less as a reasonable benchmark if claimed climate benefits are to remain credible.

Hydrogen is also difficult to manage and monitor at the levels relevant to climate. Since hydrogen can diffuse readily, can embrittle some metals, and poses recognized handling and safety challenges across infrastructure systems, leakage risks span the full supply chain (Ahad et al. 2023; Calabrese et al. 2024). Critically, the sensing technology gap is significant. Commercially available safety sensors typically detect at parts-per-million (ppm) levels, whereas ambient/atmospheric hydrogen relevant to climate is parts-per-billion (ppb). The U.S. Department of Energy's 2024 program review calls out that "commercial hydrogen safety sensor's detection limit is at the ppm level. Atmospheric hydrogen concentration is at the ppb level," with ppb-capable methods still in early development and needing third-party validation (DOE 2024). That gap suggests Oregon should be cautious about assuming leakage can be easily quantified and controlled without stronger measurement, verification, and engineering requirements.

We are particularly concerned about proposals to blend hydrogen into residential and commercial gas systems. The climate benefit appears small, while direct electrification is usually much more efficient. Any use of hydrogen in buildings should therefore be limited to clearly justified cases where electrification is not feasible, rather than assumed under a broad 15% blending scenario.

There are also serious concerns with using ammonia as a fuel or hydrogen carrier. Peer-reviewed systems analysis finds that losses and inefficiencies across the ammonia value chain can result in the release of reactive nitrogen compounds, including ammonia, nitrogen oxides, and nitrous oxide (Bertagni et al. 2023). These losses may significantly perturb the nitrogen cycle, impacting air and water quality, human health, ecosystem services, stratospheric ozone, and climate. The extent of the potential global perturbation depends on future ammonia demand and reactive nitrogen loss rate.

Bertagni et al.'s (2023) findings reveal that improper ammonia use can have disruptive environmental impacts, warranting careful scrutiny, while optimal ammonia management can greatly reduce environmental concerns. At the national or regional level, even a small penetration of ammonia into the energy market (e.g., 5%) could lead to reactive nitrogen emissions comparable to current cumulative emissions from the agriculture, industry, and energy sectors. In addition to air pollution, these emissions

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would lead to water pollution upon deposition, regional alterations in ecosystems, and global warming and stratospheric ozone depletion via nitrous oxide. A peer-reviewed systems study led by MIT finds that under current rules, a global switch to ammonia shipping would lead to ~600,000 additional premature deaths per year from NO_x, ammonia slip, and secondary $PM_{2.5}$, unless far stricter controls and cleaner engine tech are deployed first (Wong et al. 2024; MIT News 2024).

For Oregon, that means hydrogen and ammonia pathways should not be treated as inherently low-risk or low-impact. If the State chooses to advance these measures, it should first demonstrate that leakage, combustion byproducts, and downstream environmental harms can be meaningfully limited in practice, and then require strict guardrails across the full supply chain.

Conclusion

In summary, we thank ODOE for providing this comment period and encourage the final modeling to prioritize the Uptake of Plant-Rich Diets Program as a core climate strategy; and second, explicitly exclude food and feed crops from any sustainable aviation fuel or low-carbon fuel pathway. Oregon's climate strategy will be stronger, more coherent, and more credible if it reduces emissions from the food system while protecting farmland for food, not fuel.

We also strongly recommend that if hydrogen or ammonia is pursued in any modeling efforts, that estimates include the potential losses of both gases and their impact on global warming as both will inevitably have losses through the supply chain like we see in the oil and gas industry (Alvarez et al., 2018; Cusworth et al., 2026; Reuters, 2024; IEA, 2024).

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April 10, 2026

Comments to ODOE / Oregon Climate Action Commission
On behalf of Oregon PUDs

Dear Oregon Department of Energy and Oregon Climate Action Commission:

On behalf of the Oregon PUD Association (OPUDA), we appreciate the opportunity to comment on the Committee's proposed ideas to achieve Oregon's greenhouse gas reduction goals.

In general, this list reflects a troubling lack of discipline and coordination in state energy policy. These ideas are being floated while the State Energy Strategy has documented major load growth, tightening capacity margins, and a well-established resource shortfall. Instead of creating confidence that the State has a focused plan to address Oregon's real energy challenges, this exercise reads like a brainstorming list of aspirational mandates disconnected from the physical realities of the electric system. Oregon needs a coherent strategy, not overlapping processes that create confusion and undermine credibility.

Concept: Expand ODOE's statewide energy infrastructure resilience programs, including the Community Renewable Energy Grant Program.

This concept is generally reasonable, but the State should first evaluate how the current program is performing before expanding it. ODOE should determine whether existing resilience grants are delivering meaningful reliability and resilience benefits before projecting megawatts through 2050 or assuming success at larger scale. Expansion should be based on measurable results.

Concept: Require new large loads to be supplied with 100% clean energy resources.

We oppose this concept. Oregon continues to impose aggressive clean energy expectations without supporting the region's largest source of clean, firm power: the federal hydropower system. The State cannot credibly demand more clean supply while simultaneously undermining the Federal Columbia River Power System, the backbone of the Northwest's carbon-free electricity system.

At the same time, Oregon has made it extraordinarily difficult to build major new energy infrastructure of any kind. Before imposing new mandates on large loads, the State should first make it possible to site, permit, and build the generation, transmission, and storage needed to serve them. A mandate without a buildable pathway is not a strategy.

Concept: Broad industrial, commercial and residential electrification targets across major end uses.

We strongly oppose setting sweeping electrification targets without first identifying where the power will come from. Oregon should not move toward full electrification of major loads while facing a well-documented supply problem, including the projected 9-gigawatt resource gap.

Electrification is not a substitute for resource planning. The State should not mandate major new electric load first and hope supply catches up later. Until Oregon has a credible plan to add firm capacity and maintain affordability and reliability, these targets are premature and irresponsible.

Oregon's PUDs support practical, disciplined emissions reductions. But the State cannot continue layering mandates on top of a system that is already facing serious supply and infrastructure constraints. Oregon needs a focused, integrated energy strategy grounded in reliability, affordability, and real-world feasibility, not more disconnected targets that create confusion and erode confidence.

Sincerely,

Kyle Roadman, General Manager, Emerald PUD
Marc Farmer, General Manager, Clatskanie PUD
Michael Sykes, General Manager, Columbia River PUD
Roger Kline, General Manager, Northern Wasco County PUD
Todd Simmons, General Manager, Tillamook PUD
Ty Hillebrand, General Manager, Central Lincoln PUD

.

OrCAN
Oregon Climate & Agriculture Network
Resilience through soil health

April 10, 2026

To: Oregon Department of Energy, Oregon Climate Action Commission
From: Sophie Els, Policy Coordinator, Oregon Climate and Agriculture Network (OrCAN)
Re: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

I am responding to the call for public comment on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios, on behalf of Oregon Climate and Agriculture Network (OrCAN).

Our comments will focus on the proposed draft measures that concern Food and Agriculture. *Comments are in italics, below the relevant measure*.

- Increased Nitrate Testing: Testing for nitrates in the soil each Fall and seeking farming practice modifications to allowable limits as necessary.

Reducing nitrate levels in soil is an important GHG reduction strategy, and testing is the best way to determine current levels and monitor levels going forward, but any testing should be voluntary. OrCAN is very supportive of efforts to promote, but not require, practice modifications. The way this measure is drafted the State would likely need to clarify what allowable limits are for soils. This measure as written would create regulatory and likely financial burdens on farmers and ranchers – any state requirements for increased nitrate testing need to ensure that the onus is not on farmers and ranchers to conduct tests or pay out of pocket for tests.

- Nitrogen Fertilizer Practices Program: Targeted use and replacement of nitrogen fertilizer: ramp to 70% reduction by 2050

We are supportive of this measure, and urge the State to invest in strategies to increase the adoption of soil health practices, which can reduce reliance on nitrogen fertilizer and other amendments. Improving the efficiency of nitrogen fertilizer application can also reduce nitrogen gas emissions, and indirectly reduce other emissions from manufacturing and distribution.[1]

[1] (2023) A Roadmap to Increase Net Carbon Sequestration and/or Carbon Storage on Oregon's Natural and Working Lands. Institute for Natural Resources, Oregon State University, Corvallis, Oregon, p. 89

- Farm Irrigation Efficiency Program: Reduce or upgrade pumps on site, e.g., by connecting to pressurized delivery, sprinkling and transition from flood irrigation to pressurized pump systems.

We support irrigation efficiency as a drought resilience strategy, and the emissions reduction benefits it could create as a result of reduced energy use. There are programs, such as Oregon's Farmer Rancher Disaster Resilience Grant Program, which was funded by the legislature in 2023, but not 2025, which could be renewed to support this measure.

- Farming Practices Program: Adoption by farmers and ranchers of practices that reduce GHG emissions from farming practices. Could include technical assistance, adopting precision fertilizer practices, purchase of equipment or sharing of equipment, and biochar application or other amendments.

We are very supportive of this measure, and strongly recommend that any iteration of this program prioritize education and technical assistance for soil health practices. Soil health is a key strategy for mitigating climate change. Soil health practices include biochar and compost application, which not only improves soil health and retains key nutrients, but can help sequester carbon while increasing production[2]. Additionally, reduced use of nitrogen fertilizers results in reduced GHG emissions (nitrous oxide); reducing tillage protects existing soil carbon and reduces GHG emissions; fewer passes with a tractor (tilling or fertilizing) reduces fuel usage. And if the TIGHGER is also considering carbon sequestration and storage: perennial crops reduce disturbance and keep carbon in the soil; and woody plants protect and build above- and below-ground carbon. The OCAC NWL project has done extensive work to determine which agricultural practices effectively reduce GHG emissions and/or sequester or store carbon. We encourage the commission to take advantage of that work when recommending specific practices. There are programs, such as Oregon's Farmer Rancher Disaster Resilience Grant Program, which was funded by the legislature in 2023, but not 2025, which could be renewed to support this measure. OrCAN's Soil Health Network also promotes the implementation of soil health practices across Oregon and could partner with the State on this effort.

- Uptake of Plant-Rich Diets Program: Reduce beef and pork consumption 50% by 2050, and shift to seafood. Reduce poultry and egg consumption 30% by 2050. Reduce dairy consumption 30% by 2050. Shift to a different mix of food categories (fruit and vegetables, grains and cereals, other beverages.)

The intention of the word "consumption" in this measure is unclear, and as written, we believe this measure will be difficult to implement, as the State is not responsible for dietary choices of

[2] (2023) Kutos, S., et al. Compost amendment to enhance carbon sequestration in rangelands. *Journal of Soil and Water Conservation,* 78(2), 163-177. doi:10.2489/jswc.2023.00072

Oregonians. As written it will likely face opposition from Oregon's ranchers and other livestock producers. We urge the State to prioritize supporting those producers in implementing more climate friendly practices, such as rotational grazing, which can reduce emissions, rather than implementing measures that would threaten their livelihoods.

- Food Waste Reduction Program: Reduce generation of food waste in Oregon by an additional 21% through source reduction (not diversion) by 2050.

Reducing food waste that ends up in landfills is an important GHG reduction measure the State can take. DEQ is currently working on these efforts. These efforts should include the generation of compost, which has the co-benefit of improving soil health on Oregon's farms and ranches. We encourage that any application of this measure take into consideration that the definition of "food waste" does not include composted food byproducts generated by farmers that could be reused for agricultural applications.

- Methane Emissions Program: Reduction in statewide methane emissions by 40% below 2013 levels by 2030, including reduced livestock sector emissions.

We imagine that ranchers would appreciate support from the State to implement measures such as dietary additives (like kelp) which can reduce enteric emissions from livestock. But this measure should not include changing the number of livestock or the number of ranches producing livestock, as is it not the State's role to determine what Oregon's farmers and ranchers produce.

We have been concerned in the past that TIGHGER recommendations did not include food and agriculture. We're pleased to see that agriculture is included in this version and hope that the Commission will engage with the agricultural community, and OrCAN, on designing measures that effectively reduce GHG emissions and also work for Oregon's farmers and ranchers. We strongly recommend that the State prioritize investment into technical assistance and programs that promote the adoption of soil health practices, as a measure that can both reduce emissions and help producers be more resilient to climate impacts.

Thank you for your consideration of these comments.

SHELLY BOSHART DAVIS
STATE REPRESENTATIVE
DISTRICT 15

HOUSE OF REPRESENTATIVES

April 10, 2026

Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Public Comment on TIGHGER 2.0 Draft Gap Measures and Scenarios

Director Benner and staff:

I am writing to express my strong opposition to the proposed TIGHGER 2.0 Draft Gap Measures currently open for public comment. While the document contains 48 different proposals, I wish to highlight several that are particularly egregious in their overreach into the lives of Oregon families and their assault on personal freedom and economic prosperity.

Measure 7, the "Uptake of Plant-Rich Diets Program," represents an unconscionable intrusion into the most personal decisions Oregonians make. This proposal seeks to reduce beef and pork consumption by 50% by 2050, reduce poultry and egg consumption by 30%, and reduce dairy consumption by 30%.

The government has absolutely no business dictating what foods families choose to put on their dinner tables. This measure would devastate Oregon's ranching and livestock industries while forcing families to abandon food choices that have sustained communities for generations. The proposal reveals the true agenda behind these so-called "climate goals"—not environmental protection, but comprehensive control over the daily lives of citizens. If the state can tell you what to eat, what can't it control?

Measure 28, requiring "95-100% of existing residential homes retrofitted with heat pumps by 2045," along with Measure 29, mandating "95% heat pump water heater sales for existing residential buildings by 2045," represent a massive unfunded mandate on Oregon homeowners.

These proposals would force families to spend thousands of dollars replacing functioning heating and water heating systems with expensive heat pump technology, regardless of whether it makes economic sense for their situation.

Combined with Measure 41, which demands weatherization of 95% of existing residential homes by 2040, these measures would require Oregonians to spend tens of thousands of dollars retrofitting their homes to meet arbitrary government standards. Many families,

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STATE REPRESENTATIVE
DISTRICT 15

HOUSE OF REPRESENTATIVES

particularly those on fixed incomes or in rural areas, simply cannot afford these mandates. This amounts to economic warfare against Oregon homeowners and a fundamental assault on property rights.

Measures 34 and 36 would eliminate consumer choice entirely by requiring "95-100% new appliance sales for residential homes are electric by 2035" and mandating that "65% of heating systems sales are heat pumps by 2030, 90% by 2040." These mandates strip away the freedom of Oregonians to choose the most cost-effective and reliable options for their families.

The existence of this document with these 48 different proposals reveals a disturbing pattern of government overreach that treats Oregon citizens as subjects to be controlled rather than as free people capable of making their own decisions.

These measures are not about reducing climate change or protecting the environment. They are about creating a massive bureaucratic apparatus that funnels taxpayer money to politically connected nonprofits and the "climate industrial complex" while expanding government control over every aspect of our lives. The arbitrary reduction goals established by executive order—not by the people's elected representatives—serve as the justification for this unprecedented expansion of state power.

Finally, this public comment process itself is deeply irresponsible. ODOE is asking Oregonians to weigh in on 48 sweeping ideas without providing the public with even basic cost estimates, ratepayer impacts, taxpayer exposure, implementation assumptions, or realistic price tags.

The document repeatedly says these measures are being modeled for informational purposes and are not currently proposed for implementation, but it still invites public comment on whether they should be modeled without giving citizens the financial context necessary to make an informed judgment.

That omission is not minor. A reasonable person could have a very different opinion about the same proposal if it would cost $1,000, $100 million, or $5 billion. Asking the public to comment on a list of this magnitude without disclosing likely costs is not transparent policymaking; it is an attempt to normalize sweeping mandates while avoiding accountability for their real economic consequences.

Oregon is already struggling with affordability, and it is disturbing that an agency would circulate a list this expansive without showing meaningful concern for what these ideas could cost taxpayers, homeowners, workers, and small businesses.

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I urge ODOE to reject these intrusive, expensive, and freedom-destroying proposals. Oregonians deserve the right to make their own decisions about what they eat, how they heat their homes, what appliances they purchase, and how they live their lives. These goals were imposed by executive order, not democratic process, and represent a fundamental threat to individual liberty and economic prosperity.

The people of Oregon did not consent to this level of government intrusion into their daily lives, and I strongly oppose implementing these measures.

Sincerely,

Thank you,

Shelly Boshart Davis

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Cascade Policy Institute
OREGON

April 10, 2026

Janine Benner
Director
Oregon Department of Energy
650 Capitol Street NE
Salem, OR 97301

Re: Comments on TIGHGER 2.0 Draft Gap Measures

Dear Ms. Benner,

Cascade Policy Institute is a non-partisan public policy organization working to promote a dynamic market economy in Oregon. Cascade was incorporated in 1991 and has testified in many energy-related proceedings at the local, state and national levels.

We note that Gov. Tina Kotek shares our interest in economic opportunity, and towards that end created a Prosperity Road Map in December 2025. Unfortunately, the TIGHGER Gap Measures and Scenarios suggests policies that are in conflict with the Governor's prosperity agenda. Abundant energy is the foundation for economic prosperity, and the TIGHGER measures are steps towards energy poverty.

Before addressing the 48 "gap measures" themselves, we wish to back up and discuss the original GHG reduction goals created by the state legislature, because there seems to be some confusion about whether those goals are still in effect. Oregon's climate goals were first adopted in 2007 through HB 3543. That statute established the following goals:

- *By 2010, arrest the growth of Oregon's greenhouse gas emissions (including, but not limited to CO2) and begin to reduce them, making measurable progress toward meeting the existing benchmark for CO2 of not exceeding 1990 levels.*
- *By 2020, achieve a 10 percent reduction below 1990 greenhouse gas levels.*
- *By 2050, achieve a "climate stabilization" emissions level at least 75 percent below 1990 levels.*

There are at least three ways to measure compliance: (1) emissions for the entire state; (2) emissions per capita; or (3) emissions per unit of GDP. Furthermore, Oregon DEQ measures GHGs as both consumption-based emissions and sector-based emissions, with wildly different results.

This complicates the process of measuring progress. The statute itself offers no guidance, so administrative agencies must use their own best judgement.

ODOE has chosen to measure emissions in the aggregate, ignoring both population and GDP. This is the least defensible interpretation. Both population and GDP tend to grow over time, so if state officials are not accounting for that growth, they will be missing long-term trends regarding carbon intensity.

If emissions per unit of economic growth and/or per capita are steadily going down, then eventually emissions in absolute terms will go down as well. That's important for policy makers to understand.

ODOE's reliance on total emissions as the measure of success is misleading and may result in unnecessary economic disruptions, such as the 48 "gap measures" under consideration.

Actual emissions trends since HB 3543 was enacted highlight this point. Oregon's population in 1990 was 2.84 million, and by 2023 it had increased to 4.2 million, a 48% increase.

During that same period, DEQ's emissions inventory shows that total GHG emissions went from 56 Million MTCO2e to 59 Million MTCO2e, a 5% increase. But after accounting for population growth, GHG emissions dropped by 29% per capita, far in excess of the 2020 goal of 10%.

ODOE claims that Oregon is failing to meet its GHG goals and therefore more restrictions must be adopted. We believe legislators should receive a more nuanced view, including emissions on a per-capita and per unit of GDP basis as well. If legislators have a preference about how to measure progress towards the 2007 goals, they should amend the statute.

ODOE also relies on Gov. Kate Brown's Executive Order 20-04, which added an interim GHG emissions goal for 2035 and updated the 2050 goal:

- *Achieve greenhouse gas levels that are 45 percent below 1990 levels by 2035.*
- *Achieve greenhouse gas levels that are at least 80 percent below 1990 levels by 2050.*

These aspirational goals by Gov. Brown have no effect on the statutory goals enacted by the legislature and should be ignored by ODOE. As noted by Hon. Jack L. Landau and Nora Coon in Chapter 19 of the *Oregon Constitutional Law* (2022 ed.):

> While the state legislature has plenary power, subject to constraints imposed by federal law or the state constitution, powers of the executive branch are limited to those enumerated in the constitution or granted by the legislature.
>
> In *Elkhorn Baptist Church v. Brown*, 366 Or 506, 466 P3d 30 (2020), for example, the issue was the source of authority for the Governor's executive orders imposing various restrictions on public activities in response to the COVID-19

pandemic. The Governor claimed authority to issue the orders under legislation authorizing her to take such action in the case of emergencies.

The plaintiffs argued that the authority granted under those statutes was limited, permitting the Governor to issue emergency orders only for limited periods of time. *See Elkhorn Baptist Church*, 366 Or at 522 (describing the circuit court's ruling in the plaintiffs' favor on that point).

The Oregon Supreme Court accepted the premise that the Governor's powers were limited to those granted by the statutes and the constitution. *Elkhorn Baptist Church*, 366 Or at 525–26.

While some activists claim that Oregon is facing a "climate crisis", there is no definition of that term, and it has no legal meaning. Even if there was a definition, Executive Order 20-04 is now almost six year old. It lacks plausibility to claim that whatever climate "emergency" Gov. Brown may have claimed in 2020 is still the basis of an executive order.

In 2023, the Legislature passed HB 3409, which renamed the Oregon Global Warming Commission the Oregon Climate Action Commission. As part of the commission's subsequent Climate Action Roadmap to 2030, the commission recommended a package of GHG goal updates:

- *Oregon will achieve at least a 45 percent reduction below 1990 levels by 2030.*
- *Oregon will achieve at least a 70 percent reduction below 1990 levels by 2040.*
- *Oregon will achieve at least a 95 percent reduction below 1990 levels by 2050.*
- *By 2050, or as soon as practicable, Oregon will also achieve net zero emissions and achieve and maintain net negative emissions thereafter.*

The Department concedes in its *"ODOE at 50: History of Oregon's Climate Goals"* report that these goals "have not been formally adopted" by any law-making body, which means they have no bearing on emissions reductions policies.

Comments on TIGHGER DRAFT GAP MEASURES

Virtually every measure on this list is both arbitrary and unenforceable, which makes it useless for regulatory purposes.

For example:

#2. "New large loads to be supplied with 100% clean energy resources." This could only be achieved if large loads had exclusive access to electricity generated by new generation of nuclear power, which is illegal in Oregon. The politically favored sources of wind and solar generation are intermittent and thus wholly unsuited for data centers.

#7. "Reduce beef and pork consumption by 50% by 2050, and shift to seafood." The 50% goal is arbitrary, includes no benefit-cost analysis, and is unenforceable.

#11. "Industrial electrification." The multiple goals in this section are random, expensive, and unenforceable.

CONCLUSION

The only climate goals with legal significance are those adopted by the state legislature in 2007. When measured in terms of either per capita emissions or per unit of GDP, it appears that the 10% reduction goal for 2020 was met. Therefore, there is no "emergency" that would justify consideration of 48 additional control measures.

Sincerely,

John A. Charles Jr.

John A. Charles, Jr.
President & CEO

April 10, 2026

Subject: Oregon Environmental Council on TIGHGER 2.0 Draft Gap Measures and Scenarios for Analysis

Dear OCAC Commissioners and ODOE staff,

Founded in 1968, the Oregon Environmental Council (OEC) is a nonprofit, nonpartisan, membership-based organization. We advance equitable, innovative, and collaborative solutions to Oregon's environmental challenges for today and future generations. We bring this historical and multi-sector perspective to our comments.

General Feedback

OEC shares many of the concerns about the TIGHGER 2.0 modeling and how potential measures were developed, as expressed in the comments submitted by Green Energy Institute and partners. To summarize:

Alignment with Existing Strategies

- Avoiding Redundancy: TIGHGER 2.0 measures should transparently build off the Oregon Energy Strategy (OES)[1] and Land-Based Net Carbon Inventory[2] reports rather than duplicating multi-year modeling and analysis.
- Focus on Gaps: TIGHGER 2.0 is potentially most useful for the food and agricultural sector, which was the only sector the OES did not address. For this sector, it will be valuable to consult experts in the Natural Climate Solutions space who work closely with food and agriculture partners across the state.

Transparency in Modeling

- Open-Source Advocacy: We strongly recommend using proprietary software with non-partisan, open-source, and peer-reviewed modeling tools, such as the Energy Policy Simulator (EPS).[3]
- Collaborative Data: Using open-source tools allows for public vetting, tutorials for policy experts, and a mutual agreement on the data used for policy selection.

OEC also recommends that, whenever possible, gap measures and scenarios be modeled on a consistent timeline to ensure an "apples-to-apples" comparison between various options. For example, how do GHG reductions of one measure compare to another measure on a 10 or 20-year time horizon? Additionally, ODOE should prioritize measures that have clear and consistent funding sources.

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[1] https://www.oregon.gov/energy/Data-and-Reports/Documents/Oregon-Energy-Strategy.pdf
[2] https://www.oregon.gov/energy/energy-oregon/Documents/2025-Land-Based-Net-Carbon-Inventory-Report.pdf
[3] https://energypolicy.solutions/simulator/oregon/en. See Amy Schlusser & Caroline Cilek, The Path to 2050: A Policy Pathway for Decarbonizing Oregon's Economy (Sept. 2022) (applying EPS modeling to Oregon's policy landscape), https://law.lclark.edu/live/files/33826-gei-oregon-decarbonizaton-pathway-analysis-2022.

Are there measures listed below that you think would be particularly important to model to quantify potential greenhouse gas emissions reductions? Are there particular assumptions ODOE should consider for that measure?

OEC suggests that OCAC prioritize the following measures in its gap analysis:

- Large Load Renewable Power Program
    - *Assumption:* In addition to requiring 100% clean energy for new large loads, model the impact of curtailment, moratoria on new loads, and mandatory load flexibility (see more detail under Data Center Moratorium below).
- Existing Res Buildings 95% HP by 2045 and Existing Res Buildings 95% HPWH by 2045
    - *Assumption:* Model 95-100% retrofit penetration on an accelerated timeline — reaching 75% by 2040 rather than 2045 — with particular attention to low-income households and renter-occupied units where split-incentive barriers are greatest. Model HP and HPWH as separate measures. The existing housing stock represents a far larger emissions opportunity than new construction; OEC urges ODOE to treat these retrofits as among the highest-priority measures in the entire analysis.
- Weatherization in Existing Res by 2040
    - *Assumption:* Model weatherization as a prerequisite to — and paired with — heat pump retrofits, consistent with ODOE's own "efficiency first" framing. Weatherization consistently delivers among the highest cost-effectiveness ratios of any building measure while producing significant co-benefits: lower energy bills, improved indoor air quality, and reduced peak demand. Assumptions should reflect income-targeted deployment (prioritizing low-income and EJ communities) and model the compounding GHG benefit when weatherization is sequenced before electrification.
- Medium- and Heavy-Duty ZEV Sales Shares
    - *Assumption:* Medium- and heavy-duty (MHD) trucks contribute 42% of transportation climate pollution despite being less than 10% of vehicles. Modeling must prioritize truck decarbonization for both public health and GHG goals.
- Road Usage Charge:
    - *Assumption:* Implement a mandatory Road Usage Charge (RUC) for all light-duty vehicles to stabilize transportation funding and decouple revenue from fossil fuel consumption.
- Industrial Decarbonization and Innovation Partnership Program
    - *Assumption:* Climate Protection Program remains intact with EITE rulemaking complete by 2027.
- PeakSmart Program
    - *Assumption:* Model PeakSmart not merely as an efficiency program but as a grid flexibility asset. Assumptions should quantify the load-shifting potential (in MW and MWh) achievable through accelerated smart thermostat, heat pump, and water heater deployment — and model how that flexibility reduces Oregon's dependence on fossil peaker plants during peak demand events. This is a low-cost, fast-deployable lever that is systematically undervalued when modeled only as an efficiency measure.
- Low-Carbon Fuels by 2050

OEC also supports modeling:

- Data Center Moratorium
    - *Assumption:* ODOE's own TIGHGER analysis identifies load growth — driven primarily by data centers — as the primary reason Oregon no longer has a credible path to its 2035 goal under current policy. OEC urges ODOE to model three distinct sub-scenarios and compare their GHG trajectories: (1) a temporary moratorium on new data center connections until 100% clean supply is procured to cover new load; (2) a mandatory load flexibility requirement under which data centers must curtail or shift a defined percentage of load during peak grid stress events; and (3) the status quo Large Load Renewable Power Program (100% clean energy procurement requirement, no curtailment). Modeling all three (with careful analysis of rules pertaining to air emissions under all types of permits during situations defined as emergencies, such as use of diesel generators during grid shortages) would give decision-makers a clear picture of the tradeoffs between economic development, pollution, and emissions trajectory.
- Energy Infrastructure Resilience Programs
- Non-Climate Protection Plan: Industrial Process Efficiency by 2050
- Backup Battery Storage
- Behind-the-Meter Solar PV, which should also include Rooftop Solar PV
- Building Decarbonization Program
- Energy Efficiency Incentive Program
- 70% of Off-Road Vehicle Sales are ZEVs by 2050
- Transit, Active Transportation Investments
- Expanded Building Decarbonization Program
- Com Code Reduction 60% by 2030
- Embodied Carbon Program
- Large Commercial Space Heating
- Non-Heating Equip Elec in All Com by 2035
- Non-Heating Equip Elec in All Res by 2035
- Res Code Reduction 60% by 2030
- Residential Space Heating
- Small Commercial Space Heating
- Solar PV Program
- 10% Mode Shift MD to LD
- Farm Irrigation Efficiency Program
- Methane Emissions Program
- Increased Nitrate Testing
- Nitrogen Fertilizer Practices Program
- Farming Practices Program
    - *Assumptions:* In OEC’s experience, much of what is proposed is already being done by Oregon farmers. Top priorities should be technical assistance and adopting precision fertilizer practices noted above. Biochar is a good option for small-scale farming, but it may not be scalable. Similarly, sharing farm equipment during harvests is difficult in practice.

- Engage with Plant-Rich Diets
    - *Assumption:* OEC supports modeling this measure and urges ODOE to use assumptions grounded in behavioral economics research rather than linear adoption curves. Modeling should account for both direct emissions reductions and land-use co-benefits (e.g., land freed for reforestation or wetland restoration). OEC recommends modeling a range of policy levers, from public procurement standards (school models such as Farm to School programs and hospital food service) to consumer incentive programs, rather than treating this as a single scenario.

Are there additional measures that ODOE should consider modeling to quantify potential greenhouse gas emissions reductions? If so, are there particular assumptions ODOE should consider for that measure?

- Resource Diversity & Storage: Model the development of offshore wind and geothermal resources to provide clean baseload power, and expand the use of batteries paired with renewables to meet load growth.
- Virtual Power Plant and Vehicle-to-Grid (V2G) Programs: Quantify the GHG impact of integrating distributed energy resources to reduce peak energy consumption, including using EV batteries as a grid resource to manage peak demand.
- Fossil Gas Regulation: Model the regulation of emissions from merchant-owned gas plants and utilities (municipals and consumer-owned) not currently covered by HB 2021 or the Climate Protection Program.
- Community-Specific Mobility: Model incentives for e-bikes, electric school buses, and a "cash for clunkers" program to remove the most polluting vehicles from the road.
- Industrial Symbiosis: Evaluate opportunities for large industrial entities to share energy, water, and by-products to optimize resource use and reduce waste. As a starting point for quantification, model the waste heat recovery potential from Oregon's largest data center clusters (particularly in the Columbia River Gorge) for use in nearby industrial or district heating applications. EPA's RE-Powering and industrial symbiosis databases offer Oregon-specific facility data that could anchor the modeling.
- Agrivoltaics: Model the integration of solar panels with crop and livestock production. This advances Pathway 2 (Clean Electricity) in the OES while maintaining the agricultural land base.
- Wetland Reconnection on Agricultural Lands: Model the carbon impact of returning unproductive cropland to wetlands, particularly in coastal areas where historical habitat loss has been high. This reverses the significant emissions from drained organic soils.
- Irrigation Electrification: Model the "Farm Irrigation Efficiency Program" to reduce the high energy demand of pumps and motors by pressurizing water systems and running electrical lines to fields.
- Food Processing: Model the impact of decarbonizing the transportation, industrial, and other emissions as the “middle man” between agricultural production and consumption. Model electrification of thermal processes (steam, drying, refrigeration) in Oregon's top food processing subsectors — frozen foods, dairy processing, and seafood — using ODOE's existing industrial electrification assumptions as a baseline. This links Pathway 3 (Industrial Decarbonization) in the OES to the agricultural supply chain.

Are there measures that ODOE should consider amending or removing from this list and not modeling for potential greenhouse gas emissions reductions because of technical or practical infeasibility or another reason?

OEC recommends removing all measures related to hydrogen or renewable natural gas (RNG) injection for residential and commercial use. The OES found these fuels should be reserved for hard-to-electrify sectors like aviation and high-heat industrial processes; using them in buildings will result in higher costs and delayed electrification. This includes:

- Hydrogen Fuel Adoption
- Home Fuel Cells 5% by 2030[4]
- RH2 Injection 15% by 2050

Are there additional scenarios that ODOE should consider modeling? If so, are there particular assumptions ODOE should consider for that scenario?

OEC supports the four scenarios ODOE is considering and believes these should be prioritized. The following suggestions should be layered into scenarios wherever possible:

- Federal Rollback Impact: Model the effects of federal regulatory changes, including the loss of IRA tax credits (e.g., Section 30D for EVs) and potential rollbacks of Clean Air Act waivers, on the speed of electrification.
- Delayed Action Costs: Model a scenario where electrification is delayed to reflect the OES finding that postponing action adds billions in costs to the state economy by 2050.

In addition to these four scenarios, consider additional scenarios:

- Drought-Induced Hydropower Constraint Scenario: Oregon's electricity system relies on hydropower for approximately 40-50% of in-state generation in normal water years. Model a multi-year drought scenario — consistent with projections from the Oregon Climate Change Research Institute — in which hydro availability drops 25-35% below baseline for a sustained period. This scenario should quantify: (a) the extent to which lost hydro generation is replaced by fossil "peaker" plants or backup diesel, (b) the resulting GHG emissions increase relative to the Business-As-Planned baseline, and (c) the degree to which accelerated deployment of battery storage, demand response, and non-hydro renewables can buffer this risk. This is arguably the single most important climate-physical risk scenario Oregon faces and is conspicuously absent from ODOE's four draft scenarios.
- High-Intensity Load Control Scenario: Model scenarios with lower-than-forecasted hyperscaler load growth to see how reduced demand from data centers affects the state's 100% clean energy trajectory.
- All Large Loads Covered Clean Electricity Scenario: Modeling a clean electricity standard or equivalent emissions cap for large loads, especially from hyperscaler data centers.

[4] These systems cost upwards of $30,000, are technically impractical for standard residential use, and are not currently part of utility planning light-duty.

- Accelerated Transportation Electrification Scenario (backfilling the CAFE standard): Model faster adoption of light-duty and MHD EVs and/or high efficiency/reduced VMT scenario.
- High-DER / Virtual Power Plant Scenario: Distributed energy resources meet at least 30% of investor-owned utility peak load by 2030, including the use of third-party aggregators.

Oregon's climate goals are ambitious and necessary. Meeting them requires honest assessment of implementation challenges and ready-to-deploy technologies, not optimistic assumptions that risk complacency or diversions. We urge ODOE to revise the TIGHGER 2.0 for analysis to reflect proven solutions and realistic scenarios posed by climate change.

Thank you for considering these comments.

Ben Brint
Senior Climate Program Director
Oregon Environmental Council

OREGON LEGISLATURE

April 10, 2026

On behalf of the Oregon Senate Republican Caucus, we urge the immediate reconsideration of the Oregon Department of Energy's proposed Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) gap measures. While presented as draft concepts, these proposals are already being treated as actionable policy, and their real-world consequences would be significant. If pursued, they will raise energy costs, increase operational expenses for businesses, and further strain Oregonians already struggling with affordability.

We oppose these burdensome measures because they fail to account for the economic realities facing our state. Oregon's businesses, farms, and families cannot absorb another wave of costly mandates without serious consequences.

Oregon's agricultural sector illustrates what is at stake. Nearly 96 percent of farms are family-owned, supporting more than 692,000 jobs and generating $136 billion in economic output—roughly 22 percent of the state's economy. These operations not only drive 13 percent of Oregon's GDP but also steward vast working lands that sustain biodiversity, open space, and rural communities. Yet they are already navigating rising costs, global market uncertainty, and increasing regulatory pressure. Proposed measures to reduce methane emissions, restrict nitrogen fertilizer use, and cut beef and pork production by 50 percent threaten the long-term viability of these family operations and the communities that depend on them.

The impact extends far beyond agriculture. Oregon's manufacturing sector is already in a multiyear downturn, with job losses exceeding those of the Great Recession and near-bottom national rankings in growth. Adding new mandates to an already challenging business climate will only accelerate business closures and relocation to neighboring states with more predictable and competitive policies.

Most importantly, these measures will hit Oregonians where it hurts most: their wallets. Nearly three-quarters of Oregonians report struggling with the rising cost of housing, food, and utilities. More than half have difficulty paying monthly bills, and nearly half cannot cover a $500 emergency expense. Oregon is now the fifth least affordable state in the nation, with households spending approximately $18,300 more annually on basic needs than they did in 2019. Policies that drive up energy costs, such as accelerated electrification mandates, heat pump requirements, and low-carbon fuel standards, will only deepen this affordability crisis, particularly for seniors on fixed incomes and low- to middle-income families.

For these reasons, the Oregon Senate Republican Caucus strongly opposes the TIGHGER 2.0 Project draft gap measures. The current process, marked by an extremely limited public comment period, is insufficient for proposals of this magnitude. ODOE should reject these

recommendations, pause further action, and engage meaningfully with the Legislature, affected industries, and stakeholders across the state.

Oregonians deserve solutions that balance environmental goals with economic stability and affordability. That requires transparency, rigorous economic analysis, and policies grounded in the realities facing working families and job creators—not theoretical scenarios that risk doing more harm than good.

Respectfully,

Senator Bruce Starr
Oregon Senate Republican Leader

Oregon Cattlemen's Association
Voice Of The Cattle Industry Since 1913

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April 10, 2026

Janine Benner, Director
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Sent via: OCAC@energy.oregon.gov

RE: TIGHGER 2.0 Gap Measures and Scenario Comments

Dear Director Benner:

Thank you for the opportunity to comment on the TIGHGER 2.0 Draft Gap Measures and Scenarios. I am writing on behalf of Oregon Cattlemen's Association (OCA). OCA represents Oregon's ranching and agricultural communities—families who have stewarded Oregon's working lands for generations and who form the backbone of our rural economy, food security, and cultural heritage.

First, regarding the TIGHGER process, we would like to express our concern regarding ODOE's failure to consult agricultural stakeholders, like OCA, prior to publishing these recommendations. Similarly, such a sweeping proposal should have engaged other agencies, including Oregon Department of Agriculture, particularly to ensure recommendations were consistent with, and in consideration of, existing rules, programs and other regulatory framework. Finally, offering a truncated timeline for comments, only extended upon our joint request with other organizations, still doesn't allow for sufficient vetting, feedback and participation of our members.

Subject to those procedural and process concerns, we offer the following comments: While we support practical, science-based stewardship and recognize the importance of reducing emissions where feasible, several of the proposed gap measures would have severe, unintended consequences for ranching families and the broader agricultural sector. As written, these measures risk destabilizing rural communities, reducing local food production, and imposing mandates that are neither technically nor economically feasible for livestock operations.

1. Measures Targeting Livestock Production Are Deeply Concerning

Several proposals—including the Uptake of Plant-Rich Diets Program, the Methane Emissions Program, and assumptions that explicitly aim to reduce beef, pork, dairy, and livestock sector emissions—pose a direct threat to Oregon's cattle industry and the families who depend on it.

Reducing beef and pork consumption by 50 percent and dairy consumption by 30 percent by 2050 is not a neutral modeling exercise. It signals a policy direction that would shrink or eliminate livestock operations, undermine local food systems, and replace Oregon-raised protein with imported alternatives. This is not a pathway to resilience—it is a pathway to the collapse of rural economies. As

noted, implementation of such recommendations, while impractical and detrimental to our members, poses the very real possibility of increased emissions for transportation, cold storage and distribution of consumer-demanded protein sources.

Additionally, the proposal to achieve a 40 percent reduction in statewide methane emissions below 2013 levels by 2030, including reductions from the livestock sector, places disproportionate pressure on ranching families. Without viable, scalable tools for methane reduction in extensive rangeland systems, this target effectively becomes a mandate to reduce herd sizes rather than a strategy to support innovation.

2. Ranchers Are Already Leaders in Stewardship

Livestock grazing is a proven tool for maintaining healthy landscapes. Oregon ranchers manage millions of acres of rangeland that store carbon, support wildlife habitat, reduce wildfire fuel loads, and protect watersheds. Many ranchers are already implementing grazing practices that improve soil health, increase carbon sequestration, and enhance ecosystem function.

Any modeling that treats ranching as a problem rather than a partner ignores decades of sustainable on-the-ground stewardship and the essential role ranchers play in Oregon's environmental health. Failure to analyze existing carbon reductions from grazing and other livestock practices demonstrates the insufficient work by ODOE in publishing these proposals.

3. Several Measures Are Impractical or Impossible for Ranching Operations

Proposals such as 70 percent zero-emission off-road vehicle sales by 2050, broad electrification of agricultural equipment, and mandatory shifts in farming practices without clear feasibility or cost analysis do not reflect the realities of rural infrastructure, terrain, livestock market instability or the power demands of ranching operations. These measures would impose enormous costs on producers with no viable alternatives currently available.

Even measures that appear beneficial on paper—such as reducing or upgrading pumps by transitioning from flood irrigation which is beneficial to waterfowl, to pressurized systems, must be evaluated through the lens of rural feasibility. For instance, the average variable speed, large capacity irrigation pump can average $30-50 thousand dollars. Many ranching operations lack access to the electrical capacity, water delivery infrastructure, or capital investment required for such transitions. Without substantial support and realistic timelines, these proposals become unfunded and unreasonable mandates rather than workable solutions.

4. Food Security Must Remain a Central Priority

Oregon cannot meet its climate goals by undermining its own food security. Livestock production is foundational to the state's food system, rural economy, and resilience. Policies that intentionally reduce livestock output or discourage consumption of locally raised beef and dairy risk increasing imports, raising food prices, and disproportionately harming low-income and marginalized Oregonians. When Oregon produces less of its own beef and dairy, demand does not disappear—it shifts to other states or foreign suppliers. Importing more food increases transportation emissions, which can offset or even exceed any in-state reductions.

5. Rural Communities Deserve to Be Part of the Solution—Not Collateral Damage

The draft measures may have been developed by modeling consultants, but the lived experience of ranchers is largely absent. Rural voices must be included early and meaningfully in any policy discussions that affect their livelihoods. Modeling exercises that assume the decline of livestock agriculture are not neutral—they shape future policy decisions and public perception.

Request

We respectfully urge ODOE to:

1) Remove measures that explicitly target reductions in livestock production or consumption;
2) Reevaluate assumptions that would impose unrealistic electrification or equipment mandates on ranching operations;
3) Engage directly with ranchers, agricultural scientists, and rural communities to develop practical, collaborative approaches to emissions reduction;
4) Recognize the environmental benefits of well-managed grazing and the essential role of livestock in Oregon's working lands economy.

Oregon's ranching families are committed to stewardship, resilience, and feeding our communities. We ask that the TIGHGER 2.0 process reflect the realities of rural Oregon and avoid measures that would harm the very people who sustain our landscapes and our food supply.

Thank you for considering these comments and for your attention to the needs of Oregon's agricultural and ranching communities.

Respectfully,

Diana Wirth, President
OREGON CATTLEMEN'S ASSOCIATION

April 10th, 2026

Director Benner
Oregon Department of Energy

Cc: Cathy Macdonald, Chair, Oregon Climate Action Commission; Geoff Huntington, Senior Natural Resource Policy Advisor to Governor Kotek

Re: **Formal Comment and Request for Process Reset – TIGHGER 2.0 Draft Gap Measures**

On behalf of Oregon's business and natural resource sectors, we are writing to express our profound disappointment and concern regarding the Oregon Department of Energy's (ODOE) decision to proceed with the public comment period for the TIGHGER 2.0 Draft Gap Measures and Scenarios. While we acknowledge the deadline extension to April 10, 2026, a 20-day window is wholly insufficient given the extreme nature of the proposed measures and recognition from the Governor's office that the current draft is fundamentally flawed.

Despite executive-level recognition that the draft needs to be reworked, and reported guidance from the Governor's staff that the measures associated with agricultural production should be removed entirely, ODOE has chosen a rushed and futile public review process rather than adjusting to ensure a sound and expert process. By only offering a brief extension rather than a complete pause and reset, the agency is failing to provide Oregon's key economic sectors with a meaningful opportunity to engage with a credible proposal.

Under ORS 468A.240, the Oregon Climate Action Commission is legally mandated to "solicit and consider public comment" regarding its recommendations. A process that acknowledges its own "technical or practical infeasibility" yet continues to push forward with a truncated timeline does not meet the spirit of this statute. Furthermore, the commission is required to consider "economic, environmental, health and social costs". The current draft is inexplicably silent on the devastating economic impacts the proposed gap measures would have on food and fiber production and the broader business community.

Several measures being modeled represent an unprecedented intrusion into the tools and technologies necessary for modern agriculture, forestry, and natural resources management, and go far beyond ODOE's authority, for example:

- Mandatory Fertilizer Reductions: The Nitrogen Fertilizer Practices Program seeks a 70% reduction in nitrogen fertilizer use by 2050, which would decimate crop yields and ignores extensive research and available technologies related to crop nutrient needs and efficiency.
- Engineering Consumer Diets: The Uptake of Plant-Rich Diets Program targets a 50% reduction in beef and pork consumption and a 30% reduction in dairy and eggs, an overreach that directly threatens the livelihood of Oregon's ranching and dairy families and undermines the goals of other state agencies seeking to boost local production to reduce imports.

- Livestock Methane Targets: The Methane Emissions Program mandates a 40% reduction in emissions, specifically targeting the livestock sector without regard for the practicalities of animal husbandry.
- Impractical Equipment Mandates: Requiring 70% of new off-road vehicle sales (farm and forestry) to be ZEVs by 2050 ignores the reality of heavy-duty operations in remote areas where electrification is not currently viable.
- Regulatory Scope Creep: The Industrial Process Efficiency mandate forces a 1% annual improvement on industries outside the current CPP scope, imposing new burdens on small natural resource operations while the primary program is still in its early stages of the multi-decade rollout and its long-term economic impacts and climate benefits remain unknown.

ODOE states these measures are for "informational purposes only" and not currently proposed for implementation. However, modeling such radical and technically infeasible measures creates a dangerous policy baseline for future decision-makers. ODOE states, “To be included in the draft list, measures must have been determined to be quantifiable and integrate evidence-based assumptions.” However, many measures are so vague that they cannot possibly be modeled as presented. For example, what limits would be set for nitrates, and what practices would be modeled? The recent rulemaking by Oregon Department of Agriculture (ODA) related to fertilizer use in the Lower Umatilla Basin made it clear that science-based regulatory limits do not exist for the wide variety of crops, soil types, and weather patterns in the state. Other measures are far out of line with evidence-based assumptions. Many proposed measures do not even meet ODOE’s own stated criteria for inclusion in the list, yet we are still being asked to respond to them.

This process failed to consult with any other relevant state agencies, including ODA, despite their role on the Climate Action Commission and proposed measures that would directly undermine ODA’s stated goals. The process also does not consider the sequestration benefits of many agricultural and forest-related commodities.

We strongly urge ODOE and the Commission to withdraw the current draft immediately, and engage in a meaningful, transparent, and collaborative process that respects the Governor's guidance and the vital role of Oregon’s agriculture and forestry sectors. A mere 20-day comment period on a fundamentally flawed document is not an acceptable substitute for a legitimate public process. Public comment should not be sought on measures with clear feasibility, economic, and legal barriers. Any measures that do move forward for modeling should be realistic and achievable and should include projected economic and social costs alongside any potential emissions reductions.

Respectfully,

Associated Oregon Loggers
Northeast Oregon Water Association
Northwest Chicken Council
Oregon Association of Nurseries
Oregon Cattlemen’s Association
Oregon Dairy Farmers Association
Oregon Farm Bureau
Oregon Forest Industries Council
Oregon Golf Course Superintendents Assn
Oregon Pork Producers
Oregon Seed Council
Oregon Water Resources Congress
Oregon Wheat Growers League
Oregonians for Food & Shelter
Weyerhaeuser Company

April 10, 2026

Oregon Climate Action Commission
Oregon Department of Energy
550 Capitol Street NE
Salem, Oregon 97301

Submitted electronically via email to OCAC@energy.oregon.gov

RE: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

Dear TIGHGER 2.0 Project Team:

On behalf of the Oregon Farm Bureau (OFB), Oregon's largest agricultural association representing over 6,500 family farms and ranches statewide, we appreciate the opportunity to comment on the *Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis*.

Agriculture is foundational to Oregon's economy. The food and agriculture sector supports approximately 692,731 jobs statewide while generating $41.89 billion in wages, $16.38 billion in tax revenue, and $136.07 billion in total economic output, or about 22 percent of the state's economy.[1] Roughly 16 percent of Oregonians[2] and 31 percent of Oregon tax filers[3] are employed in jobs supported by Oregon agriculture. Direct farm-level production alone accounts for more than $7 billion annually in receipts.[4] Imposing major structural changes in the pursuit of one-dimensional policy goals would be less a minor ripple and

[1] https://feedingtheeconomy.com/ – Oregon data only as April 9, 2026
[2] https://www.census.gov/quickfacts/fact/table/OR/PST045225#PST045225
[3] https://apps.oregon.gov/oregon-newsroom/OR/DOR/Posts/Post/E-File-Your-Taxes-to-Get-Your-Refund-and-Kicker-Faster
[4] https://data.ers.usda.gov/reports.aspx?ID=4052 – Oregon data only as of April 9, 2026

more like a destructive tsunami across employment, tax revenue, and the broader economic base of the state.

Plainly put, adoption of the modeling approaches put forward by the Oregon Department of Energy (ODOE) will produce an outcome that is the equivalent to the domestic offshoring of much of our food production. The list of concepts is not based on good policy and is directly at odds with Governor Kotek's prosperity goals. Overall, it is a direct reflection of the dramatic lack of stakeholder engagement during the development process, which causes deep concern.

We learned of this proposal from the media a mere 10 days prior to the original deadline of March 27.[5] With key stakeholders and other state agencies excluded, it is little wonder that this effort has yielded such a long list of unfeasible ideas. The measures outlined in the report would necessitate sweeping changes across the agricultural sector — constraining inputs, mandating transitions in equipment and infrastructure, and reshaping production systems — without any consideration of cost, viability, or second-order effects. Ultimately, by disincentivizing Oregon's in-state food production in the name of emissions reduction, the state would directly, and ironically, contribute to increased greenhouse gas emissions.

When those with operational knowledge are excluded, the resulting framework reflects assumptions divorced from economic reality. For example, the commission aims for significant reductions in the consumption of beef, pork, poultry, eggs, and dairy, increasing reliance on substitute commodities such as grains, fruits, vegetables, and alternative proteins. At the same time, it suggests measures that would reduce yields and raise the production costs of replacement goods, resulting in reduced in-state production, tighter supply, and higher prices for consumers. These dynamics are not speculative — they are predictable results of constraining supply while increasing demand. Further, aspects of the draft recommendations are directly at odds with the *Dietary Guidelines for Americans (DGA)*[6], a joint publication between the U.S. Department of Health and Human Services and the U.S. Department of Agriculture. Glaring contradictions within the proposed gap measures betray a lack of basic analysis and would have been identified prior to public release had the commission sought any outside input whatsoever.

Efforts to centrally influence both production and consumption at this scale would introduce instability into the food system and shift production to other regions rather than

[5] https://oregoncapitalchronicle.com/2026/03/17/public-invited-to-share-input-ideas-for-getting-oregon-back-on-track-to-meet-climate-targets/
[6] https://cdn.realfood.gov/DGA.pdf

reducing overall emissions. Hypothetical as they are, these measures risk driving policy decisions that impose significant economic harm on Oregon agriculture and nutritional harm on Oregonians without delivering the intended outcomes. The economic aspect is particularly concerning in a state where agriculture already operates within a high-cost and heavily regulated environment. The impact on the state's rural economies and communities would also be significant. Producers are saddled with rising input costs and regulatory compliance burdens, losing ground to out-of-state and international competitors. The cumulative effect of the commission's draft measures would put real pressure on Oregon's agricultural community and undermine a vital part of the state's economy.

A process that overlooks key stakeholders and ignores real-world constraints cannot provide a reliable basis for analysis. While the report claims to be "for informational purposes only," it will inevitably serve as a roadmap for future legislative and regulatory action. Persisting along this path will likely lead to many rural communities facing a stark choice: accept decline or become company towns for data centers. The Climate Action Commission and ODOE should understand that, given decades of challenging policy and regulatory actions directed at the natural resource community, any contemplation of policy in this vein can only be interpreted by the agriculture industry as an existential threat. If the commission insists on having this conversation, it must start again from first principles including a roadmap clearly articulating goals and objectives and identifying opportunities for meaningful stakeholder engagement and input.

Respectfully submitted,

Greg Addington
Executive Director
Oregon Farm Bureau

NW Natural®

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April 10, 2026

Comment: Oregon Climate Action Commission TIGHGER 2.0 Update

Oregon Climate Action Commission Commissioners and Staff,

Thank you for the opportunity to comment on the draft modeling results and assumptions underlying the TIGHGER 2.0 update. We appreciate that the Oregon Climate Action Commission is considering increasing opportunities for public engagement in planning for our state's energy future.

As a critical energy delivery company, NW Natural is and has been actively engaged in planning for the role of our system in an evolving energy future. This is demonstrated through both our integrated resource planning process and our continuing efforts to reduce the environmental impact of our operations and our customers' use of our products over time.

A key component of that future—and of our region's economy—is integrating the various energy systems in place today and leveraging their strengths to achieve a lower-carbon future. We write to highlight a key analytical conclusion that emerges from the TIGHGER 2.0 results but is not yet fully reflected in the policy discussion around gap measures.

As the Commission considers creating a menu of recommended potential gap measures, we encourage a disciplined, consistent approach. Gap measures should be designed to address the specific variables driving the modeled shortfall. The results show that load growth from a small number of very large customers, in particular territories and largely loads served by publicly owned electricity providers who are outside 100% clean regulation, is likely the dominant driver.

In short, electrifying buildings statewide will not resolve the emissions shortfall identified in TIGHGER 2.0. A broad statewide electrification acceleration strategy is unlikely to be cost-effective or outcome-aligned. Instead, the most responsive gap measures are those that directly match large-load additions with deliverable clean supply, transmission deliverability, and the timing of firm capacity.

Relatedly, gap measures should reflect the difference between long-run decarbonization objectives and near-term operational realities. In constrained regions, incremental electric

load—whether from data centers or electrification policy—is likely to be served at the margin, by higher-emitting resources or unspecified market purchases until new clean generation, firming resources, and transmission upgrades are online. Policies that add load without ensuring resource adequacy and deliverability risk increasing near-term emissions and reliability concerns, which, in turn. can make statewide goal attainment more uncertain.

In these contexts, electrifying buildings does not reduce fossil fuel emissions or improve State emission reduction goal attainment. Instead, electrification of buildings compounds the issue of large new loads and competes for limited clean energy resources, transmission capacity, and firm power—undermining the emissions reductions assumed elsewhere in the model. A statewide approach obscures geographically driven emissions dynamics and overlooks broader regional electric system constraints.

Oregon's emissions challenge is no longer evenly distributed across sectors or geographies. The TIGHGER 2.0 results reflect a highly localized phenomenon: large electric loads are being added faster than clean supply, often in utility territories without regulatory clean electricity mandates. Without addressing this misalignment, additional electrification risks increasing load in the same constrained regions driving the emissions gap. This risks shifting emissions temporally or geographically rather than reducing them, making overall goal attainment more uncertain—not less.

Absent such alignment, building electrification functions as a secondary load increase rather than a corrective strategy. In regions experiencing data center expansion, this dynamic can move the state farther from its climate targets. In areas experiencing rapid large-load growth, it may heighten system strain and emissions risk—risk that has been identified by our region's energy planners, providers, and utilities, as well as by national experts. The recently released report: Resource Adequacy and the Energy Transition in the Pacific Northwest completed by consultancy E3[1] details the fragility of the energy system in our region and is a valuable resource to consider in the TIGHGER 2.0 process.

We encourage the Commission and the ODOE staff engaged in this road-mapping process to develop gap measure recommendations focused on holistic emissions reduction, with a clear view of the regional energy system and its current and near-term limitations. Balancing the multiple energy resources currently serving the state to deliver reliable energy offers feasible, scalable solutions. The solutions should include hybrid HVAC systems in buildings and the integration of multiple low-carbon transportation solutions, not only battery electric vehicles but also regionally sourced compressed renewable natural gas (RNG) and hydrogen fuel cells.

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[1] Resource Adequacy and the Energy Transition in the Pacific Northwest - E3 https://www.ethree.com/ra-pnw/.

Again, Oregon and Oregonians are best served by using all available resources to solve the challenges at hand. We look forward to continued engagement with the Commission as this process moves forward.

Sincerely,

Mary Moerlins

Director, Environmental Policy & Corporate Responsibility

NW Natural

OFIC
OREGON FOREST INDUSTRIES COUNCIL
PO Box 12826 Salem, Oregon 97309 | (503) 371-2942 | www.ofic.com

April 10th, 2026

Oregon Department of Energy
Attn: Director Benner
Cc: Cathy McDonald, Oregon Climate Action Commission Chair; Geoff Huntington, Senior Natural Resource Advisor to Governor Kotek

Re: TIGHGER 2.0 Draft Gap Measures

Director Benner,

The Oregon Forest Industries Council (OFIC) is submitting these comments on behalf of our over fifty members who manage privately owned timberland and operate forest products manufacturing facilities in this state regarding the TIGHGER 2.0 Draft Gap Measures (the "measures") published for comment by ODOE. OFIC has also signed onto a letter submitted by a coalition of trade groups and representatives of the agricultural and forestry sector addressing the procedural deficiencies of this process and our collective request for a process reset, however, we felt it necessary to submit separate comments to express our profound concern over the lack of communication and collaboration at the outset of this effort and over the failure of ODOE to address the factors called for in statute when crafting the recommendations that will be brought before the Oregon Climate Action Commission (OCAC or the "Commission"). We are concerned that these deficiencies will result in the making of policy recommendations without concern for either their infeasibility or the negative ramifications that could flow from them.

Chief among our concerns is this: even though this exercise is being framed as "step 1" of a multi-step process that will ultimately lead to the Oregon Climate Action Commission (OCAC) presenting policy recommendations to the legislature, the statutory authority underpinning this effort, found in ORS 468A.240, requires the OCAC, in *"developing* its recommendations" to " consider economic, environmental, health and social costs, and the risks and benefits of alternative strategies, including least-cost options." This exercise is, on its face, just that: that of *developing* measures that will form part of recommendation of the Commission. To ignore the costs, risks, and benefits of alternative strategies when publishing a list of measures for public consumption and comment is to fail to lay the necessary foundation for this process from the outset.

It seems relatively clear that these measures were crafted without input or consultation with other agencies, even when dealing with subject matter that is within the ambit of their expertise and authority. Nor were those businesses and industries that would be most affected by them consulted. If such collaboration had taken place, ODOE would have gained insight regarding such factors as cost and feasibility, and likely would have left many of these concepts on the cutting room floor.

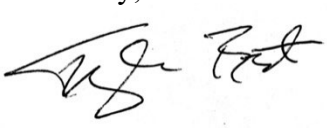
To take but one example, measure 43, which would call for 70% of all off-road vehicles sales to be ZEVs by 2050 is almost certainly unattainable. Not only does the technology needed to replace many off-road vehicles and forestry equipment with ZEVs not presently exist, but attendant concerns such as the potential for battery fires in active harvest units on forestland may render such technology unfit for application in these settings. There is no indication that such countervailing factors (of which these are but two illustrative examples) were considered at all. As

a result, this list reads like the first draft of an "everything-is-on-the-table" brainstorming session rather than a serious list of potential policies deserving of time and attention.

We implore you to remove this list from consideration and to start afresh, bringing in the needed subject matter experts at the front end and doing the work of evaluating the costs and tradeoffs of various actions to craft a list of measures that are truly workable. This seems particularly apropos given the substantial concerns that individuals and businesses have regarding the cost of living and operating within this state at present. We understand that there are differences of opinions regarding just how "transformative" policy recommendations can or should be in order to keep the state on track toward meeting its emissions goals, but without recognizing concept feasibility from the start, it is quite possible that the state could end up expending time and resources developing a strategy that turns out to be a dead end. It seems that it is in everyone's best interest to avoid such an inefficient outcome.

Thank you for considering these comments.

Sincerely,



Tyler Ernst
General Counsel and Director of Regulatory Affairs
Oregon Forest Industries Council

TRIMET

April 10, 2026

Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Re: Public Comment Period for Draft Gap Measures and Scenarios for TIGHGER 2.0 Project

To whom it may concern:

TriMet appreciates the opportunity to submit comments regarding the draft gap measures and scenarios in the Oregon Department of Energy's Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) 2.0 project.

TriMet is the public transit service provider for the Portland metropolitan region which serves over 1.6 million people over a 533-square mile service area. We have more than 650 buses operating 79 bus lines, more than 30 articulated buses serving a TriMet FX (Frequent Express), over 140 light rail vehicles operating 5 regional MAX Light Rail lines, 6 rail cars operating the WES commuter rail line, and over 280 LIFT paratransit vehicles that provide nearly 2,500 trips each weekday.

TriMet commends ODOE for the draft gap measures within TIGHGER 2.0 aimed at reducing transportation's greenhouse gas emissions. Upon reviewing the draft gap measures and scenarios, TriMet offers the following comments:

- **Add a new draft measure to expand urban transit service.** Expanding transit service and growing transit ridership is critical to reducing statewide greenhouse gas emissions from transportation. Investing in transit service is a proven strategy for reducing greenhouse gas emissions. Research confirms that trips taken by transit instead of by personal vehicle have comparatively less greenhouse gas emissions.[1] Adding this measure would be consistent with the Oregon Public Transportation Plan's Goal 7 (Environmental Sustainability) and specifically with policy 7.1, "Support public transportation investments as a key approach to reducing greenhouse gas (GHG) emissions, as emphasized in state policy."

- **Amend the draft measure titled, "Medium- and Heavy-Duty ZEV Sales Shares",** to broaden the vehicle type to include vehicles that use renewable diesel. Renewable diesel reduces greenhouse gas emissions significantly relative to regular diesel. The draft measure

[1] National Academies of Sciences, Engineering, and Medicine. (2018). *An Update on Public Transportation's Impacts on Greenhouse Gas Emissions* (TCRP Report 226). The National Academics Press.

could be written such that vehicles that rely upon renewable diesel are acceptable on an interim or short-term basis.

- **Amend the draft measure titled, "Rail Fuel",** to add clarity to which trains the measure would apply to. Specifically, TriMet seeks clarity on whether or not train vehicles for the WES Commuter Rail and for Amtrak would be subject to this measure.

- **Retain the 2023 TIGHGER measure to increase Amtrak ridership**.

Thank you for your consideration of these comments.

April 10, 2026

Oregon Climate Advisory Commission
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Delivered via electronic mail to OCAC@energy.oregon.gov

Subject: **Comment and Request for Process Reset – TIGHGER 2.0 Draft Gap Measures**

On behalf of the Oregon Seed Council, I am writing to express our disappointment and concerns regarding the proposed Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis.

The Oregon Seed Council (OSC) is a trade organization that brings together seed farmers, marketers, brokers, researchers, and others involved in the Oregon seed industry from when the seed is planted to when the seed ultimately makes it to the hands of consumers. Through our membership, OSC represents approximately 1,300 grass, legume, and specialty seed growers in Oregon, and our industry drives employment in many rural areas of the state, employing an estimated 10,000 Oregonians.

The seed industry is a major part of Oregon's agricultural sector. Grass seed alone ranks number four in the state's agricultural commodities, bringing in an annual value of $639.1 million to the state. The Oregon seed industry exports $162,824,215 in grass, clover, and forage seeds to 56 countries annually.

INNSUFFICIENT TIMELINE FOR PUBLIC COMMENT AND LACK OF STAKEHOLDER ENGAGEMENT

While the deadline for public comment was extended to April 10, 2026, the 20-day window for public comment is insufficient for meaningful input from stakeholders.

Under ORS 468A.240, the Oregon Climate Action Commission is legally mandated to "*solicit and consider public comment*" regarding its recommendations. A process that acknowledges its own "*technical or practical infeasibility.*" Unfortunately, the Department decided to rush this draft without considering industry expertise, undermining the intent of the statute.

The introduction to the proposal states: "*The draft measures on the list were derived primarily from engagement with interagency partners and consultation with sectoral subject matter experts."* We find this statement highly troubling considering no agricultural industry representatives were brought to the table for consultation, nor were the scientists that work directly with our industries. ODOE also neglected to include major agency stakeholders in the development of this draft, including the Oregon Department of Agriculture.

OSC along with other natural resources stakeholders were not provided any notice, or engaged on any development of this proposal. This is quite striking considering a number of the recommended measures have direct or indirect impact on agriculture and appear to lack

acknowledgement of research, available resources, technologies, expertise, and reality of market conditions on our already struggling industry. Our producers are faced with constant regulatory and policy proposals that come with little to no consideration of practicalities of implementation or the fact that our producers are stewards of the environment and the positive impact our producers make on soil health, carbon sequestration, erosion control, and critical environmental needs.

We also note, the Governor's Office expressed concern that the draft and its public comment process was fundamentally flawed and recommended that the food and agriculture components be removed from the proposal - a recommendation for which the Department ignored.

PREMATURE PROPOSAL

While the introductory remarks state: "*The gap measures are not intended to prescribe program design elements or potential implementation pathways,*" the Department remarks contradict this by also stating: "*To be included in the draft list, measures must have been determined to be quantifiable and integrate evidence-based assumptions."* This commentary sets a dangerous tone presenting measures as actionable policy while neglecting to engage with experts in the areas the Department seeks to regulate. The proposed options do not track with evidence-based assumptions and are overly-broad. If pursued, these proposed measures will increase operational expenses for businesses, and compromise the viability of Oregon agriculture.

GENERAL RECOMMENDATIONS

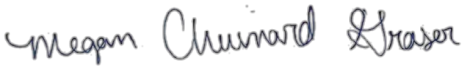
We are disappointed to see the agricultural recommendations and note that several of the measures are outside of ODOE's authority and expertise:

- Mandatory Fertilizer Reductions: The Nitrogen Fertilizer Practices Program seeks a 70 percent reduction in nitrogen fertilizer use by 2050, which would decimate crop yields and ignores the role of biotechnology in nutrient efficiency.
- Consumer Diets and Livestock Restrictions: The Uptake of Plant-Rich Diets Program targets a 50 percent reduction in beef and pork consumption and a 30 reduction reduction in dairy and eggs is an overreach that directly threatens the livelihood of Oregon's ranching and dairy families and undermines the goals of other state agencies seeking to boost local production to reduce imports. It also fails to recognize the overall economic impact of such a proposal. Oregon's agricultural community relies on one another. The Oregon seed industry is a major forage producer that supports the livestock industry. With market conditions forcing many farmers to the edge of viability, this is one more poorly-vetted proposal ignoring the detrimental ripple effects on agricultural industries.
- Impractical Equipment Mandates: Requiring 70 percent of new off-road vehicle sales (farm and forestry) to be ZEVs by 2050 ignores the reality of heavy-duty operations in remote areas where electrification is not currently viable.

The Climate Action Commission under statute is also required to consider "*economic, environmental, health and social costs*." These measures lack technical and practical feasibility as well as understanding of economic impacts on agriculture. Our members need tools to ensure Oregon remains the "Grass Seed Capital of the World," as we, much like other agricultural industries in Oregon, are operating on thin-to-sometimes-negative margins, and are seeing pressure in new markets both within the nation and internationally, regulatory pressures, and rising costs compromising long-term viability of our industry. These measures do not factor in any of these concerns.

We strongly urge ODOE and the Commission to withdraw the current draft immediately, and engage in a meaningful, transparent, and collaborative process that respects the Governor's guidance and the vital role of Oregon agriculture. The expedited 20-day comment period on this rushed, flawed draft undermines the public process that was built for meaningful engagement with Oregonians.

Sincerely,



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PACIFIC POWER
A DIVISION OF PACIFICORP

April 10, 2026

Submitted to the Oregon Climate Action Commission at OCAC@energy.oregon.gov

Oregon Department of Energy
550 Capital Street NE
Salem, OR 97301

Re: PacifiCorp's Comments on Updates to the Transformational Integrated Greenhouse Gas Emissions Reduction Project

PacifiCorp, d/b/a Pacific Power, appreciates the opportunity to provide feedback to the Oregon Department of Energy (ODOE) on its draft list of proposed measures to reduce Oregon greenhouse gas (GHG) emissions.[1] The draft list, once finalized, will inform an updated version of the Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER 2.0) project. PacifiCorp respectfully submits the below comments to address discrete issues in the draft list relevant to the company's operations as a multi-jurisdictional investor-owned electric utility with service territory in Oregon.

The company's comments include four primary recommendations, as follows:

- ***Oregon's current GHG reporting rules make it functionally impossible for an electric utility to participate in existing electricity markets and comply with HB 2021's emissions reduction requirements***. The company recommends a TIGHGER 2.0 gap measure assumption that the Oregon Department of Environmental Quality (DEQ) will amend its Greenhouse Gas Reporting Program rules to ensure that electric utilities' continued participation in energy markets does not negatively affect progress towards GHG emission reduction targets.

- ***Oregon's current GHG reporting rules and supporting guidance do not appropriately incentivize the use of alternative fuels for electricity generation.*** The company requests clarification on ODOE's "low-carbon fuels by 2050" measure and whether this measure includes the use of low carbon fuels, including renewable natural gas (RNG), for the generation of electricity. If the TIGHGER 2.0 project does assume electricity generation through the combustion of RNG for example, then PacifiCorp recommends that ODOE assume additional necessary changes to DEQ's GHG reporting rules and guidance to support the electricity sector's use of RNG.

[1] Oregon Department of Energy. *Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER 2.0) Project—Draft Gap Measures and Scenarios.* March 2026. Available at: 2026-TIGHGER2-Draft-Gap-Measures-Scenarios-Updated.pdf.

- ***Serving new large loads with 100% clean energy imposes incremental compliance complexity and costs that must be borne by new large loads.*** The company notes that adoption of the first two assumptions is essential to the electricity sector's GHG reduction goals; without them, the proposed requirement to serve new large loads with clean energy will need to be further developed. As a separate and complete draft measure in TIGHGER 2.0, the requirement to serve new large loads with clean energy should include details on the nameplate capacity of clean generation and transmission, annually or in real time, that must be provided relative to load in any recommendations that ODOE provides to the legislature.

- ***Underestimating load growth is detrimental to decarbonization planning.*** Finally, the company notes that relying on modeling scenarios with lower load growth, such as scenarios assuming data center growth below the medium-to-high forecasts from the Northwest Power and Conservation Council, may produce more favorable TIGHGER 2.0 modeling results. However, these scenarios would likely overstate Oregon's progress towards GHG reduction goals.

I. Background

On March 10, 2020, Governor Brown issued Executive Order 20-04 directing specific state agencies to take actions to reduce GHG emissions and mitigate the impacts of climate change. The executive order directs ODOE, and other referenced state agencies, to exercise all authority and discretion to help facilitate Oregon's achievement of GHG reduction goals.[2] The executive order specifically refers to goals for Oregon to reduce GHG emissions to 45% below 1990 levels by 2035 and 80% below 1990 levels by 2050.[3] For retail electric utilities, these goals have since been replaced with more aggressive goals in House Bill 2021. To meet HB 2021 clean energy targets, retail electric service providers are required to reduce emissions to 80% below baseline emission levels by 2030, 90% by 2035 and 100% by 2040.[4]

ODOE developed TIGHGER in response to the executive order, to assess whether Oregon has the necessary programs and policies in place to meet its GHG reduction goals. The first iteration of TIGHGER was completed in 2023. It incorporated data available through 2018, and modeling results from TIGHGER demonstrated that Oregon's GHG reduction goals were achievable. The Oregon Global Warming Commission relied on the results of the TIGHGER project to inform the Oregon Climate Action Roadmap to 2030.[5] The roadmap is a report provided to the Oregon Legislature, and it includes extensive analysis and recommendations for addressing climate change in Oregon. In 2025, ODOE updated the TIGHGER model with data available through 2023. The updated TIGHGER model results indicate that Oregon is no longer on track to meet either its 2035

[2] Oregon Office of the Governor Executive Order No. 20-04, at 5, ¶ 3.A.
[3] ORS 468A.205(1)(c).
[4] ORS 469A.410.
[5] *Oregon Department of Energy Climate Action Roadmap* (2023). Available at: Climate Action Roadmap

or 2050 GHG reduction goals. In response, ODOE has published a list of draft measures and new forecast scenarios to be tested in an updated TIGHGER 2.0 model.

II. PacifiCorp Recommends ODOE Assume Changes to Oregon's GHG Reporting Rules that are Necessary for Utilities to Continue to Participate in Existing Electricity Markets; Provide Safe, Reliable, and Affordable Power; and Meet Emissions Reduction Requirements

PacifiCorp generally supports ODOE's proposal to analyze an alternative scenario that assumes a "delayed deployment of clean energy." This scenario would model a requirement for investor-owned utilities to reduce greenhouse gas emissions associated with electricity sold to Oregon consumers to 80% below baseline emissions levels by 2035, instead of 2030 as required by HB 2021, while maintaining the current 100% reduction compared to baseline emissions levels by 2040. While this alternative scenario recommendation would extend the time for a utility to procure renewable resources and delay costs to customers, it does not directly address a fundamental regulatory challenge facing electric utilities: the lack of emission-free energy procurable through existing electricity markets. PacifiCorp recommends that ODOE also assume changes to Oregon Administrative Rule that are necessary to allow electric utilities to continue to participate in electricity markets; provide reliable, safe and affordable power to Oregonians; and comply with HB 2021's emissions reduction requirements.

DEQ's current greenhouse reporting rules preclude Oregon's major utilities from participating in existing electricity markets while also meeting HB 2021's clean energy targets. Specifically, DEQ's rules categorically assign all unspecified power, including electricity from centralized electricity markets, a default emissions rate of 0.428 metric tons of carbon dioxide equivalent per megawatt hour, regardless of the actual carbon intensity of the market power.[6] In addition, DEQ's GHG reporting rules and guidance that apply to multi-jurisdictional utilities, such as PacifiCorp, require the utility to calculate Oregon's share of total system market purchases. Even if a utility were able to petition DEQ for a lower, more accurate emission rate associated with purchases from centralized electricity markets, HB 2021 requires zero emissions by 2040, meaning utilities could only participate in markets that are 100% clean – something that does not exist today. Therefore, the current regulatory structure leaves utilities without viable market options and makes compliance with HB 2021 functionally impossible. To enable utilities to continue to provide safe, affordable and reliable power and still meet the state's statutory HB 2021 clean energy targets, DEQ must amend its GHG reporting rules in a manner that appropriately incentivizes the procurement of non-emitting and renewable resources to serve Oregonians. Therefore, PacifiCorp recommends that ODOE assume the necessary rule change in the TIGHGER 2.0 project and urge DEQ to engage in the rulemaking process.

As described in more detail in PacifiCorp's 2025 Integrated Resource Plan (IRP) Update, provided to the Oregon Public Utility Commission (OPUC), PacifiCorp anticipates serving future Oregon

[6] OAR 340-215-0020(64) and OAR 340-215-0120(2)(a).

load with new non-emitting resources and optimized energy market transactions.[7] If estimated emissions from market transactions are excluded from GHG reporting beginning in 2035, the company plans to meet existing HB 2021 targets without the need for the alternative scenario proposed by ODOE.[8] PacifiCorp has discussed the challenge with the current GHG reporting rules described above with both OPUC and DEQ staff. However, to date, DEQ has not made a formal commitment to address the issue through rulemaking.[9]

III. PacifiCorp Requests Clarification on ODOE's Low Carbon Fuels by 2050 Measure and Recommends Consideration of More Favorable Regulatory Conditions Towards Alternative Fuels

ODOE has proposed several gap measures that assume an expanded use of alternative fuels, including measure 18, "low-carbon fuels by 2050," which assumes low carbon fuels will provide 20% of current direct gaseous fuel demand by 2050. PacifiCorp assumes that the use of gaseous fuel in the generation of electricity is included in this multi-sector gap measure. However, for the electricity sector to achieve its share of this metric, PacifiCorp recommends that ODOE assume more favorable GHG reporting regulatory conditions.

The company recommends that ODOE assume necessary revisions to DEQ's GHG reporting rules and supporting guidance that clearly define how emissions from electricity generated through the combustion of RNG and other alternative fuels will be accounted for. Electricity generation using RNG could provide a reliable, dispatchable baseload resource and reduce the need to significantly overbuild intermittent solar and wind resources. The company's 2025 IRP Update explores the possibility of replacing thermal generation from coal with new natural gas resources (which could use alternative fuels) and possibly including biodiesel peaking resources in the company's generation portfolio mix.[10] However, DEQ's current rules and guidance do not clearly specify how emissions from biofuels used by electricity suppliers should be calculated. For example, DEQ could amend its rules and update its guidance for assigning emission factors to specified electricity generating sources to expressly incorporate the use of book and claim accounting.[11]

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[7] *PacifiCorp 2025 Integrated Resource Plan Update*, Available at: 2025_IRP_Update.

[8] *Id.* Figure 7.17.

[9] PacifiCorp recognizes that the joint Oregon agencies (ODOE, DEQ, and OPUC) have submitted written comments to the California Independent System Operator (CASIO) suggesting that additional market data provided by CASIO could inform future agency rulemaking. See Oregon State Agency comments, available here: https://stakeholdercenter.caiso.com/Comments/AllComments/40fb44a2-db65-46a0-a226-77011f86d5f0#org-2fc4d8ab-4d92-4e66-bc0e-32c8306af8e1

[10] *PacifiCorp 2025 Integrated Resource Plan Update*, Chapter 9 – Alternative Path Analysis. Available at: 2025_IRP_Update.

[11] DEQ Fact Sheet, Specified Source Emission Factor, Methods to assign Emission Factors to Specified Electricity Generating Sources, available here: https://www.oregon.gov/deq/aq/Documents/ghg-SpecifiedSourceEFmethods.pdf

Absent regulatory clarity that emissions from biofuels will be treated as biogenic and will not count against an investor-owned utility's GHG reduction obligations, the company faces regulatory risk that discourages investment in these resources. This uncertainty, combined with the challenges described above related to market participation, leaves the company with limited options to replace fossil fuel baseload generation with clean resources capable of meeting clean energy targets.

IV. Without Changes to DEQ's GHG Reporting Rules, ODOE Should Clarify How the Requirement to Serve New Large Loads with 100% Clean Energy Will be Implemented

ODOE has proposed including a requirement for all new large loads to be supplied with 100% clean energy resources in the TIGHGER 2.0 model. The company assumes that the definition of new large loads corresponds with the definition in the Oregon POWER Act (House Bill 3546) of "large energy use facilities," meaning facilities requiring 20 megawatts or more and primarily engaged in computing infrastructure. PacifiCorp anticipates that new large loads will constitute a large share of its total load going forward. Serving these customers exclusively with clean energy will create a number of transmission and generation procurement, potential overbuilding, and timing issues. These issues will be challenging to reconcile with HB 2021 compliance, especially if service to these customers cannot be supplemented with market purchases and peaking capacity from RNG or other resources that emit biogenic GHG emissions as described above.

The company recommends that any measure to serve new large loads with 100% clean energy consider what ratio of generation and transmission facilities relative to service requirements new large loads should pay for. New large loads cannot simply pay for new intermittent renewable generation resources equal to their load on a one-to-one, load-to-generation annual basis without indirectly spreading costs to serve them to other customer classes. In addition, new large loads may require large transmission investments to transport generation over long distances. Therefore, this measure should assume that new large loads will pay for the procurement of generation and transmission resources in excess of a one-to-one load-to-generation ratio for the utility to maintain compliance with clean energy targets. Without this additional detail, and without the necessary changes to the GHG reporting rules described above, this measure makes compliance with HB 2021 targets impossible while maintaining electricity affordability.

V. PacifiCorp Questions the Value of ODOE Modeling the "Less Data Center Load Growth" Scenario

ODOE has proposed to use, as an alternative scenario, load growth forecasts lower than the medium-to-high forecasts provided by the Northwest Power and Conservation Council, reflecting lower than expected data center growth in Oregon. While reducing load growth projections may lead to results from TIGHGER 2.0 appearing more favorable, PacifiCorp has only experienced an acceleration in load requests from large customers in recent years. As PacifiCorp explained to the OPUC in Docket No. UE 433, the company received requests and signed agreements with very

large customers for approximately 13 gigawatts of new load in its six-state service territory between 2020 and 2023, more than double the company's system coincident peak of about 10 gigawatts in 2023.[12] The volume of requests for new large load service received by the company has not slowed since 2023. PacifiCorp assumes that its experience is not unique among Oregon electric utilities. In addition, the Northwest Power and Conservation Council planners have been forecasting load growth for the region's electricity grid for over 40 years, and these forecasts are highly sophisticated and data driven. The Northwest Power and Conservation Council anticipates a significant increase in electricity demand in the coming decades due to construction of data centers, the rise of electric vehicles, cryptocurrency and the production of green hydrogen. Using a low forecast of load growth is counter to the expected economic realities for Oregon and may provide little value to lawmakers. With so many anticipated changes in technology and the economy, higher load growth forecasts, within reason and based on data, should be relied on by policymakers to account for uncertainty.

PacifiCorp conducts its own forecasts of anticipated data center and other large customer load growth for use in system planning. As a secondary recommendation, the company suggests that the load forecasts used by ODOE in the TIGHGER 2.0 model be evaluated against electric utility load projections. Because electric utilities work directly with large data center customers, they are a particularly strong source of current and accurate information regarding expected development and load growth.

VI. Conclusion

The company appreciates ODOE's thoroughness in preparing its list of draft measures for TIGHGER 2.0. PacifiCorp is committed to providing safe, reliable and affordable service while meeting clean energy requirements. However, balancing these essential goals creates significant challenges. ODOE's proposed longer timeline for meeting HB 2021 clean energy targets creates a more affordable and achievable reality for the company, and requirements to use low-carbon fuels and serve new large loads with clean energy ensure environmentally responsible development. However, barring changes to DEQ's administrative rules and additional guidance in legislation, reaching HB 2021 clean energy targets remains functionally impossible. For these reasons, the company recommends inclusion of an assumption in TIGHGER 2.0 that market transactions and biogenic GHG emissions from electricity generation will not negatively affect progress towards and compliance with GHG reduction targets, that details on the nameplate capacity of clean generation and transmission that must be provided to serve new large load customers should be included in any recommendations to the legislature, and that medium-to-high load forecasts should be used in TIGHGER 2.0 to ensure that results from the model accurately reflect Oregon's progress towards GHG reduction goals.

[12] *In re PacifiCorp's 2024 Rate Case,* Reply Testimony of Anna DeMers, Oregon Public Utility Commission Docket No. UE 433 (Jul. 26, 2024). Available at: 15_Anna_DeMers_Reply_Testimony.pdf

Thank you for the opportunity to provide public feedback on the draft measures for TIGHGER 2.0.

Sincerely,

/s/ Kieran O'Donnell
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Weyerhaeuser

April 10, 2026

Director Janine Benner
Oregon Department of Energy
550 Capitol St NE

Cc: Cathy Macdonald, Chair, Oregon Climate Action Commission; Geoff Huntington, Senior Natural Resources Policy Advisor to Governor Kotek

RE: Weyerhaeuser comments on TIGHGER 2.0 Draft Gap Measures

Director Benner,

Thank you for the opportunity to comment on ODOE's TIGHGER 2.0 draft gap measures. We appreciate ODOE's work to develop the TIGHGER 2.0 gap analysis and the suggested pathways to close Oregon's emissions gap by 2050. As ODOE refines this work, we encourage an approach that places greater emphasis on low-carbon fuels and technologies that are commercially available and deployable in the near term, while more clearly distinguishing them from options that remain longer-term or highly uncertain.

Throughout the draft, several measures group together fuels, technologies, and industrial applications with very different levels of readiness and feasibility, which can obscure where meaningful progress is most achievable. We urge you to separate those strands to reach a more accurate analysis. In addition, some assumptions do not fully reflect the operational realities of Oregon's wood products and timber industry, including its reliance on closed-loop biomass systems, remote operating conditions, and existing decarbonization efforts.

Re: Item #18 — Low-Carbon Fuels by 2050
Item #18 proposes that low-carbon fuels (biogas/RNG, hydrogen, ammonia, etc.) provide 20% of current direct-use gaseous fuel demand by 2050. Of the fuels listed, renewable natural gas (RNG) is the only one that is commercially available, cost-competitive with diesel, and deployable today using existing infrastructure.

ODOE should not lump RNG together with hydrogen and ammonia in this measure. Doing so understates the contribution RNG can make on its own and overstates the technological hurdles that must be cleared for hydrogen and ammonia to achieve meaningful progress.

Technology is ready now.
The Cummins X15N — a 15-liter, 500-horsepower spark-ignited natural gas engine — entered commercial production in 2024 and is already in the hands of fleets across North America. It delivers diesel-equivalent power and torque, weighs 500 pounds less than a comparable 15-liter diesel, and runs interchangeably on either fossil natural gas or RNG.

It is certified at 90% below current EPA NOx standards and already meets EPA 2027 Low NOx requirements without modification. It does not require a diesel particulate filter, selective catalytic reduction, or diesel exhaust fluid — the entire aftertreatment system is a passive three-way catalyst that needs no servicing. Weyerhaeuser's Goshen, Oregon, log-truck fleet is one of the active deployments running on this platform, fueled at a CNG station built specifically to serve our operation.

Health and air-quality impact: immediate, measurable.
If Oregon's medium- and heavy-duty diesel fleet were converted to compressed natural gas using engines like the X15N:

- **NOx emissions would drop by approximately 90%** compared to current EPA-compliant diesel engines.

- **Particulate matter emissions would drop by more than 95%.**
- **CO2 emissions would drop by 15–25%** even with fossil natural gas, due to the favorable hydrogen-to-carbon ratio in methane combustion.

With RNG, the carbon math improves dramatically. RNG is chemically identical to fossil natural gas but is produced from organic waste streams: dairy manure, landfill gas, food waste, and wastewater treatment biogas. Because RNG capture prevents methane from being released to the atmosphere in the first place, dairy- and landfill-sourced RNG carries a negative carbon intensity score under Oregon's Clean Fuels Program. The X15N running on dairy RNG can achieve up to a 97% reduction in CO2 emissions versus diesel on a lifecycle basis — and in some pathway certifications, lifecycle emissions are net-negative.

CNG is cheaper than diesel and has lower price volatility.
According to the U.S. Department of Energy, CNG averages **$2.90 per diesel-gallon-equivalent** compared to **$4.07 for diesel** — roughly 28% cheaper. Natural gas prices are also far less volatile than diesel because they are decoupled from global crude oil markets and are priced primarily off domestic supply. One of the largest heavy-duty natural gas fleet operators in North America, with about 14,000 NGVs, reported displacing 110 million gallons of diesel last year and saving roughly $93.5 million in fuel costs alone. The Transport Project, a national coalition of fleets and OEMs, reports an 18- to 24-month payback period for the cost premium of a new natural gas truck compared to a diesel truck.

The infrastructure already exists.
The United States has roughly 300,000 miles of interstate natural gas pipelines and 2.5 million miles of natural gas distribution lines. RNG injected into the existing pipeline network at any qualifying source can be delivered as fuel to any point on that network, without requiring any new long-distance transport infrastructure. Building a CNG fueling station to serve a fleet costs a fraction of what it would cost to build out either a hydrogen fueling network or a megawatt-scale heavy-duty truck charging depot.

ODOE should separate RNG out from the other fuels listed in Item #18 and model it as its own gap measure with aggressive adoption assumptions, because the constraints that limit hydrogen and ammonia (cost, technology readiness, infrastructure, supply chain) do not apply to RNG. RNG is a deployable, cost-effective, lifecycle-negative-carbon fuel that uses existing engine technology, existing pipeline infrastructure, and existing fueling station designs. **Modeling it as a single component of a generic "low-carbon fuels" basket, alongside fuels that do not yet exist at scale, obscures the most pragmatic near-term emissions-reduction pathway available to Oregon's heavy-duty transportation sector**.

If ODOE's goal is to model what Oregon could realistically achieve in emissions reductions by 2050, RNG-fueled heavy-duty transportation deserves to be quantified separately and modeled aggressively. It is the only fuel on the Item #18 list that can be deployed at scale today, with no technology gaps and a positive return on investment for fleets that adopt it.

Re: Item #43 — 70% of Off-Road Vehicle Sales are ZEVs by 2050
Item #43 lumps four very different equipment categories — farm/agriculture, forestry, construction, and recreation — into a single ZEV sales target of 70% by 2050. The categories are not comparable, and the technology readiness, duty cycles, operating environments, and infrastructure requirements differ so dramatically that modeling them together yields a technically meaningless result. ODOE should disaggregate this measure, and forestry equipment in particular should be modeled separately and realistically.

Forestry equipment is the worst-case scenario for battery electrification, and there is no commercially available zero-emission alternative today. The core machines used in modern Pacific Northwest logging are heavy, high-power, continuous-duty machines that operate in remote, off-grid locations on steep, rugged terrain, often at elevation, in all weather conditions. A typical Weyerhaeuser harvest unit in the Oregon Coast Range or Cascades is miles from the nearest paved road, let alone the nearest grid connection capable of supporting megawatt-scale

charging. We operate in remote settings where the only practical refueling method is a fuel truck driving up the haul road.

Separate modeling of forestry equipment from other offroad vehicle types. Different vehicle types in this measure deserve different treatment. For example, recreational off-road vehicles (snowmobiles, ATVs, UTVs) are already seeing meaningful battery-electric product introductions and could be modeled effectively. Some farm equipment — particularly smaller tractors and orchard/vineyard equipment with predictable duty cycles and depot returns — may be plausible candidates for electrification, but would be challenged by important cost and infrastructure limitations. Construction equipment is a mixed bag, with compact excavators and skid steers electrifying faster than large dozers and articulated dump trucks. Electrification of forestry equipment faces significant and unique challenges due to the high-power needs of the equipment, remote locations, and long hours of continuous operation. None of these categories should be modeled with the same assumptions as forestry equipment, and forestry equipment should not be modeled with the same assumptions as any of them.

The goal of decarbonizing Oregon's off-road equipment sector is legitimate and worth pursuing aggressively. But the path to achieving it runs through renewable fuels for the heavy, remote, hard-to-electrify categories—not through ZEV sales mandates that no manufacturer can meet and no operator can deploy.

Re: Item #11 — Electrification and the wood products manufacturing industry
Item #11 bundles nine separate electrification targets across at least five distinct industrial subsectors into a single "measure." Machine drives, low-temperature heat, bulk chemicals heat, glass heat, integrated steam production, refrigeration, industrial HVAC, industrial vehicles, and construction energy use are not one thing — they are nine things, with nine different technology readiness levels, nine different capital replacement cycles, nine different energy density requirements, and nine different economic justifications.

Modeling them as a single measure yields a quantified emissions-reduction number that lacks operational meaning, because ODOE cannot tell decision-makers which targets are realistic, which are aspirational, or which are technically impossible.

Three targets in this measure are particularly problematic for Oregon's forest products and wood products sector and warrant specific attention.

1. **"100% of low-temperature heat by 2050" — ignores the closed-loop biomass cycles that already exist at Oregon's sawmills and engineered wood products facilities**. Oregon's lumber mills, plywood plants, and engineered wood products facilities use significant amounts of low-temperature process heat — primarily for lumber drying kilns and for resin curing and pressing in OSB, plywood, and laminated veneer lumber production. At many Oregon mills, this heat is produced by on-site biomass boilers burning the mill's own wood residuals — bark, sawdust, planer shavings, and trim waste — byproducts of the sawmilling process with no higher-value commercial use.

These biomass boilers are not "fossil fuel infrastructure that should be electrified." They are closed-loop biogenic combustion systems that:

- Solve a waste disposal problem (the wood residuals have to go somewhere),
- Operate at low or negative carbon intensity on a lifecycle basis,
- Avoid methane emissions that would otherwise occur if the residuals decomposed in piles or landfills,
- Use a fuel that the mill is already paying to handle.

If implemented, Item 11 would not decarbonize Oregon's wood products sector. It would shift energy demand onto a constrained grid while eliminating the closed-loop biogenic fuel cycle that currently keeps mill operations near-net-zero for process heat. The measure should explicitly exclude biomass-fired process heat from its electrification target, or alternatively model it at a much lower penetration rate (e.g., 20–30%) that reflects the

categories of low-temperature heat where electrification actually makes sense — primarily natural-gas-fired heating in facilities without access to on-site biomass residuals.

2. **"80% of industrial vehicles, including in agriculture by 2050," duplicates Item #43 and inherits its problems.** This target overlaps with Item #43 (off-road vehicle ZEV sales), creating a risk of double-counting in the modeling. It also carries the same technology-readiness problems: yard hostlers, forklifts, and small log loaders at mill sites with depot return and predictable duty cycles are reasonable candidates for electrification today, but heavy mobile equipment in continuous-duty applications is not. ODOE should consolidate these targets and model them once, in one place, with realistic sub-category assumptions.

Re: Item #13 — Hydrogen Fuel Adoption

Item #13 does not specify which kind of hydrogen it assumes, and that omission is problematic. "Hydrogen" is not a single fuel — it is a label for a molecule that can be produced through several very different processes, none of which deliver a clean, affordable, scalable industrial fuel today or on any credible path to 2050.

Hydrogen is produced today through three methods, none of which deliver what Item #13 assumes.

1. **Fossil-fuel conversion is not low-carbon.** Roughly 95% of U.S. hydrogen, and about 75% of global hydrogen, is made from natural gas through steam methane reforming ("SMR"). SMR is only 65–75% efficient, meaning a quarter to a third of the energy in the natural gas used for input is lost as waste heat in the conversion. Producing one ton of hydrogen via SMR releases 9–12 tons of CO_2. Switching an industrial load from natural gas to SMR-hydrogen would increase total emissions, not reduce them. Carbon capture ("blue hydrogen") can reduce these emissions, but it typically captures only 70–95% of process CO_2 in theory. No operating blue hydrogen project has ever consistently achieved its target capture rate — the Shell Quest project in Canada, one of the world's only operating blue hydrogen plants, captures less than half (45%) of the CO_2 it produces. **The technology remains unproven , and Oregon should not expect that it will be ready to help close our climate gap by 2050.**

2. **Electrolysis — clean in principle, not economically viable.** Electrolysis uses electricity to split water. When powered by renewables, the result is low-carbon "green hydrogen." The problem here is cost. Electrolysis currently accounts for less than 1% of U.S. hydrogen production, and the US Energy Information Administration (EIA)'s 2025 Annual Energy Outlook projects it will remain below 1% through 2050, even with supportive policies.

   The reason is straightforward: electricity is the dominant input cost, and the required energy is substantial. A real-world pilot operated by Dash Clean Energy — a green hydrogen development firm — measured actual electricity consumption of 68 kWh per kilogram of hydrogen produced. Because one kilogram of hydrogen contains roughly the same energy as one gallon of diesel, that translates directly into per-diesel-gallon-equivalent terms. In Oregon, industrial electricity rates of roughly $0.09/kWh, electricity alone costs $6.12 per diesel-gallon-equivalent, untaxed, before capital recovery, compression, storage, distribution, or any margin.

   Real-world delivered green hydrogen lands in the range of $10–15 per diesel-gallon-equivalent, and at California retail stations, it dispenses for $30–36 per diesel-gallon-equivalent — compared to roughly $4 per gallon for diesel and $2–3 per diesel-gallon-equivalent for CNG. This is simply not an affordable range for industry in Oregon, and it is unlikely to be so by 2050.

3. **Geologic hydrogen — exploration stage, not yet commercially viable.** Naturally occurring subsurface hydrogen has attracted significant exploration investment since 2023, with over 40 companies drilling in the United States and abroad and over $1 billion in venture capital deployed.

   As of 2026, however, the only operating "production" is a single small project in Mali that powers a village, and the first U.S. commercial supply chain demonstration is targeted for late 2026. No large reservoirs have been proven to produce at commercial flow rates, no extraction industry exists at scale,

and the U.S. Geological Survey itself notes that most subsurface hydrogen is likely to be "too deep, too far offshore, or too small to ever be economically recovered." Hydrogen is also the smallest and most diffusive molecule in nature, meaning containment, well integrity, and fugitive emissions are substantially harder to manage than for natural gas, and the regulatory framework for any of this does not yet exist. Critically for Oregon: the prospective geologic hydrogen opportunities identified by USGS are concentrated in the Mid-Continent Rift (Kansas, Nebraska, Michigan), not the Pacific Northwest. Modeling geologic hydrogen as a meaningful fuel source for Oregon by 2050 would be speculative at best.

The assumption of hydrogen's availability, affordability, and cleanliness is not supported by current evidence. Lumping all hydrogen together as a single low-carbon fuel misleads decision-makers about what this measure would cost and whether it would reduce emissions. If SMR without carbon capture remains the dominant production method — as every credible forecast through 2050 indicates — then Item #13 is not an emissions-reduction measure at all.

Again, thank you for the opportunity to submit these comments. We look forward to working with you on further iterations of this project.

Sincerely,

/s/ Betsy Earls

Oregon Government Affairs Manager
Betsy.earls@wy.com
503.508.0330

OREGON WHEAT "The Voice of Oregon's Wheat Producers Since 1926"

OREGON WHEAT GROWERS LEAGUE
115 SE 8th Street Pendleton, OR 97801 541.276.7330 www.owgl.org

April 10, 2026

Director Benner
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Re: TIGHGER 2.0 Draft Gap Measures

Dear Director Benner,

Thank you for the opportunity to provide comment on the Transformational Integrated Greenhouse Gas Emissions Reduction 2.0 (TIGHGER 2.0) Draft Gap Measures and Scenarios. We have an extreme level of concern regarding the incorporation of elements into the proposed draft measures that are not feasible for adoption or would have an effect of decimating our industry and its ability to produce a crop.

The Oregon Wheat Growers League is a nonprofit trade association representing farms across the state of Oregon dedicated to wheat production. Innovative Oregon wheat producers have been at the forefront of activities supporting the long-term sustainability of their agricultural lands. The viability of our operations requires investments to new technologies, minimizing application of inputs, placing an emphasis on our soil health, reducing erosion and other environmental impacts, limiting applications in a field, and ensuring the ongoing economic feasibility of various farming practices. As we have that expertise in farming practices, we encourage you to remove the measures for food and ag as drafted in TIGHGER 2.0 and instead engage in a collaborative discussion with our industry, other agricultural groups and the Oregon Department of Agriculture regarding measures that are viable for GHG reduction.

As we look at the draft measures specifically related to food and ag, the following would have direct impact to wheat farms and are impractical:

Nitrogen fertilizer practices program: Nitrogen is crucial for plant health and production. It is used efficiently and precisely by Oregon wheat farms to ensure adequate yield and quality. The proposal, seeking a 70% reduction in nitrogen fertilizer use by 2050, would decimate yields and would not allow us to produce a quality product for our markets.

Farming Practices Program: Oregon Wheat farmers invest heavily to research objectives to support enhancement of production practices. We have been early adopters in precision ag technologies, minimum tillage and activities that support the health of our farms and are feasible for adoption. Examples listed for GHG emissions do not appear attached to the realities of operations. Sharing of equipment is generally impractical at scale when field work needs to be completed on the same timeline across operations. Biochar has had extensive study, with the cost

for transportation at the scale needed being prohibitive in many areas. Adoption by farmers of practices that reduce GHG emissions is best identified in coordination with farm groups to discuss the practicality of implementation.

Farm and Ag Measures: Additional proposals listed have varying levels of impact to wheat producers. Even those, such as an increase in a plant-based diet, have implications as livestock is often incorporated to our operations and would threaten the livelihoods of our farmers and ranchers.

Other Measures: Among the other measures included, there are a few that would be impractical for our rural communities and farm operations:

- 100% conversion of diesel backup power to battery storage by 2035. This is a significant burden to rural infrastructure and is a concern for safety in emergency situations. There are areas where diesel backup is a necessity from a safety standpoint.
- 70% of new off-road vehicle sales (farm/agriculture, forestry, construction, and recreation) are ZEVs by 2050; remaining use renewable diesel or another low carbon drop in fuel. The proposed measure lacks awareness of the limitations for ZEVs in farm/ag operations and the limited infrastructure available in remote locations.

If proceeding as listed for the proposed measures, the intent in GHG reduction will be diminished by the loss of agricultural operations and the inability to continue farming. Our rural communities and agricultural operations deserve better.

While we appreciate the opportunity for providing initial reactions to the proposed measures, the comment period for the gap measures and scenarios was placed on such a condensed timeline that it is insufficient to fully provide an extensive technical response. As the public comment period for the draft report also reflects an abbreviated public comment response time, we encourage extending that next public comment to allow for meaningful interaction.

Sincerely,

Thad Eakin
Oregon Wheat Growers League President

Oregon Climate Action Commission
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Submitted via email to: OCAC@energy.oregon.gov

RE: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

Dear Oregon Department of Energy and Oregon Climate Action Commission,

The undersigned organizations (collectively, "Commenters") appreciate the opportunity to comment on the gap measures that the Oregon Department of Energy (ODOE) intends to quantify as part of its modeling of the TIGHGER 2.0 project. An accurate and comprehensive understanding of what actions can help get Oregon back on track to meet its climate goals is essential to guiding informed policy and regulatory decisions, and Commenters generally support casting a wide net when considering gap measures to model. Specifically, we urge ODOE not to exclude food and agriculture gap measures from its analysis in response to agribusiness industry pressure.

Commenters further express concerns regarding the scope of measure 9 and the inclusion of measure 18 in this modeling. Measure 18 does not constitute a greenhouse gas reduction policy and therefore may be inappropriate for inclusion in this analysis. If ODOE nevertheless chooses to include measure 18, it is critical that it not be modeled using the flawed assumptions adopted by the Oregon Department of Environmental Quality, California, and other states, which have grossly overstated emissions-reduction benefits, obscured environmental and public-health harms associated with biodigesters, and led to unsound policy outcomes. Specifically, for measure 18, ODOE must: reject avoided methane crediting for factory farm gas; not encourage dirty hydrogen production paired with factory farm gas; and conduct accurate, rigorous lifecycle analysis for factory farm gas fuels to render accurate carbon intensity values.

I. ODOE must not let political pressure from Big Ag influence its choices of measures, how it models them, or its report.

The agricultural sector is a major contributor to greenhouse gas emissions, globally and in Oregon, and commentors urge ODOE to move forward with modeling measures 3–9, and potentially other food and agriculture measures, for their greenhouse gas emissions reductions. Even if humans immediately stopped using fossil fuels, our current food production methods

would cause us to significantly exceed temperature caps under the Paris Agreement.[1] According to the Intergovernmental Panel on Climate Change (IPCC), agriculture, forestry, and other land use together account for about 22% of global greenhouse gas emissions, largely due to methane from livestock, nitrous oxides and other greenhouse gases from soils and fertilizers, and carbon dioxide from deforestation and land conversion.[2] Methane and nitrous oxide are especially concerning because they are far more potent than carbon dioxide at trapping heat in the atmosphere with global warming potentials over 100 years of approximately 30 and 273, respectively.[3] Industrial farming systems also depend heavily on fossil fuels for machinery, transportation, and chemical inputs, with high-input crop production requiring approximately five times the fossil fuels that low-input production requires.[4] Changes in farming practices, land management, and food systems can significantly reduce emissions while enhancing carbon storage and resilience.

Despite the well-documented contribution of this sector to the climate crisis, agricultural exceptionalism continues to be embedded in climate change mitigation efforts. Both international and domestic frameworks frequently allow governments to shield agriculture from greenhouse gas reduction obligations—even as agricultural emissions continue to increase while other sectors decarbonize.[5] Continuing to exclude Big Ag from climate mitigation requirements is inconsistent with climate science and shifts the costs of the climate crisis onto the public writ-large and most acutely onto environmental justice communities. Excluding food and agriculture-related gap measures in ODOE's modeling would make it that much harder to appropriately address this sector's emissions in the future.

ODOE must not let political pressure from Big Ag influence its choices of measures to model, the assumptions underlying how it models them, or its report. ODOE has already received significant pushback for even considering to *model* measures related to agriculture's greenhouse gas contributions in Oregon.[6] Commenters are disappointed that the Board of

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[1] BARBARA KUEPPER, IMPACTS OF A SHIFT TO PLANT PROTEINS 9 (Profundo, 2023) https://hwkvufmtfxjkrhbrfqkj.supabase.co/storage/v1/object/public/PUB/Impacts%20of%20Reduced%20Meat%20Consumption.pdf.

[2] FAO, *Latest IPCC report highlights the critical need to transform agrifood systems as a way to mitigate and adapt to climate change* (Mar. 03, 2023), https://www.fao.org/newsroom/detail/latest-ipcc-report-highlights-the-critical-need-to-transform-agrifood-systems-as-a-way-to-mitigate-and-adapt-to-climate-change/en.

[3] EPA, *Understanding Global Warming Potentials* (Dec. 29, 2025), https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.

[4] Lorenzo Rosa et al*., Energy implications of the 21st century agrarian transition*, 12 *Nat Commun* 1, 5 (2021), https://doi.org/10.1038/s41467-021-22581-7.

[5] *See* Alexander Zahar, *Agricultural Exceptionalism in the Climate Change Treaties,* 12 TRANSNAT'L ENV'T L. 42, 43 (2023), https://doi.org/10.1017/S2047102522000437; Ryan Levandowski, *Polluting 'till the Cows Come Home: How Agricultural Exceptionalism Allows CAFOs Free Range for Climate Harm*, 33 GEORGETOWN ENV'T L. REV. 151, 153 (2020) GT-GELR200048.pdf; Svetlana Feigin et al., *Solving climate change requires changing our food systems*, 5 OXFORD OPEN CLIMATE CHANGE 24 (2025), https://doi.org/10.1093/oxfclm/kgae024.

[6] Monica Samayoa, *Ideas to speed up Oregon's climate reduction efforts prompt pushback from the state's agriculture sector,* OPB (Mar. 24, 2026, 3:00 PM), https://www.opb.org/article/2026/03/23/oregon-climate-reduction-efforts-ideas-pushback-agriculture-sector/.

Agriculture and industry-backed groups believe they should have a seat at the table to influence the scope of potential emissions-reducing measures that are even evaluated by ODOE before the public has the opportunity to weigh in. This is even more true in light of the Department of Agriculture's admitted likely conflicts of interest related to potential climate action measures. OPB reports that Board of Agriculture Chair Elin Miller views certain measures, such as meat reduction, as counter to ODA's highest priorities.[7] The fact that ODA is tasked primarily with promoting agriculture counsels strongly against giving the agency an early seat at the table. Commenters again express our support for the TIGHGER 2.0 project to model a wide range of measures that could inform future policy decisions and get Oregon back on track to meet or exceed its climate goals. A head-in-the-sand approach that pretends that agriculture is not a critical, yet-unregulated driver of climate change would result in a "garbage in, garbage out" modeling exercise that could stand in the way of needed climate actions due to inadequate data.

Big Ag benefits from agricultural exceptionalism in Oregon through lessened environmental regulations compared to other sectors, and we have seen the result of this not only in the climate arena but also in the groundwater crisis that has plagued parts of Oregon. Big Ag is a significant contributor to widespread and dangerous nitrate contamination in at least three areas of the state, necessitating the creation of three groundwater management areas (GWMAs).[8] The Lower Umatilla Basin was created in the 1990s when it was found that nearly a third of wells exceeded acceptable levels of nitrate under state law.[9] Decades of largely voluntary and unenforceable oversight of irrigated agriculture, confined animal feeding operations (CAFOs), food processing, and land application of industrial wastewater have allowed nitrate pollution to worsen,[10] with rising nitrate concentrations confirmed again in 2025.[11] Similar outcomes appear in Northern Malheur County and the Southern Willamette Valley,[12] where large shares of wells exceed or approach the nitrate drinking water standard, progress has been uneven or reversed, and agencies continue to call for stronger evaluation of agricultural land uses.[13] Across these

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[7] *Id*. Commenters disagree that policies promoting local food, including meat processing infrastructure, and overall meat reduction are mutually exclusive.

[8] DEQ, *Groundwater Quality Management Areas*, https://www.oregon.gov/deq/wq/programs/Pages/GWP-Management-Areas.aspx (noting that fertilizer and manure are causes of the nitrate contamination).

[9] GERALD H. GRONDIN ET AL., HYDROGEOLOGY, GROUNDWATER CHEMISTRY AND LAND USES IN THE LOWER UMATILLA BASIN GROUNDWATER MANAGEMENT AREA, NORTHERN MORROW AND UMATILLA COUNTIES, OREGON, FINAL REVIEW DRAFT, ES-1 & ES-5, (1995), https://digitalcollections.library.oregon.gov/nodes/view/204049. At the time of these initial tests, the Oregon trigger level was set equal to EPA's MCL of 10 mg/L but has since been adjusted to the more protective standard of 7 mg/L. *Id.* at ES-2.

[10] DEQ, ESTIMATION OF NITROGEN SOURCES, NITROGEN APPLIED, AND NITROGEN LEACHED TO GROUNDWATER IN THE LOWER UMATILLA BASIN GROUNDWATER MANAGEMENT AREA 15 (2011), 4a864-gw-lubgwma-nitrogenestimation.pdf.

[11] DEQ, GROUNDWATER NITRATE TREND ANALYSIS 6 (2025) lubgwmaNetTrendAS.pdf.

[12] DEQ, NORTHERN MALHEUR COUNTY GROUNDWATER MANAGEMENT ACTION PLAN 16–17 (1991), https://www.oregon.gov/deq/FilterDocs/gw-nmcgwma-actionplan.pdf; DEQ, SOUTHERN WILLAMETTE VALLEY GROUNDWATER ASSESSMENT 2000–2001 NITRATE STUDY, FINAL REPORT 35 (2003), https://www.oregon.gov/deq/FilterDocs/gw-swvgwma-nitrates.pdf.

[13] DEQ, MEMO FROM PHIL RICHARDSON TO DAVID ANDERSON & CHARLES KENNEDY, NORTHERN MALHEUR COUNTY GROUNDWATER MANAGEMENT AREA AREA-WIDE TREND ANALYSIS 2 (2020), https://www.oregon.gov/deq/wq/Documents/nmalheurtrend2020.pdf; DEQ, DRINKING WATER ASSESSMENT FOR THE

regions, agriculture is consistently identified as a leading source of water contamination. ODA is charged with regulating and preventing pollution of the waters of the state from the irrigated agriculture and CAFO sectors through its agricultural water quality and CAFO programs.[14] However, ODA's obligation to prevent pollution is in tension with its role in promoting agricultural production. As a result, ODA has historically relied on voluntary measures or requirements that are effectively unenforceable, leading to inadequate pollution reductions in designated GWMAs.[15] Voluntary compliance has not meaningfully reduced nitrogen loading in these overburdened communities. As discussed in Section II, this drinking water crisis is closely linked to agriculture's climate impacts, as agricultural runoff is a primary source of human-caused nitrous oxide emissions.

Oregon's agricultural GHG emissions are significant and unregulated. And ODA's lax approach to agricultural water pollution underscores the need to proceed with broad modeling despite industry pushback. ODOE must not allow political pressure from Big Ag to shape its selection of measures, modeling assumptions, or final report. Decades of reliance on voluntary environmental protections have enabled industrial agriculture to continue business as usual, contributing to a serious environmental and public health crisis in Oregon.

II. Modeling measures 3–8 will provide critical information.

Measures 3–8 appropriately reflect several of the ways Big Ag contributes to the climate crisis. Commenters urge ODOE to fully model a range of food and agriculture-related measures, including but not limited to measures 3–8, and incorporate their impacts into its analysis. While Commenters support ODOE modeling measures 3–8, measures 3–6 are particularly important to model to provide new data on potential greenhouse gas emissions reductions. As described above, Oregon suffers from well-documented and widespread groundwater nitrate contamination driven by irrigated agriculture and CAFOs. Fertilizer use contributes significantly to climate change because only about half of the applied nitrogen is taken up by plants. Much of the remaining nitrogen runs off into the environment or is broken down in the soil, which releases nitrous oxide.[16] The Environmental Protection Agency estimates that some 75% of nitrous oxide emissions in the United States are caused by agricultural soil management activities, driven by

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UPPER WILLAMETTE AND SIUSLAW WATER QUALITY MANAGEMENT AREA 2 (2023), https://www.oregon.gov/deq/wq/Documents/WQMA-UpperWillamette-Siuslaw.pdf.

[14] *See* ODA, *About Agricultural Water Quality*, https://www.oregon.gov/oda/natural-resources/agwq/Pages/default.aspx; ODA, *Confined Animal Feeding Operations (CAFO),* https://www.oregon.gov/oda/natural-resources/Pages/cafo.aspx.

[15] *See* Antonio Sierra, *Oregon agriculture companies offer help with Lower Umatilla Basin nitrate pollution, but skeptics remain,* OPB (Jan. 24, 2024), https://www.opb.org/article/2024/01/24/water-pollution-nitrate-eastern-oregon-environment-well-groundwater-umatilla-morrow-/.

[16] Karthish Manthiram and Elizabeth Gribkoff, *Fertilizer and Climate Change,* MIT CLIMATE PORTAL (July 2025), https://climate.mit.edu/explainers/fertilizer-and-climate-change.

the application of fertilizer to farmland.[17] Nitrous oxide is an extremely potent greenhouse gas and is widely considered to be one of the 'big three' greenhouse gasses fueling climate change, along with carbon dioxide and methane.[18] In addition, manufacturing synthetic fertilizers requires releases substantial carbon dioxide emissions.[19] Together, emissions from fertilizer production and use make fertilized agriculture a significant contributor to climate change. Model assumptions related to nutrient application should reflect the full lifecycle of fertilizer emissions.

Commenters also support modeling measure seven, focused on the emissions impact of various potential dietary shifts, but recommend that ODOE include additional scenarios. The bases for ODOE's specific proposed measures to model, such as assuming a reduction in beef and pork consumption would shift that consumption to seafood, and the decision to model a 50% reduction in those meats but a 30% reduction in dairy, are unclear. Modeling for a range of potential reductions in some foods and varying shifts to other foods would provide the most robust and useful information about how dietary changes could impact Oregon's GHG emissions.

Animal agriculture is estimated to account for approximately 11.1–19.6% of global greenhouse gas emissions,[20] a share comparable to that of the transportation sector.[21] Most mitigation efforts in this sector have focused on production efficiencies, such as reducing methane from enteric fermentation.[22] While important, these measures alone are insufficient to meet the Paris Agreement's climate targets for food systems; accordingly, it will serve Oregon's GHG reduction efforts to better understand the climate impacts of potential reductions in consumption of animal products.[23] Although animal products provide less than 20% of global food calories, they are the largest source of greenhouse gas emissions within the food system due to high feed requirements, methane from enteric fermentation, and nitrous oxide from manure management.[24] Modeling should therefore incorporate full lifecycle analyses that account for the inherent inefficiency of converting feed into animal products. Animal agriculture requires food

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[17] EPA, *Nitrous Oxide Emissions* (Mar. 02, 2026), https://www.epa.gov/ghgemissions/nitrous-oxide-emissions.
[18] *See* EPA, *Global Greenhouse Gas Overview* (Dec. 30, 2025), https://www.epa.gov/ghgemissions/global-greenhouse-gas-overview.
[19] Manthiram & Gribkoff, *supra* note 16.
[20] THE BREAKTHROUGH INST., *Livestock Don't Contribute 14.5% of Global Greenhouse Gas Emissions* (Mar. 20, 2023), https://thebreakthrough.org/issues/food-agriculture-environment/livestock-dont-contribute-14-5-of-global-greenhouse-gas-emissions.
[21] EPA, *supra* note 18.
[22] Nico Muzi, *Replacing 30% of Meat with Plants Proteins Could Offset Almost All Global Aviation Emissions, Free up an India-Sized Carbon Sink and Save 7.5 Million Swimming Pools Worth of Water a Year*, MADRE BRAVA https://www.madrebrava.org/latest/replacing-30-percent-of-meat-with-plants-proteins-could-offset-almost-all-global-aviation#:~:text=water%20a%20year,Replacing%2030%25%20of%20meat%20with%20plants%20proteins%20could%20offset%20almost,worth%20of%20water%20a%20year.
[23] *See Id.*
[24] Marta Kozicka et al., *Feeding climate and biodiversity goals with novel plant-Based meat and milk alternatives*, 14 NAT COMMC'N 1, 1 (2023), https://www.nature.com/articles/s41467-023-40899-2#.

to be produced twice with substantial losses at each stage.[25] Protein conversion efficiency is approximately 25% for eggs, 24% for whole milk, 19.6% for poultry, 8.5% for pork, 6.3% for lamb, and just 3.8% for beef.[26] Failure to account for these inefficiencies risks systematically understating the emissions-reduction potential of dietary shifts. Further, transport is responsible for about 19% of total food-system emissions.[27] Commenters also urge ODOE to model a measure focused on shifts towards diets based on a higher percentage of local and regional foods. Models exploring dietary shifts, including a local food scenario, are necessary for ODOE to fully evaluate pathways for meeting Oregon's climate goals.

III. Model assumptions for measure 9 and 18 must not repeat other states' mistakes.

Reducing methane emissions in the near-term is critical to meeting Oregon's greenhouse gas targets, and modeling for methane reductions must include livestock sector emissions. However, the model assumptions for measure 9 should focus on non-biogas methane reductions, and ODOE should only model measure 18 if it can adopt accurate assumptions that do not repeat DEQ's and other states' mistakes, which drastically over-credit anaerobic digesters with greenhouse gas reductions.

Factory farm biogas is the livestock industry's latest attempt to greenwash its climate footprint, but a growing body of research makes clear that biogas production, particularly when financially incentivized, does not reduce greenhouse gas emissions from CAFOs. Factory farm gas increases investment in assets that could soon become stranded (and prevents the adoption of cost-effective, long-term climate solutions) because biogas systems are extremely expensive to install and maintain. Digesters also incentivize the highest-emitting manure management practices because they typically rely on liquid waste management systems and their profitability is tied to maximizing methane production. Factory farm biogas systems also often connect directly to fossil gas pipelines. It is widely accepted that there is nowhere near enough biogas production capacity to meaningfully displace fossil natural gas,[28] meaning that biogas production serves only to entrench fossil fuel infrastructure and continued fossil fuel combustion. Further, factory farm biogas production increases downstream emissions from waste handling and disposal and are known to have particularly high leakage rates that can eliminate any claimed mitigation. In addition, factory farm gas incentivizes new and expanded CAFOs, thereby increasing pollution, biodiversity loss, and other adverse effects of industrial meat production.

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[25] A WELL-FED WORLD, *Feed-to-Meat Conversion Inefficiency Ratios* (Oct. 26, 2015), https://awellfedworld.org/feed-ratios.
[26] OUR WORLD IN DATA, *Protein Efficiency of Meat and Dairy Production,* https://ourworldindata.org/grapher/protein-efficiency-of-meat-and-dairy-production.
[27] Mengyu Li et al., *Global food-miles account for nearly 20% of total food-system emissions* 3 NATURE FOOD 445 (2022), https://www.nature.com/articles/s43016-022-00531-w.
[28] NRDC, ISSUE BRIEF: A PIPE DREAM OR CLIMATE SOLUTION? THE OPPORTUNITIES AND LIMITS OF BIOGAS AND SYNTHETIC GAS TO REPLACE FOSSIL GAS (2020), https://www.nrdc.org/sites/default/files/pipe-dream-climate-solution-bio-synthetic-gas-ib.pdf.

A. ODOE modeling must reject avoided methane crediting for factory farm gas.

Commenters strongly oppose including avoided methane crediting for factory farm gas in the models of measures 9 and 18. Avoided methane crediting was first adopted in California's Low Carbon Fuel Standard (LCFS) approximately eight years ago and transformed that program into a lucrative profit center for factory farm operations around the country, spurring what the Wall Street Journal termed a "gold rush in cow manure."[29] As explained below, avoided methane crediting rewards factory farms for polluting, distracts from real climate solutions, undermines program integrity, and distorts dairy and livestock markets. ODOE must reject this backward policy.

Avoided methane crediting perversely *encourages* factory farms to generate methane pollution – and along with it, other pollutants left unaddressed by anaerobic digestion. Manure does not contain, nor does it naturally emit, methane. Only when manure is collected, mixed with water, and left to decompose in anaerobic (*i.e.*, low oxygen) environments does the waste begin emitting large amounts of methane.[30] This typically occurs in earthen pits, or "lagoons," at factory farms where manure and wastewater are cheaply stored prior to being applied to nearby fields. In short, when factory farms emit large amounts of methane from manure management, it is the result of harmful manure management choices. Avoided methane crediting inaccurately assumes the opposite – that manure methane is inevitable, and any methane captured by a highly polluting facility represents a reduction from baseline emissions. Accordingly, avoided methane crediting rewards factory farms for adopting the most climate polluting manure management practices.

This dynamic simultaneously *discourages* sensible and long-term solutions to manure methane emissions. Managing manure in "dry" systems can eliminate manure methane emissions by more than 90 percent.[31] ODOE should focus on such systems and practices in modeling measure 9. Avoided methane crediting creates a large financial incentive to build or maintain manure management systems with massive methane emissions so a portion of it can be captured for profit. As a former California Air Resources Board Branch Chief who oversaw the LCFS

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[29] Phred Dvorak, *California's Green-Energy Subsidies Spur a Gold Rush in Cow Manure*, WALL ST. J. (Feb. 19, 2022), https://www.wsj.com/articles/californias-green-energy-subsidies-spur-a-gold-rush-in-cow-manure-11645279200.

[30] EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS 1990-2022 5-11 (2024), https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf ("When livestock manure is stored or treated in systems that promote anaerobic conditions (e.g., as a liquid/slurry in lagoons, ponds, tanks, or pits), the decomposition of the volatile solids component in the manure tends to produce CH4. When manure is handled as a solid (*e.g.*, in stacks or drylots) or deposited on pasture, range, or paddock lands, it tends to decompose aerobically and produce CO2 and little or no CH4.").

[31] CAL. DEPT. OF FOOD AND AGRIC., RECOMMENDATIONS FOR SHORT-LIVED CLIMATE POLLUTANTS 12–13 (2015), https://www.cdfa.ca.gov/oefi/climate/docs/SLCP_Reommendations.pdf ("[M]ethane emissions can be dramatically reduced – perhaps by more than 90 percent – when dry systems are used.").

during his tenure has explained, "[e]xcessively rewarding an industry for poor historic environmental performance is troubling in the least and furthermore, doing so only through a transportation fuels program distorts the market against the consideration of less costly and more sustainable methane mitigation options."[32] A recent study of factory farm gas and the LCFS found the same: giving factory farm gas deeply negative carbon intensity values "ha[s] the potential to significantly distort the market for dairy and livestock products … and the nascent market for emissions offsets by offering a significant incentive only for emission abatement that can be tied to a fuel pathway, whether or not these are the least-cost abatements or those with the best climate or environmental performance."[33] Moreover, to avoid double-counting, any model must adopt appropriate assumptions to ensure it does not credit any purported emissions reductions that will be sold into a credit trading scheme, where the supposed reductions will be offset by other ongoing emissions sources.

Any model must also account for the fact that incentives for manure methane leads to larger factory farms with larger herds, and thus more manure and more pollution. The most recent United States Department of Agriculture livestock census data for California's dairy industry shows that, in California's most intensive dairy-producing counties, herd consolidation and size increases more than tripled when comparing the period before avoided methane crediting was introduced into the LCFS (2012–2017, growth rate of 12.68 percent) and the period after (2017–2022, growth rate of 42.68 percent).[34] This is especially concerning given that most methane from animal agriculture is not produced by manure but by enteric fermentation,[35] which biodigesters do not address at all. The perverse incentivization of CAFO growth is a key reason environmental, climate, and environmental justice advocates have sharply criticized avoided methane crediting. In fact, CARB's Environmental Justice Advisory Committee passed a resolution calling on CARB to eliminate avoided methane crediting.

This same problem applies to hydrogen production paired with biogas. When factory farm gas is assigned a massively negative carbon intensity under avoided methane crediting and then brought into the hydrogen production process—either as feedstock for steam methane reforming or process fuel for electrolysis (*i.e.*, burning the gas to produce electricity to power the

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[32] Comments of Jim Duffy to the California Air Resources Board (Feb. 19, 2024), at 2, https://www.arb.ca.gov/lists/com-attach/6792-lcfs2024-AWUGdQdgVmMHeAZZ.pdf.
[33] Kevin Fingerman et al., *Risks of Crediting Carbon Offsets in Low Carbon Fuel Standard: Lessons Learned from Dairy Biomethane*, 206 ENERGY POL'Y 1, 2 (2025) https://www.sciencedirect.com/science/article/pii/S0301421525002459.
[34] The average dairy herd in California grew from approximately 940 to 1059 dairy cows between 2012 and 2017, while the average dairy herd jumped from approximately 1059 to 1511 between 2017 and 2022. *Compare* USDA, 2017 Census of Agriculture: California State and County Data 20 tbl. 12, https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_State_Level/California/st06_1_0011_0012.pdf, *with* USDA, 2022 Census of Agriculture: California State and County Data 16 tbl. 12, https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_1_State_Level/California/st06_1_011_012.pdf.
[35] FAO, *Livestock and enteric methane* (2026), https://www.fao.org/in-action/enteric-methane/en/.

process)—the resulting hydrogen can receive a far more favorable carbon intensity value than even truly green hydrogen produced with solar or wind power.

We have seen this problem play out in the LCFS and elsewhere. Hydrogen produced using electrolysis powered by wind or solar power is assigned a zero or slightly positive carbon intensity value while hydrogen from fossil fuels paired with factory farm gas credits receives deeply negative carbon intensity scores. The result is that a fuel producer can generate far more credits by simply buying attributes from factory farms than by investing in green electrolytic hydrogen production.[36]

Because avoided methane crediting inaccurately credits digesters with greenhouse gas reductions, ODOE should not use it in any model assumptions, and should instead adopt more accurate assumptions about digesters' true climate impacts. However, because digesters are not a genuine greenhouse reduction measure under any scenario, ODOE should consider omitting measure 18 from its model entirely.

B. ODOE must conduct accurate, rigorous lifecycle analysis for factory farm gas fuels to render appropriate carbon intensity values.

ODOE must carefully review carbon intensity values for factory farm gas to ensure accuracy and a full lifecycle accounting if it decides to model measure 18. To that end, ODOE cannot use the LCFS as a model, because CARB certifies inaccurate carbon intensity values derived from truncated lifecycle analyses that ignore up and downstream emissions and underestimate fugitive emissions.

CARB's use of CA-GREET to establish carbon intensity values for factory farm gas pathways is fundamentally flawed because it ignores up and downstream emissions while relying on assumed fugitive emissions lower than real world observations indicate. The LCFS fails to require a full upstream lifecycle analysis; it excludes all emissions associated with raising, feeding, housing, and otherwise sustaining the concentrated and confined herds that produce the manure feedstock used to produce factory farm gas. These emissions include but are not limited to enteric emissions and those from the production, transport, and storage of animal feed. Without manure collection at animal confinement facilities, there is no gas production; and with no animals in confinement there is no manure collection.

Similarly, with downstream emissions the LCFS fails to include emissions from the handling and disposal of digestate in factory farm gas fuels' lifecycle analysis. As the USDA's Natural Resources Conservation Service recognizes in its Conservation Practice Standard for

[36] For example, an LCFS pathway certified by CARB in January 2025 assigns hydrogen produced from factory farm biogas carbon intensity values ranging from -68.32 gCO2eq/MJ to -148.98 gCO2eq/MJ, values that would never be available to a green electrolytic hydrogen producer. LCFS Application No. B0695, FirstElement Fuel (certified Jan. 24, 2025),
https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/comments/tier2/b0695_cover.pdf.

anaerobic digestion, "digestate has increased potential for some air and nutrient emissions compared to raw manure."[37] This includes up to a threefold increase in methane emissions during digestate handling and storage,[38] as well as increased nitrous oxide emissions.[39]

Finally, the LCFS sets carbon intensity values for factory farm gas that underestimate fugitive emissions, further inflating the purported climate benefits of this fuel. The CA-GREET uses a default methane capture efficiency of 95 percent for lagoon digesters and 98 percent for fully enclosed vessels, unless a pathway applicant discloses otherwise.[40] But these default values do not reflect real-world observations. A study published in 2022 found that fugitive emissions rates were higher for biogas than the oil and gas supply chain and could be more than two times higher than estimated.[41] Other real-world monitoring has found that factory farms with digesters can remain "super emitters" even with a digester in place.[42]

ODOE cannot allow similarly inaccurate carbon intensity values to undermine the integrity of its models. ODOE must rigorously verify carbon intensity values based on a full lifecycle analysis and apply the most recent science, not relying on unsupported and outdated assumptions that tip the scales in favor of factory farm gas.

Conclusion

Commenters appreciate the opportunity to provide input on the gap measures that ODOE intends to quantify as part of its modeling of the TIGHGER 2.0 project. ODOE must not let political pressure from Big Ag influence its choices or analysis of measures, and while Commenters support modeling a wide array of measures, we urge ODOE not to use incorrect assumptions that inflate benefits and mask environmental harm of biodigesters.

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[37] USDA, NAT. RES. CONSERVATION SERVICE, CPS 366: ANAEROBIC DIGESTER 8 (2023), https://www.nrcs.usda.gov/sites/default/files/2023-08/366_NHCP_CPS_Anaerobic_Digester_2023.pdf.
[38] Lena K.K. Rodhe et al., *Greenhouse Gas Emissions from Storage and Field Application of Anaerobically Digested and Non-Digested Cattle Slurry*, 199 AG., ECOSYSTEMS & ENV'T 358 (2015), https://www.sciencedirect.com/science/article/abs/pii/S0167880914004678.
[39] Michael A. Holly et al., *Greenhouse Gas and Ammonia Emissions from Digested and Separated Dairy Manure During Storage and After Land Application*, 239 AGRIC. ECOSYSTEMS & ENV'T 410, 418 (2017), https://doi.org/10.1016/j.agee.2017.02.007.
[40] CARB, *Tier 1 Calculator for Biomethane from Anaerobic Digestion of Dairy and Swine Manure*, https://ww2.arb.ca.gov/resources/documents/lcfs-life-cycle-analysis-models-and-documentation (Reference Tab, Table A.3).
[41] Semra Bakkaloglu et al., *Methane Emissions Along Biomethane and Biogas Supply Chains Are Underestimated*, 5 ONE EARTH 724–736 (2022), https://www.sciencedirect.com/science/article/pii/S2590332222002676.
[42] An analysis of Carbon Mapper data conducted by Food & Water Watch shows that fifteen LCFS-supported dairy digesters continue to have massive methane plumes despite installation of a digester and certification to generate LCFS credits. Food & Water Watch, *The Proof Is in the Pluming: Factory Farm Biogas Has no Place in the Low Carbon Fuel Standard* (Feb. 2024), https://www.foodandwaterwatch.org/wp-content/uploads/2024/01/RB_2401_LCFS_Methane.pdf.

/s/ Suzannah Smith
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Tarah Heinzen
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April 10, 2026

TO: Oregon Department of Energy

FR: Kelly Fukai, CEO, Northwest Gas Association

VIA: OCAC@energy.oregon.gov

RE: NWGA Comments on ODOE's TIGHGER 2.0 Draft Gap Measures and Scenarios for Analysis

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The Northwest Gas Association (NWGA) respectfully submits these comments to the Oregon Department of Energy (ODOE) regarding the TIGHGER 2.0 Draft Gap Measures and Scenarios. NWGA represents three natural gas utilities and two transmission pipelines serving over 2 million Oregon residents (772,000 households) and more than 85,000 businesses.

Our members are committed to efficiently supporting energy consumers in reducing greenhouse gas emissions (GHG) and have been actively engaged in regional GHG reduction for years. Natural gas plays and will continue to play an essential role in Oregon's clean energy future. The state will need to leverage the 30,000 miles of existing natural gas infrastructure that includes 21 billion cubic feet of long-duration storage to achieve its GHG reductions goals while ensuring an affordable, equitable and reliable energy future for all Oregonians.

Fundamentally, we believe the additional 40+ measures in TIGHGER 2.0 do not provide meaningful help in achieving climate goals and imposes serious financial impact and reliability risks on Oregon consumers and businesses without commensurate emissions benefit.

NWGA believes the solution is not to add more measures, but to recognize that meeting the 2035 target would require nearly six times the level of permanent emissions reductions achieved during COVID—an outcome that is both technically unrealistic and economically untenable.

1. The Problem with Layered Policy

Oregon has the most aggressive climate regulatory framework in the country with the Climate Protection Program (CPP), imposing a declining emissions cap on fossil fuels at a cost of $136+ per metric ton and increasing through time with a $12,000 a ton penalty for noncompliance, and HB 2021 mandating a clean electricity transition by 2045. Instead of optimizing the existing framework, TIGHGER 2.0 adds new, costly requirements for businesses and consumers at a time when Oregon is facing unprecedented economic decline and an affordability crisis that could take decades to unwind.

Layering policies without integration creates compounding costs that accumulate faster than emissions reductions:

- Multiple compliance mechanisms apply to the same emissions source.
- Regulatory deadlines drive investments that are not based on least-cost principles and rely on customer adoption to achieve significant emission reduction without sensitivity to the ability of consumers to pay for such adoption (i.e., purchase of an electric vehicle; acquisition of solar panels; payment to convert home heating and appliance conversion).
- Agencies pursue overlapping objectives without coordinated cost analysis.

The interaction between these policies is not neutral, it is additive. As CPP compliance costs increase, any additional measure that reduces gas throughput or accelerates electrification further amplifies per-customer cost burdens.

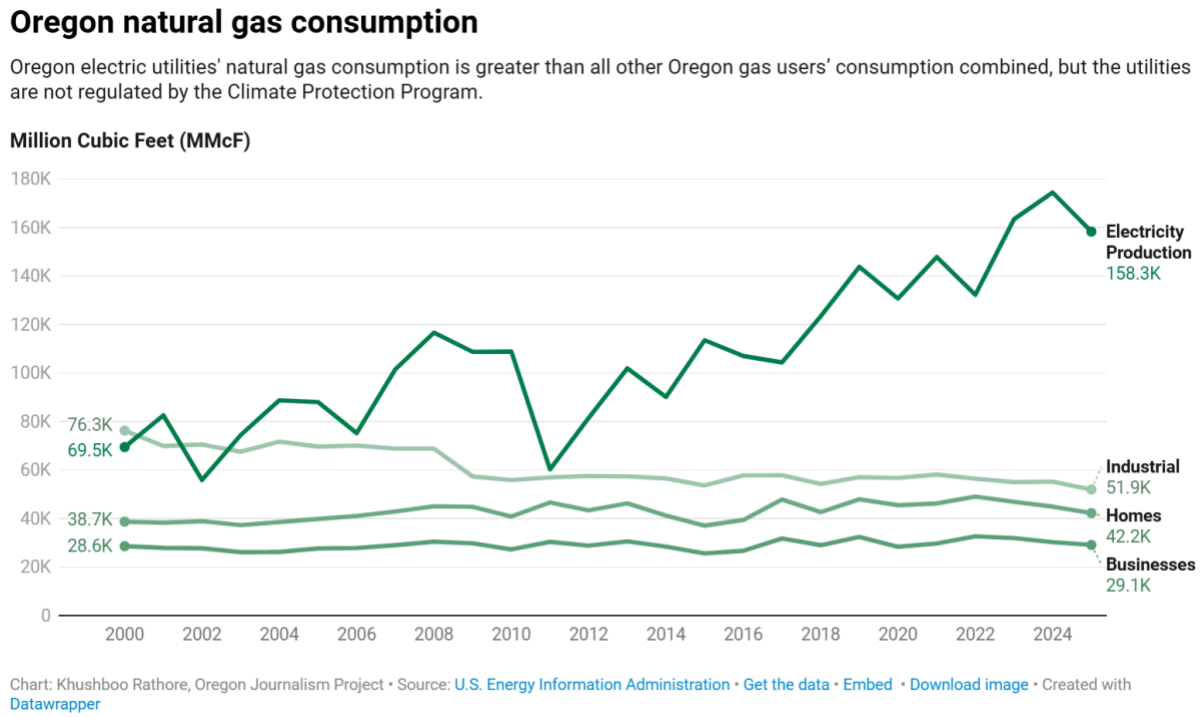
To further complicate the issue, there are multiple state plans and studies that do not necessarily align with each other or with industry planning processes and outcomes. With 97% of the anticipated emissions reductions expected to come from CPP and HB2021, ***ODOE should find ways to reduce duplicative planning exercises and unintended friction between the policy creators and implementors*.**

2. The Emissions Gap Is Misdiagnosed

The modeled gap is driven primarily by unexpected large-load growth, such as data centers, creating additional challenges to filling the gap, such as pushing peak heating needs to an already constrained electric system. This increases electric fossil fuel use as the timelines to bring on renewable generation and electric transmission resources keeps extending. While Oregon has been able to build modest levels of new wind, solar and battery storage in recent years, it is only a fraction of the necessary resources to meet the state's growing demand. Gaps are further exacerbated depending upon the location.

Broad statewide building electrification measures do not address the actual source of the emissions gap. Gap measures should match the modeled drivers of the shortfall.

Adding electric load without first ensuring deliverable supply can increase near-term emissions, costs and reliability risk. In constrained regions, new load may be served by higher-emitting marginal resources until cleaner generation, firming capacity and transmission upgrades come online, which are undetermined. See chart below:



Investor-owned utilities are already engaged in robust community-involved integrated resource planning processes to meet their climate reduction targets. ***ODOE should rely on that expertise and output rather than develop new and/or duplicative measures for the energy sector***.

3. Affordability and Energy Burden

For the 772,000 Oregon households served by natural gas, TIGHGER 2.0's electrification pathway imposes real, immediate costs on consumers:

- Replacement of gas furnaces and water heaters with electric alternatives.
- Electrical panel upgrades to accommodate increased load.
- Potential building envelope improvements to maintain performance.
- Higher operating costs for electric equipment, including heat pumps, for many consumers.

These layered costs put into question any anticipated savings benefit for the consumer. Upfront capital costs are incurred by consumers before any operational savings or emission reductions materialize. This is especially burdensome for lower-income households, who already face disproportionately high energy burdens and whose older homes typically require more extensive retrofits.

Even with state intervention to provide rebates or grants to ameliorate costs incurred by home and rental housing owners and commercial building owners to convert heating systems and appliances, those owners may not have the ability or desire to finance such conversions and

any attendant electrical system upgrades that may be necessary. The state cannot and should not expect to achieve significant emission reductions in the built environment as a result.

Electrification of the built environment at scale also increases demand on the electric grid, requiring new generation, transmission, and distribution infrastructure; costs recovered through rates. Even households that do not electrify will face higher electricity bills.

Oregon is a geographically diverse state. Rural communities face higher per-customer infrastructure costs, limited contractor availability and dependence on natural gas where no comparable alternative exists. Statewide policies that ignore these realities reduce energy access and system resilience. ***ODOE should incorporate analysis on variability in cost to customers based on location to prevent disproportionate impacts.***

4. Business, Commercial and Industrial Impacts

Energy is a fundamental input cost. Higher utility rates, upfront capital requirements, and compliance obligations will increase operating expenses across sectors. Small and medium-sized businesses, lacking the capital reserves of large corporations, face the greatest risk.

For industrial customers, many high-temperature processes have no commercially viable solution to comply with programs already in place. Forcing premature transitions imposes cost premiums without operational benefit. When costs exceed what industries can absorb, facilities relocate, resulting in job losses, economic harm, and no net reduction in global emissions.

This “leakage” represents a real and current reality, which is one of the main drivers of the Governor’s launching of the Prosperity Council, to try and stop the exodus. ***ODOE should consider how much leakage is at risk and its impact on Oregon’s economic prosperity.***

5. Energy System Reliability

Natural gas provides firm, dispatchable energy that supports energy system reliability, particularly during peak demand and extreme weather. As intermittent renewables increase, flexible backup capacity becomes more critical, not less.

The proposed gap measures systematically exclude integrated use of the gas system’s proven energy-delivery capability, reliable even in ice storms, without adequately studying the reliability risk this introduces. Natural gas and electricity systems are mutually reinforcing; policies that treat them as independent silos will produce unintended consequences. ***ODOE should incorporate reliability impacts into its measure evaluation.***

6. Recommendations

We recognize and support the State’s objective to better understand pathways to close Oregon’s greenhouse gas emissions gap. We also appreciate ODOE’s clarification that the draft measures are analytical constructs rather than formal policy proposals. However, we do not believe that this exercise will produce the desired outcomes.

To strengthen the analytical value and decision utility of the final TIGHGER 2.0 work, NWGA respectfully recommends the following enhancements:

1. **Transition from Technical Potential to Achievable Potential**
   The current draft appropriately identifies the theoretical emissions reduction potential of various measures. However, many assumptions, particularly those involving near-complete electrification of buildings and significant industrial fuel switching reflect technical potential rather than realistic deployment conditions. NWGA recommends that ODOE incorporate feasibility-adjusted scenarios that account for workforce availability, supply chain constraints, customer adoption rates, capital turnover cycles and infrastructure readiness. Modeling low, medium and high adoption cases will provide policymakers with a more accurate representation of achievable outcomes.

2. **Clarify Baseline Assumptions and Avoid Double Counting**
   Because the draft measures are intended to be incremental to existing policies, including HB 2021 and the CPP, it is essential that ODOE clearly delineate baseline versus incremental emissions reductions. NWGA recommends a transparent accounting framework for each measure that identifies:
   - Emissions reductions already embedded in the baseline.
   - Incremental reductions attributable to the measure.
   - Interaction effects with other policies or measures This will help avoid double counting and improve analytical credibility.

3. **Incorporate Consumer Cost and Economic Competitiveness Metrics**
   The draft appropriately focuses on emissions outcomes; however, policymaking requires a parallel understanding of cost impacts. Under the CPP, compliance obligations already impose a carbon cost framework on covered fuels, with direct implications for customers. NWGA recommends that ODOE evaluate and report, for each major measure:
   - Residential energy burden impacts (including impacts on low- and moderate-income households).
   - Commercial and industrial cost impacts, including effects on trade-exposed sectors.
   - Total cost per ton of emissions reduced under realistic deployment conditions. This will ensure a balanced assessment of both environmental and economic outcomes.

4. **Integrate Reliability and Infrastructure Analysis**
   ODOE's own updates highlight the increasing sensitivity of Oregon's energy system to load growth, particularly from data centers and electrification trends. NWGA recommends that each major electrification measure be accompanied by analysis of:
   - Winter peak demand impacts.
   - Required generation, transmission and distribution system expansions.

- System reliability under extreme weather conditions.
- The role of existing natural gas infrastructure in maintaining resilience and peak reliability. Absent this analysis, emissions reductions may be overstated relative to system capability.

5. **Evaluate a Full Portfolio of Technology Pathways**
   The draft includes a range of measures, including low-carbon fuels, hydrogen and electrification. However, the analytical framework emphasizes electrification as a primary pathway. NWGA recommends that ODOE evaluate multiple comparative pathways on an equivalent basis, including:
   - Electrification-focused scenarios.
   - Hybrid systems (electric + gas).
   - Renewable natural gas (RNG) and biogas substitution.
   - Hydrogen blending and emerging low-carbon fuels
   - Portfolio approaches that preserve customer choice while reducing emissions This approach will identify least-cost, least-risk pathways rather than implicitly favoring a single solution set.

6. **Expand Scenario Design to Reflect Real-World Risks**
   We appreciate the inclusion of scenarios addressing delayed clean electricity deployment, federal policy changes and load growth variability. These scenarios will provide policymakers with a more robust understanding of uncertainty and risk. NWGA recommends adding additional scenarios to better reflect implementation risk, including:
   - High winter peak demand and extreme weather events.
   - Slower electrification adoption due to cost, supply chain and workforce constraints.
   - Delays in transmission and generation build-out.
   - Accelerated availability of low-carbon fuels, such as hydrogen and RNG.

NWGA respectfully recommends that the final TIGHGER 2.0 analysis evolve from a measure-by-measure emissions accounting exercise into a comprehensive system-level evaluation that integrates emissions, cost, reliability, feasibility and policy interaction effects. Such an approach will better equip policymakers to make informed decisions that balance environmental objectives with affordability, reliability and economic competitiveness.

Sincerely,

Kelly Fukai
CEO
Northwest Gas Association

Renewable Hydrogen Alliance
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April 10, 2026

Oregon Climate Action Commission
Delivered via email

RE: RHA comments on TIGHGER 2.0 Draft Gap Measures and Scenarios

Dear Chair Macdonald:

The Renewable Hydrogen Alliance (RHA) appreciates the opportunity to comment on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis produced by the Oregon Climate Action Commission (OCAC) and the Oregon Department of Energy (ODOE).

RHA is a regional non-profit trade association enabling access to safe, affordable, and renewable hydrogen for communities across the Pacific Northwest. Our 80+ members represent the full value chain of the hydrogen ecosystem – hydrogen technology and service providers, equipment manufacturers, project developers, public transit agencies, labor unions, utilities, and many others with an interest in the clean and renewable hydrogen sector.

While the draft gap measures and scenarios are meant to provide opportunities for greenhouse gas emissions reductions beyond programs and regulations previously adopted, the performance of these existing programs and regulations in the face of constantly changing factors is worth questioning. RHA has concerns that the energy and policy landscape has shifted enough since ODOE's updated forecast in 2025, due in no small part to a lack of clarity about what was included in that forecast. ODOE reports that the update included programs and policies in effect at the time and actual and projected increases in load growth, but RHA would welcome additional information on what was in the update, and whether or how it addressed issues such as:

- Regional forecasts of a 9 GW shortfall of electricity to meet demand in the Pacific Northwest by 2030;
- Volatility in costs for fossil and renewable liquid fuels due to international market perturbations;
- The continued lack of clarity on the legality and scope of federal funding cuts to state programs;
- Increasing utility rates and the potential effects on consumption of energy;
- Potential funding and staffing shortfalls for delivering existing programs and policies at state agencies; and

RHA
RENEWABLE HYDROGEN ALLIANCE

- Lack of funding for infrastructure and vehicle rebates, and the lack of available vehicles for some medium-duty and heavy-duty battery electric vehicles and hydrogen fuel cell electric vehicles.

With respect to the proposed gap measures, ODOE states that the measures do not prescribe any implementation pathways. However, given the current budget environment in Oregon and neighboring states, coupled with less-than-rosy national economic forecasts, RHA is not convinced of the utility of modeling the emissions reduction potential of the gap measures without an idea of the cost of implementation, and that can't be calculated without an idea of how they would be implemented. Additionally, given Oregon's ongoing budget woes, it's unclear whether there is sufficient funding to maintain the effectiveness of existing programs and policies, let alone additional ones.

Instead of developing and modeling new gap measures, RHA suggests that it would be a better use of the state's time and resources to conduct scenario analyses on the "business as planned" reference case, including scenarios that address how greenhouse gas emissions reduction progress would be affected by the current uncertainty around federal funding, state funding, and international markets. Only then will we have a relatively clear picture of the actual gaps that need to be addressed.

Renewable and clean hydrogen are expected to play a critical role in the supply of clean fuels across the economy, not only as a fuel for hydrogen and hydrogen fuel cell vehicles, but also as an essential input for the production of clean derivative fuels, including renewable diesel, alternative jet fuel, methanol, and ammonia. Total demand across these direct and derivative end uses is expected to account for a significant share of overall transportation sector fuel use.

RHA understands that this recommendation is not in keeping with OCAC and ODOE's planned 2026 work plan and would require a pivot, but we believe that such action would better ensure that our policymakers are working with the best available data to make truly informed decisions.

Many thanks for your consideration of our comments, and please reach out to me at r.smith@renewableh2.org with any questions.

Sincerely,

Rebecca Smith
Senior Director, Policy and Education

April 10th, 2026

Director Benner

Oregon Department of Energy

Cc: Cathy Macdonald, Chair, Oregon Climate Action Commission; Geoff Huntington, Senior Natural Resource Policy Advisor to Governor Kotek

Subject: **Formal Comment and Request for Process Reset – TIGHGER 2.0 Draft Gap Measures**

Threemile Canyon Farms appreciates the opportunity to provide comments on the Draft Gap Measures and Scenarios for the TIGHGER 2.0 Project. We recognize the intent of this effort is to study additional measures that can help close the gap between projected greenhouse gas emissions and our state goals. However, we also understand that the reason that there may be a gap is due to federal policy changes, not related to what agriculture is or is not doing. With that in mind, we strongly encourage ODEO and the Climate Action Commission to evaluate the changes in federal law that are the cause of the projected gap first and then decide if additional measures are necessary.

Threemile Canyon Farms is a recognized leader for not only prioritizing animal welfare and producing world-class milk, but we have invested tens of millions to do so with the smallest greenhouse gas footprint possible. We have and will continue to commit financial and human capital to pursuing farming practices that advance our common goals of reducing greenhouse gas emission while producing products that the world needs. As a leader in agriculture, we have long upheld the commitments of sustainable farming including a focus on reducing GHG emissions.

Some examples include:

- **Closed-loop nutrient management**, reducing reliance on synthetic fertilizers and lowering upstream emissions associated with fertilizer production and transport.
- **On-farm energy production**, which currently provides approximately **one third of the farm s annual energy needs** and reduces exposure to fossil fuel-based electricity.

- **Increased productivity in the dairy operation.** Through our livestock breeding program, Threemile, like many other dairies in the country, is achieving significant productivity and efficiency gains without adding to herd size. In doing so, we are able to get more milk from healthy cows using less inputs and reducing our environmental and emissions footprint.
- Recognition at the national level, including receiving the **Innovation Center for U.S. Dairy s Outstanding Dairy Farm Sustainability Award**, acknowledging practices that are both scalable and impactful.
- **Host tours from dairy leaders from across the globe** to showcase what is possible in dairying when it comes to animal health and welfare, reducing greenhouse gas emissions, and producing quality milk at scale to feed the world.

While we remain committed to reducing GHG emissions, as drafted, the Gap Measures and Scenarios raise significant concerns related to clarity, equity, feasibility, and recognition of ongoing efforts by modern agricultural operations, many of which have been proactively working to reduce emissions for decades now. It is also important for these measures to be transparent in conveying to the public how their implementation will impact affordability in areas such as food prices.

For the following reasons, at a minimum, we request that proposed measures 3-9 and 43 should not be included in the TIGHGER analysis. The Climate Action Commission should first reach out to ag and natural resource stakeholders before any future proposed measures are developed.

1. Need for Clear and Defined Standards

At a fundamental level, the Draft Gap Measures includes specific policy targets but lacks sufficient clarity regarding the reasoning for these specific policy proposals, where the agency derived the information from to propose these measures, and how **standards will ultimately be enforced and compliance will be evaluated**. The document refers broadly to performance benchmarks, targets, and thresholds, but does not clearly articulate:

- What numeric or operational standards will be used and where they will be applied;
- Whether standards will be regionally differentiated or uniform statewide;
- How baseline conditions will be established; and
- How progress will be measured over time.

Without more information, it is impossible to provide quality feedback. All measures for clear standards and regulated operations cannot meaningfully assess the implications of

the proposed measures, nor can they provide informed feedback. Regulatory uncertainty also makes it difficult for operations to plan long-term investments, particularly for capital-intensive improvements. Any final framework should clearly identify proposed standards, the rationale behind them, and how they align with existing regulatory obligations. It should also account for the work that has been done.

We appreciate that Oregon's environmental regulatory framework shows a commitment to ensuring Oregonians can enjoy all that makes our state beautiful, safe and prosperous both in the present and for generations to come. When developed by experts and with consultation from stakeholders, we have seen that Oregon regulators can achieve this goal.

2. Accounting for Modern, Longstanding Emissions Reduction Efforts

The Draft Gap Measures appear to be premised on the assumption that significant emissions reductions remain untapped across the agricultural sector. This framing does not adequately reflect the reality of **modern farming operations that have invested in emissions reduction, efficiency, and environmental performance for decades**.

Threemile Canyon Farms has long implemented practices designed to reduce emissions and improve resource efficiency, including investments in nutrient management, energy efficiency, waste handling, and continuous operational improvements. In fact, we are proud to exceed most regulatory stands for our industry. Over the last 10 years, our irrigation system automations and upgrades alone have saved 2.56 million kilowatt hours per year and total of 43,600,000 kilowatt hours over the last 19 years, as just one example. These kinds of actions represent real, measurable progress. Many large and mid-sized agricultural operations have already achieved substantial gains through innovation and voluntary action well before the development of TIGHGER 2.0.

A framework that treats all operations as starting from the same baseline fails to recognize early action and risks penalizing those who have already made substantial progress. Any gap analysis or scenario modeling should explicitly incorporate **existing reductions and historical investments**, rather than implicitly assuming they are available as future mitigation measures.

For example, Threemile Canyon Farms operates a **state-of-the-art anaerobic digestion and renewable natural gas (RNG) system** as part of its closed-loop agricultural model. This system:

- **Sequesters more than 152,000 metric tons of CO_2 equivalent annually**, primarily through methane capture and conversion to RNG—an amount comparable to removing over **35,000 passenger vehicles** from the road each year.

- Converts manure into **pipeline-quality RNG** used as transportation fuel, displacing fossil fuels and achieving carbon-negative energy production.
- Has operated in phases since **2012 (generating power)** and expanded to RNG production in **2019**, reflecting more than a decade of sustained emissions mitigation investments rather than newly proposed future actions.

Scenario modeling or gap" analyses that fail to account for these existing reductions risk overstating remaining emissions and mischaracterizing the contribution of operations that are already high performers.

Future program elements should:

- Credit verified emissions reductions already achieved;
- Avoid double-counting or reassigning past reductions as unmet gaps"; and
- Provide assurance that early adopters will not be disadvantaged under new frameworks.

Without such recognition, TIGHGER 2.0 risks discouraging proactive behavior and undermining trust between regulators and operators who have acted in good faith.

The Draft Gap Measures do not make clear how these demonstrated achievements will be credited or protected under TIGHGER 2.0. Absent explicit recognition of early and ongoing action, the framework risks penalizing operations that have already reduced emissions while incentivizing delays by others.

For TIGHGER 2.0 modeling purposes, this means productivity gains should be recognized as a **validated, already-occurring emissions reduction pathway**, not treated as theoretical or future mitigation.

3. Broader Concerns with the TIGHGER 2.0 Approach

Beyond specific technical issues, Threemile Canyon Farms has broader concerns about the direction and structure of the TIGHGER 2.0 Project as reflected in the Draft:

- **Overgeneralization:** The scenarios appear to rely on high-level assumptions that do not adequately reflect the diversity of agricultural operations, production systems, and regional conditions.
- **Feasibility and cost considerations:** The Draft does not sufficiently address economic feasibility, operational tradeoffs, or diminishing returns once readily achievable reductions have already been implemented. Measures 3-9 and 43 would have significant and detrimental impacts on agricultural producers.

- **Risk of duplicative regulation:** Several proposed concepts appear to overlap with existing state and federal regulatory programs, raising concerns about redundancy rather than real environmental benefit. There is no recognition of existing regulations and emission reductions already achieved.
- **Limited stakeholder integration:** The measures would benefit from deeper engagement with operators who can provide operational insight into what is technically achievable and environmentally meaningful.

4. Path Forward

Threemile Canyon Farms supports environmental progress that is **data-driven, transparent, and grounded in operational realities**. To move the TIGHGER 2.0 Project forward constructively, we recommend:

- Clearly defining standards and endpoints before finalizing gap measures;
- Incorporating credit for historical and ongoing emissions reductions;
- Differentiating between operations based on existing performance and constraints; and
- Engaging directly with agricultural operators to refine assumptions and scenarios.

Meaningful emissions reductions are best achieved through policies that recognize past progress, incentivize continued improvement, and maintain regulatory certainty.

We see significant potential in other areas, like the Farm Irrigation Efficiency Program. Threemile has long been a leader in finding ways to increase efficiency throughout our irrigation operation and has invested resources in water conservation and management. This includes the use of technology to examine historic and real-time meteorological data to understand weather patterns while also monitoring soil moisture levels and comparing those with what we know about our crops' water needs. We use drop-down nozzles to keep the water close to the soil and reduce water lost to evaporation, and with tools like our low-pressure technology and flow meters, we can minimize water that would otherwise be lost through evaporation. Throughout the farming community in our region, we have seen farmers look towards these practices and we believe Threemile could be a model for helping others achieve greater optimization in using their water and nutrient resources.

Conclusion

Threemile Canyon Farms has demonstrated that substantial greenhouse gas reductions in agriculture are achievable through sustained investment, innovation, and operational commitment. The Draft Gap Measures and Scenarios for TIGHGER 2.0 do not yet

adequately reflect this reality. We urge project developers to refine the framework to recognize past progress, provide regulatory clarity, and ensure that future policy builds upon—rather than disregards—existing environmental leadership.

Thank you for the opportunity to comment and for considering the perspectives of operations that have long been part of the solution.

Respectfully,

Threemile Canyon Farms

Associated Oregon Loggers, Inc.

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Oregon Department of Energy
Attn: TIGHGER 2.0 Project
550 Capitol St. NE
Salem, OR 97301

4/10/26

Submitted by email to OCAC@energy.oregon.gov

Re: **Public Comment on TIGHGER 2.0 Draft Gap Measures and Scenarios**

Dear Oregon Department of Energy and Oregon Climate Action Commission,

Associated Oregon Loggers (AOL) appreciates the opportunity to comment on the TIGHGER 2.0 Draft Gap Measures and Scenarios.

AOL represents forest operators and contracting businesses across Oregon, many of them small, family-owned companies working in remote, rural and frontier communities. We support practical emissions reductions, strong stewardship, and sound policy. We do not, however, support policies that overlook feasibility, affordability, technology readiness, and cumulative burden on small natural resource businesses. The Oregon Departmetn of Energy (ODOE) states these draft measures are for "informational purposes only", but it also states the purpose is to quantify measures for "future decision-makers" and that these measures are intended to be above and beyond the programs already included in the Business-As-Planned scenario. For our members, that makes this draft meaningful, important, and worth close review.

AOL's first concern is that the draft is built to count modeled emissions reductions, not to test whether the measures can work in the real world for rural businesses at the front lines of climate mitigation. The document does not show a meaningful economic or operational feasibility lens and does not screen for small business cost, rural infrastructure limits, equipment availability, workforce needs, safety, or uptime. The forest sector seems to appear inside broad industrial and transportation assumptions, including the measure under which 70 percent of new off-road vehicle sales in forestry, agriculture, construction, and recreation would be zero-emission by 2050. That kind of broad assumption does not reflect how forest equipment is actually used on steep ground, far from charging or fueling infrastructure, in weather and fire conditions where downtime is costly, often unsafe, and inappropriate for public safety, national security, and economic prosperity for Oregonians.

AOL is also concerned with regulatory scope creep in Measure 15, the Non-Climate Protection Program Industrial Process Efficiency measure. On its face, the measure imposes a 1 percent annual process efficiency improvement through 2050 on industries *not* regulated under the Climate Protection Program. In practice, that moves a complex regulatory system into sectors the state has so far left outside the program. It would expand expectations before the primary program has fully matured, before its costs and outcomes are well understood, and before small natural resource businesses have had a fair chance to adjust to the many other climate and energy rules already in motion. For forest contractors and related rural businesses, this reads less like a gap analysis and more like a future expansion plan.

Our members are already facing uncertainty from other vehicle and fuel policies. AOL's work around other clean truck policies has clearly articulated how Oregon's truck rules create concern over future access to new medium and heavy-duty trucks, higher equipment costs, used truck price pressure, and fleet disruption for forest operators who depend on reliable trucks for crews, service, equipment, and hauling. TIGHGER 2.0 should not layer new modeled assumptions onto this same set of rural businesses without first measuring cumulative burden across rules, markets, and infrastructure limits. This policy stacking may look manageable on paper while, in reality, is unworkable and untenable.

AOL's second major concern is that the draft leans too heavily toward prescriptive technology shifts and not enough toward market-based, place-based solutions. Measures focused on electrification, hydrogen, and zero-emission sales quotas may be appropriate to study in some sectors, but they should not crowd out lower-cost, near-term pathways tied to Oregon's existing strengths. One clear gap is the weak treatment of working forests as part of the solution. The draft includes a biomass pyrolysis fuel-share measure, but it does not build out a practical, market-based strategy for using forest biomass, wildfire fuels, and mill residuals to reduce transportation emissions, lower wildfire risk, and support rural jobs.

AOL urges ODOE to give far more weight to biomass market development and low-carbon fuels made from forest residuals. The biomass materials now left to decay, pile, or burn can become a productive feedstock for renewable transportation fuels when policy barriers are removed and durable markets are allowed to form. Forest fiber from federally managed lands is largely excluded from Renewable Fuel Standard credit eligibility, which limits market growth, slows fuel innovation, and leaves fuel reduction opportunities unrealized. A market-based solution supported by ODOE and the OCAC can improve forest resilience, reduce wildfire intensity and importantly, related emissions all while supporting rural jobs, and expanding clean fuel production from materials already produced during forest management and restoration activities.

That market-based approach is also supported by the 2025 Bioenergy from Forests - Pacific Northwest Field Dialogue organized by Yale. Participants identified market and economic constraints, policy and regulatory barriers, workforce gaps, and weak supply chains as key barriers to bioenergy from forests in this region. They then prioritized practical solutions: fix the Renewable Fuel Standard biomass definition, stack incentives, establish durable markets and long-term offtake agreements, streamline permitting, support communities and small landowners, and build workforce capacity. Those are the kinds of gap measures Oregon should study more seriously because they reduce emissions while also improving forest resilience, rural infrastructure, and economic opportunity.

A stronger focus on forest residual markets would also better align with current state direction. Executive Order 25-26 calls on agencies to keep working lands and waters working and to streamline programs, permits, funding access, and technical support so farmers, foresters, fishers, businesses, and other landowners can adopt climate-friendly practices. Governor Kotek's Prosperity Roadmap also centers business growth and retention, job creation, critical infrastructure investment, and reducing barriers to business investment and growth. A durable, market-based forest residual and clean fuels strategy fits these objectives far better than broad mandates that fall hardest on small rural businesses and contractors.

For these reasons, AOL respectfully asks ODOE to revise the draft in six ways.

1) Remove Measure 15, the Non-CPP Industrial Process Efficiency measure. ODOE should not even consider this as a gap measure until such time that the CPP has matured and can show real-

world feasibility, cost impacts, program boundaries, and a full small business analysis for sectors currently outside the Climate Protection Program.

2) Remove unrealistic off-road zero-emission equipment sales. At a minimum, sectors utilizing this equipment should be modeled under a scenario with real-world assumptions for terrain, remoteness, shifts, payload, fueling or charging access, repair support, safety, and total cost of ownership for large and small contractors.

3) Add a true market-based gap measure focused on expanding the use of forest fuels, harvesting byproducts and waste, mill residuals, and other underused woody biomass to produce low-carbon transportation fuels and other practical drop-in fuel alternatives. This measure should study how durable markets, long-term purchase agreements, stacked incentives, and better permitting can lower emissions while supporting forest health and rural prosperity.

4) Add scenarios that reflect real rural constraints, including slower deployment of off-road zero-emission equipment in forestry and natural resources sectors, higher rural infrastructure costs, delayed grid buildout, and cumulative cost pressure from overlapping climate, fuel, vehicle, and electricity policies.

5) Revise the methodology by including a small rural business screen to every future gap measure along with a feasibility assessment. Any measure on the table for possible modeling should be tested for affordability, technology readiness, workforce needs, operating feasibility, infrastructure availability, and effect on contractor capacity in working forest communities.

6) Assess the real 2nd and 3rd order effects and ramifications of proposed gap measures in the delivery of climate solutions. Overregulation, increased costs, and difficult business climates create disincentives for green economies to grow and expand. While anthropomorphic emissions *may* decrease, biogenic emissions could double, triple or quadruple those gains. Decreased mitigation and sequestration would also be likely.

Oregon needs policies and programs that work in the woods, not only on paper. Our members want to be part of practical solutions. They know how to create benefits for Oregon, reduce wildfire emissions, protect communities, and deliver valued products to clean and green markets. But policy will fail if it ignores operating reality, shifts cost onto small businesses without viable alternatives or treats working forests and rural businesses as problems instead of a source of solutions. ODOE should use this comment period to reset the draft toward feasible, affordable, market-based pathways that can reduce emissions and strengthen rural Oregon at the same time.

Thank you for the opportunity to comment.

Sincerely,

Amanda Sullivan-Astor, CF
Forest Policy Manager; Associated Oregon Loggers
aastor@oregonloggers.org

April 10, 2026

Via email: OCAC@energy.oregon.gov

RE: Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Dear Members of the Oregon Climate Action Commission,

Thank you for the opportunity to provide comment on the Oregon Climate Action Commission's *Transformational Integrated Greenhouse Gas Emissions Reductions* (TIGHGER 2.0) draft gap measures and scenarios. As organizations dedicated to supporting the state of Oregon in achieving its greenhouse gas reduction goals, we recognize the important role of the OCAC in informing the state's climate policy agenda.

We confess to being confused about how TIGHGER 2.0's proposed gap measures were developed and their intended value-add to the modeling and strategy already laid out by the Oregon Department of Energy in its Energy Strategy. TIGHGER 2.0 may be useful to identify actions related to emissions from the food and agricultural sector, as this was not addressed in the OES. However, TIGHGER 2.0 currently replicates modeling and analysis already completed by ODOE for the remaining sectors but does not reference what has already been done, and is needlessly redundant.We recommend that the TIGHGER 2.0 gap measures transparently build off of the recommended OES policy actions. The OES contained over two years of work supported by multiple consultants, state partners, expert members of an advisory group, as well as working group members offering technical support.

In addition to building on the two years of work invested in preparing the OES, we would like to see any additional modeling done by TIGHGER 2.0 use non-partisan, open-source, and peer-reviewed modeling software rather than the proprietary modeling software used by SSG which appears not to be publicly available for vetting. For example, the Energy Policy Simulator (EPS) is available now–a non-partisan, open-source, and peer-reviewed model developed by Energy Innovation.[1] Instead of funding continued proprietary modeling, OCAC should push ODOE to embrace the Oregon EPS or equivalent open-source tool, publicly and periodically offer tutorials and deeper education to policy experts to use the tool (with EI or RMI support), encourage those experts to collaborate on scenarios, and develop any Oregon-specific expertise to customize the tool as necessary (all open-source). Using an open-source modeling tool can

[1] https://energypolicy.solutions/simulator/oregon/en. See Amy Schlusser & Caroline Cilek, The Path to 2050: A Policy Pathway for Decarbonizing Oregon's Economy (Sept. 2022) (applying EPS modeling to Oregon's policy landscape), https://law.lclark.edu/live/files/33826-gei-oregon-decarbonizaton-pathway-analysis-2022.

avoid inefficient debates over how policies were selected, and provide a mutual agreement (or at least understanding) of the data relied on.

Although we support many of the Draft Gap Measures and Scenarios outlined for modeling in TIGHGER 2.0, as we indicate in answer to the questions below, the OCAC must go further to meaningfully address the climate emergency especially in light of federal regulatory rollbacks. We are in a dire situation. The Climate Change Performance Index tracks 14 indicators over four categories to evaluate how well countries are performing in delivering on emissions reductions to keep warming from reaching the 2°C threshold. The United States is performing so poorly on all metrics (greenhouse gas emissions, renewable energy development, energy use, and climate policy) that only Iran and Saudi Arabia are ranked worse.[2] The experts identify state-level policies as being key to mitigating the damage of federal rollbacks.

Unfortunately, the Draft Gap Measures and Scenarios fail to include actions that will have the greatest impact on carbon emissions while optimizing public health and other co-benefits for communities. Some examples of these measures are: development of offshore wind and geothermal resources to provide base load value to our electricity sector, expanding battery use together with renewable energy generation to help meet load growth, extending HB 2021's clean electricity delivery requirements to municipally owned and consumer-owned utilities, eliminating existing policies that pose a barrier to switching from natural gas to electricity, revising Oregon's motor vehicle tax mechanisms, and considering programs like cash for clunkers to remove polluting vehicles from Oregon's roads. Additionally, Oregon's Highway Trust Fund is a major barrier to the State's ability to achieve its transportation decarbonization targets in an equitable manner. We highlight these measures and provide further details below.

Equally concerning are some of the baffling recommended measures that are included in the list. For example, suggesting that SSG models low-carbon fuels as providing 20% of our current direct use fuel demand by 2050 (Multi-Sector) fails to acknowledge the transitional and declining nature of these fuels, as well as the pressure from California and Washington clean fuels programs. Several of the measures refer to "hydrogen" without any qualifier. It should be clarified that non-renewable hydrogen has no place in any plan for reducing greenhouse gas emissions. The only place where renewable hydrogen is referenced is in the residential and commercial sector. Modeling RH2 Injection 15% by 2050 (Residential and Commercial) is unmoored from any evidence that these fuels will be available and at an affordable price for use in buildings. Perhaps more importantly, it contradicts the OES' finding that such fuels should be reserved for the hardest to electrify sectors, such as aviation, rail, and marine transport, and high-heat industrial processes. For these reasons, we recommend removing all actions related to the expansion of renewable natural gas (RNG) and hydrogen for use in buildings. It has been

[2] Climate Change Performance Index, CCPI Ranking 2026, https://ccpi.org/ranking/ (last visited 4/4/2026).

well established that using these fuels to decarbonize buildings, rather than in niche areas, will result in higher costs for Oregonians while delaying critical electrification efforts.

If alternative fuels will be modeled, it is critical that the OCAC understand both direct and indirect emissions to get an accurate picture of how effective these actions will be to mitigate the climate emergency. Gap measures related to hydrogen (and ammonia, for which hydrogen is a precursor) need to be evaluated in the context of a constrained grid and 95 - 99% of current hydrogen produced from fossil fuels. In that context, rising demand for hydrogen is likely to increase pollution, emissions, and utility prices. Additionally, significant energy is lost in the production, compression, and transport of hydrogen and, though electrolytic hydrogen has the potential for greater efficiency than hydrogen made from fossil fuels, even green hydrogen pathways can ultimately deliver less than half the energy used to make it.[3] Similarly, feedstocks for renewable natural gas, renewable diesel, and sustainable aviation fuels are limited, and increasing their availability-- for instance by increasing livestock numbers in CAFOs or converting forests to fuel cropland-- has serious climate impacts. Not all hydrogen or renewable fuels are low carbon–in fact most are not–and it is critical that OCAC model emissions including indirect emissions that increase non-linearly as fuel demand increases to evaluate how much these measures would mitigate or exacerbate the climate emergency.

Similarly, calling for modeling of Home Fuel Cells 5% by 2030 (Residential and Commercial) is perplexing. This is not a technology being discussed in any other space, including by any of Oregon's natural gas utilities, and research indicates such systems cost upwards of $30,000 today.[4] There is by far more evidence that battery use in homes is a useful tool to both provide reliability to households while bringing flexibility to the grid. Modeling Uptake of Plant-Rich Diets Program (Food and Agriculture) also seems an odd addition when it is unclear what policies or incentives could motivate such a monumental shift in public eating habits.

Finally, whenever possible, gap measures and scenarios should be modeled on a consistent timeline to ensure an "apples-to-apples" comparison between various options. For example, how do GHG reductions of one measure compare to another measure on a 10 or 20-year time horizon? Additionally, ODOE should prioritize measures that have clear and consistent funding sources.

In answer to the questions posed by the request for public comment, we offer the following:

[3] https://olis.oregonlegislature.gov/liz/2025R1/Downloads/PublicTestimonyDocument/125711
[4] Verdant Assoc., LLC, Residential Fuel Cell Market Potential and Cost Effectiveness Study, Final Report prepared for Southern California Gas Company, Exec. Summary 1 (Sept. 18, 2025), https://verdantassoc.com/wp-content/uploads/ResidentiaFuelCells_Final-1.pdf.

1. Are there measures listed that you think would be particularly important to model to quantify potential greenhouse gas emissions reductions? Are there particular assumptions ODOE should consider for that measure?

We appreciate the measures focused on medium and heavy-duty trucks as they currently pump out 70% of smog pollution (NO_x), 64% of black carbon, and nearly half (42%) of climate pollution from our transportation sector, yet they make up fewer than 10% of all vehicles on the road. It is especially important that the state continue to explore measures that provide for truck decarbonization for energy, climate, and public health goals. The limitations on the use of the Highway Trust Fund, the current operational funding challenges faced by ODOT, and the need for a dedicated and sustainable revenue for critical decarbonization of the transportation sector all add to the challenge of these recommendations and to the urgency. For those reasons, we generally support the proposed Gap Measures, but rely on transportation emissions experts to guide you in the appropriate assumptions that will be useful to this exercise. We also encourage consideration of additional measures that we outline on page five.

Additionally, buildings are both a source of climate pollution and a critical resource for resilience in the face of climate change. And buildings are quickly becoming a close second to transportation emissions, even topping transportation in some cities. Similar to the transportation sector, recent federal rollbacks have removed some key incentives that could have helped more Oregon families and businesses improve their buildings, reduce pollution, and lower their energy costs. However, the state has many remaining options to make buildings part of the solution to meeting our energy and climate needs. As laid out in the OES, energy efficiency and electrification are the least cost pathways to achieving our energy and climate goals, and they can deliver critical co-benefits to building owners and occupants in the form of health, resilience, and lower costs. In order to deliver the full promise, however, large load additions must be modeled to find the best way to eliminate or limit the impact of those loads on reaching Oregon's clean energy mandates.

We also support measures related to testing for nitrates and changing farming practices for a ramp to 70% reduction in nitrogen fertilizer use by 2050. These measures are important for Oregon's water quality, air pollution, and climate goals.

Accordingly, we offer the following thoughts:

- Large Load Renewable Power Program (Electricity). In addition to modeling a requirement that new large loads be supplied with 100% clean energy resources, we recommend modeling the ability to curtail, impose moratoria, limit the number or size of new large loads, and require flexibility among large loads are also metrics that would be useful to measure.

- 95-100% HP and WH in New Res by 2045 (Residential and Commercial). First, we expect that by "WH" the modeling will evaluate heat pump water heaters. We recommend dividing the measures between heat pumps and heat pump water heaters to better gauge the impact of each measure. Additionally, modeling 95-100% heat pumps in new residential homes by a date earlier than 2045 is warranted, given the Building Code Division's recent requirement that new residential structures be equipped with a heat pump if cooling is installed. An earlier date for HPWH may also be warranted.
- Building Decarbonization Program (Residential and Commercial). Modeling the extension of the BPS to Tier 2 buildings to meet BPS targets will be useful. SSG might consider modeling a more stringent target for both Tier 1 and Tier 2 buildings.
- Expanded Building Decarbonization Program (Residential and Commercial). Comparing what the City of Portland might achieve with a broader or stricter standard than the adopted BPS is critical to best articulate what is achievable.
- Com Code Reduction 60% by 2030 (Residential and Commercial).
- Embodied Carbon Program (Residential and Commercial).
- PeakSmart Program (Residential and Commercial).
- Energy Efficiency Incentive Program (Residential and Commercial). Modeling what is possible to achieve by accelerating energy efficiency deployment in the electricity sector would be useful. As the OES demonstrated, however, investments in more efficient gas appliances is not useful at this stage of Oregon's energy transition. Rather, replacement of gas appliances with electric appliances, resulting in gas savings, could provide valuable insight.
- Existing Res Buildings 95% HP by 2045 (Residential and Commercial).
- Existing Res Buildings 95% HPWH by 2045 (Residential and Commercial).
- Non-Heating Equip Elec in All Com by 2035 (Residential and Commercial).
- Non-Heating Equip Elec in All Res by 2035 (Residential and Commercial).
- Res Code Reduction 60% by 2030 (Residential and Commercial).
- Residential Space Heating (Residential and Commercial).
- Rooftop Solar PV (Residential and Commercial).
- Small Commercial Space Heating (Residential and Commercial).
- Solar PV Program (Residential and Commercial).
- Weatherization in Existing Res by 2040 (Residential and Commercial).

As the OES explained, electrification has consistently been identified as the least-cost pathway to meeting our energy goals across transportation, buildings, and industry. Critical to implementation of this pathway is a systematic removal of the obstacles to electrification, including policies that hamper the ability of individuals and businesses to build all-electric structures and pursue fuel switching.

2. Are there additional measures that ODOE should consider modeling to quantify potential greenhouse gas emissions reductions? If so, are there particular assumptions ODOE should consider for that measure?

Transportation

- Revise Oregon's motor vehicle tax mechanisms and clean vehicle incentives to levy additional fees on retail sales of new, GHG-emitting vehicles and increase rebates for qualifying electric vehicles. The purchase of new equipment, appliances, or vehicles is the key decision point where carrots or sticks must be applied. Consumers affluent enough to buy a new car are affluent enough to pay something for locking in its pollution.
- Scale transportation electrification infrastructure and incentives, including by expanding DEQ's electric truck programs, including the Zero-Emission Medium- & Heavy-Duty Vehicle Fund and Medium- & Heavy-Duty Charging Program, to support projects that accelerate MHD transportation electrification.
- Expand DEQ's Employee Commute Options rules to incentivize employee use of alternative commute options.
- Increase the share of state transportation dollars flowing to pedestrian, biking, public transportation, and rail options that shift trips away from single-occupancy vehicles and fossil fueled freight trucks.
- Free transit passes for youth and low-income Oregonians.
- Electric options that displace fossil fuel alternatives that are tailored to community need, such as electric bikes (e-bikes) in cities and towns, electric heat pumps for households and renters seeking affordable cooling and heating, electric school buses to reduce diesel exposure in children, and electric tractors on farms.

Residential and Commercial

- Strategic pruning[5] of the existing natural gas system.
- Support fuel switching from gas to electric (e.g., rapidly replace all incentives for methane gas hookups and appliances with those for electric alternatives).
- Allow local governments to adopt a Reach Code as the Base Code.
- Expand ODOE's home efficiency programs, including Community Heat Pump Deployment and Rental Heat Pump incentive programs, to accelerate building efficiency and electrification.

[5] See Regulatory Assistance Project (RAP), Under Pressure: Gas Utility Regulation for a Time of Transition. https://www.raponline.org/knowledge-center/under-pressure-gas-utility-regulation-for-a-time-of-transition/

- Incentivize smaller buildings and adjust code so that townhomes with adjacent walls (which are much more energy efficient and therefore affordable to live in) are more widely permitted.

Electricity

- Develop offshore wind based on the HB 4080 Oregon Offshore Wind Roadmap pathways currently being developed by the Department of Land Conservation and Development; TIGHER should also refer to the National Wildlife Federation comments for additional detail on assumptions and methodology.
- Regulate emissions from in-state fossil gas plants that export electricity, merchant-owned gas plants in Oregon, and municipally owned and consumer-owned utilities which are not covered by HB 2021 or the Climate Protection Program.
- As indicated above, expand the Large Load Renewable Power Program (Electricity) modeling proposal to include curtailing data center load, imposing moratoria, limiting the number or size of new large loads, and requiring flexibility among large loads.
- The impact of vehicle-to-grid (V2G) programs should be modeled.

3. Are there additional scenarios that ODOE should consider modeling? If so, are there particular assumptions ODOE should consider for that scenario?

The scenarios currently proposed for the TIGHGER 2.0 gap analysis are a good starting point.

We also recommend the following additional scenarios (or some combination):

- Less data center load growth: When modeling “Less data center load growth,” we recommend modeling a much lower saturation of data centers in the area. Efficiencies may continue to drive down the computing power necessary to serve data center load growth, and it would be good to understand how that will impact Oregon’s ability to reach its GHG emissions goals. We recommend modeling data center load growth at 10% of the NW Power Council’s medium high forecast.
- Drought-Induced Hydropower Constraint Scenario: Oregon's electricity system relies on hydropower for approximately 40-50% of in-state generation in normal water years. Model a multi-year drought scenario — consistent with projections from the Oregon Climate Change Research Institute — in which hydro availability drops 25-35% below baseline for a sustained period. This scenario should quantify: (a) the extent to which lost hydro generation is replaced by fossil "peaker" plants or backup diesel, (b) the resulting GHG emissions increase relative to the Business-As-Planned baseline, and (c) the degree to which accelerated deployment of battery storage, demand response, and non-hydro renewables can buffer this risk. This is arguably the single most important climate-physical risk scenario Oregon faces and is conspicuously absent from ODOE's four draft scenarios.

- Delayed Action Costs: Model a scenario where electrification is delayed to reflect the OES finding that postponing action adds billions in costs to the state economy by 2050.
- Large Loads Subject to HB 2021: Model a scenario where all large loads are subject to a clean electricity standard akin to HB 2021.
- Accelerated Transportation Electrification: Model an accelerated transportation electrification scenario (where Oregon is backfilling the CAFE standard), modeling faster adoption of light duty and MHD EVs and/or high efficiency/reduced VMT scenario.
- High-DER / Virtual Power Plant: model a scenario in which distributed energy resources meet at least 30% of regional peak load by 2030, including the use of third-party aggregators. (PGE has committed to meeting 25% of peak load in 2030 with DERs).
- A High-DER/VPP scenario through 2050 that compares costs of more utility-scale generation east of the Cascades plus the implied increase of transmission capacity, vs increased DERs in the I-5 corridor instead of additional transmission corridors.
- Increased/sustained Investment in Existing Incentive Programs: Community/rental heat pump programs, MHD electric truck incentives, charging, C-REP, etc. jumpstarted Oregon's energy transition.

Thank you for the opportunity to provide this feedback.

Sincerely,

Carra Sahler
Director and Staff Attorney
Green Energy Institute at Lewis & Clark Law School

Eliza Walton
Coalition Director
Oregon League of Conservation Voters

Ben Brint
Senior Climate Program Director
Oregon Environmental Council

Amy Thomas
Executive Director
350 Deschutes

Claire Prihoda
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The Nature Conservancy

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nature.org/oregon

April 10th, 2026

Oregon Department of Energy

Feedback on Draft Gap Measures and Scenarios for TIGHER 2.0

Submitted by Lauren Link, Oregon TNC State Policy Advisor

Dear Oregon Department of Energy,

Thank you for the opportunity to provide comments on the Draft Gap Measures and Scenarios for the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHER 2.0).

The Nature Conservancy in Oregon (TNC) is a science-based, non-partisan organization that works in communities across the state managing lands and waters in varied ecosystems. We partner with tribes, ranchers, farmers, fishers, timber, and community partners to address the impacts of climate change and biodiversity loss and are committed to helping the state meet its greenhouse gas (GHG) emissions reduction goals.

We are in a decisive decade for climate action and learning that Oregon does not currently have the programs and policies in place to meet either the 2035 or 2050 GHG emissions reduction goals is concerning. We appreciate ODOE's proactive approach in developing the Draft Gap Measures and Scenarios to help frame up a conversation on the importance of investing in existing programs that demonstrate the greatest potential for GHG emissions reductions as well as the need for Oregon to adopt new measures or enhance existing programs to help close the gap and make progress to our goals.

We appreciate the breadth and diversity of Draft Gap Measures identified and believe that enhancements in existing programs and adoption of new measures will be needed across sectors for Oregon to meet its GHG emissions reductions goals. We have focused our comments on the strategic approaches most closely aligned with TNC's programs and initiatives to advance climate action and accelerate clean energy deployment in ways that center the needs and inputs of our communities and protect our most sensitive ecosystems.

TNC recommends ODOE prioritize modeling the following measures, aligned with building community resilience, scaling up clean energy infrastructure and grid investments, prioritizing energy efficiency measures, and promoting equitable distribution of benefits.

- Measure 1. Energy Infrastructure Resilience Program (Electricity)
- Measure 2. Large Load Renewable Power Program (Electricity)
- Measure 19. 95-100% HP &WH in New Res by 2045 (Residential and Commercial)
- Measure 21. Beind-the-Meter Solar PV (Residential and Commercial)
- Measure 25. Embodied Carbon Program (Residential and Commercial)
- Measure 26. PeakSmart Program (Residential and Commercial)
- Measure 38. Rooftop Solar PV (Residential and Commercial)
- Measure 40. Solar PV Program (Residential and Commercial)

We know that several state agencies are working on strategies and processes that could positively inform the TIGHER 2.0 Analysis and encourage agencies to continue and expand cross-agency

collaboration and resource sharing. For example, we encourage ODOE to continue collaboration with the Department of Land Conservation and Development (DLCD) on their offshore wind roadmap process, as potential offshore wind development creates another pathway for Oregon to meet its clean energy goals and make progress on decarbonizing our grid.

TNC recommends that ODOE utilize the extensive modeling conducted in the Oregon State Energy Strategy, particularly as it relates to delayed deployment of clean energy, as a starting point for identifying scenarios and then determine if there are gaps or scenarios identified not adequately reflected in the previous modeling.

Thank you again for the opportunity to provide comments on the TIGHER 2.0 Draft Gap Measures and Scenarios. We look forward to continuing to work with ODOE and partners on how best to evolve our strategies to make progress to Oregon's GHG emissions reduction goals.

OREGON TRUCKING ASSOCIATION

April 10, 2026

Director Janine Benner
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Director Benner:

The Oregon Trucking Association represents the medium-duty and heavy-duty trucking industry in our state, and we have been actively involved in the variety of efforts that several state agencies have proposed in the context of greenhouse gas reduction. While there were several proposals in the TIGHGER 2.0 Draft Gap Measures report that are highly intrusive into individual rights and beyond the scope of legislative direction, there were three specific proposals directed at our industry.

Measure 42 directs the "**shift 10% of medium-duty vehicle miles traveled to light-duty/electric micro-mobility in urban counties by 2035**" without any consideration of the business challenges and costs to implement a program such as this. The trucking industry operates on thin margins and how loads are distributed and delivered greatly impacts the cost of goods for consumers. Requiring companies to create new distribution centers to operate with substantially more, smaller vehicles and more operators for the same amount of freight will significantly increase the costs of distribution and increase consumer costs as well. And for what gain? Specifying equipment requirements counters the necessity in our industry to operate as efficiently as possible.

Measure 47 requires "100% ZEV ales by 2050 for transit and school buses, ***and 100% ZEV sales by 2050 for other Class 2b vehicles***" and again proposes specific equipment requirements that are presently not feasible. ZEV equipment is significantly more expensive, requires different energy sources and the additional expense of on-site chargers, and limits operational productivity with subsequent range and hours of operation limitations. Businesses utilizing Class 2b equipment are generally not trucking operations, but a variety of other businesses where these capacity limitations would negatively impact their operational costs.

Scenario 4 proposes "lower EV adoption rate: 57% by 2050 for cars and ***41% by 2050 for Heavy-Duty Trucks."*** While truck manufacturers invested in producing battery-electric class 8 trucks, today's equipment does not meet the industry's needs, and the future of this equipment is in question. Range limitations, payload limitations, and equipment and operational costs are unrealistic at present. While 2050 may be a few years away, until there is equipment that can meet the industry's needs, it is unrealistic to mandate percentage goals of this nature.

Oregon Trucking Associations, Inc.
4005 SE Naef Road | Portland, OR 97267
Phone: 503.513.0005 | Fax: 503.513.0008
www.ortrucking.org

The trucking industry **literally** moves Oregon's economy. Imposing unrealistic futuristic goals that negatively impact this industry is counter to the efforts underway now to grow our economy and Oregon's prosperity. We encourage ODOE to reconsider these proposals and we offer to continue to work with the agency to develop more meaningful recommendations.

Thank you for considering our comments.

Sincerely,

Jana Jarvis
President & CEO

collaboration and resource sharing. For example, we encourage ODOE to continue collaboration with the Department of Land Conservation and Development (DLCD) on their offshore wind roadmap process, as potential offshore wind development creates another pathway for Oregon to meet its clean energy goals and make progress on decarbonizing our grid.

TNC recommends that ODOE utilize the extensive modeling conducted in the Oregon State Energy Strategy, particularly as it relates to delayed deployment of clean energy, as a starting point for identifying scenarios and then determine if there are gaps or scenarios identified not adequately reflected in the previous modeling.

Thank you again for the opportunity to provide comments on the TIGHER 2.0 Draft Gap Measures and Scenarios. We look forward to continuing to work with ODOE and partners on how best to evolve our strategies to make progress to Oregon's GHG emissions reduction goals.

April 10, 2026

Janine Benner
Director
Oregon Department of Energy
550 Capitol Street, NE
Salem, OR 97301

Via email: OCAC@energy.oregon.gov

Dear Director Benner:

We are writing to provide comments on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis on behalf of Oregon Business & Industry (OBI) and its Manufacturing Council of Oregon (MCO).

OBI is a statewide association representing businesses from a wide variety of industries and from each of Oregon's 36 counties. In addition to being the statewide chamber of commerce, OBI is the state affiliate for the National Association of Manufacturers and the National Retail Federation. Our approximately 1,600 member companies, over 75% of which are small businesses, employ more than 250,000 Oregonians. Oregon's private sector businesses help drive a healthy prosperous economy for the benefit of everyone.

OBI supports the goal of reducing greenhouse gas emissions and applauds the critical role many businesses play in transitioning to a lower carbon economy through research and development, innovation, the advancement of new equipment and technologies, and the implementation of new operations and processes. Yet, while private sector businesses are collectively investing billions in decarbonization efforts globally, we are in the midst of a complex transition that is placed at risk when documents such as the TIGHGER analysis consider so-called gap measures without regard for the amount of GHG reduction that would be achieved, the cost of such measures, and the negative impacts of both economic leakage and carbon leakage that would likely result.

State climate policies such as the Climate Protection Program (CPP) and HB 2021 are challenging Oregon's growing energy demand and costs are increasing. CPP's declining cap on emissions from liquid and gaseous fuels is pushing increased electrification, leading to tremendous electricity load growth. At the same time, electricity investor-owned utilities face requirements in HB 2021 to meet the rising demand with a rapidly increasing percentage of energy from renewables. The result is that Oregon is facing major energy shortages[1] even as state policies accelerate the already existing crisis.

While the Oregon Climate Action Commission's charge is to find mechanisms to reduce GHG emissions, it is the responsibility of the Oregon Department of Energy (ODOE) to find mechanisms that are firmly rooted in reality, and, further, are economically viable,

[1] https://www.opb.org/article/2025/10/30/renewable-energy-oregon-washington-power-electrical-grid/

technologically feasible and commercially available. While we understand that TIGHGER exercise did not *require* the inclusion of a feasibility analysis, there should be some expectation that the agency will hew close to reality and keep things in the context of the impact on Oregonians' lives.

The TIGHGER's gap measures lack any of these critical considerations.

Oregon has been and continues to be one of the lowest per capita GHG emitting states in the U.S. and an insignificant contributor to global emissions. That does not mean Oregon's work is done. It does mean that all climate policy must be thoughtfully crafted so that we do not create competitive disadvantages for Oregon's people or businesses, particularly when it is well documented that economic and carbon leakage will occur if production shifts to jurisdictions outside the state as a result of climate regulation.

A state GHG goal met in 2040 instead of 2035, or in 2052 instead of 2050, is immaterial to the day-to-day lives of Oregonians, not to mention global GHG reductions. Whether Oregon GHG emissions drop by 40% or 45% over a given year will not result in measurable progress in reversing current climate trends. Progress toward goals is important, but so is calibrating any long-term goal(s) to ensure that the state is not overburdening its businesses, workers and households with sacrifices and costs they cannot economically withstand in exchange for truly marginal benefits.

Oregon's approach to climate policy and related regulations has been all-encompassing, complicated and reactionary. Cost, complexity, ever-moving goalposts and a flurry of activity that regulated entities simply cannot keep pace with are not only detrimental to the state's economy, but also thwart progress toward the very climate goals the state has imposed.

Further, establishing policy that simply drives activity elsewhere does not help Oregonians or reduce global GHG emissions. As columnist Martin Wolf notes in a recent Financial Times commentary on the UK's greenhouse gas emissions goals:

> *"Yes, emissions embedded in UK output have roughly halved since 1990. But this is largely because the country now imports many of the energy-intensive goods it used to manufacture. Thus, the decline in its contribution to global emissions is far smaller than the decline in its direct emissions suggests."*

There is ample evidence that Oregon's regulatory environment is hamstringing our economically significant manufacturing sector. Oregon is currently in the second year of a manufacturing recession with employment in that sector at a 12-year low and a steady stream of layoffs and closures.[2][3]

In addition to the lack of a feasibility analysis, the TIGHGER provides no estimates for the amount of GHG reduction each measure would achieve. The proposals appear to be a

[2] https://www.oregonlive.com/business/2025/12/oregon-factory-jobs-fall-to-lowest-point-in-a-dozen-years.html

[3] https://ccwd.hecc.oregon.gov/layoff/warn

"kitchen sink" wish list to regulate (or further regulate) the dietary habits of Oregonians; new technologies for cement manufacturing, an extremely price-sensitive sector that is highly vulnerable to leakage; increasing regulatory requirements for Oregon's already robust and expensive building performance standards; and the conversion of off-road vehicles to non-emitting engines, which is both impractical and infeasible for many types of heavy equipment. Moreover, while railroads are piloting the use of electric locomotives, rail continues to be one of the lowest emitting modes of transportation for large, heavy commodities, and forcing them to purchase costly electric locomotives, potentially drawing investment away from rail maintenance or other priorities.

The TIGHGER gap measures are the latest example of an impractical approach that would have significant consequences for individuals, families, communities and businesses across the state. Rather than pursuing the TIGHGER gap measures, OBI and the MCO recommend the following:

- Make Oregon the most attractive and supportive place to start, locate, and expand companies focused on clean energy generation, storage, and transmission technologies. Despite the state's ambitious energy and climate goals, Oregon has been passed over for billions in potential investment because of our business environment.
- Make Oregon a more competitive, cost-effective place for investing in the capital equipment and technology needed to achieve persistent emissions reductions. Exempt capital equipment in manufacturing from property taxes. This will encourage more frequent upgrades and investments in more efficient, cutting-edge technologies here in Oregon.
- Of the six options listed as "Industrial" in the TIGHGER list, nearly all interact in some way with state and local permitting processes. Therefore, reducing, harmonizing, and improving permitting across all levels of government is critical – no one benefits with permits that are out of date.
- Oregon has embraced a stringent, complex and costly regulatory environment, but this wasn't always case. It wasn't so long ago that the regulated community had a cooperative relationship with state regulators and incentives helped drive actions to protect public health and the environment. A return to this model would be more productive than the current or proposed constructs. Establish permitting processes that reward compliance in addition providing strong accountability for non-compliance.
- Establish a broad-based research and development tax credit to bring the brightest ideas and most innovative products to reality in Oregon so that we can help lead delivery of products and processes that can accelerate carbon reduction across industries.
- Support the scaling of Oregon's innovative work in circular economies, such as textile and plastics downcycling and the nascent 100% Fish strategy. The work already being done by Oregon companies is effective, impactful and economically viable.

Finally, it is notable that the TIGHGER did not include any recommendations regarding

nuclear power generation. The private sector is engaged in developing and deploying solutions in this space, which is a reliable, understood, non-emitting source of energy that is being employed extensively outside the U.S. The TIGHGER seems focused on heavier regulation but ignores other opportunities.

Given the substantial potential impacts of TIGHGER recommendations, not to mention existing GHG policies, OBI urges ODOE to provide a feasibility analysis of any measure it contemplates. Such an analysis must include economic viability, technological feasibility, commercial availability and the amount of GHG reduction expected.

Without this information, these measures cannot be appropriately evaluated for consideration as additional state climate policy recommendations.

Whereas OBI and the MCO's comments here respond broadly to the TIGHGER measures, several industry-specific associations are also submitting comments that warrant your meaningful attention and consideration. We support those industries in their analyses.

Oregon does not lack vision or ambition. It lacks a fundamentally critical focus on how the private sector operates and drives innovation. We ought to be focused on enabling and incentivizing investment, innovation and advancement to accelerate and lead change, not simply imposing punitive methods that will drive prosperity out of the state.

Sincerely,

Sharla Moffett
Senior Policy Director

Duke Shepard
Senior Policy Director

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COW CREEK BAND OF UMPQUA TRIBE OF INDIANS
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To: Oregon Department of Energy

From: Michael Rondeau, CEO, Cow Creek Band of Umpqua Tribe of Indians

Date: April 10, 2026

Re: Transformational Integrated Greenhouse Gas Emissions Reductions Project Draft Gap Measures and Scenario for Analysis

On behalf of the Cow Creek Band of Umpqua Tribe of Indians (Cow Creek Umpqua), I am responding with initial comments on the Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER) Project Draft Gap Measures and Scenario for Analysis, distributed for public input in March.

The Cow Creek Umpqua natural resource management approach is guided by the data of Western science and indigenous practices since time immemorial. Our Tribal government is guided by a commitment to ensuring that our land, water, and fish not only support the food and cultural traditions of our citizens today, but also for seven generations in the future. I share this information because Tribes are often treated like a special interest group, when we are a sovereign nation within the State of Oregon. As such, the Cow Creek Umpqua and other Oregon federally recognized Tribes should be consulted on policies before they are issued for public comment.

If the policies are not expected to apply to Tribes, as independent sovereigns, the state should explicitly establish that expectation when publishing policies or rules for comment. In this case, neither was done. So, we must assume that the ODOE intends for these policies to apply to Tribes. Therefore, we will comment as such. Please understand that these comments are initial, not comprehensive, and do not substitute for, or constitute, the state's obligation to formally consult with the Cow Creek Band of Umpqua Tribe of Indians before final recommendations are published.

Our comments are high level given the ambiguous nature of the draft gap measures and assumptions. But in our review, many do raise questions. Depending on their application or implementation, these measures could infringe on our sovereign rights to manage our agricultural lands, utilities, and also significantly increase costs to our tribal government services our citizens who rely upon them.

For example, reducing beef consumption and mandating specific farming and irrigation practices is concerning to the Tribe. Cattle is one of our primary sources of income through our Tribally owned, operated, and managed K-Bar Ranches. These lands cannot be used for other crops, as the soil is dry, in high desert areas, and on hillsides, which are not suited to support other agricultural commodities. We also question whether reducing production translates into reduced consumption, or if it will just make locally sourced beef less available, leading to imports from other states or countries, adding costs to Oregonians and harming businesses like ours.

As it relates to irrigation, we already have, and continue to, transition to more efficient practices, such as installing alternative pumping systems, but forcing that transition is costly and impractical in all situations. The same concerns apply to replacing nitrogen fertilizer, as there are other, less expensive alternatives for fertilization application methods that reduce waste and runoff effectively. Nitrite testing is related to this issue. We conduct testing, but our concern is more about the mandates the state may consider implementing in response to test results.

Other project measures outlined, such as farming practices to reduce GHG emissions or methane reductions, depend on the details of the regulations imposed. We welcome new ideas to reduce GHG and methane emissions, and if the state can provide meaningful incentives for the development of affordable equipment to do so, that is an approach we could potentially support. However, if the cost is put on the Tribe to adopt less available, more expensive technologies or practices that will harm our business and are not proven to be statistically more effective than our current practices, we will be opposed.

The assumptions and metrics under residential and commercial energy also require a more in-depth conversation with our government policy and business staff. These goals are laudable and we want to support energy efficiency and incorporate efficiency measures in our businesses and offerings to tribal citizens because it is the right path for the future of our communities and future generations. The number of assumptions and metrics in the draft gap measures are extensive, however, and the details to achieve these goals must be discussed in a formal consultation.

The same is true for the electricity measures and assumptions. Again, we support the promotion of renewable energy and conservation. We also must consider how these goals are achieved from a practical and affordability perspective, particularly in rural Oregon, and as a utility provider for our tribal citizens.

We look forward to the opportunity to discuss these metrics and goals in more detail before further development of recommendations are formalized. Thank you.

Oregon Citizens' Utility Board
1618 SW 1st Ave, Suite 210
Portland, OR 97201
(503) 227-1984
www.oregoncub.org

April 20, 2026

Sent by email only

Oregon Department of Energy
Oregon Climate Action Commission
550 Capitol St. NE
Salem, OR 97301
OCAC@energy.oregon.gov

Re: CUB Comments on Draft Gap Measures and Scenarios for TIGHGER 2.0 Project

Introduction

The Oregon Citizens' Utility Board (CUB) appreciates the opportunity to comment on the Oregon Department of Energy's Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project updates. We understand that we have provided these comments well past the deadline and do not expect that they will be incorporated into existing analyses but hope they can be useful at some stage in this process.

CUB understands that the national and state energy landscape has changed significantly since the original TIGHGER report came out in 2023 and believes a review is warranted. Last year, the Oregon Department of Energy (ODOE) updated its greenhouse gas (GHG) emissions reductions forecast and found that changes in the energy landscape, including policy shifts, have made it so that Oregon is no longer on track to meet the 2035 goal of at least a 45% reduction in GHG emissions. CUB appreciates that ODOE has proposed draft measures in an attempt to close the gap between the 2035 and 2050 goals.

As the TIGHGER Report originally found, Oregon's current emissions' reductions programs need to be fully implemented and resourced in order to meet our emissions' reductions goals. In setting goals for meeting our future energy needs, we must center our metrics in equity, and also think critically and even creatively about how these and other similar state programs will be funded. This includes considering if these programs were fully funded by the state but also consider the currently existing resources to support resilience programs, like incentives from Energy Trust of Oregon (ETO) and the Portland Clean Energy Fund (PCEF). With government financial support dwindling, are there ways to support these programs within existing channels? For example, CUB has been advocating that one way

large energy users can ameliorate their significant strain on the electricity grid is to make investments in programs, like energy efficiency resources, to help residential customers have lower utility bills and help Oregon meet our GHG emissions reductions requirements. Are there duplicative efforts across agencies that may provide opportunities for greater efficiencies and thus more resources?

CUB understands that the draft gap measures are for informational purposes only, to inform the Oregon Department of Energy's (ODOE) quantification of GHG emissions reductions associated with each and are not being proposed for implementation. CUB appreciates that ODOE is giving the TIGHGER project another look given the significant federal changes to energy policy, and especially because of the recently released Oregon Energy Strategy. CUB also believes this process should incorporate the additional laws Oregon has passed that address energy, in addition to the emissions' reductions policies. This should include the Energy Affordability Act (HB 2475 (2021)), HB 3179 (2025)--the POWER Act, and HB 3546 (2025)--the POWER Act. The POWER Act will significantly change how electric investor-owned utility (IOU) costs are allocated given non-data center customers should no longer be subsidizing the data center growth on the grid.

In general, we would appreciate more clarity around whether these gap measures are additions, replacing, or transitional goals would be helpful, and it would be helpful to know what data and analysis went into changing those measures that are pushing back timelines for implementation. There are three overall issues that CUB addresses from our review of ODOE's TIGHGER 2.0 Update: data center load, cost-effective decarbonization strategy, and alternatives to natural gas. We expect this proposal aligns with the Oregon Energy Strategy and was developed with equity in mind for each measure.

We appreciate the prompting questions presented in the Notice. CUB addressed some directly and considered the question in some parts given overlapping comments. We attempted to stay within the scope of the comments requested for this stage, but in some spaces may have expanded beyond them solely for the intent of explaining our thoughts. CUB believes certain measures are particularly important to energy affordability and future energy needs and offer our feedback below.

Energy Efficiency and Weatherization

Measure 27. *Energy Efficiency Incentive Program - Residential and Commercial: Accelerate energy efficiency electricity savings by 15%, and 20% in gas savings, over next 5 years.* ***Measure 35.*** *Res Code Reduction 60% by 2030 - Residential and Commercial: New residential buildings to use 60% less energy than base year by 2030 as per EO 17-20.*

CUB appreciates that Measure 27 proposes to accelerate energy savings in a timely manner, in addition to the added focus on new residential buildings. Residential customers of investor-owned utilities (IOUs) have experienced 50+% rate increases in both electric and gas bills in the last 5 years. CUB is interested in learning more about how the goal for Measure 27 was developed. Are the energy savings goals set from a certain date, or are they in comparison to what they would be under a business-as-usual scenario?

Based upon CUB's ongoing economic and market analyses, residential efficiency goals should focus on electrification. CUB is supportive of energy efficiency programs and also advocates that gas efficiency be measured against the carbon emissions of installing new gas equipment, volatile prices of fossil fuels, and keeping that customer on the gas system for decades, compared to installing efficient heating and cooling systems like heat pumps. A better metric for households would be greater energy efficient electricity savings, and not a goal for gas. Any gas efficiency measure is better focused on harder to decarbonize sectors like transportation.

Modern residential gas furnaces are already at peak energy efficiency. Those customers who choose to continue to use gas and buy a new furnace will only be able to choose the most efficient system. Further, while some households are still operating with older gas furnaces, utilities and the Energy Trust of Oregon have established programs that provide assistance for gas furnaces and gas fireplaces with incentives that are, frankly, outdated. While CUB supports an energy savings goal for households using gas, CUB is curious how the 20% goal compares with what the business-as-usual scenario projects.

CUB appreciates that Measure 35 was not reduced from what was set in 2023. But generally, CUB has concerns about lumping residential and commercial together in one metric and recommends they be separated. For example, most homes have converted to energy efficient lighting, whereas based on the conversations around the development of HB 2307 (2025), we know that certain commercial sectors are not yet transitioning to more efficient lighting systems. While residential homes need to continue to electrify as Oregon transitions away from fossil fuels (particularly those who can least afford it), we would like

to see a more aggressive energy efficiency focus specific to the commercial sectors. And given the data center boom, we believe an energy efficiency measure should be set for hyperscalers like data centers. Oregon households have been becoming more energy efficient, but at the same time this has resulted in Oregonians subsidizing the energy needs of other sectors.[1] It may be wise to also set aggressive energy efficiency goals in a separate measure for the commercial sector (and for the industrial sector).

CUB worries these goals are not aggressive enough for residential customers. It's an unfortunate fact that already-unaffordable energy rates are going to increase over the next 5+ years as utilities must modernize aging infrastructure and meet growing capacity needs. We look forward to better understanding why the metrics were chosen for these measures.

Measure 41. *Weatherization in Existing Res by 2040 - Residential and Commercial: Weatherize 95% of existing residential home envelopes by 2040; retrofit 95% of existing buildings by 2040; achieve a 50% reduction in space conditioning and non-space conditioning energy use.*

While CUB appreciates that this metric has not decreased from the original Report, we wonder if it should be more aggressive and set to at least 2035 for residential customers, and whether a midpoint goal should be set. Given the inevitable rising rates and record disconnections, a more aggressive timeline for residential customers may be appropriate as energy affordability will continue to be an urgent issue, particularly for environmental justice and low-income communities.

Measure 30. *OHCS Manufactured Home Replacement Program - Residential and Commercial Replace 85-100 manufactured homes; use same assumptions from Manufactured Home Replacement Program*.

CUB is thrilled to see this proposed measure added to the TIGHGER goals. Replacing old, manufactured homes with newer ones results in significant energy savings. CUB would like to see this measure include a timeline and tiered goals, scaled up to more replacements, such as many hundreds more per year. Based upon CUB's economic analysis, we have found that manufactured home households use electric resistance heating which results in electricity bills being as high as $500 a month. This is not okay. The effects on emissions

[1] *See* Oregon Public Utility Commission, *In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Investigation into Marginal Cost Study Treatment of Costs for Large Customers and Further Modifications to Portland General Electric Company's Rule C and Rule I,* Docket No. UM 2377, CUB's Opening Testimony and Exhibits of Bob Jenks, UM 2377/CUB/100/Jenks/9 (Aug. 12, 2025), available at: https://apps.puc.state.or.us/edockets/DocketNoLayout.asp?DocketID=24470.

reductions would be high, but importantly, the energy affordability impacts would be incredibly impactful for these families.

Measure 19. *95-100% HP & WH in New Res by 2045 - Residential and Commercial: 95-100% heat pumps and electric water heaters in new residential homes by 2045.* ***Measure 28.*** *Existing Res Buildings 95% HP by 2045 Residential and Commercial 95-100% of existing residential homes retrofitted with heat pumps by 2045.* ***Measure 29.*** *Existing Res Buildings 95% HPWH by 2045 Residential and Commercial 95% heat pump water heater sales for existing residential buildings by 2045.* ***Measure 36.*** *Residential Space Heating Residential and Commercial 65% of heating system sales are heat pumps by 2030; 90% by 2040. Households currently with wood stoves: by 2050, 75% will shift to airsource heat pump (ASHP) with woodstove hybrid, 20% woodstove only, 5% heat pump only.*

CUB supports these measures as our advocacy and economic analysis has repeatedly shown that electrification is the viable and affordable energy solution to significant building emissions' reductions in Oregon. At the same time, CUB is concerned about the twenty year delay for this metric since what was set in the original TIGHGER Report. In the total TIGHER evaluation score from the 2023 Report, 100% of heat pump energy and heat pump water heaters by 2025 was the third highest overall strategy in the electrification scenario and the sixth in the hybrid scenario.[2] It is ranked sixth for cost-effectiveness and GHG reduction in the electrification scenarios, and in the top ten GHG Reduction and cost-effectiveness scenarios when you remove the renewable natural gas (RNG) and hydrogen strategies (that have yet to show they can meet the scale need for the projected GHG emission' reductions, and do so affordably).[3] While we understand incentives for energy efficient cooling and heating have dropped significantly in the past year, Oregon needs to prioritize helping households electrify with modern efficiency technology, like heat pumps, given the inevitable energy price increases on the horizon.

Similar to what was mentioned in our discussion of the energy efficiency measures, CUB encourages that this measure be modeled with the assumption of electric-only heat pumps vs gas heat pumps. Likewise, CUB encourages that this measure be modeled with the assumption of electric-only heat water heater pumps vs gas heat pump water heaters.

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[2] Oregon Department of Energy, *Transformational Integrated Greenhouse Gas Emissions Reduction Project Report*, 33-34 (March 2023), available at: https://static1.squarespace.com/static/59c554e0f09ca40655ea6eb0/t/64275c449499a72eb55aa206/1680301133140/2023-TIGHGER-Project-Report.pdf.

[3] *Id*. at 36-39.

The economic and market analyses are significant enough to warrant distinguishing the two in these analyses.

We are at a critical point where the writing is on the wall with electrification. As those who can afford to electrify will do so, more and more households who cannot afford to transition on their own will be left paying for the gas infrastructure exacerbating already inequitable energy burdens currently experienced by low-income households and environmental justice communities. The time for electrification is now. Heat pumps are incredibly energy efficient, much more so than gas. We recommend including timelines by 2030 and 2035. And that ODOE completes modeling scenarios as if the Oregon Public Utility Commission and the Energy Trust of Oregon change their fuel-switching policies to allow for incentives to allow customers to choose to electrify and move away from gas. Many advocates, including CUB are advocating for this policy change to align with Oregon's decarbonization policies.

Measure 26. *PeakSmart Program - Residential and Commercial: PeakSmart building efficiency and electrification program with accelerated heat pump deployment and weatherization first strategy.*

CUB strongly encourages homes to be retrofitted with electric heat pumps, and that retrofits include weatherization services. Low-income households who cannot afford to decarbonize are at risk of being left paying all the costs they previously shared with thousands of other customers. It could be helpful to provide a projected timeline and with goals scaled up to an ultimate end goal.

Measure 2. *Large Load Renewable Power Program: "New large loads to be supplied with 100% clean energy resources"*

Just as if not more important than this measure, CUB thinks it is really important to have a measure that sets energy efficiency and load flexibility goals for this sector. Data centers operate at peak energy 24/7. Currently, large load customers rely on firm peaking plants (i.e., natural gas), or market purchases, to meet demand needs. CUB has a few questions about the underlying assumptions and scope of this goal. Will this assumption include market purchases as an option? Is it assuming clean energy tariffs/contracts, as required under the POWER Act? Is this metric inclusive of the costs of long distance transmission to bring the 100% clean energy to the load? If the large load is served with 100% clean energy, how will the costs for fossil fuels, which our current utilities rely on, be spread to utility customers? Even if data centers and other large customers are powered using clean

energy, their demand runs the risk of drying up these limited resources. Further, it will be important to have a shared understanding of what "clean energy" means in order to be realistic about the costs and viability of our options, as well as a realistic understanding of the market viability and costs of those technologies and at what scale.

Oregon must consider the opportunities that data centers can bring when it comes to helping meet our state's emissions' reductions timelines. How can data centers manage their needs in ways that can support other customers on the grid? What are their energy efficiency opportunities? How can data centers be flexible with their load needs? In what ways can they support residential customers, including through funding energy efficiency, weatherization, and storage opportunities for households?

The reality is that Oregon's access to hydropower, generous tax incentives, and temperate climate makes our state very attractive to data center development. The energy demand from data centers is enormous and constant. In 2025, the Oregon Legislature passed the POWER Act (HB 3546), the bipartisan bill that makes it so data centers who are customers of Oregon investor-owned utilities have to pay their own way to connect to the electricity grid, protecting Oregonians from subsidizing these power hungry industries. How data centers meet their energy needs greatly impacts the potential for greenhouse gas emissions reduction. Because data centers require a large amount of energy, and risk using up limited clean energy supply in the state, their impacts must be clearly understood.

A significant roadblock to understanding data center energy demand is transparency from the industry that quantifies the energy needs of data centers in order to make informed decisions. Without this it will be incredibly difficult, if not impossible to make assumptions about how expected data center electricity demand will be met. Where are/will the data centers be located? At already constrained parts of the grid? What are the outcomes if it is expected that projected demand will need to connect to the electricity grid? What are realistic assumptions for data centers bringing their own electricity, and how much will be renewable or fossil fuel-based?

Alternative Fuels

Measure 13. *Hydrogen Fuel Adoption - Industrial: Hydrogen used for: 50% of heat in bulk chemicals by 2050; 20% of integrated steam production by 2050; 20% of construction energy use by 2050; and 20% of industrial vehicles by 2050;* ***Measure 18.*** *Low-Carbon Fuels by 2050 - Multi-Sector: Low-carbon fuels (biogas/RNG, hydrogen, ammonia, etc.) providing 20% of current direct use gaseous fuel demand by 2050;* ***Measure 37.*** *RH2*

Injection 15% by 2050 Residential and Commercial Injection of 15% renewable hydrogen into natural gas distribution system by 2050.

CUB remains concerned about investments in hydrogen fuel and renewable natural gas (RNG). Hydrogen is currently much more costly than alternatives like RNG (though as we have seen RNG poses its own threats and scale limitations) and can cause pipe leakage or even cracks without expensive investment in compression infrastructure. Demand response and other non-pipeline alternatives are healthier, safer, and cheaper overall in helping meet emissions reduction targets and these solutions should also be considered for industrial emissions-reduction mechanisms given not only their market readiness, but also their cost-effectiveness. CUB cautions putting too much weight on assumptions for strategies that have yet to be proven as viable options. CUB is concerned that setting goals for a new technology that has not scaled and is not projected to scale is overly-ambitious and could lead to millions of dollars for research and development paid by ratepayers. CUB acknowledges that some industries, like transportation, will have a harder time decarbonizing. It is likely better to distinguish these sectors in RNG and hydrogen goals because our analyses have repeatedly found that they are not cost-effective emissions-reductions strategies for households.

Other

Measure 1. *Energy Infrastructure Resilience Programs - Electricity: Expand ODOE's statewide energy infrastructure resilience programs, including the Community Renewable Energy Grant Program, to support projects that improve energy resilience. Quantify by MW installed and project out to 2050*.

CUB is interested in learning more about why ODOE is proposing this measure, especially as the first one which sends the message that this action is the utmost priority. The TIGHGER report identified the Community Renewable Energy Grant program as contributing to less than 1% of the emissions reductions needed to achieve the 2035 requirements. While CUB recognizes that resilience and distributed energy can contribute to grid reliability, we are curious to hear more about why this measure was chosen. This is not to say it should not be a strategy, but we are not certain that there have been large enough shifts that would warrant not prioritizing strategies that will have the immediate effect of not only emissions reductions and also utility bill relief for households–like home weatherization and electrification. CUB would like to see more projects like the North Cully Solar Park in Portland, but note this project had the benefit of $4 million from the Portland

Clean Energy Fund. Any implementation of Measure 1 should continue to focus on environmental justice communities in recognition of the historical harm done to these communities as a result of energy decision-making, and fossil-fuel caused climate change. Assumptions about funding sources and needs should be clearly stated to better understand this strategy.

Measure 21. *Behind-the-Meter Solar PV - Residential and Commercial: 350-400 MW of new behind-the-meter solar PV capacity by 2030;* ***Measure 38.*** *Rooftop Solar PV - Residential and Commercial 5-6 GW of rooftop solar PV by 2050;* ***Measure 40****. Solar PV Program Residential and Commercial: Increased access to solar PVs for low-income households and disadvantaged communities.*

The TIGHGER Report proposed that Rooftop Solar account for 16.3TWh by 2035 and to increase integrated solar generation on new building facades to 4 TWh by 2035. It is difficult to comment on these metrics as-is. CUB understands that funding cuts for decarbonization has significantly impacted clean energy investments. We are curious to hear more about the analysis that informed this metric. Were co-benefits of this strategy considered, like any resiliency benefits? Does this metric apply to only private ownership or are leased solar panel trends considered in the assumptions for these measures? Further, CUB would like to better understand if and how these new proposals overlap with what was recommended in the original Report. Is there overlap? Has something been removed? In recent years, there has been more and more interest in these types of technologies at the Oregon legislature–how has that been considered? It is difficult to comment on these assumptions without a better understanding of an apples to apples comparison, as best as that is possible.

Measure 25. *Embodied Carbon Program - Residential and Commercial: 10% of non-governmental single-family units reduce per-unit GHG emissions 51% by 2050; 86% of government infrastructure projects reduce per-unit GHG emissions 28% by 2040 and 70% by 2050; 86% of government buildings reduce per-unit GHG emissions 48% by 2040 and 73% by 2050; 86% of non-governmental, nonresidential and multi-family buildings reduce per-unit GHG emissions 48% by 2040 and 73% by 2050.*

CUB is curious how this measure came to be added as a recommended action. In the original report, embodied carbon materials were not included because those materials "did not reduce sector-based emissions."[4] Has something changed to pivot to this

[4] *Id*. at 12.

strategy? CUB is interested in understanding the cost-effectiveness and GHG emissions' reductions expected to be accomplished from this measure. And how would this strategy be enforced? At a minimum, the modeling should probably include scenarios that reduce more than 10% of non-government single-family units GHG emissions, and at timelines earlier than 2050.

Scenario 1. *Delayed deployment of clean energy - Electricity: Investor-owned utilities to reduce greenhouse gas emissions associated with electricity sold to Oregon consumers to 80% below baseline emissions levels by 2035 (instead of 2030) and 100% by 2040*.

CUB understands that this goal needs to be pushed out given it is our understanding that utilities are not going to meet these goals, in large part due to the explosion of data centers in Oregon. We are interested in learning more about the data that went behind setting this timeline. Further, as discussed above, what roles do hyperscalers like data centers play in this timeline?

Scenario 2. *Less data center load growth - Electricity: Model lower load growth than under the Northwest Power and Conservation Council's medium-high forecast*.

CUB appreciates this scenario. In the event that the data center bubble pops, we don't want residential customers to be paying for an overbuilt system. Modeling not only data center load growth, but also the amount of data centers and where they are/will be located is important to know (if that's not already inclusive within "less data center load growth"). It is incredibly important to have transparency into the current and projected load of data centers in order to realistically understand their impact.

Additional Measures/Scenarios to Consider

- There are viable **non-pipeline alternatives** to modernizing the gas system that are healthier, safer, and cheaper overall in helping meet emissions reduction targets. CUB would like to see a NPA measure included in the TIGHGER analysis. These solutions should be given more weight as emissions-reduction mechanisms given not only their market readiness, but also their cost-effectiveness. For example, a measure could include increases in residential electrification, or demand-response programs by natural gas IOUs as opposed to investments in speculative fuels like RNG and hydrogen to compare both cost effectiveness and emissions reduction.
- **Large load energy efficiency** (e.g., data centers). As discussed above, CUB would like to see goals set for hyperscaler energy efficiency efforts.

- **Large load flexibility** (e.g., data centers) should be modeled and better understood. CUB would like to see a measure that considers and aims for this possibility.
- **Industrial and large load industries should have ambitious and achievable energy efficiency measures**. This could include on-site energy efficiency and programs where these sectors help other sectors, particularly households, decarbonize more affordably.

Conclusion

CUB again thanks ODOE and the OGWC for the opportunity to comment on the TIGHGER 2.0 proposal. We hope our comments are useful and are happy to discuss them at your convenience. We are looking forward to staying engaged in this process.

Respectfully,

Jennifer Hill-Hart
Policy & Program Director
Oregon Citizens' Utility Board

Oregon
Tina Kotek, Governor

Oregon Climate Action Commission

OREGON DEPARTMENT OF ENERGY

550 Capitol St. NE
Salem, OR 97301
Phone: 503-378-4040
Toll Free: 1-800-221-8035
OCAC@energy.oregon.gov
climate.oregon.gov

Open for Public Comment:

Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios

Please submit comments to OCAC@energy.oregon.gov no later than 5 p.m. on March 27, 2026.

The Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) Project aims to assess Oregon's progress toward meeting the greenhouse gas emission reduction goals established in Executive Order 20-04, specifically the reduction of greenhouse gas emissions by 45 percent below 1990 levels by 2035 and 80 percent below 1990 levels by 2050.

The first iteration of the TIGHGER project, finalized in 2023 but incorporating data through 2018, found that the state had the program and policy infrastructure in place to meet its 2035 goal. In late 2025, the Oregon Department of Energy updated the forecast with data through 2023, taking into consideration the programs and policies in effect at the time of the analysis and changes to the energy landscape, for example actual and projected increases in load growth (primarily from data centers). This forecast – under the "Business-As-Planned" scenario – found that Oregon does not currently have the programs and policies in place to meet either its 2035 or 2050 goals.

This document details a draft list of gap actions or measures, as well as scenarios, that ODOE intends to quantify in its modeling as part of the TIGHGER 2.0 project. The draft gap measures identified in this document are potentially new, or enhancements of existing, programs and policies which, if implemented and funded, could lead to quantifiable greenhouse gas emissions reductions. Again, these measures are either not currently being implemented or propose greater levels of regulation, efficiency, or clean energy deployment through existing programs.

The gap measures are not intended to prescribe program design elements or an implementation pathway. For many of the measures, there could be multiple ways of achieving the quantified greenhouse gas emission reductions. For example, a grant program could incentivize the adoption of a clean energy technology, while a statutory or regulatory change could require the adoption of that technology over a prescribed period. ODOE is modeling the greenhouse gas emissions reductions that could be achieved if the measure were implemented, not suggesting how that implementation should take place.

Outlook

Proposal comment

From Ken Hill <kchill6991@gmail.com>
Date Mon 3/16/2026 8:58 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from kchill6991@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Did i miss getting dirty diesels off the road? Adopt Washington and California diesel emission standards.

Outlook

Re: ODOE Seeks Public Comments on Draft Gap Measures and Scenarios for TIGHGER 2.0 Project

From Carol Shenk <carol@dadamancer.org>
Date Mon 3/16/2026 9:25 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from carol@dadamancer.org. Learn why this is important

1) Why nothing about combined solar farms/agricultural lands, which can increase water retention, allow space for biodiversity, and improve heat-resilience (including providing shade for field workers)

2) Why nothing about incentives for utilities to shift from fossil fuels to solar?

3) For large-scale ranchers, incentives for solar farms might be an encouragement to move from grazing.

4) Don't sneak in support for data centers! Doubtless the tech companies will wind up commodifying the heat they generate and charging the public for it. They will be taking more resources than they give (or they wouldn't be doing it). Data centers are not the answer for rural communities!

Carol Shenk

Newport, Oregon

On 2026-03-16 08:15, Oregon Department of Energy wrote:

> Click here if you are having trouble viewing this message.

Outlook

ODOE comment on Draft Gap Measures and Scenerios

From Ben Pierce Mendenhall <piercebjamin@gmail.com>
Date Mon 3/16/2026 4:55 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from piercebjamin@gmail.com. Learn why this is important

It would be helpful to separate Residential and Commercial. I'm sure there are reasons it is not, and I trust that you are much more informed than I. And, it would help me, if they were separate.
Thank you
Ben Mendenhall
SE Portland

--
Communication via email is not considered highly secure.

Outlook

Climate

From CJ Williams <first123place@gmail.com>
Date Tue 3/17/2026 9:14 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from first123place@gmail.com. Learn why this is important

Shut down retail 1 day a week
Drive 1 day less a week
Lights out by 11pm
Schools go to 4 day work week to save bus fule and power by schools being closed
Stop water use for lawns and out door plants
Incentives for lowering power use
Stop use of plastic and require busines to go to alternatives
Barter tools and skills more

These are a few simple things that would help
It does not mean people would like them but they are necessary.

Outlook

Public Comment on TIGHER2 Draft

From Michael Nork <mnork@fremontmillwork.com>
Date Tue 3/17/2026 9:36 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

1 attachment (3 MB)
2026-TIGHGER2-Draft-Gap-Measures-Scenarios _ DocumentCloud.pdf;

You don't often get email from mnork@fremontmillwork.com. Learn why this is important

To whom it may concern,

I am submitting public comment as a Klamath County resident regarding the TIGHGER 2.0 draft gap measures. (Aided by AI)

At a time when Oregon is struggling to maintain core responsibilities—roads, public safety, education, and basic infrastructure—it is deeply concerning to see the state proposing a broad expansion of complex and costly programs without clear funding mechanisms or demonstrated feasibility.
The TIGHGER 2.0 proposals rely heavily on aggressive mandates, unrealistic adoption targets, and assumptions that do not reflect the realities of rural Oregon. Policies that may be workable in urban areas are being applied uniformly across a state with vastly different climates, economies, and infrastructure limitations.

Widespread electrification mandates—including near-total conversion to heat pumps, electric appliances, and electric heating systems—fail to account for performance limitations in colder, high-desert climates such as Klamath County. These measures would impose significant upfront costs on homeowners while increasing dependence on an electrical grid that is already strained and unreliable in rural regions.

Additionally, several proposals go beyond infrastructure and enter into regulating personal behavior, such as attempts to influence dietary choices and consumer decisions. These types of policies are inappropriate, difficult to enforce, and **disconnected from the role of state government**.
There is also a clear risk that many of these programs will expand bureaucracy and administrative overhead, with long-term costs that are not disclosed. The cumulative effect is a growing regulatory burden on residents, small businesses, and agricultural producers—particularly in rural communities that are least able to absorb these costs.

Specific concerns include:

- Mandating near-total conversion of residential heating systems regardless of climate suitability
- Requiring rapid electrification of appliances and equipment, eliminating consumer choice
- Imposing agricultural restrictions that increase costs and reduce productivity in an already strained sector
- Promoting emerging or unproven technologies through policy mandates rather than market viability
- Expanding programs without transparent cost estimates or funding sources

The state's own analysis acknowledges that Oregon does not currently have the programs or infrastructure in place to meet its existing goals. Expanding requirements further without first addressing these gaps is not a responsible path forward.
I strongly urge the state to reconsider these proposals and instead:

- Focus on maintaining and improving core infrastructure
- Respect regional differences across Oregon
- Avoid mandates that disproportionately impact rural communities
- Prioritize cost transparency and fiscal accountability
- Rely on voluntary, market-driven adoption rather than prescriptive regulation

Oregonians expect practical, realistic governance—not broad, unfunded expansions of policy that place additional burdens on households and local economies.

Michael Nork
820 Hillside Ave
Klamath Falls, Or
97601

Outlook

Global oil consumption and reserves.

From greekwriterbc@aol.com <greekwriterbc@aol.com>
Date Tue 3/17/2026 9:38 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from greekwriterbc@aol.com. Learn why this is important

Greetings,

It is good to see that Oregon is planning for its energy future. An informed public will, of course, be better prepared for that future. For this reason I want to supply a few statistics that I view as being critical to the well-being of our people — and that of every living being on this planet.

Prior to the current conflict that rages in the Near/Middle East, the daily consumption of petroleum was 102 million barrels per day. At that clip the World-O-Meters petroleum statistics web page reckons that in 47 years the global petroleum reserves will have been TOTALLY EXHAUSTED.

On a clear day, here in Rainier, Oregon we have a great view of Mt. Saint Helens. This geographic feature currently seems to pose no immediate danger. Howbeit, in twenty years, as the globe's oil reserves are nearly half-gone, the question must be considered: What effect does the massive depletion of a lubricant have on subsurface friction, and this on volcanic activity?

The public needs to understand that Mammoth elephants and wooly rhinos have been found six feet or more down, flesh-frozen in rock-hard tundra in northern Siberia. The evidence points to there having been a near-global catastrophe —not 11,600 years ago — but rather, approximately 5,100 years ago. I have researched this as a hobby since 1979, and have corresponded with some of the most learned men in this field as a result.

While the magnetic poles of the planet have been migrating at an increased rate of speed — and while the magnetic field is weakening at an alarming rate — our leaders and media seem to be totally unconcerned and uninformed. The South Atlantic Anomaly is increasing in size at a dangerous rate as well. Someone needs to bring this to the public's attention immediately.

If you would want to discuss this with me, please drop me a note.

Kindest regards,

David Doerr
Rainier, Oregon
503.308.2274

Outlook

Climate

From GregB <gregb2781@gmail.com>
Date Tue 3/17/2026 11:18 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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Your suggestions from farm animals to fertilizer are clearly the product of leftwing liberal idiots. Oregon would be cleaner without your agency.

Sent from my iPad

Outlook

Climate targets

From RandyBR <randybr3000@yahoo.com>
Date Tue 3/17/2026 11:28 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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You can literally throw out that entire document. Carbon dioxide is not either a pollutant or contributing to global warming. Anybody that thinks it is is a fucking moron. At this point. There is no climate crisis. We're coming out of the last interglacial. And it's going to get warmer whether we like it or not, whether humans are here or not. So throw out the entire document and just stop with the bull crap

Yahoo Mail: Search, Organize, Conquer

Outlook

Public Comment — Oregon Department of Energy Climate Gap Measures

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From Beth Cornils <bcornils@gmail.com>
Date Tue 3/17/2026 12:19 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from bcornils@gmail.com. Learn why this is important

Public Comment — Oregon Department of Energy Climate Gap Measures *Submitted by Beth Fuller, Portland, OR — lifelong Oregonian, tech worker, community gardener*

Oregon is asking how to close the climate gap. I want to be clear: if your solutions only count megawatts and emissions, you will create a human crisis while trying to solve an environmental one. These things are not separate. Here is what a whole-systems approach looks like, from someone who lives it.

🌞 Energy — Decentralize It

- Invest in rooftop solar and green roofs on downtown and commercial buildings. Australia demonstrated that aggressive solar adoption can drive energy costs to near zero for consumers. We should be doing this.
- Turn parking lots into solar canopies! We have the space and the sun
- Pilot residential small wind energy programs; several companies are currently beta testing home wind systems worth state investment. This gives us day and night power in a storm.
- Stop funneling rooftop solar energy back to PGE and Pacific Power monopolies that can't keep the grid stable in a changing climate. Distributed energy means people survive heat domes and winter outages, that also means fewer climate refugees and less houselessness. If we aren't trading off power vs food, everyone wins.
- Reducing energy bills is a housing stability intervention. Don't separate those budget lines

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🌱 Land, Food & Ecological Restoration

- Fund or incentivise pollinator pathways, espalier fruit and nut trees, and yard to city-strip gardens. Pay people to plant and tend them and split the harvest with the community. This exists and works in Detroit, LA, Brooklyn, Belgium, and France. Bonus, you have people checking in on elderly or disabled homes.
- Invest in school gardens, community gardens, and farmers markets paired with cooking classes taught by community members, Tías, Nonnas, and local chefs teaching people to cook traditional meals from food grown here.
- Adopt agroforestry, syntropic agriculture, and permaculture at scale. These systems require no synthetic fertilizers, making our food supply resilient to oil price shocks
- **Ban glyphosate (Roundup).** If we lose pollinators, we lose the food system. This is not separate from climate resilience. It IS climate resilience

- Buy vacant and abandoned lots and convert them to green space, food forests, and community gathering places.

🦊 Wildlife & Regenerative Agriculture

- Give regenerative farmers and ranchers meaningful incentives, such as discounts, grants, and technical support
- Studies from Idaho show wolves are not the driver of livestock losses they're made out to be. Stop the wolf culls. Predator ecology is climate ecology
- Prioritize animal welfare standards in any agriculture incentive program. Again, regenerative farms and ranches should be the norm!

🌎 Indigenous & BIPOC Leadership — Not Consultation, Leadership

- Hire Indigenous land stewards and managers — not as advisors to be ignored, but as decision-makers
- Fund BIPOC and Indigenous experts to train farmers, ranchers, and urban gardeners in regenerative practices
- This is not a courtesy. Indigenous land management has sustained ecosystems for millennia. We should be paying to learn from it

---

💼 Jobs — The Climate Workforce Is Right Here

- Oregon has a skilled, unemployed tech workforce right now. I am one of them. We have 75% of the skills needed for green energy, climate resilience, and environmental tech jobs. Retrain us, hire us, keep us here
- Do not outsource these jobs. People who are rooted in Oregon communities will do this work better and stay
- Create green job pipelines: urban forestry, solar installation, energy retrofits, regenerative agriculture, community resilience coordination

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🏘️ Community Resilience — The Infrastructure Between the Infrastructure

- Incentivize homeowners and renters to participate in FireWise.org programs
- Fund neighborhood and block-level emergency preparedness beyond NET, offer grants or utility discounts to streets that organize
- Make retrofitting homes for climate resilience affordable through direct incentives; right now, it's only accessible to people who have a sizeable amount of disposable income
- Invest in community-level tools and networks that help neighbors share resources, skills, and support, especially during power outages, heat domes, and flooding

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The Bottom Line

I would do this work. I would go street by street, assessing and building climate-resilient neighborhoods. So would a lot of people in this state who need jobs and want to contribute. Climate resilience is not an infrastructure project; it's a people project. Fund the people, build the community, and the planet has a fighting chance.

I'm happy to provide sources for the programs doing this work in other cities or discuss any of this further.

Beth

Outlook

Getting back on track for energy targets in Oregon

From Jeanie Taylor <jeanie@fastmail.com>
Date Tue 3/17/2026 12:21 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jeanie@fastmail.com. Learn why this is important

I would like to comment on the TIGHGER 2.0 draft Gap Measure and ScenariosTransformational Integrated Greenhouse Gas Emissions Reductions.

I'm a consumer. My rates have gone up drastically for electricity from Portland General Electric in the past year or two. Despite official suggestions that we all conserve energy, the burden falls on the average consumer, not those responsible for the increases. The Oregon Capital Chronicle mentions that:

"Electricity demand from data centers has grown so quickly it could derail the state's 2035 and 2050 climate targets, according to the Oregon Department of Energy" (https://oregoncapitalchronicle.com/2026/03/17/public-invited-to-share-input-ideas-for-getting-oregon-back-on-track-to-meet-climate-targets/?emci=be4524fe-0522-f111-9a48-000d3a14b640&emdi=faecf59c-0922-f111-9a48-000d3a14b640&ceid=572640)

According to the article. The original targets all agreed to are now out of reach 1) because of enormous and un-planned-for (but possibly not unforeseen) **data center expansion**. Oregon needs to re-think their embrace of data center-enabling breaks, the wisdom of data centers in general, based on what they generate for Oregonians, and the utilities commission needs to demand that data centers pay 100% of the costs they incur. Not allowing data centers to strong arm the state into concessions is the first step. The next step is to put limits on who has access to precious energy resources, and make sure the most productive uses and those that benefit the states residents come first.

In other words, if one of the two main drivers of energy use are data centers, then don't allow data centers to do that at the expense of the rest of us.

The second issue is that the federal government rolled back incentives for energy efficiency and alternative energy. The state needs to step up and restore as much of that capacity as possible. Efficiency and carbon-reducing EV and other technologies are the cheapest route to the goal. Solar and wind are already cheaper than fossil fuels, so you have a leg up. The incentives for electric cars enabled me to buy an EV and a charger for my home. Incentives at the individual level will add up. Don't ask us to eat seafood (often not a sustainable resource) instead of meat. Instead look at the source of the largest increases in energy use and carbon producers. Yes, curb the emmissions from large CAFO operations, assist those operations with technology, and look first to all the largest consumers of energy; but also take the burden off individuals who have little to say about their electric bill and fewer ways to save energy daily.

If you want more and better ideas, you should advertise your comment opportunity in the public circles where real innovation and technical expertise exists - institutions and businesses who know how stuff works, and give people more than two short weeks to join the conversation.

Respectfully,

Jeanie Taylor
Sheridan Oregon

Outlook

Climate Target Recommendation

From Roger Bell <rbofrbjb52@comcast.net>
Date Tue 3/17/2026 12:25 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from rbofrbjb52@comcast.net. Learn why this is important

How about deleting Kate Brown's executive order. Then look at reality when addressing all green house gas concerns. If Oregon could go zero emissions tomorrow, the net effect would be the destruction of Oregon's economy and an insignificant effect on the planet.

This sounds like the same old rhetoric that's been coming out of the legislature for decades. We had the big push for Oregonians to get healthy - ride your bike, jog, get outside, stop smoking - followed by the brilliant move to legalize recreational drugs. Then the big push to save the planet by recycling - followed by ever expanding restrictions for what can go into the Blue recycle bin (because the we don't have the technology or skill to recycle the stuff labelled as recyclable - even after manufacturers were mandated to adjust their equipment to properly designate all the different plastic items with a number inside a triangle to better facilitate recycling). Most recently we have a ban on boxes that are the outside packaging for frozen food because they contain something that isn't compatible with recycling.

This whole save the planet thing is a nice idea; so is world peace and ending world hunger. But if you don't have a plan that makes sense and has a positive impact with a feasible method of implementation, it's just political, feel good, mumbo jumbo. The same sort of garbage that the snake oil salesmen peddled in the 1800's and continue to peddle today.

Bottom line, nothing is free, everything positive has an offsetting negative cost. You can't get electricity for free, you need a steady source of "other" power to generate the electricity and we don't have it and those that are making equipment to capture that "other" power and store it for future use don't care about Oregon's economy, it's emission reduction goals or it's population. They produce equipment that doesn't have a recycle plan, isn't produced via clean environmental processes and is being made for the sole purpose of bolstering their economy.

This whole thing is an illusion - a pie in the sky, feel good in the moment, chest thumping exercise in ego stroking that will destroy Oregon's economic future and the future of the people of Oregon. You want to do something worthwhile, get the brainiacs to start thinking in a whole picture scenario. You want to lead the world in a better direction, think. As an analogy I would say, all this blustering about reducing Oregon's carbon footprint to set an example for the world to follow would be analogous to taking money from hard working Oregonians and buying a house in an abandoned neighborhood for $1,000 and putting a couple million into renovations. Then, advertising your renovated house around the world and expecting to sell it for a profit because you've shown the world how nice a house can look. All you really have is the most expensive house in a neighborhood that nobody cares about, and the people whose money you took and put into the renovation are watching their savings for their future and their children's future disappear.

That's my two cents.

Roger Bell
Salem, Oregon

Outlook

Power efficiency in data center operations

From thomas williams <cidertom@yahoo.com>
Date Tue 3/17/2026 1:04 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from cidertom@yahoo.com. Learn why this is important

Given that data centers are going to be built, making them energy neutral, or close to it is necessary for environmental reasons.

The current placement of data centers in rural areas and their construction in the horizontal plane is energy inefficient. Horizontal is chosen as it is cheaper to initially build, and frequently occupy marginally used lands. However, the rural areas lack infrastructure to support this use without massive improvements.

Data centers require massive amounts of electric power. That power is converted to heat energy that is then removed and wasted by cooling means.

While initially more expensive to build I suggest the long term savings and the resultant protection of the environment would justify the cost of the following:

Historical "steam -heating" plants were (and sometimes are still) in big cities where the density justifies the service. By building vertically future data centers in the cities and by building in heat recovery systems then piping that heat to structures that need it, the heat byproduct of the data center can then be "sold". The buildings that would have consumed energy for heating would lessen their need for traditional energy in electricity or natural gas. Thus the heat energy of the data center would be recovered to a great degree and would offset their environmental impact.

The technology exists to concentrate the heat and pipe it Much of that work has been done around geo-thermal operations. Bigger cities frequently have low usage of core properties with buildings going unused for long duration of time.

Thomas Williams
24614 Williams Rd
Monroe, OR 97456
cidertom@yahoo.com

Outlook

Climate change

From Joe Polito <joespolito@gmail.com>
Date Tue 3/17/2026 1:53 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from joespolito@gmail.com. Learn why this is important

Climate change is a hoax. Please do not waste our money and energy on something that's not real. Try to make life in Oregon more affordable before everybody moves out.

Outlook

Public comment

From Freedom Driver Education <info@freedomdrivered.com>
Date Tue 3/17/2026 2:23 PM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from info@freedomdrivered.com. Learn why this is important

Please do not make the people switch to seafood to make more energy available to big data centers. I would rather go without data centers. The burden of powering data centers should fall squarely and fully on the data centers. They should be required to power themselves. Trying to cut methane emissions from cattle to compensate for data centers is backward thinking. Govt should serve the people, not big data.

Pamela Cromwell
Freedom Driver Education
Home office: Seaside, OR
Ph/txt: 503-744-7555

Outlook

Comments on climate goals

From Andrea Santa Maria <aspyre@gmail.com>
Date Tue 3/17/2026 4:30 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from aspyre@gmail.com. Learn why this is important

Dear committee,

I am writing to advocate for critical environmental and infrastructure policies. To effectively reduce emissions and protect our natural resources, I urge you to consider the following measures:

- Environmental Protection: Ban new data centers, prohibit the federal government from clear-cutting forests, and increase investment in rewilding and carbon sink initiatives, specifically targeting the restoration of grasslands and wetlands.
- Renewable Energy & Infrastructure: Expand solar credits and invest in robust infrastructure for solar energy and electric vehicle charging stations.
- Sustainable Transportation: Prioritize investment in rail and implement traffic-calming measures to reduce car dependency within city limits.
- Urban Planning: Encourage transit and cycling by establishing car-free or car-reduced zones in high-density pedestrian areas and increasing tree-planting efforts throughout our communities.

Thank you for your time and for your commitment to these vital issues.

Sincerely,

Dr. Santa Maria

Outlook

Energy

From Alan and Anita Cohen <cohenaa@alumni.ucdavis.edu>
Date Tue 3/17/2026 6:07 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from cohenaa@alumni.ucdavis.edu. Learn why this is important

My view is that most important is to build out and optimize the grid throughout the state and to organize storage. That will be necessary whatever sources we use for energy.

Alan Cohen

Outlook

Comment on the energy department's ideas to help the state meet targets for reducing greenhouse gas emissions

From Neill Barrett <barrettneill@gmail.com>
Date Tue 3/17/2026 8:20 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from barrettneill@gmail.com. Learn why this is important

My name is Neill Barrett, and I live in Portland, Oregon.

I only recently learned about your desire for public comments on reducing the state's greenhouse emissions. I do have a suggestion, but it's not on the TIGHGER list. The last time Portland General Electric asked me if I want to move over to green energy, I said no. I told them that I would be interested only in power from what are called Thorium (or Molten Salt) Reactors. These were invented in the 1960's and they use molten salts as both the catalyst and coolant. That means they are safer than fission reactors, because if the catalyst is used up, the reaction stops. It also means that they do not require water, so you can put them out in the desert. They outperform renewable energy - 2 or 3 of them together is required to match the output of a fission reactor - and are easier to build and distribute than fission reactors. They were abandoned in the 1960's because they can't be used to make nuclear weapons. They leave behind much less radioactive waste than fission. They can use the spent fuel rods from fission reactors. Their only downside is that molten salts are corrosive, but I can link you to research that shows how to solve this.

Thank you,
Neill

Outlook

Climate Change

From Joan & Mark Davis <joanmarkdavis@yahoo.com>
Date Tue 3/17/2026 8:49 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from joanmarkdavis@yahoo.com. Learn why this is important

YOU NEED TO BUILD NUCLEAR POWER PLANTS
CALL NuScale

Outlook

Public Comment: TIGHGER 2.0 Project

From DAVID DESSERT <d-dessert@verizon.net>
Date Tue 3/17/2026 9:52 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from d-dessert@verizon.net. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Thank you for the opportunity to comment on the 48 possible public actions to reduce greenhouse gases in Oregon.

I am looking though your 48 measures and having a hard time evaluating the effectiveness of each. There is not enough data for me to state which is more effective other than to provide my “gut” feelings.

I see that you have already foreseen the data center revolution in increased energy usage. I’d like to propose some state-wide transparency legislation that might preclude some of the private deals made between local representatives and data centers out of the eyes of the local population. This might go some way in helping the locals know what is really going on and prevent some of the more egregious data center activities.

It appears that Oregon’s TIGHGER project greenhouse gas emissions focus on transportation-related greenhouse gas emissions. Could a wider view of the greenhouse emissions problem could accomplish the same task in an easier and more cost effective way? For instance, methane reductions might be more valuable from a public good perspective than carbon dioxide or carbon monoxide. Could a reduction in methane be worth some multiple of automobile emissions? Perhaps the “greatest effect” definition can be refined?

On the topic of methane emissions, the publicly available methane satellite data I’ve been able to find shows that landfills are “hotspots” for methane emissions. Fortunately landfills are localized and perhaps there are some cost effective mitigations can be implemented taking advantage of the static and localized emission source? Or could more organic waste be separated by residents before collection and be concentrated and disposed of in a different way such as industrial-level composting. I believe that much of Oregon has a motivated state population to help sort the problem at the local level. Similar collection programs that solve aspects of this are sewage treatment plants (collection and mitigation) and recycling (user collection).

Passing House Bill 4080 establishing guidelines for plug-in solar systems could democratize personal solar power generation. I’m not sure how great this is given our relatively cheap electrical power rates, but demand may be increasing substantially with data centers. People having their own easy-to-implement solar power generation could make home Electric Vehicle recharging more available.

I’d like to see apartment complexes provide solar panel covered parking spaces. This could enable more EV charging for apartment dwellers and increase EV adoption, reducing emissions.

I am a believer in citizen science and its ability to help quantify the problems we are facing. So I am looking at this <$3 methane gas detector chip that can be used for home projects (like Arduino). What if Oregon and other states were to “sponsor” or request such a sensor be added to some citizen science type collection devices. For instance, I have a Purple Air monitor system at my home to measure PM2.5 and PM10 air quality as do a great many others. People also have personal weather stations that contribute to the Weather Underground network of weather stations. Could a relatively cheap addition like this help states monitor in real time for methane in the atmosphere at ground level? Would environmentalists increase the sales for these devices? Perhaps there are other detectors that would be more useful?

Regards,

David Dessert
1560 Crest Dr
Eugene, Oregon

Outlook

(No subject)

From Sharptooth Thunderfoot <thunderfoot079@gmail.com>
Date Wed 3/18/2026 1:06 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from thunderfoot079@gmail.com. Learn why this is important

Build a nuclear power plant 0 emissions.

Outlook

TIGHGER 2.0

From David Westerdahl <dnwesterdahl@icloud.com>
Date Wed 3/18/2026 6:47 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from dnwesterdahl@icloud.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Hi, just wanted to briefly state that these are lofty goals and should be balanced with the reality of the present and challenges facing agriculture, business, and residential Oregonians financially with gas prices, and other financial constraints. Also, since Oregon makes up 1 % of the US population, even if we do everything perfectly our impact is very limited in a macroeconomic way, but could be devastating to our state economically if not carefully and thoughtfully implemented with the citizens and businesses of the state prioritized.
-David W

Outlook

meeting greenhouse gas targets

From katy mallams <july4.girl@yahoo.com>
Date Wed 3/18/2026 7:19 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from july4.girl@yahoo.com. Learn why this is important

Hello OCAC,
An article in today's Rogue Valley Times mentioned that the state is looking for public comment on ideas to meet Oregon's greenhouse gas emission targets. I am no expert, but here are my ideas:
1) allow small solar panels that can be used by apartment-dwellers such as are legal in several other states and widely used in Germany
2) keep or even expand tax incentives for commercial rooftop solar - encourage or even mandate solar on every flat large roof and for shade over parking lots
3) no more data centers. in addition to energy, they use too much water that we need for people and fish.
4)encourage more public transit. In places like the Rogue Valley, vans and small buses would be much more usable than the large urban buses. Vans and small buses can travel a wider range of roads and don't have the stigma that using the large buses has here.

Thanks for your work. I hope the effort is successful.
K. Mallams, Central Point OR

Outlook

Climate targets

From marikashimkus@gmail.com <marikashimkus@gmail.com>
Date Wed 3/18/2026 9:01 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from marikashimkus@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Hello,

My name is Marika Shimkus. I live and work in Astoria. I am just reading about the March 27th deadline for comments on climate targets. While I am very undereducated about the initiatives being presented or systemic changes available, I am in favor of anything that moves us toward our 2035 goal and beyond. I am in favor of adjusting my daily reality to support the sustainability of our planet, if not for us, for the many beings suffering our collateral harm.

I wish Astoria was more bikable. I wish we had more concrete incentives for communities to make real changes in our way of being and consuming, but meanwhile I'm in favor of any changes that move us away from continued greenhouse gas pollution at our current pace.

Thank you!
Marika
Sent from my iPhone

Outlook

Climate targets

From Shannon Franklin <shannon.franklin17@live.com>
Date Wed 3/18/2026 9:13 AM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from shannon.franklin17@live.com. Learn why this is important

I think we should just forget about the climate targets. We have no control over the climate anyway.
If EVERY country in the world all agreed to make the same sacrifices as you want Oregonians to, there may be a SLIGHT change.
However, all countries do not participate, so Oregon's efforts cannot possible help the world.

Shannon Franklin

Outlook

---

no such thing

From dingy harryreid <dingyharry1@gmail.com>
Date Wed 3/18/2026 9:15 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from dingyharry1@gmail.com. Learn why this is important

Hello- The earth puts out 100 billion metric tons of C02/year without any human activity. Source: NASA.

All human activity combined is 2.9 billion metric tons. That's 2.9% of the total. For that taxpayers have spent over $6 trillion on 'climate change'.

Oregon State University physics dept. said if Oregon ceased to exist there would be no measurable effect on the earth's climate. 0. Nada. ZIlch.

Trump has approved and construction has begun on the world's largest refinery, the 1st since the Cherry Point Refinery built in Anacortes Washington in 1973. Meanwhile Oregon's last governor decommissioned cheap abundant coal fired power plants in Boardman Oregon.

Data centers continue to be built and use more energy than ever before. Oregon rate payers have seen their electric bills go up 40% in the last 5 years.

Fleecing Oregon taxpayers with fake climate change lunacy will not make our lives more prosperous while the production of petroleum products increases significantly. Stop the folly. Human caused climate change does not exist. Wind and solar can't provide the energy needed. Nuclear is the only viable option outside of oil. Yet Oregon prohibits it.

If you can't solve the problem, get out of the way. Nothing you've done with our money has had any impact on climate while you sit and watch our forests go up in smoke every year adding tons of C02 and poisoning us every year with toxic deadly smoke.

Get out of the way. Find a way.....

Regards,

Harold Reid

Outlook

Gap Measures Feedback from Eugene resident

From Janel Erickson <janelbetherickson@gmail.com>
Date Wed 3/18/2026 9:22 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from janelbetherickson@gmail.com. Learn why this is important

Hi:

I've reviewed the list of things Oregon should do to reduce GHG emissions and meet our climate change goals.

I couldn't find one item in the list that addresses personal transportation by internal combustion engine vehicles!! Traffic in Eugene has increased exponentially in the past few years. Apartment complexes are being built on the western edge, with few schools and services nearby. Traffic infractions have increased. Pedestrian and bicyclist deaths have increased. People are spending more time commuting to work. People drive crazy long distances to drop off and pick up their kids from school. Meanwhile, funding for Safe Routes to School and active transportation (walking, biking, rolling) has been slashed due to the ODOT budget crisis.

We need to get people OUT OF THEIR CARS and into buses, carpools, onto bikes, walking, etc. This could have a huge effect on our GHG emissions AND health.

Please add a measure to your list that addresses this issue.

Thank you for listening.

Janel Erickson
Bike Lifesylist who owns a vehicle but rarely drives
Longtime Oregon Resident (1965 on, with a few gaps)
Retired RN
Eugene Oregon

Outlook

Community Solar

From Pam Serra-Wenz <pam@ecotecture.com>
Date Wed 3/18/2026 9:59 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from pam@ecotecture.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Community solar serves an entire population and provides the population whether you are rich or poor. It is one of our best investments in the future and we need to act now. Waiting for something to happen will only bring us dire results. It is imperative to move this forward and provide incentives for communities so they can move forward.

Pam Serra-Wenz

Sent from my iPad

Outlook

Your green BS

From Gerhard Watzig <gwatzig@gmail.com>
Date Wed 3/18/2026 1:40 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from gwatzig@gmail.com. Learn why this is important

You zealots are nuts. Don’t bring us back to the Stone Age.

Outlook

Public Comment: TIGHGER 2.0

From pangolina <pangolina@gmail.com>
Date Wed 3/18/2026 2:36 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from pangolina@gmail.com. Learn why this is important

What is missing from this document is any mention of increasing rail transportation in Oregon. It is the 21st century, and we still have piteously little passenger rail service to our major centers, and none at all in rural areas. We need to invest in building passenger rail throughout the state, in order to make rail travel an easy and viable option, to reduce gasoline consumption.
Regards,
Alpha Wilson
1595 Quaker St
Eugene, OR 97402

--
Alpha Wilson
pangolina@gmail.com

"Give a man a fish, and he'll eat for a day. Give a fish a man, and he'll eat for weeks!" - Takayuki Ikkaku, Arisa Hosaka and Toshihiro Kawabata

Outlook

Public commentary

From MICHAEL SASS <w8itsme@gmail.com>
Date Wed 3/18/2026 9:57 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from w8itsme@gmail.com. Learn why this is important

To whom it may concern,

I think any further climate initiatives are punitive to Oregon. Not one single measure considers continued population growth or the reductions already made. Many measures already taken are laughable as they are vastly outweighed by the damage done to get there! For instance, adding ethanol to our fuel supply. More corn must be grown, which is planted, harvested, transported and produced by using Diesel and oil! This farmland is not available for food production. Ethanol is more destructive to traditional car engines. The benefits do not outweigh the true cost!
This is just one of many examples of truly missing the forest for the trees!
Electric cars = lithium mining increases and batteries that cannot be recycled.
Windmills = dead bees and birds, oil leaks and ruining our native landscapes for minimal return on power (and again how much power was needed to produce said windmills).
Homeless populations along our rivers = human excrement, drugs, garbage, etc into our water supplies.
Mismanaged forests = increased forest fires and smoke pollution.
Too few lanes of roads, poor traffic flow, etc = increased time waiting in traffic and more exhaust.
We truly cannot legislate or tax ourselves into a better environment. More time should be spent educating people about recycling, cutting back on consumerism, participating in environmental clean up projects, and brainstorming ideas that will ACTUALLY make an impact, not just "feel good".
Regards,
Trisha Sass

Outlook

(No subject)

From Doug Drader <ddrader14@gmail.com>
Date Thu 3/19/2026 2:20 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from ddrader14@gmail.com. Learn why this is important

How about you use science to calculate Oregon carbon footprint instead of your idealogy

Outlook

The possibility of solar panels over parking lots

From Libbi Albright <libbial@gmail.com>
Date Thu 3/19/2026 5:16 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from libbial@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Just wondering if it would be helpful to have solar panels installed over parking lots, such as the large Costco parking lots. This could create energy, while protecting consumers from rain in the winter and sun in the summer. Best wishes, Libbi Albright

Outlook

COMMENT on Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0)

From Kelpie Wilson <kelpiew@gmail.com>
Date Fri 3/20/2026 7:29 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from kelpiew@gmail.com. Learn why this is important

To Whom It May Concern:

Oregon has a unique opportunity to make a global contribution to climate resilience and carbon sequestration. Given the wildfire crisis in our forests, we are removing flammable fuels from our WUI areas and mostly burning this material to ash to dispose of it. If, instead of burning this material to ash we produce biochar on site using simple and affordable methods, we can mitigate climate change in these ways:

1. Produce biochar for long-term (1000 years) soil carbon sequestration, preventing half of the carbon in the woody debris from entering the atmosphere and securing it in soil instead.
2. Adding biochar to soil holds water and nutrients in soil. This increases live fuel moisture in our forests, making them more resistant to fire. It also improves forest health. Strong healthy forests take even more carbon out of the atmosphere as they grow.
3. Making biochar on site instead of burning piles to ash saves forest soil from incineration. Healthy soil grows healthy trees.
4. Making biochar on site can employ young people looking for jobs and healthy work outdoors. These workers learn about fire and can be trained as fire fighters, increasing our capacity to handle dangerous wildfire.

Please include this report on Mobile Biochar from the US Forest Service in the record for decision makers to consider:
https://www.fs.usda.gov/rm/pubs_series/rmrs/gtr/rmrs_gtr439.pdf

Thank you for considering my comment.
Kelpie Wilson
Owner, Wilson Biochar Associates
541 218 9890

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Join the Biochar On Site network: https://biocharonsite.org/
Ms.Kelpie Wilson

Wilson Biochar Associates
Email: kelpiew@gmail.com
Mobile: 541-218-9890
Time zone: Pacific Time, USA
JOIN THE DISCUSSION: If you'd like to subscribe to the free ***Biochar in the Woods Discussion Group***, visit https://biochar.groups.io/g/Biocharinthewoods

Outlook

Comments on climate change

From Matt Straite <Matt.Straite@millersburgoregon.gov>
Date Fri 3/20/2026 11:25 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from matt.straite@millersburgoregon.gov. Learn why this is important

Any further ideas to curb climate change must not require Orgonian's to change their behavior. Requesting that beef production be limited is often perceived as the Government trying to control even more of private Orgonian's private lives.

Solutions may be needed, but they must be tools that do not require behavior modification. Government is supposed protect liberties, not remove them.

Matt Straite
Community Development Director
City of Millersburg
458-233-6306

Outlook

Green House Gas Comment

From Janet Trygstad <dancingjanet@gmail.com>
Date Fri 3/20/2026 11:46 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from dancingjanet@gmail.com. Learn why this is important

Thank you so much for this opportunity to make comments about Energy and our environment.
I propose that all the Data centers be required to install Solar panels on top of their buildings. It would be a simple solution to mitigating some of their enormous power usage. When I see the pictures of the existing ones in The Oregonian I am astounded that they do not already have solar panels installed and in use! I have them on my modest home and it really helps.
Could you please put this comment in and see if it can get to people who could make the new Data centers use Solar panels on top? It seems like a very reasonable and easy solution to help our planet.
Thank you so much!
Janet Trygstad
Voter

Outlook

TIGHGER 2.0 Projet Draft Gap Measures and Scenarios Comments

From maryc at canby.com <maryc@canby.com>
Date Fri 3/20/2026 2:14 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>
Cc Rep Lewis <Rep.RickLewis@oregonlegislature.gov>

You don't often get email from maryc@canby.com. Learn why this is important

There is a lot I could comment on. First and foremost is the insane belief Oregon will save the planet by harming it's citizens, I have listed just a few more of my concerns:

Continuing to allow data centers without requiring they provide their own energy;

The unwillingness to consider nuclear energy while not accurately assessing the environmental harms with solar and wind materials and lifespan;

Pretending that electricity is the only "good" source of energy even while electric companies purchase natural gas for their use;

Reducing protein, the most necessary food for our children's development, from our diets, I assume by making it unaffordable for all but the wealthy, thereby furthering class divisions. How dare you think you should be able to dictate our food choices?

This is just the short list. I could go on but I believe you already know that this has nothing to do with "saving" the planet and everything to do with control. Once everyone relies on electricity for everything they do - cook, heat, drive - there will be no self reliance, no way to protect yourself when the inevitable brown and black outs happen...unless, of course, you are wealthy. Doesn't sound very equitable to me.

Thank God I am able to leave this state. It's hell living under a succession of idiots for the last nearly 40 years of my 60 years in this state. Is it a coincidence that the first rollout for mail in ballots was implemented in 1987, nearly 40 years ago?

Mary Lambert
11280 S Riggs Damm Road
Canby, OR - for a few more months
503-263-6178

Outlook

Klamath project

From neil larkins <neiljenifer@yahoo.com>
Date Fri 3/20/2026 5:40 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from neiljenifer@yahoo.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I am concerned about the elk and wild horses as their migration patterns would be blown up... this project of 8600 acres is way too big for our small area no on this development!!!
Sent from my iPhone

Outlook

Taxation of Data Centers in Oregon

From Marilyn Harbur <marilynharbur@msn.com>
Date Fri 3/20/2026 6:24 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from marilynharbur@msn.com. Learn why this is important

When the first data centers were being built in Oregon by companies such as Facebook and Amazon, they persuaded the legislature to remove them from the centrally assessed tax roll. It is now even more apparent that they should not be getting this tax break. Repeal ORS 308.516(3)(a)(b)(E)(F)(4).

Marilyn J. Harbur
Ret. Attorney
Salem, Oregon
503-580-8796

Outlook

THERE IS NO CLIMATE CRISIS!!!

From kemosaby@mind.net <kemosaby@mind.net>
Date Sun 3/22/2026 7:16 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from kemosaby@mind.net. Learn why this is important

You woefully duped do-gooders appear hell-bent to bankrupt Oregon by diverting billions of dollars chasing mythical non-problems. Your corrupt non-science nonsense threatens the lives and well being of every single Oregonian by not addressing real challenges – education, homelessness, drug use, failing infrastructure etc. Probably the worst is your policies will continue to drive viable, tax-paying business out of Oregon as is already happening and ensuring no rational business will ever home base in Oregon again. You are pushing a very damaging agenda based on junk science being promoted by psychopaths whose goal is to control every last aspect of our lives.

Look – If you genuinely care about Oregon and want what is best for Oregon, you will send some of your people down to Medford next weekend to seize a rare opportunity to meet and listen to Gregory Wrightstone of the https://co2coalition.org/ He will be speaking at Rogue X in Medford on Friday, March 27 from 5:00 pm – 7:00 pm. He will also be a featured speaker at the Patriots Conference at the Josephine County Fairgrounds on March 28.

There are three key, critical questions that need to be answered regarding climate "emergency": 1) Do we in fact have a climate EMERGENCY? 2) Is mankind-generated CO2 causing this emergency? And 3) Is there anything we can do about it?

So first of all we have had many ice ages on this planet as well as palm trees growing in the arctic circle. Climate never ceases changing. The primary driver of climate remains the sun with its solar cycles, with secondary influences such as earth's varying elliptical orbit/tilt, volcanos, ocean currents etc.. For what objective climatologists say, look at brief-clintel-aan-vn-baas-guterres where 500 climate scientists declare to the United Nations there is no climate crisis and no need for drastic climate action.

Second, CO2 is not a pollutant, it is an essential plant food and has been many times much higher in earth's history (6,000-8,000 parts per million compared to the current mere 420 ppm). CO2 amounts to 3% of the greenhouse effect. Human contribution to CO2 is 2% of that 3%, making human contribution to the greenhouse effect .06%' https://edberry.com/blog/climate/climate-physics/a-simple-explanation-of-the-new-climate-science/ CO2 as a primary or a significant agent of climate change is a false, unscientific premise that has no basis in fact.

Third, with China and India building a coal plant every month, can anything Oregon do make any difference? What would SB1530 have accomplished? By 2050 it would lower Global Warming by .0004 degrees Fahrenheit – This "benefit" is UNMEASURABLE!!! https://inconvenientfacts.xyz/blog/f/oregon-

climate-action-plan-%E2%80%93-economic-pain-for-zero-benefits Furthermore, rich and technologically advanced Germany is more than a decade ahead of Oregon regarding renewables and it has failed miserably https://www.forbes.com/sites/michaelshellenberger/2019/05/06/the-reason-renewables-cant-power-modern-civilization-is-because-they-were-never-meant-to/#d714a0cea2b9

You have to ask, how did such an absurd, unscientific delusion of CO2 causing a climate "emergency" arise to the point of thousands marching in the streets across the globe and an Oregon government getting set to "transform Oregon's economy forever?" There is a convoluted history of international think tanks such as The Club of Rome along with billionaire tycoons Soros, Bloomberg, and Gates etc. being involved, and millions in government "scientific" grants directed with pre-determined conclusions https://www.globalresearch.ca/climate-money-trail/5690209

A few quotes from the psychopaths pushing this dangerous nonsense:

> In searching for a new enemy to unite us, we came up with the idea that pollution, the threat of global warming, water shortages, famine and the like would fit the bill."- Club of Rome, The First Global Revolution.

> "We need to get some broad based support, to capture the public's imagination... So we have to offer up scary scenarios, make simplified, dramatic statements and make little mention of any doubts... Each of us has to decide what the right balance is between being effective and being honest." - - Stephen Schneider, Stanford Professor of Climatology, lead author of many IPCC reports

> "Unless we announce disasters no one will listen." - - Sir John Houghton, first chairman of IPCC

> "It doesn't matter what is true, it only matters what people believe is true." - - Paul Watson, co-founder of Greenpeace

> "We've got to ride this global warming issue. Even if the theory of global warming is wrong, we will be doing the right thing in terms of economic and environmental policy." Timothy Wirth, President of the UN Foundation

> "No matter if the science of global warming is all phony, climate change provides the greatest opportunity to bring about justice and equality in the world."-Christine Stewart, fmr Canadian Minister of the Environment

If you successfully accomplish your agenda, and you are wrong, it will wreak catastrophic damage to

Oregon that will last for generations. Both sides of this issue predict catastrophe – does not such a looming catastrophe behoove you to PROVE!!! you are right before, one way or the other, you send Oregon on a disastrous course?

Tom Clunie .
1639 Jackson Road
Ashland Oregon 97520
541-482-9999

Outlook

comments on the Gap Measures

From TGF <pearlsperson@gmail.com>
Date Sun 3/22/2026 2:41 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from pearlsperson@gmail.com. Learn why this is important

"Large Load renewable power program"
ME: Rather than allow data centers to take so much of our energy, let's reduce the number of data centers allowed or ban them.

"Nitrogen fertilizer practices program"
ME: Replace synthetic nitrogen fertilizers with organic amendments, plant cover crops that fix nitrogen, This really shouldn't take until 2050 to do this.

"Farm irrigation practices"
ME: Cover the big canals with solar panels to generate power and to reduce evaporation.

"Farming practices Program"
ME: provide better funding to the Extension services, they directly interact with small farmers. Educate the big farms, don't allow corporate ownership of farms and don't allow foreign ownership of farms, these groups make it difficult to change anything.

"Methane Emissions"
ME: you only mention livestock, it's the landfills that are a huge contributor of methane gas. Most are private companies who ignore regulations, start getting serious about regulating landfills and garbage haulers.

"Hydrogen Fuel adoption"
ME: Please no hydrogen, this is an enormous accident waiting to happen.

"Industrial Decarbonization and Innovation Partnership program..use waste heat from data centers"
ME: This is a corporate/data center idea (greenwashing), just reduce data centers in Oregon and support farm lands instead. Data centers use too much water. E Oregon has so little water now, and you're asking the farmer's to change irrigation practices to save water, yet allowing data centers to take all the water, pristine land disappears under concrete and they use too much energy.

"BioMass burning"
ME: The environment suffers when you remove wood/slash from forests, you know, the ecosystem, the lungs of the earth. The Eugene biomass burners need a special permit to let tons, TONS of carbon dioxide into the air. Work with ODEQ, solve the carbon dioxide problem, don't add to it. The right hand doesn't know what the left hand is doing. If you want to reduce greenhouse gas emissions, DON"T allow BioMass burning. It's just greenwashing profits.

"Behind the meter solar pv"
ME: Not sure what this means, but solar plug-in is a great thing for citizens, oops the Oregon legislature let it die in committee. Lobby the legislature for good green energy practices, as it is, the electric companies and data centers are the only ones pressuring the legislature.

No mention of geothermal, Oregon is sitting on a volcano, nor any mention of wave energy generation. Get these on the menu.

"Rail Fuel"
What about better tracks and more of them to reduce the use of the car. It's working in Europe.

Start talking to other Oregon departments, let's get some synergism going. There are very smart people in civil service, use them. OSU has some great scientists.

I was struck by your introduction: "ODOE is modeling the greenhouse gas emissions reductions that could be achieved if the measure were implemented, not suggesting how that implementation should take place."
ME: Makes it sound like this was all "busy work". Without an implementation strategy in hand, or at least the framework of one, it will be years before anything is done and you'll find yourself in the same position of "things have changed so much we need a new plan". File that under "job security".

Use some ODOT's money (you know the billions to build the Columbia bridge replacement) to accomplish your goals. I'm sure this is against the rules, but one can hope your ideas will become a reality.

Sue Mandeville
Springfield, OR

Outlook

Comments on TIGHGER 2.0

From Juliette Dunn <realjuliettedunn@gmail.com>
Date Mon 3/23/2026 9:11 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from realjuliettedunn@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I strongly support the Uptake of Plant-Rich Diets Program. Animal farming is devastating the environment, particularly the dairy farming poisoning Oregon's waterways. Animal farming accounts for more greenhouse gas emissions than all of the transportation industry. Reducing methane is also something that has a very fast impact. Promoting primarily plant-based diets will quickly get us back on track for our climate goals while simultaneously working to protect our water ways and stop deadly algae blooms. Please strongly consider this program.

For similar reasons, I support the Methane Emissions Program and Nitrogen Fertilizer Practices program to reduce nitrate poisoning and methane emissions from animal agriculture.

The climate impacts of animal farming have been ignored for too long. Regenerative animal agriculture has been found to not be a scalable, sustainable solution. Considering the scale of factory dairy farming in Oregon, meeting our climate goals will require us to take bold action to rein it in.

A strict limit on the size of animal farms must be put into place. Plant-based diets can be promoted by making them the default option, with meat available upon request. This is an evidence-backed way to get people to choose it. The state can aid farmers in transitioning away from animal farming and into plant and mushroom-based agriculture. This protects their livelihood and gives new economic growth opportunities.

Thank you.

Information:

Juliette Dunn
1505 SW 14th Ave
Apt 4
Portland OR
97201
5039012962

Outlook

TIGHGER 2.0 Project Draft Gap Measures and Scenarios comment

From Drew Simrin <marioman3@gmail.com>
Date Mon 3/23/2026 8:40 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

1 attachment (299 KB)
Climate Resilience - 2025 - Mackey - Burning Forest Biomass Is Not an Effective Climate Mitigation Response and Conflicts.pdf;

My name is Andrew Simrin, I'm a lifelong Oregonian from Eugene.

We need strategies for reducing greenhouse gas emissions from the logging and wood products industry in Oregon (the state's largest source of greenhouse gas emissions).

Oregon's Natural Climate Solutions bill and Natural and Working Lands Fund were both important forest steps for supporting better practices on private lands. The state should invest more in this program. On federal lands (approximately 50% of Oregon's land is managed by the federal government), the ODOE should recommend strong support for current conservation measures, including the Northwest Forest Plan, the Roadless Rule, and protections for mature and old-growth forests on Western Bureau of Land Management Lands. The Trump administration's efforts to privatize public lands and liquidate Oregon natural resources is not in line with the values of Oregonians, and it does not serve to best reduce greenhouse gas emissions.

We know that primary, old growth and mature forests have a much higher actual carbon sequestration and potential sequestration due to the biomass that exists in the soil in primary forests when compared to secondary forests. [1]

We must protect, preserve, enhance, and expand our old growth and mature forests to reduce our direct greenhouse gas emissions from logging operations, as well as sequestering existing atmospheric carbon into our old growth and mature forests.

Emissions from widespread deforestation and degradation also play an important role in the climate crisis. Annual land-use change and forestry emissions (currently around 1.1 ± 0.7 GtC (Friedlingstein et al. 2024) have contributed 31.7% to the accumulated atmospheric CO2 concentration (IPCC 2023).

Biomass based fuel from forests is not a climate solution because of the intense logging operations involved and has wide ranging biodiversity and human environmental impacts. [2]

We need at the Oregon state level:

- Quantitative statewide targets and conservation plans;
- Establishment and investment in conservation funds;
- Tax incentives for additional conservation measures;

- Tax incentives and grants for natural carbon sequestration (including incentives for longer logging rotations for private forest owners);
- Establishing new state parks and conservation lands; and
- Investment in wildlife corridors and habitat connectivity.

Thank you for the opportunity to provide comments

Citations:

[1] Didac Pascual et al., Higher carbon storage in primary than secondary boreal forests in Sweden.Science391,1256-1261(2026).DOI:10.1126/science.adz8554

Attached:
[2] Mackey, B.G., Lindenmayer, D.B., Keith, H. and de Bie, J. (2025), Burning Forest Biomass Is Not an Effective Climate Mitigation Response and Conflicts With Biodiversity Adaptation. Climate Resil Sustain., 4: e70015. https://doi.org/10.1002/cli2.70015

Outlook

Comments

From sjandjfk@proton.me <sjandjfk@proton.me>
Date Tue 3/24/2026 8:30 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from sjandjfk@proton.me. Learn why this is important

Regarding the list of 48 items that Oregon can do to improve our greenhouse gas emissions:

This is all very bureaucratic-centric. It's not conceived for the citizen to work on, so I presume this is an internal memo.

From an Oregon citizen point of view, #1 do you listen to the Volts podcast by Dave Roberts? Can the state welcome some of those innovators here in some way?
#2, I would love to go solar with a battery and an electric bike/auto, but can't afford to, plus I can't safely bike out of my neighborhood. Let's defy the federal government and import cheap Chinese made solar products and let's maximize building safe bike lanes.
#3, thank you for suggesting reduced consumption of animal products. You can appease our local beef producers by starting a "buy Oregon foods" campaign.

Stacey Krish, West Linn

Sent from Proton Mail for iOS.

Outlook

Cows!

From Sarah McMahan <sarahmcmahan.132@gmail.com>
Date Tue 3/24/2026 8:48 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from sarahmcmahan.132@gmail.com. Learn why this is important

Get rid of them!!! Just think how much healthier we'd be, too ❗ ❗ ❗

Outlook

48 Gap Measure Comments

From Michael Nyberg <michaelnyberg60@gmail.com>
Date Tue 3/24/2026 9:22 AM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from michaelnyberg60@gmail.com. Learn why this is important

I read an article produced by OPB related to your 48 Gap measures proposed to help the state reach its carbon goals. Well, I don't don't know enough about those carbon goals and how realistic they are. I find your recommendation related to Our food supply, a little unrealistic and vague.

The article states the following.
"a suggestion to reduce pork and meat consumption by 50% by 2050 with a shift toward seafood consumption, as well as a cut to poultry and egg consumption by 30%"

I personally do not eat a lot of seafood due to the fact that I am located so far from the ocean and read so many warnings about things like mercury levels in fish.

Suggesting seafood would be a replacement for pork and meat would require considerable transportation as seafood comes from only one place. The sea. And in my case, that's over three hours away. Even worse for people living further east.

On the other hand, beef and eggs and pork can be sourced locally requiring much less in the way of transportation.

In addition, relying on seafood also relies on mother nature as our source. Many times I have seen a season cut, or totally canceled due to inadequate populations of a species. And we all know the dangers of mass netting of fish and the damage it does to the species not being targeted.

You could argue that fish can be farm raised, but we have all seen the comparison of quality between farm raised and natural fish. Farm raises fish can also produce a number of health hazards.

Lastly, you do not offer alternatives to beef, pork and eggs. Just that we "shift". I get the impression that you think everyone should eat locally sourced plant based food, but they are not enough neighborhood farms to supply our food needs. If we rely on large industrial farms, we are back to using big tractors, big combines, and lots of fuel to transport them to market.

It's like the governor wanting to push everyone to electric cars. It might work for people who lives in neighborhoods in the valley and never travel more than 15 miles. But when towns are further apart, and cargo needs to be hauled, electric just does not work. Try to haul horses 50 miles away on electric. It just does not work.

Thanks for listening, and considering the needs of rural Oregon.

Michael Nyberg
17837 Chaparral
Powell Butte OR 97753
541.480.2323

Outlook

ODE

From Jim Tropfenbaum <jtropfenbaum@gmail.com>
Date Wed 3/25/2026 6:43 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jtropfenbaum@gmail.com. Learn why this is important

The ODE should leave business and people alone ! Have policies that help not hinder our economy !!

Outlook

Carbon emissions

From John Stangel <jcstangel@gmail.com>
Date Wed 3/25/2026 6:51 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from jcstangel@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Your goals aren't realistic. It's not that setting goals is a bad thing but the costs of poor governance of tax payers money is and will affect these goals until something is done to improve efficiency.
The economy of Oregon is the first step in reaching any of the goals and the DOE of Oregon needs to emphasize the importance of having the funds available. The report can only achieve goals based on the states economic viability and that isn't being considered in the goal setting. It is based on the assumption that the economy is strong enough to support it, which it isn't.
Sent from my iPhone

Outlook

Comment

From Amy Karmazon Porter <akarmazon@hotmail.com>
Date Wed 3/25/2026 10:50 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from akarmazon@hotmail.com. Learn why this is important

PEER-REVIEWED STUDY IN NATURE: ANTARCTIC ICE CORES SHOW CO2 LEVELS BROADLY STABLE FOR THREE MILLION YEARS A study just published in *Nature* — one of the most prestigious peer-reviewed

M.A. Rothman (@MichaelARothman) 19 likes · 1 replies
x.com

I recommend you rescind Kate Brown's executive order.

Amy Porter
West Linn, OR Resident
akarmazon@hotmail.com

Outlook

2035 carbon reduction goals

From Christina Davis <cdbiolume@icloud.com>
Date Wed 3/25/2026 11:55 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from cdbiolume@icloud.com. Learn why this is important

One of our best leverage points for quick carbon reduction is to provide incentives/education to farmers in Oregon to help them transition to regenerative farming. These practices quickly and efficiently draw down carbon, help to retain top soil, improve soil health, increase crop nutrition, reduce water use and runoff, reduce expensive and potentially harmful inputs and have been shown to greatly increase crop outputs. This practice is beneficial to farmers and the environment.

At this time many agricultural incentives are out of alignment with encouraging these practices.

New Mexico is one state that has passed legislation to implement a program to help farmers make this transition. Below is a link to the organization that helped make this happen. There is a lot of useful information on their website. I hope we can implement something similar in Oregon.

https://www.nmhealthysoil.org/about-2/#:~:text=The%20NM%20Healthy%20Soil%20Working%20Group%20continues,program%20and%20increasing%20access%20for%20underserved%20communities.

Best~Christina Davis

Outlook

Climate Target Ideas

From Ray Lambert <Raymond.Lambert@pgn.com>
Date Wed 3/25/2026 5:02 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from raymond.lambert@pgn.com. Learn why this is important

To my Oregon Energy Department employees,

Sorry to say that I really dislike all of these recent ideas that would force changes on Oregonians to meet climate change goals. These ideas are extreme and there is no guarantee that they would have a meaningful affect on the earth's climate. They are mostly just wishful thinking and feel good ideas. And I suspect many of them are secretly intended to help a chosen few get rich on new industries they would result, much like we've seen with past green energy boondoggles that have failed and cost taxpayers dearly.

My opinion is that population growth is the real problem. The state should focus on not allowing illegal immigrants to reside in Oregon. They increase the carbon footprint of Oregon.

Also, eliminate welfare programs such as Oregon Trail Card, SNAP, never ending unemployment benefits, etc. that encourage the recipients to have more children to get more benefits.

Measures such as these would have real impacts to meet your climate targets while not creating unnecessary hardships on those of us who are productive citizens of Oregon.

Please look into this and report back to me when you have a preliminary plan. We can meet over lunch and finalize it. Feel free to include the governor if she is interested.

Thanks,
Ray Lambert
Taxpayer and Your Boss
Canby

Outlook

Comments re Transformational Integrated Greenhouse Gas Emissions Reductions

From Kim Davis <kimmardav@gmail.com>
Date Wed 3/25/2026 5:49 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from kimmardav@gmail.com. Learn why this is important

Thank you for working to develop plans to get OR on track to achieve meaningful climate targets. We have no time to lose, if it is not in fact too late.

My brief target related comments are as follows:

Yes to improved testing for nitrates in the soil and quicker remediation response times. Our water is too precious to risk further insult and injury. Our natural waterways govern climate, let's ensure the greatest health of our waters as possible!

Yes do replace nitrogen fertilizer. The direct and indirect impacts of these fertilizers are well known

Yes its past time for wasteful irrigation systems to be replaced statewide. This will reduce electricity demand and wasted water.

Yes reduce beef production and consumption. The science is clear. Animal agriculture contributes significant ghg emissions. Meat eating practices are costing us all dearly. Enough is enough. Humans really are adaptable, if given half a chance.

Yes reduce food waste at the source and increase the availability of compost alternatives to all households. There is no reason for the excess waste now.

Yes reduce methane emissions. They will kill us all if we don't.

Beware of jumping on the hydrogen bandwagon. There is conflicting science regarding its true value to reduce ghg emissions and may warrant further unbiased scientific study.

Yes of course. But why not reduce hydroflourocarbon 100% rather than 85%??? This should have been phased out long ago.

and re low carbon fuels: BEWARE of biomass malpractice and industry claims. There is evidence throughout our nation of valued and valuable healthy and mature trees being thrown into the mix for biomass production. If there is any goal of increased utilization, please ensure there is an equally clear goal of monitoring and enforcement to reduce the very real risks to our forests.

Our healthy forests do more than any other element to reduce the impacts of ghg emissions. Adding goals to protect mature and old growth trees statewide would benefit us all.

Thank you for accepting public comments and considering mine carefully,
K Davis

Outlook

Concerns Regarding Proposed Dietary Recommendations in State Energy Plan

From Krista Harris <krista.harris9@gmail.com>
Date Thu 3/26/2026 8:38 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from krista.harris9@gmail.com. Learn why this is important

Good afternoon,

Just a quick note to express concern regarding the proposal suggesting that residents reduce beef and pork consumption by 50% by 2050, along with reductions in poultry and egg consumption.

I support Oregon's efforts to address climate change , however recommendations that directly target personal dietary choices raise several important considerations.

First, dietary decisions are deeply personal and influenced by culture, health needs, regional agriculture, and economic realities. This broad recommendation may not adequately account for the diversity of Oregon’s population, or consider rural communities and those whose livelihoods depend on livestock and poultry production.

Second, Oregon's ranchers and farmers are already working toward more sustainable practices. Let's find a way to support those efforts instead of singling out specific foods for reduction.

Third, animal-based foods provide protein and other essential nutrients. Let's not unintentionally create confusion or negatively impact dietary health.

In addition I would ask :

- Is there data or modeling supporting the 50% reduction target?
- Is this intended as a mandate, guideline, or aspirational goal?

Finally, and most importantly, **people do not like prescriptive lifestyle changes, especially from the government.**

Thank you for your time and for your work, and thank you for the opportunity to share my thoughts.

Krista Harris,

1003 Beswick Way, Ashland, OR

Outlook

Reducing Greenhouse Gas Emissions

From Kristin D. Lazar <kdenmarklazar@gmail.com>
Date Thu 3/26/2026 9:47 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>
Cc Rep Fahey <rep.juliefahey@oregonlegislature.gov>

You don't often get email from kdenmarklazar@gmail.com. Learn why this is important

Hello,

I am submitting public comments on additional methods to meet the State's goal of reducing greenhouse gas emissions by certain target dates. I do not have professional background on this topic. Professionally, I am an attorney. I primarily write this email as a parent and the spouse of a teacher and coach.

One issue I believe is very solvable and impacts greenhouse gas emissions is sports schedules for schools. There are two main issues:

- High school sports schedules have students traveling very far distances on a regular basis. We are in the 4J school district and they are changing their conference for this upcoming school year. If you use a simple internet calculator for greenhouse gas emissions based on only one school bus traveling for a game, the greenhouse gas emissions of travel for sports is astounding. I think this is an "easy" fix that the State could mandate reduced travel times on conference games for all sports. Note that parents often travel for sports game as well, so there are emissions from parents and fans traveling (not just the student athletes). Students miss excessive amounts of school for this travel (sometimes leaving before lunch and getting back at midnight). Additionally, we overlook safety issues with travel by bus and car. There have been fatal crashes involving buses within the State. There are multiple reasons why supporting a changed sports schedule should occur and greenhouse gas emissions is just one.
- I also think we need to look at middle school sports across the state. In our district, there are very few middle school sports offered. I believe the State should mandate a certain number of middle school sports be provided and likely it would need to include additional funding for that mandate. Without middle school sports as an option, it forces strong student athletes into Club sports. This is a huge socioeconomic issue. Even if scholarships are offered, Club is not truly available to students from lower socioeconomic brackets most often due to the challenging travel schedule. This is also a huge greenhouse gas emissions issue. Club sports require a significant amount of travel and that travel is almost occuring by each player being driven by their parents. Because our school sports infrastructure is so weak, student athletes don't have any other "real" choices. My family is in this position and we really do not want to be forced into club sports. But local rec leagues are not competitive enough and it's too much to "bridge" the gap to high school. So, we drive around the State (and eventually beyond) all because what I consider as an "essential" service is not offered.

I think these suggestions would make life a lot better - and simpler - for many Oregon families. It would also have a significant effect reducing our collective greenhouse gas emissions. Thanks for your consideration.

Best,

Kristin Denmark Lazar
541-870-9367

Outlook

Climate change policies

From margaret thiercof <mthiercof@yahoo.com>
Date Thu 3/26/2026 12:38 PM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from mthiercof@yahoo.com. Learn why this is important

The changes suggested in the latest proposal from the Oregon Department of Energy are beyond ridiculous! Your information which is guiding this nonsense is very outdated. The actual impact on the climate from humans is far lower than previously believed.

Our planet is continually evolving from the time of its first existence. Did man play a role causing the Ice Age? Did man have a role in the extinction of the dinosaurs? Does man play a role in the warming of our planet? The answers to all these questions is NO!

The rules you are seeking to burden the people with are not going to make any real difference in an ongoing process caused by nature itself. To assume humans have the ability to control this process is arrogant and ignorant. Those who suggest such changes show their lack of education and scientific knowledge. Yet you are willing to deny the citizens of Oregon healthy foods produced by one of the best agricultural areas in the nation. How are the people supposed to get healthy, locally grown sources of protein if you declare beef and pork "bad" for the climate along with poultry and eggs?

Climate change has become a social cause, some compare to a religion. Often the biggest supporters of these restrictive measures are profiting from the changes that will come because of it. Solar panels cost money as do heat pumps and their reliability is not good. You are going to ask the citizens of Oregon to make drastic changes to every area of their lives with little proof it will all actually make a difference.

You have no right to do any of this unless you are willing to spend the money, do an in depth analysis of climate change and prove that without these changes, man is going to destroy the planet.

Margaret Thiercof

Outlook

TIGHGER 2.0 project draft comments

From Melanie <melanie.community@pm.me>
Date Fri 3/27/2026 4:43 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from melanie.community@pm.me. Learn why this is important

Dear OCAC,

The following comments are regarding the TIGHGER 2.0 project draft.

Carbon capture
Forests act as carbon sinks. Old growth and mature forests should be preserved. Restorative logging practices can improve poorly managed timberland. New technologies to remove carbon dioxide from seawater should be implemented.

Data centers
Data centers should be well regulated at the state level. Residential electricity customers should be protected from rate increases and blackouts. Water use should be regulated and wastewater remediated. Wastewater nitrates and thermal energy could be recaptured. Large commercial users should invest in public water and power infrastructure.

Food and agriculture
Regenerative organic farming reduces the use of synthetic fertilizer. Community composting reduces methane emissions. Both practices create healthier, more resilient local food systems. The sustainability of seafood and fishing practices should be evaluated on a case-by-case basis.

Fossil fuels
It is important to reduce use of fossil fuels. Construction of new fossil fuel infrastructure (including pipelines, gas plants, and terminals) should be discouraged. The Critical Energy Infrastructure Hub in Portland should be hardened to prevent social and environmental disasters.

Hydrofluorocarbons
It is important to phase down hydrofluorocarbons because of their disproportionate greenhouse effects. Increasing needs for cooling demand alternative technologies.

Infrastructure
It is important to encourage adaptive reuse of buildings and other infrastructure rather than demolition. This reduces climate impacts from producing, transporting, and disposing of construction materials. Transportation emissions are reduced by the use of trains, buses, and non-motorized transport. Railways, paths, and trails are great investments.

Power generation

Climate, environmental, social, and financial impacts of electrical power generation technologies should be assessed. Technologies to invest in include wind, solar, geothermal, and landfill methane capture. Removal of outdated dams improves waterways, fostering climate resilience.

Power transmission
Underwater power transmission lines should not be permitted. They can damage river ecology and cause water heating. Instead, solar and geothermal power can be transmitted from Eastern to Western Oregon via buried cables. Developing this transmission system will create jobs and infrastructure.

Thank you for your consideration.

Sincerely,

Melanie Throckmorton
Gladstone, OR

Outlook

Hydroelectric

From static-ocelots-3@icloud.com <static-ocelots-3@icloud.com>
Date Fri 3/27/2026 5:03 PM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

[You don't often get email from static-ocelots-3@icloud.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I'm writing to comment on entry production in Oregon. The hydroelectric has provided clean energy for many decades at low cost to the consumers and the environment.

Wind energy is extremely costly in set up, maintenance, and disposal. There are great disadvantages to the wild life and the bird strikes are monumental.

Solar panels are not healthy for the environment with heavy metals leeching into the soil ruining agricultural farmland with heavy metal poisoning. Furthermore, the heavy metals needed to be mined from the earth, and are not renewable. The cost of building and disposing solar panels and their relatively short lives of service make them a short sighted investment, especially in Oregon where sunshine is often limited.

Nuclear is costly to implement and I do not want to see disasters to our lovely state with dealing with the waste.

Please strongly consider keeping hydroelectric power as it is lower in cost to the environment, climate, waste products, and cheaper for the consumers.

4th generation Oregonian

Outlook

climate goals

From staluda1@charter.net <staluda1@charter.net>
Date Sat 3/28/2026 7:32 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from staluda1@charter.net. Learn why this is important

I wholeheartedly support Oregon's efforts to achieve these energy goals, and I'm grateful you're pursuing it.

Thank you,

Sally Melton
Medford resident

Outlook

TIGHGER 2.0 Project

From William McClendon <wilmacimages@gmail.com>
Date Tue 3/31/2026 3:08 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from wilmacimages@gmail.com. Learn why this is important

Transformational Integrated Greenhouse Gas Emissions Reductions (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

Are there additional measures/ scenarios that ODOE, and Oregon Climate Action Commission should consider modeling?
Absolutely, and they can be incorporated immediately to start to see improvements toward the 2035 and 2050 goals.

The increase in greenhouse gas emissions from the increase in forest fires is well documented. A partial list follows this letter.

The increase in forest fires can be avoided with proper, science-backed and historically proven methods of forest conservation.

You need to contact and work closely with www.ForestBridges.org . Their team of professionals and scientists has already done the research, and they are working with the BLM on O&C lands in western Oregon. Please do not let my letter and request become just another option. By actively working with Forest Bridges, and immediately putting their tremendous work into action, Oregon can become a leader for the rest of the country (and world) to follow.

Thank you for allowing input for this vital topic.
Bill McClendon
wilmacimages@gmail.com

+ + + + + + + + + + + + + + + + + +

List of articles to show the need to use Forest Bridges…

Wildfires emitted a record-breaking amount of carbon dioxide in 2021
www.specialreports.news.uci.edu/climate-change/the-problem/wildfires-emitted-a-record-breaking-amount-of-carbon-dioxide.php

Wildland fire emissions, carbon, and climate
https://research.fs.usda.gov/treesearch/45727

Carbon Emissions from Wildfires: What You Need to Know
https://wfca.com/wildfire-articles/carbon-emissions-from-wildfires/

World's Forest Carbon Sink Shrank to its Lowest Point in at Least 2 Decades, Due to Fires and Persistent Deforestation
www.wri.org/insights/forest-carbon-sink-shrinking-fires-deforestation

Enhanced CH4 emissions from global wildfires likely due to undetected small fires
www.nature.com/articles/s41467-025-56218-w

Outlook

Public Comments on Draft Gap Measures and Scenarios for TIGHGER 2.0 Project

From Quinn Hanson <qhanson@ga-rogers.com>
Date Wed 4/1/2026 7:35 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from qhanson@ga-rogers.com. Learn why this is important

Hi ODOE,
At this current moment, Oregon is more likely to be zero emissions because everyone leaves the state, not because we miraculously build enough non-greenhouse gas emitting power.

The absolute failure of BPA, permitting authorities (e.g. counties) and the state legislature to approve solar projects, build interconnection and allow for, say, nuclear power from Wyoming to be brought into the state is absurd. Quite frankly, it's unacceptable.

We have the people, the technology, the developers and the ability to build as much green power as we could ever hope to use. We could meet these goals in 2 years.

The public entities in Oregon are the road block and are leading us down a path of higher costs, more taxes, and people are leaving the state because of it. Companies are leaving the state because of the burden of doing business.
Families are leaving the state to seek lower cost of living options and better schools.

greenhouse gas emissions are not even the main problem at this point. The problem is Oregon is losing our people, our business and with it our tax revenue. Our geography is no longer sufficient to attract people here. We actually need the state to create policy that attracts people here.

We could do this very easily. Auto approve all utility scale solar permits slated for desert and non-farmable land. Get nuclear back on the ballot and let the voters decide to build clean energy sources. Set Oregon up to be a massive energy exporter to the data centers and chip fabs being built. We could lead the country in energy projects.

Quinn Hanson

Bend's Search Guy | LinkedIn

2214 NE Division Street, Suite 202 Bend, OR, 97703

O 541.797.7622

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Outlook

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solar

From 22flyingcats@comcast.net <22flyingcats@comcast.net>
Date Wed 4/1/2026 7:41 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from 22flyingcats@comcast.net. Learn why this is important

Hello,

Plug in solar. I think the state is going to have to get involved in plug in solar. I think the energy companies don't want to deal with it. Solar plug in is coming to a state near us or is there already. It will soon be easy to buy plug ins over the neighbor states or the internet. Germany has used it for years and my understanding has not had any deaths.

Saying " no" has never worked. We have all seen when folks have easy access and can saving money they will not ask. Some will not even realize it is illegal. This is something even renters can employ. Instead of kicking the can down the road, I would like to see Oregon energy dept. Embrace plug ins. Maybe how to: u tubes when Oregon makes it legal. Or what brands to buy that are safe and not knock offs. A website to show how it works and the safety checks.

As a Commercial Electrician retired I do realize the dangers the Utility workers face. But I also see my bill increase every year and would love an inexpensive way to cut it. We constantly hear about needing more infrastructure. And now we have giant servers for AI needing power.

Just my thoughts,

Eddie

Outlook

TIGHGER comments

From Matt Lutter <Matt.Lutter@EWEB.ORG>
Date Wed 4/1/2026 4:34 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from matt.lutter@eweb.org. Learn why this is important

I would like to comment on the draft gap measures: TIGHER 2.0 Draft Gap Measures and Scenarios

I agree with pretty much all the proposed measures, with the exception of those that propose the increased use of hydrogen. Measures 13 and 37 and 46 and 48 all include increasing the use of hydrogen. I consider hydrogen to be a waste of energy, since it takes 5 to 10 times more energy than it returns.

If there is an overabundance of solar or wind generation, maybe it would make sense to store the excess generation in the form of hydrogen for some applications. But we are a long way from having an overabundance of renewables. In particular, injecting it into pipelines for measure 37 should not be considered in my opinion.

Thanks!
Matt Lutter
Eugene

Outlook

Comments on TIGHGER 2.0 Draft Measures

From JJNeu <jjneusies2@gmail.com>
Date Sat 4/4/2026 10:35 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>
Cc James Neu <jjneusies2@gmail.com>

[You don't often get email from jjneusies2@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Please accept these comments on the Transformational Integrated Greenhouse Gas Emissions Reduction (TIGHGER) into the public record.

1.) Energy Infrastructure Resilience, 21.) Behind the Meter Solar PV, and 38.) Rooftop Solar PV:
Historic and current processes for energy supply and resource adequacy demand has always been from the utility to the consumer. With the increase of low cost renewable energy resources made available to the residential and commercial sectors, a paradigm shift is taking place in how local distributed energy is resourced. Rooftop and community solar with battery energy storage systems (BESS) coupled with microgrid technology provides energy security and resilience to communities and neighborhoods. This technology reduces rates and demand on utilities, and provides resource adequacy in the event of power outages due to disasters and extreme weather events; basically creating energy emergency hubs community wide. The Community Renewable Energy Grant Program could accelerate and help implement this process by promoting locally sourced distributed energy infrastructure. The 2017 Solarize U Program in the Eugene area was highly successful in getting over 100 residential applicants to add rooftop solar energy through wholesale panel costs and reduced costs to installers. This should be an ongoing program throughout the state of Oregon. The potential for residential GHG emission reductions coupled with more efficient heat pump technology and new construction being all electric could save the homeowner money in annual costs as well as reduce our dependence on fossil fuels. This should be considered low hanging fruit.

20.) Backup Battery Storage:
Conversion of diesel backup power to battery storage would be a huge reduction in GHG emissions. Diesel backup power systems must be run monthly to insure operability and maintain the fossil fuel integrity. Diesel systems are very inefficient and like all internal combustion engines, have many moving parts requiring maintenance and regular cycling through the diesel storage capacity. Battery storage systems are self contained units that operate very efficiently, are bidirectional, and have a longer energy output.

22.) Building Decarbonization Program and 27.) Energy Efficiency Incentive Program:
All new residential construction should be required to be all electric with no fossil gas utility. This construction practice is less expensive than when building with fossil gas and more efficient and healthier than using fossil gas as an energy source. Indoor air pollution exceeds outdoor air pollution standards when a fossil gas stove is used. Electrification requires less piping and labor costs, and minimizes stranded assets in the future.

Proposed:
Every home in the state of Oregon at the time of listing for sale should have a Home Energy Score audit performed to allow the prospective buyer to understand the energy costs associated with the ownership of the residence and what upgrades could be performed to increase efficiency. The listed upgrades would not be required for sale of the property but as a recommendation. These audits would also be for rental properties so prospective renters would know what energy costs would be associated with renting on the property if renters are required to pay utility bills as apart of the lease agreement. This service would provide local jobs and estimated at a cost of $100-$250 depending on the size of the home.

Virtual Power Plants (VPP) are another energy resource that can be coupled with neighborhood micro-grid technology that reduces reliance on fossil fuels, reduces GHG emissions, promotes local distributed renewable energy, and allows the consumer to become part of the energy solution. VPP technology should be implemented in new residential and commercial development.

Thank you for the opportunity to comment on the Gap Measures.
James Neu
Eugene, Oregon 97404

Sent from my iPad

Outlook

Draft suggestions to your net 0 policy

From L B <neonthreads@gmail.com>
Date Sun 4/5/2026 1:08 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from neonthreads@gmail.com. Learn why this is important

Dear Ocac climate board,

I am writing to express my opposition to the current implementation of the Climate Reduction Act and the state's net-zero goals. I believe these objectives are unrealistic, especially while the state continues to approve the expansion of data centers.

Data centers place a significant burden on our infrastructure and environment. In Morrow County, we are seeing a water pollution crisis comparable to Flint, Michigan, yet these facilities remain operational. Furthermore, despite claims of efficiency, these centers lack truly closed-loop systems, leading to higher electricity rates and contaminated resources for residents.

I also want to address the impact of dietary mandates. For many individuals living with chronic illnesses, such as Mast Cell Activation Syndrome (MCAS), a carnivore or meat-heavy diet is a medical necessity to manage symptoms. Policies that seek to limit meat consumption threaten the health of patients who rely on meat as a pure, essential protein source.

The continued approval of data centers undermines the credibility of the state's environmental goals. I urge you to implement a ban on new data centers and prioritize the health and resources of Oregonians over these industrial developments.

Regards,

L B

Outlook

"Public invited to share input, ideas for getting Oregon back on track to meet climate targets"

From Bonnie New <bnew1@live.com>
Date Sun 4/5/2026 12:21 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from bnew1@live.com. Learn why this is important

OCAC,

Thank you for the opportunity to submit suggestions regarding getting Oregon back on track to meet its climate targets.

I have two points for which I would urge your thoughtful consideration. I believe each of them would make a significant advancement for getting Oregon back on track to meet its climate targets.

First, we need to **stop trying to woo corporate entities with economic incentives such as tax breaks** for bringing their businesses to Oregon. While this has been a long-standing practice in many places, there is now considerable evidence that this practice creates a net loss for the state/city/county shelling out its financial and natural resources.

What does this have to do with Oregon's climate goals? PLENTY. Business development and administration that support those goals **require money**, whether funding energy efficiency and/or low carbon commitments, or launching new entities that bolster climate friendly practices. **WHERE TO FIND THAT MONEY? STOP GIVING IT AWAY IN THE FIRST PLACE.**

The second point is to **force entities such as data centers that are carbon-intensive and/or are giant consumers of our natural resources to INNOVATE.** These are large corporations that are motivated and able. They have extensive resources to put into R&D. Forcing technical innovation has been successful in other environmental crises. Air quality and acid rain are prime examples in the nation's past. When regulations were put in place that ratcheted down acceptable emissions levels, "best available technology" was no longer good enough, and spurred R&D to meet the new requirements. We don't have to stand around with our hands in our pockets wondering what to do here. The state tells the entity what is allowed, and the entity can either innovate to meet the requirements or take their high-carbon, resource-gobbling enterprise elsewhere. Before your knee jerks about the business going elsewhere (OH NO!!), consider that in its current form, **we might be better off without it**.

Bonnie New

Hood River, OR

Outlook

meeting "our" climate goals

From rfwisner <rfwisner@protonmail.com>
Date Tue 4/7/2026 7:12 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from rfwisner@protonmail.com. Learn why this is important

Greetings from a 75 year resident of the great state of Orygun. Here's what I think about "our" climate goals. Eventually, all the smartest folks in the room are going to need to come to some logical conclusions. The below most likely the main one.....

"*What historians will definitely wonder about in future centuries is how deeply flawed logic, obscured by shrewd and unrelenting propaganda, actually enabled a coalition of powerful special interests to convince nearly everyone in the world that carbon dioxide from human industry was a dangerous, planet-destroying toxin. "It will be remembered as the greatest mass delusion in the history of the world —that carbon dioxide, the life of plants, was considered for a time to be a deadly poison."*

Warm (pun intended) regards,

Richard Wisner

Sent with Proton Mail secure email.

Outlook

TIGHGER 2.0

From Dennis <lutwen@peak.org>
Date Thu 4/9/2026 10:01 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from lutwen@peak.org. Learn why this is important

The long term energy forecast planning should plan for rising oceans and wildfire problems with our infrastructure and loss of grasslands as a carbon sink.
Measure 2 -Data Centers should supply their energy needs with renewables.
Measure 3. Increased Nitrate Testing-Testing for nitrates in the soil each Fall and seeking farming practice modifications to allowable limits as necessary.
Measure 4 --replacement of nitrogen fertilizer: ramp to 40% reduction by 2030
to 70% reduction by 2050.
Measure 9 Methane Emissions Reduction in statewide methane emissions by
40% below 2013 levels by 2030, including reduced livestock sector emissions.
State intiatives would help the methane problem from dairy manure lagoons.
(Saccharomyces cerevisiae or --microalgae Asparagopsis added
to the diet are tried and tested aids.
(https://clear.ucdavis.edu/explainers/why-do-cattle-produce-methane-and-what-can-we-do-about-it)
Measure 19 95-100% heat pumps and electric water heaters in new homes by 2035.

Measure 43 40% of *new off-road vehicle sales* are ZEV in 2035.
70% of *new off-road vehicle sales* are ZEV in 2050.
(farm tractors, ATV's,etc.)
Measures 44 and 46 are too complex. Both aviation and shipping will
find their own solutions due to economics
Measure 47. All school bus sales Zero emission in 2035.

Continue to support EV's and their charging infrastructure.
Lower the focus on hydrogen and other alternative fuels.

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Kevin Sawyer <52ktsawyer@gmail.com>
Date Thu 4/9/2026 3:12 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from 52ktsawyer@gmail.com. Learn why this is important

I believe the proposals are not wise nor should they impose on the freedoms of our citizens.

- I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
- You find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and you demand that any future lists include clear, honest cost and impact information.
- I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
- I want state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.

Outlook

No more money

From month_leeway3p@icloud.com <month_leeway3p@icloud.com>
Date Thu 4/9/2026 3:15 PM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

[You don't often get email from month_leeway3p@icloud.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I believe that we should be has faithful to our environment has possible but your proposals don’t come with a price tag. I believe there should be a balance but right now it seems like a one sided discussion. Which is totally unfair to the tax payer. Please reconsider these outrageous policies change that you are asking for.

Outlook

Public Comment on TIGHGER 2.0

From Ed Rollins <ERollins@beobank.com>
Date Thu 4/9/2026 3:18 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from erollins@beobank.com. Learn why this is important

Good afternoon,
I, along with my entire family and most of the people I know oppose ODOE even considering advancing or modeling sweeping measures that would affect what people eat, how they heat their homes and what appliances they can buy. Especially doing so without any cost estimates.
It is irresponsible to even seek public comment on 48 significant ideas with no associated dollar amounts and would insist that any future list include clear, honest, accurate, cost and impact information.
I along with the aforementioned contacts am concerned these concepts if implemented would drastically increase the already too high cost of living in this state, reduce consumer choice, lead to health deterioration, hurt Oregonians, Oregon families, the growers of our food, small businesses and exponential ancillary businesses.
State Agencies must focus on efficiency, affordability, reliability, trust and transparency and this is **not** how that is done.
Sincerely,
Ed Rollins

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Outlook

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comment

From Shannon Fogarty <sjfogarty.2014@gmail.com>
Date Thu 4/9/2026 3:20 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from sjfogarty.2014@gmail.com. Learn why this is important

STOP !!!!!!!

This is insane and the needs to stop. This will hirt Oregonians more then you know. You think cost of living is high now. It will get worse.!!!!! Stop this insanity now!!!!!

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Jack Ogden <jack.rolland.ogden@gmail.com>
Date Thu 4/9/2026 3:29 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jack.rolland.ogden@gmail.com. Learn why this is important

don't do it. it would be catastrophic for middle income families

Outlook

(No subject)

From John Barnum <jbpdxor@gmail.com>
Date Thu 4/9/2026 3:37 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jbpdxor@gmail.com. Learn why this is important

I am oppossing this bill

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Susan Dunfee <sdlinfield@yahoo.com>
Date Thu 4/9/2026 3:42 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from sdlinfield@yahoo.com. Learn why this is important

To whom it may concern,

I am in strong oppososition to ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy, especially without any cost estimates.

It is extremely irresponsible to ask the public to comment on so many major ideas with no financial disclosures. As public employees and officials it is your duty to be accountable and responsable stewards, and include clear, honest and complete cost and impact information.

There is every reason to believe that these concepts, if implemented, would increase the cost of living, reduce consumer choice, and hurt Oregon families, farmers, and small businesses, causing vast harm to an already struggling state and economy.

State agencies need to be focused on affordability, reliability, and transparency, not open-ended social engineering experiments.

Susan Dunfee
Keizer, OR

Yahoo Mail: Search, Organize, Conquer

Outlook

Public comment on tighter 2.0 draft gap measures

From Doug Gmail <dougstafford@gmail.com>
Date Thu 4/9/2026 3:44 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from dougstafford@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Sent from my iPhone
I strongly oppose ODOE advancing sweeping measures that affect what people can eat, how they cook what they eat, how they heat their homes or appliances they can have in their home. AND you can't say or have no idea what it would cost. This is the most ridiculous thing I've heard in a long time.
You all need to stay out of our homes and out of our pockets. Oregon government has failed hard working citizens for years and as soon as you think it can't get worse you all prove me wrong. Did I mention I strongly oppose.
Doug Stafford

Outlook

(No subject)

From Cary hays <hayscary1@gmail.com>
Date Thu 4/9/2026 3:45 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from hayscary1@gmail.com. Learn why this is important

I OPPOSE the ODOE gap measures put forth by the Oregon Climate Action Commission.
I am a lifelong resident of Oregon. I am now retired and living on social security and a small pension.
These a will substantially increase my cost of living.
What Oregonian's need are affordable solutions that are reliable with transparency of cost.
Cary Hays

Outlook

crazy climate proposal

From jason@fieldshomecenter.com <jason@fieldshomecenter.com>
Date Thu 4/9/2026 3:51 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jason@fieldshomecenter.com. Learn why this is important

- I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
- You cannot tell me what I can eat! You cannot tell me that I can't use my wood stove to heat my home! You cannot stop me from using my Natural Gas Appliances!
-
- I find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and you demand that any future lists include clear, honest cost and impact information.
- You sit in an office and brainstorm these costly ideas but don't have or are not willing to tell the public that these ideas are going to cost us millions of dollars!
-
- I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
- My business cannot afford to replace equipment with extremely expensive options or in some cases not even available!
-
- I want state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.
-

We the people spoke up and voted in a President that has common sense and we will be speaking up again this November and end this crazy nonsense here in Oregon!

Thank you,

Concerned Oregon Citizen.

Jason Fields

Outlook

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comments on TIGHGER project

From Jordan Palmeri <jordanp@carbonleadershipforum.org>
Date Thu 4/9/2026 4:02 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jordanp@carbonleadershipforum.org. Learn why this is important

Hello ODOE,

Thanks for the opportunity to comment on the Draft gap measures you are considering to close the gap in emissions reductions needed to realize Oregon GHG reduction goals.

Your *questions* and our responses:
Are there measures listed below that you think would be particularly important to model to quantify potential greenhouse gas emissions reductions? Are there particular assumptions ODOE should consider for that measure?

1. Cement industry improvements - consider adding blended cements as a strategy to evaluate. Blending clinker with SCMs at the cement plant is among the most cost effective GHG strategies available for cement producers today. See US DOE report here.
2. Embodied carbon program - I think a range of options could be more realistic here. For example, I'd assume higher adoption rate with lower GHG emissions per unit might be more realistic. 20% of SF units with 30% reduction. Or 40% of SF units with 20% reduction. It seems important to know the high and low ends of the range for each measure. I like the infrastructure assumptions but would also want see a range, if possible. Great to include all building types here! There's a number of design measures for buildings that can reduce material costs and reduce EC. Check out some new case studies here and here. Finally, consider adding an adaptive building reuse measure for the building stock as well. CLF has an upcoming policy calculator that will be published on our website in the next month that may assist with these modeling options.

Thanks for the opportunity to comment,
Jordan

Jordan Palmeri

he/him

Senior Manager, Low Carbon Materials, Carbon Leadership Forum

Senior Researcher, Life Cycle Lab, University of Washington

Check out our new CLF Policy Toolkit Factsheets!

www.carbonleadershipforum.org

Outlook

No more expenses

From Majestic <majestic.johnkennel@gmail.com>
Date Thu 4/9/2026 4:06 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from majestic.johnkennel@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Please please stop spending money. The climate is not killing us, the taxes are! I am a fourth generation farmer and am in the process of trying to retire. I love Oregon but not the politics. Don't make impossible to retire here

Sincerely

John Kennel
Monmouth Oregon

Sent from my iPhone

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From kevinstarrett <kevinstarrett@protonmail.com>
Date Thu 4/9/2026 4:08 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from kevinstarrett@protonmail.com. Learn why this is important

Let's face it. You people are in-fucking-sane.

Period.

Kevin Starrett

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From b2mmay@comcast.net <b2mmay@comcast.net>
Date Thu 4/9/2026 4:24 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from b2mmay@comcast.net. Learn why this is important

To Whom It May Concern:

I OPPOSE modeling any measure that affects what I can eat, how I heat my home or what appliance I am allowed to buy with further information provided about how these new measures could impact my family's costs of living.

These is NO way that the public can/should be expected or allowed to comment on 48 major ideas that do not provide any dollar amounts associated with their possible implementation. I am concerned that these concepts will increase the cost of daily living by Oregonian families.

I want my state agencies focused on affordability, reliability and transparency! NOT open ended ideas with no facts or proof of positive out comes.

Very Truly Yours,

Mary & Robert May

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Stephen Reischke <shreischke@gmail.com>
Date Thu 4/9/2026 4:25 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from shreischke@gmail.com. Learn why this is important

Please don't further oppress taxpayers by mandating such things without calculating the costs, demonstrating the science is agreed upon by scientists from a wide variety of perspectives, and that the radical changes will have a far more than one or two percent difference in the projected outcome. I, for one, am fed up with expensive social experiments that bring harm to the populous.

Stephen Reischke
4662 Hayesville Dr. NE
Salem, OR 97305

Outlook

Crazy climate proposals

From Lori Pavlicek <4bfarms@mtangel.net>
Date Thu 4/9/2026 4:27 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from 4bfarms@mtangel.net. Learn why this is important

Oregon Department of Energy

I oppose ODOE advancing sweeping measures that affect what I eat, how I heat my home and business, and what appliances I choose
to buy without telling me how much it is going to cost.

It is completely irresponsible for a government agency to expect the public to give you an open end check to write while you take away
our choices and ability to live within our means. These 48 measures WILL INCREASE the cost of living for everyone in the State of Oregon.
The 48 measures that the Department of Energy believes will meet climate goals set by the prior Governor, is lacking in affordability,
reliability, and transparency.

I want to see what these measures are going to cost us, and what impacts they will have on a household, since we are ratepayers we deserve
Answers.

Thank you

Lori Pavlicek
Mt. Angel

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Mark Jones <mcmgjones@gmail.com>
Date Thu 4/9/2026 4:46 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from mcmgjones@gmail.com. Learn why this is important

This is my comment on the 48 proposed mandates. There is NO scientific evidence that any of these ridiculous policies will achieve measurable positive results. Since ODOE hasn't attempted to evaluate costs of these programs either to Oregon Taxpayers or State Agencies ALL of the proposed items should be permanently stopped until such time as total cost and positive outcomes can be defined. Oregonian are paying unreasonable costs for the programs already in place and to add more programs would further increase costs to every Oregon while not being able to provide ANY positive outcomes.
STOP all of THESE 48 proposed mandates now.

Mark Jones
Newport, Oregon

Outlook

(No subject)

From Jeanette Yturriondobeitia <ayarsytu2riondobeitia@gmail.com>
Date Thu 4/9/2026 5:05 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from ayarsytu2riondobeitia@gmail.com. Learn why this is important

"Public Comment on TIGHGER 2.0 Draft Gap Measures"
I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
I find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and I demand that any future lists include clear, honest cost and impact information.
I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
I want state agencies focused on **affordability, reliability, and transparency**, not open-ended .

Sincerely,
Jeanette Yturriondobeitia
12 Mile Ranch
Malheur County, Oregon

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Yohn Baldwin <yohn@baldwingeneral.com>
Date Thu 4/9/2026 5:16 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from yohn@baldwingeneral.com. Learn why this is important

I absolutely oppose DOE draft proposal to combat climate change and all the associated unintended consequences.

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Outlook

Oppose measures

From Kristi Miller <millerk@dswebnet.com>
Date Thu 4/9/2026 5:24 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from millerk@dswebnet.com. Learn why this is important

OCAC Energy of Oregon,

I'd like to go on record as opposing the list of 48 draft measures that the Governor has drafted that supposedly save energy. There are no cost estimates for these wide spread measures that would affect every consumer in our state. My husband and I farm grass seed in the Willamette Valley and we already think about saving money on our family owned operation by using No-Till farming on about one third of our fields and rotate this every year. Farm equipment is not able to do the hard pulling, tilling,
planting, and harvesting if we tried to change over to EV. It would not be affordable.

I am shocked that you would tell us what to eat and change how to cook meals. Our rural area does not have the same choices as urban areas. I'm concerned that these concepts would increase the cost of living and hurt Oregon families, farmers, and small businesses.

A Concerned Citizen,
Kristi Miller
34166 Goltra Rd SE
Albany, OR 97322

Outlook

Comment on Tighger Draft Measures

From quonset350 <quonset350@pm.me>
Date Thu 4/9/2026 5:47 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from quonset350@pm.me. Learn why this is important

To whom it may concern:
Before advancing any measure that controls what we eat, how and where we live, what we can buy and how we can transport our freight you must provide cost information for your proposals. To do otherwise is completely irresponsible. Do your diligence!
Charles Ehlers

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Melissa Whitney <melswhitney@gmail.com>
Date Thu 4/9/2026 5:56 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from melswhitney@gmail.com. Learn why this is important

Dear Oregon Department of Energy,

I am writing to express my opposition to the proposed TIGHGER 2.0 Draft Gap Measures currently under consideration.

I am deeply concerned that the Oregon Department of Energy is advancing and modeling sweeping policy concepts that could significantly affect what people eat, how they heat their homes, and what appliances they are able to purchase without providing any meaningful cost estimates. Decisions of this magnitude should not move forward without transparent, accessible information about the financial impact on Oregonians.

It is irresponsible to ask the public to review and comment on 48 major proposals without including clear dollar amounts or realistic projections of cost and impact. Meaningful public engagement requires honest and complete information. I strongly urge the Department to include detailed cost analyses and economic impact assessments in any future proposals.

Additionally, I am concerned that many of these concepts, if implemented, would increase the cost of living, reduce consumer choice, and negatively affect Oregon families, farmers, and small businesses. At a time when affordability is already a significant challenge, policies that risk adding further financial strain should be carefully reconsidered.

State agencies should prioritize affordability, reliability, and transparency in their work. Oregonians deserve practical, well-vetted solutions, not open-ended experiments that could have unintended consequences for everyday life.

Thank you for your time and consideration.

Sincerely,
Melissa Whitney

Outlook

Public Comment On TIGHER 2.0 Draft Gap Measures

From Niki Strain <nikis2828@gmail.com>
Date Thu 4/9/2026 6:15 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from nikis2828@gmail.com. Learn why this is important

I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy without any cost estimates.

I find it irresponsible & reprehensible to ask the public to comment on 48 major ideas with NO dollar amounts, and I demand that any future lists include clear, honest cost and impact information!

I'm concerned that these concepts, if implemented, would increase the cost of living, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.

I want state agencies focused on affordability, reliability, and transparency, not open-ended social engineering experiments.

EVERYTHING is already Way too expensive in Oregon as it is! This is ridiculous! Our state is being ruined. Work FOR & WITH Oregonians, not against us!

Sincerely,
Nicole Strain
Burns, Oregon 97720

Outlook

ODOE's Climate Proposals

From Daniel Olson <dnolsonny@msn.com>
Date Thu 4/9/2026 6:32 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from dnolsonny@msn.com. Learn why this is important

To Whom it may concern:

- I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
- It irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**: Any future lists include clear, honest cost and impact information.
- I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
- State agencies need to be focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.

I am certain that if every one of the proposed measures was implemented, the effect on climate change would be ZERO and the cost to Oregon's citizens would be high.

Daniel R Olson, Bend
PhD scientist

Outlook

(No subject)

From Dan Lee <drlee65@gmail.com>
Date Thu 4/9/2026 7:09 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from drlee65@gmail.com. Learn why this is important

I am NOT under any circumstance quitting the consumption of BEEF, PORK, LAMB, POULTRY & EGGS and going to a vegetarian diet. AIN'T GOING TO HAPPEN EVER! I am also not converting to eletric vehicles & farm equipment. Once again AIN'T Going to happen. This would cause a MAJOR UPHEAVAL & REVOLUTION LIKE YOU HAVE NEVER SEEN IF YOU TRY TO IMPLEMENT & FORCE THIS ON PEOPLE. YOU REALLY HAVE MY BLOOD BOILING WITH EVEN CONSIDERING THIS!

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Karen Tatman <snowkat1963@gmail.com>
Date Thu 4/9/2026 7:33 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy without any cost estimates. Citizen deserve to know what your plans will cost them so that THEY can make a choice. Governor Kotek's edicts shouldn't be shoved down the throats of this state's productive workers and taxpayers.

It is completely irresponsible to ask the public to comment on 48 major ideas with no dollar amounts. I demand that any future lists include clear, honest cost and impact information. Stop sneaking cost increases past us.

I am very concerned that these concepts, if implemented, would increase the cost of living, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.

State agencies need to focus on affordability, reliability, and transparency, not open-ended social engineering experiments dreamed up by people who have no sense of cost and reality.

Taxpayer
Salem, OR

Outlook

OPPOSITION: TIGHGER 2.0 Draft Gap Measures

From Barbara Kahl <barbarajkahl@gmail.com>
Date Thu 4/9/2026 7:52 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from barbarajkahl@gmail.com. Learn why this is important

The TIGHGER 2.0 Draft Gap Measures, as currently written, reflect an **outdated, non-scientific, and inefficient policy framework** that misidentifies Oregon's primary methane sources and misdirects regulatory focus away from the most impactful solutions.

Despite claiming reliance on "evidence-based assumptions," the draft prioritizes **ideological interventions over quantifiable emissions realities**, particularly within the Food and Agriculture sector.

---

1. Fundamental Misalignment with Oregon's Largest Methane Source

The most critical flaw in this proposal is its failure to prioritize **landfills—the single largest source of anthropogenic methane (CH_4) in Oregon**.

Verified 2023 data (Oregon DEQ, EPA GHGRP, LMOP; Beyond Toxics 2025 analysis):

- **169,943 tons of methane generated annually** from Oregon's 11 major municipal solid waste landfills
- Equivalent to **~14.3 million metric tons CO_2e** (using 84x short-term GWP)
- Comparable to emissions from **~1.6 billion gallons of gasoline**
- **~90% of all industrial methane in Oregon originates from landfills**
- Landfills **exceed methane generation from enteric fermentation (livestock)**

This is the **largest controllable methane source in the state**, yet the draft fails to elevate landfill methane capture as a primary mitigation strategy.

---

2. Scientifically Incorrect Conflation of Methane Sources

The draft improperly treats all methane as equivalent, ignoring well-established distinctions:

- **Livestock methane (enteric fermentation):**
  Part of a **biogenic carbon cycle** (grass → cattle → methane → CO_2 → plant regrowth)
  → **Does not create net new atmospheric carbon**

- **Landfill methane:**
  Generated from **anaerobic decomposition of concentrated waste streams**
  → **Represents net atmospheric emissions and is a true climate forcing source**

Failing to distinguish these fundamentally different systems results in **misleading modeling and ineffective policy design**.

---

3. Policy Focus Driven by Ideology, Not Impact

The draft includes aggressive measures such as:

- **Measure 7:** 50% reduction in beef and pork consumption by 2050
- **Measure 9:** Broad methane reduction mandates targeting livestock

These proposals attempt to **reshape consumer behavior and dismantle core agricultural sectors**, despite those sectors not being the primary methane contributors.

At the same time, the draft **does not include an equally robust, targeted landfill methane reduction program**, where:

- Emissions are **concentrated and measurable**
- Technology for capture and conversion **already exists**
- Reductions can be achieved **immediately and at scale**

This imbalance reflects **policy bias rather than scientific prioritization**.

---

4. Failure to Prioritize High-Impact, Proven Solutions

Landfill methane represents a **clear, actionable opportunity**:

Even with existing systems:

- Methane capture is **incomplete**
- Significant emissions escape through:
    - Active working faces
    - System leaks
    - Incomplete gas collection coverage

Corrective policy should prioritize:

- Expansion of **landfill gas capture systems**
- Investment in **renewable natural gas (RNG) conversion infrastructure**
- Enhanced **leak detection and repair requirements**
- Focus on high-output sites such as **Columbia Ridge Landfill**, the state's largest methane generator

These are **immediate, measurable, and economically productive solutions**—in stark contrast to speculative behavioral mandates.

---

5. Economic Reality: Oregon Agriculture Cannot Be Ignored

Oregon's agricultural sector is not a marginal contributor—it is a **$42 billion annual industry** supporting:

- Tens of thousands of jobs across rural and urban communities
- Food security and supply chain stability
- Small family farms and multi-generational operations

Policies that target livestock reductions based on **mischaracterized emissions data** risk:

- **Economic contraction in rural Oregon**
- **Increased food costs**
- **Loss of domestic production capacity**
- **Offshoring production to regions with weaker environmental standards**

This is not climate leadership—it is **economic displacement without environmental gain**.

---

6. Inefficient Use of Policy and Resources

Targeting livestock methane:

- Addresses a **diffuse, biologically regulated source**
- Produces **incremental and uncertain reductions**
- Requires **broad behavioral and economic disruption**

Targeting landfill methane:

- Addresses a **point-source, high-volume emission**
- Produces **immediate and verifiable reductions**
- Leverages **existing, scalable technology**

The current draft prioritizes the **least efficient path to emissions reduction**.

---

7. Required Corrections

To align with scientific and economic reality, ODOE should:

Remove or substantially revise:

- Measure 7 (Plant-Rich Diets Program)
- Measure 9 (Livestock Methane Reduction Program)

Add and prioritize:

- A **Landfill Methane Capture and Utilization Program** as a central gap measure

Update modeling assumptions to:

- Distinguish **biogenic vs. anthropogenic methane**
- Prioritize **net atmospheric impact**
- Focus on **largest, most controllable emission sources first**

Conclusion

The TIGHGER 2.0 draft, as written, is:

- **Outdated** in its treatment of methane science
- **Non-scientific** in its conflation of carbon cycles
- **Misfocused** in targeting secondary sources over primary emitters
- **Inefficient** in its proposed path to emissions reduction

Oregon has the opportunity to lead with **data-driven, high-impact climate policy**. That requires focusing on **real emissions, not politically convenient narratives**.

Until this framework is corrected to prioritize **landfill methane—the state's largest anthropogenic source—** it does not meet the standard of responsible energy and climate policy.

Sincerely,

Dr Barbara J Kahl DVM

Candidate Oregon's Firat Congressional District

503-332-8650

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Terri Kwake <tlkwake2011@gmail.com>
Date Thu 4/9/2026 7:55 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from tlkwake2011@gmail.com. Learn why this is important

This is not ok, I do not want to be told what I can and cannot eat or how to heat or light my home. I will leave this state which I've grown up in if this happen s. This is becoming a russsn state, where you have no choice but to agree to things that don't even makes sense, shame on who ever is wasting more of Oregons money and time Terri Kwake

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Teri McCoy <tmccoy_14@msn.com>
Date Thu 4/9/2026 8:14 PM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from tmccoy_14@msn.com. Learn why this is important

Hello- do you realize that we are the second highest taxed state in the United States? Why would you do something that will tip people who are teetering on the edge, having to decide whether to eat or pay the rent.
Oregonians can't afford any more money being wasted by this state. Leaders in Oregon need to understand that We the People want them to live within their means. They get way more money from us then 48 other states. You don't even have an idea of the cost of these programs. Would you buy a house if they told you, "Yeah, we're not sure what you're being charged for the house, but we want you to sign the contract anyway." Pretty sure you wouldn't.
Don't make us have to suffer more than we are now.
Thank you,
Teri McCoy
Sent from my T-Mobile 5G Device
Get Outlook for Android

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Casey Ocupe <netsirfer@gmail.com>
Date Thu 4/9/2026 9:05 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from netsirfer@gmail.com. Learn why this is important

My name is **Casey Ocupe**, and I oppose these draft measures.

Let's stop pretending this is some harmless exercise. ODOE's own draft models a **50% reduction in beef and pork consumption by 2050**, a **30% reduction in poultry and egg consumption**, a **30% reduction in dairy consumption**, **95–100% electric new residential appliance sales by 2035**, **95–100% of existing homes retrofitted with heat pumps by 2045**, **95% weatherization of existing residential home envelopes by 2040**, and **70% of new off-road vehicle sales** in agriculture, forestry, construction, and recreation as ZEVs by 2050. The document also says these measures are open for comment until **5 p.m. on April 10, 2026**, and are **not yet being proposed for implementation**.

That does not make them harmless. It makes them a warning sign. This is not just climate policy. It is a roadmap for government steering what people eat, what appliances they buy, how they heat their homes, how buildings are designed, and what equipment working people are expected to replace over time. The draft goes beyond food and vehicles; it also models extending Building Performance Standards to more buildings, stricter standards in Portland, requiring new commercial and residential buildings to use **60% less energy by 2030**, shifting wood-stove households toward heat-pump systems, and even converting diesel backup power to battery storage.

The people who get hit first are not the affluent professionals who can absorb another retrofit, another contractor bill, another appliance swap, another equipment turnover, and another increase in food or utility costs. The people hit first are poor people, working-class people, rural families, elderly people on fixed incomes, small business owners, ranchers, farmers, and tradesmen. That is the quiet part these politicians always bury under slogans like "equity" and "justice." The burden rolls downhill.

What makes this worse is that the public is being asked to comment on these measures **before** ODOE has laid out a clear household cost sheet, producer cost sheet, taxpayer exposure sheet, or ratepayer impact sheet in the public-comment document itself. The document says ODOE plans to quantify emissions reductions after comments are received, but this packet does not give the public a serious cost accounting up front. If the state wants trust, it should show the bill first.

On food and farming, this draft is especially revealing. It is not just about pushing "plant-rich diets." It also models **increased nitrate testing**, a **70% reduction in nitrogen fertilizer use by 2050**, irrigation-system changes, broader farming-practice interventions, and methane-reduction measures that include **reduced livestock-sector emissions**. That means pressure on both what people consume and how producers operate.

And the costs do not disappear. They move into production, freight, compliance, equipment replacement, food, housing, and utilities. Then they get passed down to ordinary people. Wages do not magically keep pace with politically manufactured cost increases. So more people struggle, more people need help, and more people end up dependent on subsidies and government-managed relief just to keep up with basics. That is not compassion. That is a cycle of dependence built on avoidable economic pressure.

The same pattern shows up in housing and appliances. The state can avoid the word "ban," but the mechanism is obvious: squeeze fuel choice out over time through codes, standards, sales targets, replacement cycles, and retrofit pressure until the state-favored system becomes the only realistic path. That is not freedom of choice. That is managed choice.

The same goes for working equipment. Modeling **70% of new off-road vehicle sales as ZEVs by 2050** and **80% of industrial vehicles, including in agriculture, by 2050** tells farmers, builders, forestry workers, and other productive sectors that bureaucrats and consultants think they should reorganize around expensive transitions that may be impractical, unreliable, or infrastructure-dependent. That is direct pressure on the machinery side of the real economy.

My comment is simple: many of these measures should not be modeled further in their current form at all. They are economically reckless, class-blind, culturally arrogant, and detached from the lived reality of the people who would bear the burden. If Oregon wants public trust, then publish the producer impacts, household impacts, ratepayer impacts, taxpayer exposure, feasibility limits, and likely pass-through effects on food, housing, utilities, and equipment turnover before asking for buy-in. Until then, ODOE should remove or substantially revise the most coercive measures in this draft.

I oppose these draft measures.

Casey Ocupe

Outlook

Problems with ODOE Gap Measures

From Olya Satamael <olyasatamael@yahoo.com>
Date Thu 4/9/2026 9:30 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from olyasatamael@yahoo.com. Learn why this is important

Hello,

Please do not move forward with measures that will harm animals.

Here is the outline of the issues with the measures:
Biogas Expansion Incentivizes Factory Farming – Encourages larger herd sizes to produce more manure, increasing animal confinement.
More Confinement, Less Welfare – Manure-based systems favor keeping animals in crowded indoor facilities over pasture.
No Animal Welfare Safeguards – Climate policies focus on emissions, not living conditions or humane treatment.
Efficiency Over Well-Being – Methane reduction strategies may prioritize productivity at the expense of animal health.
Greenwashing Industrial Farms – Labeling biogas as “sustainable” can justify continued factory farming practices.
Intensification Pressure on Farms – Producers may crowd animals more to maintain profits under new regulations.
Risk of Outsourcing Harm – Reduced local production could shift demand to regions with worse animal welfare standards.

Sincerely,
Olga Iliuk

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures”

From Charla Murphy <jcmurphy2@comcast.net>
Date Thu 4/9/2026 9:31 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from jcmurphy2@comcast.net. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Please stop this nonsense on proposed climate proposals! There are no cost parameters. It sounds like someone made a Christmas list with no thot for the general public. Please stop this insanity.
Sent from my iPhone

Outlook

Issues with ODOE Gap Measures

From Tien Tran <tientran05@gmail.com>
Date Thu 4/9/2026 9:32 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from tientran05@gmail.com. Learn why this is important

Hello,

Please do not move forward with measures that will harm animals.

Here is the outline of the issues with the measures:

1. Biogas Expansion Incentivizes Factory Farming – Encourages larger herd sizes to produce more manure, increasing animal confinement.
2. More Confinement, Less Welfare – Manure-based systems favor keeping animals in crowded indoor facilities over pasture.
3. No Animal Welfare Safeguards – Climate policies focus on emissions, not living conditions or humane treatment.
4. Efficiency Over Well-Being – Methane reduction strategies may prioritize productivity at the expense of animal health.
5. Greenwashing Industrial Farms – Labeling biogas as “sustainable” can justify continued factory farming practices.
6. Intensification Pressure on Farms – Producers may crowd animals more to maintain profits under new regulations.
7. Risk of Outsourcing Harm – Reduced local production could shift demand to regions with worse animal welfare standards.

Sincerely,
Tien Tran

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Dave Erwin <derwinrn@comcast.net>
Date Fri 4/10/2026 5:04 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from derwinrn@comcast.net. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I am in opposition to the TIGHGER 2.0 draft gap measures. Ther is no way at this time to know how to implement it nor is the technology available to provide off-road EV/farm vehicles effective.
David Erwin
Corvallis Oregon
Sent from my iPad

Outlook

"Public Comment on TIGHGER 2.0 Draft Gap Measures"

From Deidre Dodson <deidreddodson@yahoo.com>
Date Fri 4/10/2026 6:39 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from deidreddodson@yahoo.com. Learn why this is important

My name is Deidre Dodson and I oppose these draft measures. Too much is just too much. I pray this does not go any further. Nothing new under the sun. Take, take, take, burden upon burden. Never nothing for Oregonians to celebrate or hope for coming from this administration. Your jobs are to make Oregon livable, safe for Oregonians to work, prosper, live, raise our families. Oregon is a "dot" on the world map, can we stop pretending that this is life or death for our country or world and get back to protecting the health and safety of Oregonians and not the "planet " Gods got the planet. Work on stopping the constant dropping of chemicals from our skyline onto our beautiful state, our beautiful people , our water supply and food that is being harmed.

Let's stop pretending this is some harmless exercise. ODOE's own draft models a 50% reduction in beef and pork consumption by 2050, a 30% reduction in poultry and egg consumption, a 30% reduction in dairy consumption, 95–100% electric new residential appliance sales by 2035, 95–100% of existing homes retrofitted with heat pumps by 2045, 95% weatherization of existing residential home envelopes by 2040, and 70% of new off-road vehicle sales in agriculture, forestry, construction, and recreation as ZEVs by 2050. The document also says these measures are open for comment until 5 p.m. on April 10, 2026, and are not yet being proposed for implementation.

That does not make them harmless. It makes them a warning sign. This is not just climate policy. It is a roadmap for government steering what people eat, what appliances they buy, how they heat their homes, how buildings are designed, and what equipment working people are expected to replace over time. The draft goes beyond food and vehicles; it also models extending Building Performance Standards to more buildings, stricter standards in Portland, requiring new commercial and residential buildings to use 60% less energy by 2030, shifting wood-stove households toward heat-pump systems, and even converting diesel backup power to battery storage.

The people who get hit first are not the affluent professionals who can absorb another retrofit, another contractor bill, another appliance swap, another equipment turnover, and another increase in food or utility costs. The people hit first are poor people, working-class people, rural families, elderly people on fixed incomes, small business owners, ranchers, farmers, and tradesmen. That is the quiet part these politicians always bury under slogans like "equity" and "justice." The burden rolls downhill.

What makes this worse is that the public is being asked to comment on these measures before ODOE has laid out a clear household cost sheet, producer cost sheet, taxpayer exposure sheet, or ratepayer impact sheet in the public-comment document itself. The document says ODOE plans to quantify emissions reductions after comments are received, but this packet does not give the public a serious cost accounting up front. If the state wants trust, it should show the bill first.

On food and farming, this draft is especially revealing. It is not just about pushing “plant-rich diets.” It also models increased nitrate testing, a 70% reduction in nitrogen fertilizer use by 2050, irrigation-system changes, broader farming-practice interventions, and methane-reduction measures that include reduced livestock-sector emissions. That means pressure on both what people consume and how producers operate.

And the costs do not disappear. They move into production, freight, compliance, equipment replacement, food, housing, and utilities. Then they get passed down to ordinary people. Wages do not magically keep pace with politically manufactured cost increases. So more people struggle, more people need help, and more people end up dependent on subsidies and government-managed relief just to keep up with basics. That is not compassion. That is a cycle of dependence built on avoidable economic pressure.

The same pattern shows up in housing and appliances. The state can avoid the word “ban,” but the mechanism is obvious: squeeze fuel choice out over time through codes, standards, sales targets, replacement cycles, and retrofit pressure until the state-favored system becomes the only realistic path. That is not freedom of choice. That is managed choice.

The same goes for working equipment. Modeling 70% of new off-road vehicle sales as ZEVs by 2050 and 80% of industrial vehicles, including in agriculture, by 2050 tells farmers, builders, forestry workers, and other productive sectors that bureaucrats and consultants think they should reorganize around expensive transitions that may be impractical, unreliable, or infrastructure-dependent. That is direct pressure on the machinery side of the real economy.

My comment is simple: many of these measures should not be modeled further in their current form at all. They are economically reckless, class-blind, culturally arrogant, and detached from the lived reality of the people who would bear the burden. If Oregon wants public trust, then publish the producer impacts, household impacts, ratepayer impacts, taxpayer exposure, feasibility limits, and likely pass-through effects on food, housing, utilities, and equipment turnover before asking for buy-in. Until then, ODOE should remove or substantially revise the most coercive measures in this draft.

I oppose these draft measures.

Deidre Dodson

Outlook

---

48 Ideas

From David Phipps <phipps.dc@gmail.com>
Date Fri 4/10/2026 7:17 AM
To OCAC Odoe * ODOE <ocac@energy.oregon.gov>

You don't often get email from phipps.dc@gmail.com. Learn why this is important

I vote no on all of Kate Browns energy mandate proposals. If we continue down this path Oregon will become even more unlivable.

If you want to save our climate, stop the data centers! Oh wait, that's who's lining the pockets of our lawmakers.

David Phipps
Oregon City

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Ryan McAlister <ryanm@gerdingbuilders.com>
Date Fri 4/10/2026 7:22 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from ryanm@gerdingbuilders.com. Learn why this is important

To Whom it may concern

I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy without providing any estimate on what this will cost the tax payer or the business community. I find it completely unreasonable to ask the public to comment on 48 major ideas with no dollar amounts. I am asking that any future lists include clear, honest cost and impact information so as to better evaluate the validity of the idea.

We have an electrical grid and electrical capacity issue and many of the ideas will only make the problem worse. We need to solve the problem of the pending shortfall of electricity first, then begin to consider some of the items outlined and assign a realistic timeframe to them – many of them outlines are less than 10 years away and given the amount of changes that are being pondered, this will only compound the potential cost issue (which has yet to be defined)

Furthermore, I am concerned that these concepts, if implemented, would increase the cost of living, reduce consumer choice, and hurt Oregon families, farmers, and small businesses. Given the economic times in front of us, I believe it is more important that state agencies focused on affordability, reliability, and transparency, not open-ended social engineering experiments.

Thank you

Ryan

Ryan McAlister
President
M 541.207.2350 | **O** 541.753.2012 x212

GERDING BUILDERS

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Walt Alfrey <walt42alfrey@gmail.com>
Date Fri 4/10/2026 7:33 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from walt42alfrey@gmail.com. Learn why this is important

Stop with these stupid climate mandates!!!!!

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From sztelle <sztelle@protonmail.com>
Date Fri 4/10/2026 7:56 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from sztelle@protonmail.com. Learn why this is important

Dear Oregon Department of Energy,

Thank you for taking public comments on the climate goal proposals.

To be blunt, I find it concerning that an agency with unelected administrators can review proposals that would dramatically affect Oregonian's choices for appliances, heating their homes and even what they can eat. Further, there are no cost, health, or other estimates for impact from either taxes for affording the options that are often of worse quality than existing options.

It is also concerning there is a bold sentence near the beginning that "The draft measures listed in this document are for informational purposes only and are not being proposed for implementation". What does that mean? How is that transparent? What are the real proposals? What are the real costs? Who are the experts ODOE consulted and what are the conflicts of interest? How is the public expected to comment if we don't know the real proposals?

Unelected Oregon personnel have a recent, poor history of planning the impact to the Oregonian citizens. Whether it is ODOT's budget or the Oregon Public Employees Retirement Fund, it is billions of dollars, with the burden falling to the average Oregonian.

Please focus the ODOE on actions that are transparent, well thought out, in the best interest of the average Oregonian choice, health and cost.

Thank you,

-Matthew Sztelle, Ph.D.

Sent with Proton Mail secure email.

Outlook

Feedback on TIGHGER 2.0 Project Draft Gap Measures and Scenarios

From GIRE Anne * DCBS <Anne.GIRE@dcbs.oregon.gov>

Date Fri 4/10/2026 8:14 AM

To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

Cc HEIZER Mark R * DCBS <Mark.R.HEIZER@dcbs.oregon.gov>; THOMAS Kelly I * DCBS <Kelly.I.THOMAS@dcbs.oregon.gov>; BOULTON Andrew * DCBS <Andrew.BOULTON@dcbs.oregon.gov>

ODOE TIGHGER Team:

The Oregon Building Codes Division (BCD) completed a review of the TIGHGER 2.0 gap analysis and is providing relative feedback. Based on current legislative direction, BCD acknowledges that TIGHGER 2.0 measures and scenarios do not significantly impact BCD programs and scope of authority. We understand that the document is a draft list of gap actions or measures which ODOE intends to quantify in its modeling and that the gap measures are not intended to prescribe program design elements or an implementation pathway.

BCD's comments are made below based on the feedback prompts.

- Are there measures listed below that you think would be ***particularly important to model*** to quantify potential greenhouse gas emissions reductions? Are there ***particular assumptions ODOE should consider*** for that measure?
  - BCD feedback
    - Based on the lack of scope in BCD programs, no listed measures nor assumptions were identified particularly important to model.

- Are there ***additional measures that ODOE should consider*** modeling to quantify potential greenhouse gas emissions reductions? If so, ***are there particular assumptions*** ODOE should consider for that measure?
  - BCD feedback:
    - Consider modeling grid-reactive systems: to include storage and demand reduction since renewables are not effective without this work.
    - Consider modeling/re-working PV regulations: to include virtual net metering and more micro-grid options.
    - Assumptions to consider: widespread "small" storage with and without utility scale storage.

- Are there ***additional scenarios that ODOE should consider*** modeling? If so, are there ***particular assumptions*** ODOE should consider for that scenario?
  - BCD feedback:
    - Consider modeling faster electrification of new residential construction, complementing Oregon's 2026 residential energy provisions for first stage of heating to be heat pump as well as the assumption that cost increases are driving developers toward fewer 'gas' homes.
    - Consider modeling increased PV uptake (in response to utility cost increases) versus low uptake due to hurdles to install/share.
    - Consider modeling increased storage and demand response to reduce "peaker" generation which uses natural gas.
    - Consider modeling demand reduction by data centers with on-site generation and without on-site generation (which has high emissions).
    - Consider modeling embodied carbon separately from operational emissions for the GHG emissions measures. Additionally, define the "per-unit" emissions metric and include the per-unit assumptions relative to the measure being modeled.

- Consider modeling embodied carbon measures that address different levels of material- and building-level emissions reduction targets into the construction industry, as well as whole-life carbon assessment/LCA and existing building reuse.

We thank ODOE for the opportunity to comment on the TIGHGER 2.0. If you have any questions or comments relative to our feedback submittal, please don't hesitate to ask.

Appreciatively,

BCD Energy Code Program
- Kelly Thomas
- Mark Heizer
- Anne Gire

Oregon Building Codes Division
http://www.oregon.gov/bcd

Outlook

PUBLIC COMMENT ON TIGHGER 2.0 GAP MEASURES

From jonette@fieldshomecenter.com <jonette@fieldshomecenter.com>
Date Fri 4/10/2026 8:30 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jonette@fieldshomecenter.com. Learn why this is important

I oppose a ODOE advancing a measure that affects what people eat, how we heat our homes, and what appliances we can buy for our homes without any estimated cost to the taxpayer. I find it completely irresponsible to ask for public comment on 48 major ideas with no dollar amount and I demand any future lists include clear, honest, cost and impact information. My concern is if these concepts are implemented it would increase the cost of living, reduce consumer choice and hurt Oregon families, farmers, and small businesses. I want my tax dollars that support state agencies focused on affordability, reliability, and transparency, not open-ended social engineering experiments that strip away the freedoms and choices of how we want to live.

JONETTE FLYNN

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Sarabelle Young <purplegma2@gmail.com>
Date Fri 4/10/2026 9:27 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from purplegma2@gmail.com. Learn why this is important

- I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
- I find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and you demand that any future lists include clear, honest cost and impact information.
- I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
- I want state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.

--
Sarabelle Young

"Grafted In" Banners
Romans 11:17 *..some of the branches were broken off, and* ***you****, being a wild olive were grafted in among them and became partaker with them of the rich root of the olive tree.*

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Randy Crane <rwcrane57@gmail.com>
Date Fri 4/10/2026 9:28 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from rwcrane57@gmail.com. Learn why this is important

Don’t implement this!

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Ruth Rubelt <rrubelt@myctl.net>
Date Fri 4/10/2026 9:32 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from rrubelt@myctl.net. Learn why this is important

We, Jerry and Ruth Rubelt, strongly oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**. We also find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and we demand that any future lists include clear, honest cost and impact information.
We both are concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
We want and expect, state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.

Sincerely,

Jerry and Ruth Rubelt
2037 Graham Blvd.
Vale, OR 97918

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Laura Johnson <ljcoveranchhome@gmail.com>
Date Fri 4/10/2026 9:32 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from ljcoveranchhome@gmail.com. Learn why this is important

Bull shit, what is wrong with you people. Hell no 👎 you have no idea what you are doing. Stop trying to control everything. Who's paying you to put this in motion.

Outlook

(No subject)

From Laura Johnson <ljcoveranchhome@gmail.com>
Date Fri 4/10/2026 9:37 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from ljcoveranchhome@gmail.com. Learn why this is important

Bull shit, who's paying you to push this through. Stop trying to control the people. How much of a kick back are you getting out of this. Fake weather, fake food,. Enough stop waisting tax payer money, trying to control us. ENOUGH

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Gary Hart <gary.hart@gmail.com>
Date Fri 4/10/2026 9:41 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from gary.hart@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Oregon Dept. of Energy,

I am writing to comment my strong opposition to the TIGHGER 2.0 Draft Gap Measures.
The broad measures proposed by this measure will create more problems than they propose to solve. Without any firm cost estimates on the impact to Oregonians, this measure creates undue financial hardships increasing the cost of living for all in the state.

It is extremely irresponsible to implement measures that affect everyone living in Oregon, without transparency, taking no consideration of affordability, and harming Oregon families, farmers, and small businesses.

The ideas suggested in the measure are nothing more than extreme restrictions on how people live their lives in Oregon, without any cost estimates in the final impact. It is irresponsible to increase the cost of living by reducing consumer choice.

I ask that state agencies rather focus on affordability, reliability, and transparency, NOT open-ended social engineering experiments. The people of Oregon need clear, honest information with defined goals. Any measure that increases the cost of living is a poor measure.

Respectably
G. Hart
Keizer, Oregon

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Christie Amick <mlacla@msn.com>
Date Fri 4/10/2026 9:44 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from mlacla@msn.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Please stop the insanity and trying to regulate people's lives in unsubstantiated reforms that have little scientific evidence to support them. These will be a burden to all and especially the poor among us. ODOE doesn't even know the price tag
Sincerely
Christie Amick
470 Harrison St E
Vale OR
Sent from my iPhone

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Cliff Turner <cturn.oo@gmail.com>
Date Fri 4/10/2026 10:32 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from cturn.oo@gmail.com. Learn why this is important

You oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy.

- You want state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Liz Ryan <lcryan362@gmail.com>
Date Fri 4/10/2026 11:24 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from lcryan362@gmail.com. Learn why this is important

- We oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**. Even with cost estimates this is ridiculously invasive and none of your business.
- We also find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and we demand that any future lists include clear, honest cost and impact information.
- We are very concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses while enriching NGOs and hidden bureaucracies at taxpayer expense with no benefit.
- We would rather our state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments. There is a huge segment of Oregon population who are not in favor of all the green and liberal policies implemented in this state.

Thank you,
Liz Ryan
Sent from my mobile phone

Outlook

TIGHGER 2.0 Draft Gap Measures and Scenarios remarks

From WILLIAM SUMMERS <summerswa@comcast.net>
Date Fri 4/10/2026 11:28 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from summerswa@comcast.net. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

ODOE Staffer,

I find it amazing that ODOE presented a plan to Oregonians that will, from the reading, crippel the state's economy and destroy small businesses without including what the estimated costs are of each of the 48 major "ideas" presented. What are some of the possible unintended consequences each of these "ideas" might have on the business sectors? Many of these "ideas" ODOE presented will destroy any competitive advantage Oregon businesses might hope to have.

Without these cost estimates, how can Oregonians evaluate the effects of these major changes on their lives and give you realistic input on what might need to be changed or modified in your list of "ideas" presented in the draft. If any of these "ideas" are implemented, they would increase the cost of living, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.

Any future lists need to include clear, honest cost and impact information. Our state agencies should be transparent in how the changes they suggest would affect affordability and reliability for small businesses and individuals.

Thank you for considering my remarks and suggestions.

William A Summers
1120 Lawnridge St SW
Albany, OR 97321
541.990.9034

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Dusty <dusty@bandonsupply.com>
Date Fri 4/10/2026 12:34 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from dusty@bandonsupply.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

i oppose this measure, it works against hard working oregonian, this is one of the worse measures, i have ever seen proposed, not only is it a money grab, but also dictates, what we eat, and how we live, even trying to take away, the appliances we use everyday, it has mandates, that will drive up the cost of construction, and make the poor broke farmer, have to spend 100s of thousands of dollars, updating farm equipment, many will quit farming, further driving up the cost of farm goods at the store, only those, that are set on destroying this state, and its people, would support this, and when the voting happens, those that support this, will be looking at their last term in office, the voters will remember this terrible measure, i implore you to vote against this measure, and save oregon, from those, that would choose to destroy it.

Dan Stadelman

Bandon, Oregon

Outlook

STOP!! Enough is enough!!

From mrsnas@comcast.net <mrsnas@comcast.net>
Date Fri 4/10/2026 12:56 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from mrsnas@comcast.net. Learn why this is important

ODOE, why would you continue down a road of such thinking rather than using common sense.

You must remind yourselves, these proposed changes to:
HOW Oregonians are supposed to eat
WHAT Oregonians can purchase for their homes
IMPOSE more regulations on homeowners to retrofit changes to their homes when most are barely able to afford their homes
BURDEN farmers with mandates that will significantly eat into their slim profits as a result of climate imposed hardships (drought, high chemical cost, etc)

Oh, and last but not least. You are Oregonians, these changes WILL affect you also, directly or indirectly.

Please stand for those that still live in this state. Do not continue to make policy that drives even MORE good people from our beautiful state.

Mike Shaw

Outlook

ODOE's Climate proposals

From Molly Schaefer <jfe.farm@yahoo.com>
Date Fri 4/10/2026 1:05 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from jfe.farm@yahoo.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I'm writing to object to the time and money being spent on these proposals that you say are just for "informational purposes" and not for implementation. Why go to the time and expense of making this huge list if you don't intend to implement them? Is it to find new ways to raise fees and taxes or perhaps to find new ways to launder money in our state? I'm tired of the state trying to tell us what we should eat, what we should drive, how we should heat our homes, etc. etc., meanwhile ignoring the true climate emergencies in our State. Oregon is losing our forests to fires in record amounts. This is not due to climate change. It is due to poor forest management. We are letting a valuable natural resource that provides jobs and money to our state literally burn up and pollute our air with wildfire smoke. Our leaders throw hundreds of millions of dollars at our homelessness situation while tax payers can't use our parks, local recreational areas or our waterways without encountering piles of contaminated trash, needles, and piles of crap. They are leaving messes that we will be trying to remove from our green spaces for decades. Please quit trying to come up with more ways to make our lives more expensive and difficult and work harder on solving the immediate issues we currently face. Instead of creating more red tape and rules, please just use your time and energy to get the homeless out of our greenspaces and to stop our state and peoples' homes from burning up every year!

Thank you for your consideration.

Molly Schaefer
Salem, OR
Concerned 4th generation Oregonian

Outlook

---

comments re emissions reductions gaps

From Tina Springer & Peter Kenagy <kenagy@proaxis.com>
Date Fri 4/10/2026 1:19 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from kenagy@proaxis.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

To whom it may concern.

Its hard to know if those that developed these proposals had their heads in the clouds or buried in the sand.

Seriously?

A 70% reduction in Nitrogen fert by 2050?????? Is there going to be a corresponding reduction in mouths to feed???? Or are you expecting a technological break thru that will negate the need for nitrogen for plants to be productive?

A 50% reduction in beef and pork consumption by 2050? One of the easiest agricultural products to produce without added nitrogen while providing a source of fertilizer for other crops.

Maybe you also need to mandate that everyone collects and recycles their own night soil.

Peter Kenagy
Kenagy Family Farm Inc

Outlook

Thoughts on Draft List of Measures & Scenarios

From Suvi Wesa <SuviW@schnitzerproperties.com>
Date Fri 4/10/2026 1:36 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from suviw@schnitzerproperties.com. Learn why this is important

Good afternoon –

For some reason I did not receive the email from ODEO on this notice for comment. I am subscribed for updates as I assist our company's regional leadership in staying up to date on proposed updates. Please let me know if there is somewhere else I need to subscribe.

In the last 7-10 years, the State of Oregon, Multnomah County, and the City of Portland seem to be duplicating efforts in terms of layering on more costs and process that puts additional burden on real estate development, ownership and management. In Multnomah County and Portland we are experiencing a flight of investment and employers into friendlier markets that are serving the basic needs of safety and security as a priority and also not quite as horrendous with the progressive tax system. Oregon overall is experiencing a lack of willing investment for similar reasons – extensive land use regulation processes and unfriendly to business tax structure. We should be simplifying rather than adding complexity so we can help stabilize the economy and compete at least with neighboring counties and states that we are losing population and employers to.

The new Building Performance Act is good in theory and probably should have had some measures written into code long ago to move us forward. However, first adding the burden of high-capital cost upgrades to property owners who have decided to put their investment into our physical environment versus say the stocks, bonds, other businesses, WITHOUT first ensuring there is appropriate infrastructure and process in place by the utility companies and not having appropriate incentives in place for the older inventory that requires massive building upgrades is a huge miss on the part of ODOE and legislature. Unions lobby for work and have been able to convince legislators that only people using union labor would qualify a project for incentives. Union labor or prevailing wage costs add approximately 30-40% to a project's labor costs which ultimately wipes out any assistance available to a building owner. Since architects or engineers are required on all capital projects of substance here, why not accept a licensed professionals and/or City jurisdiction sign off on work completed properly as those are costs of construction? The point is to incentive folks to take steps forward and get work done, not punish them for trying to comply with extreme costs and complicated processes.

The Energy Star portal is clunky at best. PGE, Pacific Power, and Northwest Natural require all tenants who have meters in a building to authorize a landlord to access their energy usage which is a form that has to get signed by all parties and returned. Processing time, if it happens at all, is a few months by these utilities. The utilities are not set up to sync usage automatically with the Energy star portal so property managers or building owners are having to separately input billing information. In many cases, our portfolio serves small businesses so we can have up to 50 tenant meters in our larger complexes. Then having to hire professionals to do the verification of square footage, tenant uses, update for vacancies as spaces turn, prepare analysis, prepare the Energy Management Plan reports and the Operations and maintenance reports – our company just on the Tier 1 properties has to spend well over $100,000 just on reporting plus staff time. In many cases, these costs of reporting can be passed on to

the businesses occupying spaces. Building owners have to absorb the cost on vacant spaces. Lenders require a very specific debt coverage ratio on the entire building operations and either can capital call owners to make up the delta on what they borrow on if expenses increase or simply call the loan entirely if a property cannot perform to a standard. If actual upgrades are needed, some of our old properties have too small of an electrical room that cannot handle the electrical equipment upgrades to change to a different heating system or renewables. The technology on many of these renewables, hydrogen equipment, and new heating systems has not been around long enough to determine viability. The current construction materials and equipment available is not available for some of the policies proposed and should be a major consideration for timing of each individual item proposed. Long-term legislative impacts are still unknown as they are not all fully implemented yet. Observation of outcomes by sector and real world data over time is the only feasible way to methodically get the results desired.

Portland having any right to enforce stricter policy without addressing the above is a recipe for continued City decline. Portland Clean Energy Fund is a prime example of an inability to implement policy properly. Hundreds of millions sit unused or "borrowed from" to shore up other disastrous budget issues. A developer of net zero apartment building fellow Masters of Real Estate Development graduate cohort of mine has told me that even though his product is primed and proved for PCEF, his projects do not qualify for PCEF funds although he has attempted to apply, again, through a very clunky and opaque process and criteria. This should be the EXACT thing we are promoting and instead we are making building energy efficient projects much more difficult or completely unfeasible.

The State has an opportunity here to work with professionals who make places for people instead of against. I have loved Portland ever since my husband and I moved here in 2006. He is originally from Gresham – his family is all Oregonian with a history of berry and tree farming since the early 1900s. I love commercial real estate and seeing the people who have done right by Portland and the State to get us to the peak days in 2018-19. I have also seen why we benefited when Seattle and San Francisco cost of living made Portland a more advantageous place to be. And now as someone who has sat as a volunteer for the last 3 years on the Multnomah County Property Value Appeals Board, I have a front row seat to our poor policy implementation caused economic decline.

Before implementing any of these gap measures and further increasing burdens to all Oregon citizens, I ask for consideration of the above and a more thoughtful review of consequences and a more methodical approach on a per sector and per measure basis.

Best regards,

Suvi
Suvi Wesa
AVP, Development
Schnitzer Properties
Direct/Cell (503) 450-0733
Email Suviw@SchnitzerProperties.com
Web www.SchnitzerProperties.com
1121 SW Salmon Street • Portland, OR 97205

Outlook

ODOE

From Toby Bassett <tobybassett007@gmail.com>
Date Fri 4/10/2026 1:36 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from tobybassett007@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I oppose all of the new green policies issues attached to Kate Brown.
I believe the cost of living will take a big hit on all Oregonians if instituted.
Sent from my iPhone

Outlook

Stop this madness now.

From scott magness <binkido799@gmail.com>
Date Fri 4/10/2026 2:10 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from binkido799@gmail.com. Learn why this is important

Outlook

5th generation Oregonian with a Comment on Tighter 2.0 Draft Gap measures

From Eric Hill <Eric.Hill@AmericanConCo.com>
Date Fri 4/10/2026 2:21 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from eric.hill@americanconco.com. Learn why this is important

To whom it may concern:

1. I strongly oppose ODOE advancing or modeling these extreme and broad measures that affect what people eat, how they heat their homes, and what appliances they can build (without cost estimates!)… The weather can be a bit unpredictable, even before the moniker “Climate change” was used. It’s very short cited given unpredictability.
2. While your 48 major ideas maybe be great, we have not had time to digest them completely. There are no dollar amounts given to substantiate it.
3. Who do you really represent? I am concerned these measures definitely increase the cost of living. We are already struggling to keep up with Oregon’s extremely high cost of living. Surely you have looked at the data there? Are you trying to drive more working-class people out of the state? Because that should be a concern.
4. In Oregon right now, we are already concerned that our solid Democrat party isn’t being very transparent. We keep paying, or are being asked to pay MORE in taxes. So please consider this, and maybe put a realistic cost proposal together.

Thank you,
Eric Hill
Harrisburg, OR

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures"

From Suzanne Hart <mrssuzannehart@gmail.com>
Date Fri 4/10/2026 3:02 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from mrssuzannehart@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Oregon Dept. of Energy,

I am writing to comment my strong opposition to the TIGHGER 2.0 Draft Gap Measures.
The broad measures proposed by this measure will create more problems than they propose to solve. Without any firm cost estimates on the impact to Oregonians, this measure creates undue financial hardships increasing the cost of living for all in the state.

It is extremely irresponsible to implement measures that affect everyone living in Oregon, without transparency, taking no consideration of affordability, and harming Oregon families, farmers, and small businesses.

The ideas suggested in the measure are nothing more than extreme restrictions on how people live their lives in Oregon, without any cost estimates in the final impact. It is irresponsible to increase the cost of living by reducing consumer choice.

I ask that state agencies rather focus on affordability, reliability, and transparency, NOT open-ended social engineering experiments. The people of Oregon need clear, honest information with defined goals. Any measure that increases the cost of living is a poor measure.

Respectfully,
Suzanne Hart
Keizer, Oregon
Sent from my iPhone

Outlook

ODOE public comments

From Setonhigh99 <Setonhigh99@proton.me>
Date Fri 4/10/2026 3:07 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from setonhigh99@proton.me. Learn why this is important

My name is Leslie Johnson

Let's stop pretending this is some harmless exercise. ODOE's own draft models a 50% reduction in beef and pork consumption by 2050, a 30% reduction in poultry and egg consumption, a 30% reduction in dairy consumption, 95–100% electric new residential appliance sales by 2035, 95–100% of existing homes retrofitted with heat pumps by 2045, 95% weatherization of existing residential home envelopes by 2040, and 70% of new off-road vehicle sales in agriculture, forestry, construction, and recreation as ZEVs by 2050. The document also says these measures are open for comment until 5 p.m. on April 10, 2026, and are not yet being proposed for implementation.

That does not make them harmless. It makes them a warning sign. This is not just climate policy. It is a roadmap for government steering what people eat, what appliances they buy, how they heat their homes, how buildings are designed, and what equipment working people are expected to replace over time. The draft goes beyond food and vehicles; it also models extending Building Performance Standards to more buildings, stricter standards in Portland, requiring new commercial and residential buildings to use 60% less energy by 2030, shifting wood-stove households toward heat-pump systems, and even converting diesel backup power to battery storage.

The people who get hit first are not the affluent professionals who can absorb another retrofit, another contractor bill, another appliance swap, another equipment turnover, and another increase in food or utility costs. The people hit first are poor people, working-class people, rural families, elderly people on fixed incomes, small business owners, ranchers, farmers, and tradesmen. That is the quiet part these politicians always bury under slogans like "equity" and "justice." The burden rolls downhill.

What makes this worse is that the public is being asked to comment on these measures before ODOE has laid out a clear household cost sheet, producer cost sheet, taxpayer exposure sheet, or ratepayer impact sheet in the public-comment document itself. The document says ODOE plans to quantify emissions reductions after comments are received, but this packet does not give the public a serious cost accounting up front. If the state wants trust, it should show the bill first.

On food and farming, this draft is especially revealing. It is not just about pushing "plant-rich diets." It also models increased nitrate testing, a 70% reduction in nitrogen fertilizer use by 2050, irrigation-system changes, broader farming-practice interventions, and methane-reduction measures that include reduced livestock-sector emissions. That means pressure on both what people consume and how producers operate.

And the costs do not disappear. They move into production, freight, compliance, equipment replacement, food, housing, and utilities. Then they get passed down to ordinary people. Wages do not magically keep pace with politically manufactured cost increases. So more people struggle, more people need help, and more people end up dependent on subsidies and government-managed relief just to keep up with basics. That is not compassion. That is a cycle of dependence built on avoidable economic pressure.

The same pattern shows up in housing and appliances. The state can avoid the word “ban,” but the mechanism is obvious: squeeze fuel choice out over time through codes, standards, sales targets, replacement cycles, and retrofit pressure until the state-favored system becomes the only realistic path. That is not freedom of choice. That is managed choice.

The same goes for working equipment. Modeling 70% of new off-road vehicle sales as ZEVs by 2050 and 80% of industrial vehicles, including in agriculture, by 2050 tells farmers, builders, forestry workers, and other productive sectors that bureaucrats and consultants think they should reorganize around expensive transitions that may be impractical, unreliable, or infrastructure-dependent. That is direct pressure on the machinery side of the real economy.

My comment is simple: many of these measures should not be modeled further in their current form at all. They are economically reckless, class-blind, culturally arrogant, and detached from the lived reality of the people who would bear the burden. If Oregon wants public trust, then publish the producer impacts, household impacts, ratepayer impacts, taxpayer exposure, feasibility limits, and likely pass-through effects on food, housing, utilities, and equipment turnover before asking for buy-in. Until then, ODOE should remove or substantially revise the most coercive measures in this draft.

I oppose these draft measures.

Leslie Johnson

Sent from Proton Mail for Android.

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From brownellj@comcast.net <brownellj@comcast.net>
Date Fri 4/10/2026 3:14 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from brownellj@comcast.net. Learn why this is important

Dear ODOE,

- I oppose ODOE advancing or modeling sweeping measures that affect what people eat, how they heat their homes, and what appliances they can buy **without any cost estimates**.
- I find it irresponsible to ask the public to comment on 48 major ideas with **no dollar amounts**, and you demand that any future lists include clear, honest cost and impact information.
- I am concerned that these concepts, if implemented, would **increase the cost of living**, reduce consumer choice, and hurt Oregon families, farmers, and small businesses.
- I want state agencies focused on **affordability, reliability, and transparency**, not open-ended social engineering experiments.
- Quit trying to pull a 'fast one' on Oregonians who pay our taxes but we get no benefit from the monies we send in. No more crap!

CONTACT:
Jeanene Brownell
brownellj@comcast.net
503-910-2048

Outlook

ODOE public comm

From Scott Staten <sstaten@gerdingbuilders.com>
Date Fri 4/10/2026 3:18 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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I began to send an email containing point by point comments on the 48 listed “Gap Measures” that the ODOE has put out for public comment. I realized as I was writing comments that it would be even longer that the original document.
The content of the TIGHER 2.0 is not only ridiculous, but also contradictory on many points. Why would Industry be required to reduce energy consumption by 60% while farmers are forced to increase energy consumption to integrate pressurized delivery methods in areas where no power is available? On this note, what is the percentage of crop raising that implements flood irrigation and if it is forced to be removed, what overall gain does this achieve?
Industry will be required to increase water systems efficiency by 20% when multiple jurisdictions have aged/aging infrastructure that is losing water at a much higher rate than industry? Many of these jurisdictional challenges should be addressed through monies that are already being collected from taxpayers but never seem to be accomplished.
Forcing an agenda mandating what Oregonians can eat by reducing the consumption of Beef/Pork and dairy, but increasing the consumption of fish and vegetables? At its core, this notion is ludicrous and smacks of an agency that thinks they know better than anyone else and all must comply with their train of thought. This bullet point is only to be outdone by the next which will require less food waste.
Overall, the entirety of this document strikes me of something that an intern threw into Chat GPT, slapped on Government letterhead, and distributed without any review or oversight. There is no thought, concern or even cost estimates covered within any of these points. How can the public comment on such a sweeping narrative with no indication of monetary impact for the present nor in the future?
This state is on the tipping point of crisis. None of the items, agendas or ideologies should have been put in front of the public to begin with. Focus on the issues at hand that are impacting our resident’s ability to make a living, maintain a household, and not want to leave the state. Stop trying to force an agenda on the citizens of Oregon that is nothing but virtue signaling (to no one in particular) that will only force more constraints on all of us. There are more important issues that need to be dealt with.

Scott Staten
Vice President
M 541.230.0339 | **O** 541.753.2012
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GERDING BUILDERS

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Tad Sylvester <golddigger0430@gmail.com>
Date Fri 4/10/2026 3:58 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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I oppose all measures that are opposed to Oregon citizens without cost analysis for each and impact statement of how they affect everything from producer to consumer.

Jack Sylvester

Outlook

TIGHER 2.0 draft measures Comment

From Mackenzie Cox <mackenzie.cox@franklinenergy.com>
Date Fri 4/10/2026 4:10 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from mackenzie.cox@franklinenergy.com. Learn why this is important

Good Afternoon,
I have a last-minute comment on the TIGHER 2.0 draft measures.

One thing I noticed about the draft is the 2nd measure. Large Load Renewable Power Program - "New large loads to be supplied with 100% clean
energy resources".
I recently read the Oregon Energy Strategy Document, and the first cross cutting action was to:
"Impose registration and reporting requirements upon all new large electric loads to inform greenhouse gas emissions analyses, and evaluate whether policy changes are needed to bring emissions in line with state policies. This would require an action from the Environmental Quality Commission." Page 83.
I am wondering why these two measures don't match up. I did not have time to go over all of the measures thoroughly but this is the something that stuck out to me.
I am also curious if there are any more measures that can be gained by looking at the Oregon Energy Strategy. Maybe a gap measure related to prioritizing public transit?
Thanks for your hard work!

Sincerely,
Mackenzie Cox
BPS Pathway Coordinator
Existing Buildings - Strategic Energy Management
Pronouns: she/her/hers

Working with Energy Trust of Oregon
Franklin Energy
Program Management Contractor
240 N. Broadway, Portland, Oregon 97227

Outlook

Public Comment on TIGHGER 2.0 Draft Gap Measures

From Cheryl Mellnik <cmellnik@comcast.net>
Date Fri 4/10/2026 4:28 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>
Cc govenor.Kotek@oregon.gov <govenor.Kotek@oregon.gov>

You don't often get email from cmellnik@comcast.net. Learn why this is important

Greetings Dept. of Energy Members,

I write as a concerned citizen regarding some of the suggested measures being put forward in response to executive orders from former governor Kate Brown, and obviously being carried forward by governor Tina Kotek. Specifically, anything that moves forward from a suggestion point, must have the full monetary consequences thoroughly included, which maintains transparency for taxpayers. Many appear to be designed to dictate how Oregonians should live, eat, and heat their homes, which is real negative social engineering, not job of ODOE, and will not be tolerated!

State agencies should be focused on affordability, reliability, and transparency for all Oregonians. These concepts, if implemented would surely increase the cost of living, reduce consumer choice, and hurt families, farmers, and small businesses. ODOE should be focused on realistic solutions for the real crises we face in this state, which has unfortunately be mismanaged for a long time!

Sincerely,

Cheryl Mellnik
Multnomah County
97239

Virus-free.www.avg.com

Outlook

Comments on TIGHGER 2.0 Project Draft Gap Measures and Scenarios for Analysis

From brianposewitz@comcast.net <brianposewitz@comcast.net>
Date Fri 4/10/2026 4:58 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from brianposewitz@comcast.net. Learn why this is important

Greetings,

Please consider the following comments on the above:

1. In general, thank you for your efforts to analyze the impacts of potential strategies to reduce greenhouse gas emissions.

2. Thank you for including food choices among the measures to be modeled. The impact of eating food produced from animals instead of directly from plants is well established – getting our food from animals creates significantly more greenhouse gas emissions. See, e.g., https://www.un.org/en/climatechange/science/climate-issues/food. That should not be ignored simply because it is politically inconvenient, as some state agencies are apparently encouraging. Slaughtering Oregon-raised animals locally will do little to address the problem because transportation represents only a very small part of greenhouse gas emissions from food production. See, e.g., https://ourworldindata.org/food-choice-vs-eating-local. Certainly, the impact of food choices should at least be modeled so the public understands this consequence, among others, of its food choices. If we are serious about reducing greenhouse gas emissions, we need to be honest with ourselves about the impacts of all lifestyle choices, including the popular ones.

3. Instead of suggesting a shift to “seafood,” why not just leave the alternatives open or suggest more plant-based foods. Eating seafood has its own set of serious environmental consequences. See, e.g., https://en.wikipedia.org/wiki/Seaspiracy.

Thank you for considering my comments.

Regards,

Brian Posewitz
8508 SE 11th Ave.
Portland, OR 97202
(503) 432-8249 (land line)
brianposewitz@comcast.net

Outlook

Re: Transformational Integrated Greenhouse Gas Emissions Reductions Re: (TIGHGER 2.0) Project Draft Gap Measures and Scenarios for Analysis

From Helena Birecki <earthsanity@gmail.com>
Date Fri 4/10/2026 5:04 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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Dear Oregon Climate Action Committee and Oregon Department of Energy,

Thank you for the opportunity to comment based on the 4 bulleted question:

- Are there measures listed below that you think would be particularly important to model to quantify potential greenhouse gas emissions reductions? Are there particular assumptions ODOE should consider for that measure?

The building and vehicle direct electrification measures are important to model, not only because they are efficient and cost effective ways to reduce emissions, but also because of the positive public health and equity impacts.
Similarly, a 70% reduction of nitrogen fertilizer by 2050 has important water quality and emissions reductions benefits.

- Measures to consider amending or removing

ODOE should **remove measure 37**, “RH2 injection 15% by 2050.” ODOE’s own Oregon Energy Strategy stated that renewable hydrogen must be reserved for the hardest to electrify sectors. Hydrogen – whether through steam methane reformation or electrolysis – is extremely energy intensive to make, and using hydrogen for non-essential purposes is likely to increase pollution, emissions, and utility prices. Even the clean hydrogen will yield little to no greenhouse gas emissions reductions when blended into the residential and commercial gas system.

ODOE should **consider amending or removing measure 13, “Hydrogen Fuel Adoption,” measure 18, “Low Carbon Fuels by 2050,” and 46 “Maritime Shipping Fuels.”** Most clearly, these measures must be amended to specify the type of hydrogen– hydrogen produced from fossil fuels has no place in any emissions reduction measure.
Secondly, there needs to be serious consideration of the total volume of green hydrogen and other low carbon fuels needed to meet these metrics, and a realistic assessment of whether there will be enough clean electricity and waste feedstocks for these fuels. 95 - 99% of hydrogen produced for current uses is produced from fossil fuels; we need to make sure that current hydrogen demand and production is cleaned up first before assigning an inefficient fuel to new purposes. Many studies indicate that waste feedstocks for low carbon fuels and clean electricity supplies for green hydrogen are too limited for

further expansion, and that increasing demand will increase, rather than reduce emissions compared to the status quo. Increasing demand is also likely to increase fuel and utility prices, which is both an inequitable outcome and would likely doom the success of the measure.
Given that a significant reason why Oregon is no longer on track to meet its climate goals is increasing electricity demand from data centers– and demand from data centers is wreaking havoc on emissions reductions worldwide– it seems unwise to consider gap measures which are inefficient, constrained, and expensive.

Thank you for your work,
Helena Birecki
Portland, Oregon

1. https://olis.oregonlegislature.gov/liz/2025R1/Downloads/PublicTestimonyDocument/125711
2. https://olis.oregonlegislature.gov/liz/2025R1/Downloads/PublicTestimonyDocument/123661

Outlook

Public comment on TIGHGER 2.0 Draft Gap Measures

From Chad Jorgensen <chadjorgensenpac@gmail.com>
Date Mon 4/13/2026 10:50 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from chadjorgensenpac@gmail.com. Learn why this is important

As a health care provider, limiting diet in the public is ignorant and reckless. You are forcing people to give up healthy protein and diet choices. Talk about a dictatorship. Forcing agriculture and forestry to go to EV is also wreckless. Have any of you enrr set in a combine or on a tractor and plowed a field, harvested crops or tended livestock. Have you ever been on a skidder, set chockers or run a yarder? I also am opposed to your heat pump idea. My mom is 83 and purchased a new heat pump for her 1700 sgft home. Cost was $25000. The tech has been out numerous times at a cost of $60 each visit. Tell me who can afford that ticket working or on a fixed income?

My comment is simple: many of these measures should not be modeled further in their current form at all. They are economically reckless, class-blind, culturally arrogant, and detached from the lived reality of the people who would bear the burden. If Oregon wants public trust, then publish the producer impacts, household impacts, ratepayer impacts, taxpayer exposure, feasibility limits, and likely pass-through effects on food, housing, utilities, and equipment turnover before asking for buy-in. Until then, ODOE should remove or substantially revise the most coercive measures in this draft.

I oppose these draft measures.

Chad A. Jorgensen PA-C

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Bob Franks <bob@wwi-inc.com>
Date Mon 4/13/2026 11:40 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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I don’t understand. The democrats are preaching to us daily about not wanting a King, but I guess a queen is okay?
You’re trying to dictate everything in our lives without any regard for reality about how we live.
I thought we live in a free country?
This takes away a lot of our freedoms.
This is wrong.

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Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Chris <crpatterson1965@gmail.com>
Date Mon 4/13/2026 11:41 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from crpatterson1965@gmail.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

I oppose these measures. I don’t agree with the ideas that have spawned these unneeded and expensive plans.

Thank you!
Sent from my iPhone

Outlook

Opposition to TIGHGER 2.0 Draft Gap Measures

From Dan Lee <drlee65@gmail.com>
Date Mon 4/13/2026 11:42 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from drlee65@gmail.com. Learn why this is important

I am not for these measures you will have ONE HELL OF a FIGHT on your hands if you think you are going to ban me from eating BEEF, PORK, LAMB, POULTRY & EGGS. ALSO forcing me to convert to electric vehicles & farm equipment!

Outlook

Concerns Regarding ODOE's Proposed Measures and Lack of Fiscal Transparency

From Jason Lewis <jldirectmail@gmail.com>
Date Mon 4/13/2026 11:43 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from jldirectmail@gmail.com. Learn why this is important

Dear ODOE TIGHGER 2.0 Task Force,

I am writing to you today to express my strong opposition to the Oregon Department of Energy (ODOE) advancing and modeling sweeping measures that seek to dictate the most personal aspects of Oregonians' lives—from what we eat to how we heat our homes and which appliances we are permitted to buy.

Specifically, I am concerned that these initiatives are being moved forward **without any accompanying cost estimates.** It is fundamentally irresponsible to ask the public to provide meaningful comments on 48 major policy ideas when no dollar amounts have been attached to them. Expecting citizens to evaluate significant shifts in state policy in a financial vacuum undermines the democratic process.

If implemented, these concepts would likely result in:

- **Increased Cost of Living:** Burdening households that are already struggling with inflation.
- **Reduced Consumer Choice:** Stripping away the ability of individuals to make decisions that best suit their families and budgets.
- **Economic Strain:** Directly hurting Oregon's farmers, small businesses, and hardworking families who rely on affordable energy and freedom of choice.

I demand that any future lists or policy proposals from the ODOE include **clear, honest cost and impact information.** Oregonians deserve to know exactly how much these "ideas" will cost them before they are even considered for modeling.

Our state agencies should remain focused on **affordability, reliability, and transparency.** I urge you to push back against these open-ended social engineering experiments and ensure that the ODOE returns to its core mission of serving the practical needs of all Oregonians.

Thank you for your time and for considering the concerns of your constituents.

Sincerely,

Jason Lewis

--

Jason Lewis
jldirectmail@gmail.com
P: (503) 701-7654

Outlook

Stop

From Kenneth Anderson <ssgtanderson51@gmail.com>
Date Mon 4/13/2026 3:22 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

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Stop the GREEN GANGSTER commie stuff!

Outlook

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next

From Barbara Green <cgbg4@live.com>
Date Mon 4/13/2026 4:36 PM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

[You don't often get email from cgbg4@live.com. Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Please be aware of the proposed next fuel site proposed for Port Westward just outside of classic Oregon. This would not be indicative of a healthy environment.
SENT FROM BARB GREEN's iPHONE

Outlook

Public comment on TIGHGER 2.0 Draft

From Dan Linscheid <DanLinscheid@gmx.com>
Date Tue 4/14/2026 8:40 AM
To OCAC Odoe * ODOE <OCAC@energy.oregon.gov>

You don't often get email from danlinscheid@gmx.com. Learn why this is important

Statement of Opposition

I am writing in strong opposition to the Oregon Department of Energy's TIGHGER 2.0 draft measure as currently presented. My concerns are as follows:

1. No Cost Estimates Provided It is irresponsible for ODOE to advance or model sweeping measures that affect what Oregonians eat, how they heat their homes, and what appliances they may purchase — without providing any cost estimates whatsoever. Asking the public to meaningfully comment on **48 major policy ideas** with zero dollar figures attached is not a good-faith public process. Any future proposals of this scope must include clear, honest, and complete cost and impact information before public comment is solicited.

2. Harm to Oregon Families, Farmers, and Small Businesses The concepts outlined in this draft, if implemented, would foreseeably **increase the cost of living**, reduce consumer choice, and impose disproportionate burdens on Oregon families, farmers, and small business owners who are already facing economic pressure. Policies of this magnitude demand rigorous economic analysis — not open-ended ideation exercises presented as public policy.

3. Overreach Beyond Core Agency Mission State agencies should remain focused on **affordability, reliability, and transparency** in energy policy. TIGHGER 2.0 as drafted reads as an open-ended social engineering experiment that far exceeds ODOE's appropriate mandate. Oregonians deserve an energy agency that prioritizes practical solutions over expansive behavioral mandates.

Requests:

- Withdraw or pause TIGHGER 2.0 until full cost and impact analyses are completed and published.
- Require that all future draft measures include itemized cost estimates before public comment periods open.
- Refocus agency efforts on energy affordability and reliability for all Oregonians.

Respectfully submitted, Dan Linscheid, 7095 Aumsville Hwy. SE, Salem, Oregon, 97317, Phone 971-600-5550