

Oregon Clean Fuels Program Expansion 2022

Summary

Rulemaking Advisory Committee Meeting #2

Date: Jan. 26, 2022, 10 a.m. – 4 p.m.

Location: Zoom Webinar

RAC Members in attendance

- Maya Kelty, 3 Degrees
- Mark Bunch, BP
- John Thornton, Clean Future
- Victoria Paykar, Climate Solutions
- Michael Graham, Columbia Willamette Clean Cities Coalition
- DJ Builta, Ed Staub
- Jason Heuser, EWEB
- Floyd Vergara, National Biodiesel Board
- Alex Schay, NW Alliance for Clean Transportation
- Jana Gastellum, Oregon Environmental Council
- Mike Freese, Oregon Fuels Association
- Greg Alderson, PGE
- David Breen, Port of Portland
- Curtis Powers, REG
- Michelle Detwiler, Renewable Hydrogen Association
- Sam Wade, RNG Coalition
- Jessica Hoffman, RPMG
- Jeremy Martin, Union of Concerned Scientists
- Sergio Lopez, Verde
- Jessica Spiegel, Western States Petroleum Association
- Matt Solak, Pacific Propane Gas Association
- Kent Hardwig, REG, Alternate
- Martina Steinkusz, Renewable Hydrogen Association, Alternate
- Tom Umenhofer, Western States Petroleum Association, Alternate

DEQ staff/facilitators in attendance

- Colin McConnaha, Office of GHG Programs Manager
- Cory-Ann Wind, Clean Fuels Program Manager
- Bill Peters, CFP Markets Analyst
- Kiara Winans, CFP Pathways Specialist
- Stephanie Summers, CFP Reporting Specialist
- Jamie Damon, Senior Facilitator
- Gillian Garber-Yonts, Facilitation Team

List of handouts and presentation notes

- Agenda
- Presentation
- Target Setting and Other Topics Memo



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Quality

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Agency web page:

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

Time	Topic
9:45 a.m.	Webinar Setup and Login
10 a.m.	Welcome and Introductions
10:10 a.m.	Brief Recap of RAC Meeting #1
10:20 a.m.	Presentation and Discussion: Target Setting
11 a.m.	Breakout Rooms
11:45 p.m.	Lunch
12:45 p.m.	Report-out from Breakout Groups and Discussion
1:45 p.m.	Other Rulemaking Topics
3 p.m.	Wrap-Up
3:15 p.m.	Public Comments
3:45 p.m.	Next Steps
4 p.m.	Adjourn meeting

Welcome and Introductions

Jamie Damon, Lead Facilitator, welcomed the RAC members and the audience to the DEQ Clean Fuels RAC Meeting #2. She shared brief instructions on using the zoom webinar platform, reviewed the meeting agenda, shared an overview of the meeting guidelines, and provided instructions to the public on sharing their comments and questions during the meeting.

Jamie asked the attendees to open a web browser and go to “Menti.com,” to respond to a poll asking them to share their affiliation with the group.

RAC members shared their name, affiliation, and their interest in the rulemaking process. RAC members were also asked to share the name of their alternate.

Committee Business

Jamie Damon went through the meeting ground rules and reviewed the RAC #2 Meeting agenda.

Cory-Ann Wind, Oregon Clean Fuels Program Manager, introduced herself as well as the Clean Fuels Program Project Team.

Brief Recap of RAC #1 Meeting

Cory-Ann provided a brief recap of the DEQ Clean Fuels RAC #1 meeting (slides #9-12 of the [presentation](#)). The following are questions and comments received on this agenda item. CFP staff provided the responses.

Comment: You have a wide range of views on credit availability. I think that is healthy, that's going to be part of our discussion going forward. There are other programs that are being either designed or revised in the United States that will affect the availability of credits and fuel pathways as well as the developing markets. You want a viable program that can be executed in a reasonable way for both suppliers and users.

Response: There are a couple of ways we do that. The membership of this RAC includes representatives that work closely with fleets and other programs that can act to share the market benefits of both the program as well as clean fuels. That is the primary way we get information out to larger fleets and users. We don't do as good of a job at marketing what the benefits of the Clean Fuels Program (CFP) are to the general public. A

lot of the benefits are not necessarily reflected in retail prices and there are a lot of different factors that play in.

Comment: I really like the way Cory-Ann framed the topics, especially the need for reducing GHG emissions and the co-benefits of the program. From a human health perspective, clean fuels provide immediate impacts. Biofuels, as a class, tend to reduce harmful non-GHG emissions. As the state is aggressively pursuing electrification, it should also pursue policies to reduce immediate pollutants.

Presentation and Discussion: Target Setting

Cory-Ann provided an introduction to the assumptions in the compliance scenarios and recent actions (slides #13-15 [presentation](#)). The following are questions and comments received on this topic. CFP staff provided the responses.

Question: Doesn't the Climate Protection Program then become the least common denominator to meet those carbon reduction goals? That's going to dictate the percentages of clean fuels that must be used to meet those requirements. That dictates what the production has to be. Am I missing something?

Response: DEQ is not dictating what sector, what source, or what fuel will get you to reduction. It is a proportional share reduction. There are some schools of thought, as far as how you approach what's going to happen into the future, where all the different sectors get the proportional shares, but I think there's definitely a possibility that some of the sectors will pull more or less of the load. When you look at all of the emissions in the state of Oregon, there is definitely flexibility in the Climate Protection Program to be able to address that. I think what has happened in some of the conversations that I've been in is that because we have had the Clean Fuels Program in place, and because we do have the framework set up for how the program can send that further decarbonization into the future, people understand the rules of this particular game and market better than in other sectors.

Comment: I heard a comment about how we need to compete with California's prices in order to get product up into Oregon. I heard that we need to raise prices in Oregon so that we can get more renewable up here. I don't think the goal here should be to raise Oregon resident's energy and transportation costs. I am hearing that you want to get the costs up so high that refiners and suppliers will move the product up to Oregon where they can get the same amount as they can get in California. In California, lower income people are suffering from high fuel prices. People would be priced out. I would like everyone to consider the people that can't afford \$5-6 fuel or \$80,000 cars. You have to spend a pretty good chunk of money to get one of the cars that gets decent range. Right now, Oregon is an attractive place for Californians to move to because of the costs of living. I would like everyone to think about that and about the effects on lower income people.

Response: Thank you for those comments. The impact to consumers is one of the things that we think about. I want to clarify a couple of things. We have talked about prices going higher because it is the credit prices that dictate the economics of the Clean Fuels Program. That translates to higher credit prices and commonly leads to lower retail prices. The higher blends of those fuels actually bring down the cost to the consumer. What we're trying to incentivize here is the lower carbon fuels that we want to be blending to be cleaner and cleaner, that is why we talk about renewable ethanol and biodiesel. That is why we talk about natural gas electricity as a fuel. It is lower carbon, and because of that there are savings to the fuel consumer for those fuels.

Report Out from Breakout Groups and Discussion

Jamie asked the RAC members to fill out a Menti Poll and share which of the following priorities are most aligned with their consideration of the future CFP targets.

- Greenhouse gas reductions
- Health benefits to local communities from reduced tailpipe emissions
- Investment in fueling infrastructure
- Commercialize fuels and vehicles that will lead to deep decarbonization
- Achieve short-term emissions reductions from the existing fleet through the greater use of biofuels

The RAC members were then broken out into 5 groups and asked to respond to the following discussion questions.

- Question #1: What priority did you rank highest in the poll and why?
- Question #2: What elements of the illustrative compliance scenarios do you like/dislike?
- Question #3: What are the outcomes you anticipate from the new targets? What outcomes do you want to see?

Jamie Damon asked the notetakers from each discussion group to share a report out of their group's conversation. The following are summaries of responses heard during the breakout room report outs.

Breakout Room #1 Report-Out

Question #1: One group member ranked health benefits from communities as the highest priority. Two members shared interest in near term GHG reductions from biofuels, and a group member expressed the need to focus on methane as a critical short-lived climate pollutant. One group member pointed out that GHG reductions were the most critical focus but expressed that they didn't have a strong individual preference. The group discussed investment in fueling infrastructure and needed investment in clean fuels more broadly. The group asked for clarification on the health benefits section.

Question #2: A group member spoke on the importance of being ambitious and learning from prior target setting exercises. They noted their appreciation for the "all-in" scenario that looks to combine success across a wide variety of clean fuels in order to see what's achievable. A group member shared that the program could go even further during the next rulemaking. Several group members agreed that being realistic should be a focus. There was general agreement that some of the EV assumptions are aspirational. It was pointed out that the scenarios aren't meant to be predictive, instead they are intended to show that the targets are appropriate and that there's a variety of ways to achieve them. RAC members added that the existing modeling isn't perfect for the ethanol and renewable natural gas assumptions and that some possible CI reactions were not captured. They agreed that the modeling is correct enough to be informative for target setting. It was mentioned that DEQ could look to other uses of RNG, including using it as an input to make liquid fuels or to make power. It was shared that biomass space diesel issues, as they relate to workforce, are appropriately captured.

Question #3: A group member shared that if the targets are ambitions, but within reason, the program will be effective in creating new markets and clean fuels will come to the market as a result. They added that the targets need to work for the consumer, as well as regionally. They also mentioned the need to maintain technology neutral while ensuring technology variability. A group member talked about electrification through a low income and community focused lens. Another group member talked about second generation feedstocks and how the "all in" scenario could be even more ambitious if the program stretched liquid biofuels. The need for continuous improvement was mentioned with an emphasis on the need to remember the first-generation feedstocks and continue to be efficient in the way fuels are produced from those feedstocks. A member emphasized the need to be more efficient with resources as DEQ looks at new options.

Breakout Room #2 Report-out

Question #1: Group members ranked GHG as their primary priority. Driving down GHG emissions and transportation fuels were shared as the highest priority considerations for the group. It was acknowledged that there are many benefits to GHG emission reduction such as health benefits and economic development. A group member shared that from a fuel client's perspective, infrastructure is the most constraining implementation factor. They added that this is particularly true from a retail perspective, because it may require new infrastructure. It was shared that special tanks and piping may need to be equipped to be able to offer fuel separately. A RAC member shared that deep decarbonization was the second priority and a point was made about hydrogen and other fuels gaining the ability to scale up production shortly. The group agreed that there may be some opportunities to expand on the targets.

Question #2: A group member brought up some uncertainties when looking at the different scenarios between biofuels and electrification. They noted that there were some questions regarding across the board increases for electrification and whether there was consideration about the capacity or capability to do that on the heavy and medium duty vehicle side of the equation. A group member pointed out that the evaluation had already looked at the truck rules and considered them. Concerns were shared about the availability of biofuel and biofuel supplies both in the near term and the long term. It was shared that so long as charging is managed to avoid increasing peak demand on the grid, there is compatible long term electricity supply and demand. It was agreed that there is perceived value in the rulemaking process being technology agnostic, which had been an attractive feature of the program.

Question #3: A comment was shared about the desire to have a level playing field within the state as policies are emerging to avoid creating winners or losers. A request was shared to continue to build on existing success and market transformation and attach economic externalities to greenhouse gases. A group member commented that it would be good to have incentives that are compatible with businesses. They added that the CFP has been successful as it has given them options under their business model to reduce greenhouse gases. The hope is that this will continue to be the case as fleets transform. Comments were shared about how far out the targets should be set for and a group member questioned whether it is realistic to set them too far in the future. It was noted that there are many uncertainties and as much as a landscape can change in the near term, we know that 10 years from now things may look a lot different. It was shared that there may be certain ways to achieve equity through this program, but that there could be a need to look at other external, or additional policies to achieve that.

Breakout Room #3 Report-out

Question #1: Similar to other groups, they agreed that GHG reduction is their top priority. The group felt that GHG reduction was the main goal of the program, and the reason for considering the expanded targets. One member specifically shared that GHG reduction leads to positive outcomes like food and economic security, cleaner environment, and innovation in new clean technologies. Another group member emphasized the need for capturing lifecycle GHG emissions going forward. A group member mentioned that there are other potential levers available to accomplish the program goals and that they should be considered in this modeling and the program scenarios.

Question #2: The group talked about how scenario modeling can be limitless in the future, and that can also lead to innovation. A group member asked about how future innovation fits in. They offered their appreciation for the modeling that will lead to increased health benefits, and specifically set net zero emission targets. The group is encouraged about where electrification can play a part in the future. There was a comment about the model being interesting because it had a time endpoint.

Question #3: The group talked positively about extending the time horizon as it gives more stability and sends the right message. A group member mentioned that the targets should lead to larger regional investment and conversations not just within the state, but within the region. They supported investment in infrastructure for clean fuels and additional plant technology. A group member shared that regulatory stability will lead to more investment from stakeholders leading to the advancement of technologies to help propel this program in the future.

Comment: The only other thing to add is that in some of the scenarios, you find a crossover point where you're actually decreasing the number of deficits, because you're displacing the fuel that creates those deficits while also simultaneously creating a lot of credits which leads to being able to lean into that ambitiousness a bit more.

Comment: As we start looking at bigger investments in the future, whether it's around hydrogen or carbon capture, etc., it's looking at this from a hub and regional perspective.

Breakout Room #4 Report-out

Question #1: The group shared that three people were really focused on increasing more aggressive greenhouse gas reduction targets, whereas two people were more focused on correct program design and implementation. A group member shared concern about the program's long-term ability to continue to deliver GHG reductions even after the program has expired. A group member shared that they are really interested in seeing a program that ensures or does the best job that it can to ensure, that credit prices increase gradually because they felt that those gradually increasing credit prices would provide the market incentive that's needed to develop and deploy new technologies, including new fueling infrastructure, new vehicles, and fleet conversions.

Question #2: A group member shared interest in setting more aggressive greenhouse gas reduction goals. They suggested that DEQ set a GHG reduction floor so that prices are not depressed, and companies continue to receive the benefit of market incentives. The group thought that might be a topic for broader discussion within the larger group. Another member was concerned that hydrogen fuel cell technology was not called out specifically in any of the three scenarios. A group member reiterated their concerns around the programs long term success and wanted to make sure that the program continues to deliver the desired GHG reductions and low CI scores. A member felt obligated to register his consternation regarding the increased use of biodiesel versus renewable diesel. They added the notion of off ramps, and pointed out that as currently drafted, the program calls for an annual opportunity. They didn't feel that would be particularly helpful. They suggested that those opportunities to have off ramps could happen every three to five years. The group agreed that was an appropriate topic for broader discussion within the larger group. Another member didn't feel as though the Clean Fuels Program should be choosing winners among low carbon fuel technologies. They felt like that is what the credit price should do, and the combination of the credit price incentive, as well as relative fuel price, relative fuel availability, and the various existing and emerging technologies, should be what decides which technologies end up being used to transform Oregon's fuel sector.

Question #3: One group member shared that they were okay with the suggested targets but that they would like to see more aggressive GHG reduction targets. They suggested front end loading more aggressive targets next compliance period. Another group member shared they also want to see more aggressive greenhouse gas reduction targets. The group was split on which proposed GHG reduction target they support. A group member noted that it is their hope that the program incentivizes a broader transformation of Oregon's transportation sector without picking technologies. They pointed out that, for example, battery electric technology may have the ability to make a big impact among passenger vehicle

emissions, as well as emissions from light duty buses and delivery vans, whereas it may be the hydrogen fuel cell technology and renewal natural gas technology that can have a bigger impact in the medium and heavy-duty transportation sectors.

Comment: I want to clarify that in reference to the off ramps, I was talking about the annual fuel supply forecast. I think it's a good tool, but every year feels like a lot.

Comment: We went through a strange game of telephone but what I was relaying is a technical challenge in terms of the way the scenarios are modeled which reflects an assumption that the policy essentially sunsets at the end. That leads the model to draw down all the bank credits in a way that produces results which can be confusing or misleading.

Response: That's the point that someone was making in our group as well. The way that the modeling is set up, it's to get to 2035 and zeros out the credits and the deficits at that point, even though beyond 2035 there are ample credit generation opportunities.

Also, I want to respond to one comment about the off ramp. The annual fuel supply forecast, that is something that is written into statute in HB 2017. That's not an administrative thing that we could fix, that's a statutory issue. We continue to work with the office of economic analysis as we do that, but as far as what triggers the review that's in statute.

Breakout Group #5 Report-out

Question #1: The group shared consensus that greenhouse gas emission reductions were the priority but noted that there were some varying opinions about how to achieve reductions. A group member shared that greenhouse gas emissions should be lowered, but people should also maintain quality of life. Another group member mentioned prioritizing infrastructure build out and commercialization and shared that both are in line with reducing greenhouse gas emission. The perspective that credits factor into people's decision to move towards electric vehicle infrastructure and deployment was shared. A group member noted that new technologies are important because adopting new fuels is key to greenhouse gas emission reductions. They noted that technology has been a barrier in the past and that the incentives from the Clean Fuels program helped to overcome that barrier. One member shared that they chose greenhouse gas emission reductions but had a strong second for the tailpipe emissions benefits for local communities and was interested in the benefits of reducing air pollution from transportation sources and low carbon fuel deployment. Another group member chose infrastructure or commercialization of fuels and vehicles, because the credits will be a major driver for financing those projects. It helps to get folks over the hump to install the infrastructure and deploy the vehicles. They also chose commercialization of fields and technologies, followed by infrastructure, because all fuels in the program are low carbon and cleaner burning compared to traditional fuels. They shared that incentivizing those will lead to the co-benefits that DEQ is looking for, as well as the primary goal, which is greenhouse gas emission reductions.

Question #2: A group member shared that they like the thought of increasing biofuel plans but are uncertain about the negative effects that some of those new fuels may have. They also shared their concern about the lack of knowledge about what the impacts of new fuels such as biodiesel and renewable diesel will be. Another group member shared that they like the options that were presented for the scenarios but dislike the lack of biofuels in some scenarios due to the quick emissions reduction resulting from their adoption. A group member shared that they liked the aggressive electrification element. They shared that there is a transition, and there will be a role for clean liquid fuels for a while in many of the scenarios. A group member mentioned that they liked the market diversification in some scenarios and did not like that there was little market diversification in scenario A. If there's little market

incentive, then there won't be a big enough incentive to help push new fuels and technologies. One group member liked scenario C because of the program's increased ability to meet the goals of other regulations, policies and greenhouse gas reduction goals. A member shared that they like that the scenarios show compliance with existing electric vehicle regulations.

Question #3: One group member wanted to see a balance between meeting the goals of the program and maintaining quality of life. A member mentioned that they would like to see a way to move the program towards new technologies. Another member wanted to ensure that the program reduces emissions. They shared that insurance credits are benefiting communities impacted by transportation related externalities, and that the program plays an important role, filling gaps of other programs and policies. A member shared that they like ensuring that the program produces streamlining actions to reduce emissions. A member mentioned that they hope that the program continues to incentivize low carbon fuels and let technology drive innovation. A member shared that they want the program to continue to help incentivize the transition to clean fuels and technologies and want to know that the program will be there in 10 plus. They shared that the program's success would be a signal for people to incorporate the credits into their ROI calculations.

Question: I heard two things that I think might be conflicting. Some were interested in the program being technology agnostic, and others were sharing that some fuels may need a bigger lift. I am interested in feedback from the group. On the fuel supply forecast, is DEQ looking at fuel supply as it can meet the needs of the Clean Fuels Program, or do you have to look more broadly at collective fuel needs now that the Climate Protection Program has gone into effect?

Response: No, it is isolated to the Clean Fuels Program. As for the first part of your question, that is a common theme we hear in feedback. The question is, what is the role of the program?

Comment: This is really a market-based system and there are ways that have been discussed to address supply, supply favoritism, and flow to other regions. If on a level playing field some fuels can be impactful at advancing carbon targets, that may be a policy consideration outside of the program.

Response: Do any stakeholders from hydrogen, renewable natural gas, or electric vehicle want to chime in?

Comment: I would also mention sustainable aviation fuel. They have to work up to about 11 million gallons locally to meet regional targets.

Comment: I myself said the technology neutral aspect of the program was a positive. That's not mutually exclusive to the other values and goals of this program which include fuel diversity. Acknowledging that different technologies are in different states of maturity, I don't think they need to compete with each other to the point of being mutually exclusive.

Comment: From the renewable natural gas perspective, between the alternative fuel tax credit, the EPA's renewable fuel standard, and the Oregon and Washington Clean Fuels Programs, renewable natural gas has all of the incentives that it needs to be successful and commercially viable. I struggle when I start looking at different grant programs, for example the Federal American Recovery Plan. It favors battery electric, and I would hate to see the Clean Fuels Program go down that road. It would be helpful to understand how revenue from the Clean Fuels Program credits is spent and what that money can be used for.

Comment: There are a lot of people that want to increase the targets, but I do not support that. I think the targets may be feasible, but I do not support raising them. California has been doing this for a while

and their stations are selling more fuel than ever. A similar program in California is not really reducing GHG emissions, but instead simply raising money for the state. It is not changing people's habits. We are not selling more renewable; we are selling more ethanol. Generating revenue for the state is not everyone's goal here. If we are not changing people's habits, all we are doing is paying the state to monitor our fuel usage.

Comment: I have been interested to see the harmonization between these ambitious targets and business long term. It is nice when long term looks at emission reduction and business align. One comment, the California program does not simply collect dollars, but rather business to business transactions. The benefits of those go to those who are providing additional clean fuels. Perhaps one individual business owner doesn't feel like they are getting all the benefits, but certainly others are. In California, they have actually seen reductions in transportation emissions, which is significant.

Comment: The state doesn't collect any money from this program. It's credits that are generated and monetized by businesses that produce or distribute eligible fuels under the program. A clear example of how those credits are used currently is in Washington state. Many of our public and private fleet members do not use renewable diesel, I can count three that do, and they're paying about \$1.50 more per gallon of renewable diesel to use that low carbon fuel. In Oregon, there's dozens of public, and now several private fleets, that are using renewable diesel and not paying that extra \$1.50. That's the power of the Clean Fuels Program versus a state that is just now standing up their low carbon fuel standard.

Comment: I do a lot of work on low carbon fuel standards in California and other jurisdictions. None of the programs in California, Oregon, or British Columbia generate any revenue for the state, that all goes directly to the businesses providing low carbon fuels. I'm certain there are some places in California that are selling more fuel than they were a few years ago. Those are mostly local economic effects overall. California's fuel use went down significantly in 2020. It's partly recovering from that, but we haven't seen an increase in fuel that could be attributed to the low carbon fuel standard. We also have seen a significant displacement of petroleum for alternatives. Since the CFS was put in place in California, we have about doubled the fraction of transportation energy that's coming from non-petroleum sources. The design of the CFS is explicitly to make sure that you can't have a quote on fuel as a compliance option, because it's the Carbon Intensity Program. It doesn't create incentive to cut off supplies or to increase supplies, it's all about making it the most efficient, lowest carbon supply possible.

Comment: As an end user and participant in the Clean Fuels Program, the Port of Portland has made commitments to switch to renewable diesel. I realize that there's a lot of factors that drive prices on fuels, but that the fuel producer can take advantage has helped close the gap between the price of conventional diesel. It's not an argument with our operations folks about having to spend just a little bit more to get a lot of bang for the buck as far as greenhouse gas emissions.

Comment: I don't really think the program picks winners and losers. Perhaps the program unlocks certain real-world opportunities. The one example that's coming to mind would be during our electricity rulemaking several months ago. DEQ allowed for charging station owners and operators to purchase renewable electricity credits and claim that against their electricity usage and generate additional credits because they're now using and procuring a lower carbon fuel. I think that was an opportunity that was available in the in the market that DEQ made eligible that wasn't previously called out in the statute that created the Clean Fuels Program.

Question: It's my understanding that the majority of revenue generated from the sale of Clean Fuel Program credits amounts to a transaction from petroleum importers. To producers and users of low carbon fuels for example, 50% of the value from the sale of CFP credits might go to the renewable fuel

producer, 40% might go to the fleet that uses the fuel, and 10% of the revenue might go to the company that gets the fuel from the producer to the end user. Does my understanding resonate with folks in this meeting?

Response: That might be an observation that you have, but that's not something that the program dictates.

Comment: From my experience, looking at Renewable Natural gas quotes for natural gas vehicle fueling station owners and operators, please send us natural gas. Some of the quotes will offer a percentage of incentives that are given to the fleet to use that renewable natural gas and the value of those incentives, whether it's Clean Fuels Program credits or the federal credits, go back to whomever is distributing the renewable natural gas. A good portion goes back to offset the cost of developing the renewable natural gas project in the first place, whether that's a landfill a dairy etc. I think those projects are critical to address climate pollutants like methane, as well as to provide another alternative to renewable electricity generation. It does vary from project to project how much of that incentive is given back to the fuel user, but overall, it helps incentivize low carbon fuel use.

Comment: I misspoke about where the funds go. My point is that from my experience, the California program is generating revenue and not changing habits. I did not mean to say the revenue goes to the state.

Comment: I have a couple of observations on the breakout group reports. I totally endorse the idea of ambitious, aggressive, and early greenhouse gas reduction; I think it is imperative and that is the point of the program. Given the climate crisis that we are observing firsthand, it is critical that we be as ambitious as possible. Where I part company with many in the group is to be technology neutral. Given that the clean energy bill is going to have renewable electricity as a basis, the clean truck rule, the extraordinary movement toward electric vehicles by numerous auto manufacturers, and the incentive that was provided by the legislature for electric vehicle purchase, I think it would be most prudent to maximize our greenhouse gas reduction by leapfrogging whenever possible over partial measures and going right into electrification.

Other Rulemaking Topics

Bill Peters shared four rulemaking topics for additional discussion. He shared that the RAC members would discuss the topics in the following order.

- Require additional documentation for non-prompt credit transfers
- Require electronic tracking for RNG attributes
- Consider additional credit generation post certification or verification of a fuel pathway
- Advance crediting for hydrogen vehicles or fueling equipment

Bill introduced additional documentation for credit transfers (slide #25 [presentation](#)). The following are questions and comments received on this topic. CFP staff provided the responses.

Question: On the contract, are you actually talking about the entire agreement? Is this in commercial terms? We don't usually provide the actual agreement structure.

Response: We are open to both and would like comments on that. If we have clarity on the rationale for the credit price that would work. That allows us to understand how exchange is occurring.

Comment: We can provide feedback. The system of credit transfers got more complicated so I wouldn't say just adopt California's rule here. Here you can tell how the pricing structure is different than a flat price. We will provide comments, but I think we can find a way to get you what you're looking for.

Comment: California has a type one transfer within 10 days, or a type two which is more than 10 days, but you can basically put in your dates and prices and deliveries. Is that what you're asking for?

Response: Yes, those are some of the agreements where we have had questions in the past.

Bill introduced electronic tracking for RNG (slide #27 [presentation](#)). The following are questions and comments received on this topic. CFP staff provided the responses.

Comment: I think this is a practical step forward. The industry is getting bigger. We have over 200 operational projects and another 250 under construction or planned in our database. We don't want to make this challenging. It's used across a variety of programs; we certainly appreciate you considering it.

Question: Okay, so you're thinking of a tracking system. M-RETS is also developing a standard for renewable natural gas, and I didn't know if you were talking about requiring it. Aren't key projects to be part of the standard as electricity projects?

Response: We're just talking about the tracking system part here, not the standards. M-RETS is the Midwest Renewable Energy Tracking System. It is one of the nationwide Renewable Natural Gas thermal tracking systems most commonly used currently.

Comment: Biogas gets made into electricity. There are some impacts with the standard that are conflicting with the CFP program. As a separate stakeholder and development process, it is completely unlinked. There are some challenges there.

Comment: I think that it is really important to do the tracking and make sure that there isn't double counting.

Bill provided an introduction to additional credit generation (slide #29-31 [presentation](#)). The following are questions and comments received on this topic.

Question: Can you give me an example of who might be using this?

Response: Low carbon fuel producers that are getting a general increase in the program for their fuels. Basically, it's a way for the program to recognize the actual CI reductions beyond the certified in the case where a producer does significantly lower the carbon intensity of their fuel from whatever their CI was when it was being reported. It means that there are time lags for certified CI based on historical data. This would be trying to get it a little more real time and issuing additional credits for that prior year if the data proves out.

Question: Is this proposal in addition to modifying the certified CI score for the next reporting year, based on the operational CI value and issuing a new FPC allowed in the regulations today? Or is this proposal a replacement of that process?

Response: This would be additional. Under the current rules, if somebody's CI value lowers and it goes through verification, we can issue a new fuel pathway code with that lower CI value for future use. This would be an addition to that and would include looking at the fuel volumes and credit transactions associated with the CI value..

Comment: We would support the proposal of having some kind of an adjustment of the CI value.

Comment: Thank you for considering this. I think your two concerns are legitimate and worthy of further discussion.

Comment: I wonder if you could squeeze them both together. You could pull both of those into that process. Sometime after August 31st is the deadline for third party verification. Sometime after that do you want a new fuel pathway code? Do we do retroactive credit generation, because it seems like that might be a way to streamline this and make it easier. Related to that, whoever uses that fuel pathway code to generate the credits initially should be the one generating it under the pathway. That obviously complicates things because sometimes a producer will sell it to someone else who imports it and generates the credits. To your point about staff concerns, I think there is a material threshold similar to if you want to apply for a new fuel pathway. You have to have one CI point or greater typically. I think you could use the same kind of language here on retroactive credit generation so it's actually a material volume of credits. Hopefully, as a result of these programs you're incentivizing new production facilities. I think doing it after third party verification gives everyone kind of some assurance that this is operating correctly.

Response: There are times where within the first quarter the fuel gets brought into state. Should it just be whoever ends up with the obligated volume for that fuel pathway code or should we look to issue them initially?

Comment: I would go with the initial importer because that is also the credit generator.

Comment: I would highly recommend that if there is going to be any kind of true up and reassurance of credits based on operational CI data from a producer pathway holder, and that verification is taking place at the producer level, those credits be put back to the producer to the pathway folder. Contracts and agreements likely do not account for additional credits being issued in those commercial terms, and therefore the value of those credits is being misplaced.

Response: What do we do in the instance where the producer doesn't have an account in the reporting tool?

Response: Be transparent and say that the producer should have an account in the tool, but if they don't then they should default to the first importer and they need to work through that commercially with whoever their counterparty is.

Bill introduced Advance crediting for hydrogen vehicles or fueling equipment (slide #33-35 [presentation](#)). The following are questions and comments received on this topic. CFP staff provided the responses.

Question: Is this going to be similar to the advanced crediting provision for electricity where it would be restricted to public entities?

Response: I think we need comments on that. We adopted that because we need the credits to be paid back to the Clean Fuels Programs. We need some assurance that the vehicles are going to be operated in state. We have not yet opened the first application window for electric vehicles, and we have heard interest around opening it up to private fleets. I think the concern would still be there on the hydrogen side that the vehicles can end up leaving the state and we don't get the credits paid back and then we would need to go after whoever got the advanced credits to repay the long credits to maintain a ticket.

Comment: I think if there is a way that you could allow for private station owners or developers to be included that would be good. Allowing private entities to participate on the infrastructure side as long as is not a piece of infrastructure on wheels that is going to leave the state would be advantageous. How many credits are we talking about for the total estimated value? What kind of incentive value is this?

Response: Initially, we considered 500 credits. The number of advanced credits is always going to be based on an analysis of what credit generation over up to six years of that infrastructure vehicle's life will be. It still must tie back to the actual number of credits that are generated by that vehicle of that time period. The obligation estimator available on the CFP website can be used to estimate potential credits generated.

Question: Is that necessary if an applicant could apply with whatever CI of hydrogen they intend to dispense from a piece of infrastructure, and then they're held accountable to meeting whatever number of credits you're assuming through that methodology? They're on the hook to pay back the loan. How does that sound? I don't know if you're going to be able to get enough value using a very conservative CI hydrogen for it to be a meaningful amount of money.

Response: That is what we are trying to point out, there is a wide range of CI for hydrogen. The carbon intensity of electricity will move over time to where we will have it pretty set for electricity based on the utility specific CI scores. Also, we have the operation of other programs like HB 2021 and those requirements that will lead to the CI for that fuel declining. For this one, we just have the Clean Fuels Program as a reference point, so we're trying to sort through what would be reasonable to assume. In the end it's kind of a balancing act here with these advanced credits because it does represent a loan against future credit generation.

In the electricity case, we set the limit for the number of years of advanced crediting partially based on some estimates. I think the question that we asked was how much credit? How many credits? What revenue? What portion of that total cost would make a difference for a fleet to do something versus not do something? We are trying to incent that next purchase or the investment in infrastructure for the fleet to convert. We acknowledge the fact that the business case for hydrogen is different than electricity, but I think the same logic applies. It's because of the different nature of the economics. In this case, what time period and what amount of credits makes sense to insert. You also do have to consider that we as a program have to balance against assurances that we're actually going to get those credits paid back. Run these advanced credits for too many years and that definitely reduces that confidence that those credits will be generated, that they will be paid back in the program to be made whole. There is a balance between what makes a difference in economics and then what the program feels it is confident in.

Overall, it might be different for the infrastructure versus the vehicles. I'm just talking about hydrogen vehicles right now because in California I know we have some restrictions here. This is the best tool we have. We have concerns about incentivizing high CI fuels. There is a risk to reward analysis that needs to be done to uphold environmental integrity. Advanced credits for the EV were supported in part by 100% electricity. The same isn't true for hydrogen at this point.

Comment: The predominance of hydrogen that will be produced in Oregon will be electromagnetic hydrogen. If a hundred percent clean electricity applied, it should certainly apply to the production of electromagnetic hydrogen and then be treated with parity. One question I have is as far as the hydrogen credit generator being the owner of the fuel as it is being dispensed, if I'm a fleet operator and I'm filling my vehicles with hydrogen, am I the owner of that fuel? Or is it one step up and it's the entity that produced that fuel?

Response: I think it would depend on the contract between the producer or supplier of the hydrogen and the fleet. We have run into that and other instances where the point at which ownership transfers has not always been clear.

Comment: That same question would apply to a hydrogen refueling station that's open to the public. Is the entity that owns the station the owner of that fuel until such time as the person fills their vehicle and then pays for it? There is also a lack of capacity credits. In Oregon, I understand why that is not a mechanism that can

be used. In this program, I think it's regrettable because of all the investment. Some of this conversation is a little bit mute because the state of Washington will have three hydrogen refueling stations likely by early 2023, so all the investment is going there as far as hydrogen vehicles and filling in transportation in large part because there's a capacity credit in California and there's no capacity for adding Oregon. I would say that if this is as good as it gets then we'll take it. I do think that lower CI hydrogen would come, that would be my industry opinion.

Comment: EWEB is poised to be an electricity supplier to a hydrogen production source, Northwest Naturals who is working on a project that should be complete soon with an electrolyzer and we very well could be a producer of hydrogen ourselves. We have a fleet and we're very interested in hydrogen as an option, so we have been talking about some of these issues. I'm very interested to understand who the credit generator is in this instance. Is it the owner of the fuel or the owner of the vehicle? That has big implications here to the efficacy of the goal to get more hydrogen vehicles out there. In the electricity world, it would be common that the credit generator and the fleet operator are the same person. I think for fleet the location to have charging equipment and for the fleet owner or the fleet operator to be the owner of a charger. I don't know how well that's going to translate over to the hydrogen scenario. From talking to our local transit district LTD, I don't know that six years is going to move the needle enough to be a game changer here. Sourcing hydrogen will be different than sourcing. You typically have one electricity service supplier for a large area. The CI does not move a lot from year to year. I could see restricting sources of hydrogen making sense in the in the future, but this is still a recent thing and for someone trying to use hydrogen vehicles, I don't know what kind of vendor options they are going to have. Are restrictions going to actually stifle the adoption of hydrogen vehicles?

Response: Given some concerns about the wide range of CI values associated with hydrogen, should we just make it so that were using lower CI hydrogen if we limit the production technologies? Or should we say it has to be coming from certain sources or types of hydrogen?

Comment: If the experience that we've had with renewable natural gas is any guide, the CFP credits are going to get split between the fuel producer and the fleet. Typically, the fuel producer is going to keep the bulk of those credits, but a significant minority of the credits are going to be awarded to the fleet in order to convince them to use the fuel. If there's a middleman, a broker that gets the fuel from the producer to the end user, which is so often the case with renewable natural gas, then there could be a small percentage going to that middleman as well.

Response: Is this the case where, as long as the regulation is clear, the people involved in the projects can then figure out which of the parties gets how much of the credit value from the credits? Or is there something unique going on with hydrogen where that is not a fair? Is there too much uncertainty, or are there too many parties?

Comment: For hydrogen, the station is expensive and there are not vehicles on the road to offset the high cost by purchasing fuel. Capacity crediting has to bridge the valley to offset that time where there is little to no fuel consumption from the station. I think that is what we are hoping for here with advanced crediting. We need the infrastructure first to get hydrogen vehicles. Advanced crediting is the only tool available to offset the high up front station cost.

Comment: The other unique thing about hydrogen production is you could feasibly have a station which has a solar array connected to an electrolyzer and you're producing all your own fuel on site. That's sort of off in the distance and that would be extremely expensive to do, but the technology exists for somebody to do that. In that case the crediting would be all contained because the station owner could feasibly be the producer and could also be the distributor. It does have some unique characteristics with regard to the to the mechanisms of this program that other fuel producers and other methods of producing don't have.

Comment: When I look at some of the certified pathways in the California' Low Carbon Fuel standard, you can produce hydrogen from renewable natural gas or landfills. Those look right now, just from my cursory glance at the table to be some of the lowest carbon forms of hydrogen used in the state. You can also generate hydrogen from fossil gas and those look to be the higher carbon intensity forms of hydrogen.

Comment: We will get you some feedback. You've got some really good questions. I think we all need to work together to help make this a workable solution and we certainly want to protect the integrity of the program and make sure that we have a robust way of credit tracking and monitoring. We're obviously very supportive of the concept and we think there needs to be equitable footing for hydrogen, along with electricity. In terms of the future for zero emission vehicles, we think there are very good opportunities, particularly in medium and heavy-duty fleets for fuel cell vehicles. We think that hydrogen needs to be supported through the low carbon fuel standard, as it has successfully been done in the California program. I think with clear regulations that provide certainty about the crediting the market participants, whether that be the hydrogen owner, fuel owner, the station owner, or the vehicle owner, the market will sort out how to dispense that value. In terms of the carbon intensity, I would just suggest that we continue to focus the program on carbon intensity since it is a performance-based program. I've heard some comments to suggest that only electrostatic hydrogen should get credits, but I would say that once that carbon intensity line is drawn that any hydrogen production source can compete under those particular rules. I think that preserves the technology agnostic underpinning of this particular program. We'll get you some further feedback on the questions that were posed in the outline for the meeting.

Comment: It seems like hydrogen is primarily useful for the medium and especially the heavy-duty trucks. I heard a discussion earlier about diesel. You have the problem that they don't just stay in Oregon. If you have a truck that's going a long distance, it's not just going to buy all this hydrogen in Oregon, and I don't know what effect that has on your decisions. I certainly support the idea of low carbon intensity.

Question: I heard that there can be sharing of credits, is that addressed in the existing CFP rules or does that merely mean bilateral agreements between fleet operators and credit generators?

Response: It would be the latter.

Response: The rule speaks to who gets the credits, it doesn't speak to how the value of those credits get shared.

Comment: Some soy oil users who use that product for human food production submitted to Congress in the last two weeks arguing that the increased demand for soy, for example, for use in the in the production of renewable diesel is significantly driving up food costs and contributing to food inflation in the US and globally. We have seen a large bump in soy prices in recent months and I'm wondering to what extent you have looked at that question. How much of the demand for normal diesel is going to be competing with the human food supply and making food more expensive for low-income families?

Comment: In the research that we're doing on fuel policy, we're hearing some similar things. It's hard to tell what the long-term effect is going to be because the market is transforming in a number of ways. There are opportunities for several different production changes. I know growers are saying there's a lot of opportunity to expand production. There have been a number of studies recently on the topic and the range of uncertainty is pretty high. I don't have a clear answer, other than to say it's plausible and something that we in the research community are aware of.

Response: Thank you for these comments and discussion among rack members. We're at time and want to provide some time for public comment.

Public Comment

Comment: I really appreciate the in-depth discussions today; it was very helpful and I look forward to participating in this process. Thank you.

Comment: Is any consideration being given to incremental deficits if CI scores of petroleum fuels are on the rise? Note that California has LCFS that have this provision and has seen it triggered in the last few years. It is important to track the CI score in any event for environmental accounting purposes.

Response: This is where it's tricky for us because we don't have any refineries in our jurisdiction. In California's LCFS, the refineries are required to report their crude. All those refineries are out of state for us, and we can't require that reporting. We'll continue to track CI values and fossil-based products as time goes on. Generally, currently, approximately 90+% of the gasoline and diesel Oregon consumes comes from the Puget Sound region refineries. This is an estimate based on recent industry reports.

Question: The availability of these fuels has been brought up. I have a colleague who attended the biofuel conference, and he was told that Oregon will never get a share of renewable diesel because California will always outbid it. I think a big part of the discussion needs to be what the escape clauses are for when the fuels aren't available. If it's not available and we're not going to hit our targets, is there a way to not be penalized for using petroleum diesel? Can we start the discussion of an escape clause in that instance? Is there any validity in the statement that there isn't going to be enough biofuel?

Response: I think the first step is the annual look at what the fuels available in the market are. I would point to the scenarios that we've worked on. So far one of the pieces in there is that it's not just the carbon intensity and the ballfield that we're talking about in some of these scenarios. The electrification of heavy-duty trucks, as they become electrified it really does reduce the consumption of these fuels that we're forecasting. This is a combination of biomass base diesel, as well as the electrification, but forecasting out to 2035 there's almost a 50% reduction in the amount of diesel that is consumed for the state. We're not talking about 750 million gallons anymore; we're talking about 325-350 million gallons. Then you pair that with announcements that some of the major refiners have made in the past year, and that means billions of gallons of additional capacity come online. Again, the market signals on the regulatory side for things like a low carbon fuel standard aims to change that in the future. Like I said, then the backstop for the program is to be able to assess that on an annual basis and provide that assurance. There is already an offer up that's in place for us to be able to adjust the program accordingly.

Comment: In addition, California's LCF market is over supplied with fuels and credits right now. We lost about a quarter of our credit price over the last 6 months. Right now, we're facing the likelihood that unless companies take significant action, our credit prices might be too low to stimulate the kind of changes that we needed. Oregon now has a five year plus head start on other jurisdictions and is going to have a more mature market with better established supply chains, more robust credit options, and probably a more solid credit price. It is possible that there can be competition, but it is incredibly unlikely that California would compete to the point where Oregon would not be able to get fuels.

Next Steps

Cory-Ann requested that any further public comments be submitted by Feb. 11, 2022. She shared that the DEQ Clean Fuels Electricity Workshop will take place on Thursday, February 10 and the Pathways Workshop will take place on Thursday, February 17.

Cory-Ann thanked the RAC members and the audience for joining in the conversation. The meeting was adjourned.

Meeting Chat

Gillian Garber-Yonts: Menti Code: 6737 4169

Marc Ventura: What are non-RAC participants supposed to do during breakout room time?

Colin Murphy: This is the West Coast regional study Cory-Ann just mentioned.

<https://theicct.org/publication/potential-low-carbon-fuel-supply-to-the-pacific-coast-region-of-north-america/>

Jamie Damon: If you don't have your organization/affiliation as part of your name on the screen, we would appreciate it if you would add it. Thank you!

Bill Peters: The final report on the illustrative compliance scenarios is posted here:

<https://www.oregon.gov/deq/ghgp/cfp/Pages/longtermICS.aspx>

Jason Cole: The narrative here is that low priced energy is what we are trying to avoid here so that we can "compete" with CA prices, currently hovering around \$5 per gallon. Shouldn't this be something the public votes on? Many will be priced out of mobility, rural areas will suffer greatly. This is not right.

Sara Duncan: Should the public hold the rest of our questions for the breakout groups?

Sara Duncan: Love this Menitmeter feature. Absolutely will be using this in my future presentations.

Alex Schay: I have found the Breakout Rooms button, but when I press that button, Zoom asks me whether I want to create a new breakout room; I do not see a list of breakout rooms. Please advise.

Jason Cole: Cory- Ann - Bio is pretty readily available but we cannot use that this time of year in the eastern part of the state due to gelling and leaving motorists stranded. Renewable is literally not available. I could not buy a tanker of that in OR today if my life depended on it. The narrative here is to raise carbon costs enough to compete with CA to make it attractive for CA suppliers to ship it to OR, essentially making OR prices higher than CA due to transportation costs to get into OR. This means OR residents will be paying much much higher prices than they are today and possibly higher than CA. I do not think OR wants to hold the trophy for the highest priced fuel in the country. That would definitely sway our economy and make people think twice about moving here or even staying here. Disadvantage people will suffer the most.

Gillian Garber-Yonts: What priority did you rank highest in the poll and why? What elements of the illustrative compliance scenarios do you like/dislike? What are the outcomes you anticipate from the new targets? What outcomes do you want to see?

Sara Duncan: I am sorry am I missing something? I didn't get a breakout room invite.

Gillian Garber-Yonts: Hi Sarah, non RAC members will not be joining the breakout rooms. We will do breakout room report outs after lunch at 12:45pm.

Sara Duncan: Oh perfect. Thank you for the clarification.

Kathy Moyd: Is anyone else trying to figure out the effects of electrification on meeting the targets of the Clean Fuels Program and the Climate Protection Program?

Jason Heuser: Great job by David summarizing our group discussion

Jana Gastellum: Good point, Jeremy. That was brought up in our group too.

Jana Gastellum: The fuel supply forecast also takes into account the credit bank.

Jana Gastellum: Can you restate the question?

Alex Schay: It's my understanding that the majority of revenue generated from sale of Clean Fuels Program credits amounts to a transaction from petroleum importers to producers & users of low-carbon fuels. For example, 50% of the value from sale of CFP credits might go to the renewable fuel producer, 40% might go to the fleet that uses the fuel, and 10% of the revenue might go to the company that gets the fuel from the producer to the end user. Does my understanding resonate with folks in this meeting?

Nick Staub: And I misspoke on where the funds go. My point was supposed to be, "from my experience in the California program, it is just generating revenue, not changing habits." What I didn't mean to say is that the revenue generated goes to the state.

Julie Witcover: fyi - recent UC Davis report on trends under LCFS, CFP, and British Columbia program:
<https://doi.org/10.7922/G2SN0771>

Alex Schay: Responding to the caller's comment recommending a rapid transition to electrification whenever possible, while this is a worthy suggestion, remember that we will expand the total size of our electrical grid even as we render that grid 100% carbon free, predominantly through use of variable resources, like wind & solar, as opposed to baseload power-generation resources. This scenario may result in resiliency challenges.

Colin Murphy: It's absolutely true that we will need to carefully consider the impact of EVs on electric grids, however there are multiple studies that demonstrate how significant EV penetration can actually improve grid resilience, and serve as demand-response assets to cope with variable renewable energy. e.g.

<https://www.sciencedirect.com/science/article/pii/S2352467721001181>

<https://escholarship.org/uc/item/9wg2x1jn>

<https://ieeexplore.ieee.org/abstract/document/8741073>

<https://www.sciencedirect.com/science/article/abs/pii/S2214629619300945>

Jason Heuser: If EV charging loads are managed to avoid increasing peak loads, and delay charging to be in offpeak periods, the high electrification scenarios will be manageable with modest increases generation supply and grid upgrades. It should prove feasible through smart charging equipment, economic instruments and education to manage charging loads to be offpeak.

Jana Gastellum: What happens if the verified CI comes in higher?

Jana Gastellum: Thanks!

Jessica Hoffmann: Bill, is this proposal in addition to modifying the certified CI score for the next reporting year based on the operational score and issuing a new FPC allowed in the regulations today - or is this proposal a replacement of that process?

Jana Gastellum: We support having some sort of threshold to make the process worthwhile.

Jana Gastellum: We have concerns about incentivizing hi CI fuels. There is a risk/reward analysis that needs to be done to uphold environmental integrity. Advanced credits for BEV were supported in part by 100% electricity. Same isn't true for H at this point. I have to drop for another meeting. Thank you!

Jason Heuser: Alex does the CFP govern the sharing of RNG credits, or is that through agreements between fleet operators and RNG suppliers?

Jason Heuser: there needs to be some support for hydrogen on both supply and demand sides

Julie Witcover: General question related to targets: Any consideration being given to incremental deficits, if CI scores of petroleum fuels are on the rise? Note California's LCFS, that has this provision, has seen it triggered in the last few years. Important to track the CI score in any event for environmental accounting purposes.

Michael S Graham: From what we've heard there are midwest states considering similar LCFS policies as a means to diversify demand for midwest agricultural products, such as soy.

Gillian Garber-Yonts: Meeting materials can be found on the DEQ website here:
<https://www.oregon.gov/deq/rulemaking/Pages/cfp2022.aspx>

Oscar Garcia: March 30?

Oscar Garcia: Wed is the 30th

Oscar Garcia: Thank you!

Jason Heuser: Thx all, good discussion today.

Kathy Moyd: Thank you for the extended opportunities for public input.

Michael S Graham: Thank you!

Jone van Rees: Thank you for your hard work

Oscar Garcia: thank you

Joel Creswell: Nice work, DEQ team!

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.oregon.gov.