



Oregon Department of Environmental Quality  
April 20-21, 2016

Oregon Environmental Quality Commission meeting  
Temporary rulemaking, Action item N

Clean Fuels Program Corrections

**This file contains the following documents:**

- EQC Staff Report
- Attachment A: Draft rules – redline/strikethrough
- Attachment B: Draft rules – no markup

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DEQ recommendation to the EQC

DEQ recommends that the Environmental Quality Commission:

Adopt the proposed TEMPORARY rules as proposed in Attachment A as part of chapter 340 of the Oregon Administrative Rules to be effective beginning on April 22, 2016; and determine that failure to act promptly would result in serious prejudice to the public interest or the interests of the parties concerned as provided under the Justification section of this staff report.

### Short summary

DEQ proposes to amend Oregon Clean Fuels Program rules under division 253 of chapter 340 of the Oregon Administrative Rules. The proposed rule changes would correct a miscalculation of how the clean fuel standards and the carbon intensity values of two fuel pathways were calculated in the rules adopted by EQC Dec. 9, 2015.

### Background

The 2009 Oregon Legislature passed House Bill 2186 authorizing the Oregon Environmental Quality Commission to adopt rules to reduce lifecycle emissions of greenhouse gases from Oregon's transportation fuels by 10 percent over a 10-year period.

The commission adopted phase 1 rules Dec. 7, 2012, that required Oregon transportation fuel producers and importers to register, keep records and report the volumes and carbon intensities of the transportation fuels they provide in Oregon.

The commission adopted phase 2 rules Jan. 7, 2015, that required Oregon transportation fuel importers to reduce the average carbon intensity of fuels they provide in Oregon by 10 percent over a 10-year period.

The 2015 Oregon Legislature passed Senate Bill 324 that removed the Dec. 31, 2015, sunset date in House Bill 2186 (2009) and further amended the Oregon Clean Fuels Program.

The commission adopted updated rules Dec. 9, 2015, to implement SB 324 (2015).

### What need is DEQ trying to address?

In February 2016, a regulated party contacted the Clean Fuels Program because calculations they had developed while planning for compliance with the clean fuel standards were not consistent with those adopted by EQC Dec. 9, 2015. It was discovered that the adopted rules omitted a necessary adjustment for the energy density of ethanol and biodiesel relative to the energy density of gasoline and diesel fuel.

This omission affects calculations to establish the clean fuel standards. The omission results in the standards being lower than they should be.

The omission also affects calculations that establish the carbon intensity values for gasoline blended with 10 percent ethanol (E10) and diesel fuel blended with 5 percent biodiesel (B5). It does not affect the carbon intensity values of other fuels used in the Clean Fuels Program such as clear gasoline, clear diesel, ethanol, biodiesel, renewable diesel, natural gas, propane, electricity or hydrogen. The omission results in the carbon intensity values for E10 and B5 being lower than they should be.

This affects the program in two important ways:

- Most importantly, the clean fuel standards and the carbon intensity values currently in rule are simply inaccurate and need to be corrected. Correcting the rule will ensure that reports submitted by regulated parties are accurate. DEQ wishes to act now through this temporary rule to correct the problem so that first quarter reports are accurate. DEQ has notified the regulated parties about this situation and will continue to do so to ensure proper reporting after this temporary rulemaking is complete.
- The omission has created inaccuracies in the way deficits and credits are calculated and used to demonstrate compliance with the program.

### How would the proposed rule address the need?

Adopting the proposed temporary rules will correct the omission, ensuring that reports submitted by regulated parties are accurate. This temporary rulemaking will be followed by recommending a permanent rule adoption at the August 2016 EQC meeting.

### Consequences of not taking immediate action

Failure to amend the Clean Fuels Program rules will seriously prejudice the public's interest and the interests of parties required to comply with the clean fuel standards. The Clean Fuels Program relies on the most accurate information available and therefore this omission needs to be corrected as soon as possible.

Failure to amend the Clean Fuels Program rules would perpetuate clean fuel standards and carbon intensity values for E10 and B5 that are not accurate.

- For parties that generate deficits, failure to adopt the proposed temporary rules will prejudice them by causing them to generate more deficits than they should.
- For parties that generate credits, failure to adopt the proposed temporary rules will prejudice them by causing them to generate fewer credits than they should.
- These errors will also prejudice the public's interest in the accurate and effective operation of the program.

### Affected parties

The affected parties are those that are regulated by the Clean Fuels Program – Oregon producers, importers and credit generators.

### How the temporary rule would avoid or mitigate consequences

Adopting the proposed temporary rules will correct the omission, ensuring that reports submitted by regulated parties are accurate.

Adopting the proposed temporary rule now also fixes the problem prior to the deadline for regulated parties to submit quarterly progress reports. By adopting the proposed temporary rule prior to the May 15, 2016, reporting deadline, DEQ is avoiding the situation where regulated parties submit their Q1 progress report that must be corrected later by DEQ after completion of a permanent rulemaking to correct the calculation error.

## Rules affected, authorities, supporting documents

### Lead division

Environmental Solutions Division

Air Quality Planning Section

### Program or activity

Oregon Clean Fuels Program

### Chapter 340 action

Amend	OAR 340-253-8010, OAR 340-253-8020, OAR 340-253-8030, OAR 340-253-8040
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### Statutory authority

ORS 468.020, 468A.275

### Statute implemented

ORS 468A.275

### Legislation

House Bill 2186 (2009) & Senate Bill 324 (2015)

### Documents relied on for rulemaking

Document	Location
Memo to explain the corrections	<a href="http://www.oregon.gov/deq/RulesandRegulations/Documents/cfBaseStand.pdf">http://www.oregon.gov/deq/RulesandRegulations/Documents/cfBaseStand.pdf</a>

## Housing costs - ORS 183.534

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As ORS 183.534 requires, DEQ evaluated whether the proposed temporary rules would have an effect on the development cost of a 6,000-square-foot parcel and construction of a 1,200-square-foot detached, single-family dwelling on that parcel. DEQ determined the proposed rules would have no effect on the development costs because the proposed rules only affect transportation fuels used in Oregon.

## EQC Prior Involvement

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DEQ shared information about this rulemaking with EQC in an email from Stephanie Caldera dated Feb. 29, 2016.

## Implementation

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### Notification

The proposed temporary rules would become effective on April 22, 2016. DEQ would notify affected parties via email using the Clean Fuels Program GovDelivery list. DEQ will update its webpage to reflect the current information. DEQ will publish the adopted temporary rules in the Oregon Bulletin.

### Reporting Systems

DEQ will modify the Clean Fuels Program Online System to incorporate these temporary rule changes.



**DEPARTMENT OF ENVIRONMENTAL QUALITY**

**340-253-8010**

**Table 1 — Oregon Clean Fuel Standard for Gasoline and Gasoline Substitutes**

Oregon Department of Environmental Quality		
Table 1 – 340-253-8010		
Oregon Clean Fuel Standard for Gasoline and Gasoline Substitutes		
Calendar Year	Oregon Clean Fuel Standard (gCO <sub>2</sub> e per MJ)	Percent Reduction
2015	None (Gasoline Baseline is <del>97.80</del> <u>98.62</u> )	
2016*	<del>97.56</del> <u>98.37</u>	0.25 percent
2017	<del>97.34</del> <u>98.13</u>	0.50 percent
2018	<del>96.82</del> <u>97.63</u>	1.00 percent
2019	<del>96.33</del> <u>97.14</u>	1.50 percent
2020	<del>95.36</del> <u>96.15</u>	2.50 percent
2021	<del>94.38</del> <u>95.17</u>	3.50 percent
2022	<del>92.94</del> <u>93.69</u>	5.00 percent
2023	<del>91.44</del> <u>92.21</u>	6.50 percent
2024	<del>89.98</del> <u>90.73</u>	8.00 percent
2025 and beyond	<del>88.02</del> <u>88.76</u>	10.00 percent

[ED. NOTE: Tables referenced are not included in rule text. [Click here for PDF copy of table\(s\).](#)]

Stat. Auth.: ORS 468.020, & ~~2009 OL Ch. 754 Sec. 6 (2011 Edition)~~ [ORS 468A.275](#)

Stats. Implemented: ~~2009 OL Ch. 754 Sec. 6 (2011 Edition)~~ [ORS 468A.275](#)

Hist.: DEQ 3-2015, f. 1-8-15, cert. ef. 2-1-15; DEQ 13-2015, f. 12-10-15, cert. ef. 1-1-16

**340-253-8020**

**Table 2 — Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes**

State of Oregon Department of Environmental Quality Table 2 – 340-253-8020 Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes		
Calendar Year	Oregon Clean Fuel Standard (gCO <sub>2</sub> e per MJ)	Percent Reduction
2015	None (Diesel Baseline is <del>98.48</del> <a href="#">99.64</a> )	
2016*	<del>98.23</del> <a href="#">99.39</a>	0.25 percent
2017	<del>97.99</del> <a href="#">99.14</a>	0.50 percent
2018	<del>97.50</del> <a href="#">98.64</a>	1.00 percent
2019	<del>97.00</del> <a href="#">98.15</a>	1.50 percent
2020	<del>96.02</del> <a href="#">97.15</a>	2.50 percent
2021	<del>95.03</del> <a href="#">96.15</a>	3.50 percent
2022	<del>93.56</del> <a href="#">94.66</a>	5.00 percent
2023	<del>92.08</del> <a href="#">93.16</a>	6.50 percent

State of Oregon Department of Environmental Quality Table 2 – 340-253-8020 Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes		
2024	<del>90.6091.67</del>	8.00 percent
2025 and beyond	<del>88.6389.68</del>	10.00 percent

[ED. NOTE: Tables referenced are not included in rule text. [Click here for PDF copy of table\(s\).](#)]

Stat. Auth.: ORS 468.020, ~~2009 OL Ch. 754 Sec. 6 (2011 Edition) & 2015 OL Ch. 4 Sec. 3~~ ORS 468A.275

Stats. Implemented: ~~2009 OL Ch. 754 Sec. 6 (2011 Edition)~~ ORS 468A.275

Hist.: DEQ 3-2015, f. 1-8-15, cert. ef. 2-1-15; DEQ 13-2015, f. 12-10-15, cert. ef. 1-1-16

**340-253-8030**

**Table 3 — Oregon Carbon Intensity Lookup Table for Gasoline and Gasoline Substitutes**

Oregon Department of Environmental Quality Table 3 – 340-253-8030 Oregon Carbon Intensity Lookup Table for Gasoline and Gasoline Substitutes					
Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO <sub>2</sub> e/MJ)		
			Direct Lifecycle Emissions	Land Use or Other Indirect Effect	Total Emissions
Gasoline	ORGAS001	Clear gasoline - based on a weighted average of gasoline supplied to Oregon	100.77	-	100.77

Oregon Department of Environmental Quality					
Table 3 – 340-253-8030					
Oregon Carbon Intensity Lookup Table for Gasoline and Gasoline Substitutes					
	ORGAS002	Blended gasoline (E10) - 90% clear gasoline & 10% corn ethanol based on Midwest average	<u>97.6898.54</u>	-	<u>97.6898.54</u>
Ethanol from Corn	ORETHC001	Midwest average - MW corn; Dry Mill; NG; MW production	62.29	7.60	69.89
	ORETHC002	Oregon average - MW corn; Dry Mill; NG; Oregon production	57.08	7.60	64.68

Oregon Department of Environmental Quality					
Table 3 – 340-253-8030					
Oregon Carbon Intensity Lookup Table for Gasoline and Gasoline Substitutes					
Ethanol from Sugarcane	ORETHS001	Brazilian sugarcane base case	39.24	11.80	51.04
Ethanol from Sorghum	ORETHG001	Sorghum; average	66.96	19.40	86.36
Ethanol from Molasses	ORETHM001	Molasses; average	41.03	11.80	52.83
Compressed Natural Gas	ORCNG001	North American NG delivered via pipeline; compressed in OR	79.93	-	79.93
	ORCNG002	Landfill gas (biomethane) cleaned up to pipeline quality NG; compressed in OR	50.26	-	50.26
Liquefied Natural Gas	ORLNG001	North American NG delivered via pipeline; liquefied in OR using liquefaction with 80% efficiency	94.46	-	94.46
	ORLNG002	Landfill Gas (biomethane) to LNG liquefied in OR using liquefaction with 80% efficiency	65.81	-	65.81
Liquefied Petroleum Gas	ORLPG001	Liquefied petroleum gas	83.05	-	83.05
Electricity	ORELC001	Oregon average electricity mix	31.85	-	31.85

**NOTE:** DEQ recognizes that indirect effects, including indirect land use change, are real. However the methodologies to quantify these effects are still in development. DEQ intends to monitor the science of indirect effect and will adjust carbon intensity values through future rulemaking as methodologies improve.

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Hist.: DEQ 8-2012, f. & cert. ef. 12-11-12; DEQ 15-2013(Temp), f. 12-20-13, cert. ef. 1-1-14 thru 6-30-14; DEQ 8-2014, f. & cert. ef. 6-26-14; Renumbered from 340-253-3010 by DEQ 3-2015, f. 1-8-15, cert. ef. 2-1-15; DEQ 13-2015, f. 12-10-15, cert. ef. 1-1-16

**340-253-8040**

**Table 4 — Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes**

Oregon Department of Environmental Quality					
Table 4 – 340-253-8040					
Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes					
Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO <sub>2</sub> e/MJ)		
			Direct Lifecycle Emissions	Land Use or Other Indirect Effect	Total Emissions
Diesel	ORULSD001	Clear diesel, based on a weighted average of diesel fuel supplied to Oregon	101.65	-	101.65
	ORULSD002	Blended diesel (B5) - 95% clear diesel & 5% soybean biodiesel	<del>98.4899.6</del> 4	-	<del>98.4899.64</del>

Oregon Department of Environmental Quality

Table 4 – 340-253-8040

**Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes**

Biodiesel	ORBIOD001	Conversion of Midwest soybeans to biodiesel	29.15	29.10	58.25
	ORBIOD002	Conversion of Used Cooking Oil to biodiesel where "cooking" is required; NW UCO; Oregon production	18.12	-	18.12
	ORBIOD003	Conversion of tallow to biodiesel; MW tallow; MW production	37.93	-	37.93
	ORBIOD004	Conversion of canola oil to biodiesel	43.34	14.50	57.84
	ORBIOD005	Conversion of corn oil to biodiesel	36.89	-	36.89
Renewable Diesel	ORRNWD001	Conversion of soybeans to renewable diesel	23.15	29.10	52.25
	ORRNWD002	Conversion of Used Cooking Oil to renewable diesel	19.25	-	19.25
	ORRNWD003	Conversion of tallow to renewable diesel	29.96	-	29.96
	ORRNWD004	Conversion of canola oil to renewable diesel	35.48	14.50	49.98

Oregon Department of Environmental Quality					
Table 4 – 340-253-8040					
Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes					
	ORRNWD005	Conversion of corn oil to renewable diesel	33.64	-	33.64
Compressed Natural Gas	ORCNG001	North American NG delivered via pipeline; compressed in OR	79.93	-	79.93
	ORCNG002	Landfill gas (biomethane) cleaned up to pipeline quality NG; compressed in OR	50.26	-	50.26
Liquefied Natural Gas	ORLNG001	North American NG delivered via pipeline; liquefied in OR using liquefaction with 80% efficiency	94.46	-	94.46
	ORLNG002	Landfill Gas (biomethane) to LNG liquefied in OR using liquefaction with 80% efficiency	65.81	-	65.81
Liquefied Petroleum Gas	ORLPG001	Liquefied petroleum gas, crude and natural gas mix	83.05	-	83.05

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3ORS 468A.275

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Calendar Year	Oregon Clean Fuel Standard (gCO <sub>2</sub> e per MJ)	Percent Reduction
2015	None (Gasoline Baseline is 98.62)	
2016*	98.37	0.25 percent
2017	98.13	0.50 percent
2018	97.63	1.00 percent
2019	97.14	1.50 percent
2020	96.15	2.50 percent
2021	95.17	3.50 percent
2022	93.69	5.00 percent
2023	92.21	6.50 percent
2024	90.73	8.00 percent
2025 and beyond	88.76	10.00 percent

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Stat. Auth.: ORS 468.020, ORS 468A.275

Stats. Implemented: ORS 468A.275

Hist.: DEQ 3-2015, f. 1-8-15, cert. ef. 2-1-15; DEQ 13-2015, f. 12-10-15, cert. ef. 1-1-16

**340-253-8020**

**Table 2 — Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes**

State of Oregon Department of Environmental Quality Table 2 – 340-253-8020 Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes		
Calendar Year	Oregon Clean Fuel Standard (gCO <sub>2</sub> e per MJ)	Percent Reduction
2015	None (Diesel Baseline is 99.64)	
2016*	99.39	0.25 percent
2017	99.14	0.50 percent
2018	98.64	1.00 percent
2019	98.15	1.50 percent
2020	97.15	2.50 percent
2021	96.15	3.50 percent
2022	94.66	5.00 percent
2023	93.16	6.50 percent

State of Oregon Department of Environmental Quality Table 2 – 340-253-8020 Oregon Clean Fuel Standard for Diesel Fuel and Diesel Substitutes		
2024	91.67	8.00 percent
2025 and beyond	89.68	10.00 percent

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Stat. Auth.: ORS 468.020, ORS 468A.275

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**340-253-8030**

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Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO <sub>2</sub> e/MJ)		
			Direct Lifecycle Emissions	Land Use or Other Indirect Effect	Total Emissions
Gasoline	ORGAS001	Clear gasoline - based on a weighted average of gasoline supplied to Oregon	100.77	-	100.77
	ORGAS002	Blended gasoline (E10)	98.54	-	98.54

Oregon Department of Environmental Quality

Table 3 – 340-253-8030

**Oregon Carbon Intensity Lookup Table for Gasoline and Gasoline Substitutes**

		- 90% clear gasoline & 10% corn ethanol based on Midwest average			
Ethanol from Corn	ORETHC001	Midwest average - MW corn; Dry Mill; NG; MW production	62.29	7.60	69.89
	ORETHC002	Oregon average - MW corn; Dry Mill; NG; Oregon production	57.08	7.60	64.68

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Compressed Natural Gas	ORCNG001	North American NG delivered via pipeline; compressed in OR	79.93	-	79.93
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Liquefied Natural Gas	ORLNG001	North American NG delivered via pipeline; liquefied in OR using liquefaction with 80% efficiency	94.46	-	94.46
	ORLNG002	Landfill Gas (biomethane) to LNG liquefied in OR using liquefaction with 80% efficiency	65.81	-	65.81
Liquefied Petroleum Gas	ORLPG001	Liquefied petroleum gas	83.05	-	83.05
Electricity	ORELC001	Oregon average electricity mix	31.85	-	31.85

**NOTE:** DEQ recognizes that indirect effects, including indirect land use change, are real. However the methodologies to quantify these effects are still in development. DEQ intends to monitor the science of indirect effect and will adjust carbon intensity values through future rulemaking as methodologies improve.

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**340-253-8040**

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	ORULSD002	Blended diesel (B5) - 95% clear diesel & 5% soybean biodiesel	99.64	-	99.64
Biodiesel	ORBIOD001	Conversion of Midwest soybeans to biodiesel	29.15	29.10	58.25

Oregon Department of Environmental Quality

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**Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes**

	ORBIOD002	Conversion of Used Cooking Oil to biodiesel where "cooking" is required; NW UCO; Oregon production	18.12	-	18.12
	ORBIOD003	Conversion of tallow to biodiesel; MW tallow; MW production	37.93	-	37.93
	ORBIOD004	Conversion of canola oil to biodiesel	43.34	14.50	57.84
	ORBIOD005	Conversion of corn oil to biodiesel	36.89	-	36.89
Renewable Diesel	ORRNWD001	Conversion of soybeans to renewable diesel	23.15	29.10	52.25
	ORRNWD002	Conversion of Used Cooking Oil to renewable diesel	19.25	-	19.25
	ORRNWD003	Conversion of tallow to renewable diesel	29.96	-	29.96
	ORRNWD004	Conversion of canola oil to renewable diesel	35.48	14.50	49.98
	ORRNWD005	Conversion of corn oil to renewable diesel	33.64	-	33.64



Oregon Department of Environmental Quality					
Table 4 – 340-253-8040					
Oregon Carbon Intensity Lookup Table for Diesel and Diesel Substitutes					
Compressed Natural Gas	ORCNG001	North American NG delivered via pipeline; compressed in OR	79.93	-	79.93
	ORCNG002	Landfill gas (biomethane) cleaned up to pipeline quality NG; compressed in OR	50.26	-	50.26
Liquefied Natural Gas	ORLNG001	North American NG delivered via pipeline; liquefied in OR using liquefaction with 80% efficiency	94.46	-	94.46
	ORLNG002	Landfill Gas (biomethane) to LNG liquefied in OR using liquefaction with 80% efficiency	65.81	-	65.81
Liquefied Petroleum Gas	ORLPG001	Liquefied petroleum gas, crude and natural gas mix	83.05	-	83.05

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