

# AGENDA

## Regulated Entities Work Group

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October 17, 2017

1:00 PM – 3:00 PM

Hearing Room 50 State Capitol (ground level)

### AGENDA

- Welcome and Introductions
- Work Group Discussion Topics:
  - Scope of Covered Emissions
  - EITES and Leakage Prevention
  - Cost Containment
  - Other Topics – Homework Responses
- Public Comment
- Next Steps
- Adjourn

This meeting will be livestreamed. You may access the livestream at:

[https://www.oregonlegislature.gov/citizen\\_engagement/Pages/Legislative-Video.aspx](https://www.oregonlegislature.gov/citizen_engagement/Pages/Legislative-Video.aspx). You may also participate in this meeting by teleconference by calling 1--877-848-7030, meeting # 7714152.

Meeting materials are posted at: <https://www.oregonlegislature.gov/dembrow/Pages/regulated-entities.aspx>.

Discussion Guide for  
Meeting #2 of Regulated  
Entities Work Group  
(10/17/17)

## Clean Energy Jobs / Regulated Entities Work Group

### Meeting Discussion Guide

**Work Group Charge:** Discuss compliance with cap-and-invest, flexibility, and cost containment with regard to regulated entities.

#### Scope of Covered Emissions

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**Work Group Question 1:** How would a cap-and-invest program interact with regulated industries?

**Current Bill:**

SB 1070 authorizes EQC to identify a source as a subject to the carbon market only if entity has annual verified greenhouse gas emissions of 25,000 metric tons of carbon dioxide or carbon dioxide equivalent.

**Discussion Points:**

1. Is this the right scope of covered sources to effectively reduce emissions and allow linkage with the Western Climate Initiative?

#### Emissions-Intensive, Trade-Exposed Industries (EITEs) and Leakage Prevention

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**Work Group Question 2:** How would energy-intensive and trade-exposed (EITE) entities likely be determined, and how would EITE determinations likely play out for key Oregon industries?

**Current Bill:**

SB 1070 directs the Environmental Quality Commission (EQC) to distribute allowances directly and free of charge to EITEs. The measure requires EQC to hire/contract with a 3<sup>rd</sup> party to provide data/analysis regarding leakage risk and to use this analysis to determine number of allowances to be distributed directly and free of charge.

**Discussion Points:**

1. How are EITEs identified in California and Ontario? What criteria should be applied in the methodology used to identify EITEs in Oregon?
2. How should EITE allowances be distributed? Free or at a reduced rate? Should these allowances cover all emissions from a source or provide partial coverage? Should allowance be provided indefinitely or ramped down over time?
3. Should Oregon first study if leakage is likely to be a problem before deciding how to distribute EITE allowances?

#### Cost Containment

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**Work Group Question 3:** How could cost containment mechanisms be designed fairly? For example, if we decide to offer free allowances to some industries in order to control leakage, what are the implications for auction revenue generation and for reducing emissions? Should free allowances be time-limited? How will we be assured that EITEs will in fact produce fewer emissions over time?

## Clean Energy Jobs / Regulated Entities Work Group

### Meeting Discussion Guide

#### Current Bill:

SB 1070 includes the following cost-containment mechanisms: banking, cost-containment reserve and auction of reserve allowances, a price floor, linkage, and offsets.

- Banking: EQC rules must specify holding limits – the maximum number of allowances that may be held for use or trade by a registered entity at any one time.
- Cost-containment reserve: DEQ is required to place a percentage of allowances (as determined by EQC by rule) into a cost-containment reserve and conduct an auction of these reserve allowances at least once each quarter, separate from the auction of other allowances.
- Auction floor price: DEQ is required to set an auction floor price and a schedule for the floor price to increase by a pre-determined amount each calendar year.
- Linkage: EQC and DEQ are directed to develop the carbon market in a manner necessary to enable Oregon to pursue linkage agreements with market-based programs in other states or countries.
- Offset credits: Offset credits may not constitute a quantity of more than 8 percent of the total quantity of compliance instruments submitted by a covered entity to meet the entity's compliance obligation for a compliance period.

#### Discussion Points:

1. Will the SB 1070 cost containment mechanisms work effectively for regulated entities? Are there other mechanisms that should be included in the legislation?
2. Can Oregon legally accept the price ceiling established in other linked jurisdictions?
3. Is an 8 percent offset limit appropriate for Oregon? Can stringency requirements for linkage be met in alternative ways other than jurisdictions setting similar offset limits?

Comparison of Cap-and  
Trade Programs;  
California, Ontario,  
Quebec, and Oregon  
SB 1070

(10/17/17)

**Comparison of Cap-and-Trade Programs:  
California, Ontario, Quebec and Oregon SB 1070\***

	<b>California's cap-and-trade program</b>	<b>Ontario's cap-and-trade program</b>	<b>Quebec's Carbon Market</b>	<b>Oregon Senate Bill 1070</b>
<b>Population</b>	38 million	14 million	8 Million	4 million
<b>Gross Regional Product</b>	US \$2.6 trillion	US \$763 billion	US \$380 billion	US \$227 billion
<b>Participating Jurisdictions</b>	California, Quebec & Ontario	California, Quebec & Ontario	California, Quebec & Ontario	Designed to connect with California, Quebec & Ontario
<b>Greenhouse Gases Covered</b>	Carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), sulfur hexafluoride (SF <sub>6</sub> ), perfluorocarbons (PFCs), nitrogen trifluoride (NF <sub>3</sub> ), other fluorinated greenhouse gases	Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, nitrogen trifluoride and other such contaminants as may be prescribed by regulation	Carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), sulfur hexafluoride (SF <sub>6</sub> ), perfluorocarbons (PFCs), nitrogen trifluoride (NF <sub>3</sub> ), other fluorinated greenhouse gases	"Greenhouse gas" includes, but is not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and nitrogen trifluoride
<b>Sectors Covered</b>	Electricity (including imports) and industry in 2013; plus ground transportation and heating fuels in 2015	Electricity (including imports), industry, and certain fuel suppliers and distributors	Electricity (including imports) and industry in 2013; plus ground transportation and heating fuels in 2015	Air contamination source as defined in ORS 468A.005, electricity (including imports), fossil fuels that generate greenhouse gases when combusted, all beginning in 2021
<b>Emissions Threshold</b>	Emitters of at least 25,000 metric tons CO <sub>2</sub> e annually, except for electricity imports for which the threshold is essentially 0	A facility or natural gas distributor that emits 25,000 tons or more of greenhouse gas emissions per year, or a fuel supplier that sells more than 200 litres of fuel per year	Emitters of at least 25,000 metric tons CO <sub>2</sub> e annually, except fuel importers for which threshold is much lower to prevent small importers crossing the Western border avoiding the program	25,000 metric tons for all sources (a higher threshold for imported power than CA and a higher threshold for fuel importers than Quebec)
<b>Target</b>	Approximately 40% below 1990 emissions by 2030	37% below 1990 by 2030 Interim targets may be established	37.5% below 1990 levels by 2030	45% below 1990 levels by 2035
<b>Status</b>	First auction on November 14, 2012; compliance obligations began January 1, 2013	Compliance obligation began January 1, 2017. Linkage with Quebec and California is now established to begin in 2018	Compliance obligations began January 1, 2013	n/a
<b>Allocation Method<sup>1</sup></b>	Mixed – some free allocations for industry;	Enabling legislation authorizes Minister to distribute allowances registered participants in	Free allocation for some sectors, auctions for others	Similar to California; mixed – some free allocations for

<sup>1</sup> See information on recent changes to leakage calculations in California on page 3.

\* This chart was published in the [California Cap-and-Trade Program Summary](#) by the Center for Climate and Energy Solutions (January, 2014) and has been updated to reflect recent changes in WCI jurisdictions and the provisions of Oregon Senate Bill 1070 by the Oregon Legislative Policy and Research Office staff (October, 2017).

	full auction for fuels, consignment for utilities	accordance with regulations either free of charge or at auction. Requires Minister to describe by 1/1/2021 how free allowances will be phased out.		industry; full auction for fuels, consignment for utilities
<b>Price Floor at Auction</b>	\$10 per metric ton for both 2012 and 2013 before rising 5% per year (plus inflation) starting in 2014	Will need to be identical to CA & QC	\$10 per metric ton price floor starting in 2012 and rising 5% for each year thereafter (plus inflation)	Will need to be identical to CA & QC
<b>Affiliations</b>	Helped establish Western Climate Initiative in 2007	Joined Western Climate Initiative in 2008	Joined Western Climate Initiative in 2008	Joined Western Climate Initiative in 2008
<b>Linkage Status</b>	Linked with Quebec starting in 2014	Linking with California and Quebec in 2018	Linked with California in 2014	Would enable linking with WCI
<b>Offset Limit</b>	Offsets can now account for 8% of a regulated entity's compliance obligation; changing to 4% for 2021-2025, and 6% for 2026-2030. Post-2020, one-half of offsets must come from inside CA.	Can account for 8% of a regulated entity's compliance obligation	Can account for 8% of a regulated entity's compliance obligation	Can account for 8% of a regulated entity's compliance obligation, however this can be reduced for entities in impacted communities
<b>2013 Offset Use Limit - Millions of Offset Credits</b>	13	N/A	2.1	N/A
<b>Types of Offset Categories</b>	<ul style="list-style-type: none"> <li>1) U.S. forest and urban forest project resources;</li> <li>2) Livestock projects;</li> <li>3) Ozone depleting substances projects;</li> <li>4) Urban forest projects</li> </ul>	<p>Developing 11 new offset protocols tailored to Ontario. Has retained Climate Action Reserve to develop up to 13 protocols; 3 priority projects types: landfill gas capture and destruction, ozone depleting substances capture and destruction, and mine methane capture and destruction. Other protocols to include: afforestation and reforestation, anaerobic digestion (organic waste and manure), conservation cropping, emission reductions from livestock (enteric), forest (avoided conversion and improved forest management), grassland, N<sub>2</sub>O reductions from fertilizer management, organic waste management, refrigeration systems, urban forest</p>	<ul style="list-style-type: none"> <li>1) Covered manure storage facilities – CH<sub>4</sub> destruction;</li> <li>2) Landfill sites – CH<sub>4</sub> destruction;</li> <li>3) Destruction of ozone depleting substances (ODS) contained in insulating foam recovered from appliances. Developing 11 new offset protocols tailored to the environmental and economic landscape in Quebec</li> </ul>	Directs Oregon to develop standards in a manner that allows DEQ to explore and encourage opportunities for development in Oregon

## Leakage – Recent Changes in California

For background on emissions leakage, see “[Considerations for Designing a Cap-and-Trade Program in Oregon, Department of Environmental Quality, February 14, 2017, pages 38-39.](#)”

The original metrics for determining emissions leakage risk (trade exposure and emission intensity) in California have been modified by recent changes to the regulation, as discussed below. The final regulation order which contains all recent changes made to the cap-and-trade program can be found here: <https://www.arb.ca.gov/regact/2016/capandtrade16/ctfinro.pdf> For a specific discussion of the changes California Air Resources Board staff considered and implemented to industry assistance factors due to the leakage studies conducted, see this attachment: <https://www.arb.ca.gov/regact/2016/capandtrade16/attachb.pdf>

The formula for allocation to prevent leakage is generally summarized as:

$$\text{Allocation} = \text{AF} \times \text{B} \times \text{C} \times \text{O}$$

Where:

- AF is the assistance factor given to a particular level of leakage risk;
- B is the industry benchmark
- C is the cap adjustment factor to reflect the declining overall emissions cap; and
- O is the entity-specific output

The assistance factor declines over time for some industries that are deemed low or medium risk for leakage. Three studies of potential emissions leakage in California were completed in 2016 and staff have made some changes to the metrics used to determine leakage risk for the program post-2020. The primary change appears to be that staff are now calculating assistance factors and leakage risk based on a summation of an international assistance factor to minimize potential international leakage and a domestic assistance factor to minimize potential domestic leakage. Both components range between zero and 100 percent and are summed to yield the total assistance factor for a sector. Determining each part of the new assistance factor formula requires a separate set of calculations which are based, in part, on the studies of emissions leakage that California ARB commissioned.



List of Potentially  
Regulated Entities under  
SB 1070  
(Updated 11/3/17)  
(10/17/17)

# Oregon Greenhouse Gas Reporting Program

## List of Potentially Regulated Entities Under Senate Bill 1070 (2017) 2016 Greenhouse Gas Emissions

The following tables list entities that could be regulated under the greenhouse gas (GHG) cap-and-trade program described in Senate Bill 1070(2017). These tables list emissions reported to [DEQ under our mandatory greenhouse gas reporting requirement](#) during the 2016 calendar year. There are several important assumptions and caveats that are described in advance of each of the tables.

### Natural Gas

Natural suppliers annually report to DEQ the total volume of natural gas imported and supplied to end users in Oregon. The table below lists the total volume of natural reported in 2016 and the associated emissions from the complete combustion of that gas in metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>). SB 1070 would cover all GHG emissions from natural gas combustion but regulation of these emissions could be at different potentially regulated parties. For example, natural gas combustion at a large facility could generate a compliance obligation at the facility level, leaving the remaining emissions from natural gas regulated at the supplier or distributor level. Thus, the following entities would likely be regulated under SB 1070, but not necessarily for all the gas they provide if the regulation were designed to separately cover the largest natural gas users.

#### Quantity and emissions reported by natural gas suppliers (MTCO<sub>2e</sub>)

Natural Gas Supplier	Quantity (Mscf)	Emissions MTCO <sub>2e</sub>
Avista Utilities	11,765,453	641,168
Cascade Natural Gas	26,710,513	1,520,872
Gas Transmission NW	81,529,590	4,443,019
KB pipeline	20,285,000	1,105,447
NW Natural	72,294,368	4,146,588
NW Pipeline GP	6,049,994	343,196
<b>Total</b>	<b>218,634,918</b>	<b>12,200,289</b>

### Electricity

SB 1070 would cover emissions from imported electricity serving Oregonians. These emissions could be covered at utilities serving electricity from generation sources outside Oregon that exceed the 25,000 MTCO<sub>2e</sub> threshold identified in SB 1070. It is important to note that electricity generated in Oregon serving Oregon ratepayers would also be covered, but at the electricity generation facility rather than the utility or other entity responsible for providing electricity to Oregonians. Thus, nearly all greenhouse gas emissions associated with generation of electricity serving Oregon ratepayers would be covered by SB 1070, but utilities might only be directly regulated by the program for the emissions associated with generation of power they import. Below is a table of all 2016 emissions emitted from the generation of electricity provided to Oregon ratepayers as reported to DEQ by utilities and electric service providers. Only emissions from imported power would generate compliance obligation on these entities. Emissions from generation at in-state electricity generating units is listed separately in the table for large facilities.



State of Oregon  
Department of  
Environmental  
Quality

**Greenhouse Gas  
Reporting Program**  
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Portland, OR 97232  
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**Emissions reported by Oregon utilities (mtCO2e)**

<b>Electricity Provider</b>	<b>BPA market purchase</b>	<b>Other market purchases</b>	<b>Emissions from generating sources outside Oregon</b>	<b>Over 25,000 MTCO2e Threshold ?</b>	<b>Total emissions potentially regulated at the utility</b>	<b>Emissions from generating sources in Oregon</b>	<b>Total emissions</b>
Ashland	2,000			-			2,000
Bandon	756			-			756
Blachly-Lane Electric Co-op	1,907	4,264		-			6,171
Calpine Energy Solutions		768,807		Yes	768,807		768,807
Canby Utility Board	2,060			-			2,060
Cascade Locks	240			-			240
Central Electric Co-op	8,535	2,647		-			11,181
Central Lincoln PUD	15,089			-			15,089
Clatskanie PUD	9,612	15,857		Yes	25,468	3,901	29,369
Clearwater Power Company	26			-			26
Columbia Basin Co-op	1,355			-			1,355
Columbia Power Co-op	317			-			317
Columbia Rural Electric	94			-			94
Columbia River PUD	5,623			-			5,623
Constellation New Energy		91,555		Yes	91,555		91,555
Consumers Power, Inc	4,571	10,636		-			15,207
Coos-Curry Electric Co-op	3,953			-			3,953
Douglas Electric Co-op	1,813			-			1,813
Drain	189			-			189
Emerald PUD	5,250	9,727		-		196	15,173
Eugene Water & Electric Board	23,299			-			23,299
Forest Grove Light & Power	2,852			-			2,554
Harney Electric Co-op	1,247			-			1,247
Hermiston Energy Services	1,241			-			1,241
Hood River Electric Co-op	1,394			-			1,394
Idaho Power Company		31,242	219,617	Yes	250,859	6,108	256,967
Lane Electric Co-op	2,735			-			2,735
McMinnville Water & Light	8,065			-			8,065
Midstate Electric Co-op	4,774			-			4,774
Milton-Freewater City Light & Power	1,193			-			1,193
Monmouth	837			-			837
Northern Wasco PUD	4,881			-			4,881
Oregon Trail Electric Co-op	6,698			-			6,698
Pacific Power (PacifiCorp)		8,292,203		Yes	8,292,203	209,710	8,501,913
Portland General Electric (PGE)	22,479	586,595	2,131,826	Yes	2,740,900	3,707,654	6,448,554
Salem Electric	3,786			-			3,786
Shell Energy North America			7,836	-			7,836
Springfield Utility Board	8,977			-			8,977

Surprise Valley Electrification	442			-			442
Tillamook PUD	5,521			-			5,521
Umatilla Electric Co-op	17,210	174,639		Yes	191,849		191,849
Umpqua Indian Utility Co-op	270			-			270
US DOE ARC	60			-			60
Wasco Electric Co-op	1,263			-			1,263
West Oregon Electric Co-op	815			-			815
<b>Total</b>	<b>183,429</b>	<b>9,988,173</b>	<b>2,359,278</b>		<b>12,336,173</b>	<b>3,927,569</b>	<b>16,458,151</b>

## Imported Fuel

Companies that own fuel as it is imported into Oregon, that is not subsequently stored at an Oregon terminal facility, or who own fuel as it is dispensed from a terminal in Oregon are required to annually report to DEQ the fuel type and total volume imported or dispensed for use in Oregon. The table below lists the anthropogenic emissions generated from the combustion of the total volume of fuel reported for all companies importing fuel resulting in over 25,000 MTCO<sub>2</sub>e. Anthropogenic emissions include all carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) from fossil fuel combustion and the methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) from biofuels such as ethanol and biodiesel.

### Emissions reported from fuel imported into Oregon (MTCO<sub>2</sub>e)

Company Name	Anthropogenic emissions
Farmers Supply Cooperative	27,102
CHS INC. of Minnesota	27,305
Suburban Propane	27,349
Eastern Aviation Fuels	28,434
American Energy	33,842
A & B Enterprises, Inc.	34,694
Powell-Christensen Inc	35,191
Wilson Oil	40,462
MIECO Inc.	41,276
Musket Corporation	42,786
Pounder Oil Service, Inc.	44,475
Kiva energy	45,258
Heller & Sons Dist Inc	49,541
Carson Oil Company, Inc.	56,028
Amerigas	72,245
Sequential-Pacific Biodiesel, LLC	72,848
Campo & Poole Distributing, LLC	76,057
Devin Oil Co., Inc.	76,996
Pilot Travel Centers, LLC	78,185
Valero Marketing and Supply Co.	83,215
Apex Oil Company, Inc.	84,257
Hattenhauer Distributing Company	85,642
The Jerry Brown Company, Inc	87,796
Ed Staub & Sons Petroleum, Inc.	93,685
Plains Midstream Canada (PMC)	97,162
Jacksons Food Stores, Inc.	97,529
PC Energy, LLC	128,328
Associated Petroleum Products	129,559
Byrnes Oil Company, Inc.	131,675
McCall Oil & Chemical Corp	185,315
Space Age Fuel Inc.	1,721,864
Chevron USA Inc.	2,631,883

Phillips 66 Company	3,168,314
Vitol Inc	3,196,299
Shell Oil Products US	3,507,202
Tesoro Refining and Marketing Company	3,928,745
BP West Coast Products LLC	5,052,314
<b>Total emissions from companies reporting over 25,000 MTCO2e</b>	<b>25,320,857</b>
<b>Total emissions from all companies reporting under 25,000 MTCO2e</b>	<b>322,287</b>
<b>Total emissions from all fuel reported in 2016</b>	<b>25,643,144</b>

## Large Facilities

Facilities with air quality permits annually emitting over 2,500 MTCO2e are required to report the total GHG emissions from stationary combustion, industrial processes and fugitive emissions associated with their operations. The table below includes facilities listed by air permit ID reporting emissions from natural gas combustion and/or industrial processes that exceed the 25,000 MTCO2e threshold identified in SB 1070. This table does not include emissions from fuels that could potentially generate a compliance obligation by a fuel importer such as diesel fuel or CO2 emissions from biogenic fuels such as wood waste or biogas. It is important to note that:

- Emissions from electricity generated at facilities in Oregon exceeding the 25,000 MTCO2e threshold are included in the table below and would not be double-counted as a compliance obligation at the electric utility level.
- Emissions from natural gas at a large facility listed below would not generate a compliance obligation at the natural gas utility or supplier level. Thus, if facilities such as those listed below were to be regulated directly for their onsite natural gas use, the emissions listed below would be subtracted from the natural gas utilities' emissions listed in natural gas table listed in this document for purposes of regulation under a program described in SB 1070.
- DEQ requires that facilities reporting greenhouse gas emissions to the greenhouse gas reporting program utilize EPA's 40 CFR Part 98 quantification methodology. In some instances EPA methodology requires facilities to report natural gas combustion under an industrial process subpart. For purposes of this document, when possible, DEQ has categorized emissions from natural gas reported under an industrial subpart as natural gas combustion.

Source ID	Company Name	County	Emissions from natural gas combustion	Industrial process, landfill gas & coal combustion	Total Emissions Potentially Covered Under 1070
22-6024	Entek International LLC	Linn	25,798		25,798
23-0032	EP Minerals, LLC	Malheur	27,185		27,185
26-2050	Oregon Health Sciences University	Multnomah	27,704		27,704
02-9520	Valley Landfills, Inc.	Benton		28,366	28,366
25-0027	ConAgra Foods Lamb Weston, Inc.	Morrow	33,467		33,467
30-0075	ConAgra Foods Lamb Weston, Inc.	Umatilla	35,077		35,077
02-2298	Oregon State University	Benton	36,591		36,591
26-1876	Owens-Brockway Glass Container Inc.	Multnomah	30,639	6,418	37,057
02-2173	Hollingsworth & Vose Fiber Company	Benton	35,679	1,474	37,153
25-0006	Pacific Ethanol Columbia, LLC	Morrow	39,592		39,592
10-0025	Roseburg Forest Products Co.	Douglas	40,372		40,372
25-0002	Oregon Potato Company	Morrow	43,275		43,275
25-0032	ConAgra Foods Lamb Weston, Inc.	Morrow	44,386		44,386
10-0031	Douglas County Public Works Department	Douglas		47,692	47,692
23-0003	Kraft Heinz Foods Company	Malheur	49,192		49,192
05-1849	Cascades Tissue Group-Oregon	Columbia	49,340		49,340
34-0055	Qorvo US	Washington	2,896	47,166	50,062

Source ID	Company Name	County	Emissions from natural gas combustion	Industrial process, landfill gas & coal combustion	Total Emissions Potentially Covered Under 1070
05-0005	United States Gypsum Company	Columbia	51,478		51,478
22-3501	Cascade Pacific Pulp, LLC	Linn	53,398		53,398
28-0007	Gas Transmission Northwest LLC	Sherman	55,973	1,087	57,060
18-0072	Gas Transmission Northwest LLC	Klamath	58,231	401	58,632
09-0040	Deschutes County Dept. of Solid Waste	Deschutes		61,991	61,991
09-0084	Gas Transmission Northwest LLC	Deschutes	62,609	881	63,490
36-0011	Riverbend Landfill Co.	Yamhill		63,974	63,974
36-5034	Cascade Steel Rolling Mills, Inc.	Yamhill	38,692	26,921	65,613
25-0001	Finley Buttes Landfill Company	Morrow		67,576	67,576
15-0026	Dry Creek Landfill, Inc.	Jackson		69,300	69,300
24-5398	Covanta Marion, Inc.	Marion	1,397	69,416	70,813
34-2813	Jireh Semiconductor, Inc.	Washington	3,490	76,009	79,499
26-3310	Metropolitan Service District	Multnomah		79,599	79,599
26-3240	Microchip Technology, Inc.	Multnomah	9,403	77,234	86,637
05-2606	Portland General Electric - Port Westward II	Columbia	86,921		86,921
26-1865	EVRAZ Inc, NA	Multnomah	87,667		87,667
03-2145	West Linn Paper Company	Clackamas	89,379		89,379
20-8850	International Paper	Lane	94,818	1,248	96,066
33-0007	Wasco County Landfill, Inc.	Wasco		108,308	108,308
26-0027	SemiConductor Components Industries,	Multnomah	7,780	100,938	108,718
26-9537	Owens Corning Foam Insulation, LLC	Multnomah	118	124,993	125,111
20-4740	Short Mountain Landfill	Lane		151,778	151,778
11-0001	Waste Management Disposal Services of Oregon, Inc.	Gilliam		171,513	171,513
05-2042	Dyno Nobel Incorporated	Columbia	81,024	110,970	191,994
04-0004	Georgia-Pacific Consumer Products LP - Wauna Mill	Clatsop	196,104	61,692	257,796
34-2681	Intel Corporation	Washington	67,833	256,075	323,908
21-0005	Georgia-Pacific Toledo LLC	Lincoln	287,254	47,760	335,014
01-0029	Ash Grove Cement Company	Baker	32	570,854	570,886
30-0113	Hermiston Generating Company, L.P.	Umatilla	794,209		794,209
05-2520	Portland General Electric Company - Beaver & Port Westward I	Columbia	1,122,266		1,122,266
18-0003	Klamath Energy LLC	Klamath	1,026,850		1,026,850
25-0031	Portland General Electric Company - Coyote Springs	Morrow	1,226,194		1,226,194
30-0118	Hermiston Power LLC	Umatilla	1,252,103		1,252,103
25-0016	Portland General Electric Company Boardman and Carty Generating Station	Morrow	541,858	*1,843,535	2,385,393
<b>Total</b>			<b>7,818,274</b>	<b>4,275,168</b>	<b>12,093,443</b>

\*Reported emissions from coal combustion at PGE Boardman facility.

**Contact information** - Please contact Elizabeth Elbel in DEQ's mandatory greenhouse gas reporting program with questions on the tables in this document or for a description of reporting and emissions calculation methodology at 503-229-6476 or by email at [elbel.elizabeth@deq.state.or.us](mailto:elbel.elizabeth@deq.state.or.us)

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