

Regulating Stationary Source Emissions

April 20, 2021



State of Oregon
Department of
Environmental
Quality

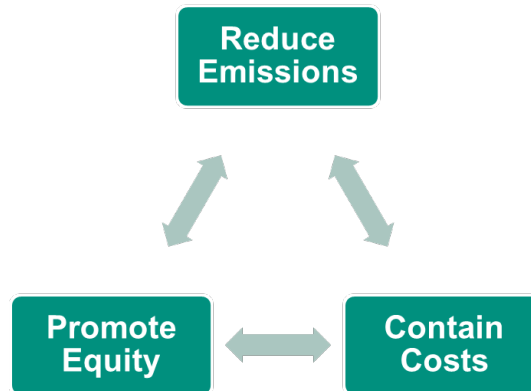
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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

The Climate Protection Program will limit and reduce greenhouse gas emissions from some of the most significant sources in Oregon. The program aims to:

- Achieve significant emissions reductions
- Promote benefits and alleviate burdens for environmental justice and impacted communities
- Contain costs



As previously stated, DEQ's inclination is to regulate natural gas combustion emissions, including stationary source natural gas combustion emissions, at the natural gas utility. DEQ is considering a more traditional facility-specific and direct regulatory approach for the remaining emissions at certain stationary sources. DEQ is considering using a best available emissions reduction approach for certain facilities with large amounts of on-site emissions from industrial manufacturing processes, instead of a framework that requires these sources use compliance instruments to demonstrate compliance. DEQ could also use this approach to directly regulate any remaining emissions from fuel combustion at these sources that are not already regulated in the Climate Protection Program. DEQ believes a more traditional air pollution regulatory approach for certain stationary sources would better meet the Climate Protection Program's goals.

Overview

Stationary sources would have to pursue on-site emissions reductions.

In Oregon, there are about a dozen facilities with large amounts of emissions that originate from certain unique manufacturing processes (e.g. electronics manufacturing or cement production). Some facilities also combust natural gas or solid fuels, and these emissions would not be captured in the regulation of the natural gas utilities nor non-natural gas fuel suppliers. For example, some facilities draw natural gas directly from an interstate gas pipeline. See Table 1 for a list of example facilities and potentially regulated emissions. For these facilities, DEQ is considering assessing site-specific best available emission reductions, and then requiring implementation of those emission reductions. There is much DEQ would still need to determine, such as what factors the assessments would consider and evaluate. DEQ has heard from the advisory committee and the public that on-site emissions reductions are important for stationary sources since emissions are generated at specific geographic locations.

DEQ could analyze and consider any potential relationships at stationary sources between greenhouse gas emissions reductions and other air pollutant reductions.

DEQ's Office of Greenhouse Gas Programs staff have been coordinating with staff in other DEQ air pollution programs such as Cleaner Air Oregon (CAO) and Regional Haze. Across these teams, DEQ is working to better understand interactions that might exist at specific stationary sources between reducing greenhouse gas emissions and other air pollutants.

This analysis is needed because the facilities with these manufacturing process emissions vary significantly in their activities, production operations, technologies and even business practices. These variations occur from one industry to the next, as well as from one facility to the next within a given industry itself. Producing cement is very different from producing semiconductors. The available technologies and ways in which a cement manufacturer could reduce emissions are very different from a semiconductor manufacturer. At one stationary source, reducing emissions may reduce other pollutants, but for another source, reducing greenhouse gas emissions may have no impact on other air pollutants.

DEQ could require entities to implement all available emissions reduction opportunities.

Another potential advantage of a best available emissions reduction approach is that sources would have to pursue reductions achievable and relevant to their specific operations and technology. Stationary sources with on-site emissions from industrial manufacturing processes may truly have limited opportunities to reduce emissions with available technologies, while others may have more opportunities to reduce emissions with available approaches. This site-specific approach helps DEQ target these available emission reduction opportunities.

Additional considerations

Emissions from fuel combustion

Many stationary sources combust fuels on-site to generate heat, steam, and electricity or power operations. The most common fuel used on-site is natural gas. DEQ's inclination is to regulate as much natural gas combustion emissions as possible, including combustion at stationary sources, at the natural gas utilities. This leaves DEQ with the ability to use a best available emissions reduction approach for industrial process emissions and for a very limited number of facilities that receive natural gas outside of gas utilities' distribution systems. Likewise, DEQ would anticipate that any use of liquid fuels on-site would be covered by regulation of the liquid fuel suppliers. DEQ could also analyze each stationary source for on-site emissions from the combustion of any solid fuels.

Effective implementation

This approach would effectively require sources to periodically provide information to DEQ and offer assessments of available technologies to reduce emissions. DEQ is researching current methodologies used to implement site-specific air pollution regulations in Oregon and in other programs, such as best available control technology, four-factor analysis, and international industry emission benchmarks. DEQ would need to review the information provided by sources in the assessments, determine requirements, and notify sources of what they need to do to reduce emissions. For DEQ, establishing a best available emissions reduction assessment for each stationary source will require an effective process and technical expertise, though DEQ has the advantage of a small number of sources being responsible for the overwhelming majority of industrial process emissions. Depending on the specifics of each facility, DEQ might

also collaborate with independent environmental experts, community members, consultants, or others in determining required actions to reduce emissions.

Table1: Stationary sources with potentially regulated emissions greater than or equal to 25,000 MT CO2e

Source ID	Facility Site Name	Potentially Regulated Emissions (2019; MT CO2e)	Industry Description	CAO Priority Facility (group 1 or 2)	Regional Haze FFA required
01-0029	Ash Grove Cement Company	692,998	Cement Manufacturing	X	X
36-5034	Cascade Steel Rolling Mills, Inc.	28,965	Iron and Steel Mills and Ferroalloy Manufacturing	X	
24-5398	Covanta Marion, Inc.	80,211	Solid Waste Combustors and Incinerators		X
05-2042	Dyno Nobel Incorporated	109,450	Inorganic Chemical Manufacturing		X
26-1865	EVRAZ Inc.	107,200	Iron and Steel Mills and Ferroalloy Manufacturing	X	
34-2681	Intel Corporation - Ronler Acres	252,097	Semiconductor and Related Device Manufacturing		
34-2813	Jireh Semiconductor, Inc.	90,183	Semiconductor and Related Device Manufacturing		
25-0027	Lamb Weston - Boardman East Plant	36,108	Fruit and Vegetable Preserving and Specialty Food Manufacturing		
34-2804	Maxim Integrated Products, Inc.	28,871	Semiconductor and Related Device Manufacturing	X	
26-3240	Microchip Technology, Inc.	105,677	Semiconductor and Related Device Manufacturing		
26-9537	Owens Corning Corp.	128,510	Polystyrene Foam Product Manufacturing		
34-0055	Qorvo US	59,518	Semiconductor and Related Device Manufacturing		
26-0027	SemiConductor Components Industries, LLC	71,062	Semiconductor and Related Device Manufacturing		
05-0005	United States Gypsum Company Rainier Plant	45,237	Lime and Gypsum Product Manufacturing		
Total Potentially Regulated Emissions		1,836,087			
Oregon Statewide Total		64,536,719			

Notes: 2019 emissions data from DEQ GHG Reporting Program. Process emissions from natural gas combustion emissions that would be potentially regulated at natural gas utilities and emissions from landfills are removed. 2019 statewide total emissions are from the DEQ sector-based inventory and are preliminary.

Discussion questions

- 1) What are your thoughts on regulating stationary source emissions with a site-specific best available emissions reduction approach instead of the use of compliance instruments?
 - a. What do you see as the potential benefits and the challenges to using this approach for stationary sources?
- 2) What might DEQ need to consider when determining whether a source has met best available emissions reduction assessment?
 - a. What factors should be considered and evaluated as part of the assessment (i.e. emission reductions, availability of emissions reduction processes and technology, cost of technologies, potential interactions with co-pollutants and local air quality)?
 - b. Any other suggestions for how to conduct this assessment?

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.state.or.us