



DEPARTMENT OF
ECOLOGY
State of Washington

Small Business Economic Impact Statement

**Chapter 173-442 WAC
Clean Air Rule**

**Chapter 173-441 WAC
Reporting of Emissions of Greenhouse
Gases**

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Small Business Economic Impact Statement

Chapter 173-442 WAC Clean Air Rule

Chapter 173-441 WAC Reporting of Emissions of Greenhouse Gases

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Table of Contents

Executive Summary	ii
Chapter 1: Background and Introduction.....	1
1.1 Introduction.....	1
1.2 Summary of the proposed rule.....	1
1.3 Reasons for the proposed rule.....	2
Chapter 2: Analysis of Compliance Costs for Washington Businesses.....	4
2.1 Introduction.....	4
2.2 Business as usual.....	4
2.3 Proposed rule requirements.....	5
2.3.1 Clean Air Rule coverage.....	5
2.3.2 Thresholds for compliance obligation under the proposed rule.....	5
2.3.3 Clean Air Rule requirements	5
2.3.4 Clean Air Rule compliance.....	6
2.3.5 Corresponding amendments to other rules	6
2.4 Likely compliance costs of the proposed rule.....	6
2.5 Potential lost sales or revenue.....	7
Chapter 3: Quantification of Cost Ratios.....	8
3.1 Introduction.....	8
3.2 Affected businesses.....	8
3.3 Cost-to-employee ratios	9
Chapter 4: Actions Taken to Reduce the Impact of the Rule on Small Businesses.....	10
Chapter 5: Involvement of Small Businesses and Local Government in the Development of the Proposed Rule	11
Chapter 6: The SIC Codes of Impacted Industries	14
Chapter 7: Impacts on Jobs	15

Executive Summary

Based on research and analysis required by the Regulatory Fairness Act (RFA) – RCW 19.85.070 – the Washington State Department of Ecology (Ecology) has determined that the proposed rule, the Clean Air Rule (Chapter 173-442 WAC) and corresponding amendments to the Reporting of Emissions of Greenhouse Gases rule (Chapter 173-441 WAC) are not likely to have a disproportionate impact on small businesses.

The RFA directs Ecology to determine if there is likely to be disproportionate impact, and if legal and feasible, to reduce this disproportionate impact.

The proposed rule creates a program that limits and reduces greenhouse gas (GHG) emissions from certain large emission contributors, referred to as covered parties, and allowing various compliance options to meet those limitations. It also includes reporting and verification of compliance.

The proposed rule establishes GHG emissions standards for:

- Stationary sources
- Petroleum product producers and/or importers
- Natural gas distributors operating in Washington State

At the highest ownership or control level, the proposed rule is not likely to impact small businesses, defined by the RFA as having 50 or fewer employees. This means that we are unable to make the comparison of per-employee compliance costs at small versus large businesses required by the RFA. It also means that the proposed rule inherently is not likely to impose disproportionate costs on small businesses.

The range of employment at the highest level of ownership available for fuel importers likely covered by the proposed rule is between 51-200 (only range available for parent entity) and 845,000 (importer also covered as a stationary source and producer).

Depending on the compliance methods chosen, the proposed rule could result in between a loss of 544 ongoing positions for 20 years (if covered parties reduce emissions using allowances from outside of the state), and a gain of nearly 4,000 ongoing positions (if covered parties reduce emissions on site in the state).

Chapter 1: Background and Introduction

1.1 Introduction

Based on research and analysis required by the Regulatory Fairness Act (RFA) – RCW 19.85.070 – the Washington State Department of Ecology (Ecology) has determined that the proposed rule, the Clean Air Rule (Chapter 173-442 WAC) and corresponding amendments to the Reporting of Emissions of Greenhouse Gases rule (Chapter 173-441 WAC) are not likely to have a disproportionate impact on small businesses.

The RFA directs Ecology to determine if there is likely to be disproportionate impact, and if legal and feasible, to reduce this disproportionate impact.

The Small Business Economic Impact Statement (SBEIS) is intended to be read with the associate Cost-Benefit and Least-Burdensome Alternative Analyses (Ecology publication no.16-02-008), which contains more in-depth discussion of the proposed rule and compliance costs.

1.2 Summary of the proposed rule

The proposed rule creates a program that limits and reduces greenhouse gas (GHG) emissions from certain large emission contributors, referred to as covered parties, and allowing various compliance options to meet those limitations. It also includes reporting and verification of compliance.

The proposed rule establishes GHG emissions standards for:

- Stationary sources
- Petroleum product producers and/or importers
- Natural gas distributors operating in Washington State

If they meet GHG emissions thresholds that begin at 100,000 metric tons (MT) per year of carbon-dioxide equivalent emissions in 2017, these parties have a compliance obligation to limit and reduce GHG emissions over time, through 2035. They must afterward maintain the reduction achieved in 2035. The threshold for coverage under the proposed rule drops 5,000 metric tons every three years through 2035, increasing the number of covered parties over time.

Covered parties with compliance obligations under the proposed rule must report compliance after every three-year compliance period, and have compliance verified by a third party. They have various options for compliance, including:

- Reducing their own GHG emissions.
- Acquiring emissions reduction units from another covered party that has reduced GHG emissions in excess of what is required of them.
- Acquiring or generating emissions reduction units from approved GHG reduction projects in Washington State.

- Generating emission reduction units from approved GHG reduction programs in Washington, such as acquiring renewable energy credits (RECs).
- Acquiring emissions reduction units from non-regulated parties that voluntarily participate.
- Purchasing allowances from established multi-sector carbon markets as approved by Ecology.

1.3 Reasons for the proposed rule

The reason for this proposed rule is to reduce GHG emissions to protect human health and the environment. GHG emissions as a result of human activities have increased to unprecedented levels, warming the climate.¹ Washington has experienced long-term climate change impacts consistent with those expected from climate change.² Washington faces serious economic and environmental disruption from the effects of these long-term changes. For instance:

- An increase in pollution-related illness and death due to poor air quality.
- Declining water supply for drinking, agriculture, wildlife, and recreation.
- An increase in tree die-off and forest mortality because of increasing wildfires, insect outbreaks, and tree diseases.
- The loss of coastal lands because of sea level rise.
- An increase in ocean temperature and ocean acidification.
- An increase in disease and mortality in freshwater fish (salmon, steelhead, and trout), because of warmer water temperatures in the summer and more fluctuation of water levels (river flooding and an increase of water flow in winter while summer flows decrease).
- Heat stress to field crops and tree fruit will be more prevalent because of an increase in temperatures and a decline in irrigation water.

Compliance actions to reduce GHG emissions, such as producing cleaner energy and increasing energy efficiency, have the dual benefit of reducing other types of air pollution.

In 2008, Washington's Legislature required the specific statewide GHG emission reductions (RCW 70.235.020) below:

- By 2020, reduce overall emissions of greenhouse gases in the state to 1990 levels
- By 2035, reduce overall emissions of greenhouse gases in the state to 25 percent below 1990 levels

¹ IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

² Snover, A.K, G.S. Mauger, L.C. Whitely Binder, M. Krosby, and I. Tohver. 2013. Climate Change Impacts and Adaptation in Washington State: Technical Summaries for Decision Makers. State of Knowledge Report prepared for the Washington State Department of Ecology. Climate Impacts Group, University of Washington, Seattle.

- By 2050, reduce overall emissions of greenhouse gases in the state to 50 percent below 1990 levels or 70 percent below the state's expected emissions that year.

Consistent with the Legislature's intent to reduce GHG emissions, Ecology is using its existing authority under the State Clean Air Act (Chapter 70.94 RCW) to adopt a rule that limits GHG emissions.

Chapter 2: Analysis of Compliance Costs for Washington Businesses

2.1 Introduction

Ecology analyzed the impacts of the proposed rule relative to business as usual (BAU), within the context of all existing requirements (federal and state laws and rules). This context for comparison is called BAU, and reflects the most likely regulatory circumstances that parties would face if the proposed rule were not adopted. It is discussed in Section 2.2, below.

2.2 Business as usual

BAU for our analyses generally consists of existing rules and laws, and their specific requirements. For economic analyses, BAU also includes the implementation of those regulations, including any guidelines and policies that result in behavior changes and real impacts. This is what allows us to make a consistent comparison between conditions that exist with or without the proposed new rule (Chapter 173-442 WAC) and proposed amendments to the existing GHG reporting rule (Chapter 173-441WAC).

For this proposed rulemaking, BAU includes:

- No existing GHG cap and reduction program at the state level.
- The existing GHG reporting rule (Chapter 173-441 WAC), which covers a subset of the parties covered by the proposed rule, and requires annual reporting and payment of fees.
- The federal and Washington State Clean Air Acts.
- Existing federal and state regulations, including those covering GHG reporting at the federal level, as well as those establishing energy policy.
- Existing federal and state permitting requirements and processes.

While they might otherwise have been considered part of BAU, the proposed rule explicitly exempts compliance with Washington's Emissions Performance Standard (Chapter 80.80 RCW) requirements from being considered part of BAU. The state's carbon dioxide mitigation standard and commute trip reduction programs are also excluded.

The proposed rule also considers future compliance with state implementation of the federal Clean Power Plan (CPP) as compliance with proposed rule requirements. However, since the state has not yet completed rulemaking determining the specific requirements of the CPP, and since the CPP is currently being held in a stay by the Supreme Court, we exclude its requirements from the BAU in this analysis. This means that impacts estimated in this analysis are likely overestimated for power producers that will be required to comply with the CPP.

2.3 Proposed rule requirements

2.3.1 Clean Air Rule coverage

The proposed rule establishes standards for limiting and reducing GHG emissions for:

- Certain stationary sources
- Petroleum product producers or importers
- Natural gas distributors in Washington State

2.3.2 Thresholds for compliance obligation under the proposed rule

2.3.2.1 Existing emitters

If their covered GHG emissions are at least 100,000 metric tons (MT) per year, in carbon dioxide-equivalent units (CO₂e), parties with covered GHG emissions must comply with the proposed rule starting in 2017. Emissions used for threshold comparisons are determined using a baseline emissions calculation based on past emissions during 2012 – 2016, or other relevant emissions data.

2.3.2.2 New emitters

Parties with covered GHG emissions must comply with the proposed rule starting in their first year of operation, if they exceed the following thresholds:

- 100,000 MT per year in years 2017 through 2019
- 95,000 MT per year in years 2020 through 2022
- 90,000 MT per year in years 2023 through 2025
- 85,000 MT per year in years 2026 through 2028
- 80,000 MT per year in years 2029 through 2031
- 75,000 MT per year in years 2032 through 2034
- 70,000 MT per year in 2035 and thereafter

2.3.3 Clean Air Rule requirements

The proposed rule establishes the following requirements not required elsewhere in existing laws or rules:

- GHG emissions standards and reductions over time
- Compliance reporting
- Verification of compliance
- Development of an emissions reduction registry and reserve

2.3.4 Clean Air Rule compliance

Covered parties with compliance obligations, may comply with the proposed rule by reducing emissions in any of the following ways:

- **Own emissions reductions:** Reduction of a covered party's own emissions below the emissions level set in the covered party's reduction pathway.
- **Others' emissions reductions:** Other parties' reductions of emissions below their emissions reduction pathways. Reductions can also come from those voluntarily participating in the program.
- **Emissions reduction projects:** Emissions reductions using projects, activities, or programs recognized by Ecology as capable of generating emissions reduction units under the proposed rule.
 - **Emission reductions from projects** can come from ownership of a project or from greenhouse gas credits available in markets for environmental commodities.
 - **Emission reductions from programs** can come from several state-run programs, including acquiring renewable energy credits (RECs), i.e., existing energy credits generated by power producers using renewable energy production.
- **External emissions markets:** A covered party may use allowances when ecology determines the allowances are issued by an established multi-sector GHG emission reduction program, the covered party is allowed to purchase allowances within that program, and the allowances are derived from methodologies congruent with chapter 173-441 WAC.

2.3.5 Corresponding amendments to other rules

Ecology is also proposing amendments to Chapter 173-441 WAC (Reporting of Emissions of Greenhouse Gases). These amendments correspond to and facilitate requirements and compliance set by the proposed rule. They include, but are not limited to, reallocation of fees:

- The existing GHG emissions reporting rule (Chapter 173-441 WAC) requires 75 percent of the reporting program's budget be paid for through facility reporter fees and 25 percent to be paid for through transportation fuel supplier reporter fees.
- The proposed rule reallocates fees based on full payment by covered facilities, and sets a zero fee for transportation fuel suppliers. It also removes the obligation for voluntary reporters to pay the fee.

2.4 Likely compliance costs of the proposed rule

In the associated Preliminary Cost-Benefit Analysis, we estimated the likely costs associated with the proposed rule, as compared to BAU. Likely 20-year present value (if quantified) costs included:

- Average 20-year present value cost of permanent reductions is between approximately \$1.3 billion and \$2.8 billion.
- Average 20-year present value cost of reductions going toward the reserve is between approximately \$30 million and \$62 million.

- 20-year present value reporting costs of approximately \$384,000.
- 20-year present value verification costs of between approximately \$33 million and \$34 million.
- 20-year present value costs of increased reporting fees of between approximately \$2 million and \$3 million.

Quantified external present-value costs, taking average emission reduction costs across multiple scenarios, total between \$1.4 billion and \$2.8 billion over 20 years.

2.5 Potential lost sales or revenue

Depending on the methods used by covered parties to reduce GHG emissions, the proposed rule may result in reduced sales for some covered parties, or other areas of the state economy. Energy efficiency projects, for example, would reduce GHG emissions by reducing energy consumption. This would reduce sales (quantities) for energy producers, but could also result in changes to energy prices (e.g., passing on regulatory costs to customers). Similarly, transportation-related methods would reduce GHG emissions by reducing fuel consumption. This would also reduce sales (quantities) for fuel suppliers, but could also result in changes to fuel prices. Reductions in fuels from one source could also be counterbalanced by increases in fuels from another source, to meet market demand.

As a result of possible shifts such as these in demand and production, Ecology also expects prices to change. Depending on the relative elasticities (responsiveness of the quantity of a good supplied or demanded, relative to changes in price) of covered parties' supply and demand, overall revenues may increase or decrease as a result of these changes in demand and production. See Appendix A of the Preliminary Cost-Benefit and Least Burdensome Alternative Analyses for more information.

Ecology could not confidently identify the mix of on-site (internal), project-based, or market acquisition-based GHG emissions reduction methods that covered parties would choose under the proposed rule, and so could not quantify the degree to which sales quantities would be impacted.

Chapter 3: Quantification of Cost Ratios

3.1 Introduction

For this analysis, Ecology must estimate and compare the compliance costs per employee at small versus large covered parties (the largest ten percent). In this Chapter, we describe the affected covered parties' employment. Employment numbers are taken at the highest ownership level, to better reflect ability to incorporate compliance costs in business-wide decision making.

At the highest ownership or control level, the proposed rule is not likely to impact small businesses, defined by the RFA as having 50 or fewer employees. This means that we are unable to make the comparison of per-employee compliance costs at small versus large businesses required by the RFA. It also means that the proposed rule inherently is not likely to impose disproportionate costs on small businesses.

This information is, however, based on our best knowledge of likely covered parties at the time of this publication. While we are relatively certain of the facilities and fuel suppliers affected by the rulemaking, there is more uncertainty about the likely fuel importers that would be covered. Section 3.2 discusses this in greater depth.

3.2 Affected businesses

Ecology determined which businesses would likely be required to comply with the proposed rule and associated rule changes. For the proposed rule, these covered parties include stationary sources, petroleum fuel producers and importers, and natural gas distributors, and for associated rule changes to the reporting fee distribution, they also include transportation fuel suppliers.

Parties are generally affected as follows:

- Covered parties incur costs under the proposed rule and associated fee changes.
- Transportation fuel suppliers are affected by associated changes to fees, and for these parties, fees are likely to decrease. These parties do not incur costs under the rulemaking.

Covered parties likely to incur costs under the proposed rule are in a variety of industries (see Chapter 6 for NAICS codes), including but not limited to some energy producers, fuel importers and commodity traders, fuel producers, chemical and metals manufacturers, pulp and paper manufacturers, food producers, natural gas distributors, and waste facilities.

The range of employment at the highest level of ownership available for parties covered by the proposed rule, excluding importers, is between 160 (parent company employment information unavailable) and 845,000.³

The range of employment at the highest level of ownership available for fuel importers likely covered by the proposed rule is between 51-200 (only range available for parent entity) and 845,000 (importer also covered as a stationary source and producer).⁴

3.3 Cost-to-employee ratios

The proposed rule and associated proposed rule amendments do not impose costs on small businesses. The proposed rule, therefore, does not impose disproportionate costs on small businesses, and the RFA does not require Ecology to include elements in the proposed rule that reduce disproportionate impact.

³ Covered party websites, third-party databases such as D&B and Manta, annual reports, WA Employment Security Department records.

⁴ Ibid.

Chapter 4: Actions Taken to Reduce the Impact of the Rule on Small Businesses

Ecology determined the proposed rule is not likely to impose disproportionate costs on small businesses, because it does not create costs for identifiable small businesses (see Chapter 3). The RFA, therefore, does not require Ecology to mitigate this disproportionate impact to the degree that it is both legal and feasible.

Chapter 5: Involvement of Small Businesses and Local Government in the Development of the Proposed Rule

Ecology involved small businesses or their representatives in the development of the proposed rule, as well as local governments. Ecology held five webinars during the development of the proposed rule. Their attendees/participants included multiple representatives of local governments and small businesses (directly or as part of associations), as well as legislators representing the local and business interests of their constituencies. Below is a list of attendees of these webinars, as well as participants in smaller meetings held with Ecology or the Washington State Governor’s Office.

Parties represented or representing at Ecology webinars and forums:

- Access Institute of Research
- AEQUUS Corp.
- AGC of WA
- Agrium US Inc.
- Alcantar & Kahl
- Alcoa
- Ameresco
- American Carbon Registry
- American Fuel & Petrochemical Manufacturers
- American Lung Association
- Arbaugh & Associates, Inc.
- Ardagh Glass Inc
- Argus Media
- Ash Grove Cement
- Assoc. WA Business
- ATI
- Avista Corp
- Barr Engineering Co.
- Benton Clean Air Agency
- Benton PUD
- BHAS
- BlueGreen Alliance
- BNSF Railway
- Boeing
- Boise Cascade Wood Products, LLC
- Boise Paper
- Bonneville Power Administration
- BP
- Bridgewater Group Inc.
- Canadian Consulate General
- Capitol Strategies
- Carney Badley Spellman, PS
- Cascade Government Affairs
- Cascade Natural Gas Corporation, a Div. of MDU Resources Group
- Cascadia Law Group PLLC
- CH2M
- Chelan County PUD
- Chevron Corporation
- City of Everett
- City of Spokane
- City of Walla Walla
- Clark Public Utilities
- Clean Energy
- Climate Action Reserve
- Climate Change for Families
- Climate Solutions
- Coalition for Renewable Natural Gas, Inc.
- Communico
- Community Transit
- ConAgra Foods
- Concrete Nor'West
- Cowlitz County Public Works
- Cowlitz PUD
- Coyne, Jesernig, LLC
- Cyan Strategies
- Dave Bradley
- Davis Wright Tremaine LLP
- Davison Van Cleve PC
- Del Monte Foods Inc.
- Department of Commerce
- Department of Corrections
- Department of Ecology
- Diane L. Dick
- DNR
- EES Consulting
- Emerald Kalama Chemical, LLC
- Energy Northwest
- Energy Strategies LLC
- Environmental Energy
- Environmental Entrepreneurs
- Enwave Seattle
- ERA Environmental Management Solutions
- ERM
- Evergreen Carbon
- ExxonMobil
- Fairchild AFB
- Federal Government (Air Force)
- Flint Hills Resources, LP
- Fluor Corporation
- Forterra
- Friends of Toppenish Creek
- Frito Lay
- Georgia-Pacific
- GHG Management Institute
- Go Green Tri-Cities
- Gordon Thomas Honeywell Governmental Affairs
- Government of British Columbia
- Grant County Economic Development Council

- Grant County PUD
- Grant County Solid Waste
- Graymont
- Grays Harbor Energy
- Grays Harbor PUD
- Hammerschlag & Co. LLC
- Hampton Affiliates
- HDR Engineering
- House of Representatives
- House Republican Caucus
- ICIS
- Intalco Aluminum Corporation
- Interfor
- Invenergy LLC
- James Lester Adcock
- Janicki Bioenergy
- JR Simplot Company
- Julia Robinson
- Kaiser Aluminum
- King County
- King County Solid Waste
- Kinross
- KUOW News Radio
- Lamb Weston
- LCSC
- League of Women Voters
- Linde
- Linear Technology
- Local2020
- LWVWA
- MFSA
- Naval Base Kitsap Bangor
- NAVFAC Northwest
- NCASI
- NextEra Energy
- Nippon Paper Industries
- Noble Americas Gas & Power
- Northwest Clean Air Agency
- Northwest Food Processors Assn
- Northwest Gas Association
- Northwest Pulp & Paper Assn.
- NRDC
- Nucor Steel Seattle, Inc.
- NW Energy Coalition
- NW Natural
- NW Power and Conservation Council/WA Dept. of Commerce, Energy Office
- NW Seaport Alliance
- NWFPA
- OFM
- ONRC- SEFS U of W
- ORCAA
- Oregon DEQ
- Pacific Power
- PacifiCorp
- Parametrix
- Perkins Coie
- Phillips 66
- PIRA Energy Group
- Plug In America
- Ponderay Newsprint Co
- Port of Seattle
- PPRC
- PT AirWatchers
- Puget Sound Clean Air Agency
- Puget Sound Energy
- Puget Sound Regional Council
- Rainier Veneer, Inc.
- Ramboll Environ
- ravel
- RE Sources for Sustainable Communities
- REC Silicon
- REG
- Renewable Northwest
- Rep. Derek Kilmer
- Republic Services
- RNG Coalition
- Ross Strategic
- Rowley Properties, Inc.
- s2 sustainability consultants
- Saltchuk
- Schwabe, Williamson & Wyatt
- Schweitzer engineering laboratories
- SCS Engineers
- Seattle Aquarium
- Seattle City Light
- Seattle Public Utilities
- SEH America, Inc.
- SEI-US
- SGL Automotive Carbon Fibers
- Shell
- Shuttle Express
- Sierra Club
- Sightline
- Snohomish County
- Snohomish County Public Works
- Snohomish PUD
- Sonoco
- Sound Transit
- Southshore Environmental, Inc.
- Southwest Clean Air Agency
- Spectrum Glass
- Spokane Audubon Society
- Spokane Regional Clean Air Agency
- Spring Environmental, Inc.
- Ste. Michelle Wine Estates
- Stockholm Environment Institute
- Stoel Rives
- Strategies 360
- SWCAA
- Tacoma Power
- Terre-Source LLC
- Tesoro
- The Climate Trust
- The Evergreen State College
- The News Tribune
- The Northwest Seaport Alliance
- The TSB Group
- Thompson Consulting Group
- Tidewater Barge Lines
- TransAlta
- TransCanada
- Transportation Choices
- Trinity Consultants
- True North Public Affairs
- Tyson Foods, Inc.
- U.S. Department of Energy
- Union of Concerned Scientists
- United Steelworkers Local 338
- University of Washington
- Valero
- Van Ness Feldman, LLP
- Vitol Inc.
- WA Food Industry Assn.
- WA Oil Marketers Assn.
- WA PUD Association
- WaferTech, LLC
- Washington Environmental Council
- Washington Oil Marketers Association
- Washington State House of Representatives
- Washington State House Republican Caucus
- Washington State Legislature
- Washington State Senate
- Washington State Senate Committee Services
- Washington State University
- Washington Trucking Associations

- Waste Connections
- Waterside Energy
- WCV
- Western Pneumatic Tube Co. LLC
- Western Power Trading Forum
- Western States Petroleum Association
- Western Washington University
- WestRock
- Weyerhaeuser
- WFPA
- William H. Wilson, P.E. - Engineering Consulting
- Williams
- Williams, Northwest Pipeline LLC
- WSU Energy Program
- WSU Extension
- WY
- Yakima Regional Clean Air Agency

Individual or Group Stakeholder Meetings (some including the Office of the Governor) with:

- Alaska Airlines
- Alcoa
- Alliance (Labor, Health, environmental advocates, social equality advocates)
- Ashgrove Cement
- Asian Pacific Islander Coalition
- Association of Washington Business (AWB)
- Avista
- Boeing
- BNSF Railway
- British Petroleum
- California Air Resources Board
- Clark PUD
- Clean Tech Alliance
- Climate Solutions
- Community to Community
- Coyne, Jesernig, LLC
- Duwamish River Cleanup Coalition / TAG
- Friends of Toppenish Creek
- Front & Centered
- Got Green?
- Grays Harbor Energy Center
- Green Diamond
- House Representative Richard DeBolt
- Industrial Customer of Northwest Utilities (ICNU)
- Kaiser Aluminum
- King County Council
- Klickitat PUD
- Latino Community Fund
- NextGen
- Northwest Energy Coalition
- Northwest Pulp and Paper Association
- Nucor Steel Seattle, Inc.
- OneAmerica
- PacifiCorp
- Phillips 66
- Public Generating Pool
- Puget Sound Energy
- Puget Sound Sage
- Republic
- Renewable NW
- Renewable Products Marketing Group
- Shell
- Sierra Club
- Snohomish PUD
- Stockholm Environment Institute
- Stoel Rives, LLP
- Tacoma Power
- Tesoro
- TransAlta
- Tulalip Tribes
- Union of Concerned Scientists
- U.S. Oil & Refining Co.
- Valero Energy
- Washington Can!
- Washington Environmental Council
- Washington Physicians for Social Responsibility
- Washington PUD Association
- Western States Petroleum Association
- Weyerhaeuser

Ecology also briefed the directors of the seven local Clean Air Agencies on the rule, during a meeting of the Washington Air Quality Manager Group.

Chapter 6: The SIC Codes of Impacted Industries

The SIC (Standard Industry Classification) system has long been replaced by the North American Industry Classification System (NAICS). The proposed rule applies to the following NAICS for stationary sources and fuel suppliers. The covered NAICS for fuel importers is more difficult to encompass, as fuel importers may be independent, but may also be part of businesses or other entities that perform other primary functions. This broadens the list of possibly affected NAICS to at least the set of 4-digit NAICS codes, and their underlying 5+ digit codes, below.

Table 1: Likely affected business NAICS codes

2111	3241	3274	3344	4247	4841
2211	3253	3311	3364	4451	4862
3114	3272	3313	4246	4471	5622
3221	3273	3314	4247	4543	6113

Chapter 7: Impacts on Jobs

Ecology used the Washington State Office of Financial Management's 2007 Washington Input-Output Model⁵ (OFM-IO) to estimate the proposed rule's impact on jobs across the state. This includes direct, indirect, and induced (from spending of wages) jobs impacts. This methodology estimates the impact as reductions or increases in spending in certain sectors of the state economy flow through to purchases, suppliers, and demand for other goods. Direct compliance costs incurred by an industry are entered in the OFM-IO model as a decrease in spending and investment. If that compliance cost money is spent in another industry, it is entered in the model as an increase in production.⁶

Ecology estimated jobs impacts (full-time employees; FTEs), for various scenarios of how covered parties comply with the proposed rule, using high-end compliance costs of reducing carbon emissions. Because some categories of covered party contained multiple industries, we conservatively estimated net jobs impacts by assuming costs were borne by the industry with the largest jobs impact per dollar of cost, and transfers (if any) were gained by the industry with the lowest jobs impact per dollar of cost. We translated them to equivalent numbers of ongoing positions.

Depending on the compliance methods chosen, the proposed rule could result in:⁷

- A net gain of 3,988 equivalent ongoing positions, if covered parties reduce emissions on site, and those payments are transferred to in-state engineering services.
- A net loss of 43 equivalent ongoing positions, if covered parties reduce emissions using in-state projects, assuming those payments are transferred to the industries of registered project developers with the lowest positive jobs impacts (to maintain conservatively high potential job loss estimates).

⁵ WA Office of Financial Management (2007). Washington State Input-Output Model.

<http://www.ofm.wa.gov/economy/io/2007/default.asp>

⁶ Costs that are passed through to customers are indirectly represented in this analysis; direct compliance costs are incurred by the covered entities, and not offset by price increases. Models directly representing costs that are passed through to consumers would still include the offsetting spending on on-site (internal) or project-based GHG emissions reductions, but would reduce spending across a basket of goods purchased by consumers instead of reducing output at the basket of covered entities. This type of modeling would have impacts consistent with the results above.

Cost-savings resulting from GHG emissions reduction projects that improve efficiency, or those that may benefit the public through reduced energy spending are not included in this modeling. Models representing these cost-savings would reduce negative impacts to the economy, by reducing net compliance costs for covered entities, or reducing net costs to consumers, or both. Because we could not quantify the expected cost-reductions resulting from efficiency projects, or how many such projects would be undertaken, we could not quantitatively include these cost-savings in this modeling.

⁷ Note that this model does not allow for impacts of pass-through costs, shifts in demand resulting from efficiency improvements, or macroeconomic variables.

- A net loss of 544 equivalent ongoing positions, if covered parties reduce emissions using market allowances, assuming those payments are fully transferred out of state.
- If covered parties reduce emissions using renewable energy credits:
 - A net loss of 448 equivalent ongoing positions, if payments are transferred to parties out of state.
 - A net gain of 142 equivalent ongoing positions, if payments are transferred to utilities in the state.

These impacts are estimated using high-end 20-year present value compliance costs, and baseline emissions based on reported GHG emissions to date. They exclude minor contributions of reporting and verification costs. Real jobs impacts will likely result from a combination of compliance through on-site, project, and market GHG emissions reductions, and will be within this range of jobs impacts.