DEPARTMENT OF
ECOLOGY
State of Washington

Small Business Economic Impact Statement

Chapter 173-441 WAC
Reporting of Emission of Greenhouse Gases

September 2010
Publication no. 10-02-024

Publication and Contact Information

This report is available on the Department of Ecology's website at
www.ecy.wa.gov/biblio/1002024.html

For more information contact:

Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Phone: 360-407-6800

Washington State Department of Ecology - www.ecy.wa.gov

Headquarters, Olympia	360-407-6000
Northwest Regional Office, Bellevue	425-649-7000
Southwest Regional Office, Olympia	360-407-6300
Central Regional Office, Yakima	509-575-2490
Eastern Regional Office, Spokane	509-329-3400

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Prepared by

Kasia Patora

Air Quality Program
Washington State Department of Ecology
Olympia, Washington

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Note: Due to size limitations relating to the filing of documents with the Code Reviser, the SBEIS does not contain the appendices that further explain Ecology's analysis. Additionally, it does not contain the raw data used in this analysis, or all of Ecology's analysis of this data. However, this information is being placed in the rule-making file, and is available upon request. A full analysis of compliance costs is available in the associated Cost-Benefit Analysis for this rule.

Executive Summary

The Washington State Department of Ecology is proposing a rule to require reporting of greenhouse gas emissions from sources in the state (Chapter 173-441 WAC). The proposed rule requires reporting of emissions from:

- Facilities with direct emissions over 10,000 metric tons CO_2e (carbon dioxide-equivalent) of greenhouse gas emissions per year.
- Suppliers of fuel for transportation – including liquid motor vehicle fuel, special fuel, or aircraft fuel – filing periodic tax reports to the Washington State Department of Licensing (DOL), and emitting over 10,000 metric tons of greenhouse gas emissions per year.

Ecology has analyzed the degree of disproportionate impact of the proposed rule on small business, and concluded that a disproportionate impact does exist.

Ecology took various measures, within the scope of the authorizing statutes, to reduce this disproportionate burden.

- The statute included many of these measures, including reducing reporting effort for those facilities required to report under the existing federal rule, and limitation to particular sectors, avoiding possible coverage of more prevalent small businesses in other sectors that would likely need to determine whether their emissions exceed the threshold for reporting.
- Ecology chose additional measures such as deferring reporting until the latest year allowed by statute (2012 emissions, reported in 2013), and allowing those entities not reporting under the federal rule to submit emissions reports by the latest date allowed by statute (October 31). Delaying reporting for entities emitting between 10,000 and 25,000 MT of GHG emissions likely will benefit smaller businesses to a greater extent, as they are a greater proportion of smaller emitters.

Ecology estimated that the costs and payments created by the proposed rule will likely reduce manufacturing-related employment primarily in sectors subject to the proposed rule. This will likely result in the loss of 20 jobs across the state economy, for all sizes of business.

Section 1: Background

The Washington State Department of Ecology (Ecology) is proposing a rule to require reporting of greenhouse gas (GHG) emissions from certain sources in the state.

Based on research and analysis required by the Regulatory Fairness Act – RCW 19.85.070 – Ecology has determined the proposed rule, Chapter 173-441 WAC, has a disproportionate impact on small business. Therefore, Ecology included cost-minimizing features in the rule where it is legal and feasible to do so.

This document provides the public with an overview of the methods Ecology used to perform its analysis, and the features of the rule and rule-development process specifically addressing small-business needs. Small businesses are defined as those with fifty or fewer employees.

Due to size limitations relating to the filing of documents with the Code Reviser, the SBEIS does not contain the appendices that further explain Ecology's analysis. Additionally, it does not contain the raw data used in this analysis, or all of Ecology's analysis of this data. However, this information is being placed in the rule-making file, and is available upon request. A full analysis of compliance costs is available in the associated Cost-Benefit Analysis for this rule.

Section 2: Compliance Costs for Washington Businesses

Quantified Costs of Ecology's Proposed Rule

Ecology estimated the quantifiable costs of Ecology's proposed rule by determining expected reporters, and estimating the range of compliance costs for each industry.

Federal Reporting Rule Coverage

Ecology expects the federal reporting rule to capture emissions from the largest industrial emitters. The EPA's Regulatory Impact Analysis for the federal reporting rule expects 30 thousand facilities in the United States will need to assess whether they must report, and about 13 thousand of these will likely meet the threshold to report.

Ecology developed an estimate of the number of Washington State emitters impacted by the federal reporting rule, based on reported fuel consumption and business output. Through that estimate, Ecology developed list of 74 facilities that likely emit over the federal threshold of 25,000 metric tons per year, from industrial processes covered by the federal rule. Based on the relative proportions of likely reporters to non-reporters at the national level,[1] Ecology assumed 100 businesses in Washington would only need to determine whether they are reporters. This number is highly conservative and likely an overestimate, based on Ecology's knowledge of the industries reporting under the federal rule, and those industries in Washington State. However, Ecology chose this estimate based on the proportion of reporters to non-reporters in the United States as a whole, as reported by the EPA.

Coverage under Ecology's Proposed Rule

Ecology expects coverage under the proposed rule to include several manufacturing, commercial, and utility operations, including those reporting under the federal reporting rule. The lower reporting threshold under the proposed rule is expected to include more reporters. This is because of the lower threshold itself, and also to an additional extent because of inclusion of biomass emissions in the threshold determination. These requirements are both dictated by statute.

Based on the energy intensity of different production activities, and employment size of firms as a proxy for operation size, Ecology estimated that about 267 facilities or fuel suppliers (a subset of 12 are also fuel suppliers) operating in the state are likely to be required to report under the proposed rule, 18 of these facilities are likely to be triggered by biomass emissions.[2] DOL estimates that 64 out of a possible 125 suppliers with the appropriate licenses will exceed Washington's threshold.

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[1] Environmental Protection Agency (2009). Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Proposed Rule (GHG Reporting), Final Report. http://www.epa.gov/climatechange/emissions/downloads/GHG_RIA.pdf

[2] Washington State Employment Security Department. Workforce Explorer. http://www.workforceexplorer.com/cgi/dataanalysis/?PAGEID=94&SUBID=149, Nicholas Institute for Environmental Policy Solutions (2007). Size Thresholds for GHG Regulation: Who Would be Affected by a 10,000

Ecology expects that some remaining businesses in the state, in manufacturing, utility, and commerce industries will need to determine their reporting status, but will not need to report. Ecology estimated there are about 3 thousand remaining manufacturing, commercial, utility facilities, and fuel suppliers, in industries relevant to the proposed rule.[3]

Difference in Coverage

Overall, based on the additional facilities and sectors described above, Ecology expects the proposed rule to cover about 331 facilities and fuel reporters, including:

- 175 facilities under 25,000 MT CO_2e expected to report only under the proposed rule.
- 18 biomass emitters expected to report only under the proposed rule.
- 74 facilities expected to report under both the proposed rule, and under the federal reporting rule.
- 64 transportation fuel suppliers.

Cost Estimation – Reporters

Ecology developed a list of likely reporters under the proposed rule. For each of these operations, Ecology developed an estimated facility compliance cost by industry and biomass compliance cost. Ecology estimated a range of compliance costs, tied to labor and capital cost assumptions developed by the EPA for its Regulatory Impact Analysis for the federal rule.[4]

The proposed rule allows those reporters also reporting under the federal rule to submit emissions reports to the EPA. The EPA then provides reports to Ecology. Based on this, Ecology assumed the 74 likely reporters also reporting to EPA will experience minimal or no additional reporting costs under the proposed rule. Ecology therefore estimated costs for the remaining likely 175 reporters and 18 biomass-triggered reporters, who only report under the proposed rule.

The low end of the costs range was based on the scenario that only labor costs were necessary for compliance, and emissions could be estimated based on existing or easily accessed records. Ecology's proposed rule allows for various emissions calculations, and Ecology expects actual compliance costs to be near the low end of the range, as businesses are likely to minimize costs where possible.

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ton CO2 Emission Rule, and Energy Information Administration (2002). Manufacturing Energy Consumption Survey. Table 6.4 Manufacturing fuel consumption by Manufacturing Industry and Employment Size.

[3] Washington State Employment Security Department, Workforce Explorer. http://www.workforceexplorer.com/

[4] Environmental Protection Agency (2009). Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Proposed Rule (GHG Reporting), Final Report. http://www.epa.gov/climatechange/emissions/downloads/GHG_RIA.pdf

Reporter costs used by Ecology were industry-specific where available, and tied to the cost estimation assumptions the EPA used to analyze the federal rule. Utilities expected to report under the proposed rule were assigned estimated costs of stationary combustion from this same analysis. See Appendix A for a break-down of compliance costs.

Ecology applied a similar effort-based methodology in estimating compliance costs for fuel suppliers. As fuel supplier reporting is based on existing reporting of transportation fuel tax to DOL, Ecology estimated the cost of the additional reporting efforts likely required to complete reporting based on existing data.

Based on its analysis of operation-level compliance costs, Ecology estimated that about 257 facilities emitting between 10,000 and 25,000 MT CO2e and fuel suppliers are expected to incur total annualized reporting costs of approximately **$966 thousand – $2.7 million**. This is the overall range of possible annualized compliance costs, looking at extreme high and low costs across all, and all possible compliance options including unlikely high-cost options.

Cost Estimation – Non-Reporters

Based on the industries impacted in Ecology's cost analysis for reporters, Ecology assumed a remaining 3,000 facilities in the state[5] would need to determine what action to take in compliance with the rule, but would not need to report. These are facilities involved in the same set of industries likely impacted by the proposed rule.

Ecology followed the EPA's assumptions on the labor required to determine whether to report. [6] Results based on these EPA estimates were used as the high end of the cost range, as they assume the most conservative (i.e., high) cost scenario possible. Ecology also calculated this cost based on only the subset of labor required to determine reporting status based on existing fuel and input records, or transportation tax reports to DOL. The range of costs for non-reporters was determined to be $150 to $500 per non-reporter.

Ecology assumed the determination of whether to report would be one-time, unless significant changes to existing processes were made. Ecology annualized this range of non-reporter costs to be $13 to $44 dollars per year. Summed across all non-reporting facilities fuel suppliers determining whether to report, this is an annualized compliance cost of **$39 thousand – $132 thousand**.

[5] Washington State Employment Security Department. Workforce Explorer. http://www.workforceexplorer.com/cgi/dataanalysis/?PAGEID=94&SUBID=149, Nicholas Institute for Environmental Policy Solutions (2007). Size Thresholds for GHG Regulation: Who Would be Affected by a 10,000 ton CO2 Emission Rule, and Energy Information Administration (2002). Manufacturing Energy Consumption Survey. Table 6.4 Manufacturing fuel consumption by Manufacturing Industry and Employment Size.

[6] Environmental Protection Agency (2009). Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Proposed Rule (GHG Reporting), Final Report. http://www.epa.gov/climatechange/emissions/downloads/GHG_RIA.pdf

See the Appendix A for a break-down of compliance costs.

Ecology also noted that some likely non-reporters would be able to determine whether to report during a brief phone call with a member of Ecology staff, so the quantified range of annualized costs presented above may be an overestimate.

Reporting Fees

The authorizing statute allows Ecology to charge appropriate fees to reporters, based on the expected costs of the program. Ecology estimated the future workload of the reporting program, based on the proposed rule.

Ecology determined which tasks it expects to perform under the proposed rule, and the workload associated with those tasks. The tasks include:

- Rule updates, program administration, program tracking, and fiscal operations.
- Data management.
- Technical support.
- Compliance and enforcement.
- Management and oversight.
- Data verification.
- Administrative support in billing and correspondence.

Ecology estimated the workload associated with each task, and the total compensation estimate for each position involved. Total compensation included:

- Salaries
- Benefits
- Goods
- Travel
- Indirect costs.

Ecology estimated that overall program costs will be about $408 thousand per year for administering the proposed reporting rule. This cost represents Ecology's current best estimate, and could change depending on the actual workload associated with running the GHG emissions reporting program.

To allocate reporter fees across likely reporters, Ecology followed the language in the proposed rule. Ecology broke the budget down into 75 percent of fees paid by facility reporters, and 25 percent paid by fuel suppliers. Within these two categories, fees would be determined by division of the budget for the reporter category (facilities or fuel suppliers) by the number of reporters in that category. Overall:

- Facilities will likely pay an approximate fee of $1,150 per year.
- Fuel suppliers will likely pay an approximate fee of $1,590 per year.

These are estimated values, based on the expected annual costs of the program at the time of this publication. If the realized composition of reporters and non-reporters differs from Ecology's assumptions, actual fees may differ.

Ecology summed the estimated reporting fees to determine total expected annual reporting costs to of **$408 thousand**.

Section 3: Quantification of Cost Ratios

The costs of the proposed rule are not uniformly spread across businesses, especially as pertains to business size. Ecology matched industries and, where possible, individual businesses with employment numbers (ESD, 2010). Ecology then determined the interaction between compliance costs and business size.

Based on the interaction of business size and compliance costs, Ecology determined:

1. Which businesses or subsets of industries are required to comply with the proposed rule, and incur costs.
2. Which businesses are small, and which businesses comprise the largest 10 percent of impacted businesses.

Ecology divided each entity's compliance costs by the number of employees there. Ecology then averaged these cost-to-employment ratios for the small business group, and the large business group.

Ecology calculated the broadest range possible for the average annualized cost per employee as $2 – 4 thousand for small businesses impacted by the proposed rule. The average annualized cost per employee for the largest 10 percent of businesses was calculated to be 25 – 30 cents.

A contributing factor to the largest possible average annual costs per employee, for small businesses, is the appearance in the data of sole proprietorships that own large businesses. When a range of employment was available for a business, Ecology conservatively chose the smallest employment number available, as not to under-represent small businesses in the data. This contributed to the largest small business costs per employee. Ecology believes a single-employee reporter is highly unlikely to exist under the proposed rule, and the appearance of sole proprietorships in the data is a result of conservative data usage, and data limitations.

A sole proprietorship is made additionally unlikely by the high likelihood that small reporters will have smaller emissions, making compliance costs or costs to determine whether to report smaller.

Irrespective of the possible existence of a sole proprietorship, Ecology calculated disproportionate costs per employee, and concluded that the proposed rule will likely impose disproportionate costs on small business. Ecology included cost-mitigating components in the proposed rule to reduce this disproportionate impact. This small-business cost mitigation is further described in the next chapter.

Section 4: Actions Taken to Reduce Small Business Impacts

Ecology took a number of actions in the proposed rule, to reduce the disproportionate impacts on small businesses. It is important to note that small businesses are likely to be low emitters. Aspects of the proposed rule that attempt to reduce the disproportionate compliance costs to small businesses include:

- The statute included many of these measures, including reducing reporting effort for those facilities required to report under the existing federal rule. Consistency with the federal rule also helps small business not required to report to EPA by allowing them to use EPA's electronic reporting tool and increasing the number of resources and training events available on the protocols. Using the federal protocols means the protocols are reviewed and commented on by a very large number of organizations and trade groups throughout the country. This increases the quality of the protocols, minimizing compliance costs, without requiring an individual investment by a local small business. Protocol tiers included in EPA's methods give smaller emission sources easier, cheaper methods to track and report emissions.
- Limiting reporting to particular sectors included in the federal program, avoids possible coverage of more prevalent small businesses in other sectors that would likely need to determine whether their emissions exceed the threshold for reporting. Many of the emission sources, such as fleets and fugitive emissions from refrigeration and cooling equipment, are prevalent in small businesses and costly to track and report.
- Ecology chose additional measures such as deferring reporting until the latest year allowed by statute (2012 emissions, reported in 2013), and allowing those organizations not reporting under the federal rule to submit emissions reports by the latest date allowed by statute (October 31). Delaying reporting for organizations emitting between 10,000 and 25,000 MT CO_2e of GHG emissions likely will benefit smaller businesses to a greater extent, as they are a greater proportion of smaller emitters.
- Ecology chose to implement a flat fee for all facilities and a separate flat fee for all suppliers to minimize costs to small businesses. A flat fee opposed to an emissions based fee normally would favor large businesses, but due to the unique relationship between the Washington and federal reporting programs the opposite is true in this case. Washington will rely on EPA verification to reduce overall costs. EPA will only verify emissions for reporters over 25,000 MT CO_2e / year. This means Ecology will have to verify reports from sources less than 25,000 MT CO_2e / year, which correlate to smaller businesses, and will increase agency costs for those reporters. Since the authorizing statute establishes that fees are based on agency costs, a flat fee prevents smaller sources paying higher fees.

Section 5: Small Business Involvement

Ecology attempted to identify potential reporters, including small businesses, and invite them to technical assistance workshops held throughout the state. This also informed smaller reporters about the rule and led to many one-on-one technical assistance contacts between potential reporters and Ecology staff. Ecology's stakeholder meetings were open to the public, and the agency emailed updates and invitations to all parties that expressed interest in the rule, including small businesses.

Section 6: NAICS Codes of Impacted Industries

Ecology expects the proposed rule to impact a broad range of industries. Table 1 presents the NAICS codes of those industries. For industry groups with all sub-industries possibly impacted, Ecology has listed only the 3-digit group code. Fuel suppliers fall primarily in the 4247 group.

Table 1: NAICS Codes Likely Impacted by the Proposed Rule					
221	2212	3329	4413	5152	5629
311	2213	3331	4441	5171	6111
321	2361	3332	4442	5172	6112
322	2362	3339	4451	5179	6215
324	2371	3341	4471	5221	6216
325	2372	3345	4521	5222	6219
327	2373	3359	4529	5234	6221
332	2379	3361	4539	5239	6241
335	2381	3364	4543	5241	6242
336	2382	3366	4811	5311	6244
481	2383	3371	4821	5312	7127
482	2389	4231	4831	5321	7223
483	3112	4233	4841	5322	8114
492	3114	4234	4842	5324	8121
562	3115	4235	4851	5411	8123
622	3116	4236	4852	5413	8129
1111	3118	4237	4853	5416	8131
1112	3119	4238	4855	5417	8133
1113	3121	4239	4859	5418	8134
1114	3211	4241	4882	5419	
1119	3219	4242	4883	5511	
1121	3222	4244	4884	5612	
1133	3241	4245	4885	5613	
1151	3254	4246	4889	5615	
2111	3255	4247	4921	5616	
2122	3256	4248	4931	5617	
2123	3273	4249	5111	5619	
2131	3311	4411	5112	5621	
2211	3323	4412	5151	5622	

Section 7: Impact on Jobs

Ecology used the Washington State Office of Financial Management's 2002 Washington Input-Output Model (OFM-IO) to estimate the proposed rule's first-round impact on jobs across the state. 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. Compliance costs incurred by an industry, or industries, are entered in the OFM-IO model as decreases in spending and investment.

Ecology calculated that about 20 jobs are likely to be permanently lost under the proposed rule. Ecology was not able to estimate the second-round impacts of the proposed rule, which include the earned income of secondary parties and reduce overall job impacts.