SEPA Environmental Checklist – Clean Air Rule

A. Background

1. Name of proposed project, if applicable:

   Ecology proposes to adopt a new rule – Clean Air Rule (CAR), Chapter 173-442 WAC – and amend an existing rule – Reporting of Emissions of Greenhouse Gases, Chapter 173-441 WAC – as necessary to coordinate with the new rule. Ecology refined and updated the proposed rule after receiving constructive feedback from stakeholders and groups during public outreach. The rule establishes greenhouse gas (GHG) emissions standards for certain stationary sources, petroleum product producers or importers, and distributors of natural gas in Washington.

2. Name of applicant:

   Air Quality Program, Ecology

3. Address and phone number of applicant and contact person:

   Air Quality Program
   Department of Ecology
   P.O. Box 7600
   Olympia, WA 98504-7600
   Contact: Nancy Pritchett (360) 407-6823

4. Date checklist prepared:

   May 24, 2016

5. Agency requesting checklist:

   Department of Ecology

6. Proposed timing or schedule (including phasing, if applicable):

   The timing of environmental review for rulemaking for this adoption follows WAC 197-11-055(3).

Table 1. Timetable for Rulemaking Through Adoption	
Date	**Activity**
September 21, 2015	Announced rulemaking (file the CR-101 form)
September 28 and 29, 2015	Held educational webinars
October 1, 2015	Held educational webinar
October 8, 2015	Held western Washington stakeholder and public interest meetings (day and evening)
October 13, 2015	Held eastern Washington stakeholder and public interest meetings (day and evening)
November 18, 2015	Held webcast 10 a.m. - 11:30 a.m. to present themes and progress
January 5, 2016	Proposed rule (file the CR-102 form) Started public comment period
February 26, 2016	Withdrew proposed rule Ended public comment period
April 27, 2016	Public update via webinar
May 31, 2016	Propose rule (file the CR-102 form) Public comment period starts
June 23, 2016	Informational webinar
July 7, 2016	Webinar public hearing (evening)
July 12, 2016	Public hearing in Spokane
July 14, 2016	Public hearing in Olympia
July 15, 2016	Webinar public hearing (day)
July 22, 2016	Public comment period closes
September 15, 2016 (on or after)	Adopt rule (file the CR-103 form)
October 16, 2016 (on or after)	Rule effective (usually 31 days after CR-103 filing date)

Table 1 - Timetable for rulemaking through adoption.
Source: Air Quality, Rulemaking, Clean Air Rule website
http://www.ecy.wa.gov/programs/air/rules/wac173442/1510time.html
Additional source: CR-102 Form

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

The power sector will transition from compliance with this rule to compliance with the federal Clean Power Plan (CPP). Until companies are required to reduce emissions under the CPP, they will be covered under the Clean Air Rule.

Under the rule, energy-intensive and trade-exposed (EITEs) covered parties will have a facility-specific output or intensity baseline and their emission reduction requirement will be developed within the first three years of the program. This output-specific baseline will be used to develop the emission reduction requirement for each compliance period, with the initial compliance period for the EITEs beginning in 2020. Petroleum product importers will also join the program in 2020. Covered parties with baseline emissions between 100,000 and 70,000 metric tons (MT) per year will transition into the program as the threshold drops below their baseline emissions.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

See Appendix C: Bibliography (attached).

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Seven large industrial sources are in various stages of permitting with Ecology or the Energy Facility Site Evaluation Council (EFSEC) that may also involve permitting at the local level: BP Cherry Point Refinery, Grays Harbor Energy (EFSEC), Puget Sound Energy - Encogen, Spokane Waste-To-Energy Facility, Tesoro Refinery, Weyerhaeuser NR Company and Northwest Innovations Works.

Ecology issues Prevention of Significant Deterioration (PSD) permits statewide to large industrial sources. EFSEC issues all permits to energy facilities under its jurisdiction.

A project may have both a PSD permit and an air quality pre-construction permit for activities with emissions below the PSD emissions threshold. PSD includes GHGs when the project being permitted includes a regulated criteria air pollutant and the GHG emissions exceed 70,000 short tons per year.

This proposed rule will not affect the existing process for issuing permits.

Ecology will issue a new regulatory order to each covered party with their Clean Air Rule emission reduction requirement by the second year of each compliance period (2018, 2021 etc.).

10. List any government approvals or permits that will be needed for your proposal, if known.

Ecology must adopt the rule as required under the Administrative Procedures Act, Chapter 34.05 RCW and the Regulatory Fairness Act, Chapter 19.85 RCW. As part of the rulemaking process, Ecology must prepare a preliminary cost-benefit economic impact analysis and small business economic impact statement on the proposed new rule and amendments. A final cost-benefit analysis must be prepared on the adopted rule(s).

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

2015 –Governor's Directive to Ecology

Despite Washington's significant progress in reducing GHG emissions and establishing policies to generate future emission reductions, greater reductions are needed consistent with Washington's statewide statutory emission reduction limits. Even with the significant contributions of existing state and federal policies, separate groups and task forces formed to evaluate progress toward meeting the statutory reductions predict that Washington will fall short of meeting those reductions if it proceeds using the "business as usual" model. During the 2015 Legislative Session, the Governor, in consultation with Ecology and other agencies, took a comprehensive suite of bills to the legislature addressing climate change. The 2015 legislature failed to adopt any of these bills, including the central bill, the *2015 Carbon Pollution Accountability Act*, which proposed reducing GHG emissions under a cap-and-trade market mechanism. Governor Inslee directed Ecology to use its existing authority under the Washington Clean Air Act to develop a rule setting a cap on carbon emissions in Washington to achieve substantive reductions in carbon emissions.

Clean Air Rule (CAR)

The Clean Air Rule would set Washington's first-ever multi-sector limit on carbon pollution to help slow climate change. GHGs, generally referred to as carbon pollution, are the primary cause of climate change. The proposed rulemaking establishes emission standards for certain large emitters (covered parties) and will reduce greenhouse gas emissions to protect human health and the environment. The rule provides multiple compliance options to meet those limitations. The compliance actions are designed such that they potentially have the dual benefit of reducing traditional (non greenhouse gas) air pollution. The proposed rule includes reporting and verification of compliance.

For covered parties, Ecology must assign a baseline GHG emissions value using existing data. Ecology proposes to use data collected between 2012 and 2016 to determine the average emissions level for each covered party that will serve as a baseline from which all future reductions will come. A decreasing emission threshold determines when covered parties are subject to the emission reduction requirements of the rule. The proposed threshold begins at 100,000 metric tons (MT) of carbon-dioxide equivalent emissions (CO_2e)

in 2017, and decreases by 5,000 MT CO_2e every three years (the compliance period) until 2035 when the threshold is 70,000 MT. See Table 2.

Table 2. Compliance Thresholds	
Compliance Threshold (MT CO_2e/Year)	**First Compliance Period** (Calendar Year)
100,000	2017, 2018, 2019
95,000	2020, 2021, 2022
90,000	2023, 2024, 2025
85,000	2026, 2027, 2028
80,000	2029, 2030, 2031
75,000	2032, 2033, 2034
70,000	2035 and beyond

Table 2 - Compliance Thresholds

Parties with an emission reduction requirement must:

- Reduce their GHG emissions at a rate equal to 1.7% each year from their baseline emissions over each three year compliance period.
- Demonstrate compliance by submitting an independently verified compliance report for the compliance period.

Voluntary participants do not have emission reduction requirements.

An alternative output-based or carbon intensity standard is created for EITE industries, which are industries that:

- Use a lot of energy in manufacturing their products.
- Manufacture commodities that are traded globally, in very tight markets so they are vulnerable to competition.

Examples of EITE industries include pulp and paper, cement, glass, and metals manufacturing.

Ecology expects the program will initially include about 24 parties from 19 different parent companies, accounting for 2/3 of the state's GHG emissions. Ways to meet a compliance obligation include any combination of the following:

- Reduce covered GHG emissions at a facility (energy efficiency or process improvements)
- Acquire emission reductions in the form of registered Emission Reductions Units (ERUs). An emission reduction unit represents 1 MT CO_2e reduced. ERUs can be exchanged, banked, sold, or used for compliance. ERUs may come from:
    - Other covered parties or voluntary participants who generate ERUs they wish to trade.
    - A certified GHG emissions reduction project in Washington State following accepted protocols listed in the proposed rule.
- Purchase allowances from other established multi-sector carbon markets as approved by Ecology
    - 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.

The rule will create a reserve of ERUs by collecting a small portion of ERUs from the overall program cap (two percent or 2% of each covered party's annual emission reduction pathway), and from companies who temporarily curtail operations in Washington. Reserve ERUs are available to cover emissions from (in priority order):

- Companies who restart after curtailment;
- New companies that locate in Washington or companies that make capital investments to expand production;
- EITE parties meeting their efficiency metric with GHG emissions above their baseline;
- Conditions where two ERUs may be generated for each metric ton of reduced GHG emissions;
- Projects identified by an environmental justice advisory committee, and
- Voluntary green power renewable programs.

Many of the EITE companies in Washington State are industry leaders in efficiency, meaning they emit less GHG per unit of production than their counterparts out of state. Ecology proposes to use a site specific, output-based approach to set the baseline according to carbon intensity (average emissions/production). For each EITE facility, Ecology would establish a baseline efficiency metric. This would be the average of their emissions from 2012 through 2016 divided by average production over that time (MT CO_2e/unit of production). Ecology would compare each facility to its peers nationally and rank them into three bins – less efficient – average – more efficient. Ecology would multiply the baseline efficiency metric by average production to create an emission reduction target for the facility. The efficiency metric is tightened for each future three-year compliance period. The level of efficiency improvement would depend on which bin a facility falls in. If the facility's actual emissions are above the emissions target, Ecology would retire reserve ERUs to cover the overage. If

actual emissions fall below the emissions target, Ecology would move the difference to the reserve ERU account. If a facility is more efficient than their efficiency metric, they could generate ERUs. If the facility is less efficient, they would need to obtain ERUs.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

This is a statewide rule. Businesses affected depends upon the business type, and amounts of GHGs emitted. In general, some of the businesses affected by this rule include:

- Pulp and paper mills
- Mineral processing plants
- Power plants
- Metal manufacturers
- Food processors
- Landfills, waste facilities
- Natural gas distributors (carbon dioxide only) – combustion of natural gas provided to parties not already covered under this rule (residential, commercial, small industrial sources not covered by rule)
- Petroleum product producers and importers (carbon dioxide only) – products used in Washington, whether produced or imported into Washington.

These affected business types are located across the state, in varying environments, urban and rural, upland and waterfront.

The affected environment is described as all areas, environmental landscapes and elements where GHG emissions may occur and where projects to offset GHG emissions may be approved.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee Nancy Pritchett

Position and Agency/Organization Policy and Planning Section Manager, Ecology Air Quality Program

Date Submitted: _____

D. Supplemental Sheet for Non-Project Actions

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment. When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

This analysis of the rule implementation provides a good-faith effort to evaluate the potential for significant impacts and/or adverse effects associated with the reasonably foreseeable compliance responses that appear most likely to occur, without being speculative. The scope of analysis is intended to help focus public review and to inform the Responsible Official.

While the types of foreseeable compliance responses are laid out in the rule, the specific location, design, and setting of the actions cannot feasibly be known at this time, and therefore, this analysis can address only broadly defined types of impacts, rather than any specific project or location, potential facility, or site-specific environmental characteristics. Therefore, the non-project impact analysis applies generally across a broad geography, rather than to any particular site or project-specific locations. If a later activity would have environmental effects that are not examined within this review, the agency regulating the later activity would need to conduct additional permitting and SEPA-environmental review, as necessary.

For further analysis, see Appendix A: NonProject Review Form.

1. How would the proposal be likely to increase:
   - discharge to water;
   - emissions to air;
   - production, storage, or release of toxic or hazardous substances; or
   - production of noise?

Ecology designed the Clean Air Rule to reduce GHG emissions from parties emitting over thresholds defined in the rule. The initial threshold for coverage by the rule is 100,000 metric tons annually beginning in 2017 and decreasing to 70,000 metric tons carbon dioxide equivalent (MTCO2e) in 2035 and beyond. This rule covers about 2/3 of total GHG emissions in Washington. Some of the compliance options developed for the covered parties may result in site-specific changes not reasonably foreseeable at this time.

It is possible that some projects to reduce GHGs may result in the increase of conventional pollutants. A project to collect fugitive emissions of methane (from a landfill or treating wastes in an anaerobic digester) and make beneficial use of the collected methane will also result in a decrease of GHGs but an increase in emissions of conventional pollutants. The number and location of such projects is unknown and will be governed by decisions made by the affected companies on how to comply with the proposed regulation. Any potential

emission increases of conventional pollutants resulting from the control of GHGs will be subject to review and permitting under the Washington Clean Air Act. This also triggers SEPA environmental review for the project, as necessary.

Some of the potential projects may result in an increase or change in location of the discharge of wastewater. If any of the emission reduction projects developed to comply with this proposed rule require a National Pollutant Discharge Elimination System (NPDES) permit revision, or a new NPDES permit, this triggers SEPA for the project. It is more likely that new discharges will be associated with new, industrial scale projects rather than at the covered facilities. As with the air emissions, the number and location of such projects is unknown and will be governed by decisions made by the affected companies on how to comply with the proposed rule.

It is reasonable to expect that some of the potential options to reduce GHG emissions may result in commonly expected effects associated with the construction of industrial size projects (i.e., as with the case of large cogeneration facilities). Potential impacts include removal or disposal of fill, excavation, discharges to water or release of hazardous substances, and potential for uncovering contaminated soil during excavation activities. All of these potential impacts are covered or addressed by state issued permits, or local government land use and building permit requirements.

Any new commercial or industrial facility has the potential to produce a new noise (even one complying with the state noise regulation) or odor that could be offensive to neighbors. Such impacts can be minimized and are addressed through the local government permitting procedures.

Ecology does not have any information that would suggest that there will be significant adverse environmental impacts as a result of the proposed rule.

For further analysis, see Appendix A: NonProject Review Form (attached).

2. How would the proposal be likely to affect plants, animals, fish, or marine life? Proposed measures to protect or conserve plants, animals, fish, or marine life are:

Implementation of the rule will reduce the emissions of GHGs to the atmosphere. Reducing GHG emissions will help to slow acidification of the ocean, reducing the difficulty of young mollusks in making and maintaining their first shells. In the terrestrial environment, the reduction of GHG emissions will aid in slowing down the rate of change for plants needing to migrate to cope with the temperature effects caused by climate change. Similarly slowing the rate of increase in water temperatures will enable cold-water fish species and their supporting ecosystems a greater opportunity to migrate to cooler waters.

Compliance options that require construction of new facilities or alteration of existing facilities may result in environmental impacts depending on the size and location of the project. As with any project, the siting and construction of new facilities may convert natural land or disturb biologically sensitive resources, or areas that have not been surveyed for

historic buildings or cultural resources. Disturbance of existing upland and/or riparian vegetation may occur and wetlands may be disturbed or reduced in function. Disturbance may affect adjacent wildlife in adjacent habitats or may permanently displace species and their habitats.

The SEPA lead entities would be required to contact the appropriate agencies and departments to ensure that potential impacts to sensitive species would be avoided, minimized or mitigated as appropriate. Any potential impact to habitat, sensitive or listed plants, animals, fish or marine life, will be subject to a separate local, state and/or federal regulatory review. Project-level SEPA or NEPA review may also be triggered. Ecology does not have any information that would suggest that there will be significant adverse environmental impacts as a result of the proposed rule.

Per WAC 197-11-080, Ecology considered conducting a worst case analysis but concluded that the information available to conduct such an analysis does not exist at this time. The details and extent of new construction that may occur as a result of this rule are not known. Under the rule, regulated parties have several compliance options, some of which do not require new construction.

For further analysis, see Appendix A: NonProject Review Form (attached).

3. How would the proposal be likely to deplete energy or natural resources?

Ecology does not believe the proposal would be likely to deplete energy or natural resources.

The CAR and rule amendments encourage energy efficiency as an option to reduce GHG emissions. The proposed regulations also encourage projects, programs or emission reduction activities that use different sources of energy, such as those receiving Renewable Energy Credits (RECs), or that switch from high GHG emitting sources to lower GHG emitting sources. Ecology does not foresee this resulting in any depletion of any current natural resource or energy source.

For example, approved methane capture projects involving organic waste is a compliance option. For those energy sources derived from organic wastes (such as anaerobic digestion of agricultural wastes, food production, animal wastes, and human food wastes), a Washington State University and Department of Ecology analysis (Washington State University and Ecology, 2005) indicates there is a significant untapped opportunity in the state.

Another potential outcome of the rule will be a decrease in combustion of fossil energy as support improves for energy efficiency and residential home weatherization programs. Weatherization programs reduce the need for energy (fossil or otherwise) and therefore any associated direct or indirect GHG emissions. The rule will continue to promote the ongoing

transition from fossil energy to renewable forms of energy. Current state policies[1] regarding the preferred sources of new electrical generation will tend to reduce the quantity of GHGs emitted from the generation of electricity.

For further analysis, see Appendix A: NonProject Review Form (attached).

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Based upon siting, some of the options covered parties can select could result in site-specific effects. As mentioned above, determining where parties may locate new projects is not feasible at this time, and if a later activity has any environmental effects not examined under this review, the agency with the authority over that project-specific activity will conduct additional permitting and SEPA-related environmental review, as necessary.

For further analysis, see Appendix A: NonProject Review Form (attached).

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

This rule does not propose or encourage any uses that are incompatible with land or shoreline areas. At this time, none of the compliance options, as reviewed appear to conflict with or adversely affect land or shoreline use.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

The proposal may increase demands on transportation or public services to the extent that the proposal encourages increased use of the transportation sector to generate emission reduction units. For example, reducing the number of drive-alone vehicles commuting to a worksite (workplace commute trip reduction) may increase demands on public or private transportation. However, continuing and new vehicle efficiency programs may offset this demand. Infrastructure upgrades may be necessary in order for some projects to occur.

To the extent that the rule encourages the use of electric vehicles, infrastructure changes include the likely need to address a rise in demand for electricity to charge vehicle-charging stations. Continuing and new electrical demand reduction programs and off peak charging may be able to supply this additional electricity demand.

Any need for specific projects to expand the ability to supply electricity would be subject to public review processes by the utilities and would be subject to project specific SEPA. Ecology does not have any information that would suggest that there will be significant adverse

[1] See Chapters 19.280, 19.285, 80.70 and 80.80 RCW for examples.

environmental impacts as a result of the proposed rule.

For further analysis, see Appendix A: NonProject Review Form (attached).

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

No conflicts with local, state, or federal laws are expected.

Attachments:

Appendix A: Non-project review form
Appendix B: Bibliography
Appendix C: Proposed rule

Appendix A
Staff Report – SEPA Non-Project Review Form
Proposed Clean Air Rule

May 2016

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Appendix A. Staff Report Clean Air Rule – Non-Project Review Form

Part I - Framework

Introduction

Ecology has prepared this staff report to aid in understanding the potential impacts from the adoption of this rule to regulate emissions of greenhouse gases. The goal of this document is to provide analysis to support the SEPA threshold determination and environmental checklist for the proposed rule.

1) Background

a) Name of proposal, if any, and brief description.

Ecology proposes to adopt a new rule – Clean Air Rule (CAR), Chapter 173-442 WAC – and amend an existing rule – Reporting of Emissions of Greenhouse Gases, Chapter 173-441 WAC – as necessary to coordinate with the new rule. The CAR establishes greenhouse gas (GHG) emission standards for certain stationary sources, petroleum product producers or importers, and distributors of natural gas in Washington ("covered parties"). Businesses may also voluntarily participate.

See SEPA Checklist, Question 11 – Complete description of your proposal, for more detail.

b) Agency and contact name, address, telephone, fax, email

Air Quality Program
Washington State Department of Ecology
P.O. Box 7600
Olympia, WA 98504-7600
Contact: Nancy Pritchett (360) 407-6823

c) Designated responsible official

Stu Clark, Air Quality Program Manager

d) Describe the planning process schedule/timeline

See SEPA Checklist, Section A, Question 6 – *Proposed Timing and Schedule* – for more detail.

e) Location - Describe the jurisdiction or area where the proposal is applicable.

The proposed rule(s) apply statewide. The CAR also allows covered parties to purchase allowances from other established multi-sector carbon markets as approved by Ecology to meet their emission requirements. See SEPA Checklist, Section A, Question 11 – *Description of the Proposal* and *12 – Location of the Proposal*, for more detail.

f) What is the legal authority for the proposal?

The Washington Clean Air Act, Chapter 70.94 RCW, provides authority for this proposal, including:

- RCW 70.94.010 Definitions.
- RCW 70.94.331 Powers and duties of the department.
- RCW 70.94.151 Classification of air contaminant sources – Registration fees – Registration program defined – Adoption of rules requiring persons to report emissions of greenhouse gases.

g) Identify any other future non-project actions believed necessary to achieve the objectives of this action.

None.

2) Need and objectives

a) *Describe the need for the action. (Whenever possible this should identify the broad or fundamental problem or opportunity that is to be addressed, rather than a legislative or other directive.)*

The purpose of this rulemaking is to establish GHG emission standards for certain large emitters and reduce GHG emissions to protect human health and the environment. Over the past century, GHG emissions from human activity have risen to unprecedented levels, increasing the average global temperature and the ocean's acidity. Washington has experienced long-term climate change impacts consistent with those expected from climate change. Washington faces serious economic and environmental disruption from the effects of these long-term changes.

Consistent with the Legislature's intent to reduce greenhouse gas emissions, Ecology is using its existing authority under the State Clean Air Act to adopt a rule that limits emissions of greenhouse gases.

b) *Describe the objective(s) of the proposal, including any secondary objectives which may be used to shape or choose among alternatives.*

The primary objective of this rulemaking is to establish GHG emission standards for certain large emitters and reduce GHG emissions to protect human health and the environment.

Other secondary objectives include:

- Increasing energy efficiency
- Producing cleaner energy
- Lower energy costs from greater efficiency
- Reducing dependence on foreign oil

- Creating an environment attractive to alternate energy
- Reducing conventional pollution

c) *Identify any assumptions or constraints, including legal mandates, which limit the approach or strategy to be taken in pursuing the objective(s).*

The approach developed in the proposed rule is consistent with Ecology's statutory authority in the Washington Clean Air Act. The rule is limited to covered parties that are responsible for large amounts of GHG emissions in Washington.

d) *If there is no legislative or other mandate that requires a particular approach, describe what approaches could reasonably achieve the objective(s).*

This is a proposal to adopt a new rule to regulate GHG emissions and amend the existing GHG reporting rule. This approach reasonably achieves the primary and secondary objectives listed above.

3) Environmental overview

Describe in broad terms how achieving the objective(s) would direct or encourage physical changes to the environment. Include the type and degree of likely changes such as the likely changes in development and/or infrastructure, or changes to how an area will be managed.

Ecology expects reductions in GHG emissions in Washington, coupled with those outside Washington, to help mitigate the impacts of climate change in Washington. Achieving the objectives of the proposed rule would help slow or alter impacts from many of the following areas:

- 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).
- The heat stress to field crops and tree fruit will be more prevalent because of an increase in temperatures and a decline in irrigation water.

For more information on why reducing carbon pollution matters see the Ecology website:

Why reducing carbon pollution matters
(http://www.ecy.wa.gov/climatechange/whyreducecarbon.htm)

4) Regulatory framework

a) Describe the existing regulatory/planning framework as it may influence or direct the proposal.

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

- By 2020, reduce overall emissions of GHGs in the state to 1990 levels
- By 2035, reduce overall emissions of GHGs in the state to 25 percent below 1990 levels
- By 2050, reduce overall emissions of GHGs 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 Washington Clean Air Act (Chapter 70.94 RCW) to adopt a rule that limits emissions of GHGs.

Ecology's existing GHG reporting program covers certain large facilities and transportation fuel suppliers through Chapter 173-441 WAC (Reporting of Emissions of Greenhouse Gases). Annual reporting of GHGs occurs through this rule; the CAR imposes emission reduction requirements.

b) Identify any potential impacts from the proposal that have been previously designated as acceptable under the Growth Management Act (GMA), Chapter 36.70A RCW.

The regulation of GHG emissions proposed by the CAR is consistent with the broad goals of the Growth Management Act. Cities and counties are also the local entities responsible for SEPA planning and decision-making, and they will be in charge of any project level SEPA decision that come from the CAR.

5) Related documentation

a) Briefly describe any existing regulation, policy or plan that is expected to be replaced or amended as a result of the proposal. (Adequate descriptions in section 4.a may be referenced here, rather than repeated.)

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 in the proposed rule. They include:

- Updating adoption by reference dates and citations as required by statute.
- Updating references and terminology.
- Adding GHG reporting requirements for petroleum product producers and importers and natural gas distributors.
- Adding corresponding third-party verification to GHG compliance requirements for covered parties subject to Chapter 173-442 WAC.
- Adding a procedure for Ecology to assign a GHG emissions level to covered parties that have not met their reporting requirements.
- Reallocation of fees between facilities and transportation fuel suppliers.
  - The existing GHG emissions reporting rule 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 100 percent of the budget being paid for through facility reporter fees. Transportation fuel supplier reporters and voluntary reporters will no longer pay a fee.

b) *List any environmental documents (SEPA or NEPA) that have been prepared for items listed in 4.a. or that provide analysis relevant to this proposal.*
Note: *Impacts with previous adequate analysis need not be re-analyzed, but should be adopted or incorporated by reference into the NPRF. Identify the:*

1. Type of document
2. Lead agency and issue date
3. Where copies can be viewed or obtained
4. The portions of the document applicable to the current proposal and briefly explain relevancy. Summarize the relevant impact assessment or, provide reference to discussion(s) in Part II that includes this information.

Environmental documents that provide analysis relevant to probable[2] impacts[3], as defined under WAC 197-11-752 and 197-11-782, include but are not limited to:

Non-Project and Project Level SEPA/NEPA/CEQA Actions – Air Quality

Port of Seattle – Northwest Ports Clean Air Strategy Update

- SEPA Non Project Action Checklist and subsequent addendum
- April 1, 2013
- Copy on file, Ecology, Lacey Office, Washington and online
- Question 11, Project description
- Part B, Environmental Elements

[2] WAC 197-11-782 Probable - "Probable" means likely or reasonably likely to occur, as in "a reasonable probability of more than a moderate effect on the quality of the environment" (see WAC 197-11-794). Probable is used to distinguish likely impacts from those that merely have a possibility of occurring, but are remote or speculative. This is not meant as a strict statistical probability test.

[3] WAC 197-11-752 Impacts - "Impacts" are the effects or consequences of actions. Environmental impacts are effects upon the elements of the environment listed in WAC 197-11-444.

- Part D, Supplemental Sheet for Non-Project Actions

City of Port Angeles & Nippon Paper Industries USA Co., Ltd. -Biomass Cogeneration Facility Project

- Final SEPA Environmental Impact Statement
- September 3, 2010
- Copy on file, Ecology, Lacey Office, Washington
- Chapter 2, Proposed Action
- Chapter 4, Project Impacts and Potential Mitigation Measures

Energy Facility Site Evaluation Council & Bonneville Power Administration -BP Cherry Point Cogeneration Project, Volume 1

- Draft Environmental Impact Statement, DOE/EIS-0349
- September 5, 2003
- Copy on File, Ecology, Lacey Office, Washington
- Chapter 1, Issues to be Resolved
- Chapter 2, Proposed Action and Alternatives
- Chapter 3, Existing Conditions, Impacts and Mitigation Measures

c) *List other relevant environmental documents/studies/models, which have been identified as necessary to support decision making for this proposal.*

Carbon Emissions Reduction Taskforce. 2014. Report to the Washington State Governor's Office. November 14, 2014. Available at: http://www.governor.wa.gov/sites/default/files/documents/CERT_Final_Report.pdf Hard copy on file. Washington Department of Ecology Lacey, WA.

The report by the Carbon Emissions Reduction Taskforce (2014) provides considerations and recommendations for the design and implementation of a market mechanism in Washington. While the CAR is not creating a centralized carbon market, these recommendations are still considered where relevant to the GHG emission reduction program under the proposed rule. Key issues and perspectives considered include implementation and competitive impacts, compliance flexibility, carbon pricing, protection of low-impact communities from rising energy costs, and reducing the public health risk associated with carbon pollution.

Leidos. 2013. *Evaluation of Approaches to Reduce Greenhouse Gas Emissions in Washington State – Final Report*. 2013. Prepared for State of Washington Climate Legislative and Executive Workgroup (CLEW). October 14, 2013. Hard copy on file. Washington Department of Ecology Lacey, WA.

This Leidos report (2013) evaluated a number of approaches to reduce GHG emissions in order to achieve the State's emission reductions set in statute under RCW 70.235. The report examined the electricity, transportation and the residential/commercial/industrial sectors. The report found that with current state and federal policies, that state could not meet any of

the emission reductions. The report states that if new policies were implemented, a possibility existed to meet the 2020 levels. The report also found that the policies would need to be flexible enough to adapt, and change, in order to meet the 2035 and 2050 reductions. Approaches examined and compared include:

- Cap and Trade
- Carbon Tax
- Low Carbon Fuel Standard
- Zero Emissions Vehicle Mandate
- 5% Renewable Fuel Standard
- Public Benefit Fund
- Property Assessed Clean Energy
- Appliance Standards
- Feed-in-Tariff, 375 MW Cap

Also consult Appendix B: Bibliography.

6) Public involvement

a) Identify agencies with jurisdiction or expertise, affected tribes, and other known stakeholder groups whose input is likely to be specifically solicited in the development of this proposal.

Ecology offered a series of opportunities for public involvement in the development of the proposed rule. Ecology held three educational webinars, four in-person public meetings/forums, and three webinars on potential changes on the Clean Air Rule. Attendees and on-line participants included multiple representatives of business interests, environmental groups, 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 events, as well as participants of smaller meetings held with Ecology or with the Governor's Office.

Entities represented or representing at Ecology workshops, 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.
- Ardargh 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

Appendix A. Staff Report Clean Air Rule – Non-Project Review Form

- 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 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

b) *Briefly describe the processes used or expected to be used for soliciting input from those listed. [Examples: ad hoc committees, tribal consultations, interagency meetings, public workshops or hearings, newsletters, etc.]*

This is a non-project SEPA action that will be incorporated concurrently into the public outreach process already occurring as part of the larger rule development. See SEPA Checklist, Section A, Question 6 – *Proposed Timing and Schedule* – for more detail.

Part II - Impact analysis and alternatives

7) Affected environment

Generally describe the existing environmental landscapes or elements (e.g., character and quality of ecosystem, existing trends, infrastructure, service levels, etc.) likely to be affected if the proposal is implemented. Include a description of the existing built and natural environment where future "on the ground" activities would occur that would be influenced by the non-project proposal.

The affected environment is described as all areas, environmental landscapes and elements where GHG emissions may occur and where projects that mitigate GHG emissions may be approved. This is a statewide rule.

Human-caused GHG emissions are the main cause of 21st century climate change. The

International Panel on Climate Change (IPCC) considers human-caused climate change as well as other factors that contribute to climate change when modeling climate change scenarios. Whether using a "low emissions" or a "medium emissions" scenario to model how climate change may shape Washington's future, the consensus is that the climate of the 21st century in Washington State will very likely be quite different than what has been the norm in the past (Littell, J.S., et. al., eds. Climate Impact Group, 2009.).

GHGs, and in particular CO_2, are emitted by a vast number of sources, both natural and anthropogenic, in amounts ranging from trivial to massive. These emissions mix rapidly and uniformly in the atmosphere. Unlike many conventional air pollutants, local concentrations of GHGs are not any greater near large sources than they are in areas far away.

Human-released CO_2 is also being absorbed by the oceans. This causes changes to ocean chemistry that lead to increased acidity in the oceans. Washington's oceans are particularly susceptible to acidification, which may already be affecting Hood Canal, Willapa Bay, and Grays Harbor. More acidic ocean water may harm marine organisms, mainly those that form shells. Some of these threatened marine creatures are an important component of the food web, supporting larger species such as herring, salmon, and whales. Ocean acidification also poses a threat to Washington's commercial shellfish industry (Adelsman, H. and L. Whitely Binder, eds. 2012).

If GHG emissions continue unchecked, changes in Washington's temperature, water availability, and sea-level will exacerbate current environmental problems and create new ones. According to *The Washington Climate Change Impacts Assessment* (Littell, J.S., et. al., eds 2009), Washington can expect its average temperature to increase 3.2 degrees by 2040. The temperature increase will cause many changes, including:

- Significant decrease in spring snowpack in the Cascades leading to changes in the timing of stream-flow in sensitive watersheds, like the Yakima River.
- Increased sea-level in Puget Sound will threaten the Ports of Seattle and Tacoma, as well as other low-lying areas.
- Warmer and dryer summer weather will double or triple the average annual area burned by forest fires.
- Increases in stream temperature will likely reduce the quality of salmon habitat, stressing an already endangered species.

The next two sections address, at a high level, the key issues and potential impacts from the Clean Air Rule.

To limit the continued increase of GHG emissions that cause climate change, the Clean Air Rule targets GHG emissions, specifically:

- Carbon dioxide (CO_2) and nitrous oxide (N_2O), both the result of fuel combustion and some agricultural applications.
- Methane (CH_4) from sources like landfills and the result of fuel combustion.

- Fluorinated gases including hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen triflouride (NF_3) and sulfur hexafluoride (SF_6). Fluorinated gases are found in refrigerants, solvents, anesthetics, electronics and industrial applications.

8) Key Issue Assessment

List the identified key issues or areas of controversy or concern and include a brief statement of why each is a key issue.

The following is a list of key issues encountered as the rule language was developed.

Accommodate energy-intensive and trade-exposed industries (EITEs)
Due to their energy intensive manufacturing processes and their highly competitive position in the international marketplace, some industries require special consideration and wanted clarity on how the policy would accommodate them. The proposed rule includes a section for energy-intensive trade-exposed (EITE) businesses. Please see the SEPA Checklist, Question 11, or section 070 of the proposed rule for further detail.

Recognition of efficiency and best actors
The Pacific Northwest has some of the nation's most efficient manufacturers and some have taken recent steps to reduce their carbon pollution. These industries asked Ecology to account for this leadership or early action in setting emission reduction requirements. The proposed rule creates an intensity-based approach as noted above that credits early actions and highly efficient facilities by comparing them to national peers and providing an easier compliance path for more efficient facilities.

Accommodate growth
Ecology heard concerns that the proposed rule could potentially discourage firms from locating or growing here. To address these concerns, the proposed rule creates a reserve of ERUs that allows new facilities to come to Washington State and provides for existing business to expand without a compliance penalty.

Strengthen the rule
The proposed rule provides firms with many flexible options to comply. It also includes requested clarity regarding the availability and administration of ERUs by establishing a registry and creating a "reserve" to provide for growth while keeping overall state GHG emissions in check.

Generate more in-state reductions
In response to concerns on the use of out-of-state allowances for compliance, the proposed rule sets limits on the use of allowances for compliance that decline over time.

Be clear on the relationship between CAR and the Clean Power Plan (CPP)
Ecology and representatives from the power sector are actively working together on the state's approach to the federal Clean Power Plan (CPP). The proposed rule will pave the way for the power sector to move from the CAR to the CPP when Washington has an approved

plan and compliance for the CPP begins.

9) Proposed Non-project Action

Describe the preferred alternative that will meet the objective(s).

See SEPA Checklist, Question 11 and Staff Report, Question 8 – *Key Issue Assessment* – for more detail.

The proposed rule would set Washington's first-ever limit on carbon pollution to help slow climate change. GHGs, generally referred to as carbon pollution, are the primary cause of climate change. The proposed rule establishes emission standards for certain large emitters (covered parties) and will reduce GHG emissions to protect human health and the environment. The rule provides multiple compliance options to meet those limitations. The compliance actions are designed such that they potentially have the dual benefit of reducing traditional (non greenhouse gas) air pollution. The proposed rule includes reporting and verification of compliance.

All covered parties that are responsible each year for at least 10,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) must currently report under the existing GHG reporting rule. Ecology proposes to use data collected between 2012 and 2016 to determine the emissions level for each covered party that will serve as a baseline from which all future reductions will come. Each company or business covered by the rule would have an emissions reduction requirement that equates to a 1.7 % decrease in emissions each year from a baseline, every three year compliance period. The proposed threshold begins at 100,000 metric tons (MT) of carbon-dioxide equivalent emissions (CO_2e) in 2017, and decreases by 5,000 MT CO_2e every three years until 2035 when the threshold is 70,000 MT. A decreasing emission threshold determines when covered parties are subject to the emission reduction requirements of the rule. (See Table 2, *Compliance Threshold*, SEPA Checklist).

As described in the SEPA Checklist, Question 11, EITE facilities start reducing their emissions in 2020. This provides Ecology with time to establish a baseline efficiency metric based upon production. Petroleum product importers would also come online in 2020.

Parties with an emission reduction requirement must demonstrate compliance by submitting an independently verified compliance report for the compliance period.

Ways to meet an emission reduction requirement include any combination of the following:

- Reduce covered GHG emissions at a facility (energy efficiency or process improvements)
- Acquire emissions reductions in the form of registered emission reduction units (ERUs). An ERU represents 1 MT CO2e reduced. ERUs can be exchanged, banked sold, or used for compliance.

ERUs may come from:

- Other covered parties or voluntary participants who generate ERUs they wish to trade
- A certified GHG emissions reduction project or program in Washington State by following established protocols established in the proposed rule
- 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.

Voluntary participants that generate ERUs would be subject to the requirements of the rule with the exception that they would not be required to further reduce their GHG emissions. Ecology expects the program will initially include about 24 parties from 19 different parent companies, accounting for 2/3 of the state's GHG emissions.

If this alternative were fully implemented (including full build-out development, redevelopment, changes in land use, density of uses, management practices, etc.), describe where and how it would direct or encourage demand on or changes within elements of the human or built environment, as well as the likely effects on the natural environment. Identify where the change or effect or increased demand constitutes a likely adverse impact, and describe any further or additional adverse impacts that are likely to occur as a result of those changes and affects.

Compliance Option Scenarios – Ways to Reduce Emissions

This analysis of the rule evaluates the potential for significant impacts and/or adverse effects associated with the reasonably foreseeable compliance responses. The analysis draws upon prior environmental review of similar actions (California Air Resources Board, 2014) and contains as much information as is currently available without being speculative. The scope of analysis is intended to help focus public review and to inform the Responsible Official.

While the types of foreseeable compliance responses are identified in the rule, the specific design, and location of the actions cannot feasibly be known at this time, and therefore, this analysis can address only broadly defined types of impacts, rather than any specific project or location, potential facility, or site-specific environmental characteristics. Therefore, the non-project impact analysis applies generally across a broad geography, rather than any particular site or project-specific locations. If a later activity would have environmental effects that are not examined within this review, the agency with authority over the later activity would conduct additional environmental review, as necessary. The following discusses the foreseeable compliance responses and their anticipated impacts if any.

All GHG emission reduction projects must comply with all applicable state, local and federal requirements for all media. General permitting requirements may include:

- Air quality. Any potential emission increases of conventional pollutants resulting from the control of GHGs will be subject to review and permitting under the Washington Clean Air Act.
- Waste management plans.
- Water quality. A large facility may require an NPDES permit while a smaller source may need a state water discharge permit.

Direct emissions reduction
This would include on-site projects that reduce GHG emissions. Example projects could include installation of technology to reduce emissions from venting, leaks, and process equipment, as well as changing methods of operations. Reducing GHG emissions may have a secondary benefit of reducing conventional pollutants. See also the discussion under the industrial sector measures.

No adverse environmental impacts anticipated.

Purchase allowances from external carbon markets
This rule allows a covered party to meet their compliance obligation by purchasing allowances from an established multi-sector carbon market as approved by Ecology. Limits will be placed on the use of external carbon markets over time, encouraging covered parties to obtain ERUs from Washington State.

No adverse environmental impacts anticipated.

Activities and programs
Ecology will accept ERUs from the activities and programs described below, provided they comply with third-party verification under WAC 173-442-220, the requirements of this section and WAC 173-442-150:

- Transportation activities;
- Combined heat and power activities;
- Energy activities;
- Livestock and agricultural activities;
- Waste and wastewater activities,
- Industrial sector activities;
- Certain Energy Facility Site Evaluation Council (EFSEC) recognized emission reductions; and
- Ecology approved emission reductions.

Transportation measures
Examples of possible transportation reduction measures include the overachievement of workplace Commute Trip Reduction goals and/or implementation of fleet efficiency and truck protocols from the American Carbon Registry (as of May 1, 2016).

No adverse environmental impacts anticipated.

Combined heat and power (CHP or cogeneration plants)

CHP plants, also referred to as "cogeneration," generate on-site electricity and useful thermal energy simultaneously in a single, integrated system from a single fuel source, such as natural gas, biomass, and biogas. CHP systems may vary greatly in size, from less than 100 kilowatts to over 400 megawatts of generating capacity, and use a variety of operating technologies, including gas turbines, microturbines, reciprocating engines, fuel cells, and boilers. Reasonably foreseeable compliance responses could include increased construction and operation of new CHP facilities or retrofitting existing facilities with CHP systems.

The potential impacts may be similar to renewable energy projects, or waste to fuel projects. As with any project, the siting and construction of new facilities may convert natural land or disturb biologically sensitive resources, or areas that have not been surveyed for historic buildings or cultural resources. The lead and implementing entities would be required to contact the appropriate agencies and departments to ensure that potential impacts to sensitive species would be avoided, minimized or mitigated as appropriate.

The method for GHG emissions reductions must be submitted to and approved by Ecology.

> *At this time, Ecology cannot determine the extent or significance of the impacts on biological resources, historic buildings or areas of pre-historic and historic significance because it can only speculate about the need for and locations of any new facilities that may result from the rule.*

Energy activities

Energy efficiency, weatherization (any source or community)

Energy efficiency and conservation must be above the targets required by the Energy Independence Act (EIA) per RCW 19.285.040 and any additional targets established by the Utilities and Transportation Commission by rule or order may generate ERUs.

> *No adverse environmental effects anticipated.*

Increase renewable energy production/fuel conversion/waste to fuel projects

This compliance option would increase the overall percentage of the renewable energy fuel mix for a facility or for the state. Alternative forms of energy include wind, solar, landfill gas, biogas, geothermal, and hydroelectric. The renewable energy generated must go beyond or differ from that required by the Energy Independence Act renewable portfolio standard. There are *air quality impacts* associated with the construction of facilities to harness renewable resources – primarily from fugitive dust and diesel particles from operation of construction equipment. These are assumed to be similar in nature to the *construction-related emissions* from natural gas-powered power plants, although the location and size of facilities can affect the magnitude and duration of these impacts. These impacts may be temporarily significant, and would be mitigated by employment of best management practices to minimize dust. The addition of significant new renewable resources may also alter the needed *transmission infrastructure* as renewable facilities are constructed to maximize resource capture at sites with optimal wind, solar, and geothermal resources. As with any project, the *siting and construction* of new facilities *may convert natural land or disturb biologically sensitive resources, or areas that have not been surveyed for historic buildings or cultural resources.*

The lead and implementing entities would be required to contact the appropriate agencies and departments to ensure that potential impacts to *sensitive species* would be avoided, minimized or mitigated as appropriate.

At this time, Ecology cannot determine the extent or significance of the impacts on biological resources, historic buildings or areas of pre-historic and historic significance because it can only speculate about the need for and locations of any new facilities that may result from the rule.

Livestock and agricultural activities

Methane and other GHG Emission management

Implementation of projects to capture methane from livestock wastes have several goals: Reduce potential water pollution from managing the wastes, reduce odors from storage lagoons, and capture a potential income stream from sale of electricity produced by burning the methane in an engine-generator or producing vehicle or pipeline quality biomethane or through the separation and sale of the manure solids for use as soil amendments and animal bedding. All of these options are subject to one or more environmental permitting programs to mitigate potential adverse impacts, whether it is through an air quality permit for engine-generators and gas cleaning processes, or water quality impacts from the collected and treated liquid and solid fractions of the waste, controlled via waste management plans. Protocols for the management of GHG emissions from livestock and agricultural activities include (as of May 1, 2016):

- U.S. Livestock Protocol from the Climate Action Reserve.
- Nitrous Oxide Emissions Reductions from Reduced Use of Nitrogen Fertilizer on Agricultural Crops from the American Carbon Registry.
- The enteric methane, manure methane, and nitrous oxide from fertilizer use modules from the Grazing Land and Livestock Management protocol from the American Carbon Registry (as of May 1, 2016). The biotic sequestration and fossil fuel modules of this protocol may not generate ERUs.

No adverse environmental impacts are anticipated.

Waste and wastewater activities

All projects must comply with local, state and federal requirements, including air quality, water quality, and any waste disposal permits.

Site specific SEPA review would be required for each project.

Landfill control

Landfill methane control that follows the U.S. Landfill Protocol from the Climate Action Reserve is eligible for emission reduction units. Reducing methane emissions would have a beneficial impact on climate change and would further reduce emissions of toxic compounds and ozone precursors that are also present in landfill gas.

No adverse environmental impacts are anticipated.

Organic waste composting
Organic waste composting that follows the Organic Waste Protocol from the Climate Action Reserve is eligible for emission reduction units. This protocol allows for both forced aeration and turned-window composting technologies. Composting of eligible waste streams (food waste and non-recyclable food soiled paper) reduces the volume of material sent to a landfill, and potentially reduces methane generation from the landfill where the waste stream would have been deposited.

No adverse environmental impacts are anticipated.

Organic waste digesting
Organic waste digesting that follows the Organic Waste Protocol from the Climate Action Reserve is eligible for emission reduction units. Organic waste digesting diverts eligible organic waste and/or agro-industrial wastewater away from anaerobic treatment and disposal systems to a biogas control system with methane destruction. The protocol accepts a wide range of technologies. Unused solids are stabilized and may be land applied, reducing the volume of waste and potential water pollution. By applying the unused solids to land applications or to a landfill those wastes have a reduce potential for contaminating streams and rivers via runoff.

At this time, Ecology cannot determine the extent or significance of the impacts which may be associated with this type of compliance option because it can only speculate about whether any new organic waste digesting facilities may result from the rule.

Industrial sector measures
Replacement of SF_6 with Alternate Cover Gas in the Magnesium Industry protocol from the American Carbon Registry
This compliance options addresses elimination of the use of sulfur hexafluoride (SF_6), used as a "cover gas" to prevent molten magnesium from burning during the casting process. The EPA originally targeted the year 2010 to eliminate its use in magnesium casting; industry is still processing towards that goal through the use of alternative cover gases.

No adverse environmental impacts are anticipated.

Refrigerant or other gas management protocols (Certified Reclaimed HFC Refrigerants and Advanced Refrigeration Systems, American Carbon Registry)
This compliance option addresses Ozone Depleting Substances (ODS) Projects. The ODS protocol provides methods to quantify and report GHG emission reductions associated with the destruction of high global warming potential ODS sourced from and destroyed within the U.S. that would have otherwise been released to the atmosphere. This project category includes ODS used in foam blowing agent and refrigerant applications (CFCs, HCFCs).

At this time, Ecology cannot determine the extent or significance of the impacts which may be associated with this type of compliance option because it can only speculate about whether any new destruction facilities or other actions may result from the rule.

Pneumatic controller protocols (Conversion of High-Bleed Pneumatic Controllers in Oil and Natural Gas Systems, American Carbon Registry)
The protocol allows generation of emission reduction units for retrofitting or retiring pneumatic controllers that discharge methane at a high-bleed rate. Low-bleed pneumatic controller technology has been available for over 20 years.

No adverse environmental impacts are anticipated with retrofitting or retiring high-bleed pneumatic controllers.

Emission Reduction Measurement and Monitoring Methodology for the Transition to Advanced Formulation Blowing Agents in Foam Manufacturing and Use protocol, American Carbon Registry)
This compliance option addresses the use of hydrofluorocarbons (HFCs) in the manufacture and life cycle of foam and foam products. Alternatives to HFC-based blowing agents are available but not currently common in certain segments of the foam manufacturing industry. This compliance option is intended to stimulate innovation and accelerated a transition to products with a lower global warming potential (GWP).

Certain EFSEC recognized emission reductions
Emission reductions derived from one of the activity categories listed in the rule (WAC 173-442-160) and that are from an independent qualified organization recognized by the Energy Facility Site Evaluation Council under RCW 80.70.050.

Ecology-approved emission reductions
Emission reductions derived from one of the activity categories listed in the rule (WAC 173-442-160) through an Ecology approved methodology.

Part III – Implementation considerations

10) Consistency of the proposal with other plans, policies and laws

a) Internal consistency - If there are internal inconsistencies between this proposal and your agency's previously adopted or ongoing plans and regulations, identify any strategies or ideas for resolving these inconsistencies.

Ecology has not identified any internal inconsistencies.

b) External consistency - If there are external inconsistencies between this proposal and adopted or ongoing plans and regulations of adjacent jurisdictions and/or other agencies, identify any strategies or ideas for resolving these inconsistencies.

Ecology has not identified any external inconsistencies. Ecology will continue coordinating with EPA on federal air quality programs, and the Department of Commerce and the Utilities and Transportation Commission on the Clean Power Plan, to ensure consistency.

Appendix B. SEPA Bibliography

Literature Cited

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Appendix C. Proposed Rule

The proposed Clean Air Rule, Chapter 173-442 WAC and proposed amendments to Reporting of Emissions of Greenhouse Gases, Chapter 173-441 WAC, can be found at Ecology's rulemaking web page (http://www.ecy.wa.gov/programs/air/rules/wac173442/1510docs.html).