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July 22, 2016

**Submitted via email: [AQComments@ecy.wa.gov](mailto:AQComments@ecy.wa.gov)**

Washington Department of Ecology  
300 Desmond Drive SE  
Lacey, WA 98503

Subject: Comments on draft Clean Air Rule

PGP appreciates the opportunity to provide comments on the revised draft Clean Air Rule (CAR). The Public Generating Pool (PGP) is composed of nine consumer-owned electric utilities in Washington and one consumer-owned electric utility in Oregon. Collectively, PGP member utilities serve approximately two million people with a 6,000 MW utility-owned asset base that is 96% carbon-free. PGP is committed to a multi-sector low carbon energy future that is meaningful and cost-effective.

Given the regional nature of the wholesale power markets, the approach to carbon regulation in the state of Washington is an important issue to all consumer-owned electric utilities, whether they have a specific carbon obligation or not. If not crafted properly, regulation under the CAR could distort natural price signals in electricity markets and create the unintended consequence of increasing emissions within the region by using higher emitting out-of-state resources to serve Washington loads. For that reason, PGP supports regulation that facilitates a cost-effective and an environmentally effective approach to carbon reduction. At the highest level, the regulatory structure needs to:

- Take a multi-sector approach and provide the ability to transact across sectors to assure cost-effective carbon mitigation, and
- Recognize the regional nature of the electricity sector to assure real emission reductions can be realized, rather than “shifting” emissions out-of-state.

#### **Support Multi-Sector Approach and Transition to Clean Power Plan**

PGP applauds Ecology for the multi-sector approach under the draft rule. We believe a consistent price signal across sectors and throughout the region ensures cost-effective and equitable results. We recognize the challenges associated with implementing a multi-sector approach and appreciate Ecology’s leadership in this area.

We also appreciate Ecology’s engagement with the utility sector on aligning the rule with the Clean Power Plan (CPP). The CPP provides the best mechanism for achieving a regional approach to carbon regulation in the electricity sector. Given the regional and interconnected nature of the utility system, a regional regulatory approach is the only way to minimize emissions leakage and ensure real emissions reductions.

#### **Electricity Sector Target as Proposed is Inequitable**

With more than 80% of the electricity in this state produced from renewable resources, Washington’s electricity sector has the second lowest state-wide carbon intensity of all fifty states<sup>1</sup>. Washington achieved this distinction through deliberate and significant investment by the electric sector in renewable resource and conservation acquisitions. The CAR’s application of common baselines and targets for all sectors does not account for

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significant actions already taken, thus placing a disproportionate emissions reduction burden on the electricity sector compared to any other sector. The implied target exceeds all federal and state emission reduction goals<sup>ii</sup>. In Appendix A, PGP's recommendation on how to modify the CAR target and avoid unintended consequences is more equitable than the current target.

### **Electricity Sector Target has Unintended Consequences**

***Regional electricity sector emissions will increase:*** The existing natural gas fleet in Washington is more efficient and produces fewer emissions than other thermal generation in the region. The current CAR target requires the existing natural gas fleet to reduce production below current levels. This outcome runs counter to the thorough analysis conducted by both the federal Environmental Protection Agency and the regional Northwest Power and Conservation Council that found Washington's existing efficient natural gas generating projects are vital in displacing higher emitting resources and integrating renewables, as well as maintaining the reliability of the grid. The plant operating limits as written in the draft rule would interfere with and reduce Washington state's ability to support these regional and national objectives. The proposed limits would raise operating costs for in-state resources above the cost of purchasing power from higher emitting out-of-state resources<sup>iii</sup>. While emissions from projects situated within the geographic borders of Washington state may decrease, overall carbon emissions for the region will increase. Finally, Washington state's ability to integrate renewable resources and maintain grid reliability will be compromised.

***Complicates Transition to the Clean Power Plan:*** Although the draft CAR recognizes a transition to the CPP, the CAR target must still be modified to recognize the increased production from Washington's existing natural gas resources that is required to reduce regional electricity sector emissions. The CPP trading ready programs were designed to recognize the regional nature of the power system and provide for easy trading among states so that the lowest emitting resources would be operated to meet regional electric load. However, in order for Washington's low emitting resources to contribute, the target must be adjusted to provide existing thermal generation the ability to increase production, without penalty. As currently written, CAR reduction requirements appear incompatible with the design of the federal CPP. Before finalizing the rule, Ecology should clarify the regulatory transition to the CPP.

As written, the CAR undermines Washington state's ability to benefit from the trading ready options contemplated in the federal CPP. To the extent a state has excess emission reductions, the CPP allows them to be sold to another state, creating revenue that can be invested in specific state activities. If the CAR target is not adjusted, Washington – the second cleanest state in the nation – will not be able to sell any of its excess emissions reductions and may even be required to pay other states for emission reductions in order to meet the currently proposed strict standards.

### **The Draft Rule Does Not Provide Sufficient Incentives for Transportation Electrification**

The transportation sector comprises nearly 50% of the emissions in the state of Washington and electrification of transportation is a key emission reduction strategy for that sector<sup>iv</sup>. Analysis conducted by the Northwest Power and Conservation Council shows that transportation electrification is both a net economic benefit to the state and one of the cheapest means of reducing carbon<sup>v</sup>. Specifically, their analysis indicates that transportation electrification, using the current power system resource portfolio, is a cheaper approach to carbon reduction than restricting existing natural gas production.

The strict target on the electricity sector negatively impacts the potential for the sector to be used to electrify the transportation sector. These targets will result in increased cost of electrification by increasing the overall cost of

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electricity. Further, the CAR limits the use of emission reduction units from the transportation electrification as a compliance strategy. The net effect is the current CAR structure inadvertently encourages utilities to spend money on out-of-state power purchases or allowances, rather than incenting them to invest funds in-state, on investments such as charging infrastructure or other electrification incentives. In the attached Appendix, PGP recommends additional options for the creation of emission reduction units (ERUs) in support of transportation electrification.

### **Recommended Modification to Electricity Sector Target**

PGP requests a modified target for the electricity sector, similar in nature to the baseline and target modifications Ecology provided for the energy intensive trade exposed industries (EITI) to assure they were not penalized for early action. The following recommendation, as detailed in the Appendix, assures equity among sectors, avoids the unintended consequences noted above, supports electrification, and provides the foundation to transition to the CPP:

- Define an electricity sector goal based on state goals; and
- Allocate the electricity sector goal proportionally into facility-specific targets based on the capacity of covered generators.

### **Develop a transition plan to the Clean Power Plan**

PGP requested in its December 2016 and March 2016 written comments that the regulation of the electricity sector occur under the CPP. PGP member utilities prefer the CPP's regulatory structure because it supports the development of a broad geographic carbon market through existing trading ready platforms. PGP members believe this will assure most consistent treatment of generators across Western states, while accommodating load growth and vehicle electrification. The CPP provides a better regulatory mechanism to incent efficient emissions reductions from the electricity sector in Washington and throughout the Western Electricity Coordinating Council footprint. PGP therefore requests again that the electricity sector be exempt from the CAR and regulated under the CPP.

Without an exemption from the CAR, the electricity sector requires a transition plan to identify how the cap and reduce program will migrate to a trading ready program under the CPP. Specifically, the plan must address how covered entities, other entities, and the state's target would be affected. Further, the CAR provisions should be modified to allow the electricity sector to transition to the state implementation plan as soon as it is approved. PGP requests that Ecology begin work on a transition to the CPP with the goal of having a state implementation plan go into effect by 2020.

### **Recommended Changes to the Rule Language**

PGP is providing specific recommended modifications to the rule in the attached appendix. Recommended modifications are included in the following three categories:

1. Account for hydro variability. PGP is proposing a change to the baseline calculation for electric generating units to better account for the impact of hydro variability. The suggested change is intended to provide for the same 15% variability afforded other industries in Section 173-442-050 3(b)(B).
2. Ensure a sufficient and predictable supply of compliance options. The success of this rule depends on the certainty and availability of emission reduction units (ERUs). The current draft is very restrictive in how an ERU can be created. PGP has offered language to ensure that the full life of an energy efficiency measure, incremental hydro, and out of state RECs can be counted and to provide ERU opportunities for electrification of transportation.

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3. Align treatment of biogenic emissions of carbon dioxides with WA state law, policy and EPA guidelines. The draft Clean Air Rule treats biogenic emissions inconsistently with Washington state policy, Washington state law, and EPA guidelines. PGP recommends use of EPA methodology to address this inconsistency.

PGP's members appreciate the opportunity to provide comment both in writing and in person. I welcome any questions about the material we have provided. We look forward to continued conversation on this topic.

Sincerely,



Therese Hampton  
Executive Director, Public Generating Pool

ATTACHMENT: APPENDIX – PGP Comments on Clean Air Rule dated July 22, 2016

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**APPENDIX**  
**PGP COMMENTS ON CLEAN AIR RULE**  
**July 22, 2016**

**Recommended Modified Electricity Sector Targets under the Clean Air Rule<sup>vi</sup>**

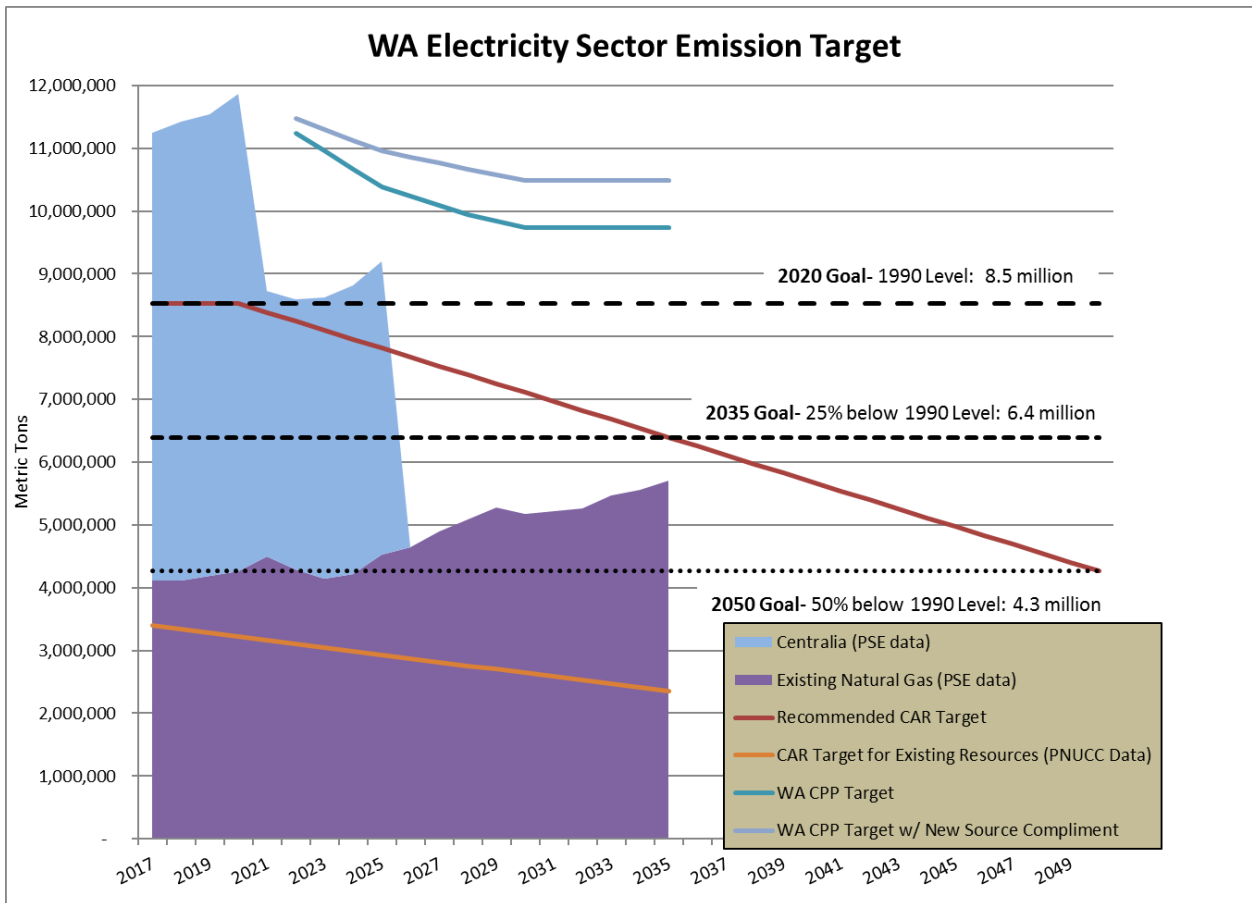
**Purpose:** Provide emissions targets for electric generating units subject to the CAR that are consistent with state statutes, readily transition to a state CPP target, provide for transition off in-state and out-of-state coal, and provide sufficient flexibility to meet load in low water conditions. The concept is specifically designed to allow existing natural gas resources to increase production without financial penalty as necessary to offset production of higher emission resources from in-state coal (Centralia) or out-of-state coal and less efficient natural gas.

**Problem Statement:** Ecology's current baseline and reduce approach results in an initial aggregated emission target of approximately 3.4 million metric tons. This emissions level:

- Does not allow for the necessary operation of existing natural gas to serve as coal displacement or to reliably meet load under all water conditions,
- Limits the ability for efficient Washington resources to contribute to regional electricity sector emission reductions, and
- Impacts the state's ability to benefit from trading opportunities under the CPP.

**Proposed Approach:**

1. **Set an Aggregate Emission Goal for In-State Electricity Generators:** Consistent with the state's emissions goals, use 1990 emissions as a reference point to establish an aggregate electricity sector emission target. PGP recognizes that the state's emissions goals are based on electricity consumption. However, given that the CAR can only regulate in-state electricity generation, our recommended approach uses 1990 emissions associated with in-state generation as the baseline.
  - Based on EIA data, PGP estimates 1990 emissions associated with in-state generation to be 8.5 million metric tons.
  - PGP recommends setting the 2017 - 2020 aggregate electricity generation emission goal at 8.5 million metric tons with a linear reduction to 4.25 million metric tons in 2050, which reflects the state goal of 50% below 1990 levels. The annual goals can be averaged into a 3-year goal to be consistent with the CAR compliance structure.
2. **Create Facility Specific Targets:** While under the CAR, facility-specific emission targets would be established by multiplying each facility's proportion of the total covered capacity (i.e. generators subject to the CAR) by the aggregate electricity emission goal.
3. **Restrict ERU Creation:** Facilities covered under the CAR would not be able to sell or trade Emission Reduction Units to other covered entities for reductions below their facility-specific targets, but could bank them to cover future changes in facility operations.



### Benefits of a Modified Target

- Eliminates market distortions that increase emissions.** The current CAR baseline and reduce targets will require facilities to either reduce production or pay compliance costs in order to maintain operation at current levels.

  - The compliance costs are uncertain, but based on current Renewable Energy Credit (REC) prices and California allowance prices, initial compliance costs may range from \$4.00 - \$13.00 per MT of CO<sub>2</sub><sup>vii</sup>. These costs are anticipated to rise as demand increases.
  - Although costs will vary depending on the actual carbon emissions of each facility, costs for a facility with the state’s assumed marginal emissions rate of 970lbs/MWh will increase by \$1.90 - \$6.19/MWh.
  - Depending on gas prices, this represents a 7% – 25% increase in production cost and, in most instances, will be higher than the cost of transmission to import out-of-state electricity.

Given the regional nature of power markets and the fact that most out-of-state power does not have any associated carbon compliance costs, utilities will be incented to purchase the out-of-state power, which may result in emission leakage. A modified target as PGP proposes would provide for operation of existing efficient in-state gas resources without additional carbon compliance costs, thereby avoiding emissions leakage.

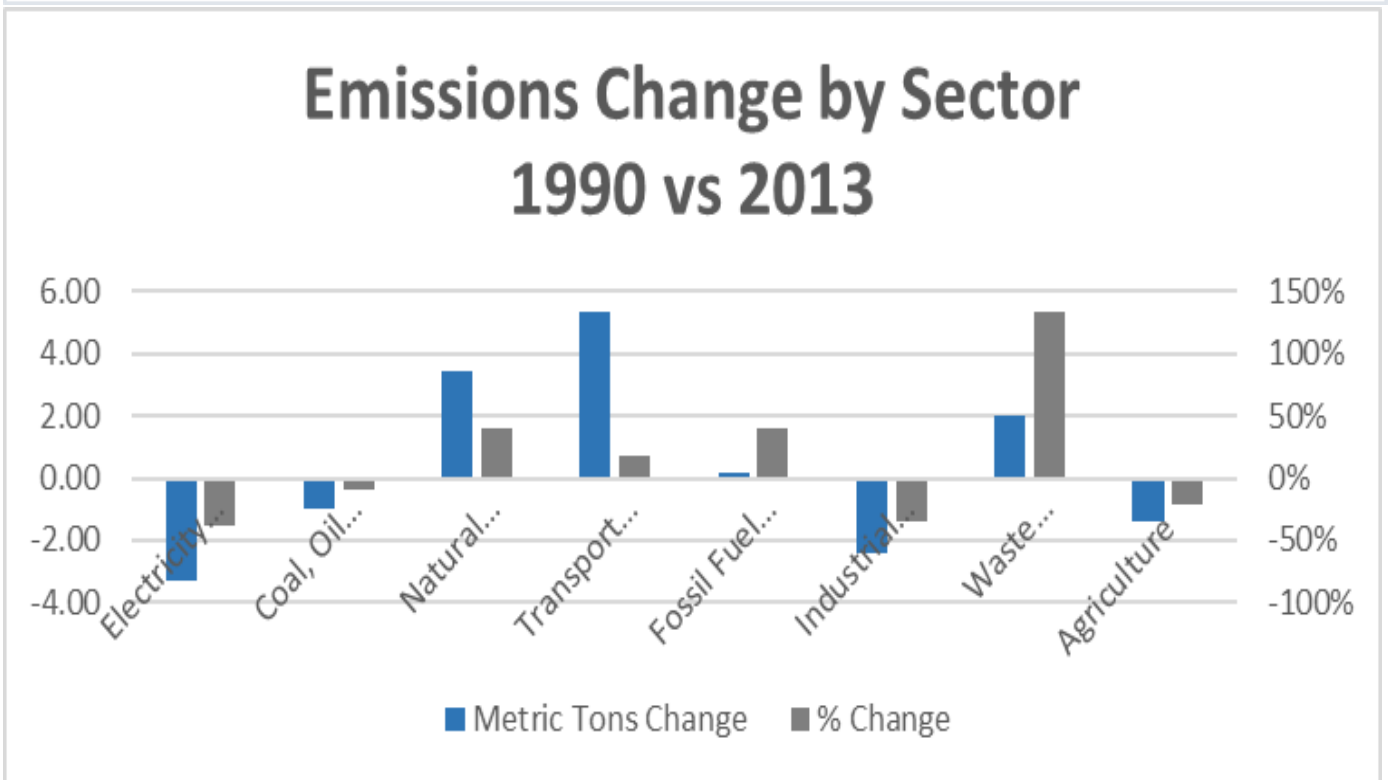
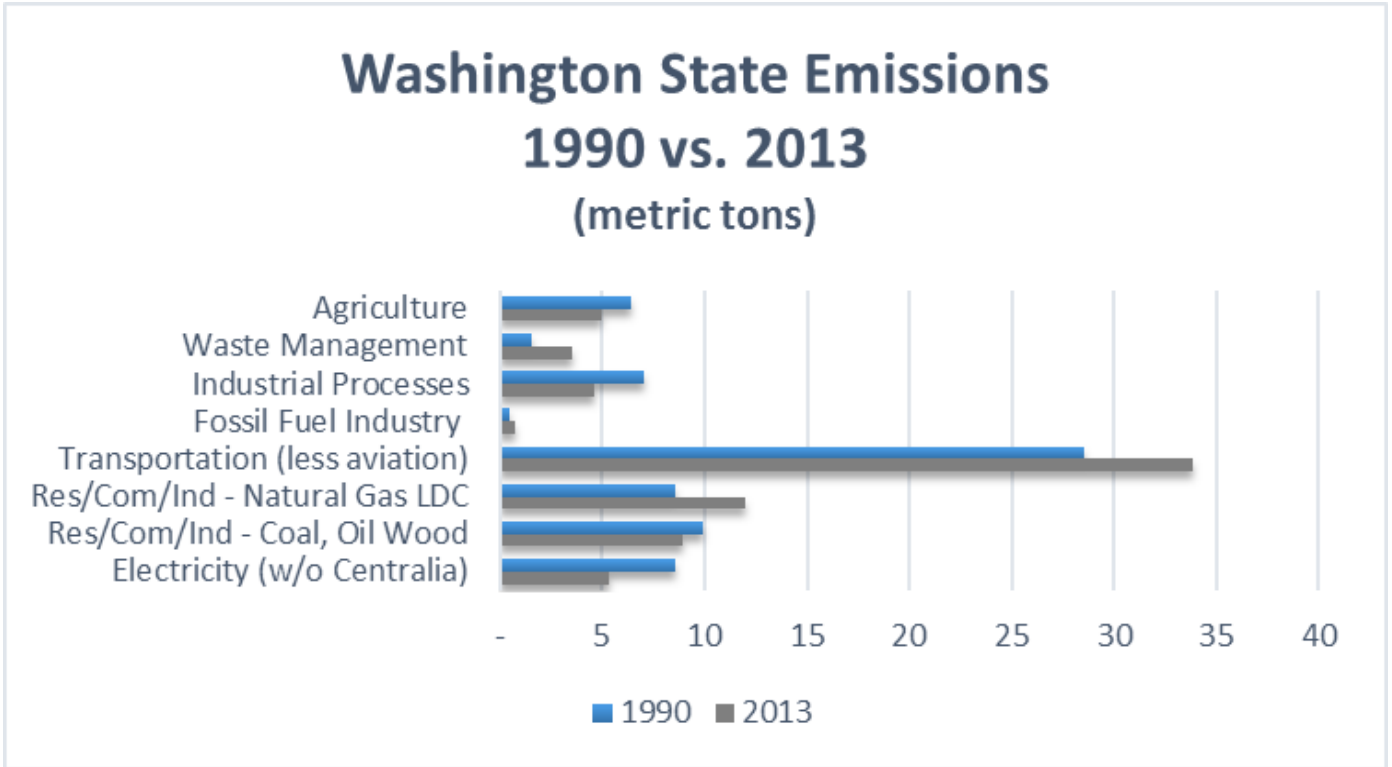
- Provides for displacement of higher emission resources.** Market factors are impacting the economics of operating coal fired resources. Low natural gas prices have already made coal resources less economic to

operate relative to natural gas facilities. Natural gas resources have lower carbon emissions than coal plants, with efficient natural gas plants producing almost 1/3 the carbon of a coal plant. Washington state is home to 4,000 MW of efficient natural gas that could be used to displace out of state coal and less efficient natural gas. However, without an adjustment to the CAR target, it will not be economic to reduce current coal production and replace it with lower emissions natural gas production.

| Resource type         | Average Heat Rate (Btu per KWh) | Pounds of CO2 per MWh |
|-----------------------|---------------------------------|-----------------------|
| Coal                  | 10,800                          | 2,100                 |
| Natural Gas           | 10,400                          | 1,220                 |
| Efficient Natural Gas | 7,100                           | 850                   |

- Decreases the cost of transportation electrification.** PGP’s modified target will result in lower electricity costs than the proposed CAR target, which in turn will reduce the overall costs for transportation electrification. Lower transportation electrification costs will result in more widespread adoption of electric vehicles. This will bring about necessary change in the largest emitting sector and allow Washington to meet its greenhouse gas reduction goals at a lower cost to consumers.
- Reduces regulatory uncertainty.** The CAR’s new but short-lived compliance methods create regulatory uncertainty for covered generators because RECs and ERUs created under the Clean Air Rule will not be allowed for compliance under the CPP. The modified target is intended to reduce regulatory uncertainty by creating a target that is more consistent with a potential target under the CPP without short-term reliance on compliance mechanisms that will not be available in the future.
- Assures reliability of power system.** The Northwest Power and Conservation Council’s analysis for the 7<sup>th</sup> Power Plan indicated that existing natural gas is needed to assure that the region can maintain Resource Adequacy. The Council’s draft Resource Adequacy assessment for 2021 indicates a higher than acceptable loss of load probability assuming all current facilities are available<sup>viii</sup>. The current CAR targets restriction will reduce the amount of natural gas production and could impact reliability. Further, the current CAR target does not provide sufficient operating flexibility to address additional thermal operations during a low water year. The recommended modified CAR target provides flexibility to cover low water years and peak system conditions.
- Provides sectoral equity.** Washington state’s electricity sector has been recognized as the cleanest in the country with more than 80% of electricity production coming from renewable resources. Part of that is due to historic investment in hydropower, but it is also due to significant recent investment in energy efficiency, new renewables, and pending closure of the last coal plant in the state. As the graphs indicate, over the last 20 years the electricity sector has reduced emissions by more than 40% while other sectors have increased their emissions by 20 – 40% over that same time period.

Ecology recognized the early actions of trade sensitive industries and provided a separate baseline and target setting process for EITI companies. The electricity sector also has taken early action in a competitive regional market. The recommended modified target assures sectoral equity by allowing the electricity sector to benefit from past investments and handle operational adjustments in a least-cost manner while still meeting the state’s carbon reduction goals.





## Recommended Changes to the Clean Air Rule Language

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| <b>Recommendation:</b>      | <b>Drop 2012 from the baseline for electric generating units</b>   |
| Suggested language changes: | <u>173-442-050 Process to Calculate Category 1 baseline GHG emissions value, add new sub-paragraph under (3)(b):</u> “(iii) For electric generating units, any calendar year in which hydro production exceeds the 60-year water record average by more than 15%.”   |
| Rationale:                  | Natural gas generation and associated emissions in Washington are highly correlated to variability in hydroelectric production. The CAR’s use of five-year averaged data for calculation of facility baselines is not sufficient to address this variability, due to the fact that 2012 was 22% above normal. Because 2012 was an outlier in the 60-year water record, its inclusion in the baseline calculation results in baseline values for electricity emissions that are significantly lower than they would be if more representative water years had been used. For this reason, 2012 data should be excluded from the data used in calculating baseline emissions for electricity generating units. |

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| <b>Recommendation:</b>      | <b>Provide ERU creation for the life of energy efficiency measures</b>  |
| Suggested language changes: | <u>173-442-160 Energy Measures, modify language in sub-paragraph (a) as follows:</u> The acquisition of conservation and energy efficiency in excess of the targets required by the Energy Independence Act per RCW 19.28.040 and any additional acquisition targets established by the utilities and transportation commission by rule or order may generate ERUs <b>over the life of the conservation or energy efficiency measure.</b> |
| Rationale:                  | Qualified conservation and energy efficiency measures should be eligible to generate ERUs over the life of these activities. Although energy efficiency measures have multi-year savings, current reporting for 937 compliance include only the first-year savings associated with energy efficiency measures. Some form of additional reporting will be needed to provide the appropriate ERU benefits for the life of the measure.      |

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| <b>Recommendation:</b>      | <b>Provide ERU creation for incremental hydro</b>   |
| Suggested language changes: | <u>173-442-020 Definitions, modify language definition as follows:</u><br>(a) <b>"Renewable energy credit"</b> means a tradable certificate of proof of an eligible renewable resource, <b>as defined in RCW 19.285.030(12)</b> , that is verified by the renewable energy credit tracking system identified in WAC 194-37-210(1) and which includes all of the nonpower attributes associated with that electricity as identified in RCW 19.285.030(15). |
| Rationale:                  | Incremental hydroelectric generation is recognized as renewable energy under RCW 19.285.030(12). The addition of a reference to this provision is necessary to explicitly recognize that acquisition of incremental hydro in excess of legal requirements is eligible to generate ERUs under the CAR.   |

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| <b>Recommendation:</b>      | <b>Allow out-of-state RECs to be used in ERU creation</b>   |
| Suggested language changes: | <u>173-442-160 Energy Measures, modify subparagraph 5(b)(I) as follows:</u><br>(i) Renewable resources eligible for generating ERUs include eligible renewable resources as defined by RCW 19.285.030(12). <b>except that only those eligible</b> |

|            |  |
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|            | <del>renewable resources physically located in Washington may generate ERUs.</del>   |
| Rationale: | The proposed rule allows covered entities to comply with emission reduction requirements through purchase of allowances generated in other states, such as California. The CAR should therefore also allow RECs generated in other states to be converted to ERUs and used for compliance. |

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| <b>Recommendation:</b>      | <b>Provide ERUs for transportation electrification</b>   |
| Suggested language changes: | 173-442-160 Transportation Activities, add new sub-paragraph (3)(c): <i>Vehicle Electrification Incentives</i><br><ul style="list-style-type: none"> <li>(i) Electric utilities may generate ERUS for provision of electricity for vehicles and other activities that support and provide financial incentives for electrification of transportation. Such activities may include installation of charging stations or rebates for vehicle acquisition.</li> <li>(ii) Generation of ERUs will be derived from carbon intensive methodologies consistent with those used under the California Low Carbon Fuel Standard, the Oregon Clean Fuel Standard or other methodologies approved by Ecology.</li> </ul>   |
| Rationale:                  | According to the US DOE, Alternative Fuels Data Center, the annual carbon equivalent emissions from an EV in Washington averages 987 lbs whereas a gasoline powered vehicle emits 11,435 lbs. ( <a href="http://www.afdc.energy.gov/vehicles/electric_emissions.php">http://www.afdc.energy.gov/vehicles/electric_emissions.php</a> ). Therefore, replacing a gasoline vehicle with an EV should reduce carbon emissions by more than 10,000 lbs. Given the significant carbon reduction that can be achieved through transportation electrification, the CAR should provide more incentives for electric utilities to invest in and support transportation electrification. Examples for how to calculate the benefits of these activities exist in California and Oregon’s fuel standards. |

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| <b>Recommendation:</b>      | <b>Align treatment of biogenic emissions with state law and EPA</b>  |
| Suggested language changes: | 173-442-040 Exemptions, add new sub-paragraph (1)(e) <i>Biogenic fraction of CO<sub>2</sub> emissions associated with electricity generation utilizing landfill gas, as calculated using methods for waste-derived fuel biogenic feedstocks in EPA’s Framework for Assessment of Biogenic Carbon Dioxide Emissions from Stationary Sources</i>   |
| Rationale:                  | Washington state law and policy clearly recognizes and incentivizes renewable electricity generation, including from landfill gas. The CAR’s assignment of a carbon obligation to emissions from electricity generation from landfill gas runs counter to these laws and policies by creating an economic disincentive for such generation. Further, it conflicts with explicit recognition by the U.S. Environmental Protection Agency of the carbon neutrality of landfill gas generation.<br><br>PGP recommends that Ecology align the CAR with existing federal and state policy by exempting the biogenic fraction of emissions from landfill generation, calculated using EPA’s Biogenic Emission Assessment Framework. Such an approach is consistent with the statutory mandate for Ecology to use reporting methods consistent with those used by EPA, because EPA has designed the Framework to be used <i>in conjunction</i> with GHG reporting requirements. Further, EPA’s expressed intention to utilize the Framework to assess the extent to which CO <sub>2</sub> emissions from biogenic sources incur a |

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|                             | compliance obligation under the CPP, establishes a clear precedent for appropriateness of using the framework under a direct emissions program.   |
| <b>Recommendation:</b>      | <b>Allow for early transition to the Clean Power Plan</b>   |
| Suggested language changes: | <u>173-442-040 Exemptions, modify paragraph 4 as follows:</u><br><br>(3) Stationary sources included in the Clean Power Plan (40 C.F.R. Part 60 Subpart UUUU) will be considered to comply with the requirements of this chapter once subject to an EPA approved Washington implementation plan under the <del>at the beginning of the first compliance period of the</del> Clean Power Plan provided that: |
| Rationale:                  | EPA encourages states to develop and implement programs under the CPP prior to the official compliance period start date in 2022. The recommended modification anticipate that Washington could develop and implement a state CPP plan prior to 2022, and that electricity generators would be subject to the CPP as of state plan start date.  |

<sup>i</sup> According to the US Energy Information Agency the five states with the lowest carbon intensity are Vermont (26 kg CO<sub>2</sub>/MMBtu), Washington (35 kg CO<sub>2</sub>/MMBtu), Oregon and New Hampshire (both 36 kg CO<sub>2</sub>/MMBtu), and Maine (38 kg CO<sub>2</sub>/MMBtu). US Energy Information Agency, “Energy-Related Carbon Dioxide Emissions at the State Level, 2000-2013”, Report issued October 2015.

<sup>ii</sup> For the Electricity Sector: Federal CPP 2022 Target for WA = 11.2 million metric tons, WA State Emissions 2020 Target applied to in-state electricity production = 8.5 million metric tons, Clean Air Rule 2020 Target: 3.4 million metric tons.

<sup>iii</sup> Assumes 2.25 RECs for every 1 MWh used for compliance with an initial REC price between \$1.78 and \$3.11 based on anecdotal input.

<sup>iv</sup> WA Department of Ecology Greenhouse Gas Emissions Inventory released December 2014. Transportation emissions adjusted for aviation fuel and electricity sector emissions adjusted for Centralia using EIA data.

<sup>v</sup> “Electric Vehicles (EV) and Utilities a Win-win Investment?” Northwest Power and Conservation Council presented to Power Committee, July 6, 2016.

<sup>vi</sup> Modified Target and for Sector Comparisons Data: WA Department of Ecology Greenhouse Gas Emissions Inventory released December 2014 used for non-electricity sectors and EIA Detailed State Data Final annual data for 2014 released October 2015 to calculate emissions associated with in-state resources.

<sup>vii</sup> Assumes 2.25 RECs are required for every 1 MWh. REC prices were estimated to be between \$1.78 and \$3.11 based on anecdotal input of current REC market prices.

<sup>viii</sup> Draft 2021 Power Supply Adequacy Assessment, Northwest Power and Conservation Council presented to Power Committee, June 6, 2016.