

## Testimony of Jason Eisdorfer

### In front of the Committee on Science, Space, and Technology Subcommittee on Environment Friday, September 11, 2015

Good morning, I am Jason Eisdorfer, Utility Program Director of the Oregon Public Utility Commission. I appreciate the opportunity to testify to the committee this morning.

For more than a year now, three Oregon State agencies, the Department of Environmental Quality (DEQ), Department of Energy (ODOE), and the Public Utility Commission (PUC) along with nearly two dozen major stakeholders, have been working together to understand EPA's draft and now final Clean Air Act Section 111(d) rule, and we are now working on implementing the Clean Power Plan. In our initial comments to the rule back in October of last year, the Director of Oregon's DEQ wrote on behalf of the state that the Clean Power Plan proposal is "a welcome federal response to reversing climate change and is a good first step in mitigating the effects of greenhouse gas pollution across the country."<sup>1</sup> Governor Kate Brown has stated that the EPA's Clean Power Plan rule "is in the best interests of Oregon on many fronts. A healthy environment is essential to ensuring the health of Oregonians and protects our quality of life for many generations to come."<sup>2</sup>

Climate change models in the northwest region forecast several significant impacts, including: (1) decreased snow pack and resulting changed river flow, temperature, and hydrology that effects hydropower generation and fish habitat; (2) rising coastal sea level rise; and (3) increased occurrence and size of wildfires.<sup>3</sup> Ongoing research on the regional implications of climate change largely confirms observations, projections, and analyses made over the last decade and provide information about ongoing climate change impacts.<sup>4</sup> Oregon and the surrounding region are experiencing the impacts of climate change now. June 2015 was the hottest June on record in the northwest, with two historic heat waves each lasting over ten days.<sup>5</sup> Forest fires are also breaking records in the region. This year, the Okanogan Complex Fire is now the largest in the Pacific Northwest region's history, burning over 304,782 acres as of August 30, 2015. In July 2015, more than a quarter million sockeye salmon returning from the ocean to spawn were found dead or dying in the Columbia River and its tributaries because of warming water temperatures.<sup>6</sup>

---

<sup>1</sup> Dick Pederson, Letter to EPA Administrator Gina McCarthy, October 16, 2014 (*available at* <http://www.deq.state.or.us/aq/climate/docs/epaLcomment.pdf>).

<sup>2</sup> Governor Kate Brown, Press Release, August 3, 2015 (*available at* <http://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=765>).

<sup>3</sup> *See, generally*, Oregon Climate Change Research Institute, Northwest Climate Assessment Report, 2013 (*available at* <http://occri.net/wp-content/uploads/2013/11/ClimateChangeInTheNorthwest.pdf>).

<sup>4</sup> Oregon Climate Change Research Institute, Northwest Climate Assessment Report – Two Page Summary, 2013 (*available at* [http://occri.net/wp-content/uploads/2013/11/ClimateChangeNW\\_2pgSummary.pdf](http://occri.net/wp-content/uploads/2013/11/ClimateChangeNW_2pgSummary.pdf)).

<sup>5</sup> The Oregonian, Temperature, rainfall records tumble in Portland: June weather by the numbers, July 1, 2015 (*available at* [http://www.oregonlive.com/weather/index.ssf/2015/07/june\\_weather\\_by\\_the\\_numbers\\_te.html](http://www.oregonlive.com/weather/index.ssf/2015/07/june_weather_by_the_numbers_te.html)).

<sup>6</sup> The Oregonian, Hot water kills half of Columbia River sockeye salmon, July 27, 2015 (*available at* [http://www.oregonlive.com/environment/index.ssf/2015/07/hot\\_water\\_killing\\_half\\_of\\_colu.html](http://www.oregonlive.com/environment/index.ssf/2015/07/hot_water_killing_half_of_colu.html)).

Federal and state fisheries biologists say the warm water is lethal for the cold-water species and is wiping out at least half of this year's return of 500,000 fish.<sup>7</sup>

EPA's Clean Power Plan rule is intended to begin addressing climate change and its impacts. As we look at how Oregon fares in complying with the final rule, we can say that Oregon is in pretty good shape and there is a reason for this, Oregon has been planning for this eventuality for more than two decades. The risk of greenhouse gas regulation that we have required the utilities to plan for is now a reality. Oregon's utility ratepayers have been investing in clean energy to reduce the costs and risks of carbon regulation, and those investments are paying off. Here are a few investment highlights:

**A History of Integrated Resource Planning:** The investor-owned utilities in Oregon engage in integrated resource planning, which is firmly rooted in robust analysis compelling the utility to make decisions that result in a least cost and least risk future for its customers. This has included considering the risk of future costs of greenhouse gas regulation in the utility's decisions about what types of energy resources to invest in.

- In 1989, the PUC adopted "least-cost and least-risk planning" tools and directed the regulated utilities to develop integrated resource plans that identify supply-side and demand-side resources that provide the most reasonable mix of cost and risk. All resources, including energy efficiency and renewable energy resources, must be evaluated on a consistent and comparable basis.
- In 1993, the PUC required that the utilities include analysis of risk of future costs of potential greenhouse gas regulation in integrated resource plans.
- In 2012, the PUC required the utilities to consider and plan for needed flexible capacity in their integrated resource plans so that they could integrate more renewable energy onto the electric system.

**Retiring Boardman Coal Plant:** Oregon's largest utility, Portland General Electric, is retiring the state's only coal plant in 2020, more than 20 years ahead of schedule, based on a least cost and least risk determination by the Public Utility Commission.

- After the DEQ adopted its first regional haze BART rule in 2009, Portland General Electric incorporated the rule's emissions control requirements and stakeholder suggested alternatives into the company's integrated resource plan. After ensuring that the company would have sufficient time to secure reliable replacement power, the PUC acknowledged the revised integrated resource plan in 2010. Boardman was scheduled to close 2040, but is now scheduled to close in 2020 – a full 20 years before its original retirement schedule.
- In its integrated resource plan analysis, the utility compared the cost of closing the plant in 2020, with interim environmental controls, to keeping the plant open until 2040 with the full range of environmental controls along with an added risk of future greenhouse gas regulation. The utility determined that closing the plant by 2020 with interim environmental controls would only result in about a 2 percent rate increase, rather than

---

<sup>7</sup> *Id.*

about a 3.5 percent rate increase for the full investment in pollution controls to keep the plant open until 2040.

- Because of the early closing of Boardman, between 3 and 4.5 million metric tons of CO<sub>2</sub>-equivalent will be avoided per year for 20 years starting in 2020.

**Energy Efficiency Investments:** Customers of the two largest utilities have been paying into a dedicated fund for cost-effective energy efficiency and we believe our energy efficiency delivery mechanism is second to none.

- In 1999, Oregon created an independent nonprofit organization to deliver cost effective energy efficiency and market transformation funded through a public purpose charge collected from ratepayers of electric investor owned utilities. This nonprofit organization was later named Energy Trust of Oregon (Energy Trust) and began acquiring energy efficiency savings in 2002.
- Today, identification of all cost effective energy efficiency continues through cooperative planning between the utilities and the Energy Trust. The utility's bi-annual integrated resource planning and has led to energy efficiency being a significant portion of the lowest cost and least risk utility integrated resource plans. For example, Portland General Electric's 2013 Integrated Resource Plan called for no new major supply resources within the next 10 years but does select increased energy efficiency to meet short and long term energy needs.<sup>8</sup>
- Oregon state policies and utility regulation of energy efficiency have paid off for ratepayers, program participants, and for Oregon overall.
  - From 2002-2014 Energy Trust has acquired 4,310 GWh (492aMW) of electric savings at a levelized cost of 2.34 c/kWh,<sup>9</sup> which is 29 percent of what it would have otherwise cost the utilities to supply an equivalent amount of delivered electricity. This represents energy savings equivalent to building a 500 MW power plant or enough energy to power more than 470,700 Oregon homes.<sup>10</sup>
  - Energy Trust savings are spread broadly across all energy users: residential, commercial, industrial, and agriculture. The more than half a million customers who realized these savings by participating in Energy Trust programs have already saved \$1.9 billion on their utility bills, and over time, these savings will grow to reach \$4.8 billion.<sup>11</sup> Those savings were delivered through projects installed by contractors throughout the state and the bill savings from participants flowed back into the economy.
  - By 2010, annual savings from Energy Trust programs were equal to 1.5 percent of load, the target acquisition level the EPA set in the draft plan representing best practices of energy efficiency acquisition in the nation. The graph below shows

---

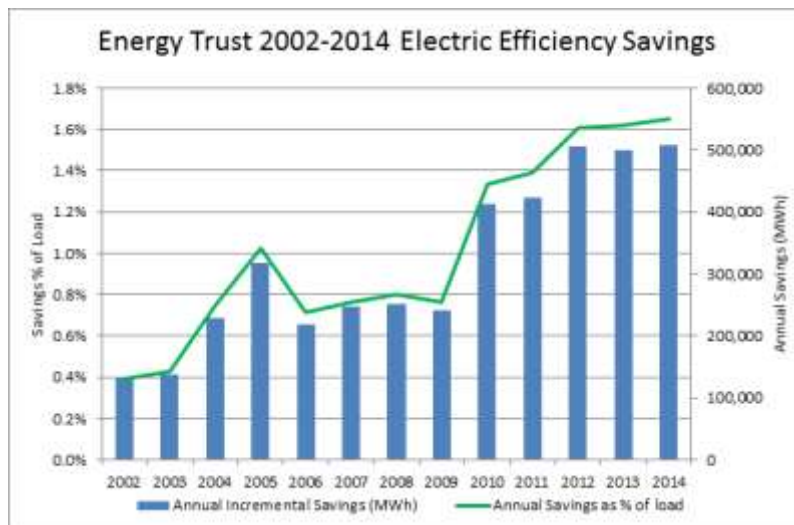
<sup>8</sup> Portland General Electric, Integrated Resource Plan, 2013 (*available at* [https://www.portlandgeneral.com/our\\_company/energy\\_strategy/resource\\_planning/docs/2013\\_irp.pdf](https://www.portlandgeneral.com/our_company/energy_strategy/resource_planning/docs/2013_irp.pdf)).

<sup>9</sup> Energy Trust of Oregon, Annual Report to the Oregon Public Utility Commission, 2014 (*available at* [http://assets.energytrust.org/api/assets/reports/2014\\_ETO\\_Annual\\_Report.pdf](http://assets.energytrust.org/api/assets/reports/2014_ETO_Annual_Report.pdf)).

<sup>10</sup> This number represents nearly twice the number of households in the Portland, OR metro area.

<sup>11</sup> Energy Trust of Oregon, Annual Report to the Oregon Public Utility Commission, 2014 (*available at* [http://assets.energytrust.org/api/assets/reports/2014\\_ETO\\_Annual\\_Report.pdf](http://assets.energytrust.org/api/assets/reports/2014_ETO_Annual_Report.pdf)).

that since 2002, energy efficiency investments in Oregon have resulted in up to 500,000 MWh of new electricity savings per year, which is equivalent to powering one quarter of all the homes in Washington DC for one year.<sup>12</sup>



**Renewable Portfolio Standard:** Oregon has a renewable portfolio standard that directs the state's largest utilities to serve their customers with 25 percent renewable energy by 2025.

- Oregon is home to a full range of renewable energy resources, including wind, solar, geothermal, biomass, ocean energy, and hydroelectric power, and has a strong suite of policies to encourage the development and use of renewable energy in the state and the broader region.
- In 2007, Oregon enacted a renewable portfolio standard (RPS) that requires all utilities to support renewable energy and requires the largest utilities in Oregon to provide 25 percent of their retail sales of electricity from renewable sources of energy by 2025. This policy is the state's strongest device for furthering the development of renewable resources. Along with fellow Western states, Oregon has established a tracking system, the Western Renewable Energy Generation Information System (WREGIS), to ensure that the attributes and megawatt hours (MWhs) of renewable energy are accounted for properly and double attribution of renewable energy does not occur.

This is but a partial list of policies and investments that have put Oregon, its utilities, and their customers in a strong position to comply with the Clean Power Plan. These investments will reduce the cost and risk of compliance with the Clean Power Plan and keep our utility systems strong and robust. Despite these long-term investments, or in fact because of these long-term

<sup>12</sup> Produced by Energy Trust and PUC staff with data from Energy Trust of Oregon (*available at* [http://assets.energytrust.org/api/assets/reports/PAR\\_2014.pdf](http://assets.energytrust.org/api/assets/reports/PAR_2014.pdf)), Oregon Utility Statistics (*available at* [http://www.puc.state.or.us/Pages/Oregon\\_Utility\\_Statistics\\_Book.aspx](http://www.puc.state.or.us/Pages/Oregon_Utility_Statistics_Book.aspx)), and the Energy Information Administration (*available at* <http://www.eia.gov/electricity/data/eia826/>).

investments, our economy is strong. As seen below, statewide per capita emissions have been decreasing since 2000.<sup>13</sup>

	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
<b>Statewide per capita emissions (MT)<sup>1,3</sup></b>	20.0	20.5	20.6	19.0	18.5	18.9	18.0	17.1	16.5	16.3	15.7

While per capita emissions have been in steady decline, Oregon’s GDP is as good as or better than the national average. Oregon’s real GDP growth exceeded the U.S. rate in 13 of the 16 years from 1998-2013. Oregon ranks among the 15th fastest growing state economies in 11 of the 16 years between 1998 and 2013, and it was in the top five between 2010 and 2012. The graph below shows Oregon’s top five ranking.<sup>14</sup>



Reliability of the electricity system is of paramount importance to utilities, regulators, and customers. The EPA has improved its thinking about reliability effects of the rule by changing the compliance period and adding mechanisms for states to seek revision of compliance plans in case of reliability concerns, along with adding a reliability safety valve.

<sup>13</sup> Produced by ODOE staff with data from Oregon GHG Inventory (*available at* <http://www.deq.state.or.us/lq/consumptionbasedghg.htm>); U.S. Department of Commerce (*available at* [http://bea.gov/iTable/index\\_regional.cfm](http://bea.gov/iTable/index_regional.cfm)); and Portland State University Population Research Center (*available at* <http://www.pdx.edu/prc/annual-oregon-population-report>).

<sup>14</sup> Oregon Office of Economic Analysis, State GDP 2013, June 11, 2014 (*available at* <http://oregoneconomicanalysis.com/2014/06/11/state-gdp-2013/>).

- EPA provides more time to plan for compliance by starting the compliance period in 2022 rather than 2020.
- EPA provides a mechanism for a state to seek revision to its plan or re-submit a new plan in case of unanticipated reliability challenges.
- EPA's Clean Power Plan rule includes a safety valve that involves an initial period of up to 90 days during which a reliability-critical electric generating units (EGUs) will not be required to meet the emission standard established for it under the state plan but rather will meet an alternative standard.

In addition there are existing tools and frameworks across the country to protect the reliability of the grid. At the state and regional levels there is a significant focus on reliability and there are many layers of reliability oversight ranging from the utilities themselves to the Western Electricity Coordinating Council (WECC) and the North American Electric Reliability Corporation (NERC).

- Under WECC and NERC rules, each balancing authority in the west must maintain a minimum amount of contingency reserve power.
- Oregon utilities carry a 13 percent reserve margin to ensure that they can meet demand in a major event such as the unexpected loss of a generator.

To their credit, EPA has revised the Clean Power Plan to address the concerns of Oregon, other states, and stakeholders. There are real improvements in allowing interstate coordination between states and removing barriers that were in the draft rule. The Clean Power Plan provides state regulators with a significant degree of flexibility in determining how to comply and has accommodated states that are differently situated. In Oregon, we are currently exploring that degree of flexibility to decide whether to use a rate-based system or a mass-based system, whether to apply for early action credits, and whether to go it alone or participate in multi-state allowance markets. The Clean Power Plan is accommodating of a variety of state compliance approaches, allowing Oregon to leverage existing state laws and recognizing, under particular approaches, the historic investment Oregon ratepayers have made in renewable energy and energy efficiency.

However, Oregon is not an island. It is not enough for Oregon to comply with the Clean Power Plan within its own borders. Ratepayers of several of our utilities are tied to fossil fueled generation located in other states. We are more than interested in how other Western states comply with the Clean Power Plan, since our electricity rates depend on how those states comply. As Oregon looks to implement its own compliance plan, we are very interested in exploring the potential for collaboration with neighboring states and potentially using market mechanisms to reduce the overall costs of compliance and enhance the overall effectiveness of the program in reducing greenhouse gas emissions. It stands to reason that a state that has not followed Oregon's early-investment strategy would likely have some low-hanging fruit, which could mean that the state should have inexpensive clean energy alternatives over the next decade, at least in cost-effective energy efficiency. In addition, the Clean Power Plan offers a variety of market-based tools to reduce the cost of compliance.

Oregon is proud of our clean energy investment strategy and we are in a good position to comply with the Clean Power Plan. If states collaborate and cooperate, the Clean Power Plan offers the United States a path toward finally addressing the real and pressing issue of climate change on an integrated and least cost basis.