Oregon Energy Planning Report

By

The Oregon Energy Planning Council

December 20th, 2010

Table of Contents

Executive Summary…...…….…….……..pg. 3
Introduction…….…….…..……..…….……...pg. 5
Lessons Learned for Future Planning….…..……...….…….…….…pg. 8
Energy Use and Planning Efforts……..……..……pg. 9
Oregon's Energy Goals and Policies……..……...…pg. 12
Challenges to Energy Planning and Use….…..….……pg. 21
Transmission Siting (*Workgroup Report*)….…...…….….pg. 24
Recommendations for a Comprehensive Energy Strategy….…….....….pg. 31
Appendix……...….……..…pg. 34
National Planning Efforts……....……..…….pg. 34
Regional Planning Efforts……..……..pg. 35
Western Renewable Energy Zone "Hub Map"…….……pg. 41
Oregon Wildlife Areas (WREZ) Map……..…pg. 42
Governor's Executive Order 08-26…….….pg. 43
Impacts on Communities, the Environment, & the Economy.pg. 46

Executive Summary

For two decades Oregon has been a leader in conservation efficiency, in the development of renewable energy sources, and in the growth of "green jobs" in Oregon's workforce through both public and private initiatives. These actions and policies have borne significant benefits for the State's residents and businesses. For instance, Oregon was the first state to adopt carbon dioxide emissions standards for new power plants. In addition, Oregon's large utility customers have actively pursued conservation measures, including the purchasing of energy from renewable energy sources (despite a higher cost to ratepayers). And legislation, such as Senate Bill 1149 passed in 1999 that created a "public purpose charge" for increasing energy conservation, renewable energy development, and weatherization and other assistance to low-income households, has enhanced conservation in the State.

State legislation has also been innovative in providing incentives and cost savings to the State's residents and businesses. For instance, SB 1149 also provided funding to improve energy efficiency in Oregon's public schools within certain utility service areas, and it resulted in energy efficiency improvements in over 1,700 schools, saving 42.5 million kilowatt hours (kWh) of electricity between 2002 and 2009. Other State measures include the Business Energy Tax Credit (BETC), which promotes investments in energy conservation, recycling, renewable energy sources, and less-polluting transportation fuels. BETC realized savings of approximately $1.07 billion in 2009. And the Residential Energy Tax Program, which provides homeowners and renters with tax credits for purchasing energy efficient products and technologies, has realized an estimated savings of approximately $26.1 million in 2009.

Yet the State faces a number of challenges as it strives to achieve greater reductions in its carbon footprint. Among these challenges is the need for new transmission facilities, and new routes for transmitting energy, in order to address the growing demand for energy from residents and business, and to accommodate the dispersed locations of new, renewable energy from wind, solar, wave, geothermal and other sources.

Additionally, while the State met its 2010 greenhouse gas emission reduction goals, achieving its 2020 reduction goals will be more challenging, given the projected increase in the State's population, and the more aggressive targets set for 2020. And despite significant savings, the State's Business Energy Tax Credit faces an uncertain future, given the current economic recession and concerns about the costs associated with the tax credit.

As the State moves forward with increasing its reliance on, and generation of, new renewable energy sources, concerns about maintaining affordable rates, and ensuring that energy is reliably available for residential and business consumers in the State also exist.

In addition, in order for the State to maintain its position as a leader in green energy technology development, green infrastructure and green jobs, the State needs to ensure that continuous progress will be made toward a cleaner energy future through incentives and other actions. And most importantly, in order for the State to meet these challenges, it needs to create a comprehensive, long-range energy strategy that provides policy guidance for state agencies, utilities, and residents. And to address the broad scope needed in a comprehensive energy strategy, the strategy must also include the involvement of a number of state, regional and federal agencies.

Governor Kulongoski recognized these challenges in 2008 when he issued Executive Order 26-08 convening The Energy Planning Council. The Council is charged with creating an energy planning report that focuses on a number of issues associated with energy planning and the State's future energy needs.

The Council's first report focuses on identifying the State's current energy and transportation fuel uses, reviews a number of Oregon's policy measures and conservation efforts, and identifies a number of challenges facing Oregon as it moves away from its reliance on fossil fuels, and moves toward new, renewable energy sources. And, given the challenges associated with siting new transmission facilities in the State, this report provides analysis of those challenges, and provides a suite of recommendations to address them.

The Energy Planning Council recommends that the State move forward with developing a comprehensive energy strategy in order to maintain its leadership in energy planning, conservation, and new renewable technology. In addition, the Council recommends that this comprehensive strategy have, at a minimum, an adequate budget for staffing, research and management, and include the involvement of a number of agencies to coordinate the strategy's development and implementation. The Council sees the involvement of Oregon's Department of Environmental Quality, Department of Transportation, Public Utilities Commission, and Department of Energy as pivotal to ensuring the energy strategy's success. The Council also recommends that this comprehensive strategy be integrated with energy planning efforts at the regional and national levels, and that it incorporate a long planning horizon (e.g. 20 years), with a regular cycle of revision as part of its management (e.g. review and update every 5 years).

This report also makes a number of recommendations to help facilitate and improve the siting of new transmission facilities in Oregon. Specifically, the report recommends that a stronger link is needed between the processes that the Public Utility Commission and the Energy Facilities Siting Council use to better address the public's concerns regarding whether a new transmission facility is actually "needed"; that new regulations and rule amendments are created regarding "balancing" among the diverse state agency objectives, and that siting standards are created so that the expectations of the applicant for a new transmission facility are clearly articulated and predictable in the siting process and state policy objectives and public benefits of

energy facilities are fulfilled and achieved**;** that state agency standards are clearly identified and articulated in order to eliminate applicants going through multiple reviews by different state agency officials at various times during the application process; and that the State establish a "phased study approach" for the review and assessment of linear transmission projects so that project applicants can continue progress toward completion of their application as studies of natural resource areas, habitats and other efforts to protect the environment are conducted, thus allowing the applicant to move forward with other requirements of the siting application process.

However, the report's overarching recommendation is that the State create a comprehensive energy strategy. By creating a comprehensive energy strategy that promotes affordable energy-efficiency policies and practices, and creates incentives for businesses and developers to manufacture and use energy efficient and low carbon technologies, Oregon can help lower energy costs for businesses, increase the purchasing power of Oregon's citizens by lowering their energy costs, and stimulate economic growth, consumer spending, and employment opportunities within the State.

Introduction

Over the past three decades, Oregon has accomplished much, through legislative action and administrative rulings, in its pursuit of energy conservation, and reducing the rate at which its carbon footprint is growing (i.e.--it's "carbon intensity"). The State has also made gains in increasing energy efficiency. For instance, in the area of electricity and natural gas, in 1997 Oregon was the **first** state to adopt a carbon dioxide emissions standard for new power plants and to require offsets of those emissions. In 1999, as part of the electricity-restructuring bill SB 1149, the state created the "public purpose charge" mechanism and set the groundwork for the creation of the Energy Trust of Oregon, which manages the energy conservation and renewable resource public purpose funds. In 1999 and 2001, the legislature established a methodology for addressing siting alternatives for energy facilities and set up an expedited siting process for certain facilities. In 2007 as part of SB 838, utilities requested the ability to increase the amount paid by certain customers for energy efficiency above that of the 3% public purpose charge. And in 2009, Oregon investor-owned utilities supported the adoption of an emissions performance standard that limits investments in coal-fired generation (SB 101) and supported the adoption of the solar capacity standard in HB 3039.

In 2004, the Governor's Advisory Group on Global Warming issued their Oregon Strategy for Greenhouse Gas Reductions. And, as a result of that report, the Governor appointed the Carbon Allocation Task Force in 2005 to investigate the adoption of a load-based carbon allowance standard for Oregon. In May 2006, the Governor appointed the Climate Change Integration Group as a

way to continue and extend the work of the 2004 report. Based upon this work, in 2007 the legislature passed HB 3543 that created non-mandatory greenhouse gas reduction goals.

In the area of transportation the legislature passed HB 2210 in 2007, which created renewable fuel standards and then again revised the standard in 2009 under HB 3436. In addition, in 2009 the legislature, as part of HB 2186, put in place a low carbon fuel standard. In 2010 the legislature passed SB 1059, which was a comprehensive bill to reduce greenhouse gas emissions from transportation.

In addition to these actions, the investor owned utilities in Oregon actively market products that allow customers to offset their greenhouse gas emissions, PGE and PacifiCorp were **number 1 and number 2** in the nation last year in the overall number of customers that signed up for renewable energy to their customers according to the Department of Energy's National Renewable Energy Laboratory.

And Oregon has been a national leader in other conservation efforts. For instance, the American Council for an Energy Efficient Economy released its "2010 State Energy Efficient Scorecard," which **ranked Oregon #3 nationally** in developing energy efficiency measures to help address energy use and climate change.[1] Oregon has also taken a lead in developing "green jobs": over 3%, or 51,400 jobs, of Oregon's workforce in 2008 were green.[2]

As energy issues have become more complex and controversial, however, the need for a comprehensive energy strategy to coordinate and guide future efforts has become critical. Acknowledging such a need, Governor Kulongoski issued Executive Order 08-26 in December 2008 with the intent of developing a comprehensive energy strategy. The following report provides an overview and status update on energy planning under the Executive Order and other initiatives.

Oregon has made significant progress in lowering its carbon intensity, increasing energy conservation, and creating alternative energy sources. For instance, Oregon passed the *Renewable Portfolio Standard* in 2007, which requires that at least 25 % of the State's energy come from renewable sources. The Legislature also passed the *Renewable Fuel Standards* in that same year which supports creating new markets for using agricultural and feedstock waste products for energy generation. The state's greenhouse

[1] http://www.aceee.org/files/pdf/ACEEE-2010-Scorecard-Executive-Summary.pdf

[2] "The Greening of Oregon's Workforce" http://www.qualityinfo.org/pubs/green/greening.pdf

gas (GHG) reduction goals were also established in 2007, with benchmarks to reduce GHG emissions by specific targets in 2020 and 2050. Finally, in 2009 the Legislature established building construction standards that increase the energy efficiency in construction, reconstruction, alteration or the repair of buildings.[3] While these important measures help to lower Oregon's carbon intensity and put the State on a path toward greater energy independence, developing a comprehensive energy strategy that can harness these new initiatives and integrate them into a shared, over-arching strategy is a high priority.

Executive Order 08-26 established the Oregon Energy Planning Council and tasked the Council with creating an energy strategy that outlines a wide array of issues to help the State establish a more sustainable, and less fossil fuel dependent, energy future while ensuring long-term price stability.[4]

The Executive Order also stipulated that the Planning Council will provide analysis and counsel on energy forecasting, energy transmission, energy price stability, renewable energy, alternative energy sources and energy efficiency at the request of the Governor, and that it will have its first report to the Governor and to the Legislative Assembly in December of 2010.

The Council met a total of five times between January 2009 and December of 2010 to discuss a range of issues associated with energy planning. The group also shared knowledge and information, including presentations by representatives of the energy industry, investor-owned utilities, and professionals to help educate the Council about energy planning and use, the siting of new energy transmission facilities, and other issues.

One obvious issue acknowledged by the Council in their deliberations was that creating a state-wide, comprehensive energy strategy will take the dedication of an array of resources, including funding for data gathering and organization, and dedicated staffing to help coordinate and support the group charged with the strategy's development. Currently, the Planning Council lacks such resources.

---

[3] A number of renewable energy and energy efficiency initiatives have been passed by Oregon's Legislature that affect numerous state agencies. This report highlights some of these initiatives, however the report is not an exhaustive compilation of all renewable energy or energy efficiency legislative initiatives.

[4] The Executive Order tasked the Council with developing a plan that addressed Oregon's current energy use, energy supply and future energy needs; the challenges of addressing price stability and energy supply certainty; recommendations for bridging gaps in Oregon's energy supply; short, middle and long-range strategies for meeting Oregon's future energy needs (including infrastructure improvements and the environmental and economic impacts); alternative strategies for meeting Oregon's energy needs; and recommended statutory changes for legislative consideration and recommendations for the Governor's budget.

Consequently, the Council decided not to attempt developing a comprehensive energy strategy at this time and instead limited its efforts to addressing the challenges associated with transmission siting because of the urgency created by the number of new transmission siting project applications and developments that the State's Energy Facility Siting Council is receiving. Utilities and other developers attempting to site new transmission facilities within the state also find the current siting process to be challenging, thus adding to the urgency of addressing this issue.

This report, therefore, discusses the challenges associated with energy planning and specifically focuses on the challenges that the State faces in siting new transmission facilities as both the increase in demand and the integration of new, renewable energy supplies are driving the need for expansion of the existing transmission grid (see pages 15-22). A suite of recommendations to facilitate improving transmission siting in Oregon is also included in this report.

Finally, the report provides some background on Oregon's current energy use, conservation measures, and potential future energy needs, and it provides a brief overview of the mandates created by Oregon's *Renewable Portfolio Standard*, its *Renewable Fuel Standards*, the new building code standards, and other initiatives, and some information on how the state is working to achieve its greenhouse gas emissions reduction goals through transportation planning. NOTE: while this report highlights a number of initiatives that have been taken in Oregon to address energy efficiency and conservation, as well as initiatives that incent new renewable energy sources, the report is not an exhaustive compendium of all activities and initiatives currently being pursued in the State.

Lessons Learned for Future Planning

A number of lessons have been learned during the Planning Council's deliberations. First, adequate resources must be marshaled in order for Oregon to create a long-range, strategic energy strategy. In addition to an advisory group with expertise in the energy arena, utility sector, consumer protection arena, and renewable and alternative energy fields, a staff dedicated to the project's execution and management will be needed to provide the Council with the research, coordination, logistics support, and the day-to-day management and activities needed to succeed. A budget of dedicated funding will also be needed to support this effort.[5]

Second, in order to monitor the state's progress toward meeting future energy goals, a set of guidelines will be needed that establish broad principles for the State's evolving energy strategy with measurable benchmarks or criteria that can track how well the state is progressing toward these goals.

[5] Four FTE have been estimated as the staffing level of support needed to develop a state-wide comprehensive energy plan

Third, any comprehensive energy strategy must include opportunities for the public to review the strategy and make comments. Without public support, no strategy, regardless of its technical efficacy, will have enough "buy-in" and support from the public to be implemented in a comprehensive fashion. Creating a public involvement plan, as part of the energy strategy will, therefore, be critical to its ultimate success.

Finally, there are a number of seemingly competing priorities that must be addressed in order to create a comprehensive energy strategy. For instance, the state's GHG reduction goals, which establish ambitious targets for GHG reductions over the next forty years, may be in conflict with the goal of keeping energy rates competitive for consumers. Such issues will need attention and leadership in order to successfully create a statewide, comprehensive energy strategy.

Energy Use and Planning Efforts

As mentioned previously, Oregon has made significant strides in achieving its renewable energy goals. In addition to the *Renewable Portfolio Standard*, the *Renewable Fuel Standards*, and the greenhouse gas reduction goals, the state has created recommendations for addressing global warming, including standards for tailpipe emissions from vehicles and toxic pollutants.

Current Energy Use

As a back drop to understanding the energy challenges Oregon faces, in 2009 Oregonians spent more than $14 billion on energy consumption to heat homes, drive vehicles, light and heat businesses, and manufacture goods and services."[6] Figure 1 below shows the percentage of fuels used for energy generation. Coal accounts for approximately 37% of the State's current energy use, and natural gas accounts for an additional 12%. Oregon's reliance on natural gas, coal and petroleum for transportation fuels (see Figure 2 below) is one of the reasons that Governor Kulongoski established the Energy Planning Council to review the State's current energy usage and supplies, and make recommendations on Oregon's future energy needs.

[6]Oregon Department of Energy estimates based on US DOE Energy Information Administration http://www.eia.doe.gov/aer/pdf/aer.pdf

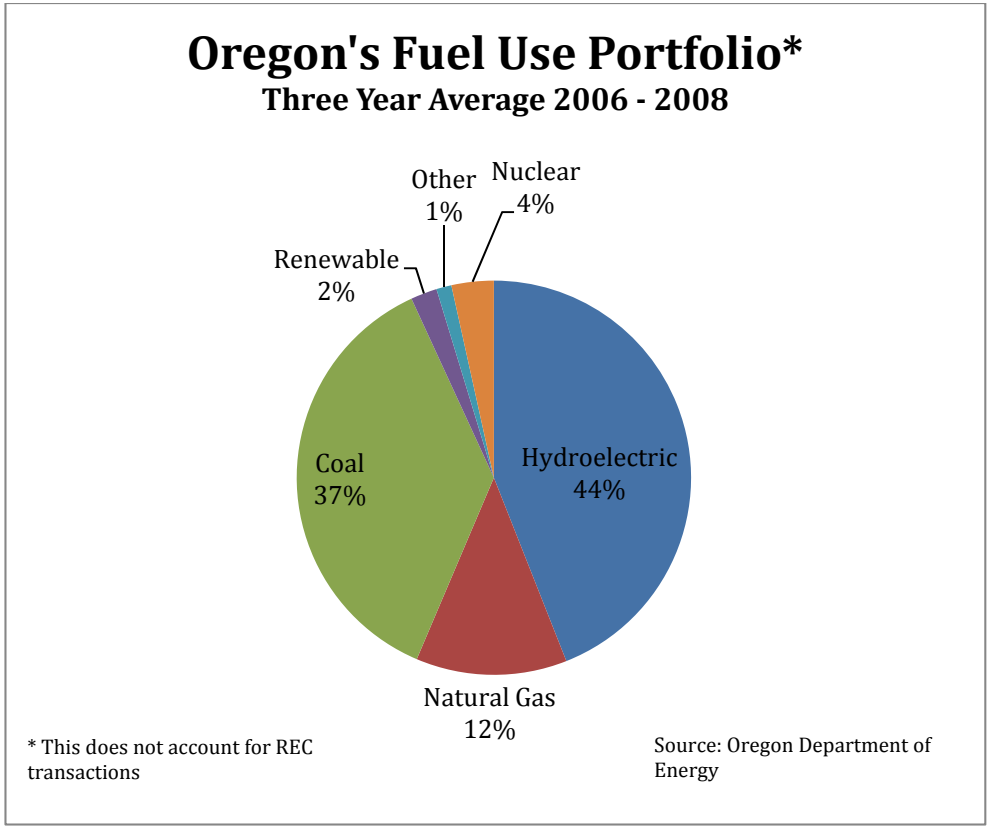


Figure 1. Oregon's energy use (fuel) portfolio other than transportation-related fuels. NOTE: Oregon's nuclear energy usage is a function of consumer owned utilities purchasing energy from BPA.

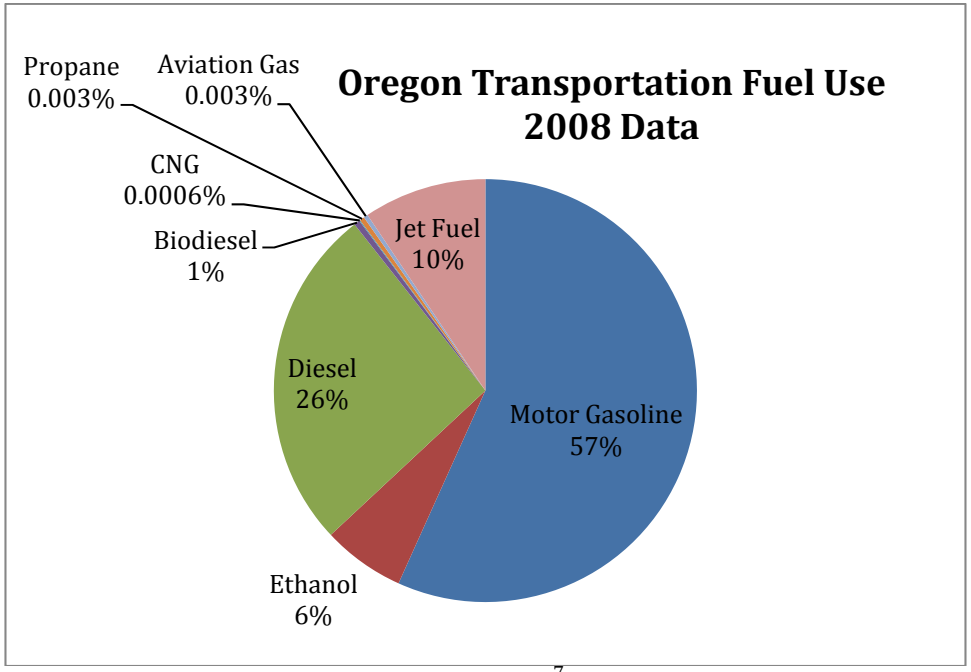


Figure 2. Oregon's transportation fuel use[7] Note: In the future, the above charts for transportation fuel and energy fuel usage will merge as Oregon's transportation energy includes electricity.

Oregon is projected to increase its population by almost a million additional residents by 2025—to approximately 4.6 million.[8] This growth represents about a 25% increase in population from 2010, and analysts expect this population increase will result in an increase in energy usage (a number of factors will influence the actual amount of increase in energy usage—variables such as conservation, energy efficiency and future life style expectations all will have an impact on energy use in the future).

Oregon already has a portfolio of alternative energy sources available for residential and industrial use, although some of these sources are still in the developmental stage. In addition to its traditional energy sources, renewables such as solar and wind are

[7] Sources: U.S. Energy Information Administration; Oregon Dept. of Transportation, Oregon Dept. of Energy data.
[8] http://oregon.gov/DAS/OEA/demographic.shtml

rapidly growing as part of the State's energy portfolio. Other renewable energy sources include biomass cogeneration and geothermal, (with plant development at various locations around the state), and landfill/methane conversion.

In addition, Oregon's 2009 legislature authorized a new low-carbon fuel standard designed to reduce the carbon intensity of transportation fuels in Oregon by 10 % by 2020.[9] Suppliers can meet this target using a variety of traditional or alternative fuels such as ethanol, biodiesel, and electricity. These alternatives to gasoline and diesel are already being produced at significant scales. Other alternatives, such as cellulosic fuels or advanced biofuels, are still in the developmental stage.

Oregon's Energy Goals and Policies

Oregon's Department of Energy mission statement is to ensure that the State, "…has an adequate supply of reliable and affordable energy and is safe from nuclear contamination, by helping Oregonians save energy, develop clean energy resources, promote renewable energy, and clean up nuclear waste."[10] The Department is charged with developing and administering the state's energy programs and helping with the strategic planning to develop the state's future energy portfolio.

In addition to the Department's goals, the Planning Council has agreed that the State's future energy strategy should include the following goals or principles:

1. Maintain Affordable Energy Costs
2. Assure a high level of regional and local system reliability
3. Promote a clean energy economy and jobs through new business and workforce development.
4. Meet state goals and commitments on greenhouse gas emission performance standards
5. Meet state goals and commitments on developing renewable resources
6. Ensure the health and welfare of Oregon's citizens

While the benchmarks required to track progress toward these goals have not been developed, the goals provide guidance for a suite of priorities to help develop a comprehensive energy strategy.

[9] http://www.deq.state.or.us/aq/committees/lowcarbon.htm
[10] http://www.oregon.gov/ENERGY/about_us.shtml

And, as noted in the introduction of this report, Oregon has authorized a number of legislative actions designed to help achieve this goal including its *Public Purpose Funds*, *Renewable Portfolio Standard*, *Greenhouse Gas Emission Goals*, *Renewable Fuel Standards*, Energy Efficiency requirements, *Green Building Codes*, *Business Energy Tax Credit*, and other initiatives. Below is a brief overview of a number of the State's energy programs and consumer owned and private utility conservation efforts, however, readers should note that the following is not meant to be a complete list of all energy savings efforts in Oregon.

Public Purpose Funds

Oregon utilities have been innovators in the area of energy efficiency, first providing programs for customers in the 1970s and 1980s when the concept of "energy conservation" first emerged to help customers cope with soaring energy prices. For example, Oregon's utilities offered weatherization programs to help residential customers overcome the financing hurdle for efficiency improvements, promoted energy-saving commercial construction, and offered other incentives to commercial and industrial customers for investment in energy efficiency projects.

Then, in 1999, Oregon's Legislature passed Senate Bill 1149 which required Portland General Electric and PacifiCorp to reserve 3% of retail electric sales beginning in 2002 for a "Public Purpose Charge" that funds energy conservation, renewable energy development, and provides weatherization and other assistance to low-income households. In addition, 10% of these funds must be used for energy efficiency efforts in public schools within the two utilities service areas. Senate Bill 838, passed in 2007, extended the public purpose charges through 2025. According to ODOE data, large utility public purchase programs have generated savings of approximately $9.4 million in 2009.

Energy Trust of Oregon

Also established by the Legislature in 1999, the Energy Trust of Oregon is a non-governmental, non-profit organization that manages the energy conservation and renewable resource public purpose funds. The Trust has been helping customers within the service areas of Portland General Electric, Pacific Power, PacifiCorp, NW Natural and Cascade Natural Gas manage energy costs and other measures. According to the Trust's website, since 2002 the Trust's programs have helped Oregonians save almost $600 million through energy efficiency improvements, and through development of clean, renewable energy sources. The Trust has established benchmarks by which they can track their success in achieving a suite of goals to further help Oregonians conserve energy, develop new renewable energy sources, and save money.[11]

[11] http://energytrust.org

Conservation Efficiency

As noted previously, utilities that operate in Oregon have been developing energy efficiency measures for many decades, and collectively these programs have saved ratepayers and customers millions of dollars. For instance, since 1982, consumer-owned utilities in Oregon have achieved approximately 245 Megawatts of energy savings through the Bonneville Power Administration's energy efficiency and conservation program for its utility customers. Consumer-owned utilities fund, and in many cases supplement, these programs as part of their BPA power sales contracts and retail electric rates. BPA is also currently working with its utility customers on updating its energy efficiency and conservation programs. In so doing, the agency and its customers are committed to meeting the public power share of the 505 Megawatts regional conservation target specified in the NW Power and Conversation Council's Sixth Power Plan. In addition, BPA saved 75.8 Megawatts of energy in 2008 through its residential, commercial and agricultural conservation programs, as well through changes to building codes and other measures. Since 1981, BPA has saved 1,075.9 Megawatts of energy through these same programs.[12]

Portland General Electric started energy efficiency programs in 1991 and ran them through 2002 when the Energy Trust of Oregon took over the programs. PGE used a mix of energy audits, cash incentives, and customer service and information to incent customers to take energy efficiency actions in their homes and work places. As a result of PGE's programs, its retail customers reduced energy usage by a total of 1 billion kWh annually by the end of 2002 (or 115 average Megawatts by the end of 2002) and saved customers over $340 million dollars on their bills over the 12 year period (1991-2002).

PacifiCorp has provided a comprehensive set of demand-side management programs to its customers since the 1970s. The programs are designed to reduce energy consumption and more effectively manage when energy is used, including management of seasonal peak loads. These programs are available across PacifiCorp's six states, however the lead responsibility for energy efficiency program delivery in Oregon was transitioned to the Energy Trust of Oregon in 2002. Today, Pacific Power works collaboratively with the Energy Trust to increase awareness and influence program activity, ensuring that Pacific Power's Oregon customers benefit from the tools available to help them reduce their energy requirements and improve the productivity from the energy they consume. Since 2000 these programs have reduced energy usage by just over 400 million kWh a year on average and have resulted in cumulative bill savings to our customers of approximately $243 million.

---

[12] Bonneville Power Administration, staff comm., and "2008 BPA Facts." www.**bpa**.gov/corporate/about_**BPA/facts**

In addition, the Northwest Power Planning and Conservation Council's 6th NW Power Plan included findings by its Regional Technical Forum that identified savings of over 700 "average Megawatts" from regional conservation programs in 2008, and savings of over 900 average Megawatts were anticipated in 2009.[13]

Schools Program

As part of the State's goal to reduce its reliance on fossil fuels through conservation, and to increase energy efficiency and realize savings in Oregon' public buildings, Oregon's Legislature passed SB 1149 in 1999, which created a program to increase the efficiency of public school buildings. The program is funded through the public purpose charge that utilities pass on to ratepayers (see "Public Purposes" section above). The first 10 % of the public purposes funds collected annually must be distributed to Education Service Districts located in the service areas of the electric companies. SB 1149 Public Purpose Funds provide funding for efficiency improvements, energy education, the purchase of environmentally focused energy, and renewable resource projects in Oregon K-12 schools in Portland General Electric and PacifiCorp service areas. In 2007, the Oregon legislature passed SB 838 extending the program through 2025.

Between 2002 and 2009, 1,719 school buildings have received energy efficiency improvements in the targeted utility service areas. These improvements have provided annual savings of approximately 42,598,009 kWh of electricity, 1,342,321 therms of natural gas, 120,966 gallons of oil, and 120,951 gallons of gas/diesel.[14]

Small Scale Energy Loan Program (SELP)

Approved by the voters in 1980, the State Energy Loan Program (SELP) has made approximately 800 loans since it began, totaling $497 million. SELP's purpose is to promote energy conservation and renewable energy development. The program offers fixed-rate, long-term loans for projects that:

- Save energy
- Produce energy from renewable resources such as water, wind, geothermal, solar, biomass waste materials or waste heat
- Use recycled materials to create products

[13] http://www.nwcouncil.org/energy/powerplan/6/final/SixthPowerPlan_Ch4.pdf pg. 4-2
[14] Ibid

- Use alternative fuels

According to ODOE, the SELP program provided savings and production (from renewables) of approximately $80.56 million in 2010.

Renewable Portfolio Standard

In 2007, Oregon's Legislature enacted Senate Bill 838, which established the State's Renewable Portfolio Standard for electric utilities and suppliers.[15] The Act requires Oregon's largest electric utilities (PacifiCorp, Portland General Electric, and the Eugene Water and Electric Board) to meet a percentage of their retail electricity needs with qualified renewable resources. The standard starts at 5% by 2011, increases to 15% by 2015, 20% by 2020 and 25% by 2025. Smaller utilities will also have to meet renewable energy standards, but the percentage of renewable energy is either 5% or 10% based on the size of the utility. The emphasis in Oregon's RPS is on "new" sources of renewable energy, defined as facilities which began to operate on or after January 1, 1995.

Starting in 2011, Oregon's largest utilities are required to meet the first benchmark of the *Renewable Portfolio Standard* by showing that at least 5% of the electricity they supply originates from qualifying renewable sources.

Greenhouse Gas Emission Goals

In 2005, (the last year for which data are available), Oregon's GHG emissions totaled 70 million metric tons. Approximately 85% of the state's anthropogenic, or human-caused, GHG emissions are carbon dioxide, primarily from burning fossil fuels. Methane, nitrous oxide, and an array of fluorinated industrial gases comprise the remaining portion (in order of abundance). Oregon's GHG emissions typically account for only about one percent of the total national greenhouse gas emissions. Yet over time GHG emissions in Oregon have risen approximately 25% from 1990 levels.[16] Oregon's DOE forecasts that the State's GHG emissions will be approximately 55% higher by 2020 without policy interventions.

---

[15] http://www.oregon.gov/ENERGY/RENEW/docs/sb0838.a.pdf?ga=t.

[16] Inventory data are available on Oregon's climate change portal (www.orclimatechange.gov). See also Appendix 1 of the Governor's Climate Change Integration Group Final Report to the Legislature, *A Framework for Addressing Rapid Climate Change*, January 2008.

There is no one sector that clearly dominates Oregon's carbon footprint. The transportation sector has remained the largest contributor of GHG in Oregon, although the relative proportion of those emissions has decreased over time from 38 % in 1990 to 34 % in 2005. Emissions associated with industrial processes and facilities have remained relatively constant over time (about 27 % combined), as have those associated with agriculture, ranching, and similar activities (about 7 %). The fastest growing sector in Oregon's GHG emissions is in residential and commercial buildings, where the relative contribution of that sector has increased from 27 % in 1990 to 32 % in 2005.[17]

As part of a broad regional effort to reduce greenhouse gases, Governor Kulongoski convened the *Governor's Advisory Group on Global Warming* in 2004 to create a strategy to guide Oregon's climate change efforts. In December of that year, the Advisory Group proposed the following goals for reducing Oregon's GHG in its final report.[18]

1. By 2010, arrest the growth of Oregon's greenhouse gas emissions (including, but not limited to CO_2) and begin to reduce them, making measurable progress toward meeting the existing benchmark for CO_2 of not exceeding 1990 levels.[19]
2. By 2020, achieve a 10 % reduction below 1990 greenhouse gas levels.
3. By 2050, achieve a climate stabilization emissions level at least 75 % below 1990.

In 2007, Oregon's Legislature passed House Bill 3543, which incorporated the Advisory Group's recommended GHG reduction goals into Oregon Revised Statutes (*ORS 468A.205*). The bill also created the Oregon Global Warming Commission, which was charged with, among other tasks, monitoring progress toward the state's GHG reduction goals. In its report to the Legislature in 2009, the Commission reported that Oregon was on track to meet the 2010 goal of stabilizing emissions growth. However, based on existing emission trajectories and proposed policies, the state will likely fall short of meeting the 2020 goal and, by extrapolation, may not meet the 2050 goal without additional action.[20]

In addition, the Oregon Department of Transportation has been working with the Department of Land Conservation and Development, Department of Environmental Quality and Oregon Department of Energy on GHG reductions through transportation

---

[17] http://www.keeporegoncool.org/content/tracking-emissions
[18] *Oregon Strategy for Greenhouse Gas Reductions* (report) http://www.oregon.gov/ENERGY/GBLWRM/docs/GWReport-FInal.pdf?ga=t
[19] In 1992 Oregon established a benchmark standard of holding CO_2 emissions to 1990 levels.
[20] Oregon Global Warming Commission, *Report to the Legislature*, January 2009.

planning. The following excerpt, from ODOT's Climate Change webpage, provides a summary of agency efforts to reduce GHG emissions.[21]

"The 2010 Oregon Legislature passed Senate Bill 1059, a statewide, comprehensive bill aimed at reducing greenhouse gas (GHG) emissions from transportation. SB 1059 names the Oregon Department of Transportation (ODOT) and the Oregon Department of Land Conservation and Development as the lead agencies in implementing its requirements.
ODOT and DLCD are to:

1. Coordinate and consult with stakeholders, local governments, Metropolitan Planning Organizations (MPOs) and other state agencies to develop a state-level strategy to reduce greenhouse gases from transportation.
2. Develop a toolkit to assist local governments and MPOs in reducing greenhouse gases from transportation.
3. Develop guidelines for scenario planning, and provide information to LCDC to set transportation-related greenhouse gas reduction targets for areas served by metropolitan planning organizations.
4. Conduct outreach and education to the public.
5. Work with local governments within areas served by an MPO to consider what actions they might take, transportation-wise, to reduce greenhouse gases in the short-term."

According to ODOT staff, implementation of SB 1059 is in the early planning stages, and the Statewide Transportation Strategy Policy Committee, which is charged with overseeing implementation of SB 1059's GHG emissions reductions, had its first meeting in September of this year.

Renewable Fuel Standards

Oregon's legislature authorized House Bill 2210 in 2007, which created renewable fuel standards with tax incentives for consumers and producers of biofuels. The bill mandates that all gasoline sold in the state must be blended with 10 % ethanol after state production of ethanol reaches 40 million gallons per year. In 2009, HB 3463 revised the renewable fuel standards so that the requirement for biodiesel blends would trigger based on when the capacity of biodiesel production facilities reaches at least five million gallons on an annualized basis. Additionally, all diesel fuel sold in the state must be blended with two percent biodiesel when the production of biodiesel from sources in Oregon, Washington, Idaho and Montana reaches a level of at least 5 million

[21] http://www.oregon.gov/ODOT/TD/TP/SB1059.shtml

gallons per year. This blending requirement increases to 5 % when production reaches a level of at least 15 million gallons per year. HB 2210 also includes tax incentives for producers and collectors of biofuel feedstock, and for consumers of biofuels.[22]

Low Carbon Fuel Standard

Burning fossil fuel for transportation (e.g. cars and trucks) makes up about 33% of Oregon's GHG emissions. The low carbon fuel standard, authorized by the Oregon Legislature in 2009 as part of House Bill 2186, is one strategy to reduce emissions of carbon dioxide—a significant greenhouse gas—from the transportation sector. According to ODEQ's website, "The sum of all the greenhouse gases emitted throughout the lifecycle of the fuel [for transportation], from sourcing and refining through the distribution to the end use as the fuel is used in an engine, is called the 'carbon intensity.' The aim of Oregon's low carbon fuel standard will be to reduce the average carbon intensity of the mix of transportation fuels used in Oregon by 10 percent by the year 2020." [23] (Text in brackets added).

Energy Efficiency Requirements

Oregon's Structural Specialty Code establishes the state's energy efficiency requirements for new residential and non-residential buildings.[24] Under the Code builders are required to meet certain standards of energy efficiency for construction of walls, doors and windows, installing ceiling and pipe insulation, installing new heating, air conditioning and lighting, and installing new water heating systems and new appliances.

The state has instituted a number of energy efficiency measures that focus on different opportunities to reduce the energy demand for commercial and residential buildings. These measures include improvements such as installing insulated doors, re-sizing door openings; installing double- or triple-pane windows, or adding window coatings; installing high efficiency light fixtures, using more efficient heating and air conditioning systems for domestic use; adding insulation to existing structures, or installing insulation to meet current R value requirements in new construction.

Green Building Codes

[22] http://www.oregon.gov/ODA/MSD/renewable_fuel_standard.shtml
[23] http://www.deq.state.or.us/aq/committees/lowcarbon.htm
[24] http://www.oregon.gov/ENERGY/CONS/Codes/docs/2007_CH-13_ODOE-040107.pdf

As noted above, the fastest growing sector contributing to Oregon's carbon footprint is in new construction of commercial and residential buildings. In 2009, Oregon established a new "Reach Code" that requires the Department of Consumer and Business Services' Building Codes Division (BCD) to adopt an optional set of construction standards for achieving greater energy efficiency. The bill, "[s]pecifies that [the] Reach Code is [an] alternative to state building code. [The bill r]equires [the] Reach Code to provide more energy-efficient construction standards and methods than state building code."[25] (Text in brackets added). "Energy efficiency" is defined in the bill as "…the use of construction and design standards, construction methods, products, equipment and devices to increase efficient use of, and reduce consumption of, electricity, natural gas and fossil fuels." Senate Bill 79 evolved out of the Governor's *Energy Efficiency Work Group* and included priorities for combating climate change. The bill aims to increase the energy efficiency in buildings that are undergoing construction, reconstruction, alteration or repair. SB 79 requires the BCD to immediately increase the energy efficiency of commercial buildings by 15-25%, and residential buildings by 10-15%. The bill also establishes a mechanism for increasing the energy efficiency of buildings in Oregon to meet the net zero goals set out by the non-profit organization, *Architecture 2030*, which is recognized nationally for establishing specific targets that reduce greenhouse gas emissions from the building and construction sector. The option to build under the Reach Code is at the discretion of the builder, however provisions of the Reach Code will be examined to determine if they should become mandatory in the future.[26]

Feed-In Tariff

As part of Oregon's commitment to developing innovative incentives that further its goals of moving away from fossil fuels, Oregon initiated the Feed-In Tariff as a **pilot program** in 2010. Oregon's *Feed-in Tariff* program is designed to spur solar development by offering payments for solar power that are paid by participating utilities to owners of solar energy systems. Through 2014, customers of Portland General Electric, Pacific Power and Idaho Power can receive payment rates of $.50 and $.59/kilowatt-hour

Energy Tax Credits (BETC and RETC)

Administered by ODOE, Oregon's *Business Energy Tax Credit* (BETC) has been successful in promoting investments in energy conservation, recycling, renewable energy sources, and less-polluting transportation fuels. The tax credit is offered to private, public, and non-profit entities. The amount of the tax credit varies by project, with a 50% credit for projects combining high

[25] Senate Bill 79; http://www.leg.state.or.us/09reg/measures/sb0001.dir/sb0079.a.html
[26] Ibid.

efficiency heat and power supplies, renewable energy generation, and renewable energy equipment manufacturing facilities. For these projects, businesses generally take 10% of the tax credit each year for five years.

For other projects, the credit is 35% of the eligible project costs, and businesses can take the credit over five years, starting with a 10% credit the first two years, and 5% for the final three years.[27]

The overall goal of BETC is to support investments that facilitate market transformation of technologies in regards to conservation and renewable energy, however the program is under legislative review and its future is uncertain (see "Challenges" below).

The Oregon Department of Energy estimates that the total number of tax credits awarded under BETC is 19,148 (Conservation credits=16,879, and Renewable Resources credits=1,187) with an estimated savings of approximately $1.07 billion in 2009.

In addition, under the state's *Residential Energy Tax Credit Program* (RETC), homeowners and renters can get tax credits for purchasing energy efficient products and technologies. Energy efficient appliances such as washers, dryers and refrigerators can receive credit, as well as heating and air conditioning systems, solar electric and heating systems, wind energy systems and hybrid and electric vehicles. The program sets limits on the maximum credit allowed for each product or technology. RETC provided an estimated savings of approximately $26.1 million in 2009 from a total of 411,926 tax credits awarded.[28]

Challenges to Energy Planning and Use

The following list provides an overview of the challenges that Oregon faces as it develops a comprehensive energy strategy:

Transmission Siting: New transmission facilities, and new routes for transmitting energy, will be needed in order to address the growing load demand from residents and business, and to accommodate the dispersed locations of alternative energy sources. Public debate regarding the need for, and placement of, gas pipelines, electrical transmission lines, and the rapid development of wind "farms" reverberates around the state and region. Challenges and/or opposition from the public are resulting in an increase in the amount of staff time, and processing time, needed in the siting of new transmission corridors. While many in the public are supportive of developing new sources of renewable energy, concerns arise when siting facilities (including transmission lines) are planned near communities, tribal lands, or popular outdoor areas. (For a more detailed discussion of these issues, see the

[27] http://www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml
[28] Oregon Department of Energy Data (in forthcoming report)

"Transmission Siting" section pg. 15-22 below). Creating a statewide, comprehensive energy strategy can provide guidance, and establish clear parameters for when, where and why transmission facilities are sited, and can develop methods for minimizing the impacts of these new facilities even though energy facility siting is market driven, with decisions made in an ad hoc fashion.

This issue, along with the need to expand the existing transmission grid, requires immediate attention. However, without a comprehensive energy strategy that includes a public education component, the public will continue to be inadequately informed and reticent regarding the siting of new facilities.

Additionally, given the lack of a national energy strategy, there are a plethora of entities engaged in energy planning in the region and nationally (see Appendix: pg. 22-25).[29] While many of these groups are helping to develop a regional system for incorporating renewable energy into the electric grid, the sheer number of different groups can be confusing to the public. This confusion increases the challenges associated with educating the public about energy issues across the region, as well as increases the challenges associated with coordinating these efforts.

Business Energy Tax Credit (BETC): Due to a number of issues, including the escalating costs of the program in the current recession, the 2010 Legislature implemented tighter eligibility criteria and established limits for the total capital outlays that can be spent under BETC. Currently, the program is under further legislative review and its future is uncertain.

Greenhouse Gas Emission Goals

In its 2009 Report to the Governor and Legislature (as required by HB3543), the Global Warming Commission reported that Oregon was meeting its first (2010) adopted goal, as emissions appeared to have leveled off over the preceding five years. Achieving the second goal will be more challenging, the report went on, requiring a nearly 30% decline in emissions by 2020 in the face of at least a10% projected population increase.

In 2010, at the urging of Governor Kulongoski, the Commission undertook to develop a "Roadmap to 2020" that would describe measures needed to reach the state's next goal. Nearly 100 technical experts and stakeholders developed some 200 recommendations for State, local government and private sector emissions reduction actions in six areas: Energy/Utilities, Transportation/Land Use, Materials/Waste Management, Industrial Emissions, Agriculture and Forestry. The Commission

[29] For a more detailed discussion of this issue, see the "Transmission Siting" section below. Also, see Appendix: pg. 28-29 for a discussion of groups working on transmission siting.

amended several of the recommendations and adopted the Roadmap unanimously in October 2010 (available on the OGWC website www.KeepOregonCool.org).

Ensuring Affordability: As noted above, one of the goals as Oregon moves toward more energy independence and less reliance on fossil fuels is keeping energy rates competitive for businesses and consumers. Relying on new renewable energy sources creates issues of competition among suppliers and utilities, necessitates developing storage capacity for energy from sources with variable outputs such as wind and solar, as well as producing new alternatives to scale so that the cost per kilowatt/hour continues to decline. All of these will be needed in order to keep energy rates affordable for consumers. This is both an economic and political issue, as public support for new alternatives to existing energy technology may wane if the cost of heating homes and businesses, driving cars, or keeping pace with the growing universe of "smart" consumer products becomes burdensome.

Ensuring Reliability: Having reliable energy for business and residential use is a focus at the national, regional and state levels. Analysis of technology trends, and assessment of potential gaps in the energy system's reliability are monitored at the federal level to help maintain a reliable supply and distribution of energy. In addition, analysis of the electrical grid's load, based on pricing, helps maintain reliability and is intended to prevent the rolling brownouts experienced in 2001 either from volatile demands for energy use which exceed the system's capacity (e.g. due to extreme heat waves), or by manipulation of market prices. As Oregon moves forward with new renewable energy sources, ensuring reliable access to energy will remain a high priority.

Ensuring Continuous Progress Toward Cleaner Energy: In order to monitor how well Oregon is progressing toward its renewable energy and GHG reduction goals, and to ensure that progress is on-going, a system of accountability that establishes measurable benchmarks is needed that can provide reliable information on the State's progress. Utilities currently are required to file both implementation plans and compliance reports with the Oregon Public Utility Commission regarding Oregon's Renewable Energy Standard (RES). Utilities must also report to the Department of Environmental Quality the greenhouse gas emissions associated with serving Oregon loads. These are not mandatory benchmarks, however, only recommended goals. The utilities' reports do provide a picture of the progress toward meeting the RES goals and track the amount of carbon dioxide produced. And there are mandatory benchmarks for the RES that utilities must meet or penalties can be imposed. However, a more comprehensive monitoring effort is needed to track energy use and GHG reductions across all sectors, including transportation.

Lack of Coordinated Planning: Finally, while Oregon's Department of Energy is charged with creating an energy plan for the state that provides an overview of energy use, there is not a comprehensive energy strategy for Oregon (and, as noted previously, no energy strategy from the federal government). However, in order to create such a comprehensive strategy, inter-agency

cooperation, from such agencies as the state Department of Environmental Quality, the Department of Transportation, the Public Utilities Commission, and other agencies, will be needed

Transmission Siting

Given the urgency of addressing the immediate challenges associated with siting new transmission facilities in Oregon, the Council decided that this report should focus on transmission siting as **one** of the more pressing issues that Oregon faces as it moves toward developing a comprehensive energy strategy. Hence, the following report provides a detailed overview of the issues and challenges facing Oregon's residents, utilities, natural resource agencies, and other affected parties. The report also includes a set of recommendations to help facilitate the siting of transmission facilities in the State.

Oregon has recently experienced a resurgence in the development of multiple new transmission facilities. Until 2008, no applications for siting new transmission lines and facilities were received by the State for a number of decades. Since 2008, however, the Oregon Department of Energy (ODOE) has received nine applications for new transmission and generation facilities. Utilities, transmission facility developers, tribes, local communities, and state and federal agencies that manage public lands and natural resources are all facing growing challenges associated with siting new transmission facilities. Hence, this report focuses on transmission siting as *an urgent* component of Oregon's energy planning needs.

NOTE: The following section on transmission siting comes from the *Transmission Siting Statutes Review Workgroup.* The workgroup was formed with representation from a number of utilities, the Energy Facility Siting Council (EFSC), Oregon Energy Planning Council, Oregon Department of Energy, Oregon Municipal Electric Utilities Association, and the Governor's Office. Other parties were also consulted in this review, including the Bonneville Power Administration, Idaho Power, Rural Electric Cooperatives, and People's Utility Districts. The workgroup's report, "*Transmission Siting Statutes Review Workgroup DRAFT Report to the Oregon Energy Planning Council*," is included in its entirety below.

Transmission Siting Statutes Review Workgroup[30]

Background

The Oregon Energy Planning Council (OEPC), at its June 9, 2010 meeting, suggested that a working group be formed to examine the Energy Facility Siting Council statutes (ORS 469.300 to 469.520) to determine whether the statutes are adequate and sufficient

[30] Report to the Oregon Energy Planning Council, August 2010

to accomplish the growing demand for new transmission facilities, or whether amendments are needed. Several OEPC members supported this effort.

This effort is timely in that Oregon has seen a strong surge in new energy siting projects in recent years especially for renewable projects such as wind energy and associated regional transmission projects. Additionally, the ODOE is faced with growth in the number of energy facilities holding operating site certificates, which will require ongoing compliance oversight.

During the upcoming biennium, ODOE staff will be actively reviewing the Boardman to Hemingway 500kV transmission line, the Cascade Crossing 500kV transmission line, the Carty Station Generating Plant, and multiple renewable energy facilities including biomass, geothermal and wind. Other work will include amending site certificates to include expansion of existing projects, cooperating with the Bonneville Power Administration for their transmission upgrade projects, and continuing to follow the development of LNG projects and other Federal Energy Regulatory Commission proceedings. Energy facility compliance and siting oversight can be broken down into three key phases:

- Notice of Intent (NOI)—potential applicants file an NOI stating their intent to site a facility in Oregon. This begins a phase where all impacted stakeholders are brought together to discuss siting requirements. The time between the filing of an NOI and an application can be several years, and not all facilities that file an NOI continue to file an application.

- Application Filing—an applicant submits a Preliminary Application, which begins the application review phase. ODOE determines when an application is complete and issues a Draft Proposed Order that is reviewed by EFSC. A notification of application review must be submitted within 60 days of receipt of an application; however, the actual time between the submission of a preliminary application and the ODOE draft proposed order can be several months or years. Not all applications result in a Draft Proposed Order. Thereafter, the Siting Council considers the Draft Proposed Order and ultimately issues a Final Order and Site Certificate. The process may include a contested case proceeding, which can add more than six months to the process.[31]

[31] A contested case proceeding is mandatory under ORS 469.370(5). The Council appoints an independent hearing officer to conduct the proceeding. Aside from the applicant and the Department of Energy, anyone else wanting to participate in the contested case proceeding must request party status from the hearing officer.

Persons who have an interest in the outcome of the Council's contested case proceeding or who represent a public interest in such result may request to participate as parties or limited parties. Only those persons who have commented in person or in writing on the record of

- Energy Facility Oversight—EFSC issues a Site Certificate and ODOE Facility Siting staff begins oversight activities that extend throughout the entire life cycle of the facility from construction, through operations, and into facility closure. As the number of total facilities increases, the base staffing required to provide operational oversight on site certificates also increases.

Workgroup
Workgroup representatives from various utilities, including PacifiCorp, Portland General Electric (PGE), and NW Natural, along with representatives from the Energy Facility Siting Council (EFSC), Oregon Energy Planning Council, Oregon Department of Energy, Oregon Municipal Electric Utilities Association, and the Governor's Office met on three occasions: July 21, August 3 and August 10, 2010. Other interested parties were consulted in this review, including the Bonneville Power Administration, Idaho Power, Rural Electric Cooperatives, and People's Utility Districts.

Workgroup Focus:
The workgroup first identified seven areas of focus:

- Creating a clearer link between the Public Utility Commission's Integrated Resource Planning (IRP) process and EFSC process to address the "Need" standard;
- Regulations regarding "balancing" among the diverse agency objectives so that the expectations of the applicant are clearly articulated and predictable in the siting process, and to ensure, with some formality, that the Council is fully authorized with a clear mandate to exercise its authority under ORS 469.501(3), and ORS 469.501(1) to "balance" overall public benefits with applicable siting standards;
- Conflicting standards when siting on state, federal, or private lands;
- The need to "memorialize" agreements to finalize steps and proceed forward;
- The lack of a single point of contact within Oregon's natural resource agencies that participate in the siting process;

---

the public hearing may request party status. To raise an issue in a contested case proceeding, the issue must be within the jurisdiction of the Council. The person must have raised the issue in person or in writing on the record of the public hearing. The person must have also presented facts with sufficient specificity at the public hearing that support the person's position on the issue.

At the conclusion of the contested case proceeding, the hearing officer issues a "Proposed Contested Case Order." The parties in the contested case proceeding may file exceptions to the proposed order.

Following the contested case proceeding, the Council decides whether or not to issue a site certificate. The Council grants a site certificate if at least four members of the Council agree. The Council issues its decision in a "Final Order."

- The need to establish a "phased approach" for linear projects so that project owners can continue progress toward completion;
- The need for clearly identified and articulated state agency standards so as to eliminate the occurrences of "moving goal posts."

In discussion of these issue areas, the workgroup reached consensus that several of the issues could be integrated into practice without statutory or administrative rule revisions. The group also determined that there was crossover of the issues and that resolving one or another could result in improvements or elimination of another issue. Finally, the group agreed that one of the issues was complex and involved federal and local government policies that were not within the purview of the state.

Therefore, the issues of memorializing agreements and conflicting standards applicable to state, federal and private lands were tabled. The remaining issues: creating stronger links to the IRP process for "need" determination, balancing, and creating clearly identified and articulated state agency standards, and establishing a single point of contact are discussed in the remainder of this report. Additionally, the workgroup advanced recommendations to address these areas of concern.

Issues and Recommendations

I. Create a stronger link between Public Utility Commission and EFSC processes to address the "Need" standard.

Project developers, specifically investor-owned utilities, are seeing an increase in the public's expectation that a facility should not be sited and proceed unless a definitive need for the facility has been demonstrated through open public discourse in the siting process. The workgroup looked specifically at this issue from the investor-owned utility perspective.

In the siting process, the Energy Facility Siting Council's Administrative Rules, Division 23 contains a "need" standard that applies only to non-generating facilities.[32]
A utility may demonstrate "need" for a project in its Integrated Resource Plan (IRP) required by the Oregon Public Utility Commission through OAR 860-027-0400(3).[33]

[32] Oregon Administrative Rules Chapter 345 Division 23 http://arcweb.sos.state.or.us/rules/OARs_300/OAR_345/345_tofc.html
[33] The establishment of need is achieved in the Commission's consideration of a utility's "least cost-risk plan".

An investor-owned utility may be able to demonstrate that a facility is needed by showing that the proposed facility's capacity is identified in an IRP acknowledged by the Oregon Public Utilities Commission. However, the IRP is a resource-planning document that addresses a number of hypothetical scenarios for future resource planning. The EFSC process deals with a site-specific project. The public typically asks for evidence of need for a specific location or route.

The PUC and EFSC processes are separate and distinct, and therefore, a great deal of ambiguity exists for the public as well as project developers. For the public, there is a concern that EFSC's approval process doesn't publicly examine need. Investor-owned utilities, go through a bi-annual IRP review that is open to the public and seeks to address the need for existing and new sources of energy and related impact to ratepayers However, the IRP process does not take into account the actual path and or location of the PUC acknowledged future energy resource(s).

Utilities or transmission companies may also demonstrate the need for a transmission line, specific to entering into condemnation proceedings, by obtaining a certificate of public convenience and necessity (CPCN) per ORS 758.015. A CPCN provides conclusive evidence of public use and need in any condemnation proceeding. A CPCN is optional when a permit or license is obtained pursuant to state or federal law, such as through EFSC or FERC, but is otherwise mandatory.

Recommendation

The existing regulatory framework remains appropriate, without need of amendment. However, the process can be improved through better administrative coordination. In order to increase the public's general knowledge of how the state decides on major energy facilities, the Oregon Public Utility Commission and the Energy Facility Siting Council should direct staff to jointly study ways to improve coordination of the PUC'S IRP process, the EFSC site certificate process, and the PUC's CPCN process so that project developers and the public will have more assurance that the siting of transmission projects meets the standards established by law, and those standards have been met in their proper venue. This initiative will take considerable discussion and collaboration between industry, the Public Utility Commission and the Energy Facility Siting Council, as well as other interested stakeholders.

II. Support regulations and rule amendments regarding "balancing" among the diverse agency objectives and siting standards so that the expectations of the applicant are clearly articulated and predictable in the siting process, and state policy objectives and public benefits of energy facilities are fulfilled and achieved.

The EFSC General Standard of Review requires a proposed energy facility comply with all applicable Oregon standards, statutes and rules, including those of agencies other than the Siting Council. Siting activity often requires involvement from various other natural resource agencies, local governments, and tribes. The Council consults with other agencies in determining compliance with this standard. Some permits are outside Council jurisdiction. Permits that the federal government has delegated to a state agency other than the Council are outside the site certificate process. For example, the Air Contaminant Discharge and NPDES permits are federally delegated to the Department of Environmental Quality. Likewise, permits related to detailed design and operation specifications, such as local building permits, are outside Council jurisdiction. Subject to these narrow exceptions, EFSC is authorized to make all permitting decisions in lieu of and on behalf of all other state agencies, and has the final "word" on compliance with applicable standards.

Oregon Revised Statutes provides that the EFSC may exert its "balancing" authority when it is unlikely that a project may meet any or all required standards. ORS 469.501 and 469.503 allows EFSC to issue site certificates to facilities that do not meet the standards "if the council determines that the overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet." Oregon Administrative Rules 345-022-0000(2) provides that the EFSC may make a balancing determination only when the applicant has shown that the proposed facility cannot meet standards or has demonstrated that mitigation or avoidance of damaging the protected resources cannot be achieved. OAR 345-022-0000(2) further identifies how the EFSC weighs overall public benefits.

Recommendation

In order that the "balancing authority" is better utilized during the siting process to progress in an effective manner, the workgroup recommends that the EFSC establish and submit the following principles and actions:

- In order to better facilitate the siting of transmission lines and other linear facilities, the EFSC shall exercise its authority under ORS 469.501 and 469.503 to balance the public benefits of the facility, particularly public benefits in achieving the state's energy policies, including Renewable Portfolio Standards as mandated by ORS Chapter 469A, to achieve diversification of energy generation resources and to ensure the reliable transportation and transmission of energy resources to Oregon businesses and residents;
- Allow the EFSC to act upon its balancing determination authority earlier in the siting process so that conflicts can be resolved in a timely manner and at the appropriate stage of the process; and
- Amend OAR 345.022.0000(2) substantially to clarify the process for the Council to invoke its "balancing" authority, and require all state agencies to state, in a timely manner and with precision, their views regarding

why a proposed energy facility cannot meet an applicable standard, including through reasonable and practicable conditions, including mitigation measures.

III. Clearly identify and articulate state agency standards so as to eliminate the occurrences of "moving goal posts"

The workgroup identified a growing concern occurring in greater frequency in which a state agency provides incomplete and untimely information or responses in its review of a proposed project. When this occurs, the project developer finds itself addressing objections or criticisms multiple times only to find yet another issue being raised, often by multiple employees of an agency, with little or no direction or oversight by agency management. Often times, those issues are completely unrelated to the first issues raised, and could have been raised concurrently so that the agency's objections and criticisms could be addressed holistically. The utilities likened this to "moving goal posts."

The workgroup discussed the growing complexities of projects and the impact on the natural resources these projects may have. The lack of generalized study protocol and study plans creates a disjointed, unpredictable and cumbersome siting process. Additionally, project developers are not required to submit a project study plan or strategies.

Recommendations

- Establish a generalized methodology and protocol of study for consistency and predictability;
- Require and establish a "single point of contact" within each agency, along with a coordinated and mandatory oversight and management structure, to ensure reasonable, timely, and coordinated application review;
- Compel state agencies commenting on a project order and Draft Proposed Order to be specific in their critiques of a project and in their recommendations for mitigation requirements
- For controversial linear projects, following submittal of the Notice of Intent, require the project developer to discuss and develop key project strategy plans and resource study plans to inform the applicant, state agencies, and stakeholders.

IV. Establish a "phased approach" for linear projects so that project owners can continue progress toward completion

Studies required to adequately protect the environment and natural resources are often difficult or impossible to complete when a project developer cannot access properties or land. In cases where access to private property is necessary, a utility may not have access to land without proactively commencing potentially unnecessary condemnation actions for the sole purpose of studying

lands that may ultimately not even be impacted by the energy facility. Additionally, certain phases related to siting, reviewing, approving, and designing a linear project are more easily worked through than others. A phased approach to the siting process would enable a project owner to move forward on other requirements of the multi-step siting process, allowing the project to proceed in a more efficient and cost-effective manner.

Recommendation

- Establish a "phased studies" approach enabling the project developer to conduct and submit those reports that they are able to complete. This phased approach would allow that a site certificate may be conditionally issued pending the outcome of these studies;
- Initiate EFSC rule-making to clarify and fully enable the phased study process.

Summary

The Oregon Energy Planning Council commissioned a workgroup to examine the Energy Facility Siting Council statutes (ORS 469.300 to 469.520) to determine whether the statutes are adequate and sufficient to meet the growth in proposed energy facilities, or whether amendments are needed. Representatives from investor-owned utilities actively participated in this effort. Other utilities were asked to review the report and recommendations of this workgroup and identify any areas of concerns.

The workgroup members reached consensus that Oregon's siting process is vastly superior to that of other states, however, slight modifications could provide clearer expectations and a more transparent process for project developers, state agencies and stakeholders.

This report provides a high-level description of the issues with corresponding high-level recommendations for the Council's consideration. The Workgroup requests that the Council recommend the actions as proposed in this report.

Recommendations for Developing a Comprehensive Energy Strategy

As noted in other parts of this report, the Energy Planning Council recommends that the State should move forward with developing a comprehensive energy strategy, and that the project have, at a minimum, the following:

1. **An adequate budget**. Funds will be needed to assimilate data and information from other institutions and governmental entities developing a comprehensive energy strategy. In addition, staff to support the administrative tasks and day-to-day functions of the planning group will be critical to maintain momentum and make progress in a methodical fashion.

2. **Coordination with other state agencies**. A statewide comprehensive energy strategy will necessarily involve coordination among a number of agencies, including Oregon's Department of Energy, Department of Environmental Quality, Department of Transportation, Public Utilities Commission, and others. In addition, a comprehensive strategy will need to coordinate with regional and national policies and initiatives that focus on energy planning.

3. **Longer Planning Horizon**. Finally, a comprehensive energy strategy will need a longer planning horizon (e.g. 20 years), with a regular cycle of revision incorporated into its management (e.g. review and update every 5 years).

Elements and Resources Needed To Develop a Comprehensive Energy Strategy

Additionally, the Council recommends that the following elements and resources will be needed to develop a comprehensive energy strategy for the State. These are provided to help illustrate the scope of the basic elements and resources needed in a comprehensive energy strategy.

i. **Policy Issue**s: Goals, objectives, hard constraints, measurements, benchmarks; Improving the focus and integration of the State's policy-making process.
ii. **Resource issues**: demand/supply side; resource diversity; contribution to system reliability; contribution to system flexibility (as a package of dispatchable/non-dispatchable generation); carbon/GHG system profile.
iii. **Energy Efficiency/ Demand-side Smart Grid**: (residential/commercial/industrial) customer access to technology; to financing; to installation services; Smart Meter customer load management; Two-way telemetered utility/customer demand management transactions.
iv. **Direct Application Gas Use:** Fuel switching from resistance electrical heating for space/water heating.
v. **Customer Side/Distributed Energy Technologi**es: Photovoltaic applications; fuel cell storage; Plug-in Hybrid Electric Vehicle (PHEV) storage.
vi. **Power Grid Architectur**e: Integration strategies for non-dispatchable resources (wind/solar); transmission system design for capacity, reliability, flexibility, enabling transactions; realigning/expanding balancing authority areas; Dynamic resource scheduling; Effects on system operations of public benefit incentives (e.g., Production Tax Credits).

vii. **Transportation Energy**: Managing the shift to low-carbon fuels; EV/PHEV market introduction (opportunities for power grid; managing new transportation power loads); vehicle technology transition from Internal Combustion Engine (ICE) to EV/PHEV/biofuels; transportation system operations optimization; transportation/land use interactions.

viii. **Research Agend**a: Integration Storage/Control technologies; Biomass conversion technologies; Ocean energy technologies; Compact Nuclear technologies; Carbon Capture/Storage technologies/techniques, capitalize on capabilities of both the Oregon University System and the private sector.

ix. **Worker Training** in new technologies, Smart Grid installation/operations, energy efficiency installations, and other green job skill development

x. **Public Education and Outreach.** As noted earlier in this report, no strategy, no matter its technical merits, will succeed without public understanding and "buy in."

xi. **Affordability for households and businesses.** As noted earlier, in order to maintain public support, and to ensure economic fairness, the strategy should keep energy prices competitive and affordable for both residential and business consumers.

xii. **Reliability.** A comprehensive energy strategy must also maintain a high level of system reliability to ensure that consumers are assured of continuous energy.

Appendix

National Energy Planning Efforts

Change is rapidly occurring in energy generation, transmission, and usage at the national level. A number of federal agencies, private sector groups, and research institutions are focusing on the evolving challenges and demands associated with energy planning and the transition of the nation's energy platform from fossil fuels to less carbon-intensive sources.

For instance, last year the National Academy of Sciences and the National Research Council published a report entitled, "*America's Energy Future: Technology and Transformation*," which provided an authoritative resource on the nation's energy challenges, recommendations on reducing the nation's carbon footprint, and assessed current and emerging technologies to achieve a more sustainable energy future.[34]

Specific recommendations in the NAS report include: 1) in the near term, aggressively use existing energy technologies to increase energy efficiency in the construction, transportation and business sectors to reduce the need to develop new energy generating capacity; 2) accelerate the development and deployment of existing and emerging technologies to improve the nation's energy efficiency and reduce greenhouse gas emissions. 3) develop new energy sources, including renewables, nuclear and carbon capture at scales large enough to make a difference over the next few decades; 4) expand and modernize the nation's electrical transmission and distribution systems; 5) increase the nation's efficiency in the use of petroleum for transportation as other technologies are developed; 6) aggressively reduce the nation's greenhouse gas emissions through energy efficiency, and a mix of new and emerging energy technologies; 7) invest in public and private sector research and development in new technologies and energy efficiency; and 8) promulgate new policies and regulations that create incentives, and minimize obstructions to achieving the nation's future energy goals.

As the NAS document suggests, many of the nation's leading researchers, analysts and industrial leaders expect the nation's future energy needs will be met through a mix of improving energy efficiency, developing new technologies in renewable and nuclear energy, improving the national transmission and distribution systems, and promulgating new policies and regulations. As newer technologies are developed, however, constraints exist for many of them. For instance, many renewable energy sources, such as wind and solar, provide intermittent generating capacity that depend on such variables as when and how much sunlight is available (for solar), and the frequency and force of wind for electricity generation. As a result, new technologies will be needed for both

[34] http://www.nap.edu/catalog.php?record_id=12091#toc

energy storage and management of the transmission grid to accommodate these intermittent, renewable energy sources. Additionally in Oregon, with regard to nuclear energy, if a developer or energy company proposes a future nuclear facility, they would have to overcome specific statutory restrictions in ORS 469.595 and 469.597 regarding nuclear energy.

In 1980 Oregon's voters elected to restrict development of nuclear energy unless and until the Energy Facility Siting Council determines that the federal government has established an adequate repository for the disposal of high-level radioactive waste produced by nuclear-fueled thermal power plants. Passage of Ballot Measure 7 in the November 1980 General Election also provided that regardless of an affirmative finding by the Energy Facility Siting Council (EFSC), any proposal for siting nuclear plants must be presented to the voters for rejection or approval. A site certificate may not be issued by EFSC without such voter approval.

Changes are also occurring in the transportation sector, as more gas/electric hybrid, and fully electric vehicles are available in the marketplace. This shift from fossil fuel-based vehicles to hybrid or electric vehicles will have a major impact on the electricity demands in the United States in the relatively near future. As others have noted, America's electricity grid was not designed as a part of the transportation sector, yet that is the direction both the transportation sector, and electric grid, are headed. One estimate of the increased demand for electricity that may be needed to support a growing electric vehicle fleet comes from the Electrification Coalition.[35] In a report published in 2009--"*Electrification Roadmap*," the Coalition assumes that if 150 million electric or hybrid vehicles are added to the nation's roads, it would represent at least a 10% increase in the amount of electrical power consumed annually (i.e. an additional 440 billion kWh to the 4.1 trillion kWh of electric power currently consumed). The authors estimate that much of this increased electricity demand can be accommodated without additional generating capacity, since many cars will be charged at night, during off-peak hours. But the magnitude of the projected increase in demand on the existing grid is noteworthy.

Regional Energy Planning:

Oregon's Energy Use in the Context of Regional Planning

Oregon is part of the Western Interconnection, an electrical grid that encompasses the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming; part of Texas near El Paso; the Canadian provinces of Alberta and British Columbia; and a small portion of northern Mexico in Baja California. The Western Electricity Coordinating Council (WECC) is the administrator of the Western Interconnection. As such, Oregon's energy needs, and its

[35] http://www.electrificationcoalition.org/

capacity to transmit energy within the state, are affected by its relationship to the entire western electrical grid.

The initial development of what evolved into the Western Interconnection started from a provincial premise. Initially, transmission lines in many states, including Oregon, were financed, planned and developed by privately owned, vertically integrated utility companies. These companies sited transmission lines for local utility systems, or for local utilities to connect to neighboring utilities, not for regional distribution of electricity.

The legacy of this initial practice is that local jurisdictions have often opposed siting new transmission lines across their jurisdictions unless these lines directly benefited their communities. Indeed, the decision by a state or a local jurisdiction to approve a new transmission corridor has often been tied to whether the new transmission line will directly benefit the local community.

In addition to a general increase in demand for electricity by consumers, industry and local communities, the current emphasis on developing new, renewable energy sources around the State and region is creating an increased demand for transmission facilities that can move energy from these resource-rich, remote areas to the State's high-density urban and industrial areas. The disconnect between the anticipated increase in energy demands and the need for new transmission facilities is exacerbated by a lack of coordination among federal, state, and local entities, all of which have varying authorities. Furthermore, the public is concerned about the cumulative impacts incurred by the development of renewable energy sources and the siting of new transmission corridors within the State and the region. Consequently, a broader understanding of these impacts, and guidance, is needed.

Given the existing and anticipated development of renewable energy generation around the State, new transmission facilities will be needed to carry electricity from such places as Lake County, Klamath County, and Morrow County, where solar and wind energy can be developed, to the high demand centers located along the I-5 corridor. At the present time, the limited planning for, and siting of, transmission capacity to accommodate Oregon's emerging renewable energy portfolio standard is creating a bottleneck. (Also see "Transmission Siting," pg. 24 of this report).

As developers, utilities, and regulators research sites for new transmission lines in Oregon and the region, it's axiomatic that at least some of these new lines may not directly benefit local users. To address a number of concerns of both the public, and political and industry leaders, numerous entities are studying how to expand the transmission grid system in the region with minimal impacts to community view sheds, to health and safety, and to open lands and wildlife habitat. Among these groups are the Western Electrical Coordinating Council, the Northern Tier Transmission Group, the ColumbiaGrid, Bonneville Power Administration, and the Northwest Power and Conservation Council. In addition, the Western Governors' Association is studying a number of potential areas where transmission corridors can be placed that minimize impacts to wildlife, communities and open spaces. Below is a brief overview of these efforts.

Western Governor's Association and Other Efforts

The **Western Governors' Association** has been studying the issue of siting transmission corridors designed to transmit renewable energy with minimal impacts to communities, wildlife habitat and open spaces in the Western Interconnection region. In 2008, the WGA created the *Western Wildlife Habitat Council* (WWHC) to help "…identify key wildlife corridors and crucial wildlife habitats in the West and coordinate implementation of needed policy options and tools for preserving those landscapes.[36] The WGA sees the rapid population growth across the region, and the attendant increased demand for energy, as having a significant impact on lands owned by a diverse mix of governments and agencies, including federal and state agencies, and tribal and local governments.

In 2009, the WGA and the U.S. Department of Energy published the "*Western Renewable Energy Zones-Phase I Report*" that identified potential areas for "large scale development" of renewable energy with low environmental impacts.[37] The analysts eliminated areas where energy development was prohibited or constrained by geography or regulation, and they also focused on protecting wildlife and the habitats that support these species. The report developed "transmission strategies," so that high voltage transmission lines can transmit energy from the identified renewable energy zones to the urban and industrial centers of the west with minimal, or "easily mitigated" environmental impacts. The report also identified the regional renewable energy "potential" across the west.

The "Western Renewable Energy Zones Initiative" is organized into a number of working groups that have focused on: 1) identifying resource characteristics or criteria that would define different zones in the region; 2) categorizing the resource potential of the defined zones; and 3) developing a model that provides utilities, regulators and others with the ability to evaluate the generating costs, delivered cost and economic "attractiveness" of renewable energy priced from the different zones. These working groups were tasked to work with the WECC to study ways to move the renewable energy to high-use urban and industrial centers around the region with minimal impacts to wildlife, habitats, and other values.

The Phase I report included a "Hub Map" that identified potential renewable energy sources within the Western Interconnection region. (See Oregon Hub map notes below). The Map's notes provide information for each state or province and explain some of

[36] http://www.westgov.org/wga/publicat/wildlife08.pdf
[37] http://www.westgov.org/wga/publicat/WREZ09.pdf

the screening criteria and data layers used to create what the WREZ terms "hubs," or potential large-scale renewable energy locations.[38]

The WGA also developed a transmission-modeling tool that facilitates identifying renewable resource portfolios and the transmission capacity required to deliver renewable energy from various defined zones around the Western Interconnection region. The modeling tool is in an Excel spreadsheet format and is available to download at

http://www.westgov.org/index.php?option=com_content&view=article&catid=102%3Ainitiatives&id=220%3Awrez-transmission-model-page&Itemid=81.

In addition, the WGA had the WWHC developed "wildlife sensitivity maps" that established criteria for categorizing the sensitivity of wildlife data and a final report that summarizes the data collection and mapping process. (See below for Oregon's wildlife map).

In 2009 the **Western Electrical Coordinating Council**—one of eight regional bodies designated nationally to help improve the nation's bulk power system (and a member of the North American Electric Reliability Corporation)--received $14.5 million in funding from *The America Recovery and Reinvestment Act* (ARRA) to obtain assistance from the federal Department of Energy for developing "interconnection-based transmission plans."

WECC is conducting interconnection-wide electric transmission planning studies in the Western Interconnection with these funds.[39] The funding will be used to "expand existing regional transmission planning activities and broaden stakeholder involvement in planning processes." In addition, WECC has formed the *Transmission Expansion Planning Policy Committee* (TEPPC) to assess and help plan for expansion of the West-wide commercial transmission system. TEPPC will also help coordinate and provide information to other subregional planning efforts.

---

[38] "**Oregon:** Hubs reflect the high-quality renewable energy resources identified after screening for environmental and wildlife concerns, including big-game and non-game migratory corridors; habitat for rare plants and animals; Greater sage-grouse habitat; and Conservation Opportunity Areas (COAs) identified in the Oregon Conservation Strategy. Within each of the hubs, there remains some overlap with sensitive wildlife areas, although areas risking the greatest impacts have been avoided. COAs can be useful to guide project siting and offer opportunity to direct mitigation efforts."

[39] http://www.wecc.biz/Planning/TransmissionExpansion/Pages/default.aspx

The Northwest Power and Conservation Council has published a series of five-year plans that provide "…a strategy to meet future demand for electricity in a manner that assures an adequate, economic, affordable, and reliable power supply…."[40] The Council's sixth five-year plan (the latest) includes a chapter on transmission issues, with an overview of the regional efforts to increase transmission capacity and efficiency in the region, an explanation of how electricity is monitored and managed in the Pacific Northwest region of the Western grid, and a discussion of the challenges associated with the increasing need for additional transmission facilities that energy suppliers and utilities are currently facing.

The Council's sixth plan also notes that approximately 85% of the region's load growth can be met through improving energy efficiency over the next 20 years. In addition, the plan includes a set of recommendations on the region's future energy use and needs, which Oregon has already endorsed. Below are the Council's five recommendations:

1) Develop cost-effective energy efficiency aggressively — at least 1,200 average megawatts by 2015, and equal or slightly higher amounts every five years through 2030.
2) Develop cost-effective renewable energy as required by state laws, particularly wind power, accounting for its variable output.
3) Improve power-system operating procedures to integrate wind power and improve the efficiency and flexibility of the power system.
4) Build new natural gas-fired power plants to meet local needs for on-demand energy and back-up power, and reduce reliance on existing coal-fired plants to help meet the power system's share of carbon-reduction goals and policies.
5) Investigate new technologies such as the "smart-grid," new energy-efficiency and renewable energy sources, advanced nuclear power, and carbon sequestration.

The Northern Tier Transmission Group is working on transmission capacity and use issues. The NTTG is composed of transmission providers and customers in the region that, "… are actively involved in the sale and purchase of transmission capacity of the power grid that delivers electricity to customers in the Northwest and Mountain States. Transmission owners serving this territory work in conjunction with state governments, customers, and other stakeholders to improve the operations of and chart the future for the grid that links all of these service territories."[41]

---

[40] http://www.nwcouncil.org/energy/powerplan/6/default.htm
[41] http://nttg.biz/site/index.php?option=com_frontpage&Itemid=1

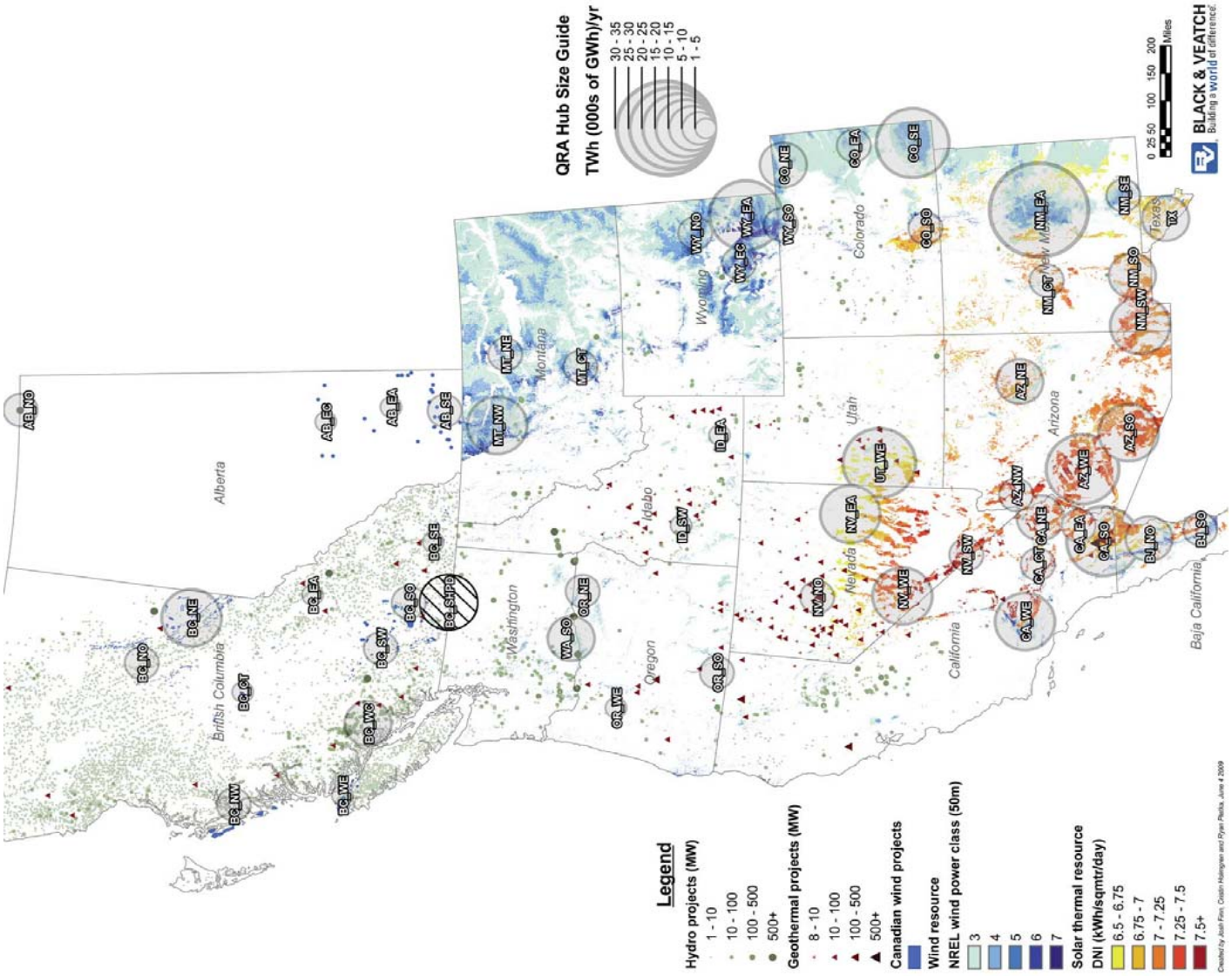
Additionally, **ColumbiaGrid**, formed in 2006 as a non-profit organization composed of regional (BPA), county and city energy suppliers, was created to improve "the operational efficiency, reliability, and planned expansion of the Pacific Northwest transmission grid.[42]" ColumbiaGrid publishes a biennial transmission plan and transmission system assessment, as well as reports of regional interest regarding developments in transmission facilities and siting. One such report, for example, is the "*WECC Regional Planning Project Review Report: I-5 Corridor Reinforcement Project*," that looks at a proposed BPA transmission project in the I-5 corridor and how it conforms to regional planning guidelines.[43]

The Bonneville Power Administration owns and operates 15,000 circuit miles of high voltage transmission in the Pacific Northwest and regularly conducts studies related to meeting growing regional energy demand, including demand specific to Oregon. As operator of the largest transmission balancing authority in the region, BPA also is working to integrate more than 3,000 MW of wind generation interconnected to its system. The agency is currently constructing the 79-mile, 500-kilovolt McNary-John Day line, which will carry wind and other generation from Eastern Oregon and Washington to high use areas along the Interstate 5 corridor. This is the first significant 500-kilovolt line built in the Pacific Northwest in several decades, which is a testament to how electricity demand is currently increasing.

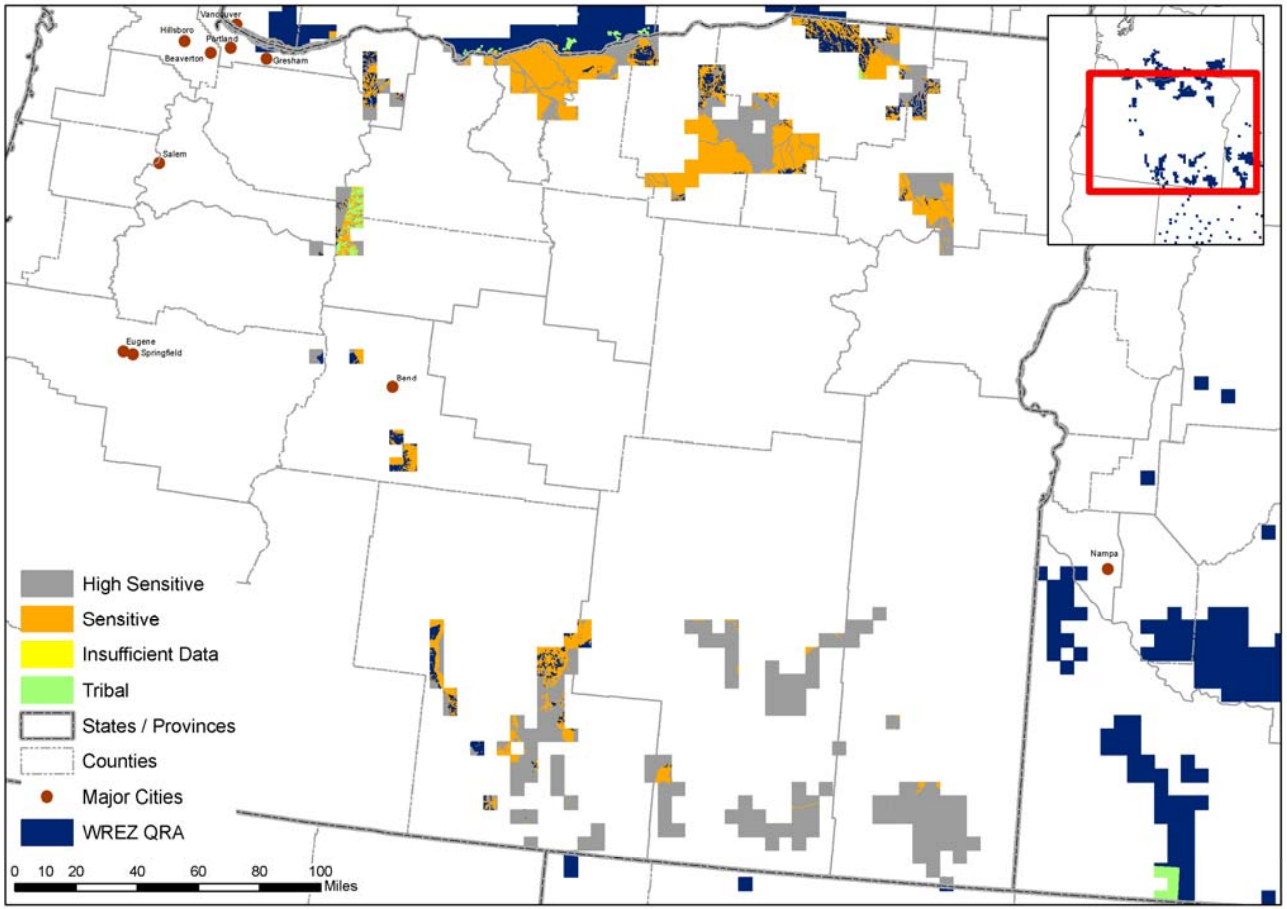
BPA has three other 500-kilovolt lines under consideration, one that would connect a substation near Castle Rock, Washington to a substation in Troutdale, Oregon; another connecting a substation near The Dalles, Oregon with a substation north of Goldendale, Washington; and a third that would connect a substation in Garfield County, Washington to another in Walla Walla County, Washington.

Each of these projects would help maintain reliability and expand the capacity of BPA's transmission system to serve loads in Oregon. As a Federal agency, BPA goes through an extensive environmental review process and related public engagement process for its projects. However, it still is facing challenges in siting new lines, in part because it has been so long since new lines have been built in the region, particularly through urban and scenic areas.

[42] http://www.columbiagrid.org/default.cfm
[43] www.columbiagrid.org/download.cfm?DVI


QRA Hub Size Guide
TWh (000s of GWh)/yr
30 - 35
25 - 30
20 - 25
15 - 20
10 - 15
5 - 10
1 - 5
Legend
Hydro projects (MW)
1 - 10
10 - 100
100 - 500
500+
Geothermal projects (MW)
8 - 10
10 - 100
100 - 500
500+
Canadian wind projects
Wind resource
NREL wind power class (50m)
3
4
5
6
7
Solar thermal resource
DNI (kWh/sqmtr/day)
6.5 - 6.75
6.75 - 7
7 - 7.25
7.25 - 7.5
7.5+
0 25 50 100 150 200
Miles
BLACK & VEATCH
Building a world of difference.
Alberta
British Columbia
Washington
Oregon
Idaho
Montana
Wyoming
Utah
Nevada
Colorado
Arizona
California
Baja California
Texas
New Mexico

OREGON - Wildlife Areas



WGA WREZ Project - April 2009

EXECUTIVE ORDER 08 – 26

OREGON ENERGY PLANNING COUNCIL

Our decisions in the next decade will determine Oregon's energy future. Whether it is demand from our growing economy or growing population, Oregon's energy needs are expected to increase. Oregon has charted a course to meet future demand with renewable energy, aggressive conservation strategies and increased efficiency. It will take time, however, to implement Oregon's green, more efficient energy plan and invest in the energy infrastructure needed to incorporate renewable energy into the grid.

On August 27, 2008, I hosted a Summit on Oregon's Energy Future. At the Summit, energy suppliers, public officials, scientists, labor and business representatives, students and environmentalists gathered to begin a discourse about creating Oregon's energy future. The Summit identified Oregon's need for a formal, comprehensive planning process to move the state toward clean, renewable energy, while also addressing the immediate issues of price stability and supply certainty for Oregon families and businesses.

Energy supply and demand are dynamic and thus, the State's energy planning requires ongoing analysis, flexibility and adaptability. Even in these tough economic times, the need to address Oregon's energy future in a comprehensive way remains an essential goal. The future well-being and prosperity of Oregon's families and businesses depend on it. This Executive Order establishes the Oregon Energy Planning Council to provide proactive analysis, advice and assistance on energy planning.

NOW THEREFORE, IT IS HEREBY DIRECTED AND ORDERED:

1. The Oregon Energy Planning Council ("Council") is hereby established.

2. The Council shall consist of eleven members appointed by the Governor for terms of three years each. Members shall represent the best interests of Oregon as a whole. The Council shall include:

   a. A representative from the Oregon University System;
   b. A representative who is knowledgeable about energy transmission;
   c. A representative who is an energy economist;
   d. Two representatives of ratepayers;

e. A representative of renewable energy providers;
f. A representative of the Bonneville Power Administration;
g. A representative of natural gas providers;
h. Two representatives of electricity providers; and
i. A representative who is knowledgeable about energy efficiency and conservation.

3. All members serve at the pleasure of the Governor. The terms of each appointment shall be three years. Initial terms shall be proportionately staggered to periods of one, two and three years. Members may be reappointed. The Governor shall designate a Chair, who will serve at the pleasure of the Governor.

4. The following Oregon officials or their designees shall serve as *ex officio* members of the Council:

a. Chair of the Board of Agriculture;
b. Chair of the Board of Forestry;
c. Chair of the Economic and Community Development Commission;
d. Chair of the Energy Facility Siting Council;
e. Chair of the Environmental Quality Commission;
f. Chair of the Fish and Wildlife Commission;
g. Chair of the Land, Conservation and Development Commission;
h. Chair of the Oregon Global Warming Commission;
i. Chair of the Oregon Investment Council;
j. Chair of the Public Utilities Commission; and
k. The State Economist.

5. The Council shall meet at least quarterly and at the call of the Chair or the Governor. The Council's deliberations shall be public, and the Council shall hold meetings at different locations throughout the state, at the direction of the Chair.

6. On or before December 31, 2010, and continuing thereafter on a biennial basis, or at the request of the Governor, the Council shall issue an Oregon energy planning report to the Governor and the Legislative Assembly, which may outline:

a. Oregon's current energy use and energy supply and its future energy needs;
b. Challenges to addressing the immediate issues of price stability and energy supply certainty for Oregon families and businesses;
c. Recommendations for bridging any potential gaps in Oregon's energy supply;
d. Recommendations for short, middle and long-range strategies for meeting Oregon's future energy needs, including the costs of any required infrastructure improvements and the expected environmental and economic impact of each energy strategy;
e. At least two alternative strategies for meeting Oregon's energy needs; and
f. Any recommended statutory changes for legislative consideration and recommended budget items to be included in the Governor's budget.

7. On an ongoing basis, at the request of the Governor, the Council shall provide analysis and counsel on energy forecasting, energy transmission, energy price stability, renewable energy, alternative energy sources and energy efficiency.

8. The Oregon Department of Energy shall provide staff support to the Council. Other state agencies shall assist the Council upon request. The Council shall consult with national energy experts as appropriate.

9. The members of the Council shall not receive compensation for their activities as members of the Council, but may be reimbursed for travel expenses incurred in attending Council business pursuant to ORS 292.495(2) and subject to availability of funds.

Broad Impacts of Energy Supply and Use on Communities, the Environment and the Economy

Oregon's business and residential communities depend on reasonably priced and reliable energy supplies. While the Pacific Northwest has benefited from its abundant hydropower, this source alone does not, and will not, meet the region's growing demand for energy. As the State's population grows over the next 25 years, new, reliable and affordable energy sources will be needed.

Oregon's population grew by 20% between 1990 and 2000 (the last year for which U.S. Census data is available), from 2.84 million residents to 3.42 million residents.[44] During approximately the same time, from 1993 to 2003, total non-farm jobs grew in Oregon 19%, from 1.31 million jobs to 1.56 million jobs.[45] However, since 2008, at the beginning of the economic downturn, Oregon lost jobs for two straight years, until the first quarter of 2010. Furthermore, Oregon's unemployment rate during the current recession has stayed above 10% through the second quarter of 2010. Oregon was ranked 47th nationally in job growth in 2009, underscoring the plight of the State's economy over the past two years.

Consequently, creating new, renewable energy sources can be a boon to help Oregon move out of its recessionary slump. Policies that promote affordable priced energy supplies can help attract and expand business opportunities in Oregon and help to create jobs. Such policies may also help reduce energy costs to consumers, improve the reliability of Oregon's energy supply, and help develop energy-related businesses.

Today, many businesses have discretion in where they locate new plants, or where they plan to expand existing businesses. Energy cost is one of the variables that can influence location and expansion decisions. In one recent national survey of primarily manufacturing businesses, the top criteria for selecting new sites for businesses included labor, taxes and energy costs.[46]

As noted in this report, Oregon has been a leader in creating tax incentives for attracting renewable energy businesses to the state. Promoting local and renewable energy businesses and manufacturing can help stimulate jobs within the State.

Rural communities have been more impacted by the current economic recession than urban areas, and as natural resource-based jobs such as timber products have declined, newer, and more environmentally sustainable, economic opportunities are needed. Data were not available at the time of this writing for the amount of potential economic benefit that local

---

[44] http://www.census.gov/prod/2001pubs/c2kbr01-2.pdf
[45] http://www.oregon.gov/DAS/BAM/docs/Publications/GRB0507/A4-EconRevEnviron.pdf?ga=t
[46] http://www.areadevelopment-digital.com/CorporateConsultsSurvey/24thAnnualCorporateSurvey?pg=46#pg4

communities may derive from developing new, renewable energy sources in Oregon. However, having much of Oregon's solar, wind, geothermal, wave and biomass energy generation capacity located in outlying areas may provide added benefits to the economic vitality of local communities in the form of facility construction projects, manufacturing plants, maintenance, and other jobs. In addition, increasing Oregon's reliance on renewable energy resources, as the State moves more aggressively toward its Renewable Portfolio Standard goals, will have environmental as well as public health benefits for Oregon residents.