

BRIGHT FUTURE



How to keep the Northwest's lights on, jobs growing, goods moving and salmon swimming in the era of climate change

The Northwest is justly proud of its clean-energy tradition and innovation. But we can do better, and the accelerating climate crisis tells us we must. We can power our region without burning coal, we can save endangered salmon and we can reinvigorate our economy by building a true clean-energy future.

A new report from the NW Energy Coalition, *Bright Future*, shows it can be done. The paper explains how, with federal and regional leadership, the Northwest electric power system can:

- Meet future energy demands
- Restore wild salmon to our rivers and ocean
- Help the transportation sector slash its global-warming emissions
- Reduce its own carbon emissions at least 15% by 2020 and 80% or more by 2050
- Create thousands of family-wage, clean-energy jobs and build vibrant local and regional economies

Bright Future finds that this challenge really is an opportunity to produce new, sustainable jobs, decrease pollution, boost local economies and protect Columbia and Snake river salmon. And it finds virtually no difference — about two-thirds of a cent per kilowatt-hour — in the cost of energy to consumers of taking the clean-energy path, a tiny price to pay for enormous economic and natural-world benefits.



The challenge

The Northwest electric power system must do its part in meeting the greenhouse gas-reduction goals set by the International Panel on Climate Change, by three Northwest states and by many other states and Canadian provinces: a 15% reduction from 1990 levels by 2020, and an 80% or larger reduction by 2050. While doing so, the system must also satisfy future power demands as the Northwest's population and economy grow, work to restore endangered Columbia and Snake river wild salmon, and provide electricity to cars, trucks and trains to reduce carbon emissions from transportation.

[chart I]

How Much New Energy Will We Need? The region's need by 2020 and 2050

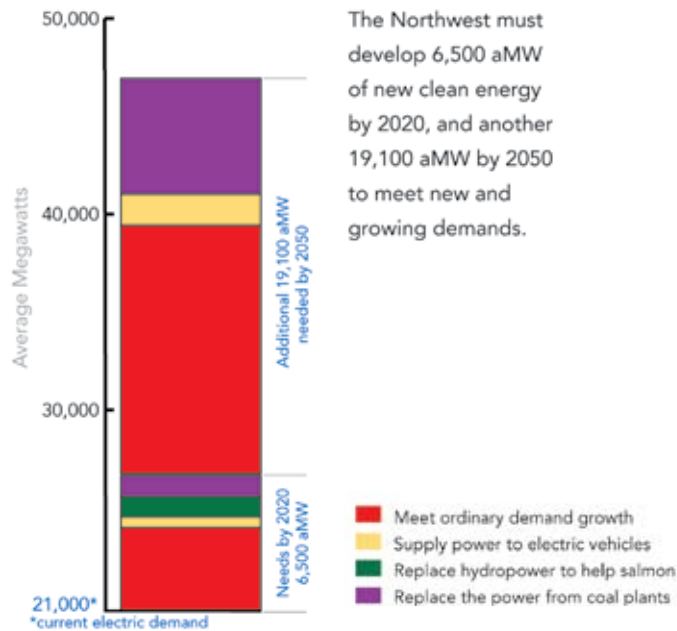


Chart I lays out the resource challenge, measured in average megawatts (aMW), to meet the climate goals for 2020 and 2050, respectively. To reduce carbon-dioxide emissions by 15% while serving growing loads and preventing salmon extinction, the Northwest must accomplish the following by 2020:

- Produce or save 4,000 aMW to meet new electricity demand (red)
- Supply 500 aMW of electricity to cars and trucks (yellow)
- Replace 1,000 aMW of power from the lower Snake River dams (green)
- Retire and replace 1,000 aMW of existing coal plants (purple)

To achieve the 80% reduction goal while fulfilling its other responsibilities, the electric power system must do the following by 2050:

- Produce or save another 12,000 aMW to meet new electric demand (red)
- Supply another 1,500 aMW of electricity to cars and trucks (yellow)
- Retire and replace another 5,600 aMW of existing coal plants (purple)

The electric power system has an opportunity to extend its own clean-energy leadership into the transportation sector, and get some very important benefits in return.

In sum, the Northwest power system must develop 25,600 aMW of energy efficiency and new carbon-free renewables by 2050.

Actually, as the chart on page 4 demonstrates, we have ample resources to do much better. The accelerating climate crisis and economic recession tell us we must take the clean-energy, pro-jobs path.

The analyses and recommendations in this report are conservative and very achievable. Accelerating the closure of dirty coal plants is certainly possible and achievable. Chart III (on page 4) shows that we have plenty of clean, affordable resources to replace them. As part of its national **Move Beyond Coal** campaign, the Sierra Club, a prime sponsor of the *Bright Future* report, has embarked on a campaign to make the Pacific Northwest free of coal power by the earliest possible date. Visit www.sierraclub.org/coal for more information.

The opportunity

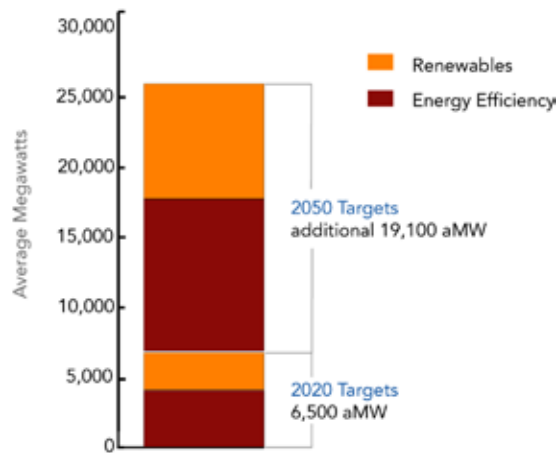
Bright Future illustrates that the actions needed to combat climate change will create a healthier and more prosperous Northwest. Viewed as a whole, our energy, transportation, salmon and economic challenges comprise a common opportunity to improve our lives and those of our children, today and tomorrow. We can seize this opportunity by saving energy, by developing new renewable power and by modernizing our electricity system.

Chart II shows how those clean megawatts can be produced, by 2020 and 2050.

[chart II]

Meeting Future Needs with Clean Energy

To combat global warming and meet growing needs, the Northwest can develop 25,600 aMW of clean energy – 14,280 aMW of energy efficiency and 11,320 aMW of new renewable energy – by 2050.



Energy efficiency is the powerhouse. We can save enough energy to meet 60% of our new power needs — including power needed to replace coal plants and help salmon. We can set and enforce a regional savings target of 340 aMW per year through 2050. This goal is reasonable given how much the Northwest has already saved (3,700 megawatts since 1978), the solid energy-saving programs we now have to build on, and the fact that energy efficiency is cheaper and creates more jobs than any other option.

Combined heat and power (CHP) – recycling waste heat produced at an industrial site or commercial building from on-site electricity generation – already produces 2,500 aMW in the Northwest while reducing natural gas use and its associated emissions and saving businesses money. With tax incentives to cover 15% of initial capital costs and an improved electricity grid, CHP could produce an additional 5,100 aMW of electricity by 2050.

New clean renewable resources – wind, solar, geothermal, biomass and others – could meet all of our new power needs by themselves. By 2050 we'll need 7-10,000 aMW of new renewables – just a fraction of the more than 60,000 aMW of cost-competitive potential. In the near-term, wind will continue to produce most of the new renewable energy.

In fact, *Bright Future* shows the region has far more clean-energy potential — at competitive costs — than needed to meet the stated goals.

Jobs, incomes and prosperity

This energy strategy **creates more jobs and prosperity** than any other plan. Wind facilities, for example, produce 27% more jobs per kilowatt-hour than coal plants, and 66% more jobs than natural-gas plants.¹ Carbon-free alternatives create up to four times as many jobs as fossil fuel options, generate those jobs in local areas, employ local workers and keep millions of dollars circulating in the local community. And each step away from coal and oil keeps more dollars at home, increasing jobs and income multiplier benefits and improving our national security.

Salmon jobs fit this same pattern – they are labor-intensive, tap local skills and keep more money at home. A low-carbon economy builds jobs now and in the future, and makes our communities more vital and resilient.

The salmon connection

Restoring salmon is vital to Northwest people and communities and must be part of the clean-energy solution. *Bright Future* projects that following the science and removing the four lower Snake River dams will require development of an additional 1,000 aMW of new clean energy. This analysis shows that 1,000 aMW represents a small fraction of the Northwest's clean-energy needs and potential. We can affordably replace this amount of power. Restoring salmon also fits perfectly into our economic strategy. It will protect and restore fishing and river-based jobs in communities throughout the Northwest.

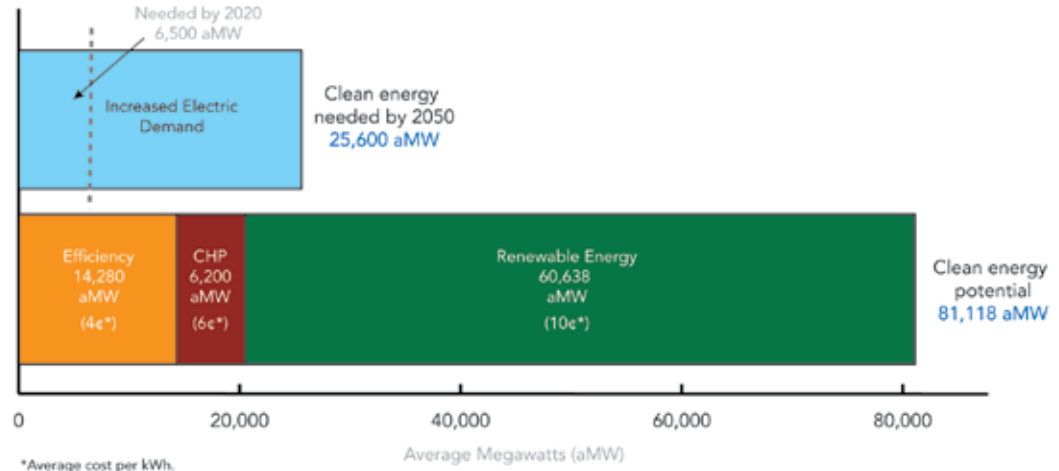
FOOTNOTES

¹Job figures from "Wind Energy for Rural Economic Development", US Department of Energy, EERE (2003).

[chart III]

Affordable Clean Energy Potential Dwarfs Need

The Northwest has more than three times the potential energy efficiency, combined heat and power (CHP) and new renewable energy needed to meet new electric demand between now and 2050 – all costing no more than natural gas-generated power (10 cents per kilowatt-hour in today's dollars).



Lighting the way

Some changes in the near-term are needed to achieve this brighter future:

Cap global-warming emissions. President Obama and the U.S. Congress should quickly set carbon emission limits consistent with scientists' recommendations and establish mechanisms to meet them, along with incentives and penalties. But the Northwest must not wait for national action. The region can adopt *Bright Future's* carbon-reduction and clean-energy targets and start working toward them, right now.

Regional leadership from BPA. The Obama administration should direct BPA to set a regional annual floor of 340 aMW of new energy efficiency and 270 aMW of new renewable energy, then use its considerable influence to lead consumers, utilities and governments in a regionwide clean-energy campaign.

A strong regional plan. The Northwest's official power planning agency, the Northwest Power and Conservation Council, is developing its 6th Northwest Power and Conservation Plan, forecasting power needs for the next 20 years and prescribing the resources used to meet them. The Council plan should call for enough energy efficiency and renewable energy to meet all demand growth and wean the region from coal power.

Extension of state renewable energy standards. The renewable portfolio standards now in place in three Northwest states expire by 2025 or earlier. The federal government or the states (including Idaho) must extend an ambitious standard beyond 2025. The pace of renewables development must continue so we can close the door on coal power.

Prohibit new coal plant construction and the extension of the lives of existing ones. Only by rejecting coal-fueled power can we reach our greenhouse-gas reduction goals. This can be accomplished through federal action or strong emissions performance standards adopted by individual states.

Working together, we can create this *Bright Future* for ourselves and our children. We can keep the lights on, the goods moving, the good jobs growing, the rivers running and salmon swimming in the Pacific Northwest.

The complete *Bright Future* report can found at www.lightintheriver.org/brightfuture



www.LightInTheRiver.org