



this issue

Weatherization & News P.1

Energy Price Overview P.2

Energy Price Charts P.3

Energy Price Summary P.4

Videos & Fuel Mix P.5

1063 Block Replacement P.6

News Links & Articles P.7-8

Weatherization Works!

What a new report on climate science portends for the West

The West is getting warmer and experiencing more wildfires. What can we do about it? Click [here](#) for story.

Portland General Electric eyes spending up to \$100M on energy storage

PGE is investing in 39 megawatts of storage, more storage than they need to legally. Click [here](#) for story.

Negotiations expected to resume on Columbia River Treaty

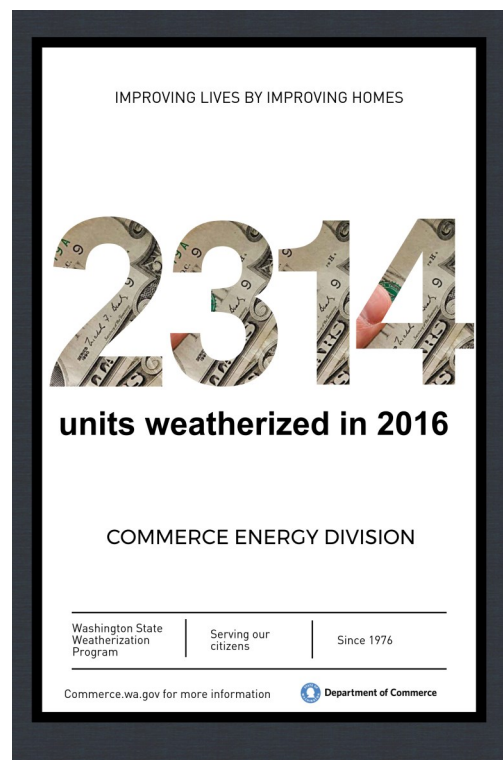
The Trump administration wants to renegotiate a flood-control treaty that is set to expire in 2024. [Full article](#)

Commerce's HIP unit has been providing low-income households around the state with weatherization services that reduce home energy cost and usage for the last 38 years. The world, and our program, have evolved in many ways, but we are still making a big difference in the lives of thousands of struggling households each year (2,238 homes in 2016-2017).

Every county in the state participates in the Weatherization Assistance Program. It works locally through non-profit Community Action Programs, Housing Authorities and city and county offices.

The numbers tell part of the story. Our average household saves an estimated 20% on their energy bill, or \$270/year. The rest of the story is the difference we make in the health and welfare of our clients.

You can read some of these success stories on the Commerce website at <http://www.commerce.wa.gov/growing-the-economy/energy/weatherization-and-energy-efficiency>.



Energy Price Overview



River & Snow Pack Info

Observed October stream flow at The Dalles: 102% of average.

Observed October precipitation above The Dalles: 131% of average.

Est. 2017 Final runoff at The Dalles (Jan.—August): 137.9 million acre-feet, 136% of normal

Estimated regional snowpack: N/A

Federal hydropower generation in Sept. 6,226 aMW, 2012-2016 average: 5,637 aMW.

Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak): Sept. 83%, 5-year average: 82.7%.

Petroleum: Crude oil prices continued to rise during October as global and U.S. inventories tightened and demand, on a yearly basis, edged up. U.S. exports of crude oil and finished petroleum products have risen during 2017 and are a likely factor in reducing inventory levels. The average West Texas Intermediate price for October was about \$52 per barrel, while international Brent fetched approximately \$57 per barrel.

Transportation Fuels: Despite slightly higher crude oil prices, transportation fuel prices at the national level, decreased during October, in part because refineries closed in Texas due to flooding from hurricane Harvey have largely come back online. The national average gasoline price was 8 cents per gallon lower relative to the last week of September. Diesel was slightly higher, possibly the result of high diesel exports. National gas and diesel were \$2.49 and \$2.82 per gallon respectively. Washington state average gasoline price for the same period decreased by 13 cents, relative to the last week of September, to \$2.91 per gallon, while diesel was unchanged at \$3.11 per gallon.

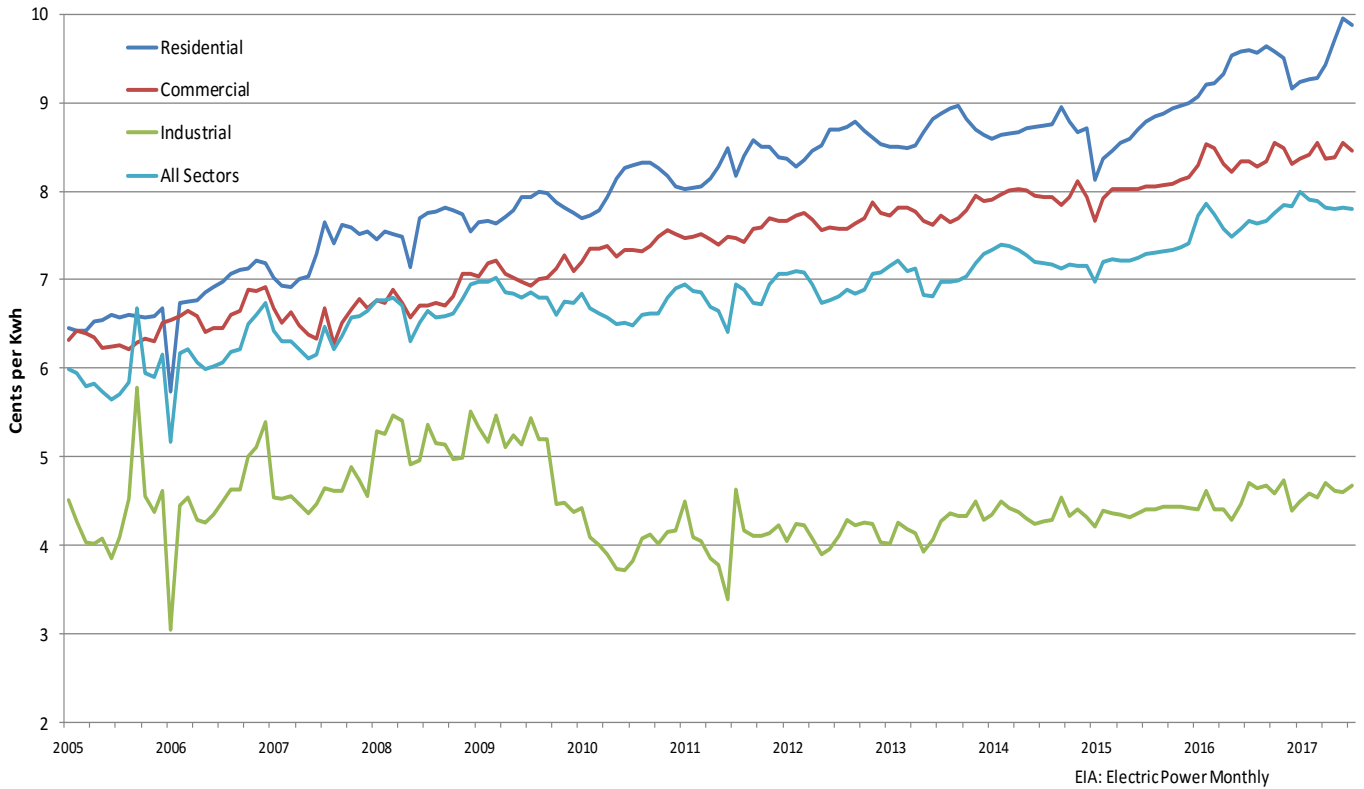
Natural Gas: The average Henry Hub natural gas price was slightly lower in October as US inventories edged up and demand remained modest. During October, the price for month-a-head (Nov.) NYMEX natural gas was down 11 cents at \$2.88 per MMBtu. Locally, the average October natural gas spot price at the Kingsgate hub decreased sharply to \$1.97 per MMBtu. National gas storage levels increased 65 Bcf last week and are at 3,775 Bcf, about 1.1% below the 5-year natural gas storage average for this time of the year, but 4.6%

below the storage levels at this time in 2016. The Pacific region, which experienced a colder than average winter, a warmer than average summer, as well as storage problems in CA, has seen higher demand during late 2017. As a consequence the Pacific natural gas inventory is running 11.9% below the 5-year average.

Electricity: Moderate temperatures along the west coast kept spot market electricity prices stable during October. Heavy rains during mid-October contributed to increased river flow and hydro generation on the Columbia and Snake River systems (see River Data and Power Flow tables). The Mid-Columbia spot market price averaged \$25.4 per MWh in October, up \$0.5 per MWh from September's average, and \$2.2 per MWh lower than the average for September 2016. Federal hydropower generation was 6,226 aMW in September, rebounding a bit from the low output of August.



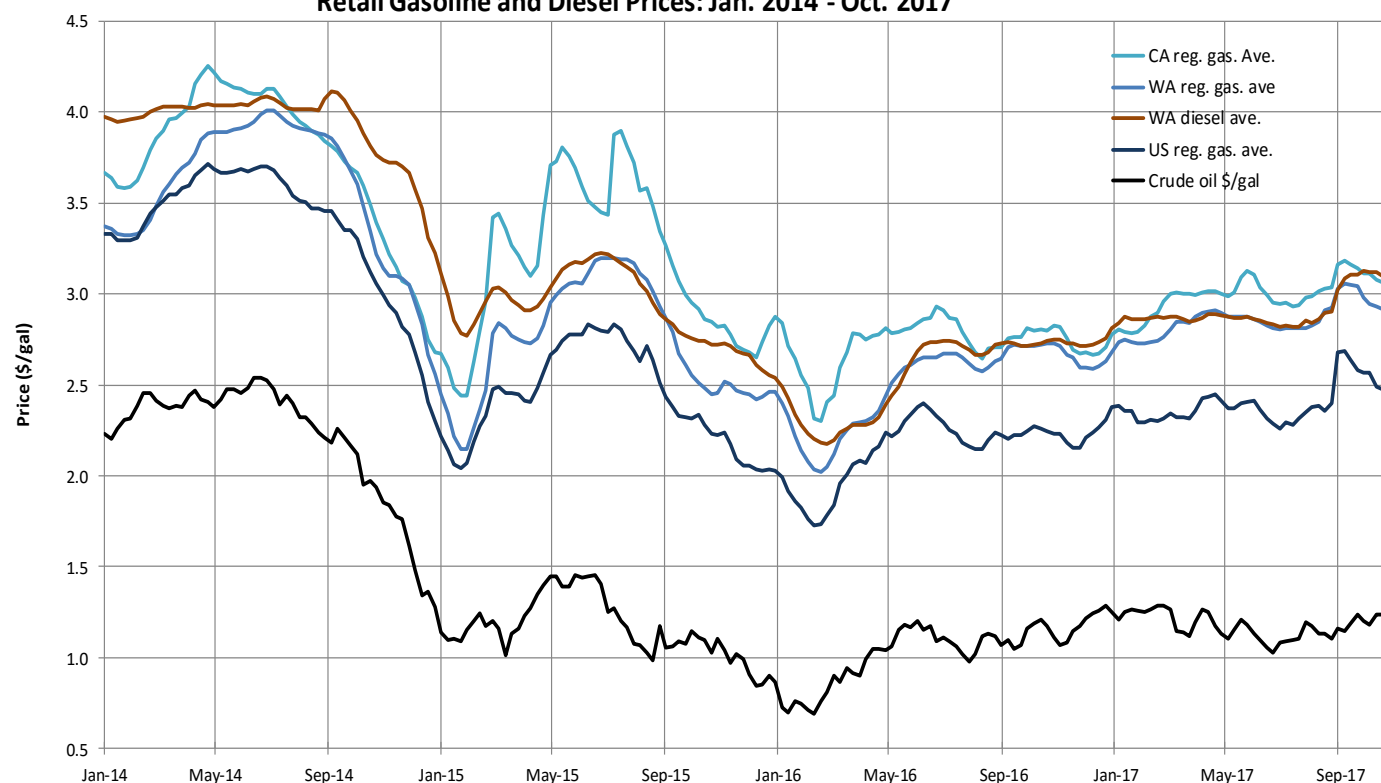
Washington State Electricity Rates by Sector: Jan. 2005 - August 2017



West Texas Intermediate Oil and Kingsgate Natural Gas: Jan. 2014 - Oct. 2017



Retail Gasoline and Diesel Prices: Jan. 2014 - Oct. 2017



Energy Price Summary, October 2017	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: \$ per MWh)	19.6-35	19-42	12-27.3
Average Mid C price (Peak hours \$ MWh, current month)	25.4	24.9	22.6
Electricity WA Ave. Retail: August (cents/kWh)	7.90	7.80	7.64
Natural gas Kingsgate spot price (next day: \$ per million BTU)	2.46	2.25	2.41
Natural gas Sumas futures price (next month \$ per million BTU)	2.96	2.50	2.60
Natural gas Sumas monthly average: August (\$ per million BTU)	2.49	2.41	2.40
Natural gas H.H. futures (NYMEX next month: \$ per million BTU)	2.88	2.97	3.08
E85 (national average: \$ per gallon gasoline)	2.47	2.45	2.20
Ethanol (CBT next month contract: \$ per gallon)	1.45	1.43	1.53
Corn (CBT next month contract: \$ per bushel)	3.48	3.49	3.47
Petroleum, West Texas Intermediate futures (\$ per barrel)	51.0	49.6	49.7
Seattle gasoline price (\$ per gallon, last week of the month)	2.97	3.09	2.77
Gasoline futures (NYMEX next month: \$ per gallon)	1.64	1.70	1.49
State diesel price (\$ per gallon, last week of the month)	3.11	3.11	2.75
Heating oil futures (NYMEX next month: \$ per gallon)	1.79	1.77	1.57
U.S. residential propane price report (\$ per gallon)	1.73	NA	1.63
Clean Cities: Alternative Fuel Price Report, July 2017	Current qtr US avg	Current qtr west coast	Last qtr avg west coast
Biodiesel B20 (\$ per diesel gallon equiv.)	2.54	2.54	2.60
Biodiesel B99-100 (\$ per diesel gallon equiv.)	3.54	3.54	3.45
Compressed Natural Gas (\$ per gas gallon equiv.)	2.15	2.47	2.46
Propane (\$ per gas gallon equiv.)	3.89	4.14	4.14
Propane (\$ per gas gallon equiv.)	3.89	4.14	4.14

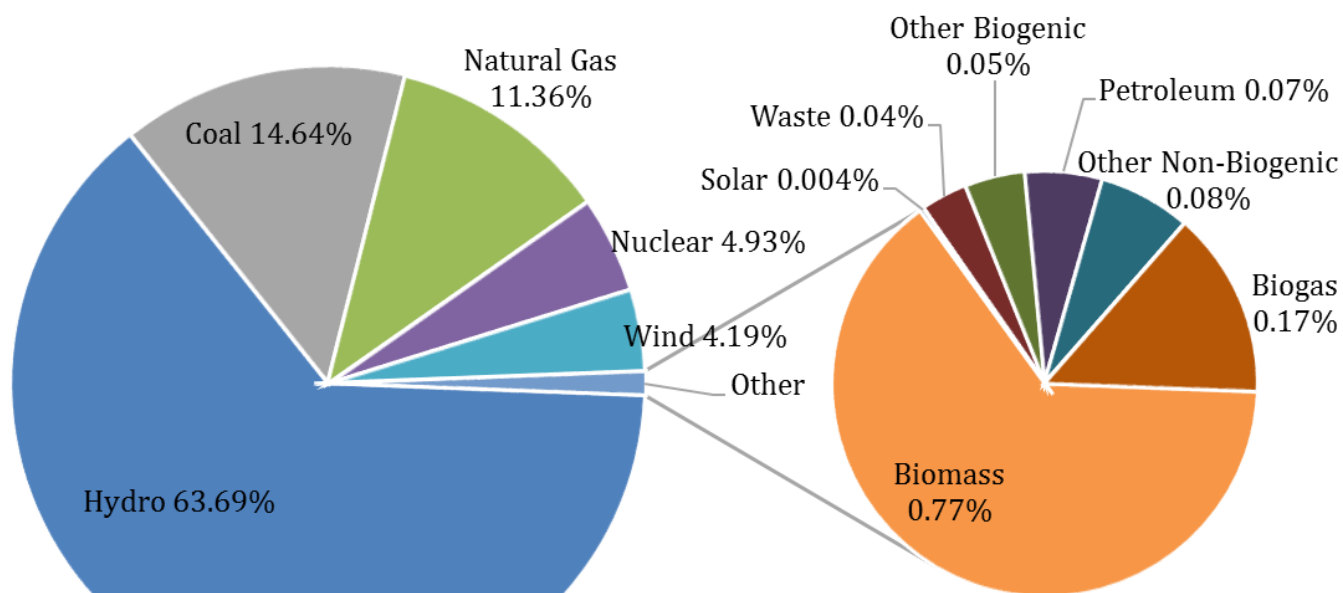
Videos



Fuel Mix Disclosure Reports for 2016

For the 2016 calendar year, the Department of Commerce used the new Fuel Mix Software system to process data submitted by utilities and from other sources. The Washington “fuel mix” is the state aggregate of fuel sources associated with the electricity delivered by all electric utilities to end users in the state of Washington, including Bonneville Power Administration’s direct electricity sales. It includes all electric power that is used to serve retail customers that is owned, purchased under contract, or purchased on the spot market. The complete report is on our website at <http://www.commerce.wa.gov/growing-the-economy/energy/fuel-mix-disclosure/>

Washington State Electric Utilities Aggregate 2016 Fuel Mix (Percent)



1063 Block Replacement

By Chuck Murray
State Energy Office

The Washington State Department of Enterprise Services opened the doors to the State Capitol's newest facility – the 1063 Block Replacement. The visitors enjoyed the views of the Olympic Mountains and the Capitol campus from the top floor conference rooms. The highlights are the energy efficiency, renewable energy and low carbon materials.

The five-story, 225,000-square-foot building incorporates many efficiency strategies that bring the energy use well below typical state office buildings. This includes an advanced heat recovery ventilation system, ground source heat pumps and LED lighting. In addition, a small green light in each space will encourage occupants to open the windows when the weather is right.

A photovoltaic system has been add-

ed to reduce off-site energy purchases by about 10%. The “made in Washington” system includes both roof mounted PV as well as PV integrated into the glass awnings. The design intent for the building targeted an energy utilization Index of 30.1 kBTU/SF/year. With the addition of the PV system, the estimated purchased energy use is expected to be 26.3 kBTU/SF/year.

The carbon reduction strategy extends beyond the energy features. A concrete mix with low embodied carbon was specified by the general contractor. By pushing for a low carbon concrete mix, the contractor upgraded the range of products offered by the Puget Sound concrete industry.

This project began with an innovative bidding process. As well as meeting all the occupancy and aesthetic criteria, low energy use was a

bidding criteria. Without being specific about energy outcomes, the fixed price bid process simply asked the participants to describe what they could deliver. The team of ZGF architects and Sellen construction created the winning proposal for this design-build project.

There is much more to learn about this LEED Platinum building. For complete details, visit the 1063 Block Replacement web site. <https://des.wa.gov/about/projects-initiatives/1063-block-replacement>



Energy News

National:

The U.S. Environmental Protection Agency announced it would begin the formal process of repealing the Obama era Clean Power Plan. The CPP was intended to reduce power sector emissions by 32 percent in 2030 relative to 2005. Closures and planned closures of coal-fired power plants over the last 6 or 7 years, primarily for economic reasons, will bring the nation most the way towards the 2030 goal. EPA has promised a replacement power plan, but the regulatory process has not been initiated. The EPA had also recently proposed a number of changes to the nation's biofuel programs, but after a massive backlash from corn-state lawmakers the proposed changes were dropped.

The Union of Concerned Scientists published a report that roughly one in four operating coal-fired power plants in the U.S. is likely to be closed or converted to natural gas. Low natural gas prices, falling renewable capital costs, and the advanced age of most coal plants are cited as the primary factors in the forecast shift away from coal as a power plant fuel.

U.S. trade officials are recommending measures to safeguard the struggling domestic solar panel manufactures against cheap imports from Asia. Solar panel installers have largely opposed retaliatory tariffs on imported solar panels.

According to a monitoring group, dozens of pages of resources, meant to help local governments deal with climate change, have been removed or revised from an EPA site.

Local and regional:

Puget Sound Energy wants the Trump administration to keep regulating greenhouse-gas emissions even after the repeal of the federal Clean Power Plan. But any new effort should be more narrowly focused and offer states more time to come into compliance, according [to a white paper](#) released by a coalition formed by PSE and a dozen other utilities. The six-page white paper released by the coalition calls for quick action to fashion a new rule, which the document says could help

utilities fend off citizen lawsuits and also provide a framework for making long-term investments.

Washington State must reconsider *Longview coal-terminal* lease. A judge says that *Washington State* improperly denied a sublease request, a ruling that now gives the proposed *Longview coal-export terminal* a boost.

Portland General Electric is preparing to make a large investment in energy storage. The utility told analysts it will soon propose spending between \$50 million and \$100 million on 39 megawatts of energy storage. Oregon legislation passed in 2015 requires PGE and Pacific Power, the state's big investor-owned utilities, to acquire at least 5 megawatt-hours each of energy storage, with a limit of one percent of their 2014 peak loads.

Microsoft Advanced Energy Lab

The Washington State Department of Commerce Clean Energy Fund was a funding partner for a technology package focused on monitoring and analyzing fuel cells in a data center environment.

The package was a key component of the Stark Twenty Rack Environment (TRE) fuel cell test lab, consisting construction of the testing infrastructure that supported multiple generations of fuel cell testing, over time.

Gas, electrical, and other critical performance data are being captured by various analyzing equipment, and that information is integrated into a common monitoring platform, and made available via a local viewing platform, with remote viewing capability.

The project was a collaborative effort among the following funding partners: Cummins, Commerce, McKinstry, Microsoft, and Siemens.

Regional Power Flow		
Intertie	Average power flow	Direction
California (AC+DC)	2,575 mw	Export to California
Canada (BC)	-573 mw	Import from Canada
Total	2,002 mw	export

River Data		
Data for Nov. 7	Outflow (kcfs)	Ave. outflow for last 10 years (kcfs)
(Snake) Lower Granite	16.5	19.9
(Columbia) The Dalles	122.6	111.6



Energy Headlines

Climate

[Puget Sound Energy, Industry Group Urge Modified Greenhouse-Gas Regulations](#)

Carbon

[EPA Announces Repeal of Major Obama-Era Carbon Emissions Rule](#)

[EPA Says It Will Write a New Carbon Rule – No One Can Say When](#)

Weatherization

[Full Committee Hearing to Examine Opportunities for Efficiency in Building Management and Control Systems](#)



Solar

[Passage of the Solar Jobs Bill: A Win for Washington](#)

[U-S Trade Panel Set to Recommend Solar Trade Tariffs](#)

[New Guide for Multifamily Solar Options](#)

Alternative Fuel and Electric Vehicles

[Governors of Seven Western States Sign Agreement for Electric Vehicle Corridor](#)

[Five Ways Utilities Can Gain From Building Electric Vehicle Charging Infrastructure](#)

[Analysis: Who's Winning the Electric Vehicle Race?](#)

[The Bottom Line On Electric Cars: They're Cheaper To Own](#)



Coal

[25% of Remaining U-S Coal Fleet Headed for Retirement or Conversion, New Report Says](#)

[Washington State Must Reconsider Longview Coal-Terminal Lease](#)

[A legal fight begins over proposed coal export in Longview](#)

Other

[Snohomish County PUD Launches Second Energy Storage System](#)

[A Move from Natural Gas to Electricity for Homes](#)

[Op/Ed: Energy Efficiency as a Resource: The Power of Getting More from Less](#)

[Avista should get smaller rate increase, staff..](#)

EIA Residential Energy Consumption

EIA just released additional benchmark estimates and analysis reports from the 2015 Residential Energy Consumption Survey (RECS). This includes 16 tables displaying total and average square footage for U.S. homes, tabulated by a variety of characteristics, as well as a data table on household energy insecurity. The tables can be found with other housing characteristics data from the 2015 RECS at: <https://www.eia.gov/consumption/residential/data/2015/>.

A comprehensive square footage methodology report, covering changes for the 2015 RECS, can be found at: <https://www.eia.gov/consumption/residential/reports/2015/squarefootage/>.

In addition to the new table on household energy insecurity, EIA has also published a short analysis piece on problems households face paying energy bills and keeping their homes comfortable. The report can be found at: <https://www.eia.gov/consumption/residential/reports/2015/energybills/>.

Along with the tables and documentation, an updated microdata file has been posted which includes the square footage and household energy insecurity variables.

Estimates of energy consumption and expenditures are currently in production, and are expected to be available in Spring 2018.

Funding Opportunity: Small Hydro Development Assistance

The Bonneville Environmental Foundation (BEF) is seeking your assistance in identifying partners who may be interested in developing community based small hydro-

power resources. If you know anyone who might be interested in the opportunity outlined below, please do put them in touch with us.

BEF works to break down the barriers to widespread renewable energy adoption. Our renewable energy work is focused in the Pacific Northwest states of Washington, Oregon, Idaho, and western Montana. As a part of this work, BEF seeks to support the development of small scale, low (or no) impact, hydropower resources that deliver energy to communities and stakeholders served by utilities that operate within the service area of the Bonneville Power Administration (BPA). Example projects include adding hydropower generation to existing or proposed in-conduit, gravity fed, piped, and/or pressurized water systems that serve municipal water agencies, communities, or irrigation districts.

Through December 2018, BEF will accept applications on a rolling basis to help identify and assess opportunities to add hydropower generation to existing or proposed water delivery systems. On a competitive basis, BEF will select projects and will award matching funds to support one or more of the following pre-construction development activities: project feasibility studies, project design work, project engineering, project interconnection studies, and/or studies related to project permitting.

Click for more: <http://www.b-e-f.org/wp-content/uploads/2017/09/REG-Hydro-Assistance-Onesheet-090617.pdf>

Upcoming Events

Clean Tech Alliance Breakfast

[Elliot Mainzer; Bonneville Power Authority](#)—January 10, 2018

Washington State Energy
Division
WA Dept. of Commerce
PO Box 42525
Olympia WA 98504-2525
Phone: 360-725-3112

To sign up for delivery of the
newsletter send an email to:
energy_policy@commerce.wa.gov

Disclaimer: We are not responsible for hyperlinks that do not work or are inactive. All links worked when posted. The appearance of articles, products, opinions, possible humor and links in this newsletter is not an endorsement by the Washington State Department of Commerce. The Department of Commerce, State Energy Office holds the copyright to ENERGYnews and the previous version, Energy Newsletter. Photos and other artwork in are included with express permission of the copyright holders of those works or the work is in the public domain. Further reproduction or distribution of copyrighted material is not authorized without permission of the original copyright holder.

