

Edaleen Dairy shows impressive results

In July 2017, with a 45% total project financial match from Commerce's Clean Energy RD&D program, Edaleen Dairy began operation of a fine solids separation system. Construction, installation and achievement of steady-state operation occurred over a 4-month period and utilized 3 FTE while operation used 0.25 FTE in personnel. Preliminary results show:

Production of nearly 6 wet tons of solids per cow per year at 75% moisture content

Partitioning of 90% and 35% of phosphorus and nitrogen into the separated solids

Solids are being exported for use by crop producers as organic soil amendment and fertilizer for fields in transition

An estimated 1,353 MMBTU per year in energy reductions used in manure management and an additional 182 MT CO₂eq reductions

Starting in 2012, Edaleen installed an anaerobic digester to treat the manure from its 1,800 cows as well as off-farm organics that are diverted away from landfills.

On average, the digester produces about 550 kWh of electricity to the grid, produces a near-pathogen free, treated wastewater, mitigates greater than 7,000 MT of CO₂eq per year, and produces 18,000 cubic yards per year of fibrous solids—more than half of which is used as animal bedding with the remaining solids available to be sold off-farm as a soil amendment ingredient to the retail market.



WA State climbs to #7 in State Energy Efficiency

Washington moved up one place in the 2017 State Energy Efficiency Scorecard, an annual ranking published by the American Council for an Energy-Efficient Economy (ACEEE). The state tied for No. 7 in 2017 after five consecutive years in the No. 8 spot. ACEEE published its first state scorecard in 2006, and Washington has never been outside the Top 10.

ACEEE uses a comprehensive scoring method that examines state legislative and regulatory policies as well as the level of conservation efforts by electric and natural gas utilities in each state. Utility programs, building codes, appliance standards, transportation policies, and state initiatives all count in the ranking. ACEEE looks both at end use efficiency and efficiency through combined heat and power.

While we celebrate another year in the top tier of states, the energy policy team at Commerce also thinks about what it would take for Washington to move up even further. Oregon, after all, is No. 5, moving up from No. 7 the prior year.

What would it take for Washington to move ahead of Oregon in 2018? Here are some options:

- Establish an energy efficiency standard for natural gas, comparable to the electric standard in the Energy Independence Act.
- Create a state or utility program to develop combined heat and power projects, with a state production goal.
- Adopt additional state appliance efficiency standards.
- Increase spending and energy savings in electric and natural gas efficiency programs.
- Enact legislation to strengthen low-income weatherization programs.

Meanwhile, other states are not standing still. Indeed, Washington's other neighbor, Idaho, was the most improved state in the 2017 scorecard.

The ACEEE scorecard is available here: <https://aceee.org/state-policy/scorecard>



Protesters blocked rail lines in Olympia

On November 17th, protesters of oil fracking built a camp on the rail lines leading to the Port of Olympia. Oddly, the port had no plans to ship fracking materials anywhere.

The rail line was unable to deliver to Mottman Industrial Park businesses, which could have resulted in layoffs due to delay in delivering products.

On November 29th, police blocked the streets as the railroad and other police were deployed to the scene. They were met by 20-30 masked protesters. Protesters were removed and, after bomb sniffing dogs toured the scene, the camp was dismantled. 15 tons of garbage was removed.



Comment Opportunity—Energy Independence Act Rules

The Washington Department of Commerce seeks input from stakeholders on potential alternatives to the load growth calculation method for the “no-growth” compliance alternative for the Energy Independence Act (EIA, also known as Initiative 937).

According to the EIA, a utility may use this compliance alternative only if “the utility’s weather-adjusted load for the previous three years on average did not increase over that time period.” Commerce adopted the current rule in 2008 because the statutory provision is ambiguous. The rule requirement is that the “weather-adjusted load for the most recent prior year is lower than the third year prior.”

More information about the rulemaking, including instructions on how to submit comments, is available on Commerce’s EIA rulemaking web page: <http://www.commerce.wa.gov/about-us/rulemaking/i-937-rulemaking/>

The deadline for comments is **Friday, Dec. 29, 2017.**

Questions? Contact Glenn Blackmon, 360-725-3115 glenn.blackmon@commerce.wa.gov

Greenhouse Gas Emission Performance Standard Rulemaking

Commerce has started rulemaking for greenhouse gas (GHG) emission performance standards and expects to complete the rulemaking process by end of 2018.

The law (RCW 80.80.050) requires the Energy Office to survey and determine the average emissions of GHGs for new, commercially available, and purchased natural gas-fired combined cycle combustion turbines (CCCT) on a five year cycle. Commerce is to adopt by rule this average GHG emission value, which then becomes the updated EPS for the state.

The rules apply to:

- all investor and consumer-owned utilities and independent power producers in Washington State.
- new baseload power plant construction and power plant sales.
- long-term contract baseload power serving Washington utilities that are located inside and outside of the state.

VIDEOS



Weatherization + Health

Elaine and Wiley Close enrolled in the Weatherization Plus Health program because Elaine was experiencing serious respiratory problems.

Thanks to the work done by the YNHA, Elaine went from sleeping most of the day and constantly needing her inhaler and asthma medications, to breathing well without medication.

Click [here](#) to find out how we were able to help them.



Take a tour inside one of Puget Sound Energy's Wild Horse Wind Turbines.

Click on the photo to view.

Energy Headlines

Climate

[America Crowns a New Pollution King](#)

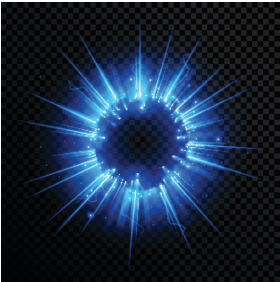
Carbon

[Surge of Carbon Pricing Proposals Coming in the New Year](#)

[Study Finds Carbon Emissions Increase When Land Is Converted Into Crops for Ethanol](#) (Spokesman Review)

[Wind & Solar Power Advance – Carbon Refuses to Retreat](#) (NY Times)

[Washington State Gets another Shot at the Nation's First Carbon Tax](#) (Grist Online)



Energy

[Solving the Pacific Northwest's Energy Storage Puzzle](#) (Northwest Public Radio)

[Why Is America Wasting So Much Energy?](#) (NY Times)

[Avista Agrees to Buy Power from Spokane's Trash Incinerator for Five More Years](#) (Spokesman Review)

Solar

[Solar powered smart windows break 11% efficiency – enough to generate more than 80% of US electricity](#)

[PUD 3 opens up solar incentive program](#)

Alternative Fuel and Electric Vehicles

[Xcel EV charging pilot would eliminate need for 2nd meter](#)

[China Craves Electric Cars, While U.S. Flirts With Ending Tax Credit.](#) (New York Times)

[Global Electric Car Sales Jump 63 Percent.](#) (Bloomberg)

[Tesla unveils electric truck with 500-mile range — and teases a new sports car.](#) (Washington Post)



Coal

[Owners: Coal-Fired Montana Power Plant Losing Money, May Be Closed](#) (Associated Press)

[Reject oil-by-train terminal for Vancouver, Wash., state panel urges Gov. Inslee](#)
[FERC Exclusive: Chatterjee Details Interim Plan to Save Coal, Nuclear Plants](#) (Utility Dive)

Other

[Link between Growth in Economic Activity & Electricity Use Is Changing Around the World](#) (U-S Energy Information Administration)



Energy Price Overview

Petroleum: Crude oil prices rose sharply during November as global inventories tightened further and global demand increased. The average West Texas Intermediate price was about \$57 per barrel, while international Brent fetched approximately \$63 per barrel. OPEC agreed to keep its production caps in place through 2018.

Transportation Fuels: Transportation fuel prices at the national level increased slightly during November. Most of the increase was in early November, and prices declined during the last part of the month. The national average gasoline price was 4 cents per gallon higher relative to the last week of October. National gas and diesel were \$2.53 and \$2.93 per gallon respectively. Washington state average gasoline price for the same period increased by 8 cents, relative to the last week of October, to \$2.99 per gallon, while diesel increased 9 cents to \$3.20 per gallon.

Natural Gas: The average Henry Hub natural gas price increased slightly in November as US gas demand edged up. During November, the average price for month-a-head (Dec.) NYMEX natural gas was up 17 cents at \$3.05 per MMBtu. Locally, the average November natural gas spot price at the Kingsgate hub increased to \$2.57 per MMBtu.

National gas storage levels decreased 3 Bcf last week and are at 3,693 Bcf, about 2.8% below the 5-year natural gas storage average for this time of the year, but 7.7% below the storage levels at this time in 2016. Gas storage in the Pacific region, which experienced a colder than average winter, storage problems, and a warmer than average summer was 12.5% below the 5-year average.

Electricity: Moderate temperatures along the west coast kept spot market electricity prices largely unchanged during November. Our very wet November brought river flow and hydro generation on the Columbia and Snake River systems back to average levels (see River Data and Power Flow tables). The Mid-Columbia spot market price was largely unchanged and averaged \$25.3 per MWh in November. Federal hydropower generation was 5,151 aMW during October (latest report month).

River & Snow Pack Info

Observed November stream flow at The Dalles: 107% of average.

Observed November precipitation above The Dalles: 120% of average.

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

Estimated regional snow-pack: N/A

Federal hydropower generation in October 5,151 aMW, 2012-2016 average: 5,596 aMW.

Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak): October 83.2%, 5-year average: 84.5%.

Local and National Energy News

National:

The tax cut legislation last weekend contains several energy related provisions that would give a boost to oil and gas development and may weaken investment incentives for solar and wind production and end a big tax credit for electric vehicles. The legislation would open a portion of the Arctic National Wildlife Refuge to oil and gas exploration. Another provision would treat wind and solar investment tax credits as income and levy a tax on them. Finally, the \$7,500 electric vehicle tax credit would be eliminated in the Senate tax legislation.

The acting chairman of the Federal Energy Regulatory Commission is considering regulatory language that would direct regional grid operators to update their market tariffs to keep at-risk coal and nuclear generators online while FERC further considers a cost recovery proposal for baseload generation from the Department of Energy.

Electric vehicles sales surged to a record level in the third quarter, largely driven by strong demand in China. Sales of battery electric vehicles and plug-in hybrids exceeded 287,000 units in the three months ended in September, 63 percent higher than the same quarter a year ago and up 23 percent from the second quarter, according to a report released Tuesday by Bloomberg New Energy Finance. China accounted for more than half of global sales as its market for electric cars doubled amid government efforts to curb pollution.

Elon Musk unveiled the new Tesla Semi on Thursday night with a claimed range of 500 miles. The truck is scheduled for production in 2019, but like most Tesla products will likely be delayed. Other truck makers, from International to Volvo to Nikola to Mercedes-Benz, are also developing electric

trucks with self-driving capabilities. Tesla won't have the market to itself.

Local and regional:

A years-in-the-works plan by the Tesoro and Savage companies to build America's largest oil-by-rail terminal, on the Columbia River in Vancouver, Washington, was given a unanimous thumbs-down on Tuesday by the state's energy siting council. The final decision on the 360,000-barrel-per day oil train terminal falls to Gov. Jay Inslee and is expected soon.

Solar News Briefs are here!

The Washington State University Energy Program has launched a new solar news brief, providing useful information about the growth of the industry, technical innovation, and upcoming conferences in Washington and Oregon.

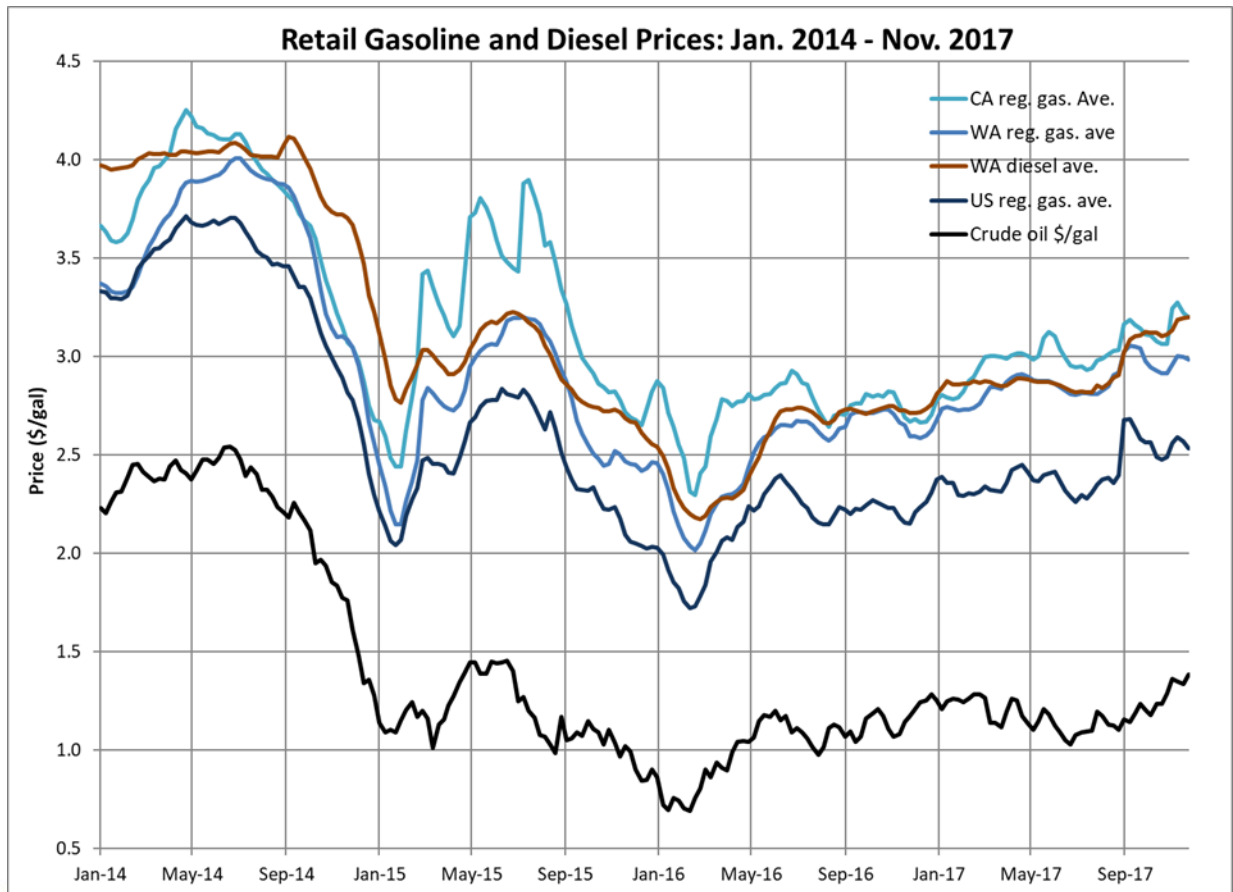
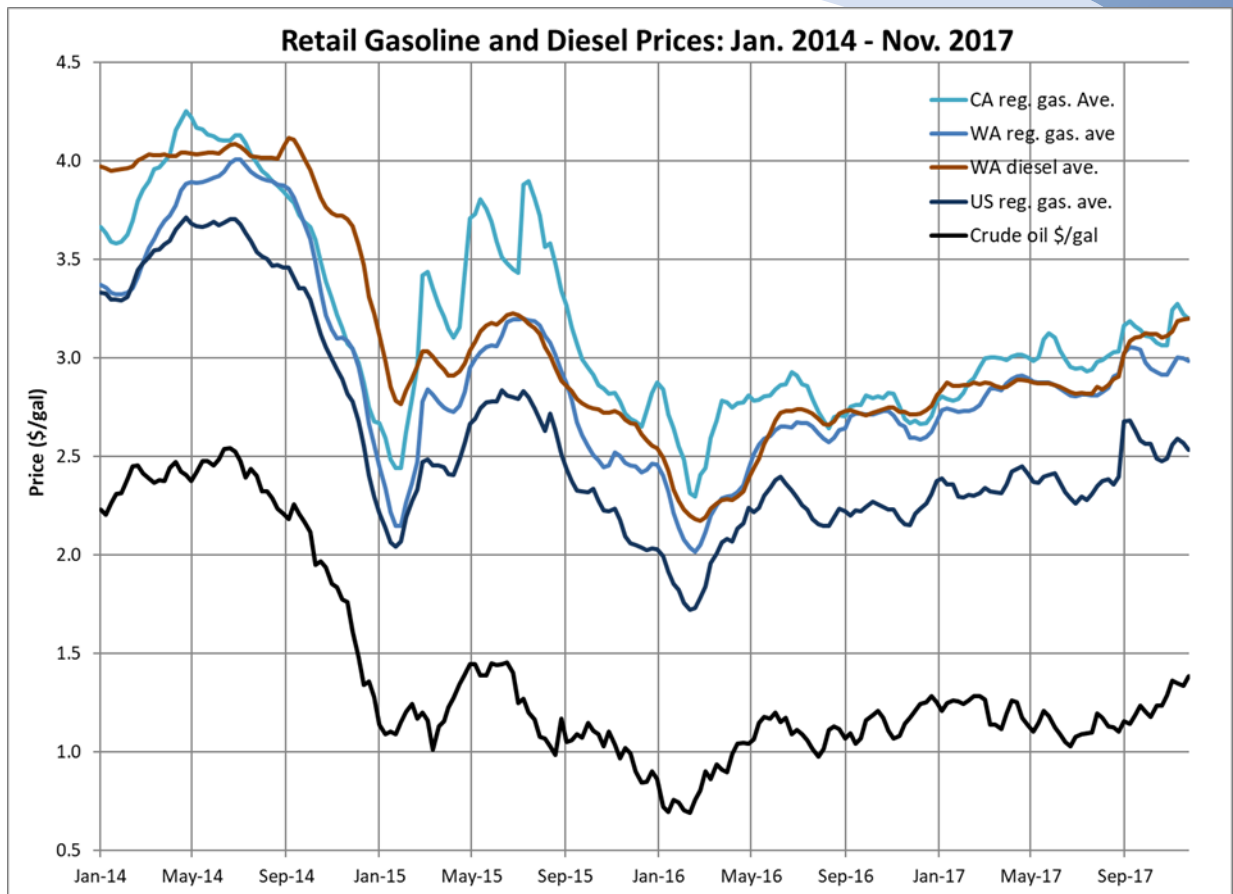
Solar News Briefs are funded by the Washington State Department of Commerce through a grant from the US Department of Energy Efficiency and Renewable Energy that we call "Solar Plus"—a project that pulls together utilities, non-profit organizations, clean tech industry, and state agency stakeholders to work together to identify ways to advance solar deployment in Washington and Oregon.

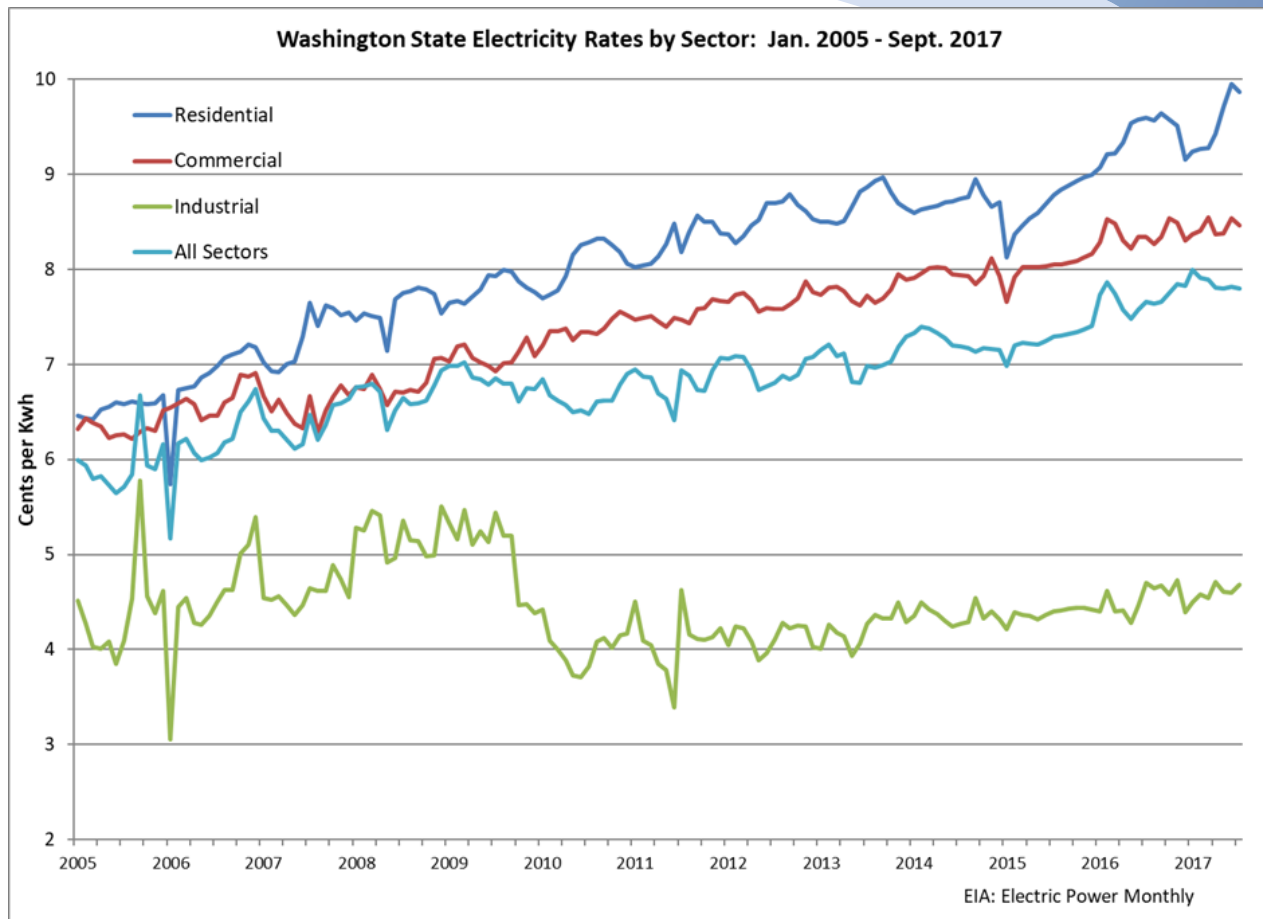
To receive Solar Newsbriefs, please email solarnewsbriefs@energy.wsu.edu.

For more information about Solar Plus, please visit www.solarplusnw.org.

Regional Power Flow		
Intertie	Average power flow	Direction
California (AC+DC)	2,857 mw	Export to California
Canada (BC)	-293 mw	Import from Canada
Total	2,564mw	export

River Data		
Data for Nov. 7	Outflow (kcfs)	Ave. outflow for last 10 years (kcfs)
(Snake) Lower Granite	41.2	21.9
(Columbia) The Dalles	129.6	125.8





Energy Price Summary, November 2017			
	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: \$ per MWh)	21-37.5	19.6-35	14-25
Average Mid C price (Peak hours \$ MWh, current month)	25.2	25.4	19.6
Electricity WA Ave. Retail: September (cents/kWh)	7.94	7.90	7.66
Natural gas Kingsgate spot price (next day: \$ per million BTU)	2.42	2.44	2.79
Natural gas Sumas futures price (next month \$ per million BTU)	3.03	2.96	2.37
Natural gas Sumas monthly average: September (\$ per million)	2.51	2.49	2.60
Natural gas H.H. futures (NYMEX next month: \$ per million BTU)	3.05	2.88	2.93
E85 (national average: \$ per gallon gasoline)	2.33	2.47	2.16
Ethanol (CBT next month contract: \$ per gallon)	1.36	1.45	1.63
Corn (CBT next month contract: \$ per bushel)	3.56	3.48	3.53
Petroleum, West Texas Intermediate futures (\$ per barrel)	57.1	51.6	46.9
Seattle gasoline price (\$ per gallon, last week of the month)	3.05	2.97	2.66
Gasoline futures (NYMEX next month: \$ per gallon)	1.78	1.64	1.38
State diesel price (\$ per gallon, last week of the month)	3.20	3.11	2.71
Heating oil futures (NYMEX next month: \$ per gallon)	1.92	1.79	1.47
U.S. residential propane price report (\$ per gallon)	1.86	1.75	1.44
Clean Cities: Alternative Fuel Price Report, October 2017			
	Current qtr US avg	Current qtr west coast	Last qtr avg west coast
Ethanol E85 (\$ per gas gallon equiv.)	2.73	3.25	3.20
Biodiesel B20 (\$ per diesel gallon equiv.)	2.73	2.85	2.54
Biodiesel B99-100 (\$ per diesel gallon equiv.)	3.54	3.80	3.54
Compressed Natural Gas (\$ per gas gallon equiv.)	2.17	2.44	2.47
Propane (\$ per gas gallon equiv.)	3.81	4.16	4.14

Three Washington Communities Advance in Energy Savings Competition

Out of 50 communities in the completion, only 10 advance to the final round. Three are from Washington State; Bellingham, Bellevue and Walla Walla (who are you rooting for?)

Energy use in all of the semifinalist cities was measured over 2015 and 2016, and will be announced soon. The winner is based on the communities innovative approaches to decrease per capita energy usage, best practices for creating and implementing plans for sustained energy efficiency and educating the public. The winner will be provided with a package of consulting, training, education and more.

<https://guep.org/guep-finalist-and-special-recognition-media-advisory/>

Current Rankings

<https://georgetown.app.box.com/s/jbiywxo5754wdk8vx2a2ayb9seschrux>

Bellevue

<https://planning.bellevuewa.gov/environmental-stewardship/buildings-and-energy/georgetown-university-energy-prize/>

Bellingham

<https://sustainableconnections.org/programs/energy/>

Federal Funding Opportunity

The U.S. Department of Energy has released a funding opportunity [Small Business Innovation Research \(SBIR\) and Small Business Technology Transfer \(STTR\) Program](#). Letters of intent are due January 8, 2018 with applications due February 26, 2018.

The objectives of the programs include increasing private sector commercialization of technology developed through DOE-supported research and development (R&D), stimulating technological innovation in the private sector, encouraging participation by women-owned and minority-owned small businesses, and improving the return on investment from Federally-funded research for economic and social benefits to the nation. DOE will support high-quality research or R&D on innovative concepts concerning important mission-related scientific or engineering problems and opportunities that have high potential for commercialization. The DOE SBIR/STTR Programs do not support either basic science or demonstration projects.

Other than different eligibility requirements (see Part III – Eligibility Information), the major difference between the SBIR and STTR programs is that STTR grants must involve substantial cooperative research collaboration between the small business and a single Research Institution (see definitions in Appendices/Reference Material at the end of this FOA). However, it should be noted that the SBIR program also permits substantial collaboration between the small business and other organizations, including Research Institutions. The difference is that in SBIR, the collaboration is optional, while in STTR, the collaboration is required and must be cooperative in nature.

Upcoming Events

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

Clean Tech Alliance [Elliot Mainzer; Bonneville Power Authority](#)—Jan 10

Clean Tech Alliance [Fusion Energy Technology Panel](#)—Feb 14

[Passive House Northwest 2018 Conference](#) - March 29-30

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