



What's happening in the Energy Division?

Update on Clean Energy Fund Programs

The [RD&D](#) application period closed on November 13th. They are being evaluated and awardees will be announced February 21.

The [Solar Deployment](#) application period closed on Dec. 3, but are still accepting applications. Awardees will be notified January 22.

[Grid Modernization](#) application period closes Dec. 28 with awardees announced on February 20.

[Electrification of Transportation](#) (ET) program will issue a Notice of Funding Opportunity on January 19.

Update on the Energy Efficiency and Solar Program

The [Energy Efficiency and Solar](#) (EE&S) application period closes on December 31. Awardees

should be announced by March 1.

New Energy Emergency Planner

Elizabeth "Eli" King will be joining the Dept. of Commerce and the State Emergency Office as the energy emergency planner on November 16, 2018. Eli has recently earned her Certified Emergency Manager (CEM) credential, in addition she is a nationally-renown educator and is an instructor for FEMA's Emergency Management Institute. She is certified to teach FEMA's Incident Command System (ICS), Master Exercise Practitioner Program, Homeland Security Exercise Evaluation Program, Situational Awareness and Common Operating Picture, and the Integrated Emergency Management Course (IEMC) Program. She is a member of the Congressional Committee DHS Sci-

ence and Technology Social Media Working Group for Emergency Services and Disaster Management.

She is an avid supporter of professional development and

growth. Eli was recently elected as the Vice President of the International Association of Emergency Management (IAEM) Region X and serves as the Secretary for the Washington State Association of Emergency Managers (WSEMA).

Apart from her regular work duties she and her wife, another emergency manager, encourage emergency preparedness by supporting local communities as a Community Emergency



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Response Team (CERT) trainer. Eli is an experienced outdoors-woman who is fond of camping, fishing, hiking, and anything that involves a campfire. Eli's family includes four adorable Nigerian Dwarf Goats named Hank, Lilly, Steve, and Dillon. They take joy in building new "playground equipment" for them and watching them play in the pasture. They also have two indoor cats Carl and Henry which rounds out their family. Eli enjoys playing golf and softball when the weather allows, and when it doesn't, she enjoys video games and working on raspberry pi projects.

US Dept of Energy ARPA-E Award

Congratulations to Zap Energy Inc. of Seattle. They're receiving funding for their Z-pinch fusion concept. [ARPA-E award announcement.](#)

American-Made Solar Prize

Five organizations have been selected to be Power Connectors in the [American-Made Solar Prize](#). This is a competition designed to revitalize the U.S. solar manufacturing. The teams in Washington state that are part of this program, and known as Connectors, are the [Washington Clean Energy Testbeds](#) in Seattle and the [Pacific Northwest National Laboratory](#) in Richland.

Fuel Mix Disclosure

The draft 2017 fuel mix disclosure data was sent to utilities and posted on the [fuel mix webpage](#) on October 5th. After review, the final fuel mix data and report was posted in November.

Excellence in Public Power Communications Awards

Congratulations are in order from the [American Public Power Association](#) to:

Tacoma Public Utilities. They won Awards of Merit for a video and for Web/Social Media

Chelan County PUD won Awards of Merit for a video and Web/Social Media.

Mason PUD3 won Awards of Merit for Print/Digital and for Web/Social Media.

Better Buildings ITEAM Prize

The Individuals Taking Energy Action in Manufacturing (ITEAM) [Prize competition](#) aims to recognize individuals who are responsible for ideas and practices that led to energy savings at their manufacturing facilities and to encourage sharing their ideas and practices for the benefit of facilities nationwide. Up to 15 winners will receive prizes. Information can be found at the [Better Buildings website](#).

A Tribute to Tony Usibelli

By Howard Schwartz

When I joined the original Washington State Energy Office in 1989, Tony was already a legend in Northwest energy conservation circles. He had just convinced the Bonneville Power Administration to fund an Energy Ideas Clearinghouse – a project he had conceived with other Energy Office staff to provide a one-stop service for commercial energy consumers seeking advice on how to use electricity more efficiently. Long after he moved on to other projects and greater responsibilities, the clearinghouse flourished, attracting funders including the U.S. Department of Energy, becoming national in its coverage and a core of the Washington State University Energy Program.

Tony came to Olympia in 1985 from the Lawrence Berkeley Lab in California, the foremost American research institution on energy efficiency. He was a good fit for the dynamic and innovative Energy Office. Tony had a passion for energy efficiency and clean energy as well as a sense of how the office could be a leading edge of environmental policy.

A key to Tony's success as a leader is that he is extraordinarily disciplined and

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organized. To him, effectiveness comes from organizing your own time, and that means spending as little time as possible organizing the time of others. Anyone who has worked with Tony knows that his first principle of managing people is to let them do their jobs. He always tried to hire people who were the smartest, most knowledgeable and willing and able to work on their own. These qualities enabled him to have long runs as the Assistant Director for Energy, Energy Office Director, and Special Assistant to the Director for Energy and Climate Policy.

Tony understood early on that climate change would define energy and environmental policy for the next century. He set out to become a climate expert even as he managed energy efficiency programs. This climate policy vision would stay with him throughout his career, and looking back, it is hard to think of a climate change policy process that did not involve Tony. Here is a sample: *Western Climate Initiative?* He was the Washington Energy Office representative. *Pacific Climate Partnership?* He led the Washington staff work for it. *Western Interstate Energy Board?* He was the Washington member for 20



years and held every executive board position including chair. *Washington state legislation and ballot measures?* Tony worked with advocates, other state agencies, and the governor's office to marry sound science and policy with political strategy. *National Energy and Climate Policy?*

For many years Tony was on the Board of Directors of the National Association of State Energy Officials. He has given presentations at hundreds of meetings and conferences around the country and abroad.

You would rarely read in the news media about Tony's work. As a colleague noted, "Tony seems to know everybody and yet is almost never the one getting the attention." To those who know Tony, this is hardly surprising. His interest is always in getting the job done, never in taking credit. He is a classic public servant who understands how to support elected officials and their political appointees and to earn their trust. For more than 30 years he has been a trusted source of accurate information and honest advice.

It would be unfair to give Tony all the credit for his career success, because that would overlook the great support he has received from Heidi, his wife of forty years – I know how long, because we share our wedding anniversary dates. In

recent years their roles have changed due to illness, and their relationship through this transition has been an inspiring example to the rest of us. As in everything else, Tony adjusts to whatever life hands him and uses his organizational skills to structure his life so what needs to be done gets done. In some sort of caregiving ju-jitsu, he uses the situation to broaden the experiences that both he and Heidi have. And should I mention that he is also responsible for the care of his mother, who is a centenarian, living in a residential facility in Olympia?

I could go on at length about Tony's role in fostering recreational bicycling in Olympia, playing many kinds of sports, following professional sports, reading nearly a book a day, keeping up with movies and classical archeology (his college major), playing bridge, and making bad puns. Instead I will just mention that in addition to all of his other attributes, he has been a great and loyal friend to me and others whom he and Heidi have known for decades. I know that Tony will be missed in government circles, but I also know that he will continue to make Olympia and the broader community a better place to live and work.

Howard Schwartz worked at the Washington State Energy Office from 1989 until his retirement in 2013.

Energy Headlines

Electric

[Is your holiday energy use naughty or nice?](#) - ACEEE

[California Utility Customers may be on Hook for Billions in Wildfire Damage](#)—NY Times

[The cost of utilities: Which states pay the most?](#) - Move.org

[Power lines keep sparking wildfires. Why don't California utility companies bury them?](#) - Sac Bee

[Governors cite benefits of single national power grid](#)—Newburyport News

[PNNL Lighting research makes for a brighter future](#)—Tri-City Herald

[Smart meter deployments slow as questions emerge over cost effectiveness, saturation](#)—Utility Dive

Solar

[Rain Doesn't Prevent Washington's Solar Market from Growing](#)—Clean Energy Finance Forum

[State's largest solar farm now online in Lind](#)—iFiberOne

Electric Vehicles

[Researchers Demonstrate 120-kV Wireless Charging System for Electric Vehicles](#)—Power

[Battery Boosters Pushing Congress to Give Industry a Tax Credit](#)—Bloomberg

[Rivian wants to do for pickups what Tesla did for cars](#)—Wired

[The Rivian R1S is an electric SUV that can accelerate quicker than supercars](#)—Road & Track

[GM Pulls the Plug on the Chevrolet Volt, Discontinuing It and These 5 Other Car Models](#)—Fortune

Carbon

[Kalama methanol project would help fight climate change](#)—TDN.com

[Study: NW Forests Will Weather Climate Change Better than Others in the West](#)—Capital Press

Energy Efficiency & Health

[Top US Cities Considered the Most Energy Efficient](#)—Home Energy

[Energy efficiency can save the world—if we can figure out how to pay for it](#)—UtilityDive

[Green hypocrisy? Washington state voters keep proving it's not easy being green](#)—Seattle Times

Other

[Midterms a Mixed Bag for State Energy Ballot Measures](#)—Power

[PG&E's Wildfire Crisis Could Impact California's Ambitious Clean Energy Targets](#)—Renewable Energy World

[Chelan PUD's draft report on cryptocurrency goes live](#)—iFiberOne

Weatherization

[Why are Monitoring and Accountability needed in Weatherization?](#) - Home Energy

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energy_policy@commerce.wa.gov
Rather read the highlights on a blog?
We're at <http://www.commerce.wa.gov/energy-blog/>



Energy Price Overview



Part of a hydroair test facility

River & Snow Pack Report

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

Observed Nov. precipitation above The Dalles: 59% of average.

Est. 2018 Final runoff at The Dalles (Jan.—August):

121.3 million acre-feet

120% of normal

Estimated regional snow-pack: n/a

Federal hydropower generation in September:

5,168 aMW

5-year average: 5,439 aMW.

Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak) in October:

83.1%

5-year average: 83.9%.

Petroleum: Spot market crude oil continued its decline during November, starting at just over \$63 per barrel and ending at \$51.5 per barrel. The decrease in spot price is being attributed to concerns about trade, slowing growth in Asia and rising production and inventories in North America. Saudi Arabia has increased production this fall. The average West Texas Intermediate price for the month of October was \$57.9 per barrel.

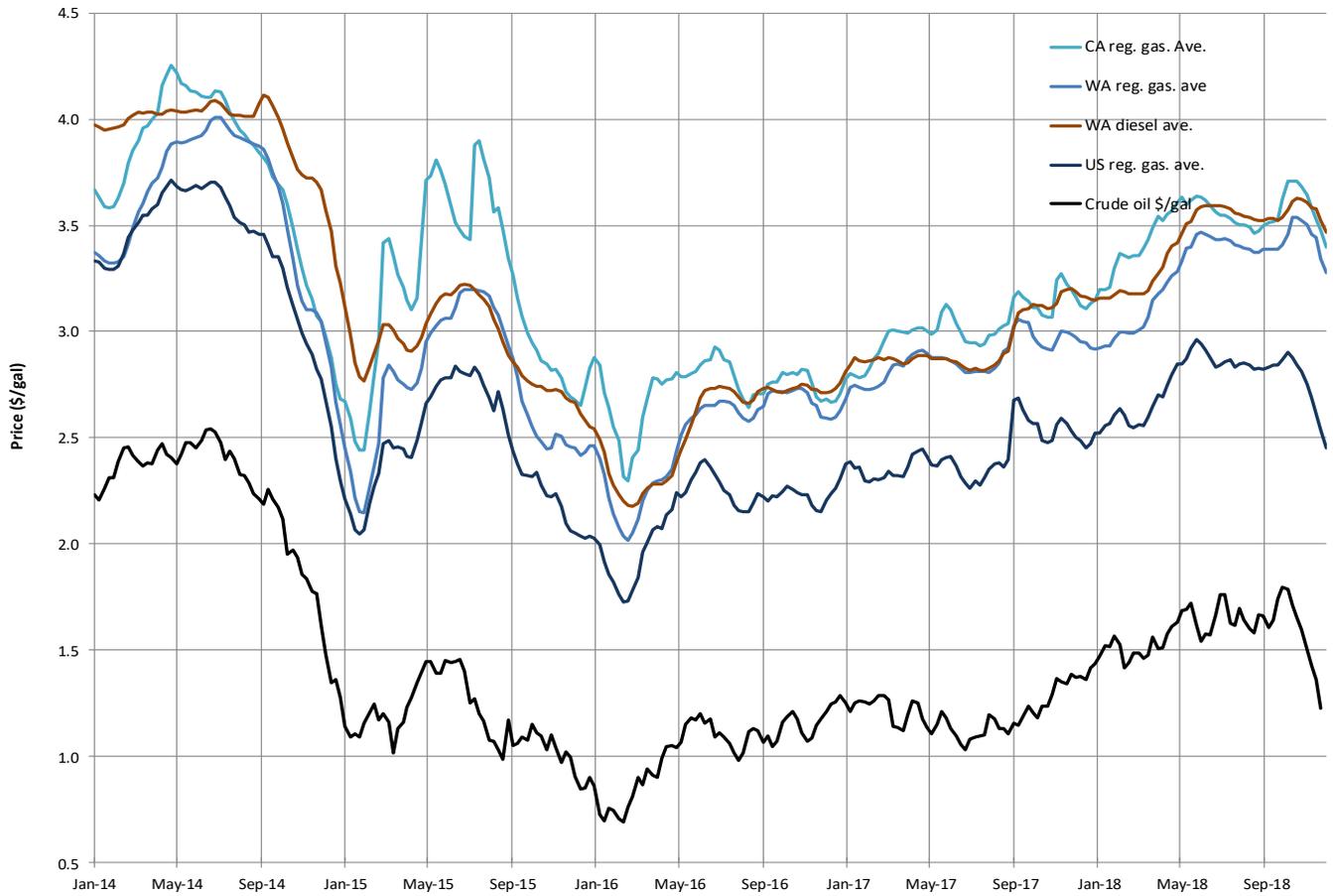
Transportation Fuels: Driven by declining crude oil prices, transportation fuel prices at the national level declined during November: gasoline down about 27 cents, diesel down 10 cents per gallon. National gasoline and diesel at the end of October were \$2.54 and \$3.26 per gallon respectively. In our state, average gasoline and diesel prices decreased, but not as rapidly as national prices. Relative to the last week of the previous month, state gasoline and diesel prices were 13 and 10 cents per gallon higher: Gasoline \$3.36 per gallon, diesel \$3.52 per gallon.

Natural Gas: The average Henry Hub natural gas price for November increased by over 20 percent (relative to October) to \$4.11 per MMBtu as cold weather in the east and Midwest increased demand for space heating. Enbridge announced that the ruptured pipeline had been repaired and back in service on November 2 at a reduced delivery rate. The dual pipelines operated

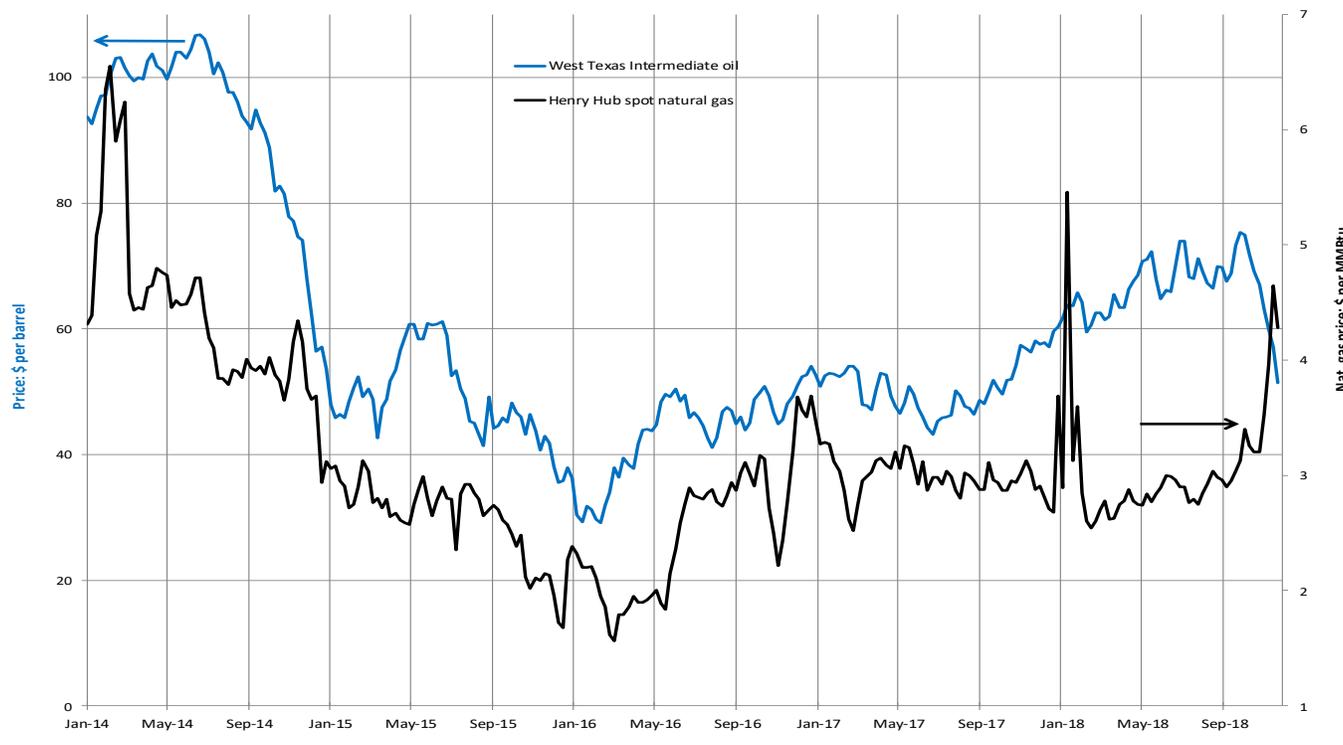
at reduced pressure as the system integrity was tested. Flows were a little over half of normal during the first part of November and slowly increased through the month. Due to the reduced natural gas flows, the Sumas natural gas spot prices remained high: November average \$17.5 per MMBtu, in contrast with \$2.57 a year ago. At the end of November, Enbridge got clearance to raise the operating pressure of the pipeline system and flows increased to normal rates over the next week. National gas storage levels decreased 59 Bcf last week and are at 3,054 Bcf: about 19% below the 5-year natural gas storage average for this time of the year. Gas storage in the Pacific region, in part because of the storage draw following the pipeline incident, was 27% below the 5-year average.

Electricity: The Mid-Columbia average spot market price for November was high compared to year ago: \$55.9 vs \$25.2 per MWh. Most of the increase was due to the reduced availability of natural gas delivered via the Enbridge T South natural gas pipeline. Natural gas delivery from British Columbia was 50 to 60 percent of normal during November. Customers were supplied on a pro rata basis, with an emphasis on providing for residential customers first. This has likely resulted in reduced generation at several natural gas fired power plants in Washington State.

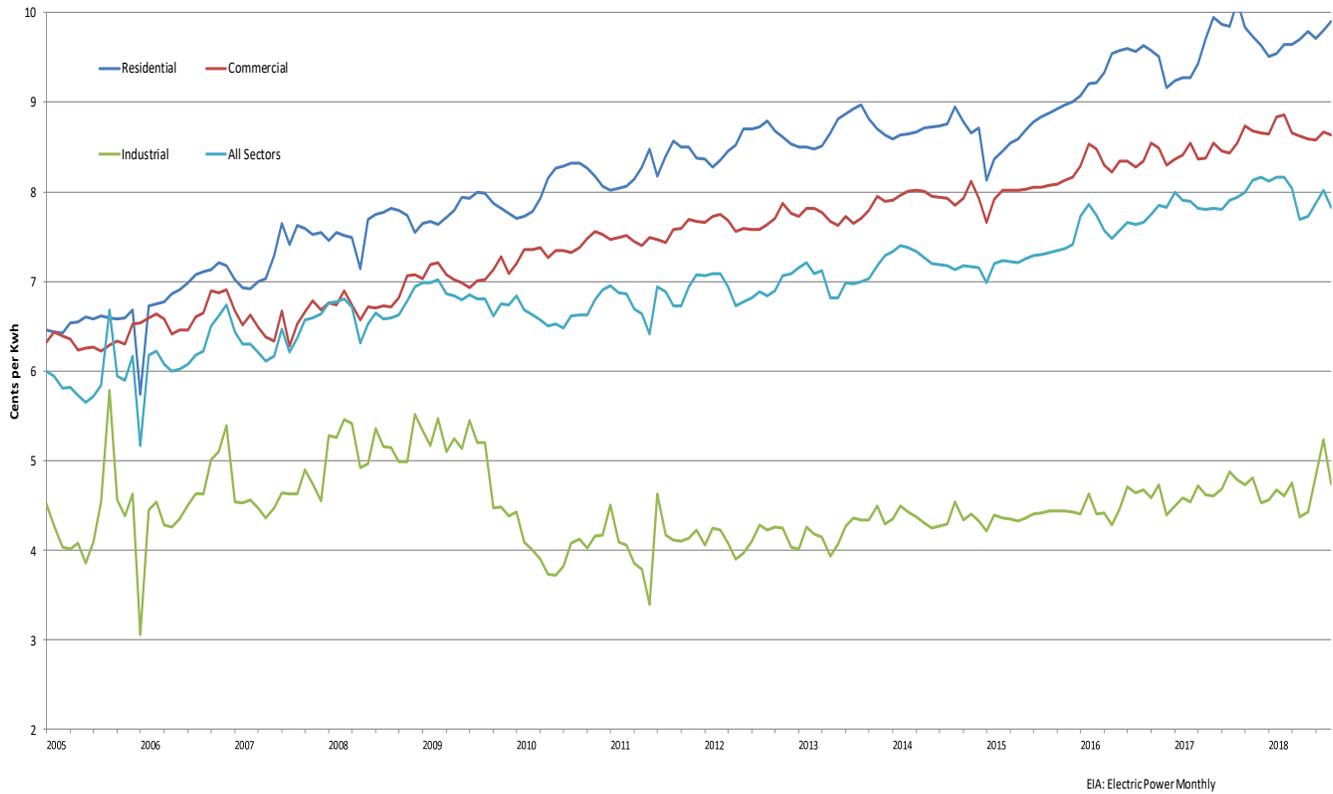
Retail Gasoline and Diesel Prices: Jan. 2014 - Nov. 2018



West Texas Intermediate Oil and Henry Hub Natural Gas: Jan. 2014 - Nov. 2018



Washington State Electricity Rates by Sector: Jan. 2005 - Sept. 2018



Energy Price Summary, November 2018

	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: \$ per MWh)	19-75	23-150	23-36
Average Mid C price (Peak hours \$ MWh, current month)	55.9	45.6	25.2
Electricity WA Ave. Retail: August (cents/kWh)	7.83	8.02	7.94
Natural gas Kingsgate spot price (next day: \$ per million BTU)	14.85	7.35	2.42
Natural gas Sumas futures price (next month \$ per million BTU)	17.75	14.50	3.03
Natural gas Sumas monthly average: August (\$ per million BTU)	2.15	2.28	2.51
Natural gas H.H. futures (NYMEX next month: \$ per million BTU)	4.01	3.18	3.05
E85 (national average: \$ per gallon gasoline)	2.75	2.85	2.33
Ethanol (CBT next month contract: \$ per gallon)	1.24	1.28	1.36
Corn (CBT next month contract: \$ per bushel)	3.74	3.63	3.56
Petroleum, West Texas Intermediate futures (\$ per barrel)	57.9	71.7	57.1
Seattle gasoline price (\$ per gallon, last week of the month)	3.48	3.61	3.05
U.S. gasoline price (\$ per gallon, last week of the month)	2.70	2.83	2.30
Gasoline futures (NYMEX next month: \$ per gallon)	1.59	1.97	1.78
State diesel price (\$ per gallon, last week of the month)	3.52	3.62	3.20
Heating oil futures (NYMEX next month: \$ per gallon)	2.08	2.34	1.92
U.S. residential propane price report (\$ per gallon)	3.32	NA	2.40

Clean Cities: Alternative Fuel Price Report, July 2018

	Current qtr US avg	Current qtr west coast	Last qtr avg west coast
Ethanol E85 (\$ per gas gallon equiv.)	3.06	3.81	3.52
Biodiesel B20 (\$ per diesel gallon equiv.)	3.12	3.12	3.08
Biodiesel B99-100 (\$ per diesel gallon equiv.)	3.91	4.06	3.93
Compressed Natural Gas (\$ per gas gallon equiv.)	2.22	2.47	2.48
Propane (\$ per gas gallon equiv.)	3.85	4.04	4.21



U.S. Energy Information Administration

- [Annual Energy Outlook 2018](#)
- [Electric Power Monthly](#)
- [Monthly Biodiesel Production Report](#)
- [Monthly Crude Oil and Natural Gas Production](#)
- [Monthly Energy Review](#)
- [Monthly Solar Photovoltaic Module Shipments](#)
- [Natural Gas Monthly](#)
- [Petroleum Marketing Monthly](#)
- [Petroleum Supply Monthly](#)
- [Short-term Energy Outlook](#)
- [State Carbon Dioxide Emissions](#)
- [This Week in Petroleum](#)
- [U.S. Wind Turbine Database](#)
- [WindIQ](#)—online database of wind projects

Federal Funding Opportunities

- [DE-FOA-0001963: RFI: National Offshore Wind Energy R&D Test Facilities](#)
- [DE-FOA-0001959: RFI—National Wind Technology Center Facility and Infrastructure Investments](#)—no deadline
- [Request for Information DE-FOA-0001978 High-Efficiency Internal Combustion Engine Development](#)
- [DE-FOA-0001981: Advanced Next-Generation High Efficiency Lightweight Wind Turbine Generator](#)—concept paper submission due 12/13/18
- [DOE SBIR/STTR—DE-FOA-0001940](#)—Phase I Release 2, letters of intent due December 17
Phase II Release 1, letters of intent due January 7
Phase II Release 2, letters of intent due April 1

Events Coming Soon

- [A Window on the Future—Performance Window Designs](#)—Portland OR, Dec 7
- [Professional Women in Building Holiday Soiree](#)—Seattle, Dec 11
- [Healthy Home Training for Building Professionals](#)—Bellevue, Feb 21-Apr 11
- [AWEA Wind Project O&M and Safety Conference](#)—San Diego CA, Feb 27-28
- [2019 Passive House Northwest \(PHnw\) Annual Conference](#)—Portland, Feb 28-March 1
- [2019 National Home Performance Conference & Trade Show](#)—Chicago IL, April 1-4
- [Efficiency Exchange 2019](#)—Coeur d’Alene ID, May 14-15

Regional Power Flow		
Intertie	Average power flow	Direction
California (AC+DC)	1,565 mw	export to California
Canada (BC)	453 mw	export to Canada
Total	2,018 mw	export

River Data		
Data for Nov. 7	Outflow (kcfs)	Ave. outflow for last 10 years (kcfs)
(Snake) Lower Granite	20.0	24.9
(Columbia) The Dalles	126.0	84.9