



## What's happening in the Energy Division?

### Update on the CEF RD&D Program

Phase One applicants will be notified on October 8th whether they were eligible to apply for the full application period. The revised application will be emailed to them with notification of eligibility.

### Update on the CEF Grid Modernization Program

The [Grid Modernization](#) Phase One concept submission period opened on September 17 and will close on October 15th at 5:00 pm. Applicants will be notified whether they qualify to submit full applications before the opening date of October 30 for the Phase Two full application period.

### Apply for Energy Efficiency and Solar Grants for Public Agencies

The Notice of Funding Opportunity for the 2018 [Energy Efficiency and Solar Grants](#) program has been published. Applications need to be submitted by November 31st at 5 pm. This date has been extended from the original.

Information, including the NOFO and FAQ's, are available on our [website](#).

### Clean Energy Fund Awardees of Grants to Nonprofit Lenders

We have awarded \$3.1 million in grants from the 2018 Clean Energy Fund (CEF) Revolving Loan Fund Program to three nonprofit lending partners.

[Craft3](#) is receiving \$1,431,735 to fund renewable

energy and heating projects, commercial and industrial energy efficiency retrofits and clean technology manufacturing.

[Puget Sound Cooperative Credit Union](#) is receiving \$1,295,611 for loan loss reserves to support Energy-Smart loans, which include renewables and electric vehicles.

[Washington State Housing Finance Commission](#) is receiving \$376,654 for energy retrofit loans to projects in multi-family housing and buildings owned by non-profit organizations.

"The State of Washington is a leader in developing clean energy resources for the 21st-century economy. Craft3 is thrilled to expand our partnership and build on the millions of dollars we have invested with Clean Energy Fund support

since 2013," said Adam Zimmerman, president and CEO of Craft3. "Together, we will accelerate investment in renewable energy, efficiency and clean tech manufacturing companies. We are grateful that Gov. Inslee recognizes that access to capital is critical to our state's clean energy future," he said.

The [Clean Energy Fund, Revolving Loan Program](#) supports the widespread use of proven energy efficiency, renewable energy and transportation electrification technologies that have been inhibited by lack of access to capital. At least 50 percent of lending capital from the selected applicants must be from private sources.

### **Current Job Opening in Energy**

The Energy Division is looking for an [Emergency Management Program Specialist 3](#) for a project position. This position will update or create statewide plans focusing on energy sector for coordination in preparedness, response, and recovery components of emergency management to facilitate programs, projects and functions with state agencies, local jurisdictions, tribal governments, federal agencies, the private sector, and other states and countries.

### **New Staff for Distributed Energy Policy**

The State Energy Office welcomes Sarah Vorpahl into the Distributed Energy policy position in the Energy Policy unit.

Sarah graduated with a Ph.D. from UW in 2017, where she studied advanced energy materials. In graduate school, she was a National Defense Science and Engineering Graduate Fellow and a fellow of the Clean Energy Institute at UW, where she worked across Washington State to communicate renewable energy research. Her doctoral work includes a Ph.D. Concentration in Public Policy and Management from the Evans School at UW. Before coming to Seattle, Sarah received a B.A. in Modern Literary Studies from the University of California, Santa Cruz ('04) and a B.S. in Chemistry from Northeastern Illinois University ('11). Sarah is relocating from Washington D.C. where she served as the OSA/MRS Science and Engineering Congressional Fellow in the office of Senator Bernard Sanders.

She spent several years as a radio DJ, most recently spinning records on UW's campus station, Rainy Dawg Radio. Sarah is returning to the Washington State Energy Office, after a previous internship during graduate school, and looks forward to bringing her experience in both science and policy to Washington state.



### **Commerce Hosts National Training Conference**

It's not every day that Commerce gets to co-sponsor a national training conference, but we did this past week from September 17 - 21. Bellevue, Washington was the site of the NASCSP (National Association for State Community Services Programs) annual training conference. States across the country sent program managers and staff of their Weatherization Assistance Program and CSBG (Community Services Block Grant) Program to an action-packed week of training, updates from the federal programs, and peer interaction.

Michael Furze, Assistant Director of the Energy Division, and Diane Klontz, Assistant Director, Community Services and Housing Division, helped open the conference and welcome the other states to Washington on September 19. Furze spotlighted the innovative example of the Grays Harbor wind farm that helps fund the Coastal Community Action Program as an answer to the question, "How do we make sure low-income families benefit from the energy revolution."

On the first day of the conference our innovative Weatherization Plus Health program was featured in a presentation on how to design a successful pilot program. Commerce Low-

Income Weatherization Assistance Program and Community Services program managers led sessions on working with the Department of Energy, monitoring programs, and building capacity and leadership.



The team of Tim Bernthal (COM), Vince Schueler (WSU Energy Evaluator), Mark Schofield (Opportunity Council) and Joel Gregory (King County Housing Authority) presented on our innovative [Weatherization Plus Health \(Wx+H\)](#) project at the National Association for State Community Services Programs (NASCSP) national conference in Bellevue on September 19. Weatherization managers from 50 states heard strategies on creating a successful pilot project to improve indoor air quality for asthma and COPD sufferers.

The conference was a good opportunity to talk with peers, learn about best practices and innovations, and hear from federal program administrators. You can download con-

ference presentations at [www.nascsp.org](http://www.nascsp.org) after October 5.

## Greenhouse Gas Emissions Performance Standards

Commerce recently completed a rulemaking to update the average greenhouse gas emission rate from new, commercially available combined cycle combustion turbines which is referenced in RCW 80.80.040 Greenhouse gas emission performance standard. Commerce's rule is referred to in Ecology rules which establish the state greenhouse gas emission performance standard for utility baseload electric generation, which is the lower of 1,100 pounds per megawatt-hour; or the average greenhouse gas emission rate as determined under RCW 80.80.050. The determination is updated every five years after July 22, 2007.

## 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 should be available by October 24th.

## 2018 Utility Resource Plan Report

We are currently working on the 2018 [Utility Resource Plans](#). The full report should be completed by December.

## DSIRE—the Database of State Incentives for Renewables & Efficiency

At the [DSIRE](#) website, you can find policies and incentives for each state. It is a great site to use when someone needs to know if there is a program that fits their needs.

Currently, there are 122 programs listed for Washington state.

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# Energy Headlines

## Electric

[A look at California's plan to get carbon-free electricity](#)—Sacramento Bee

[Expect your power bill to go up if carbon initiative passes, say PUDs](#)— Tri-City Herald

[Seattle auditor to investigate City Light practices after complaints over huge electricity bills](#)— Seattle Times

[PacifiCorp's Oregon smart meter rollout hits bumps](#)—Portland Business Journal

[Utilities Have a Problem: The Public Wants 100% Renewable Energy, And Quick](#)—VOX

## Renewables

[PSE receives nearly 100 alternative resources proposals](#)— The Suburban Times

[Oregon wind developer contemplates super-tall turbines](#)—Portland Business Journal

[Artificial enzymes convert solar energy into hydrogen gas](#)—Uppsala University

[Team details plasmonic effect that allows catalyst to work at lower energy](#)—Rice University

## Electric Vehicles

[Strong Growth Expected in EV Charging Stations](#)—Transport Topics Online

## Carbon

[Washington State Utilities Warn of "Pancaking" Carbon Proposals](#)—The Lens, Business Institute of Washington

[Cheaper Battery is Unveiled as a Step to a Carbon-Free Grid](#)—The New York Times

## Energy Efficiency & Health

[Forget smart ovens. Intelligent HVAC is the smart home's future](#)—Fast Company

[ACEEE 2018 State Energy Efficiency Scorecard](#)—ACEE.org (hint: We're number 9)

## Clean Energy

[As Storms Bear Down, More Homeowners Look to Batteries—Not Generators—for Backup Power](#)—USNews

[How Washington's Last Coal Plant Could Become State's Largest Solar Project](#)—KNKX

## Other

[If Washington voters OK a carbon-pollution fee, who decides how to spend all that money?](#) - Seattle Times

[Continued Testing, Cleaner Fuel Proposed for Diesel Engines](#)—Transportation Topics

[Talk About a 'Superload'! Check Out What Just Crawled Along Washington State Highways](#)—Seattle Times

[How Atmos Energy's natural gas keeps blowing up Texas Homes](#) (while customers pay the tab) Dallas News

## Energy Price Overview



Inside a Glacier Battery Unit

### River & Snow Pack Report

**Observed Sept. stream flow** at The Dalles: 87% of average.

**Observed Sept. precipitation** above The Dalles: 43% of average.

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

119.5 million acre-feet

118% of normal

**Estimated regional snowpack:** n/a

**Federal hydropower generation** in August:

6,359 aMW

5-year average: 6,372 aMW.

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

82.3%

5-year average: 82.2%.

**Petroleum:** In September, crude oil prices were moderately higher relative to the August price average. The increase in price is attributed to strong demand and decreases in exports from Iran and Venezuela. Note that the last week of September saw a sizable increase in crude oil price, well into the \$70 range. The average West Texas Intermediate price for the month of September was \$69.87 per barrel.

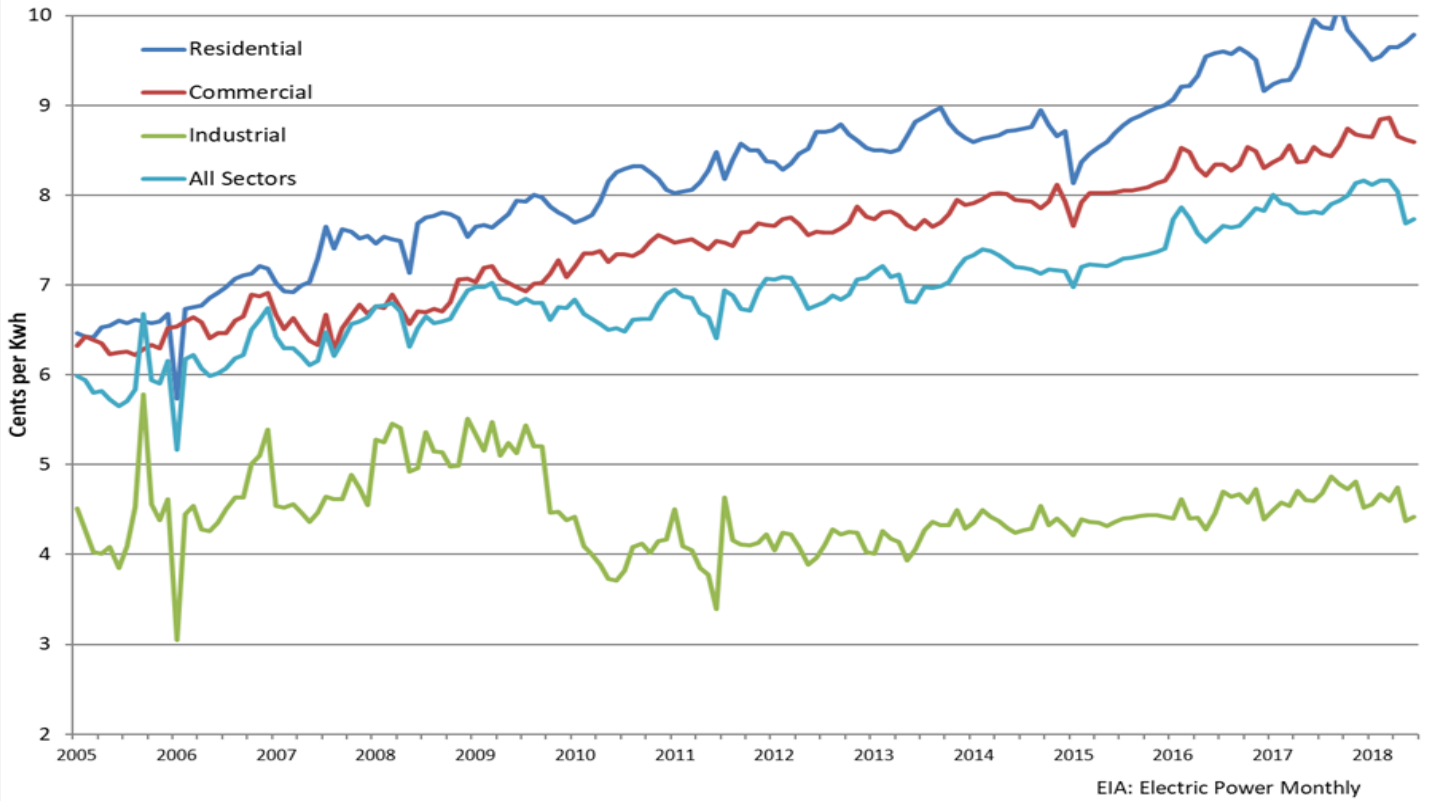
**Transportation Fuels:** Transportation fuel prices at the national level were largely unchanged during September. The national average gasoline price is about 32 cents per gallon higher than last year at this time. National gasoline and diesel at the end of September were \$2.84 and \$3.27 per gallon respectively. Washington state average gasoline price for the same period (relative to the last week of June) increased by 2 cents, to \$3.39 per gallon, diesel was unchanged at \$3.52 per gallon.

**Natural Gas:** The average Henry Hub natural gas price for September increased slightly to \$2.96 per MMBtu. Locally, the average natural gas spot price at the Sumas

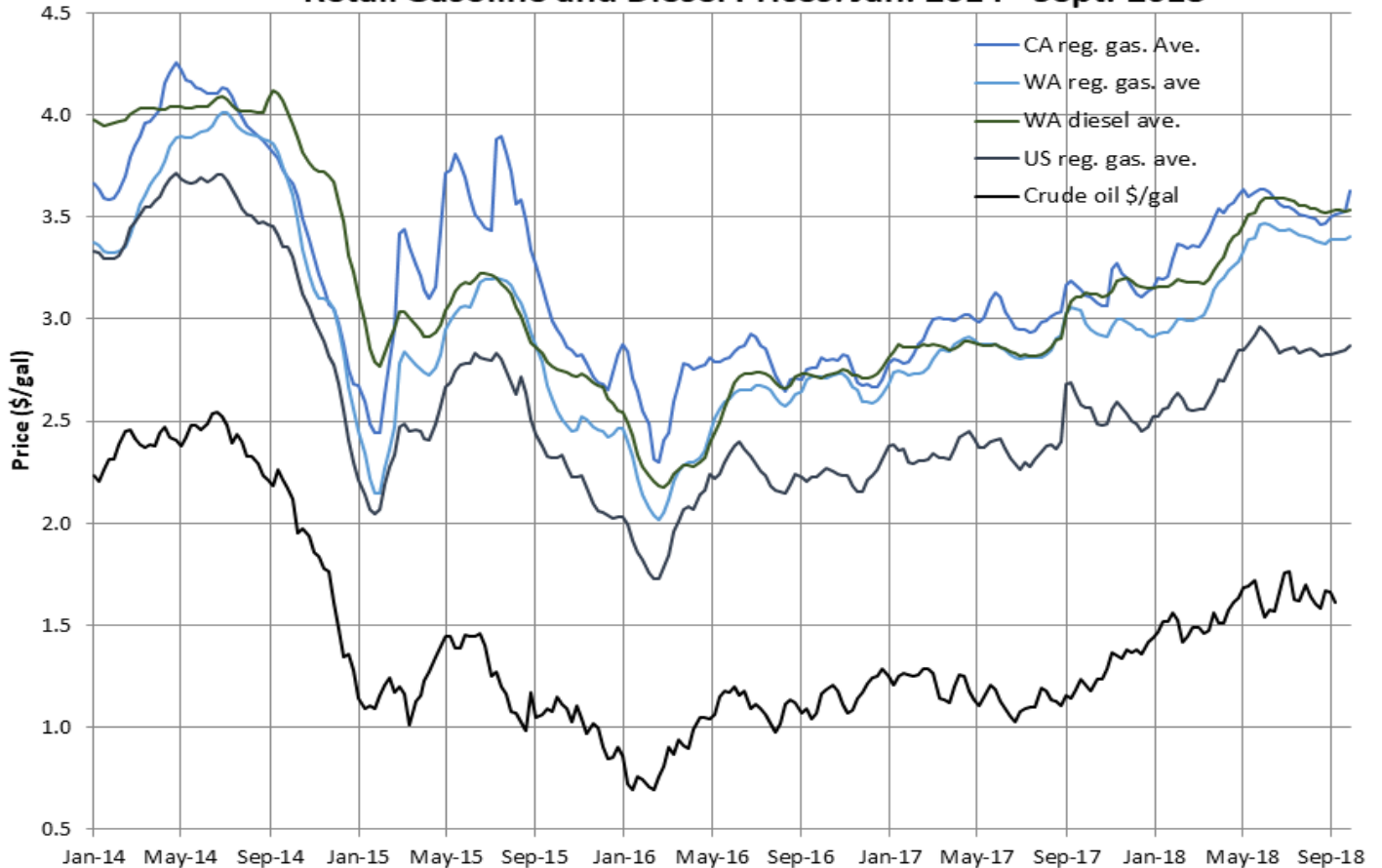
hub, relative to the previous month, decreased 16 cents for September and averaged \$2.31 per MMBtu. National gas storage levels increased 46 Bcf last week and are at 2,768 Bcf: about 18% below the 5-year natural gas storage average for this time of the year. Gas storage in the Pacific region was 22% below the 5-year average. Much of the Pacific storage deficit is due to the reduced storage in California.

**Electricity:** Northwest hydropower generation was lower in September compared to August, which is a typical seasonal pattern, but generation was about equal to the 5-year average for the month, despite the warmer and drier 2018 summer. The above average snowpack of the winter of 2017-18 has kept reservoir levels at typical levels for this time of year: See River & Snowpack information. Reduced electricity demand during September caused the Mid-Columbia spot (peak) market price to decrease sharply, relative to August, to \$29 per MWh. The September average is only moderately higher than the \$25 per MWh observed in September 2017.

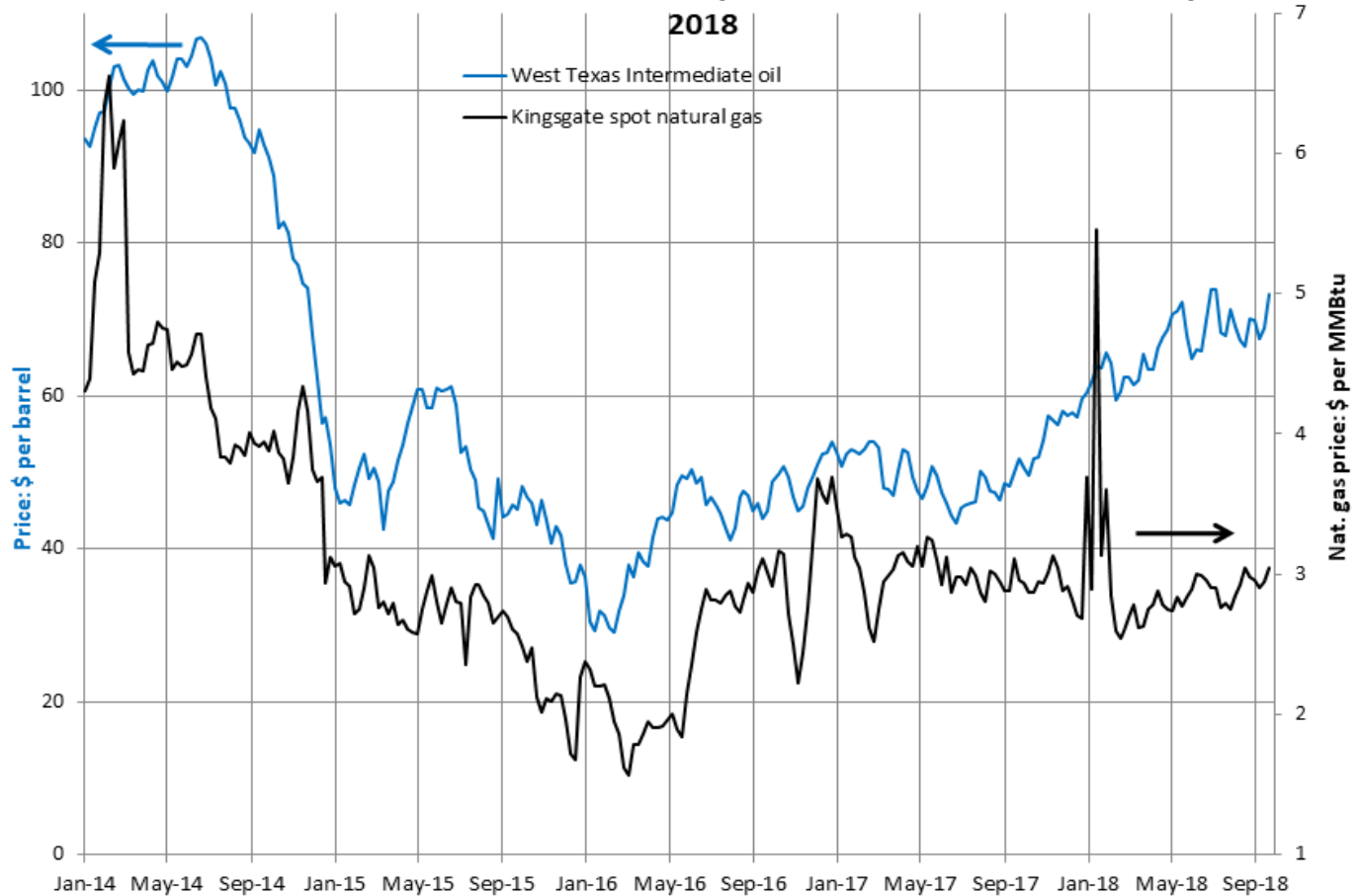
Washington State Electricity Rates by Sector: Jan. 2005 - July 2018



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



## West Texas Intermediate Oil and Henry Hub Natural Gas: Jan. 2014 - Sept.



Energy Price Summary, September 2018			
	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: \$ per MWh)	22.8-40.3	19-31.0	19-42
Average Mid C price (Peak hours \$ MWh, current month)	28.9	79.4	24.9
Electricity WA Ave. Retail: July (cents/kWh)	7.87	7.73	7.80
Natural gas Kingsgate spot price (next day: \$ per million BTU)	2.33	2.45	2.25
Natural gas Sumas futures price (next month \$ per million BTU)	2.40	2.32	2.50
Natural gas Sumas monthly average: July (\$ per million BTU)	2.05	1.66	2.41
Natural gas H.H. futures (NYMEX next month: \$ per million BTU)	2.86	2.94	2.97
E85 (national average: \$ per gallon gasoline)	2.83	2.89	2.45
Ethanol (CBT next month contract: \$ per gallon)	1.32	1.32	1.43
Corn (CBT next month contract: \$ per bushel)	3.68	3.68	3.49
Petroleum, West Texas Intermediate futures (\$ per barrel)	69.9	68.2	49.6
Seattle gasoline price (\$ per gallon, last week of the month)	3.45	3.44	3.09
U.S. gasoline price (\$ per gallon, last week of the month)	2.83	2.86	2.48
Gasoline futures (NYMEX next month: \$ per gallon)	2.02	2.05	1.70
State diesel price (\$ per gallon, last week of the month)	3.52	3.52	3.11
Heating oil futures (NYMEX next month: \$ per gallon)	2.23	2.13	1.77
U.S. residential propane price report (\$ per gallon)	NA	NA	NA
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](#)

## Federal Funding Opportunities

[DE-FOA-0001965 Request for Information on H2@scale \(Hydrogen at scale\): Determining opportunities to facilitate wide-scale hydrogen adoption for energy security and economic growth](#) Submission deadline, October 31, 2018

[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-0001861 Explore use of data and technology on phasor measurement units deployed across the nation’s bulk power electric systems.](#) Submission deadline is November 9, 2018, 8 pm ET.

## Events Coming Soon

[Low-Carbon Passive Building Tour](#)—Oct 9

[2018 Washington State Solar Summit](#)—Bellevue WA, Oct 19

[Energy Leadership Summit](#)—Seattle WA, Oct 30

[The R&D 100 Conference](#)—Orlando FL, Nov 15-16

[2018 Conference on Health, Environment and Energy](#)—New Orleans LA, Dec 3-5

[2019 National Home Performance Conference & Trade Show](#)—Chicago IL, April 1-4

Regional Power Flow		
Intertie	Average power flow	Direction
California (AC+DC)	4,086 mw	export to California
Canada (BC)	17 mw	export to Canada
Total	4,103 mw	export

River Data		
Data for Nov. 7	Outflow (kcfs)	Ave. outflow for last 10 years (kcfs)
(Snake) Lower Granite	19.1	24.9
(Columbia) The Dalles	67.9	84.9