



## What's happening in the Energy Division?

### Washington State Electric Utility Resource Planning

The [report for 2018](#) is now available. Utilities develop resource plans to assess their specific future load and resource situations. This looks at the individual reports to provide an assessment at the statewide level of whether utilities are planning for adequate supplies and what resources are expected to meet growth in electric power demand.

### Update on Clean Energy Fund Programs

The [Research, Development and Demonstration](#) (RD&D) program has moved 52 applications to the technical panel for review. This review should be done by the end of April and awards should be announced by May 31.

### The [Electrification of Transportation Systems](#) (ETS) Public Comment Period March 25-April 5

The Department of Commerce will accept comments on the DRAFT Notice of Funding Opportunity (NOFO) for this program.

The draft NOFO will be published on this webpage by March 25<sup>th</sup>.

An informational session will be held on April 3<sup>rd</sup>.

Please sign up for Energy E-mail Updates or check back on the webpage for more information.

The [Greenhouse Gas Reduction](#) program will provide funding to reduce greenhouse gases. The program will be available to Counties with a population of less than 300,000. This is under development and we anticipate it to be available in early May 2019.

Priorities will be given to projects that:

- When fully deployed will reduce emissions by a minimum of 750,000 tons per year
- Increase energy efficiencies
- Protect or create manufacturing jobs

### Pierce County Healthy Homes Case Study Data Report Released

In January, Commerce's Weatherization Plus Health Program, and partners Washington State University Energy Program, Pierce County Human Services (Weatherization Program), and Tacoma/Pierce County Health Department released an analysis of the Weatherization Plus Health Partnership work done in Pierce County from 2016 – 2018.

The partnership built on collaborations between Pierce County

*(Continued on page 2)*

Human Services and the Tacoma/Pierce County Health Department's (TPCHD) asthma outreach program. For the Plus Health partnership, the TPCHD's community health workers provided 1-3 home visits with asthma clients that provided asthma or respiratory health management, assessment of other needs, and development of an action plan. If needed, they also helped clients apply for weatherization services with Pierce County Human Services.

Community health workers planned follow ups with clients in person or by phone at three, nine and twelve months after weatherization/healthy homes work was completed. Follow up contacts included action plan review, case management services, and data collection on health conditions and needs.

Due to a nine month gap in funding, most three and nine month follow up visits were not completed, but at least one follow up home visit or call was conducted. Households with follow ups at less than six months were excluded from the analysis.

Households were surveyed before and after they were provided weatherization/healthy homes services to determine health impacts. The case study documents and quantifies client health improvements resulting from the partnership work that included improved client respiratory control, reduced medical visits, client actions to reduce environ-

mental triggers or improve medical management, and improved client and family quality of life.

Among the significant findings were:

- 86 percent of households reported taking two or more actions to reduce environmental triggers or improve medical management
- 65 percent of clients reported improvements in control of respiratory conditions
- One year after receiving services, clients reported four fewer Urgent Care visits, fifteen fewer Emergency Room visits and six fewer hospital admissions
- 70 percent of clients reported an improvement in Quality of Life measurements

These results are initial indicators of the potential of Weatherization Plus Health to make significant improvements in the health of clients living with asthma and Chronic Obstructive Pulmonary Disease (COPD). We hope to refine our ability to document and measure these impacts through our work in the next six months.

### **Weatherization Plus Health Expands Health Benefits Documentation**

Commerce's Weatherization Plus Health and the Washington State University (WSU) Energy Program are bringing on new research partners –

Three3, Ellen Tohn and Associates and the National Center for Healthy Homes (NCHH). This team of national experts will help Commerce and the WSU Energy Program detail improved health outcomes to clients receiving Weatherization Plus Health services and estimate health benefit values.

Over the next six months they will develop:

- Briefing materials to explain Weatherization Plus Health medical outcomes and benefits to legislative and stakeholder audiences
- Tools that estimate medical/health benefits from the Weatherization Plus Health work data
- Analysis of future options for services to low-income households and hard-to-reach market rate residential households

We're looking forward to a chance to refine our messages about the value of Weatherization Plus Health and develop future options for services.

### **US Dept. of Energy Funding**

USDOE announced up to \$31 million to advance H2@Scale, focus is enabling affordable and reliable large-scale hydrogen generation, transport, storage and utilization in the U.S.

Concept papers are due April 8, 2019 and full applications are due May 2, 2019. Information is at [EERE-Exchange](#).

# Energy Headlines

## Renewables

[Skookumchuck Wind Project turbines could be running by end of 2019](#)—Olympian

[Researchers create residential solar panels nearly twice as efficient as existing panels](#)—Slash Gear

[Hawkins' Hydrogen Fuel Bill Passes State Senate](#)—560KPQ

[100% Renewable Energy Needs Lots of Storage. This Polar Vortex Test Showed How Much](#) - Inside Climate News

[Just Ask Alaska: Yes, Diesel Killing Solar Panels Work in the Cold](#)—Clean Technica

[Hughes Village Council Solar Project](#)—US Dept. of Energy

## Electric Vehicles

[AAA: Cold weather can cut electric car range over 40 percent](#)— AP News

[Electric Vehicles Can Lower Electricity Prices](#)—Clean Technica

## Carbon and Climate

[‘Moment of reckoning:’ U.S. cities burn recyclables after China bans imports](#)—Grist

[U-S Carbon Emissions Surged in 2018, Even as Coal Plants Closed](#)—NY Times

[New model predicts how ground shipping will affect future human health, environment](#)—Science Daily

[Tax brown energy or subsidize green? The choice is easy](#)—The Hill

[Warming Effects of Spring Rainfall Increase Methane Emissions from Thawing Permafrost](#)—AGU100

[Amazon aims to make half of its shipments carbon neutral by 2030](#)—Techcrunch

[Scientists turn CO2 ‘back into coal’ in breakthrough carbon capture experiment](#)—Independent

[Scientists say farmers can cut 8% of global carbon emissions](#)—Irish Examiner

[Researchers explore an often ignored source of greenhouse gas](#)—Science News

## Energy Efficiency & Health

[The polar vortex is showing people just how poorly insulated their homes are](#)—Vox

[The need for minimum energy efficiency standards for rental properties](#)—Phys.org

[Ford will use Wind Energy to build F-150, Raptor and Ranger trucks](#)—Forbes

## Other

[DOE launches its first lithium-ion battery recycling R&D center: ReCell](#)—News Wise

[Future U.S. electricity generation mix will depend largely on natural gas prices](#)—EIA

[Making it modern: PNNL infuses innovation into nation’s electric grid](#)—Tri-City Herald

## Energy Price Overview

**Petroleum:** After declining in December, the West Texas Intermediate (WTI) crude oil spot price reversed course during January; starting the month at just over \$48 per barrel and ending at \$52 per barrel. During this time frame, the international Brent oil price increased from \$57 to \$60 per barrel. The increase in spot crude oil price is being attributed to growing instability in Venezuela. Saudi Arabia has also reduced oil production in order to shore up oil prices. The average West Texas Intermediate price for the month of January was \$51 per barrel. The charts enclosed in the newsletter illustrate the trend in annual average WTI oil price as well as Sumas and Henry Hub natural gas price from 2002 through 2018: expressed in nominal and constant 2005 dollars.

**Transportation Fuels:** Because crude oil prices have stayed within a relatively narrow band for the last two months, transportation fuel prices at the national level remained relatively stable during January. National gasoline and diesel prices at the end of January were \$2.26 and \$2.97 per gallon respectively. Diesel fuel continues to sell at a significant premium to gasoline. The EIA notes that the transition to new low sulfur requirements for marine fuel is globally putting upward pressure on diesel prices and that this pressure will persist for sev-

eral years. In Washington State, average gasoline and diesel prices continued to decrease during January. Relative to the last week of the previous month, state gasoline and diesel prices were 15 and 13 cents per gallon lower: Gasoline \$2.91 per gallon, diesel at \$3.17 per gallon.

**Natural Gas:** The average Henry Hub natural gas price for January decreased by 15 percent, relative to the previous month, to \$3.18 per MMBtu (this was before the polar vortex event). Spot natural gas prices at Sumas have stabilized as the Enbridge pipeline is operating at or near full capacity: January average price was \$3.59, versus \$5.73, and \$17.47 per MMBtu in December and November respectively. Nationally, natural gas storage declined by 173 Bcf to 2,197 Bcf and are 13% below the 5-year average. In the Pacific region, January was a mild month and storage draws were modest. Pacific region storage levels are 26% below the 5-year average.

**Electricity:** The Mid-Columbia average spot (peak) market price for January declined relative to the December but was still high relative to year ago prices: \$33 vs \$22.1 per MWh. Part of the reason for the higher spot prices is that federal hydropower generation was significantly lower in January 2019 compared to January 2018: See river flows and hydro generation, see tables.



### River & Snow Pack Report

**Observed Jan. stream flow** at The Dalles: 84% of average.

**Observed Jan. precipitation** above The Dalles: 64% of average.

**Est. 2019 Final runoff at The Dalles** (Jan.—August) January:

93.5 million acre-feet  
92% of normal

**Estimated regional snow-pack:** mid Jan. 93% of normal

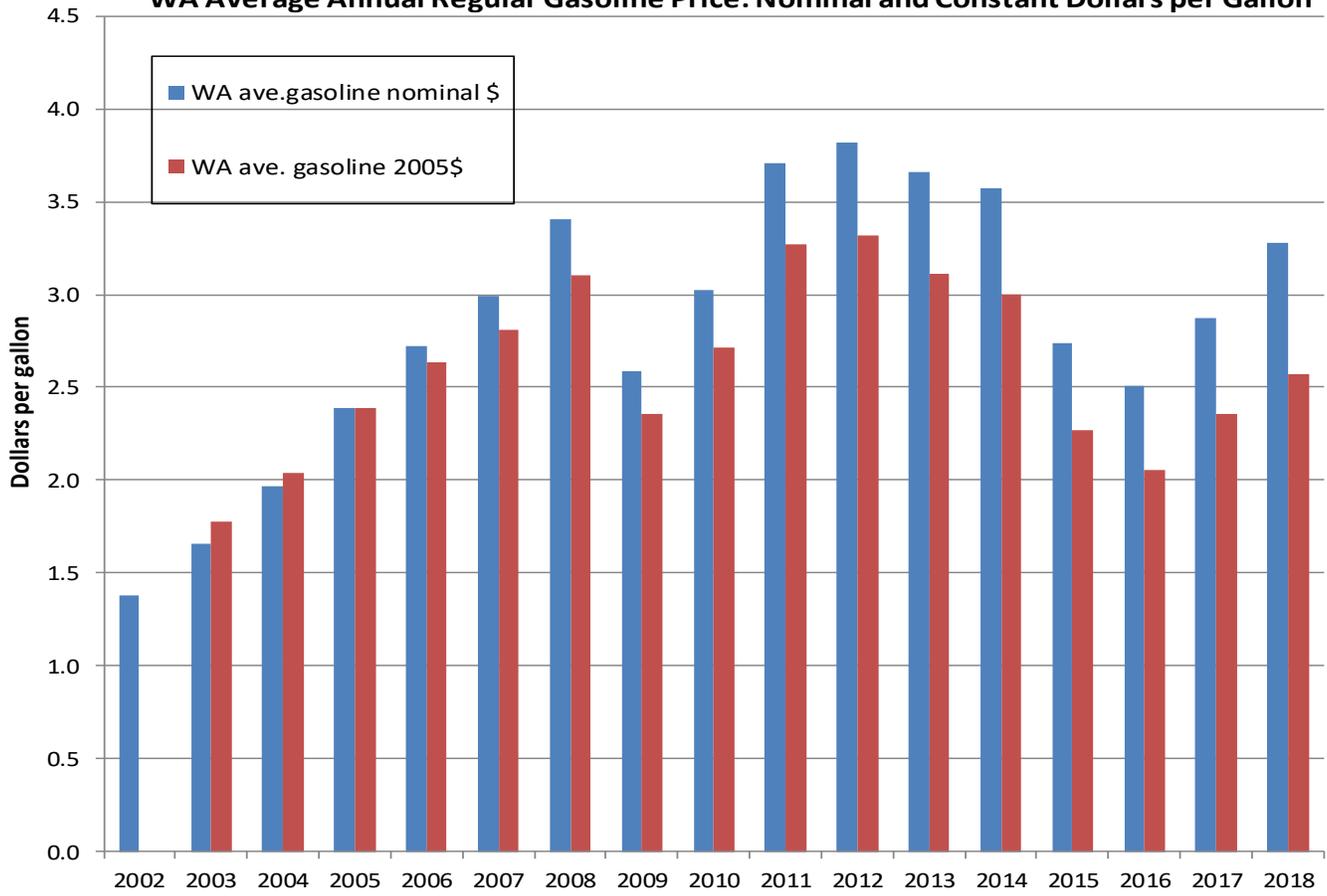
**Federal hydropower generation** in Jan.:

7,578 aMW  
5-year average: 9,402 aMW.

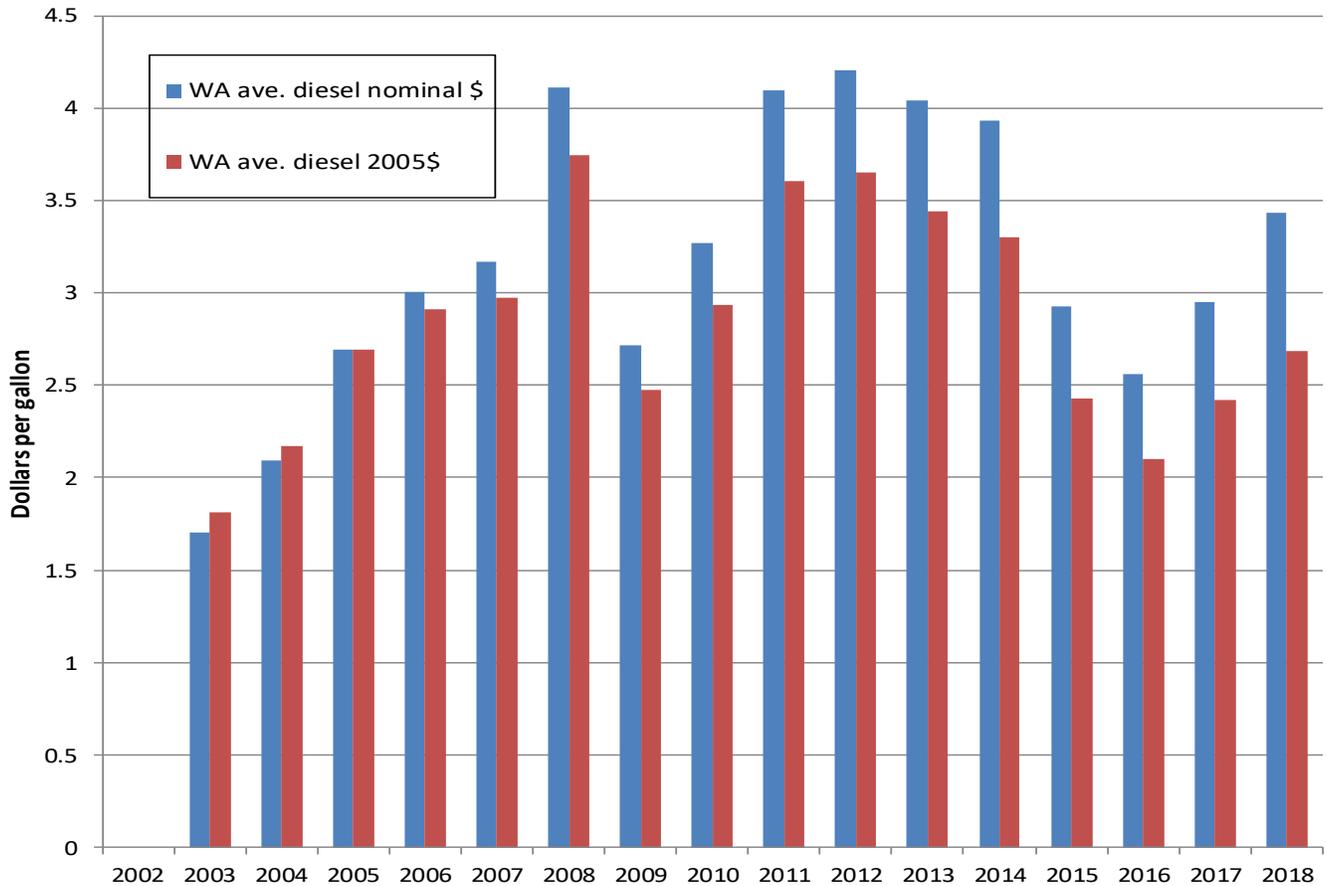
**Reservoir content** (Libby, Hungry Horse, Grand Coulee, Dworshak) in January:

70%  
5-year average: 69.7%

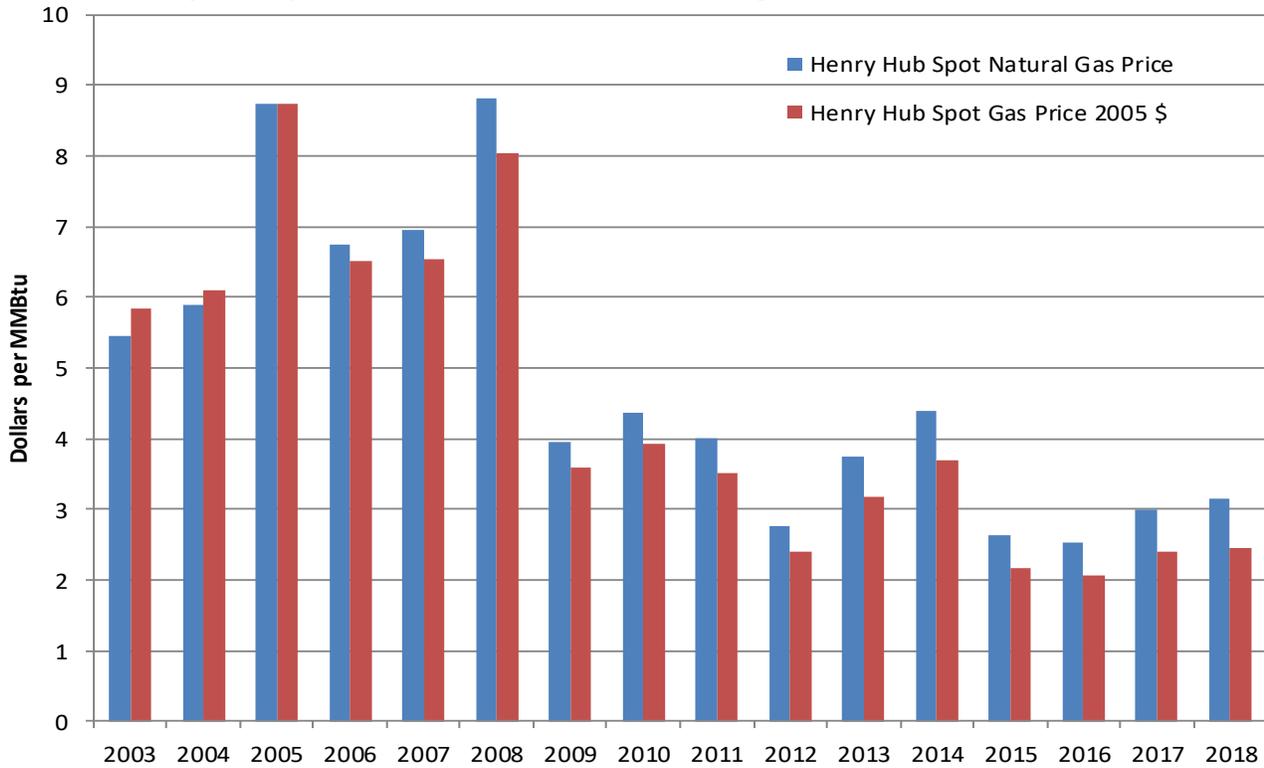
**WA Average Annual Regular Gasoline Price: Nominal and Constant Dollars per Gallon**



**WA Average Annual Diesel Price: Nominal and Constant Dollars per Gallon**



**Henry Hub Spot Natural Gas Price: Annual Average Nominal and Constant 2005\$**



**Energy Price Summary, February 2019**

	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: \$ per MWh)	45-165	26.5-46.0	5-52
Average Mid C price (Peak hours \$ MWh, current month)	94.8	32.5	21.4
Electricity WA Ave. Retail: December (cents/kWh)	8.04	8.04	8.16
Natural gas Sumas spot price (weekly ave : \$ per million BTU)	3.59	3.66	3.02
Natural gas Sumas futures price (next month \$ per million BTU)	3.59	3.80	2.51
Natural gas Sumas monthly average: December (\$ per million BTU)	10.33	10.75	2.81
Natural gas H.H. futures (NYMEX next month: \$ per million BTU)	2.69	3.13	2.75
E85 (national average: \$ per gallon gasoline)	2.70	2.59	2.56
Ethanol (CBT next month contract: \$ per gallon)	1.34	1.30	1.49
Corn (CBT next month contract: \$ per bushel)	3.71	3.77	3.86
Petroleum, West Texas Intermediate futures (\$ per barrel)	54.5	51.0	61.7
Seattle gasoline price (\$ per gallon, last week of the month)	3.12	3.29	3.04
U.S. gasoline price (\$ per gallon, last week of the month)	2.63	2.57	2.63
Gasoline futures (NYMEX next month: \$ per gallon)	1.47	1.39	1.79
State diesel price (\$ per gallon, last week of the month)	3.17	3.30	3.17
Heating oil futures (NYMEX next month: \$ per gallon)	1.94	1.84	1.96
U.S. residential heating oil price (weekly ave. \$ per gallon)	3.20	3.14	2.78
U.S. residential propane price (weekly ave. \$ per gallon)	2.43	2.43	2.57

**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 2019](#)
- [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](#)
- [WindIQ](#)—online database of wind projects

## Federal Funding Opportunities

[DE-FOA-0002051 ARPA-E: Aerodynamic turbines \(ATLANTIS\)](#) Concepts due March 18

[DE-FOA-0002000 Request for Info: Regional Initiative to Accelerate Carbon Capture, Utilization and Storage Deployment](#)—due March 25

[DE-FOA-0002041](#) New Bio-imaging Approaches for Bioenergy—pre-applications due April 4

[DE-FOA-00020444](#): FY19 Commercial Trucks and Off-Road Applications FOA: Natural Gas, Hydrogen, Biopower and Electrification Technologies—concept papers due March 29, full applications due May 14

[DE-FOA-0001976 SBIR/STTR Phase II Release 2](#). Deadline for letters of intent—April 1, Application deadline—April 23

## Events Coming Soon

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

[Efficiency Exchange 2019](#)—Coeur d’Alene ID, May 14-15

[North American Smart Energy Week](#)—Salt Lake City, UT, Sept. 23-26

Regional Power Flow (Feb. 1—Mar. 3, 2019)		
Intertie	Average	Direction
California (AC+DC)	330 mw	Export to California
Canada (BC)	-107 mw	Export to Canada
Total	223 mw	Total export

River Data		
Data for March 3	Outflow (kcfs)	Ave. outflow for last 10 years
(Snake) Lower Granite	36.1	41.3
(Columbia) The Dalles	117.7	158.0