April
2018

ENERGYnews

Monthly News from the Commerce Energy Division

Legislative Session 2018

Special thanks to the members of Washington's State Energy Office for their efforts this session!

The 2018 session packed significant action into a short period. As a whole, the Department of Commerce set records for fiscal notes with 231 total requests. The Energy Division alone contributed 57 fiscal notes, coordinating fiscal & policy analyses on bills and z-drafts to match the session's frenetic pace. The bills our team analyzed covered a wide range of topics, and approached our energy landscape from a number of different perspectives.

This year's bills covered these themes:

- alternative energy
- appliance efficiency
- building codes
- carbon tax
- clean energy
- distributed generation
- electrification of transportation
- energy efficiency
- energy independence act
- fuel content standards
- geothermal resources
- greenhouse gas emissions
- hydroelectric generation
- net metering
- out of state materials
- pollution tax
- reducing pollution
- renewable energy standards
- renewable natural gas
- repayment programs
- retail electric bill affordability
- solar gardens

Several energy-related bills passed:

- 1622 State Building Code Council
- 2580 Renewable Natural Gas
- 2970 Autonomous Vehicle Work Group
- 6179 Annual Reporting for Regulated Utility & Transportation Co.
- 6269 Oil Transportation Safety

Since Sine Die on March 8th, we've had time to take a deep breath and are getting prepared for the 2019 session!

Thanks for all you do, Michael

Department of Commerce

State Emergency Exercise

Staff from State Energy Office participated in the graded exercise for the Columbia Generation Station on March 27 at Camp Murray as part of Emergency Support Function (ESF) 12—Energy.

This exercise is a requirement for the nuclear plant to maintain its licensing with the Nuclear Regulatory Commission and tests how our State Emergency Operations Center staff responds to emergencies at the states only operating nuclear power plant.

A side benefit is that exercises like this allow us to identify things that are working and areas where there are opportunities to improve for all of the types of events that we respond to.

For more information about energy emergencies and ESF12 contact Jill Nordstrom.

jill.nordstrom@commerce.wa.gov

Weatherization, Liheap and State Energy Program funding in the Omnibus Bill

Three important energy-based programs saw an increase in federal spending in the FY 2018 Omnibus spending bill that passed on March 23.

Federal spending for the Weatherization Assistance Program (WAP) grew $23 million to $251 million. WAP began in 1976.

The Low Income Housing Energy Assistance Program (LIHEAP) increased $250 million to $3.64 billion. LIHEAP began in 1981. https://thestateofpoverty.org/2018/03/26/in-case-you-missed-it-senate-passes-omnibus/

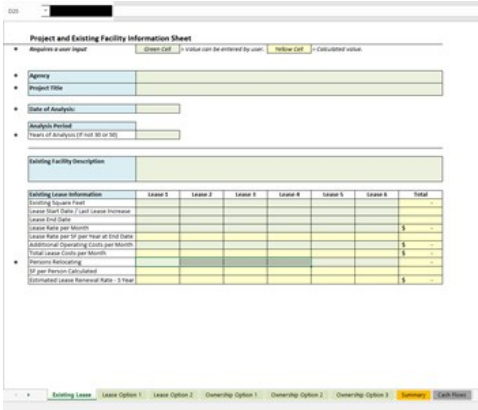
Together, they are critical to strengthening Washington communities by assisting low-income families through energy efficiency home improvements and help with energy bills.

In addition, the State Energy Program saw an increase to $55 million. This program started during the energy crisis of the early 1970s. It provides funds to states, territories and the District of Columbia to enhance energy security, state-led energy initiatives and maximize energy efficiencies.

NASCSP Celebrates Women

NASCSP is featuring Judy Darst in *Women of Weatherization*, a series of profiles for Women's History Month.

One of the most experienced people in Washington weatherization, Judy has worked both sides of the program as a weatherization field monitor and more recently in our office helping write policy. She started with the weatherization program in 2004 and has been going strong ever since.



Life Cycle Cost Tool

The State Energy Office, with direction from the Department of Enterprise Services and the Office of Financial Management, created the Washington State Life Cycle Cost Tool (LCCT) to assess energy savings opportunities and help decide the most economical option for housing state functions. The Governor's Executive Order 13-03 requires all state agencies to consider operating and life-cycle costs when planning a building.

Life-cycle cost shall determine the reasonably expected fuel costs for the economic life of the building that are required to maintain illumination, power, temperature, humidity, ventilation of such state-funded facility, and all other energy consuming equipment in a facility and the reasonably expected costs of probable facility ownership, operation, and maintenance including labor, and materials, and building operation. Lifecycle cost may be expressed as an annual cost for each year of the facility's use. Further, the life-cycle cost analysis may demonstrate for each design how the design contributes to energy efficiency, and conservation with respect to, any of the following: energy use, energy cost, clean energy use, water use, and water cost.

This tool:

- Fulfills the requirements of Washington RCW 39.35
- Adopts the national Life Cycle Cost Analysis standard calculation methodology
- Adopts our region's energy price forecasts published by NIST and standardizes key assumptions
- Eliminates calculation work associated with assembling an expenditure timeline from component characteristics
- Discounts future energy credits/debits into present values
- Calculates carbon footprint created from operating buildings
- Monetizes the greenhouse gas impact using the Social Cost of Carbon

The Life Cycle Cost Tool can be found at https://www.ofm.wa.gov/facilities/state-agency-facility-oversight/facility-life-cycle-cost-analysis-alternatives-comparison

Client Education is a Priority for the Weatherization Program

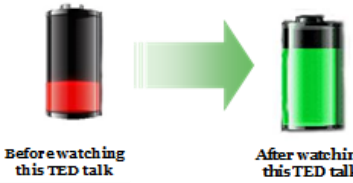
The Commerce Weatherization program has begun the work to standardize its client education material. In the past, each local agency developed their own client handouts. Sometimes there wasn't enough information and sometimes the information was overwhelming. Now we will have a standardized resource book including brochures and internet links to help clients understand the importance of maintaining the work done by weatherization crews.

Without solid, easy-to-understand information clients can't obtain the full benefits of weatherization. If filters aren't replaced the furnace has to work harder. If certain bathroom fans don't run continuously, mold grows. If clients aren't told who to contact when an appliance breaks down they call the agency who installed it. That agency then has to go through old files to find out who originally installed the appliance.

By July 1, Commerce and local agencies will have a standardized checklist and resource book to give to clients. This will help them maintain their home improvements and keep realizing the great benefits of weatherization.

Videos

Energy Manhattan Project that will change everything —Tedx Talk



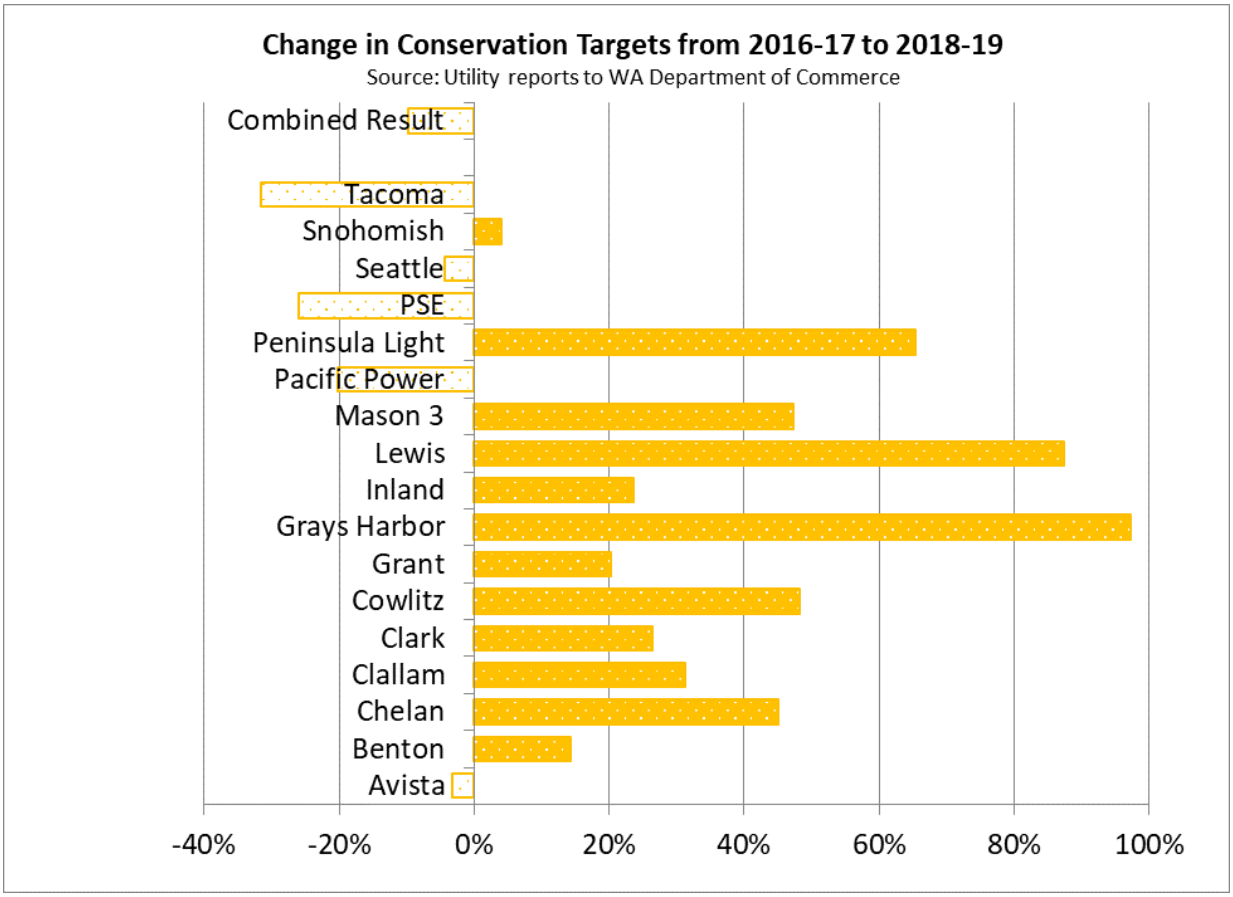
EV Ridealong with Racecar Driver Leilani Munter

Big Swings in Electric Utility Conservation Targets

BY GLENN BLACKMON

The EIA requires that each utility with more than 25,000 customers conduct a new conservation potential study every two years, looking ahead at savings that are available and cost-effective in the upcoming 10-year period. These studies are used to set two-year targets. Utilities that fail to hit these targets are subject to monetary penalties.

Electric utilities in Washington are reporting big swings in the most recent two-year energy conservation targets adopted under the Energy Independence Act (EIA, also known as Initiative 937). Overall, conservation targets are down about 10 percent from the ones set for 2016-2017.



Of the 17 utilities, 12 reported higher targets for 2018-2019 compared to 2016-2017. Grays Harbor PUD has the biggest percentage increase at 97 percent. Five utilities adopted lower targets: Avista, Pacificorp, Puget Sound Energy, Seattle City Light, and Tacoma Power. Adding the targets together, the statewide sum is 10 percent lower. The 2018-2019 targets are down even more when compared to actual performance, dropping 39 percent from the results in 2014-2015.

Energy Headlines and Videos

Coal

Another $3 Million Been Promised to Colstrip to Help the Community Transition beyond Coal—Montana Standard, Butte

Itron & Utilidata Launch a Grid Voltage Control 'App' for Next-Generation Smart Meters—GreenTech Media

Energy Efficiency

Businesses embrace green rooftops for energy efficiency and social spaces - AtlantaInTown

Alternative Fuel and Electric Vehicles

It's Official: A Plug-In Hybrid Porsche 911 is Happening—CarBuzz

Nissan is Recycling Old Electric Vehicle Batteries to Power Street Lights—ExtremeTech

US Utilities Look to Electric Cars as Their Savior amid Decline in Demand—NPR

Getting There: The Electric-Vehicle Buzz Is Real—Spokesman Review, Spokane WA

Renewables

Blowin' in the wind -- A source of energy? – Science News

Researcher helps classify new means of renewable light energy – Phys.org

The renewable future – Risk.net

Over 100 Global Cities Powered by 70% Renewable Energy – Industry Leaders

Renewable Energy Subsidies – Yes or No? - Forbes

How Pumped Storage Can Make a U-S Comeback—Renewable Energy World

Portland Reaches milestone in 'Poop to Power' Project—KGW-TV, Portland OR

Solar

Report Finds Solar Jobs Declined Nationwide In 2017, Grew In Some Cities & States—Solar Power World

TransAlta Plans Proposed Solar Plant at site of former Centralia Coal Mine—The Chronicle

Solar and Wind Could Meet 80% of US Energy Needs, Study Finds—DesignNews (see *Geophysical constraints on the reliability of solar and wind power in the United States*—Shaner, Davis, Lewis, Caldeira)

REC Silicon Weighs In – Struggling U-S Polysilicon Producers Are a Forgotten Casualty in the Solar Trade War with China—GreenTech Media

Other

CRTC Launches the World's First Park Bench made with Recycled Aerospace Grade Carbon Fiber

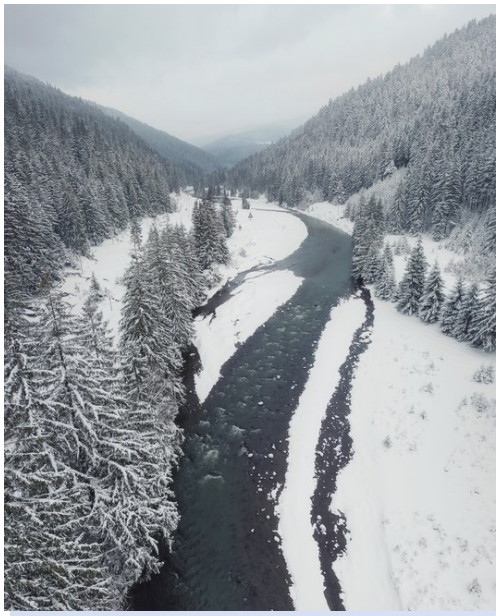
Washington volcanoes could become power plants—King5

In a first, U.S. blames Russia for cyber attacks on energy grid—Reuters

Russian Government Cyber Activity Targeting Energy and Other Critical Infrastructure Sectors—US-Cert

Energy Secretary Backs Keeping Snake Dams to Make Cheap Electricity—Tri-City Herald, Kennewick, WA

Energy Price Overview



River & Snow Pack Info

Observed March stream flow at The Dalles: 114% of average.

Observed March precipitation above The Dalles: 92% of average.

Est. 2018 Final runoff at The Dalles (Jan.—August): 114 million acre-feet, 112% of normal

Estimated regional snowpack: 112% of normal.

Federal hydropower generation in February 12,054 aMW, 5-year average: 10,043 aMW.

Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak) February: 53.7%, 5-year average: 63.1%.

Petroleum: Crude oil prices increased slightly during the month of March. U.S. oil production increased 5% during 2017 and reached record levels in November. The average West Texas Intermediate price was about $63 per barrel, while international Brent averaged approximately $67 per barrel.

Transportation Fuels: Transportation fuel prices at the national level held steady during March, but were beginning to increase at the end of the month. The national average gasoline price is about 30 cents per gallon higher than last year at this time. During March and April, refiners start producing summer blends of gasoline, which are less volatile and cost slightly more. National gasoline and diesel were $2.59 and $2.99 per gallon respectively. Washington state average gasoline price for the same period increased by 16 cents, relative to the last week of February, to $3.15 per gallon, while diesel increased 6 cents to $3.24 per gallon.

Natural Gas: The average Henry Hub natural gas price increased 3 cents to $2.68 per MMBtu in March. Locally, the average March natural gas spot price at the Sumas hub averaged $1.98 per MMBtu. National gas storage levels decreased 63 Bcf last week and are at 1,383 Bcf: about 20% below the 5-year natural gas storage average for this time of the year. Gas storage in the Pacific region was 24% below the 5-year average.

Electricity: High hydropower generation in the Northwest kept electricity prices moderate during March. The Mid-Columbia spot market price was down 5% and averaged $20.3 per MWh during March. Current snowpack is 112% of normal as is the forecast 2018 runoff: see the River and Snowpack report.

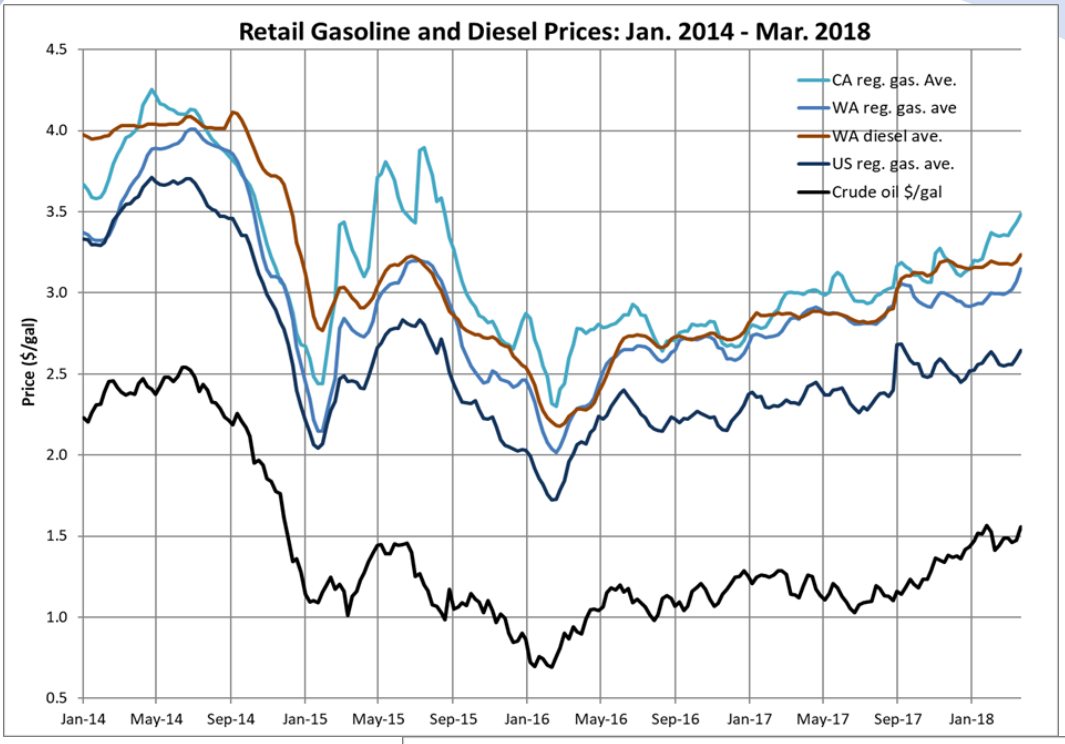
US Dept. of Energy's SBIR/STTR Awards

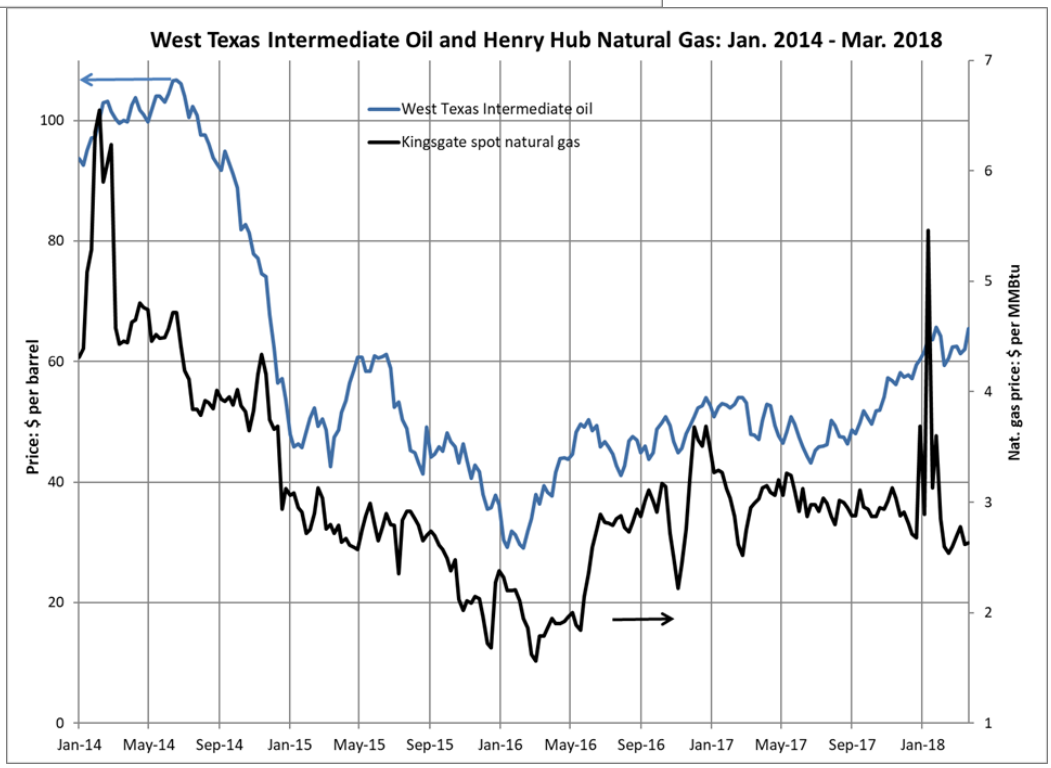
USDOE's Small Business Innovation Research (SBIR) and Small Business Technology Transfer awards have been announced for 2018 Phase I Release 1. Congratulations are in order for the following grantees:

Integrated Lipid Biofuels LLC of Pullman, WA (High yield conversion of waste to biochemical with a synthetic biology platform).

AltaRock Energy Inc. of Seattle, WA (Development of mineral grouting technique to permanently plug short circuits in geothermal reservoirs)

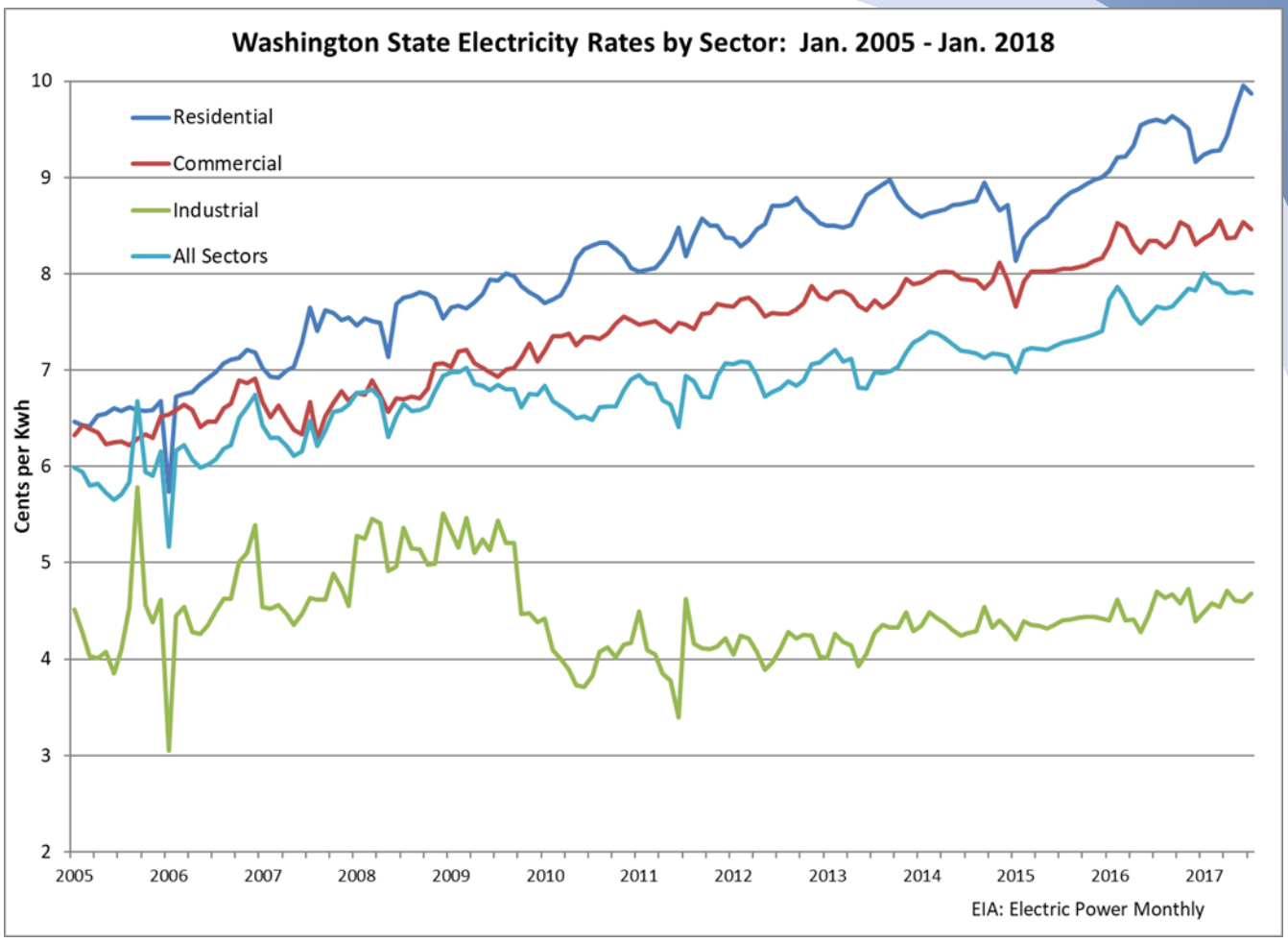
Global FIA Inc. of Fox Island, WA (Modular Isotope Purification—The Production of 211AT)





River Data		
Data for Nov. 7	**Outflow (kcfs)**	**Avg. outflow last 10 years (kcfs)**
(Snake) Lower Granite	62.3	79.0
(Columbia) The Dalles	197.3	226.1

Regional Power Flow		
Intertie	**Average power flow**	**Direction**
California (AC+DC)	5,538 mw	Export to California
Canada (BC)	561 mw	Import from Canada
Total	6,099 mw	exported



Energy Price Summary, March 2018	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: $ per MWh)	13-33	5.5-52.0	-2.0 - 24.0
Average Mid C price (Peak hours $ MWh, current month)	20.3	21.4	21.5
Electricity WA Ave. Retail: January (cents/kWh)	8.12	8.16	8.00
Natural gas Kingsgate spot price (next day: $ per million BTU)	1.93	2.83	2.41
Natural gas Sumas futures price (next month $ per million BTU)	1.72	2.29	2.36
Natural gas Sumas monthly average: January ($ per million BTU))	2.76	2.81	3.74
Natural gas H.H. futures (NYMEX next month: $ per million BTU)	2.70	2.75	2.97
E85 (national average: $ per gallon gasoline)	2.56	2.56	2.51
Ethanol (CBT next month contract: $ per gallon)	1.45	1.49	1.62
Corn (CBT next month contract: $ per bushel)	3.73	3.86	3.62
Petroleum, West Texas Intermediate futures ($ per barrel)	62.8	61.7	49.0
Seattle gasoline price ($ per gallon, last week of the month)	3.24	3.08	2.88
Gasoline futures (NYMEX next month: $ per gallon)	1.91	1.79	1.60
State diesel price ($ per gallon, last week of the month)	3.24	3.18	2.85
Heating oil futures (NYMEX next month: $ per gallon)	1.92	1.96	1.54
U.S. residential propane price report ($ per gallon)	2.01	1.92	1.71
Clean Cities: Alternative Fuel Price Report, January 2018	**Current qtr US avg**	**Current qtr west coast**	**Last qtr avg west coast**
Ethanol E85 ($ per gas gallon equiv.)	2.68	3.29	3.25
Biodiesel B20 ($ per diesel gallon equiv.)	2.90	3.07	2.85
Biodiesel B99-100 ($ per diesel gallon equiv.)	3.83	3.97	3.80
Compressed Natural Gas ($ per gas gallon equiv.)	2.17	2.45	2.44
Propane ($ per gas gallon equiv.)	3.88	4.06	4.16

U.S. Energy Information Administration

- Annual Energy Outlook 2017
- 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

Federal Funding Opportunities

Biorefinery, Renewable Chemical and Biobased Product Manufacturing Assistance Program

This program assists in the development, construction, and retrofitting of new and emerging technologies for advanced biofuels, renewable chemicals and biobased products by providing loan guarantees up to $250 million.

DE-FOA-0001886: RFI: Expanding Hydropower and Pumped Storage's Contribution to Grid Resiliency and Reliability (deadline TBD)

US DOE Office of EERE, Water Power Technologies Office seeks input on new research to maximize the value of hydropower's contribution to grid resiliency and reliability today and into the future. This strategy includes pumped storage and traditional hydropower, and covers both new technology design as well as modeling and analysis to assess the range of value streams hydropower provides in the current and future power grid. This research will build targeted insight into economic, policy and technological barriers, inform future hydropower technology development, and improve the tools by which investment and operational decisions are made. They seek concise feedback from all relevant stakeholders.

RDBCP-REAP-RES-EEI-2016 Renewable Energy Systems and Energy Efficiency Improvements Program

This program provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or to make energy efficiency improvements.

Upcoming Events

2018 Green Transportation Summit and Expo—Tacoma, April 17-19

2018 HPC Nat'l Home Performance Conference—April 23-26

The Global Marine Energy Opportunity—Seattle, May 9, 2018

Efficiency Exchange 2018—Tacoma, May 15-16

NW Power Markets Conference—Seattle, May 16

47th Annual National Solar Conference—Boulder CO, Aug 5-8

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