Energy News Overview

It’s official, both the NOAA and NASA climatic research centers reported that the year 2014 was the warmest on record (by a few hundredths of a degree compared to 2010): article on pg. 5. The Japanese issued a preliminary report supporting this conclusion, while the UK Hadley climatic research unit reported 2014 was tied with 2010 as the warmest year. Because of the unusual chill (polar vortex) in the East, 2014 was only the 34th warmest year on record for the lower 48 states. The contiguous United States set a temperature record in 2012, a year of scorching heat waves and drought. Last year’s extreme warmth in the West meant that Alaska, Arizona, California and Nevada all set temperature records. For Oregon, Idaho and Washington 2014 was the second, fourth and fifth warmest years on record. Some parts of California essentially had no winter last year, with temperatures sometimes running 10 to 15 degrees above normal for the season. The temperature in Anchorage, Alaska’s largest city, never fell below zero in 2014, the first time that has happened in 101 years of record-keeping for the city: see articles on page 2 and 5 for more on record temperatures and the western drought.

Despite the new record climate skeptics and the new U.S. Senate still hold that we can’t tell why average global temperature has increased: article on the Senate position on pg. 5. A recent poll revealed that two thirds of Americans and nearly half of Republicans support government action on climate change. Apparently the change in outlook has not worked its way up to the Senate leadership.

Crude oil prices continued to decline during January as global production still exceeds demand. Saudi Arabia and the some of the Gulf states have indicated that they want to retain market share and will not cut production to rebalance the oil market. Some analysts believe that U.S. production will plateau within 6 months and that the oil market will start to rebalance by this summer. However, mid-term forecasts are that crude oil prices will remain low ($75 per barrel range) for several years. After declining for 7 or 8 years, lower gasoline, diesel and jet fuel prices, along with an improving economy, are causing U.S. fuel consumption to increase. Low fuel prices over the longer-term may make the Obama administration’s greenhouse gas emission targets more difficult to obtain.

In a win for Hillsboro Oregon based Solarworld, the federal Dept. of Commerce reaffirmed the tariffs on Chinese and Taiwanese solar panels.

In Olympia the Carbon Pollution Accountability Act legislation (House bill 1314) had two hearings this week in front of the House Environment Committee. For information on HB1314 and access to the hearing videos follow this link: http://apps.leg.wa.gov/billinfo/summary.aspx?bill=1314&year=2015

Proceeds from the CPAA would fund education, transportation and low income programs: Related articles on page 8.
As noted on the previous page, 2014 has taken over the spot of warmest year in the historical instrumental record (since 1880 for the US). While higher temperatures do not necessarily create a drought (other meteorological factors contribute as well) they can certainly exacerbate drought conditions; by reducing snowpack in mountains, increasing water loses via evaporation and increasing the rate of evapotranspiration by plants. Lower snowpack levels in the mountains of the western part of the U.S. are impacting electric power generation, irrigation, municipal water supplies and the incidence of wildfires in the summer and fall. The west coast has suffered a higher than “normal” frequency of droughts over the last twenty years. The NOAA National Climatic Data Center monitors drought conditions in the U.S. and publishes several useful reports. Follow the link below to find additional information on drought conditions. Also check the National Geographic link, which contains outstanding graphical supplements, that covers the drought in California.


U.S. Drought Monitor

January 27, 2015
(Released Thursday, Jan. 29, 2015)
Valid 7 a.m. EST

Drought Impact Types:
- Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/
Electricity, Petroleum & Natural Gas Prices

Energy Price Overview

During the first month of 2015 the price for West Texas Intermediate (WTI) crude oil continued the decline that began during the summer of 2014. Since reaching its 2014 price peak during June WTI has declined by nearly 60 percent, or about $60 per barrel. Oil field drilling activity in the U.S., and presumably other high production cost regions, continues to decline. However, a large number of wells that were in mid development when the price decline began, continue to be completed and production continues to increase, albeit at a slower rate, and global production still exceeds demand.

During the last week of January U.S. gasoline and diesel prices averaged $2.04 and $2.87 per gallon respectively: down a few cents from the previous week and $1.26 and $1.01 per gallon lower than last year at this date. Washington state gasoline and diesel prices averaged $2.20 and $2.84 per gallon respectively. Gasoline and diesel prices usually reach their annual low points somewhere near the end of Nov. through end of Dec. This year, because of the extended and deep decline in crude oil prices, fuel prices continued their decline through January. Recent national fuel prices suggest the gasoline low price point may have been reached a couple of days ago.

The price for month ahead NYMEX natural gas declined in January to 2.98 per MMBtu: a $0.73 decrease from the previous month at this time. The price decrease occurred because of milder weather, increasing natural gas production and higher than anticipated gas inventories. Locally natural gas spot price at Kingsgate was $2.44 per MMBtu, down 97 cents from the price reported last month. Nationally there was a moderate natural gas storage draw of 94 Bcf last week. Gas storage levels are 2,543 Bcf about 3% below the 5-year storage average at this time. Because of the exceptionally warm winter gas storage in the West is running 1% ahead of the 5-year average.

Regional electricity prices are down sharply, because of our warm winter weather: Jan. monthly average spot price of $23 per MWh versus $31.5 for the previous month. This is $17 per MWh lower than the Jan. 2013 average monthly spot price. Hydropower generation was up 15 percent from Dec. of last year. Precipitation in Jan. was 88% of normal above the Dalles, while stream flow at the Dalles station was 121% of normal.

<table>
<thead>
<tr>
<th>Energy Price Summary</th>
<th>Current</th>
<th>Month Ago</th>
<th>Year Ago</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Range at Mid-C (Peak: $ per MWh)</td>
<td>19-56.5</td>
<td>19-56.5</td>
<td>32.5-47</td>
</tr>
<tr>
<td>Average Mid C price (Peak hours $ MWh)</td>
<td>23.2</td>
<td>31.5</td>
<td>40.2</td>
</tr>
<tr>
<td>Electricity WA Retail: Nov. (cents/kWh)</td>
<td>7.16</td>
<td>7.17</td>
<td>7.03</td>
</tr>
<tr>
<td>Natural gas Kingsgate spot price (next day: $ per million BTU)</td>
<td>2.44</td>
<td>3.41</td>
<td>4.74</td>
</tr>
<tr>
<td>Natural gas Sumas futures price (next month $ per million BTU)</td>
<td>2.53</td>
<td>3.05</td>
<td>4.57</td>
</tr>
<tr>
<td>Natural gas Sumas monthly average: Oct. ($ per million BTU)</td>
<td>3.83</td>
<td>3.76</td>
<td>3.94</td>
</tr>
<tr>
<td>Natural gas H.H. futures (NYMEX next month: $ per million BTU)</td>
<td>2.98</td>
<td>3.71</td>
<td>4.38</td>
</tr>
<tr>
<td>E85 (national average: $ per gallon gasoline)</td>
<td>2.29</td>
<td>2.66</td>
<td>3.67</td>
</tr>
<tr>
<td>Ethanol (CBT next month contract: $ per gallon)</td>
<td>1.38</td>
<td>1.64</td>
<td>1.79</td>
</tr>
<tr>
<td>Corn (CBT next month contract: $ per bushel)</td>
<td>3.75</td>
<td>4.09</td>
<td>4.48</td>
</tr>
<tr>
<td>Petroleum, West Texas Intermediate futures ($ per barrel)</td>
<td>45.8</td>
<td>53.7</td>
<td>97.1</td>
</tr>
<tr>
<td>Seattle gasoline price ($ per gallon)</td>
<td>2.37</td>
<td>2.69</td>
<td>3.40</td>
</tr>
<tr>
<td>Gasoline futures (NYMEX next month: $ per gallon)</td>
<td>1.34</td>
<td>1.68</td>
<td>2.67</td>
</tr>
<tr>
<td>State diesel price ($ per gallon)</td>
<td>2.84</td>
<td>3.23</td>
<td>3.95</td>
</tr>
<tr>
<td>Heating oil futures (NYMEX next month: $ per gallon)</td>
<td>1.68</td>
<td>2.06</td>
<td>3.00</td>
</tr>
<tr>
<td>U.S. residential propane price report (reported Oct.-Mar.)</td>
<td>2.37</td>
<td>2.38</td>
<td>3.17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol E85 ($ per gas gallon equiv.)</td>
<td>4.06</td>
<td>4.53</td>
<td>5.06</td>
</tr>
<tr>
<td>Biodiesel B20 ($ per diesel gallon equiv.)</td>
<td>3.89</td>
<td>4.06</td>
<td>4.22</td>
</tr>
<tr>
<td>Biodiesel B99-100 ($ per diesel gallon equiv.)</td>
<td>4.63</td>
<td>4.79</td>
<td>4.83</td>
</tr>
<tr>
<td>Compressed Natural Gas ($ per gas gallon equiv.)</td>
<td>2.16</td>
<td>2.41</td>
<td>2.42</td>
</tr>
<tr>
<td>Propane ($ per gas gallon equiv.)</td>
<td>4.25</td>
<td>4.43</td>
<td>4.36</td>
</tr>
</tbody>
</table>
Retail Gasoline and Diesel Prices: Jan. 2010 - Jan. 2014

Energy Headlines - If you only have time to read a few articles—read these.


U.S. Senate Says Climate Change Is ‘Real,’ Won’t Admit Humans Cause It. Seattle PI, Jan. 21.  
http://blog.seattlepi.com/seattlepolitics/2015/01/21/senate-says-climate-change-is-real-wont-admit-humans-are-a-cause/

http://www.eia.gov/energy_in_brief/article/fuel_mix_for_elect_generation.cfm


Yakima Basin Short on Snow, But Season Is Still Young. Yakima Herald-Republic.  


Energy Headlines—continued

**Climate change, western drought, and the warm winter**
*Warm Temps Are Bad for Oregon’s Snowpack. Oregon Public Broadcasting.*

*States in parched southwest take steps to bolster Lake Mead. New York Times, Dec. 17.*


*Record High Temperatures Sunday across Western Washington State. KOMO-TV.*

**Clean energy**

*U.S. Nuclear Plants Post Record Efficiency in 2014 (Utility Dive)*


*Renewables Enjoy New Bipartisan Consensus, But Efficiency Standards Remain Under Attack Utility Dive*  

**Electric vehicles/batteries**
http://www.detroitnews.com/story/business/autos/2015/01/22/ev-goal-million/22176225/

*Nearly Half of Electric Car Tax Breaks Go to State’s Wealthiest Ten Percent. Washington Policy Center*  
http://www.washingtonpolicy.org/publications/brief/nearly-half-electric-car-tax-breaks-go-state%E2%80%99s-wealthiest-10-percent

Will Electric Cars Short-Circuit? Some Fear Sales Will Falter as Gas Prices Continue to Decline, Vancouver Columbian.  

Huge Battery Will Help Deliver Clean Electricity, Snohomish PUD Says. Everett Herald.  
http://www.heraldnet.com/article/20150116/NEWS01/150119260/Powered-up

**Cap & trade, carbon tax**  


http://www.reuters.com/article/2015/01/07/california-carbon-trading-idUSL1N0UM03320150107

California’s Cap-And-Trade Program Now Covers Cars. Grist Online.  

http://www.bizjournals.com/portland/blog/sbo/2015/01/a-tax-or-a-cap-debating-the-path-to-pricing-carbon.html

Low oil prices  
Aramco says Saudis won’t singlehandedly balance oil market. Bloomberg news, Jan. 27.  


For your amusement  
http://mmjbusinessdaily.com/chart-of-the-week-energy-consumption-breakdown-for-a-commercial-cannabis-cultivation-site/

http://nwpr.org/post/Portland-brewery-puts-low-carbon-beer-tap
River & Snow Pack Info

- Observed Jan. stream flow at The Dalles: 121% of average.
- Observed Dec. precipitation above The Dalles: 88% of average.
- Forecast runoff at The Dalles: 102.6 million acre-feet, 101% of 30-year average
- Federal hydropower generation in Dec.: 9,412 aMW, 2009-2013 average: 8,580 aMW.
- Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak): Dec 77%, 5-year average: 75%.

Power Exchanged

<table>
<thead>
<tr>
<th></th>
<th>Daily Outflow (kcf)</th>
<th>Avg Jan 26 Outflow for last 10 years (kcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data for January 26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Granite</td>
<td>37.4</td>
<td>31.8</td>
</tr>
<tr>
<td>The Dalles</td>
<td>178.6</td>
<td>160.4</td>
</tr>
</tbody>
</table>
NCDC releases 2014 U.S. Climate Report

http://droughtmonitor.unl.edu/

The 2014 annual average contiguous U.S. temperature was 52.6°F, 0.5°F above the 20th century average. This ranked as the 34th warmest year in the 1895–2014