



## Fact Sheet: The COVID-19 Pandemic's Impact on Utah's Petroleum Industry

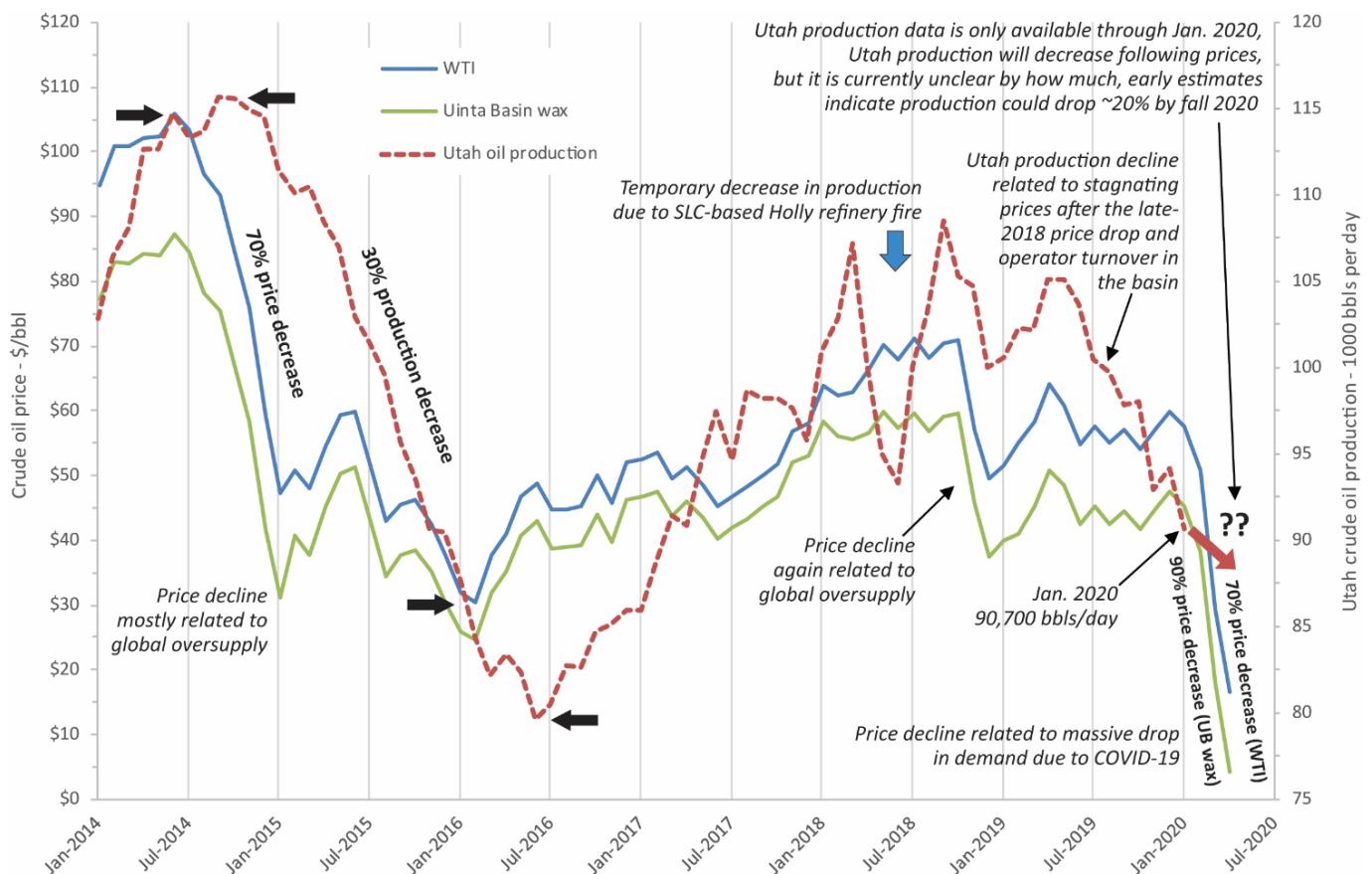
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Utah Geological Survey

The Utah Geological Survey has been tracking the response of Utah-specific energy sector data due to disruptions related to the COVID-19 pandemic. While most datasets have a several month delay, daily and weekly metrics are already showing significant changes, mostly from Utah's petroleum industry. As more data becomes available, this Fact Sheet will be updated to show the full effects the COVID-19 pandemic has had on Utah's energy industry.

### Monthly crude oil prices and monthly Utah oil production, January 2014 to April 2020



Source: U.S. Energy Information Administration; Utah Division of Oil, Gas and Mining; Big West Oil price bulletin

The price for WTI (West Texas Intermediate – U.S. oil price benchmark) and Uinta Basin (UB) wax both underwent dramatic decreases in recent months.

- UB wax price declined 90% since January 2020, to about \$4/bbl in April 2020 (monthly average).
- WTI price declined 70% since January 2020, to about \$16/bbl in April 2020 (monthly average).
- As prices decline, the WTI/UB wax differential gets larger.
- May 2020 futures prices went negative for the first time ever on April 20 (-\$36.98 for WTI, -\$50.13 for UB wax), and were still negative for UB wax on April 21 (-\$2.49).

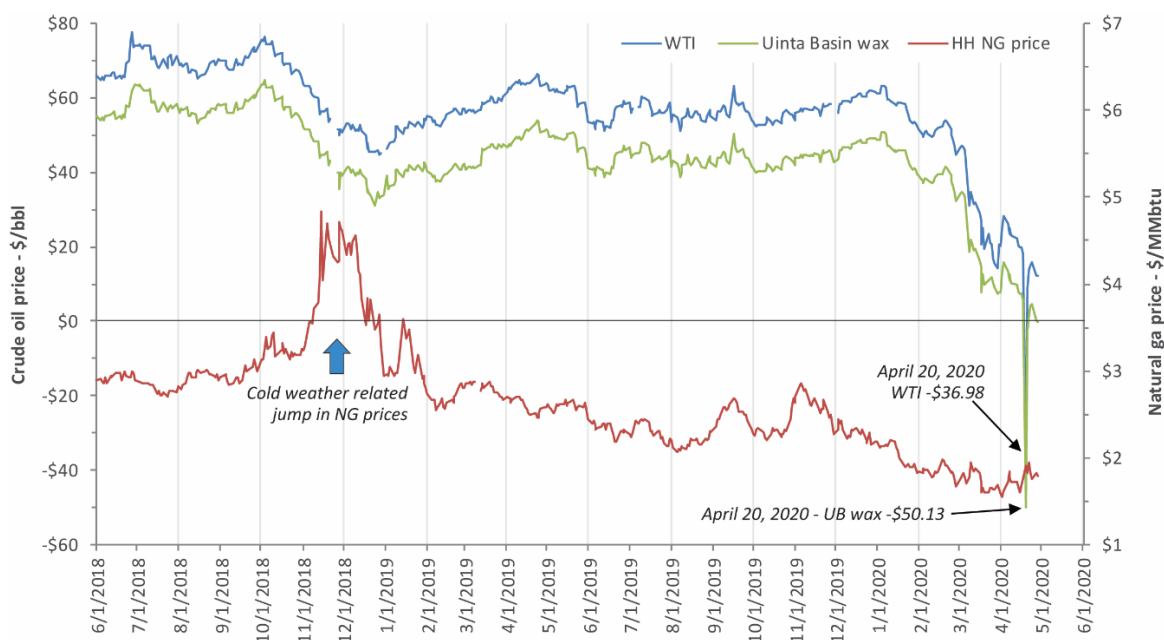
Utah oil production data (from the Utah Division of Oil, Gas and Mining) is only available through January 2020, when production equaled 90,700 barrels per day (monthly average).

- Utah oil production has been in decline since spring 2019 due to stagnating prices and Uinta Basin operator turnover.
- It is fully expected that Utah oil production will decline in the following months, but it is unclear by how much.
- Utah oil production declines will depend on the duration of low oil prices and subsequent rebound levels, which is related to demand for petroleum products (currently at historic lows due to COVID-19-related travel restrictions).
  - Current national forecasts suggest WTI could rebound to the mid-\$30 range by late summer, which would equate to a UB wax price in the upper \$20s, not high enough to spur new drilling.
  - Most likely, UB wax prices would need to return to the upper \$30s to low \$40s range to spur measurable new drilling; this might not happen until well into 2021.
- Early forecasts indicate that Utah production could decline to ~65,000 to ~70,000 bbls/day by fall 2020.
  - This would equate to total 2020 Utah oil production in the ~28 to 30 million barrels range, down from 36.5 million barrels in 2019.
  - Total Utah oil production is expected to decline even further in 2021.
- As refineries scale back production and storage fills, the only option will be to shut-in oil wells, further reducing production.

The price of natural gas at HH (Henry Hub – U.S. natural gas price benchmark) has been low for several years and has been below \$2/million BTU since January 2020.

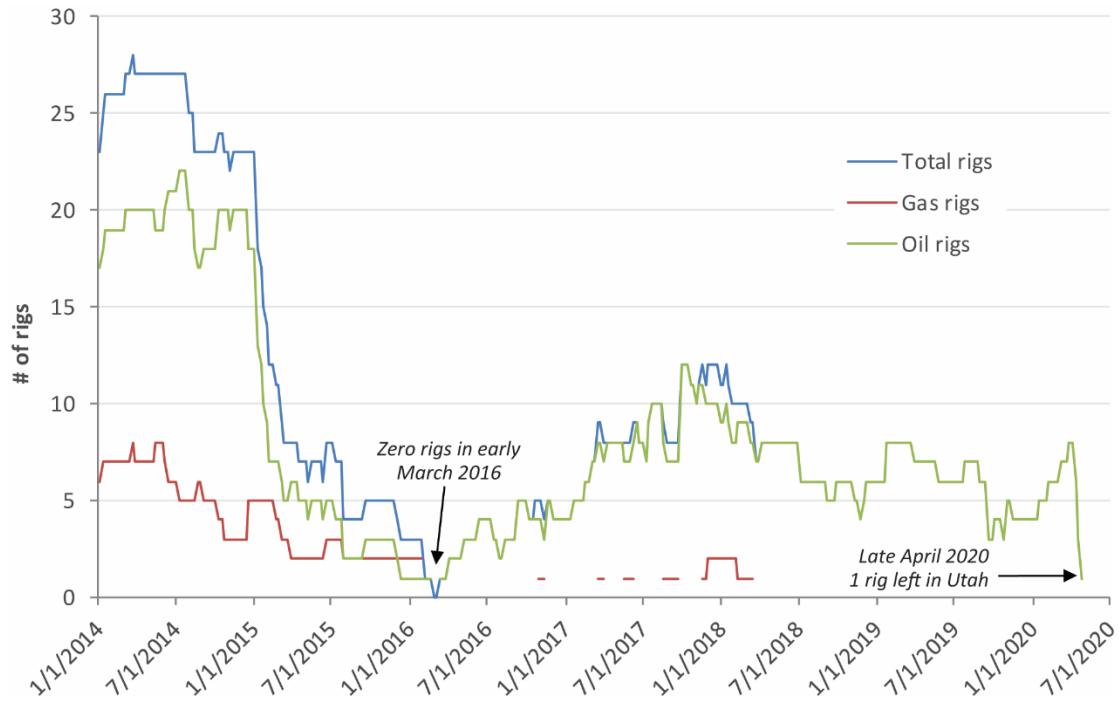
- Natural gas production in Utah has declined from 491 billion cubic feet in 2012 down to 272 billion cubic feet in 2019, a 45% decrease.
- The current COVID-19 situation will hasten natural gas production declines as associated gas production (i.e., from oil wells) decreases.

**Daily crude oil prices and natural gas prices, June 2018 to April 2020**



Source: U.S. Energy Information Administration, Big West Oil price bulletin

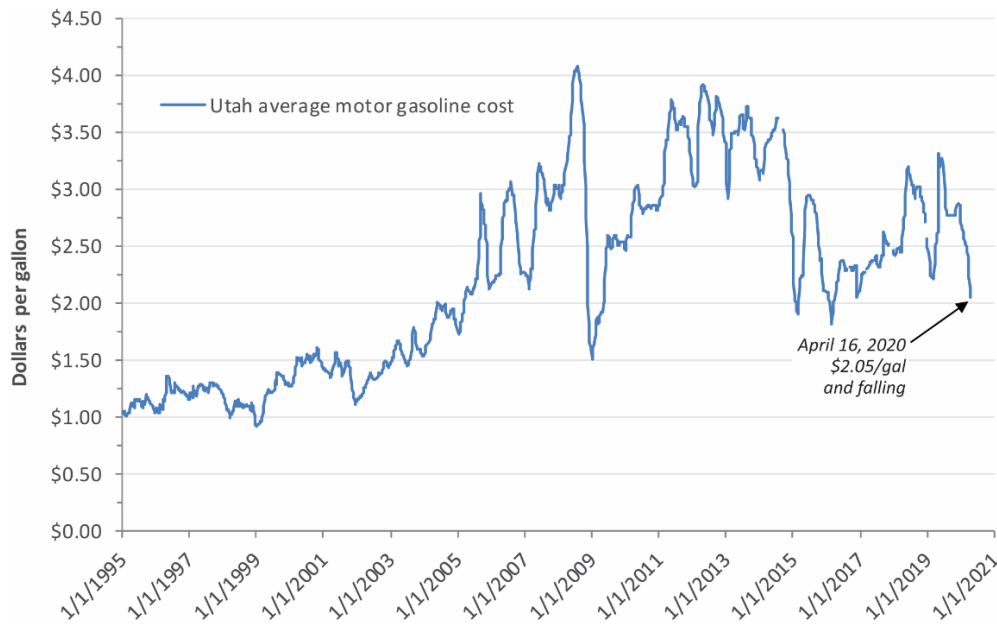
### Weekly drill rig count in Utah, January 2014 to April 2020



Source: Baker Hughes, Rocky Mountain Oil Journal

Utah's drill rig count has fallen from eight rigs in early April 2020 to only one rig currently—it is fully expected that all rigs will get laid down by early May 2020, which will impact oil production going forward.

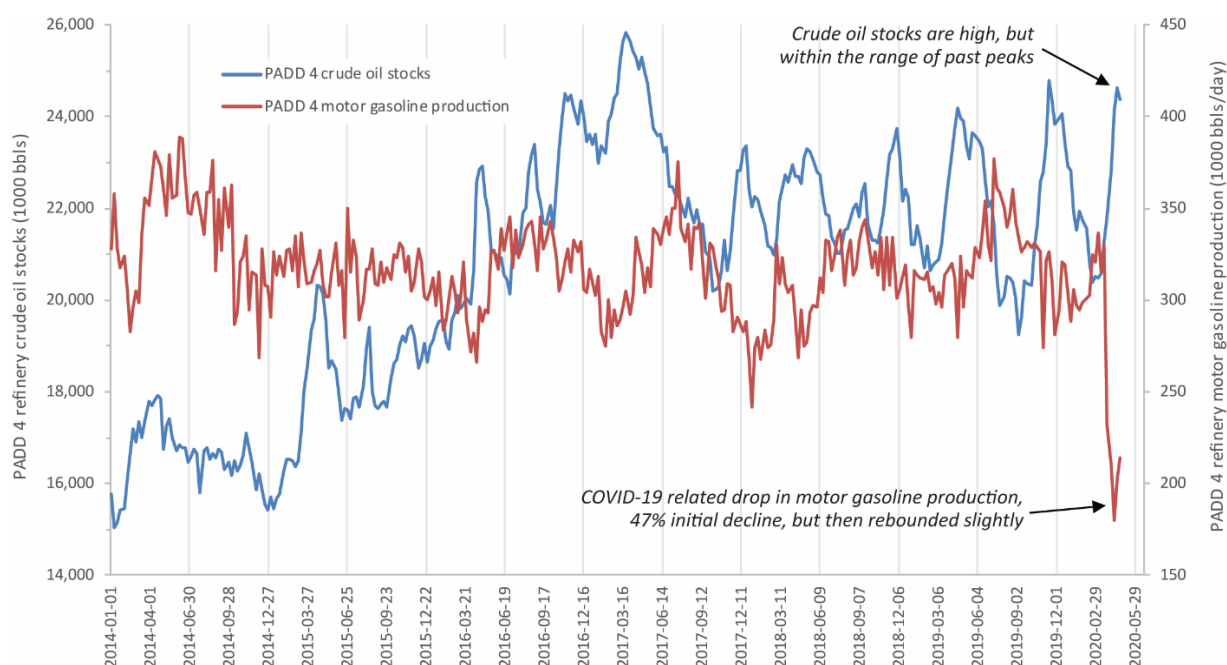
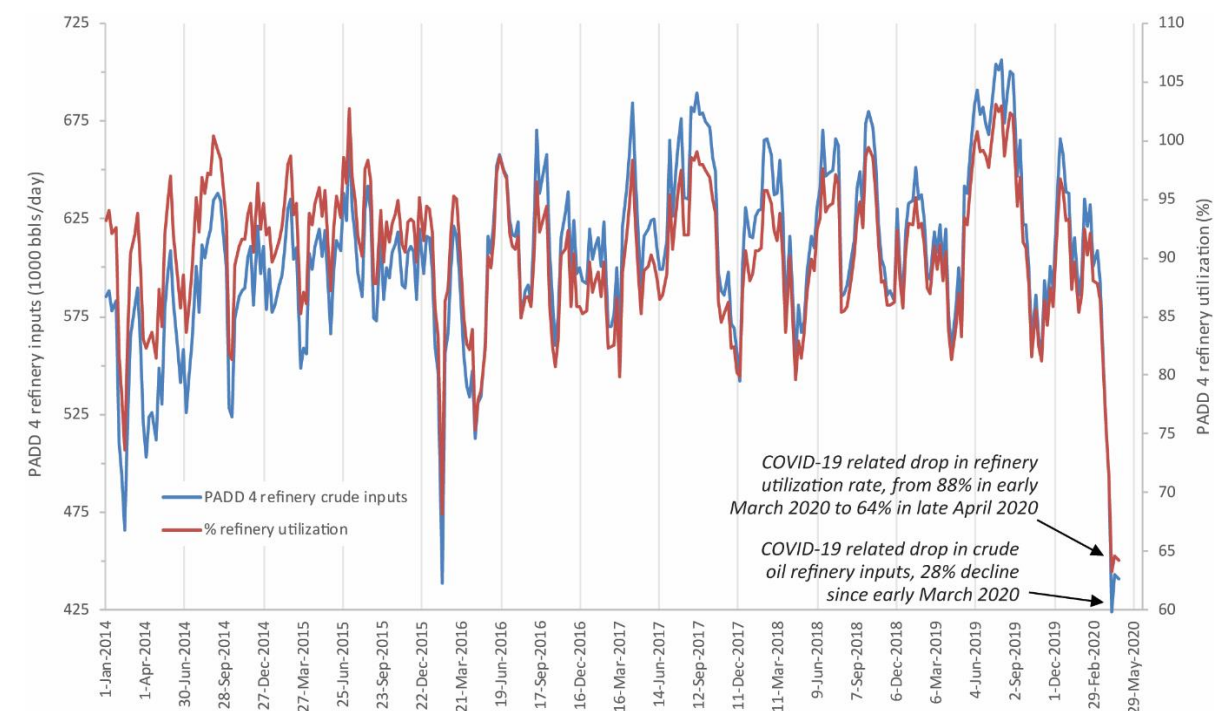
### Weekly average motor gasoline prices (regular unleaded) in Utah, January 1995 to April 2020



Source: Oil and Gas Journal

Motor gasoline prices in Utah are falling, but are above the national average of about \$1.77/gal. Gasoline prices always lag behind drops in crude oil prices. Some gas stations in Utah have posted prices as low as \$1.14 /gal.

### Weekly PADD 4 refinery data, January 2014 to April 2020



Source: U.S. Energy Information Administration

PADD = Petroleum Administration for Defense Districts

PADD 4 includes: Utah, Colorado, Wyoming, Idaho, and Montana

The Utah Geological Survey collects Utah-specific monthly refinery data, but currently data is only available through February 2020 and shows no signs of a COVID-19 downturn. Weekly refinery data for PADD 4 (northern Rocky Mountain states) is available from the U.S. Energy Information Administration and is a good proxy for what is also happening in Utah.

- As demand for petroleum products declines due to COVID-19 travel restrictions, refinery utilization rates have dropped from about 90% in early 2020 to only 64% in late April 2020. Utah refineries usually run at about 90% capacity.
- The average PADD 4 refinery crude oil inputs dropped 28% since early March 2020.
- The average PADD 4 refinery motor gasoline production rate has declined 47% since early March 2020 but rebounded slightly during the last week of April.
- Crude oil stocks at PADD 4 refineries have increased recently but are still inline with past peaks (this could be near the upper limit of the storage capacity).

The Utah Geological Survey provides timely scientific information about Utah's geologic environment, resources and hazards.

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