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April 24, 2020

TO: Interested Persons

FROM: Andrea Denka, Research Analyst, 303-866-4781

SUBJECT: Changing Energy Demands and Colorado Utilities' Response to COVID-19

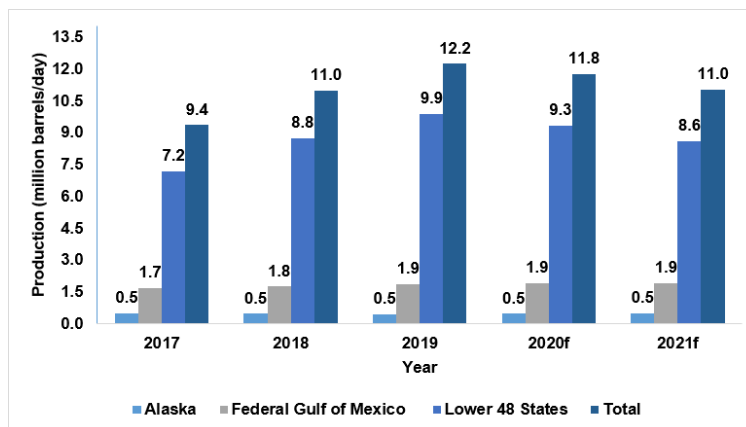
Summary

This memorandum provides an overview of how energy consumption and usage has changed as a result of the 2020 coronavirus pandemic (COVID-19), and how Colorado utilities are responding.

Changes in Energy Demand and Usage

Energy consumption and usage has varied across the country due to COVID-19. According to the federal Energy Information Administration (EIA), the complete impact of COVID-19 is not yet known. However, the pandemic has caused significant changes in energy supply and demand patterns. Domestic oil demand has decreased since the beginning of 2020 because of less travel and decreased economic activity throughout the world. At the same time, production and exports from other countries have increased. The EIA currently estimates that the U.S. will import more petroleum than it exports in 2020 due to low prices and decreased demand. U.S. oil production is expected to decline through 2021 due to COVID-19, as shown in Figure 1.

Figure 1
U.S. Oil Production and Projected Production

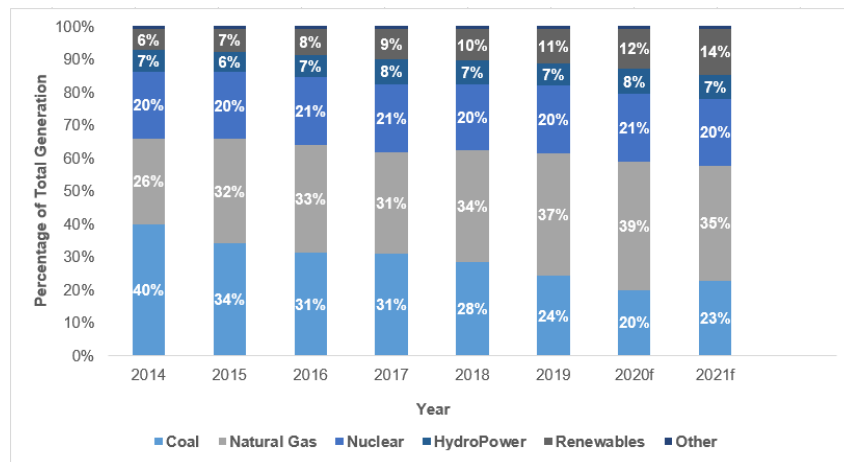


Source: U.S. Energy Information Administration.

Electricity in the United States is produced using various energy sources such as coal, natural gas, and renewable sources like solar. While natural gas prices have decreased in 2020, the EIA is currently expecting natural gas prices to increase by the end of 2020 and to return to pre-pandemic levels in 2021. The EIA does not expect the COVID-19 pandemic to have a long-term impact on natural gas production in the U.S. However, coal production is expected to decrease by up to 22 percent in 2020 due to the decreased electricity demand. The EIA also expects renewable energy to be the fastest growing source of electricity generation in 2020, but warns that the COVID-19 pandemic may impact the construction of large renewable resource generating facilities in the future.

Both the supply and demand for electricity have been impacted as a result of COVID-19. According to the Rocky Mountain Institute, since the beginning of March, the total electrical load on certain grid systems has decreased from 5 to 15 percent relative to the expected loads for this time of year throughout the country.¹ This reduction in electrical loads may be caused by changing weather patterns, decreased peak usage times, and a decrease in energy usage from commercial buildings. The EIA also states that a 3 percent decrease in total U.S. electric power production is expected in 2020, and that the economic slowdown and stay-at-home orders will likely impact electricity production through 2021. Figure 2 shows the share of total electrical power by source from 2014 to 2019 and forecasts for 2020 and 2021.

Figure 2
Total Share of Electrical Power Generation



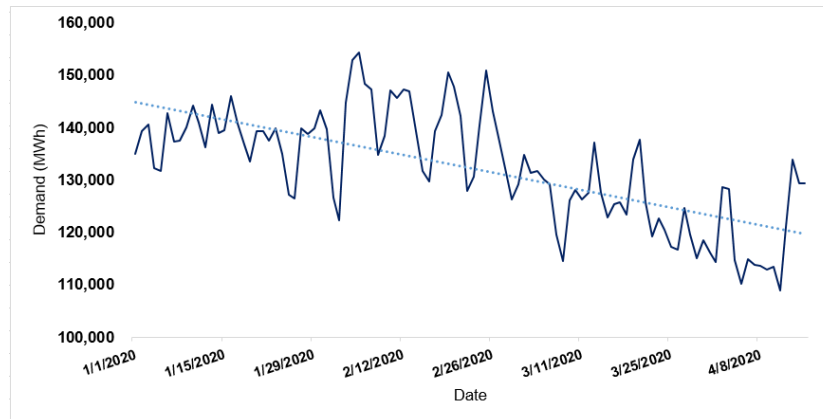
Source: U.S. Energy Information Administration.

Utility Response in Colorado

COVID-19 has also impacted energy consumption and production in Colorado. The EIA continuously monitors the organizations responsible for balancing electrical supply and demand in the United States. Similar to the trends seen throughout the country, Colorado has experienced a decrease in electricity production. Figure 3 shows the daily demand for electricity as reported by Colorado balancing authorities from January 1, 2020, to April 15, 2020.

¹<https://www.utilitydive.com/news/clearer-picture-of-coronavirus-driven-grid-load-declines-emerges-in-us-afte/575777/>

Figure 3
Daily Electrical Demand in Colorado



Source: U.S. Energy Information Administration.

According to the Colorado Public Utilities Commission (PUC) within the Colorado Department of Regulatory Agencies, the primary trend from the impact of the COVID-19 pandemic has been greater residential usage and decreased commercial usage during the workweek. Weekend usage patterns appear similar to pre-pandemic trends. The PUC also notes that low-income ratepayers appear to be using more electricity during this time, which can increase electricity costs.

Resources

Energy Outreach Colorado. Energy Outreach Colorado is an organization that offers bill payment assistance, free energy efficiency upgrades, and heating system replacements to certain qualifying individuals in Colorado. In response to COVID-19, Energy Outreach Colorado is offering bill payment assistance up to two times per year, up to a total of \$1,500 dollars of assistance for qualifying private residences. More information on Energy Outreach Colorado can be found here: <https://www.energyoutreach.org/programs-for-individuals/bill-payment-assistance/>

Low-income Energy Assistance Program. The Colorado Low-income Energy Assistance Program (LEAP) is a federally funded program that is overseen by the Colorado Department of Human Services (CDHS) that provides one-time heating assistance to certain individuals and older adults to help cover the costs of their utility bills. In response to COVID-19, CDHS has extended the deadline for application submissions for individuals to be accepted into the program from April 30, 2020, to until funding is no longer available. More information on LEAP can be found here: <https://www.colorado.gov/pacific/cdhs/news/colorado-extends-leap-heating-assistance-beyond-april-30>

PUC. The PUC encourages anyone with questions on the measures taken by their utility to check its website weekly, which also has contact information. The PUC also has updated information on its programs as a response to COVID-19, such as nonconsensual tows, commission meetings, and carrier services. More information on the changes made by the PUC can be found here:

https://puc.colorado.gov/puc_covid19. You may also wish to check with your local government about additional utility assistance programs.