THE IMPACT OF COVID-19 CRISIS ON THE MONGOLIAN ENERGY SECTOR

Recommended Citation

Ulziilkham Uuganbayar and Tovuudorj Purevjav, "THE IMPACT OF COVID-19 CRISIS ON THE MONGOLIAN ENERGY SECTOR", NAPSNet Special Reports, September 24, 2020, https://nautilus.org/napsnet/napsnet-special-reports/the-impact-of-covid-19-crisis-on-the-mongolian-energy-sector/

ULZIILKHAM UUGANBAYAR AND TOVUUDORJ PUREVJAV

SEPTEMBER 24, 2020

I. INTRODUCTION

In this essay, Ulziilkham Uuganbayar and Tovuudorj Purevjav describe covid-caused dislocations to Mongolia's energy sector being: a) delays to installation caused by supply chain disruption; b)

reduced energy demand; and c) defaults on payments creating utility liquidity problems.

Ulziilkham Uuganbayar and Tovuudorj Purevjav are with Green Energy International LLC

This report was produced for the Regional Energy Security (RES) Project funded by the John D. and Catherine T. MacArthur Foundation and presented at the RES Working Group Meeting, Tuushin Best Western Premier Hotel, Ulaanbaatar, Mongolia, December 9-11, 2019.

Banner image: Mongolian covid cases from ArcGIS COVID-19 Application Index here.

II. NAPSNET SPECIAL REPORT BY ULZIILKHAM UUGANBAYAR AND TOVUUDORJ PUREVJAV

THE IMPACT OF COVID-19 CRISIS ON THE MONGOLIAN ENERGY SECTOR

SEPTEMBER 24, 2020

Summary

Originating in an outbreak in Wuhan, China in early January 2020, the coronavirus disease (COVID-19) quickly spread to other cities across the world in less than 3 months. The number of infected people soared from just under 50 cases in mid-January to 1.5 million cases by the second week of April. Mongolia's success in containing the spread of the disease is attributed to its timely adoption of decisive preventative measures (Health Analytics Asia, 2020). The country, at the beginning of January 2020, when the coronavirus was beginning to spread within Chinese borders, made an unprecedented decision to shut nation-wide schools and kindergartens. As of July, 2020, Mongolia still has zero deaths from COVID-19, as well as zero incidents of local transmissions. The COVID-19 pandemic, and the national response to the pandemic, has severely affected the Mongolian economy, especially by disrupting the flow of goods and services in the Northeast Asia region. Since a similar pandemic is likely to happen in the future, we must learn from the experience, make efforts to build new economic and social systems, and invent new methods of doing business, providing economic governance, and establishing new regulations to keep adverse pandemic impacts to a minimum.

1. Background

The power sector is the engine of the global economy, supplying electricity to all other sectors. Provision of goods and services depend on it. In times of crisis, such as the pandemic we have been experiencing in 2020, reliable electricity supply has become critical for sustained medical services and for working remotely under lockdown conditions, among other aspects of our new daily lives. Transmission system operators, distribution system operators, and generation and supply companies in the electricity sector are applying preventive measures to ensure the continuity of electricity supply and protection of staff, including special health, hygiene, sanitary and staff distancing measures, restrictions on meetings and travels, limiting the number of employees in the office at any

one times, and ensuring special sitting arrangements and transport to the office, limiting entry to the office, closing of customer centers, closing or restricting usage of canteens, and organization of work from home.

The COVID-19 pandemic has caused three main dislocations to the Mongolian power sector, as described below.

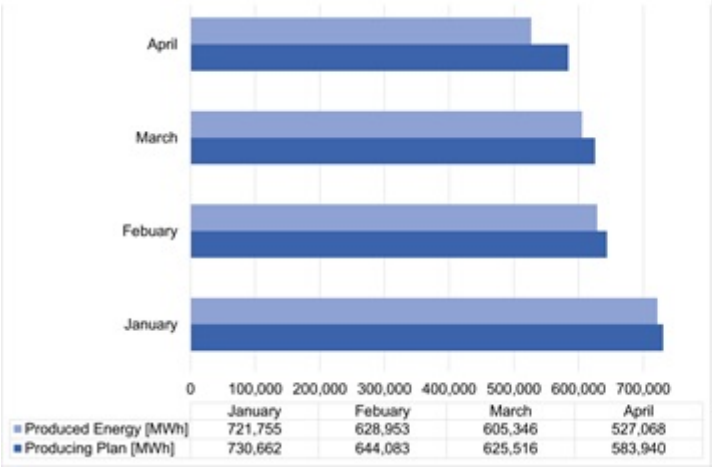
2. Construction of new energy facilities and project delayed or stopped

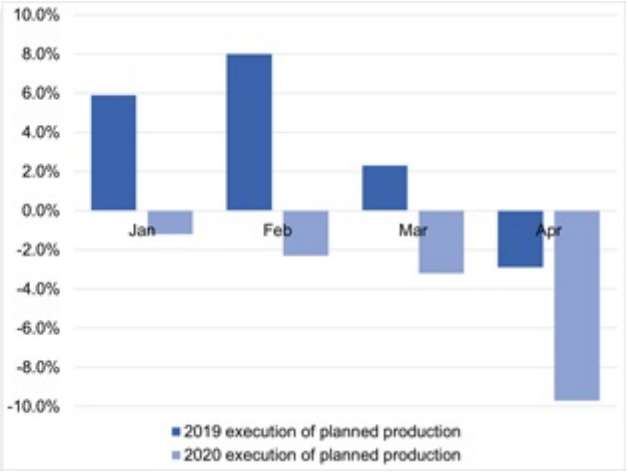
One of the main problems facing the Mongolian electricity system during the COVID-19 pandemic relates to the delivery of equipment used in the construction of new energy facilities and projects. Manufacturing of most power sector equipment has gone into a sharp slowdown worldwide during the pandemic. China, which is among the countries most heavily affected by the coronavirus, is the main global producer of many energy technologies. Since the coronavirus pandemic and Chinese responses to it have delayed deliveries from China, Mongolian energy companies are not able to comply with existing deadlines for equipment installation. Moreover, local and international travel restrictions, quarantine requirements, and lockdowns have resulted in project delays and have added to project construction costs. As China and other nations slowly brings back production and manufacturing in a limited capacity, prices for materials and components are expected to increase before ultimately declining again by the year's end. To better handle any bottlenecks or slowdowns in the supply chain, developers, EPCs, and sub-contractors in Mongolia are requesting long lead-time orders or asking to delay current projects if the projects haven't been already. Not knowing if project construction engineers, workers, and officials will be on-site to take receipt of delivered materials, when materials arrive, or will even be available to install materials and equipment is contributing to delayed project schedules and shipments. As of July 2020, the COVID-19 situation in China and in its factories is beginning to normalize, and factories, vendors, and shippers are starting to re-open.

3. Reduced energy consumption

Over the past few months, lockdown measures have significantly reduced electricity demand in Mongolia. Demand is expected to remain lower as commercial buildings, factories and other large electricity users slow or stop operations. The *International Energy Agency's (IEA)* report that energy demand worldwide will fall 6% this year – seven times the decline after the 2008 global financial crisis (International energy agency (EIA), April 2020). As to Mongolian electricity demand, based on information from the National Dispatching Center of Mongolia, there has been an estimated decrease of 2.2 percent of demand in first-quarter 2020, relative to 2019, and a 9.7 percent contraction in April. Figure 1 includes data from January-April on execution of planned energy production. In comparison with the same period in the previous year (January-April. 2019) total electricity output in Mongolia in the first quarter of 2020 has been 7.43% lower than in the previous year, though some of this difference could have been due to differences in winter weather between the two years.

Figure 1. Jan-Apr, 2020 produced energy and execution of planned energy production 2019-20





4. Default of payment

Increasing unemployment in Mongolia due to the pandemic may prevent many people from paying their electricity bills. The payment delays and delinquency of utility bills by end-consumers (residential, commercial, and industrial) is beginning to have a detrimental effect on energy supplies. Lower power demand and end-consumer payment stresses are constraining the ability of distribution companies to pay power producers under long-term, take-or-pay power purchase agreements. Disconnections for reasons of non-payment have been so far prohibited during the crisis, as continuous electricity supply is a public security issue. As a result, many power distribution companies are in need of significant and immediate liquidity support.

5. Conclusion

As well as affecting countless lives, COVID-19 has unleashed a devastating blow to the Mongolian economy, disrupting supply chains while choking off demand for many goods and services, electricity included. The whole range of consequences for the energy sector is yet to be revealed and is difficult to predict, however it is already clear that demand for energy resources has dropped, prices have plummeted, and non-payment of utility bills by end-consumers will have a detrimental effect on suppliers. For companies in all parts of the energy, utilities, and resources sectors, it will be vital to combine effective scenario-planning with an examination of how different developments could affect their business in the short, medium and long term. Safeguarding and stabilizing operations, liquidity, people, supply chains and markets has been the overwhelming first priority. Now, companies must start thinking strategically about how they will adapt as the pandemic and markets evolve. For companies in all parts of the energy, utilities and resources sectors, it will be vital to combine effective scenario-planning with an examination of how different developments could affect their business in the short, medium and long term. Whatever the scenario, we see a number of issues that will shape strategic thinking about the electricity sector in Mongolia.

- *Prepare for further volatility and risk*

As companies and wider society come out of lockdown measures, there will be no room for complacency about the upturn. Companies will, therefore, need to build a high degree of flexibility and continued resiliency in their short- and medium-term strategies. Companies will need to be ready to adjust operations up and down as needed to meet demand and to adjust to what may be changing business conditions.

- *Focus on the security of supply*

Energy security remains a major area of focus in Mongolia, and the COVID-19 crisis highlights the critical value of infrastructure and knowledge, as a response to the pandemic. As the crisis unfolded, companies had to move quickly to secure supply chains and manage component inventories. The pandemic has highlighted the immense importance of the electricity sector, and underlined what policymakers and electricity sector planners need to do in order to ensure that current and future systems remain reliable and dependable.

- *Accelerate new ways of working, including automation and digitalization*

The experience of COVID-19 will almost certainly accelerate momentum in the electricity sector, both globally and in Mongolia, towards new ways of working, including increasing the pace of automation and digitalization to assure that systems can continue to function well even when key staff are absent or even when control centers need to be shut down. Companies that are further along the curve in digitizing their operations have already benefited from greater built-in resiliency during the crisis, reducing dependence on human resources. Greater investments in these areas will equip companies in the Mongolia electricity sector, as elsewhere, to maintain better business continuity in their supply chains, operations, and customer management, reducing the load on their workforces. The technological transformation will also have been given a boost by the experience of virtualization and new ways of working by staff during the pandemic lockdown. It is likely to accelerate the move to a more mobile workforce, able to work virtually and at distance.

- *Consider the implications of behavior change*

In the past electricity supply and demand curves tracked each other as system operators were accustomed to the shifts in demand in a typical day. During the COVID-19 lockdown in Mongolia, in the electricity system, energy demand has been low and the biggest challenge for the grid operators has been to keep the system running by continuously adjusting their day-to-day operations even while not being able, due to uncertainty as to the course of the pandemic and its impact on consumers, to make long-term demand plans. During the COVID lockdown demand has been lower during the morning and in the middle of the day (less industrial and commercial load than usual) and the operation of large synchronous generators is becoming a problem that may affect the system's stability. Without the large electric loads from factories and shops, it is hard to bring keep demand and supply patterns of voltage and frequency into a normal state of alignment.

The COVID-19 pandemic can become a vital threat to our energy future and a very big setback in Mongolia's planned energy transition (and in energy transitions elsewhere) if we do not recognize the threat early and act accordingly. Governments of nations that trade with Mongolia that take the proper measures promptly may emerge from this crisis with renewed momentum, and their countries could play an important role not only in the Mongolian energy scene but also in assisting in Mongolia's economic recovery. As the pandemic eases and mobility increases, however, economic activity is likely to pick up. We hope that increased activity will increase commercial and industrial demand for electricity, which will ease many of the system control problems faced by utility system operators in Mongolia during the crisis.

References

Health Analytics Asia. (2020, 4/4). Mongolia, close to China, yet far from COVID-19. Retrieved from www.ha-asia.com.

International energy agency (EIA). (April 2020). Global Energy Review 2020. International energy agency (IEA).

III. NAUTILUS INVITES YOUR RESPONSE

The Nautilus Asia Peace and Security Network invites your responses to this report. Please send responses to: nautilus@nautilus.org. Responses will be considered for redistribution to the network only if they include the author's name, affiliation, and explicit consent.

View this online at: https://nautilus.org/napsnet/napsnet-special-reports/the-impact-of-covid-19-crisis-on-the-mongolian-energy-sector/

Nautilus Institute
608 San Miguel Ave., Berkeley, CA 94707-1535 | Phone: (510) 423-0372 | Email: nautilus@nautilus.org