BIPSS Commentary
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BIPSS Towards a Secure World

Energy Security in the COVID-19 Era

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Synopsis

Since from the dawn of time, humans relied on different forms of energy to survive and later on thrive. Energy security is the security policy that upholds the national interests and the ability to access natural energy resources on demand. Modern industrial revolution was done through exploiting energy resource and adapting the best energy policies. However, the idea of 'collective progress' is now being challenged as the world is now facing a pandemic of an epic proportion**.**

Commentary

COVID-19 has impacted both traditional industries as well as the clean energy transitions worldwide. According to the International Energy Agency's (IEA) report titled 'World Energy Investment 2020', the pandemic has instigated the biggest blow ever faced in the history of global energy investment. It is being forecasted that the expenditure of energy in regardless of the sectors, will soon be plummeting, be it fossil fuel, electricity or renewable energy.

IEA Executive Director Fatih Birol said, "Electricity grids have been a vital underpinning of the emergency response to the health crisis." He also added, "These linkages have to be resistant and smooth to deter future blows but also to accommodate growing shares of wind and solar power. Today's investment developments are strong warning signs for upcoming electricity security."

Energy Security Concerns

The effect of the current Coronavirus pandemic is not limited to threat to people's health and lives. It has an extended impact on the economy and politics as well. Ever since the outbreak of the virus, there has been an unprecedented decline of fossil fuel prices. Although this issue received adequate media coverage, the story of falling natural gas prices was not covered with the same fervor. In spite of both sectors taking a severe blow, there was a considerable discrepancy in the media coverage about the looming crisis.

a) Decline of Oil and Gas Prices

As the economy has gone downhill, the demand for oil and the market value decreased at an alarming rate. The effect was not as severe for natural gas prices, but from January of this year, it saw a 40% decline worldwide as reported by the World Bank. The COVID-19 outbreak is likely to influence the natural gas and crude oil markets differently. There are quite a few explanations as why that might be the case; for instance, the market dynamics in different sectors. The power sector uses the most amount of natural gas. It is also used in product manufacturing businesses and households. On the other hand, the crude oil and other types of products derived from oil are primarily used by the transportation sector; namely different types of vehicles. These sectors had faced an asymmetrical blow in the pandemic.

In the EU region, one-fourth of the total energy consumption depends on natural gas. Around 70% of that natural gas is imported from a number of different countries. Russia is the biggest supplier, providing almost half the import for gas and one-fourth of the overall crude oil demand. The pandemic has put the EU-Russia energy transit relation at risk. Due to COVID-19, EU region similar to the, there has been a sharp fall in energy demand all over the world. It would not be wrong to anticipate a shift in the balance of power due to the uneven scale of dependency on energy exports various regions.

b) Coal and LNG Price Variation

At the beginning of this year, many countries had started building LNG facilities. Due to the pandemic, these projects got delayed and countries such as Vietnam will now have no choice but to cover it with coal produced energy which they might have to import at a high price. Last year, 33 percent of the country's energy demand was fulfilled with gas and the remainder was powered mostly by coal. This year, in the instances where it cannot be replaced with coal, LNG needs to be imported. Countries that have stable GDP growth are continuously in need of energy to become more industrialized. These developing countries' infrastructural development depends on their energy generation. Therefore, even if non-LNG sources fulfill their corresponding energy goals, there will

still be substantial LNG demand as LNG-powered energy generation capacity is estimated to grow from 7.2 GW at present, to 15 GW by 2025 and 19 GW by 2030.

A look at the coal sector of the world would inform us that the world's largest coal exporter is Indonesia. This April, the country hit its lowest export rates since October 2010. IEA has published a statistical report especially highlighting Indonesia and its coal export pattern this year.

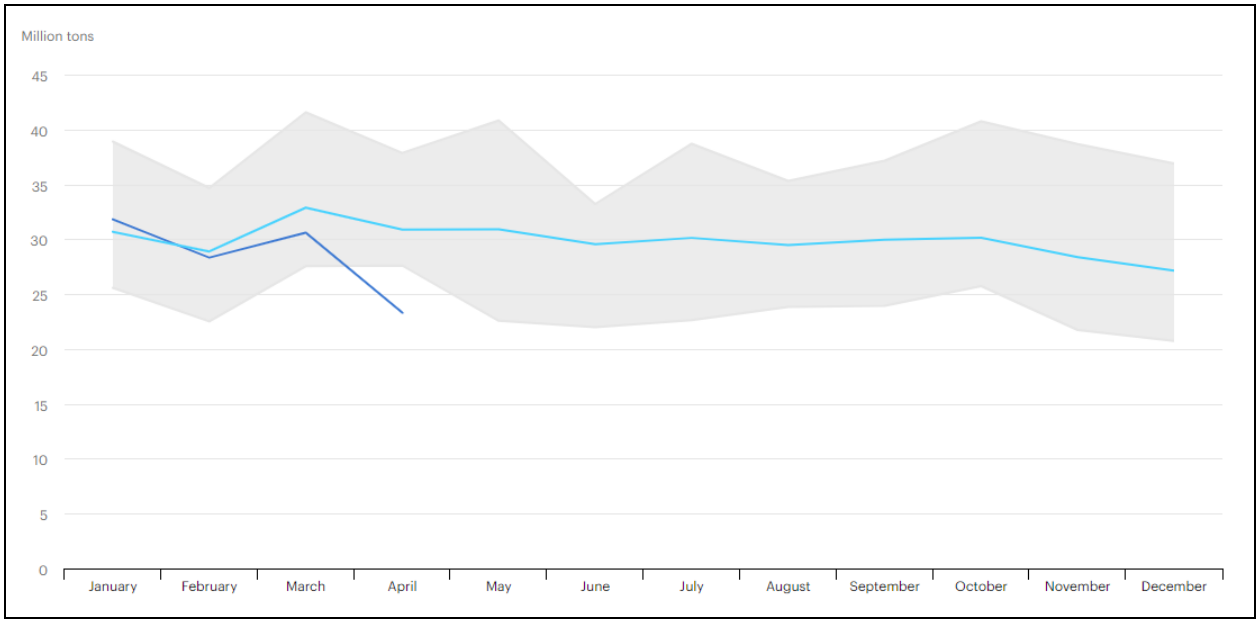

Fig 1: Coal Export Indonesia 2020
Source: International Energy Agency (IEA)

As most developed countries have shifted to using LNG instead of coal, its demand can be expected to take a deeper dive. Environmental Impact Assessments (EIA) has estimated that coal demand will fall 25% in the United States this year. However, it also predicts that the need for coal can be expected to remain strong in countries with developing economies.

c) A Decrease in Electricity Demand

As the countries imposed strict lockdowns, most of the power facilities and industries got closed or lessened their working hours. On the other hand, residential usage shot up due to people working from home and spending more time indoors.

Around April, lockdown eased in most EU countries. This facilitated a slow rise in electricity usage. By the end of May, many more countries relaxed confinement

regulations and thus in June, the electricity consumption rose close to what it was in June, 2019. The exceptions were Asian countries, such as India which recovered better due to its high-density population rate. From the latest IEA reports, we can infer that, in July, EU countries almost caught up to their record of electricity demand in 2019 – except for Italy, where harsh lockdowns had to be implemented for the second time due to the second wave of COVID-19 infections. The report included a graph that shows the electricity demand curve in the lockdown period.

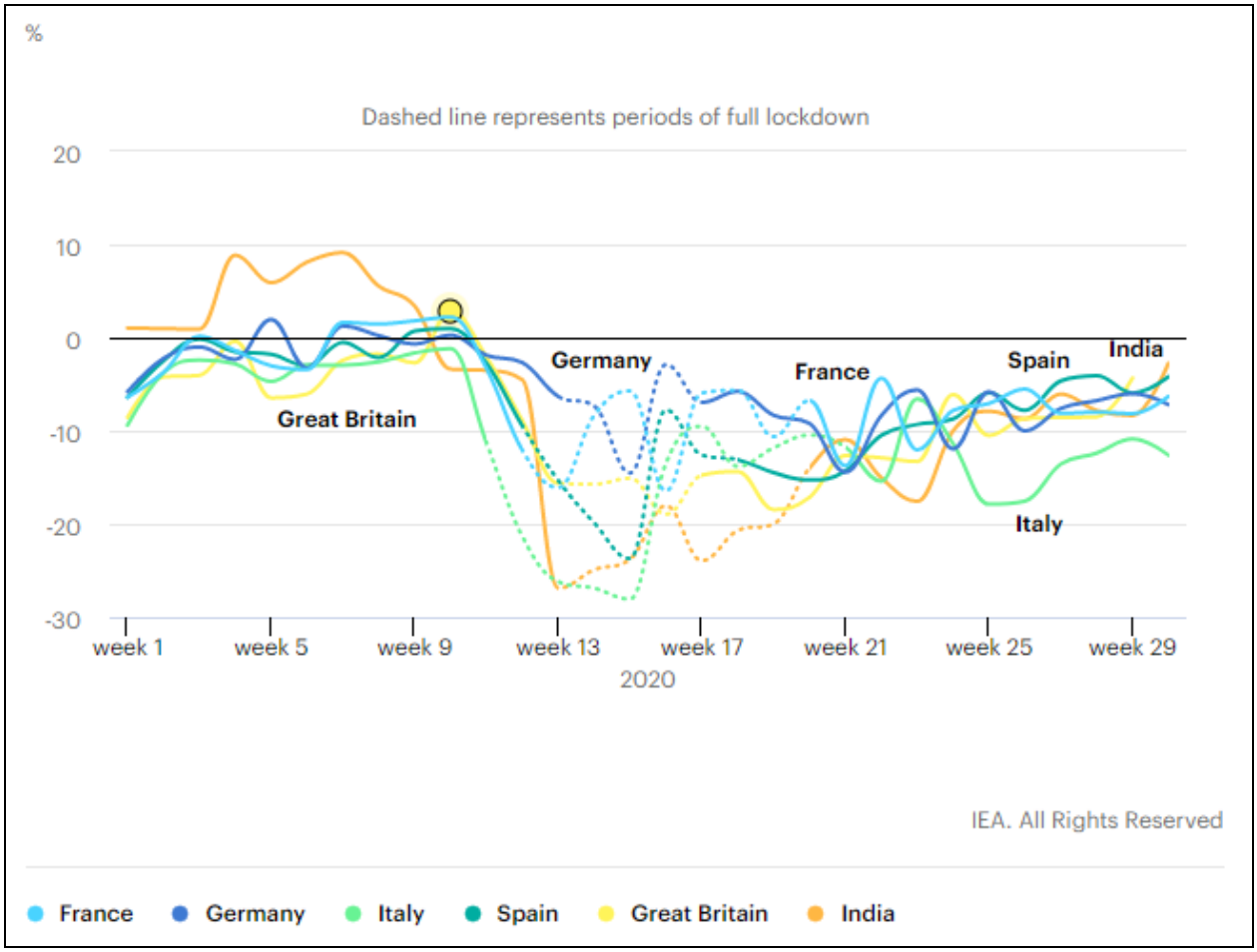

Fig 2: Electricity Demand Graph in the Lockdown
Source: International Energy Agency (IEA)

The pattern is quite different for China, where Coronavirus hit first. There was a significant drop in electricity demand in January and the demand remained low even in February. As the lockdown was eased in March, the curve showed signs of recovery. Around May the consumption rate started getting closer to last year's data. By June, it recovered completely and the demand surpassed last year's records.

d) An Increasing Dependence on Renewable Energy

As the world faced the stalemate of lockdown, most of the countries shifted their energy mix towards renewable energy. The low operating costs of renewable energy, as well as a decline in demand for electricity facilitated this shift.

The energy scenario has changed due to the pandemic. The U.S had natural gas as its top source in generating electricity with coal-based plants as the next option. However as the lockdown started, renewable energy sources started climbing up to the ladder of preference. By the end of May 2020, it secured its position next to natural gas as the second leading source of energy. Natural gas held its position even in June as the low wind generation in the season put renewable in the back foot. But in July, renewable and coal surpassed natural gas due to growing demand.

India, with her huge population and their dependency towards coal-based power plants, started making progress by using renewable energy while the confinement measures were imposed. This progress kept coal under 70 percent in the energy mix. The leading source of India's renewable energy is wind. Wild may fluctuate in certain seasons but that did not stop India from increasing its generation of wind power this year, to the extent that it broke all previous records.

China had her lockdown lifted before any other country around March. Renewable energy continued to keep its lead in the energy mix while coal-based sources started to recover. In China, along with wind, hydro-electricity plays a big role in contributing to the electricity demand. This year, hydro-electricity generation increased compared to previous years.

Finally, in the EU region, the weather conditions were favourable this year, which helped cause a rise in renewable energy generation. Due to the confinement policies, there was a significant fall in the non-renewable energy demands. Nuclear energy and coal-based power plants endured most of the blow and thus natural gas usage increased in generating electricity. At present natural gas and wind energy are showing stable generation patterns similar to that of 2019.

Conclusion

International public financial flows in developing economies with to fund the use of clean and renewable energy have doubled in the last ten years. However, there is an unequal distribution of such aids as the country with poor economies and vulnerable citizens does not receive the benefit from such public finance. Developing countries are still not equipped enough to generate renewable energy on their own. In order to develop such infrastructure, these countries are in dire need of heightened international cooperation and robust engagement in the public and private sphere. The way forward would be to promote building domestic capacity of a sustainable energy mix. As clean and renewable energy is emerging to be a dependable solution in the pandemic, it is imperative that the regional and international institutions come up with policies that will help arrange necessary funding and technology for developing countries.

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