

ENERGY INFRASTRUCTURE UNDER CPEC AND POWER SHORTAGE IN PAKISTAN

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(Views expressed in the brief are those of the author, and do not represent those of ISSI)



Pakistan is facing a severe energy crisis as the shortfall in the power sector has crossed 7,440 MW.¹ The shortfall in the power sector has remained one major challenge for Pakistan in its bid to fulfil the energy needs of the country. Currently, Pakistan's energy demand hovers around 25,000 MW² but it is generating 17,560 MW. Therefore, load shedding and unannounced power cuts have become a common practice across the country. It has triggered 6 to 10 hours of load-shedding in urban areas³ and people living in rural areas complained of 15 hours of outages.⁴ Despite the completion of around more than half of CPEC energy projects, Pakistan is still facing the issues of shortfall, load shedding and gigantic circular debt in the power sector.

Energy infrastructure is one of the major components under the ambit of CPEC. Despite the COVID pandemic, the work on CPEC energy sector made impressive strides, especially, in timely completion

- 1 "Energy Crisis Deepens as Shortfall Exceeds 7,000MW." Latest News - The Nation. Last modified June 4, 2022. <https://nation.com.pk/2022/06/04/energy-crisis-deepens-as-shortfall-exceeds-7000mw/>.
- 2 "Prolonged Load-shedding Adds to People's Miseries." The Express Tribune. Last modified May 28, 2022. <https://tribune.com.pk/story/2358734/prolonged-load-shedding-adds-to-peoples-miseries>.
- 3 "Pakistan Cities Suffer from Load Shedding of More Than 8 Hours Amid Heatwave." News18. Last modified April 30, 2022. <https://www.news18.com/news/world/pakistan-cities-suffer-from-load-shedding-of-more-than-8-hours-amid-heatwave-5082559.html>.
- 4 "Power Crisis Worsens as Shortfall Reaches 7,000 Megawatts." Pakistan Today. Last modified June 9, 2022. <https://www.pakistantoday.com.pk/2022/06/09/power-crisis-worsens-as-shortfall-reaches-7000-megawatts/>.

of power generating plants initiated under the ambit of CPEC phase I. After completion of the phase I, CPEC is entered into its phase II. In the second phase, nine Special Economic Zones (SEZs) are planned to be established with the aim to strengthen industrial sector, promote trade, generate employment and boost economic growth of Pakistan. The essence of the phase II is industrial cooperation and availability of sufficient amount of energy is one of the essential components for the development of SEZs. Therefore, the completion of the energy projects was inevitable prior to the commencement of phase II of CPEC.

In fact, Pakistan was a country that experienced an acute energy crisis previously. Electricity shortages exceeded 7,000MW in the year of 2011. The energy shortage emerged because Pakistan had lacked the power generation capacity. The energy shortfall emerged largely due to the failure of attracting the investment at a level required for expansion and maintenance of power generation on pace with the growing demand.⁵

However, after the launch of CPEC in 2014, Pakistan has constructed new power generating plants which has drastically enhanced the country's energy generation capacity. At present, Pakistan has acquired the capacity to produce more electricity than its requirement. According to the statistics of Pakistan Economic Survey 2019-2020, Pakistan acquired the installed capacity of 35,972MW in 2020. In the same year, Pakistan's consumption capacity stood around 25,000MW.⁶ Previously, the primary structural problem of power sector was expansion of power generating units which has already been addressed under the CPEC energy framework and installation of power plants outside of CPEC cooperation.

CPEC's Energy projects

In total, around 12,000 megawatts of energy would be generated through 21 energy projects envisioned under the ambit of CPEC energy projects. The 21 energy projects will cost around USD \$ 25 billion.⁷ At the moment, 10 energy projects have been completed and operationalized at full capacity. The completed energy projects cost USD \$ 9.7 billion.⁸ Out of 10 completed energy projects, 9 projects are power generating plants which have been contributing around 5420MW to

⁵ United States Institute of Peace. Accessed June 30, 2022.

<https://www.usip.org/sites/default/files/SR375-Pakistans-Power-Crisis-The-Way-Forward.pdf>.

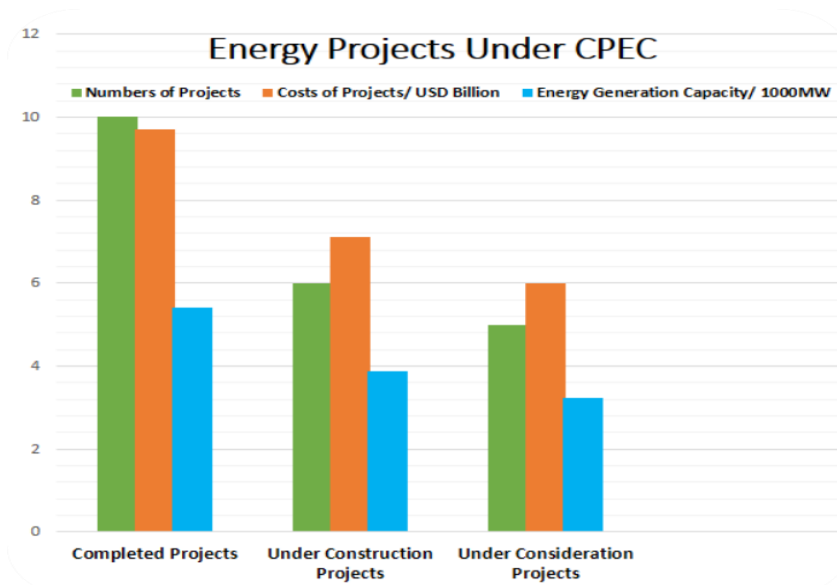
⁶ Finance Division | Government of Pakistan |. Accessed June 30, 2022.

https://www.finance.gov.pk/survey/chapter_20/14_Energy.pdf.

⁷ Ministry of Planning, Development & Reform 'P' block Pak-Secretariat, Islamabad, Pakistan. "Energy | China-Pakistan Economic Corridor (CPEC) Official Website." CPEC | China-Pakistan Economic Corridor (CPEC) Official Website. Accessed June 30, 2022. <https://cpec.gov.pk/energy>.

⁸ Ibid.

the national grid and one project is Matiari-Lahore energy transmission line.⁹ The transmission line has the capacity of 4,000 MW transmission with the length of approximately 900 km.¹⁰



Under the CPEC energy framework, 6 power generating plants are under construction costs USD \$ 7.1 billion with the power generation capacity of 3870 MW.¹¹ Apart from that, 5 power plants are under consideration and in the approval phase. Estimated costs of these under pipeline projects are USD \$5.912 billion with Power Generation Capacity of 3244.7 MW.¹²

Challenges and issues

Despite highest energy prices in the region, the energy sector remains mired in huge losses and massive circular debt issues. During the FY 2020-2021, Pakistan's energy sector recorded all time high circular debt of PKR 498 billion.¹³ The overall circular debt has broken all the previous records, reaching PKR 2476 billion.¹⁴ The issue of the circular debt is mainly prompted by the rising prices of imported fossil fuel, Independent Power Producers (IPPs) unfair price per unit and lack of timely payment by some large consumers. CPEC has done little addressing the issues of circular debt in the power sector. Instead, the coal fired based power plants have further intensified the crises in the power sector.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

¹³ "Circular Debt Grows by Rs498b in FY21." The Express Tribune. Last modified July 3, 2021. <https://tribune.com.pk/story/2308694/circular-debt-grows-by-rs498b-in-fy21>.

¹⁴ "Circular Debt Rises to Rs2.476tr by Dec 2021." The News International: Latest News Breaking, Pakistan News. Last modified February 11, 2022. <https://www.thenews.com.pk/print/932566-circular-debt-rises-to-rs2-476tr-by-dec-2021>.

Poor transmission network and other technical issues are among the root causes that crippled the power sector. The people of Pakistan has not witnessed the dividends of the CPEC energy projects in real term, especially, in the already deprived areas. For instance, in case of Balochistan, 60% of the province are not connected with the national grid. The energy requirements of the rest of 40% Balochistan, connected to national grid, are somehow 2000MW, but the existing transmission infrastructure has the capacity of only 1200 to 1300MW.¹⁵ As a result, it has further increased the regional disparities and perception of marginalization between Balochistan and the rest of Pakistan.

Power theft is another major issue contributing to crippling the energy sector. In the year of 2018 alone, Power theft costs energy sector worth PKR 53 billion which is assumed to have risen since.¹⁶ Besides, the issue of pending bills is also a matter of serious concern. According to DISCOs, recovery of less bills alone costs PKR 171billion to power sector in 2019. Pakistan's failure to improve power infrastructure and shift on the renewable sources of energy are responsible for the energy crises. It is very far away in the renewable energy sources such as Wind and Solar power which costs two-third less than local coal and cheaper than hydro power.

Way forward

First and foremost, the country should set an objective to go for renewable sources of energy. It requires enormous investment and time. The available avenues should be best utilized to achieve the goal of the renewable power sector. The energy cooperation under the auspicious of CPEC, attractions of FDI, negotiations with regional and international institutions for further investment in Pakistan's power sector and harnessing the available national resources could not only address the issues of power sector but, to some extent, it will also be helpful to resolve the problems of climate change as Pakistan has already witnessed unprecedented sufferings from rising temperature.

The selection of new projects under the ambit of CPEC energy infrastructure should be designed around the need of the power sector of Pakistan. As the country has already witnessed the capacity of producing surplus energy, the focus of the CPEC energy infrastructure should be technical help, introduction of new transmission lines projects and maintenance of existing one among the top priorities. Islamabad needs to renegotiate the 6 under construction and 5 under consideration power generating projects in order to divert the investment on technical side which include power distribution system and stop power theft.

¹⁵ YouTube. n.d. https://www.youtube.com/watch?v=FjiJgoFzY_8.

¹⁶ "How Electricity Theft Impacts Pakistani Society." The Express Tribune. Last modified April 4, 2021. <https://tribune.com.pk/article/97347/how-electricity-theft-impacts-pakistani-society>.

The new government should negotiate with the IMF to roll back the taxes on renewable sources of energy imposed by the previous government as one of the conditions for IMF bailout, previously. There is also a need to take a step forward for the installation of solar and wind power. At the same time, Pakistan should sell its fossil-fired generators into the Asian Development Bank's Energy Transition Mechanism as a way to fund their early closure. Heavy dependence on traditional sources of energy with weak technical system and old transmission infrastructure have broadened the circular debt crises, intensified energy shortfall and constrained the economic growth of the country which needs a serious and timely response.