

Energy Cooperation in the Construction of China-Pakistan Economic Corridor under the Belt and Road Initiative

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Abstract

The China-Pakistan Economic Corridor (CPEC) is a flagship project of China's Belt and Road Initiative (BRI), often referred to as the 'New Silk Road'. This ambitious 2,000-mile route connects Asia to the Arabian Sea and the strategic Strait of Hormuz, beginning in China and traversing Pakistan to the newly developed Gwadar Port, located in the province of Balochistan. Gwadar's advantageous position on the Arabian Sea enhances its significance as a trade hub. This study provides an in-depth analysis of the various energy and infrastructure projects associated with CPEC, which aim to stimulate economic growth along its north to south route through Pakistan. With its large-scale, realistic, and achievable goals, the project focuses on improving infrastructure to facilitate trade and foster regional connectivity. The operation of Gwadar Port has significantly boosted trade and export opportunities, creating employment and economic prospects for both nations. To fully capitalize on the potential of CPEC, both China and Pakistan must strategically invest in and utilize human capital alongside infrastructure. Effective management of human resources is essential to unlocking the long-term benefits of this transformative project. The economic corridor holds the potential to shape the economic futures of both countries, strengthening bilateral ties and enhancing regional economic integration.

Keywords: Gwadar Port, BRI, China, Silk Road.

Introduction

With the end goal of reviving the memorable Silk Road, China proposed the Belt and Road Initiative (BRI) in 2015. With an emphasis on 'shared collaboration, equity, comprehensiveness, and common learning, 'the BRI development connection between the foundation, legislative issues, economic, exchange, and culture are five spaces where Eurasian countries excel.¹ China launched the China-Pakistan Economic Corridor

(CPEC), a transportation and economic corridor that will set out a mutual open door across Pakistan and interface the Gwadar port in southern Pakistan with Xinjiang in western China. The China-Pakistan Economic Corridor (CPEC) is a fundamental land-based component of the Belt and Road Initiative (BRI), given that China's region is the Initiative's 'top vital need'.² The Chinese energy interest in the CPEC would assist with projects like structuring worldwide framework, logistical hubs, asset sharing, and regional energy markets made conceivable by the BRI. These are essential tools that China can use to accomplish the ambitious objectives set out in the Belt and Road Initiative.³

Pakistan has been grappling with an energy crisis in recent years. Despite its potential for energy generation, the country is facing a 5,400 MW shortfall, resulting in an annual loss of 2.5% of its GDP. This significant deficit has severely impacted the manufacturing and service sectors, while the agricultural sector, a cornerstone of the economy, has also faced substantial challenges due to this crisis.

Collaboration with China could help Pakistan address its energy crisis through renewable energy projects, modernizing infrastructure, and expanding CPEC energy initiatives. Joint ventures in solar, wind, and hydropower development, along with nuclear energy expansion, can boost power generation. Modernizing transmission networks with Chinese smart grid technologies would reduce losses and improve efficiency.

The study aims to analyse the potential and impact of China-Pakistan energy collaboration in addressing Pakistan's energy crisis, with a focus on renewable energy, infrastructure development, and sustainable solutions under the framework of the China-Pakistan Economic Corridor (CPEC), while evaluating its implications for economic growth, energy security, and bilateral relations.

Literature review

Through a strategic partnership, Pakistan and the People's Republic of China (PRC) are working together to foster development in Pakistan. The China-Pakistan Economic Corridor (CPEC) stands as the largest infrastructure

Century Maritime Silk Road', (2015). [http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html](http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html).

² Chen Dongxiao, 'China aims to set the regional cooperation agenda', *East Asia Forum Quarterly*, 7:2 (2015), 34-35.

³ Jerry R. Harris, 'Who Leads Global Capitalism? The Unlikely Rise of China', *Class, Race and Corporate Power*, 6:1 (2018), 1-22.

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¹ National Development and Reform Commission Ministry of Foreign Affairs and Ministry of Commerce of the People's Republic of China, 'Vision and Actions on Jointly Building Silk Road Economic Belt and 21st

project in the country's construction sector and it is the part of BRI which costs US\$1.4 trillion.⁴ Major industries including energy, trade and economy, transportation, and culture are all brought together by China's belt and road initiative. The physical portion includes the 'land' to the north (Belt), extending eastward and southward throughout Eurasia. That is where the 'Maritime Silk Road' begins, East Asia is traversed by the Chinese shoreline. The Indian Ocean passes through several ports before it reaches Europe.⁵ The Asian Infrastructure Investment Bank (AIIB) and the New Silk Road Fund (NSRF) are the current regional economic institutions created in part to meet and provide needs of the region.⁶

International dialogues regarding several facets of the extensive Belt and Road Initiative were conducted after the announcement of the project. The Chinese white paper on the Belt and Road (BRI) outlines its approach. The economic gain and its primary goal parallel initiatives in the areas of education, technology, development, culture, and healthcare are part of the greater BRI scheme. In July 2013, the announcement of the CPEC was made during the visit of Pakistan's Prime Minister to the People's Republic of China. This ambitious project was planned as an extension of the Belt and Road Initiative, with its implementation scheduled to commence in 2014 and conclude by 2023.⁷

The CPEC is divided into five main sections,

1. The economic growth of the Gwadar region encompasses the Gwadar city and port.
2. Energy (Including LNG, solar, wind, coal, and hydro, among others).
3. Transportation infrastructure (road, rail, and wind).
4. Industry and investment cooperation (Gwadar free zones and industrial parks).
5. Other subjects of common interest.⁸

⁴ Chung, & Chien-peng, 'What are the Strategic and Economic Implications for South Asia of China's Maritime Silk Road Initiative?', *The Pacific Review* 31:3 (2018), 315-32.

⁵ Khanindra Ch. Das, 'The Making of one Belt, One Road and Dilemmas in South Asia', *China report*, 53:2 (2017), 130.

⁶ Ahmad Rashid Malik, 'The China-Pakistan Economic Corridor (CPEC): A Game Changer for Pakistan's Economy', B.R. Deepak (ed.), *China's global rebalancing and the New Silk Road* (Singapore: springer, 2018), 69-83.

⁷ Umbreen Javaid, 'Assessing CPEC: Potential Threats and Prospects', *Journal of the Research Society of Pakistan*, 53:2 (2016), 158. <https://www.prdb.pk/article/assessing-cpec-potential-threats-and-prospects-2141>.

⁸ Thomas Zimmerman, *The New Silk Roads: China, the U.S., and the Future of Central Asia* (New York: Center on International Cooperation, 2015), 1-

According to the Board of Investment (BOI), 74% of CPEC is working on energy-related projects comprising hydro, coal, solar, and wind energy. The estimated cost of finishing this project is 46 billion dollars. Over \$35 billion in energy savings have been achieved as a result of it.⁹ It is referred to as the Economic and Energy Corridor between India and Pakistan (PCEEC) because of its crucial importance in the CPEC project. The railway projects of CPEC, which would build a network of roads, pipelines, and other infrastructure to connect Gwadar port to China, is a possible job source opportunity to improve the condition of the roads, rails, infrastructure, and economy.¹⁰

Energy supply is essential to every country. Therefore, in Pakistan, it is a crucial component of social and economic progress in society.¹¹ Pakistan has been dealing with energy problems lately. Pakistan is experiencing a 5,400 MW shortfall that is costing it 2.5 percent of GDP annually. Both the manufacturing and service sectors have suffered significant setbacks as a result of this noteworthy drop and the agricultural industry, which was the primary cause of the Great Depression.¹²

China initially declared an investment of 33 billion dollars in 22 energy projects in Pakistan, facilitated through CPEC, for the years 2018 and 2020. Through the Exim Bank of China, the policy has provided 5-6% financing for these energy projects.¹³ Several studies have demonstrated a connection concerning energy and economic expansion.¹⁴

26. <https://cic.nyu.edu/resources/the-new-silk-roads-china-the-u-s-and-the-future-of-central-asia/>

⁹ Ejaz Hussain and Ghulam Ali, 'China-Pakistan Economic Relations,' *Daily Times*, 21 March 2015. <https://dailytimes.com.pk/93615/china-pakistan-economic-relations/>

¹⁰ Riaz Ahmed, and Usman Mustafa, 'Impact of CPEC projects on agriculture sector of Pakistan: Infrastructure and agricultural output linkages', *The Pakistan Development Review* (2016), 5-11.

¹¹ Anjum Aqeel and Mohammad Sabihuddin Butt, 'The Relationship between Energy Consumption and Economic Growth in Pakistan', *Asia-Pacific Development Journal*, 8:2 (2001), 101.

¹² Zaheer Khan Kakar and Bashir Ahmad Khilji, 'Energy Consumption and Economic Growth in Pakistan', *Journal of International Academic Research*, 11:1 (2011), 33-36.

¹³ S.H. Eden and Jang C. Jin, 'Cointegration Tests of Energy Consumption, Income, and Employment', *Resources and Energy*, 14:3 (1992), 259.

¹⁴ Muzaffar Hussain, 'China Pakistan Economic Corridor (CPEC): Challenges and the Way Forward', PhD diss., Monterey (California: Naval Postgraduate School, 2017).

Contrary to the notion that economic recovery in Pakistan is a prerequisite, CPEC prioritizes enhancing the country's export competitiveness by improving infrastructure and creating an enabling environment for trade. This approach aims to bolster economic resilience and facilitate sustainable growth.¹⁵

Methodology

The data compilation for this research was concentrated on the energy cooperation of China-Pakistan Economic Corridor (CPEC) projects as part of the Belt and Road Initiative. Primary and secondary data sources are utilised.

Primary data

The primary data is collected through a survey questionnaire to assess the current situation and performance of the energy cooperation industry in Pakistan, as well as its role in the CPEC project. The key aspects investigated include:

1. Role of energy cooperation in the Pakistani economy
2. Factors affecting the energy cooperation industry in Pakistan.
3. Role of foreign direct investment (FDI) in the economy
4. Effect of FDI on CPEC energy development projects.
5. Economic benefits of CPEC's energy cooperation
6. Factors involved in the development of the energy cooperation industry.

A rigorous literature review was conducted to discover pertinent aspects and information.

Secondary data

The secondary data includes published reports, previous surveys, data from organizations, and other available resources related to energy cooperation under the CPEC project. The data collected, both primary and secondary, provides insights into the energy cooperation aspects of the CPEC project and its impact on the construction industry, energy sector, and overall economic development in Pakistan.

Demographic analysis

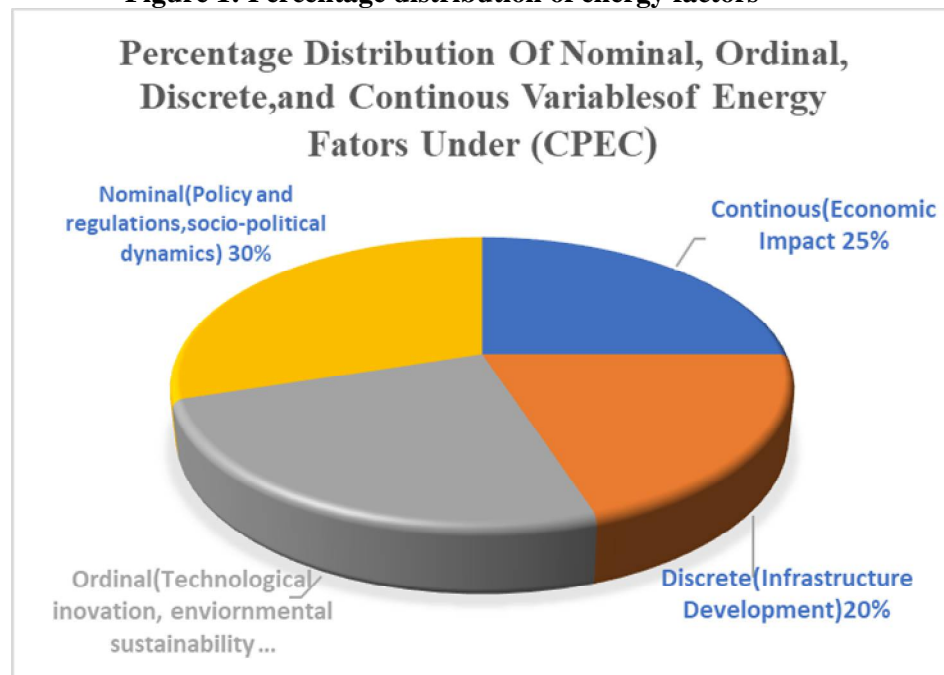
Furthermore, a questionnaire was developed and distributed to one hundred specialists from diverse associations to assess the impact of the China-Pakistan Economic Corridor on the factors affecting Pakistan's progress. Based on their degree of involvement, the groups were selected for shortlisting among CPEC. Out of the 100 responses received, 72 percent were addressed. Based on the data, among these organizations, consulting firms accounted for 25% of the responses, contracting businesses for 59.71%, clients for 13.9%, and other sources for 1.39%. Over 83% of the professionals who participated in the study had a connection to the engineering industry.

Professionals' competence and educational background play a major role in their capacity to deliver an impact research assessment in real-time. The professional's level of education and experience was assessed in light of this. Three participants had less than five years' experience, 26 had five to ten years' experience, 29 had ten to fifteen years' experience, ten had fifteen to twenty years' experience, and the remaining four had more than twenty years' experience.

The qualification demographics, indicated that the participants had a range of educational backgrounds: 56.94% had a bachelor's degree, 29.17% had a master's degree, 11.11% had a PhD, and 2.78% had extra qualifications.

The participants were selected based on their involvement with the CPEC energy and other energy sectors. Statements from key players reveal that more than 65 percent of the respondents are directly engaged with CPEC, while the remaining experts are not adequately engaged.

¹⁵ Bruce O. Riedel and Pavneet Singh, 'U.S.-China Relations: Seeking Strategic Convergence in Pakistan', *Foreign Policy at Brookings*, 2010. <https://www.brookings.edu/articles/u-s-china-relations-seekingstrategic-convergence-in-pakistan/>; Also see Murad Ali, 'The China-Pakistan Economic Corridor: Tapping Potential to Achieve the 2030 Agenda in Pakistan', *China Quarterly of International Strategic Studies*, 4:2 (2018), 307.

Figure 1: Percentage distribution of energy factors

Data Source: cpec.gov

Historical perspective

China and Pakistan have maintained a friendship since 1950, shortly after the establishment of the People's Republic of China (PRC) in 1949.¹⁶ The two countries' long-standing relationship is based on sovereign equality, reciprocal trust, and brotherhood in addition to cooperation. The relationship between the two are described as 'deeper than the sea, sweeter than honey, and higher than the Himalayas' of the two countries.¹⁷

Indeed, the intricate relationship that exists now was not established overnight; rather, it evolved gradually in response to several challenges. As this collaboration has grown, there have been disagreements over some issues, especially in the 1950s and 1970s, but

¹⁶ Shakeel Ahmad Ramay, 'CPEC: A Chinese Dream Being Materialized through Pakistan', *Sustainable, Development Policy Institute*, 12 January 2017. https://www.academia.edu/42946496/CPEC_A_Chinese_Dream_Being_Materialized_Through_Pakistan_China_Pakistan_Economic_Corridor

¹⁷ Manzoor Khan Afridi, 'An Era of Climax of Cordiality in Sino-Pakistan Relations', *International Journal of Social Science Studies*, 3:3 (2015), 117.

the two nations have managed their relationship rather successfully by supporting one another when they need assistance.¹⁸ Pakistan supported China's sovereignty claims over Taiwan and Tibet, allowed President Nixon to visit China, which helped normalize relations between the two countries, and helped China connect to the outside world by operating the first international airline to Beijing.¹⁹ Similar to this, China has helped Pakistan expand its heavy industries, military, and communications infrastructure.²⁰

Gwadar Port: The CPEC's energy and port investment

The Belt and Road Initiative (BRI) aims to create a network of free trade zones, boost political confidence, promote investment and trade, assure an efficient air, sea, and land link network, and develop regional infrastructure. The Belt and Road Initiative (BRI) makes use of economic industrial parks, which are cooperation systems connecting the major cities. Building' smooth, and efficient transport routes connecting major sea ports along the Initiative is the fundamental goal of the BRI in the marine sector. Because of its advantageous position, the CPEC is crucial to improving connectivity within the BRI.

While the CPEC will benefit all provinces and regions of Pakistan, transforming the country into a regional hub for commerce and investment, former Prime Minister Nawaz Sharif also stated that it 'will provide China with a shorter and more cost-effective route', promoting business and commerce in the Middle East and Africa.²¹ China needs to collaborate closely with the CPEC since it is crucial to the Belt and Road Initiative and connects the Arabian Sea and Xinjiang.

Like the BRI, the CPEC seeks to strengthen economic and transportation cooperation. Strategic investments in ports and energy infrastructure are key components of the CPEC project. These objectives are highlighted in an official Chinese publication outlining the vision and cooperative actions of the BRI. The Silk Road economic belt and the

¹⁸ Mutahir Ahmed, 'Sino-Pakistan Relations and the Challenges of Post-Cold War Era', *Contemporary Chinese Political Economy and Strategic Relations: An International Journal*, 1:1 (2015), 47.

¹⁹ Mateen Haider, and Irfan Haider, 'Economic Corridor in Focus as Pakistan', *China Sign 51 MoUs*, *Daily Dawn*, 20 April 2015.

²⁰ Jun Yin & Jia Xu, *China's Plan for Economic and Social Development: A Review from the 1st to 14th Five-Year Plan*, 1st Edition (Singapore: Springer Nature, 2022), 16-110.

²¹ Dr. Dhrubajyoti Bhattacharjee, 'China Pakistan Economic Corridor (CPEC)', *Indian Council of World Affairs*, 2015, 4-6. Available at SSRN <https://doi.org/10.2139/ssrn.2608927>

establishment of the 21st-century maritime Silk Road are mentioned in the vision (hereafter, Vision and Actions on Energy Cooperation). This is also mentioned in the 13th five-year plan for the economy and social development of the Chinese government which was unveiled in 2016.²² The BRI enhances the growth of the ports of energy and infrastructure in both inland regions. In addition, multimodal, cross-border transit routes and border zones will be built. It is anticipated that global cooperation will rise in the areas of resources, energy, and industrial chains. There will be improved local conversion and processing.²³

Energy cooperation expected within CPEC

China's National Development and Reform Commission (NDRC) and National Energy Administration (NEA) joint vision and Action on Energy Cooperation enlist:

1. Encouraging energy cooperation for a community that benefits from open, equitable, and shared interests and responsibilities
2. Enhancing resource allocation and energy security in the area.
3. Integrating regional energy markets
4. Quickening the pace of low-carbon and environment-friendly growth.

Significant port investment is an additional CPEC component. The goals and plans for energy cooperation state that these investments, particularly in Gwadar port, ought to:

1. Encourage the development of port infrastructure.
2. The building of efficient land and water transportation routes.
3. The promotion of port cooperation.
4. The development of maritime routes and expeditions.
5. The improvement of information technology's support for maritime logistics.

Ports and energy are related, despite being categorized as separate businesses.

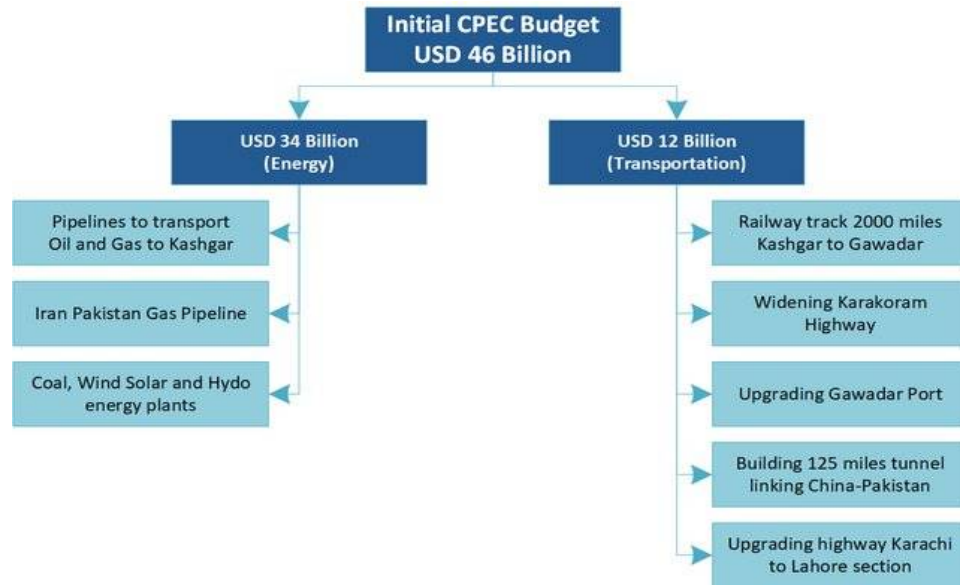
Energy investment packages

Energy resources are moved and transferred in addition to being produced, traded, and explored. In BRI countries, resources are typically transferred from upstream places to remote downstream locations. Infrastructure for logistics and transportation is frequently required in conjunction with urban energy initiatives. Roadways, pipelines, ports, transmission grids, and other structures are examples of infrastructure. The oil and gas resources at the Gwadar Port, which connects China and the Arabian Sea, are an excellent illustration of a transportation and energy-related project. Infrastructure for trade and logistics, a path is provided by the China-Pakistan Economic Corridor's long-term strategy.

As proposed in its initial stage, the CPEC project priorities to infrastructure since CPEC calls for the building of gas pipelines, ports airports, and trains. Additionally, it encourages collaboration in the energy, transportation, textile, and agricultural sectors. Enhancing policies and constructing infrastructure is also part of the agenda. Permitting foreign investment in the domestic market is a vital component of the approach. The establishment of well-developed industrial parks, special economic zones, and robust energy supply and transmission infrastructure is essential for Pakistan's economic growth. Under this plan, the country is divided into two main zones, with distinct industries allocated to the central, western, and southern regions. In the southern zones, port expansion is prioritized due to the proximity of ports to one another, with a particular focus on Gwadar. Industries such as petrochemicals, equipment manufacturing, and iron and steel production are emphasized in this region. Gwadar, owing to its strategic location as a maritime energy trade route connecting Balochistan with the Middle East, serves as a vital hub for the shipping industry, energy sector, and economic activities.

²² Dr Kaho Yu, 'Energy cooperation and regional order in the Belt and Road Initiative: A case study of China's investment in the China-Pakistan Economic Corridor', *Working paper*, London Asia Pacific Centre for Social Science, 2018, 4. Available at: <https://www.kcl.ac.uk/eis/assets/lapc-wp-yu-revision.pdf>

²³ S. Kennedy, CK Johnson, *The 13th Five-Year Plan for Economic and Social Development of the People's Republic of China 2016-2020* (Beijing: Central Compilation & Translation Press, 2016), 47.

Figure 2: China's investment tree on CPEC

Energy collaboration in CPEC and the BRI

The Chinese government has consistently highlighted the importance of energy cooperation as a key component of its development initiatives. Since the launch of the BRI in 2015, numerous publications have explored its strategic significance. From the outset, energy cooperation was integral to the vision of building the Silk Road Economic Belt and the 21st Century Maritime Silk Road. Achieving the goals of the BRI relies heavily on fostering collaboration among participating nations.²⁴

In its preliminary phase, China emphasised that international energy cooperation inside the BRI economic corridor should be prioritised in the 2016 economic and social development plan. The thirteenth five-year plan is this one. Enhancing global collaboration on supply chains for energy, resources, and industry while increasing domestic processing and conversion.²⁵ 2013 marked the thirteenth year of

²⁴ National Development and Reform Commission Ministry of Foreign Affairs and Ministry of Commerce of the People's Republic of China, 'Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road', (2015), 10-14.

²⁵ National Energy Administration (NEA) and National Development and Reform Commission (NDRC), *Vision and Actions on Energy Cooperation*

the five-year plan. The BRI's emphasis on energy cooperation received increased support from the energy development sector. Further, China emphasized its intentions to boost energy through the BRI's energy-related projects. Eurasia's role in global energy governance and its integrated energy infrastructure is outlined in the 2017 vision and actions on energy. This vision contributes to the joint development of the 21st-century Maritime Silk Road and the Silk Road Economic Belt, emphasizing the goals and scope of energy cooperation. It also aims to unify regional markets and promote a comprehensive, transparent, non-discriminatory, and fair multilateral trading framework.²⁶

Chinese authorities claimed that China is seeking a more constructive and transparent international platform, a close-knit alliance network; and avocations for a more reasonable and just as well as equitable framework for global governance. All things considered, the BRI's primary goal is in line with CPEC's energy cooperation. The main goal of BRI is to increase the number of infrastructure connections in Eurasia. The second objective of BRI is the establishment of an integrated industrial value chain. Comprehensive technical integration of markets, resource allocation, and energy cooperation in the technical services and energy sectors.²⁷

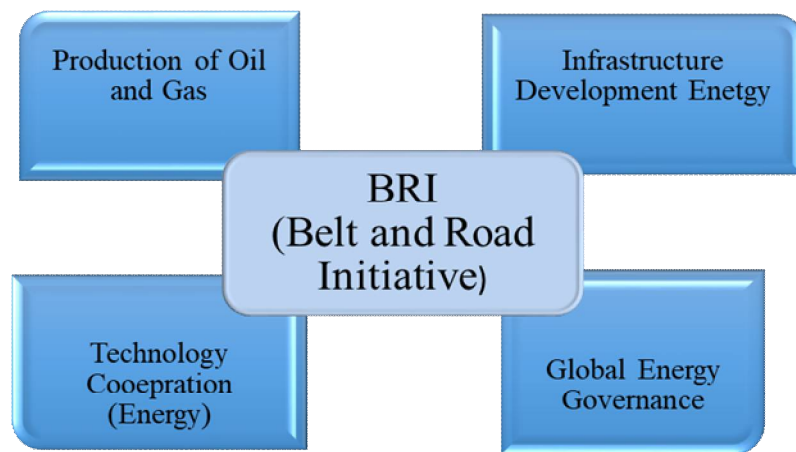
The aforementioned objective can be achieved through the development of CPEC's industrial parks and special economic zones. Additionally, international energy projects, including potential pipelines and grids, can further contribute by creating connections between various locations and enhancing Belt and Road Initiative (BRI) connectivity. Finally, the goal of BRI is to build a cooperative paradigm known as 'industry plus finance', in which financial institutions will play a major role.²⁸

in Jointly Building the Silk Road Economic Belt and 21st-Century Maritime Silk Road (Beijing: National Development and Reform Commission, 2017).

²⁶ *Ibid.*

²⁷ Provaggi Alessandro, *China Development Bank's Financing Mechanisms: Focus on Foreign Investments* (Stanford: Global Projects Center, Stanford University, 2013). https://gpc.stanford.edu/sites/g/files/sbiybj8226/f/uc07_0.pdf

²⁸ President Musharraf's Address at SCO Summit held at Shanghai, China, 7 July 2006. Available at: <https://presidentmusharraf.wordpress.com/2006/07/07/sco-states-summit-2006/>

Figure 3: Energy Cooperation under the Belt and Road Initiative

These financial institutions have been working with foreign clientele for a long time. When making financial loans to corporations, governments, and global initiatives in South Asia promoting international cooperation.²⁹

Alternate pathway for trading energy

The geopolitical and geo-economic significance of Gwadar Port, BRI is involved in energy trading and transportation. Pakistan connects the surrounding regions of East Asia, Central Asia, and the Middle East via land and sea. This geographical location makes it possible. The BRI's trade hub will be the port of Gwadar. Furthermore, collaborations on multilateral platforms, such as SCO, can also help Pakistan to get investment in energy sector. The goal of the Shanghai Cooperation Organization (SCO) is to establish a strategic bridge linking Arabia with the heart of Eurasia. South Asia and its maritime routes play a crucial role in facilitating significant land links and communication networks, enabling beneficial energy transactions and trade both within the region and beyond.³⁰ The main port of Gwadar is located near oil and gas deposits in the Gulf area. This port might provide a connection between central Eurasia and the Arabian Sea and acts as a hub for other roads that connect Central Asia, Afghanistan, and China, to the

²⁹ L. Cordner, 'Progressing Maritime Security Cooperation in the Indian Ocean', *Naval War College Review*, 64:4 (2011), 68-69.

³⁰ Vice Admiral P.S. Das (Retd.), 'Coastal and Maritime Security: Two Sides of the same Coin', *Indian Defence Review*, 24:1 (2009), 259-261.

countries in the Middle East. The sea voyage spans over 5,000 kilometres, but Xinjiang is about 2,500 kilometres from the port of Gwadar. Consequently, China intends to link Gwadar Port and Xinjiang via the Belt and Road Initiative, establishing a transit hub for its interior and a commerce nexus between China and the global market.

The Indian Ocean region is regarded as the most important for trade and energy. This coastal corridor links the eastern and western energy networks and their waterways, representing 80% of worldwide petroleum product traffic.³¹ Energy origin must pass via this region for both developed and emerging Asian countries.³² Furthermore, seaway narrow routes like the straits of Hormuz and Malacca that facilitate the flow of large amounts of oil are prone to disruption.³³ The east-west energy transmission networks are extremely important, and any disruption to them would have disastrous political and economic effects. Global outcomes, due to the global market's reliance on a consistent supply for petrol and oil, supply chain disruptions or accidents may result in fluctuations in energy prices. Chinese investment at the port of Gwadar is thought to be one approach to 'energy diversification' circumventing the straits of Malacca chokepoint and offering shaky marine routes over the South China Sea, which is a contentious region.³⁴

Network infrastructure

Energy generation and transmission infrastructure are given top priority by CPEC, as seen by the massive demand for logistics and energy infrastructure in the Belt and Road Initiative.³⁵

³¹ Joshua Ho, 'Indian Ocean Region: Critical Sea Lanes for Energy Security' (RSIS Commentaries, No. 081). RSIS Commentaries (Singapore: Nanyang Technological University, 2011). Available at: <https://dr.ntu.edu.sg/handle/10356/79788>

³² S. Bateman, J. Chan, and E. Graham, 'Conclusion and Recommendations' Policy Paper, 2011, S. Rajaratnam School of International Studies (RSIS), Singapore: Nanyang Technological University (NTU). Available at: <https://www.jstor.org/stable/resrep05921.12?seq=2>

³³ L. Hornby, 'China and Myanmar Open Long-Delayed Oil Pipeline', *Financial Times*, 11 April 2017. Available at: <https://www.ft.com/content/21d5f650-1e6a-11e7-a454-ab04428977f9>

³⁴ National Energy Administration (NEA) 'Vision and Actions on Energy Cooperation in Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road' (2017). Available at: http://www.nea.gov.cn/2017-05/12/c_136277478.htm

³⁵ Ministry of Planning Development and Reform, Government of Pakistan & People's Republic of China National Development & Reform Commission,

Within the CPEC, there are undeveloped regions with antiquated energy and logistics infrastructure. For example, industrialization and urbanization are still taking place in the southern part of the CPEC. Its electrical infrastructure is therefore either outdated or overworked. These sectors need new funding and upgraded infrastructure. Moreover, taking into account the minimal usage of renewable energy, infrastructure for renewable electricity is needed in the BRI regions. Oil and gas imports are required to meet Pakistan's energy needs.

Nonetheless, that is not enough because of high costs and poor domestic reserves. As a result, the nation's urban areas frequently experience significant power outages and shortages, particularly during the summer when electricity demand is higher than it is nationwide. To address this problem, Pakistan wants to take advantage of its renewable energy resources and coal reserves. Chinese investors want to make coal investments abroad. The gap can be filled by renewable energy.³⁶ It is unrelated to the development of the Gwadar port. Building energy infrastructure while also keeping in mind the need to connect geographically dispersed energy facilities logistically.

Integration of value chains

The BRI seeks to increase cooperation in the mining and development of coal and oil. The conversion and processing of resources and energy, such as gas, metallic minerals, and other traditional energy sources, at or near their places of origin, along with fostering.³⁷ Due to the magnitude of the value chain investment, logistics hubs such as Gwadar Port can integrate the energy production sector, hence facilitating support for the CPEC. Integration of Pakistan's value chains is impossible without an infrastructure network. In certain places, it has been suggested that Gwadar be developed as a 'base for heavy and chemical industries', such as petrochemical, steel, and iron.³⁸

³⁶ 'Long Term Plan for China-Pakistan Economic Corridor (2017-2030)'. Available at: <https://www.pc.gov.pk/uploads/cpec/LTP.pdf>

³⁷ European Union Global Strategy (EUGS), 'Shared Vision, Common Action: A Stronger Europe - a Global Strategy for the European Union's Foreign and Security Policy', 2016. Available at: https://www.eeas.europa.eu/sites/default/files/eugs_review_web_0.pdf

³⁸ Erica Downs, 'Mission mostly Accomplished: China's Energy Trade and Investment along the Silk Road Economic Belt', *China Brief*, 15:6 (2015), 2-5.

³⁸ Alessandro Provaggi, 'China Development Bank's Financing Mechanisms: Focus on Foreign Investments', *Global Projects Center*, Stanford

Strong financial resources of CPEC

The EU's goals of enhancing regional peace, development, and governance in South Asia are supported by CPEC, which benefits from substantial funding. As part of China's broader national strategy to strengthen its economy, CPEC includes Chinese investments in infrastructure linking China to the rest of Eurasia. Key Chinese financial institutions that primarily fund the BRI include the Export-Import Bank of China, the Bank of China, the Agricultural Development Bank of China, the China Development Bank (CDB), and the Silk Road Fund (SRF).

The Chinese government intends to model 'industry plus finance' collaboration and asserts that the BRI will boost the engagement of financial institutions in the life cycle of energy cooperation. Major financial institutions have collaborated with foreign governments and corporations to sponsor several infrastructure projects.

There are three overseas systems:

1. Loans to Chinese companies.
2. Loans to foreign governments and energy companies.
3. Equity funds.³⁹

But a lot of experts are worried about CPEC's lack of accountability and transparency. Even the detrimental effects of CPEC on Pakistan have been questioned by some in the area like independence and job prospects for locals.⁴⁰ However, there are doubts over CPEC's long-term sustainability. Chinese are overcapitalized rather than helping the Pakistani industry. Pakistani Economist Akbar Zaidi believes that the CPEC will not bring about an inexpensive economic transformation.⁴¹

The international monetary funds have expressed doubts about the financial impacts of CPEC. Even though FDI will increase over time, the deficit will increase during the first phase of CPEC.⁴²

Pakistan has received assurances from China that the CPEC will eventually become self-sustaining. While it is expected to operate for a period once initiated, there are no guarantees regarding its long-term

University, 2013. Available at: <https://www.albertoforchielli.com/china-development-banks-financing-mechanisms-focus-on-foreign-investments/>

³⁹ Khurram Husain, 'IMF warns of looming CPEC bill', *Dawn*, 17 October 2016. Available at: <https://www.dawn.com/news/1290523>

⁴⁰ K.S. Venkatachalam, 'Can Pakistan Afford CPEC?', *The Diplomat*, 16 June 2017. Available at: <https://thediplomat.com/2017/06/can-pakistan-afford-cpec/>

⁴¹ L. Hornby, 'China Seeks Foreign Investors for One Belt, One Road Push', *Financial Times*, 25 May 2016.

⁴² 'China's Reputation as Development Financier on the Line', *Financial Times*, 10 September 2018. Available at: <https://www.ft.com/content/8d742246-b113-11e8-99ca-68cf89602132>

viability.⁴³ Investment risks can also materialise, such as country dangers and downgrades in credit rating, especially in outlying areas. Another reason for concern is investors. China's investment in the Belt and Road Initiative can be checked in Table 1.

Table 1: China's investment in different projects under the Belt and Road Initiative (BRI) in 2023

Sector	Investment (US\$ billion)
Energy	12.3 (of which 41% in solar/wind, 14% in hydropower)
Transport	9.8 (28% of total BRI engagement)
Metals & Mining	5.0 (131% increase compared to 2022)
Renewable Energy	4.8 (total investment and construction)
Oil & Gas	3.8 (45% of energy engagement, 1.4 billion in investments, 2.4 billion in construction)
Agriculture	1.6 (271% increase compared to 2022)
Real Estate	1.5 (269% increase compared to 2022)
Technology	Declined compared to 2022

Source: Green Finance & Development Center, FISF Fudan University, Shanghai

Looking for stability in the region of South Asia

One of the core objectives of the BRI is the anticipated expansion and integration of the economy. It aims to address several challenges faced by China, such as sluggish economic growth, domestic overproduction and excess capacity, underdeveloped regions in western China, political instability, and security concerns in neighboring areas.⁴⁴

A new geopolitical environment brought about by Gwadar's development

China can bolster its geopolitical position⁴⁵ by investing in Gwadar Port, a strategic narrow sea passage that offers an alternative to its reliance on

⁴³ Faseeh Mangi, 'China's New Silk Road Hinges on a Small Pakistan Port', *Bloomberg*, 30 September 2016. Available at: <https://www.bloomberg.com/news/articles/2016-09-29/china-s-new-silk-road-hinges-on-a-small-pakistan-port>

⁴⁴ Tian Shaohui, 'China Focus: What to Expect from Belt and Road Forum', *XinhuaNet*, 1 May 2017. Available at: http://www.xinhuanet.com/english/2017-05/01/c_136248648.htm

⁴⁵ Bonnie S. Glaser, 'China's Grand Strategy in Asia', *Statement before the U.S.-China Economic and Security Review Commission*, published by Center for Strategic and International Studies (CSIS), 13 March 2014, 3-10.

the South China Sea and the Strait of Malacca. For energy supplies, it is a new trade route which offer potential area for CPEC. China benefits from an energy value chain that may be deemed hazardous by Western companies. Chinese investors are adept at negotiating deals involving strategic interests. While 'others were just looking at political risk'. Pakistan's minister of planning, Ahsan Iqbal said 'China made a bet with Pakistan.'⁴⁶ Focus on port, energy, and connectivity advancements within the BRI will attract Chinese tourists from other regions. Foreign Minister Wang Yi emphasizes that China's engagement is driven by a vision to achieve development in a "more open and efficient" manner. This vision encompasses fostering a closely interconnected community of alliances, building a global platform for collaboration, and advancing a more equitable and balanced international political framework.⁴⁷

Levels of economic and political development, are better handled with a two-pronged approach directly.⁴⁸

Aims for renewable energy

Experts believe that CPEC Energy Projects help Pakistan achieve its aims for renewable energy. The head of the University of Engineering and Technology in Taxila's Engineering Department Muzaffar Ali, claims that CPEC will help Pakistan achieve its lofty target of increasing the same of renewable energy in electricity generation from the current 4% to 30% by 2030.⁴⁹

Classifying power projects

Wind, solar, hydro and coal-based projects are energy-based initiatives in Pakistan as part of CPEC. These initiatives aim to bridge Pakistan's gap in the country's electrical supply. Thus, the development wheel will start turning. Despite being a primary force behind a country's economic

⁴⁶ Kate Abnett and Diana Mandia, 'EU agrees to quit energy investment treaty over climate concerns', *The Reuters*, 30 May 2024. Available at: <https://www.reuters.com/business/energy/eu-agrees-quit-energy-investment-treaty-over-climate-concerns-2024-05-30/>

⁴⁷ Janice M. Heppell, 'Confidence-Building Measures: Bilateral versus Multilateral Approaches', Peter Hayes, Young Whan Kihl, *Peace and Security in Northeast Asia Unclear Issue and the Korean Peninsula*, 1st edition (New York: Routledge, 1997), 270.

⁴⁸ J. Rizvi, 'Demystifying Pakistan's Energy crisis', MIT technology review Pakistan. Available at <http://www.technologyreview.pk/demystifying-pakistans-energy-crisis/>.

⁴⁹ Javaid Akhtar, etal, 'Way Forward in Meeting Energy Challenges in Pakistan', *International Journal of Ambient Energy*, 39:8 (2017), 1-5.

development, industrialization is not without its drawbacks. In table 2 & 3, the energy projects of CPEC are mentioned.

Table 2: Major energy cooperation development projects under CPEC

Project Name	Type	Capacity	Estimated Cost (USD)
Sahiwal Coal Power Plant	Coal Power Plant	1,320 MW	\$1.8 billion
Port Qasim Coal Power Project	Coal Power Plant	1,320 MW	\$2.0 billion
Karot Hydropower Project	Hydropower Plant	720 MW	\$1.7 billion
Quaid-e-Azam Solar Park	Solar Power Park	1,000 MW	\$1.5 billion
Thar Coalfield Projects	Coal Mines/Plants	Various	\$4.5 billion

Source: Ministry of planning development and special initiative Pakistan.

Table 3: Energy projects under CPEC

Energy Source	Capacity (MW)
Coal	57,816 MW
Hydro	23,564
Solar	2,628
Wind	2,628

Source: cpec.gov/xinhuanet

Coal power project under CPEC

One of the primary objectives of the CPEC project is to utilize energy from conventional fuel sources, such as coal, as well as locally available renewable energy sources. The \$33 billion that will be invested in CPEC will primarily be used to generate electricity sector to overcome the 4,500 MW energy shortfall.

Figure 4: Major CPEC energy projects



Source: <https://www.pc.gov.pk/web/cpec>

Furthermore, the cement and brick kiln sectors are the biggest consumers of both imported and domestic coal, consuming around 3 million and 4.7 million tons, respectively.⁵⁰ With a total estimated cost of \$5.8 billion, these reactors, each with a capacity of 6,900 MW, were initially scheduled for completion by December 2020. A detailed overview of these coal-fired power facilities is provided below.

The coal-fired power plants under CPEC include key projects such as the 1,320 MW Port Qasim and Sahiwal power plants, both using imported coal and super-critical technology, costing USD 1,912.2 million and USD 191.2 million, respectively. In Thar Block II, Sindh, local coal supports projects like Engro Thar (660 MW), ThalNova (330 MW), and Tel (330 MW), with sub-critical technology and a combined cost of USD 2,000 million. Thar Block I also includes a 1,320 MW sub-critical plant with investments over USD 3,300 million.

The 1,320 MW CPHGC power plant in Hub, Balochistan, has been operational since 2018-2019, utilizing imported coal and advanced super-critical technology at a cost of USD 1,912.2 million. Meanwhile, a

⁵⁰ Ananth Chikkatur, et al, 'Coal Power Impacts, Technology, and Policy: Connecting the Dots', *Annual Review of Environment and Resources*, 36:1 (2011), 38, 101. DOI: [10.1146/annurev.environ.020508.142152](https://doi.org/10.1146/annurev.environ.020508.142152)

330 MW coal-based power project in Gwadar, which also relies on imported coal and sub-critical technology, is awaiting a tariff decision from the National Electric Power Regulatory Authority (NEPRA). In Thar, significant mining projects include a 3.8 Mtpa surface mine, valued at USD 1,470 million, and the Thar Mine Mouth Oracle Power Plant (1,320 MW), which is currently in the process of securing equity partners.⁵¹

A synopsis of the technologies used in the CPEC's coal-fired power facilities

Pulverized coal combustion is a well-known technology utilized in coal-fired power plants worldwide. Utilizing coal that has been finely powdered (often with 70% of the coal being smaller than 75 µm), it is fed into the burners utilizing air that is compressed. The method's primary objective is to raise the temperature and pressure range of steam to increase thermal efficiency. Based on the temperature and pressure of the steam, it is further divided into three types.

1. Super Critical Steam Plant Technology
2. Sub-Critical Steam Plant Technology and
3. Ultra-Super Critical Steam Plant Technology

The first two technologies fall within the category of efficient coal power technologies.

These low-carbon emission options can help to some extent reconcile the region's reliance on coal-based electricity with the environmental welfare of its citizen's generation. These technologies are now believed to help achieve the goal of meeting the requirement for power in a 'innocent and cleaner way' by burning coal.

Super critical steam plant technology

This technology, known as supercritical technology, is considered the preferred choice for most newly built coal-fired power plants due to its higher efficiency compared to older sub-critical plants. This increased efficiency results in reduced emissions of particulate matter, nitrogen oxides (NOx), and sulfur oxides (SOx), contributing to a cleaner and more sustainable energy production process. The term 'supercritical' refers to a thermodynamic state of a substance where its liquid and gaseous phases become indistinguishable, offering improved energy conversion efficiency in power generation. Water reaches this condition at pressures higher than 22.1 MPa. This technology requires the development of various corrosion-resistant steel alloys that can withstand high temperatures (580 degrees Celsius) and high pressures (23 MPa). The Super Critical Steam Plant is a

⁵¹ 'Australian, Power, Generation, Technology Report' 2015, cpec.gov.pk

tried-and-true technique for raising thermal efficiency by as much as 42%. Furthermore, there exists an inverse link between coal usage and efficiency, wherein plants with higher levels of efficiency utilize less coal in comparison to those with sub-critical technology.

Sub-critical steam plant technology

Sub-Critical Coal Plant Technology includes conventional coal plants with thermal efficiency between 32% and 37%. Sub-Critical Coal Plant Technology uses boilers that operate at pressures and temperatures lower than water. These boilers have a maximum operating pressure of 19 MPa.⁵²

Ultra-super critical steam plant technology

Ultra-super critical power plants employ higher steam temperatures (above 593–621 degrees Celsius) and pressures (over 28.4 MPa). Modern materials that can withstand high temperatures are used to make boilers. Warmer temps suggest more efficiency—high energy output with minimal consumption. Conversely, coal's energy may be converted up to 45 percent of the time into energy in power reactors that are ultra-supercritical. Even though cutting-edge ultra-supercritical coal technology is expected to generate over 50% of the gross energy of coal into electricity, the plant is not commercially viable because of the costly alloys required to withstand the extremely high-temperature requirements. Before deploying advanced ultra-supercritical technology in a plant, such unique design alterations should surely be validated and evaluated at the pilot stage.⁵³

Table 4: A comparison between ultra-super, super, and sub-critical technologies

Parameters	Sub-Critical	Sub-Critical	Ultra-Supercritical
Pressure (kg/cm ²)	< 225	250-270	>270
Temperature (0C)	540-565	565-600	>600
Efficiency (%)	35-38	42-47	48-55

Source: General Electric

⁵² Akash Meghwar, Latif Ul-Haq, Nafeesa Irshad, 'Techno Economic Evaluation of Off-grid Hybrid Solar-Wind Power System for Village Malo Bheel, Tharparkar Sindh Pakistan', *American Journal of Energy Research* 5:2 (2017). doi: 10.12691/ajer-5-2-1.

⁵³ M.A. Sheikh, 'Energy and Renewable Energy Scenario of Pakistan', *Renew Sustain Energy Rev*, Vol. 14, 2010, 354-63.

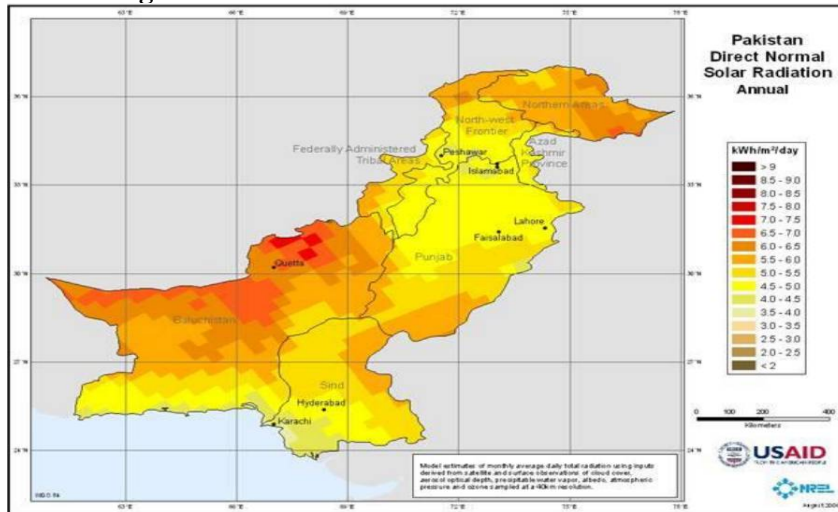
Tapping into indigenous renewable energy sources: The next major development in energy

Fuel consumption trends in Pakistan show that petrol and other dirty fuels like coal and oil are dominating the country's energy mix. The cornerstone of today's energy supply must be Goal 7 of sustainable development, 'Ensure access to affordable, reliable, and sustainable energy sources', modern, environmentally friendly energy for all'.⁵⁴

Potential for solar energy

Sunlight is abundant in this part of the region. The yearly sum of solar energy absorbed by the globe is 1.75×10^{17} W or 5.52×10^{24} J. It is a stable source that produces a sizable amount of energy without harming anything in the surrounding area. Pakistan is located between 24° - 37° North latitude and 62° - 75° East longitude, covering a land area of 796,096 km². Its position is perfect for utilizing the surge in solar power. Pakistan has 5.3 KWh/m² of potential solar energy per day (Energy Information Administration) 1.93 MWh/m² per year). Its distinct environment and location facilitate the usage of solar energy. Pakistan's annual solar radiation map is shown in Figure 5.⁵⁵

Figure 5: Annual mean solar radiation in Pakistan



Source: www.maxgreenenergy.com

⁵⁴ 'Economic Survey of Pakistan' (2010-2011), 189-206. Available at: finance.gov.pk

⁵⁵ M.A. Sheikh, *op.cit.*, 354-63.

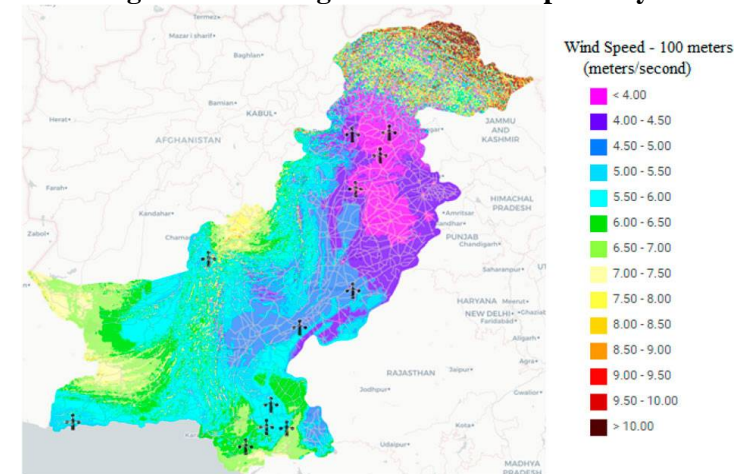
Solar projects under CPEC

CPEC has endeavored to utilize the country's solar energy resources for the advancement of the energy sector through the construction of the Quaid-i-Azam Solar Power Park. Constructed in Bahawalpur, this was Pakistan's first utility-scale, grid-connected, solar-run power plant. It is Pakistan's first large-scale solar power generation project, with a capacity of 100 MWp in the first phase, 300 MWp in the second phase, and 600 MWp in the third phase. It is anticipated that this project will cost roughly \$1,302 million in US dollars. Since the project started in 2015, it has been supervised by the Punjab Power Development Board (PPDB) and the Alternative Energy Development Board (AEDB).⁵⁶

Wind energy potential in Pakistan

Pakistan's Thatta area, along with Karachi and Islamabad, forms a great wind corridor. In the neighborhood of Islamabad, wind speeds vary from 6.2 to 13.8 to 16.5 miles per hour or 7.4 meters per second. In the vicinity of Karachi, the range is 13.8 to 15.4 miles per hour (6.2 to 6.9).⁵⁷ Figure 6 displays the wind map of Pakistan's wind corridors in its entirety.

Figure 6: Showing Pakistan's wind pathways



Source: NREL GIS, 2020.

⁵⁶ Umar K. Mirza et al. 'Renewable and Sustainable Energy Reviews', *Sustainable Energy*, 11:9 (December 2007), 2179-90.

⁵⁷ Rina Saeed Khan, In coal-focused Pakistan, a wind power breeze is blowing, Reuters, 17 July 2017. Available at: <https://www.reuters.com/article/world/in-coal-focused-pakistan-a-wind-power-breeze-is-blowing-idUSKBN1A21B3/>

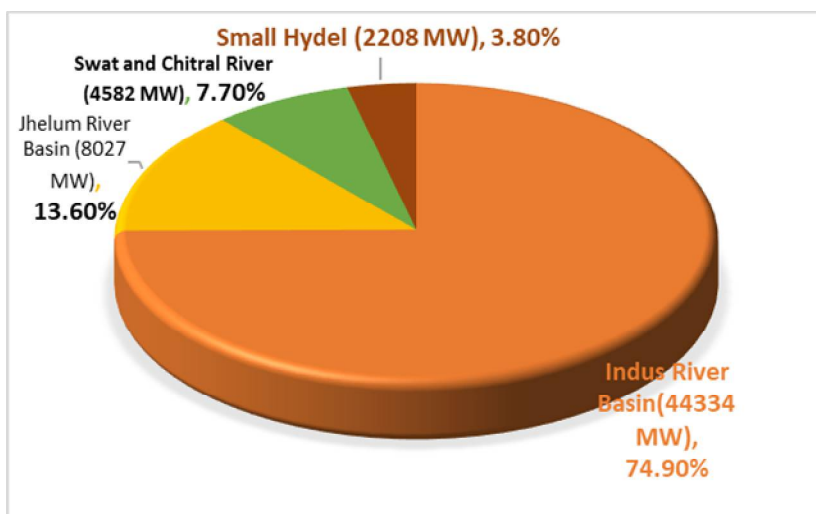
Wind project under CPEC

Four wind energy projects are part of the CPEC Early Harvest Projects Scheme, which aims to encourage green energy in Pakistan. The J & Sachal wind farm in Jhimpir, the UEP wind farm, and the Dawood wind farm in Bhambore are the three wind power projects that are now in operation. Providing 200 MW of electricity in total to the grid. This company will provide electricity to the system for 20 years.⁵⁸

Hydroelectric projects under CPEC

Three Gorges Corporation (TGC) has taken on the task of constructing the three main hydropower projects, comprising the 1100 MW Kohala, 590 MW Mahl, and 720 MW Karot Hydro Project. Located in the Mansehra region of Khyber Pakhtunkhwa, the Suki Kinari hydro power station has an 870 MW capacity and costs USD 1802 million. It is an essential part of the CPEC energy sector development strategy.

Figure 7: Hydro Potential Distribution in Pakistan



Data source: Pakistan's Hydropower Sector

⁵⁸ 'China-Built Landmark Hydropower Project Connects to Grid, Another Milestone for China-Pakistan Economic Corridor, Despite Western Media's Smears', Report (13 August 2024).

Table 5: Total potential of energy in Pakistan

Sr No	Province	No. of Potential Sites	Potential Range (MW)	Total Potential (MW)	Remarks
1	Khyber Pakhtunkhwa	125	0.2-32	750	Small/ Micro Based on Natural Falls/Flow
2	Punjab	300	0.2-40	560	Canals
3	Gilgit-Baltistan	200	0.1-38	1300	Natural Falls
4	Sindh	150	5-40	120	Canal Falls
5	AJK	40	0.2-40	280	Natural Falls

Source: cpec.gov

The CPEC Renewable Power Projects include a variety of initiatives across Pakistan. The Quaid-e-Azam Solar Park in Bahawalpur, Punjab, has a capacity of 1,000 MW and an estimated cost of \$1,350 million. Its 3x100 MW segments achieved Commercial Operation Date (COD) in August 2016. In Sindh, the Dawood Wind Farm in Bhambore, with a capacity of 50 MW and an estimated cost of \$125 million, is operational. Similarly, the UEP Wind Farm and Sachal Wind Farm, both located in Jhimpir, Sindh, have capacities of 100 MW and 50 MW, with estimated costs of \$250 million and \$134 million, respectively, and are operational as well.

In Azad Jammu and Kashmir (AJK), the Suki Kinari Hydropower Station, with a capacity of 870 MW and an estimated cost of \$1,802 million is under construction. Additionally, the Karot Hydropower Station, located across AJK and Punjab, has a capacity of 720 MW and an estimated cost of \$1,420 million.

Table 6: Category: Actively Promoted

S. No.	Project Name	Province	Capacity (MW)	Estimated Cost USD Million)	Current Status
1	Kohala Hydel Project	AJK	1100	2355	Land Acquisition process started
2	Cacho Wind Power Project	Sindh	50	-	LOI stage

Source: cpec.gov

The table highlights renewable energy projects under the 'Actively Promoted' category as part of the CPEC initiative. These projects include the Kohala Hydel Project in Azad Jammu and Kashmir (AJK), with a planned capacity of 1,100 MW and an estimated cost of \$2,355 million. The project is currently in the land acquisition phase. Another project in this category is the Cacho Wind Power Project, located in Sindh, with a proposed capacity of 50 MW. This project is currently at the Letter of Intent (LOI) stage. Both projects demonstrate ongoing efforts to expand Pakistan's renewable energy capacity under the CPEC framework.

Conclusion

This paper explored the significance of Belt and Road Initiative (BRI) investments in energy and port infrastructure, particularly focusing on the strategic development of Gwadar Port, a critical element of the China-Pakistan Economic Corridor (CPEC). Gwadar Port's expansion represents a transformative step in regional connectivity, establishing a significant corridor for Chinese energy commerce and trade. Its strategic location at the crossroads of the Middle East, South Asia, and Central Asia allows it to serve as a key hub in global supply chains, creating new trade routes and redefining regional economic dynamics.

The development of Gwadar Port has the potential to not only enhance trade flows but also to foster economic cooperation and integration among neighbouring regions. By connecting key economies and encouraging interdependence, these investments lay the groundwork for increased economic collaboration and prosperity. Moreover, this economic integration supports long-term political stability, a critical factor for ensuring peace and security in South and Central Asia.

China's investments in energy and port facilities within the CPEC framework fulfil two objectives: safeguarding its energy supply chain and enhancing its economic influence throughout the region. The emphasis on energy cooperation aligns with China's broader goals of achieving sustainable growth and maintaining a stable geopolitical environment. Gwadar Port, in particular, exemplifies how strategic investments can serve as a tool for fostering economic resilience, encouraging trade, and strengthening regional alliances.

In conclusion, the expansion of Gwadar Port and the associated energy projects demonstrate the far-reaching implications of BRI investments. These initiatives not only contribute to China's economic ambitions but also have the potential to reshape the economic and political landscape of South and Central Asia, making the region increasingly reliant on China's economic leadership.