

IMPACT OF CPEC ENERGY PROJECTS ON SOCIO-ECONOMIC DEVELOPMENT OF PAKISTAN

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Abstract

One of the leading plans of One Belt One Road (OBOR) initiative is the China-Pakistan Economic Corridor (CPEC) project which is expected to reshape the economies of the region. The primary objective of the present study is to find out the impact of CPEC Energy projects on the Socio-economic development of Pakistan. Moreover, this research article also discusses risks and challenges to the economy of Pakistan due to CPEC. It is the dire need of the hour to highlight the major issues regarding the CPEC. Data have been gathered through different books, research articles, journals, magazines, newspapers, different reports and seminars. Since last two decades, Pakistan is facing an energy crisis and the notable contribution of CPEC is in the energy sector by putting \$35 billion. CPEC is playing important role in all fields like FDI, Transportation, Infrastructure Development, Regional Integration, Employment Opportunities, Industrial Parks, exchange of cultures, Tourism etc. Despite all these positive points, there are some challenges too as: security, political consensus, terrorism, fair allocation of funds, stabilization of local businesses etc.

Keywords: CPEC, Economic Development, OBOR, Pakistan

1- INTRODUCTION

The China-Pakistan Economic Corridor (CPEC) brings immense benefits for both China and Pakistan. In the past foreign businesses were set up in the trade-friendly coastline cities in the eastern sea-front of China thus leaving the western provinces of the country underdeveloped. It is also anticipated that CPEC would help in enhancement of connectivity of

Chinese provinces such as Xinjiang, by attracting foreign and local investment through companies setting up their operations in the region. Moreover, Pakistan could be a transit route to connect the western provinces of China to the Indian Ocean and central Asian markets[1].

The Chinese economy is the second largest economy in the world. Through Innovation and technological advancement it has emerged as a global leader in main technologies like electric cars, green energy, robots, and semiconductors. China also has a great share of world foreign direct investment (FDI). Like other developed capitalist economies, China is also facing the problem of market saturation at home. The domestic need of Coal, Cement, Steel and other industrial goods has minimized and the manufacturing giants in the country are presently overproducing. "Going Out," strategy responds to their need for growth and accumulation[2]. Irrespective of the intentions behind this mammoth project of Belt and Road Initiative(BRI), People's Republic of China has already financed \$300 billion in the BRI partnering countries as loan and trade financing[3].

Furthermore, for China, the world's second largest importer of oil CPEC carries great potential to make it energy secure [4]. Figure 1 reveals the fact that presently China imports approximately 54.8% of Oil through a very long route of energy supply. CPEC would reduce the distance, time and cost of the oil imported from the Persian Gulf and East Africa considerably [5].

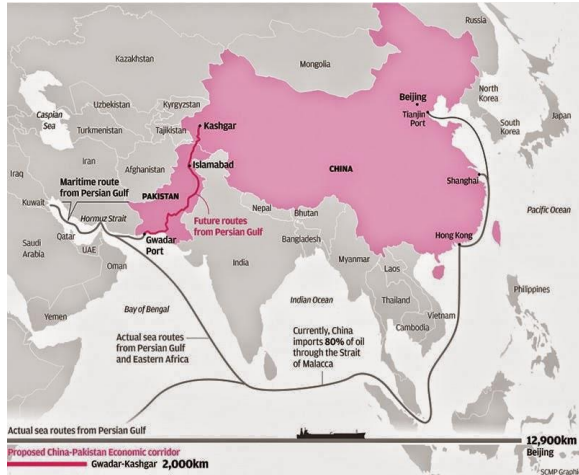


Figure 1: The Strait of Malacca route compared to the CPEC route to China [6].

Pakistan-China enjoys a cordial relationship from the very start. CPEC will greatly help Pakistan to overcome its various challenges including energy crisis. With this agreement, cooperation is made in four areas i.e. shared Economic interest and cooperation, security concerns, energy concerns and geostrategic interest [7]. It is very interesting to observe that Pakistan and China share common concerns with regard to their energy security challenges as well. Pakistan is suffering from an energy crisis for the last few years. Pakistan is spending 60 % of its reserves on importing the fossil fuel which is a great burden on its crumbling economy [8].

On the other side, China (2000-08) witnessed growth in the demand for energy so rapidly that it single-handedly accounted for 51% of the growth in world demand during that time period [9]. China was self-sufficient in oil until 1993, with rapid growth it is the second largest world oil consumer behind the U.S. in 2003[10]. With this, the growing energy needs of China the share of oil imports is also expected to rise to 60-80% by 2020. With rising economic growth and energy consumption, China naturally requires access to adequate energy supplies which is an increasingly significant priority for its future. It is based on these realities that China looks at Pakistan as a potential link in a regional grid of energy suppliers. Moreover, in the current energy poverty scenario, Pakistan cannot become a net energy exporter, the strategic position of Pakistan as an alternative energy corridor to the Gulf States, Central Asia, and even Iran invokes China's energy interest in the country[11].

Moreover, with the CPEC, Pakistan is counting on PRC's technological as well as financial cooperation to diversify its energy resources[12]. Gas accounts for 50% and Oil 30% of Pakistan's total energy requirements and export cost the country a lot of financial burdens. Pakistan needs to shift to the contribution of other energy resources to the total energy mix. Cooperation has already been very strong in the nuclear energy sector, to a lesser extent in the hydroelectric sector between China and Pakistan. Pakistan is looking to China for much-required technology, expertise and investment to develop the use of renewable energy technologies like wind and sun[13].

Since its independence in 1947, Pakistan with a population of 30 million people had per capita income of 100\$. Agriculture was the main sector as 50% of the total economy with zero manufacturing [14]. Presently, Pakistan's economy is the 26th largest in the world in terms of Purchasing power parity (PPP). International Monetary Fund (IMF) estimates the current GDP of Pakistan for the FY15 as 271 Billion. The GDP of Pakistan represents 0.39 % of the world economy. Per capita GDP stands at 1427 USD. The GDP growth rate in Pakistan is 4.7 % in 2014. The GDP growth rate of Pakistan stands at 4.7% in the year 2014 [15].

Rest of the paper is structured as follows: Literature Review presented in Section II. The methodology is discussed in Section III. The detailed discussion on challenges is discussed in Section IV. Finally, conclusions regarding future recommendations have been discussed in Section V.

2- BACKGROUND AND RELEVANT LITERATURE

The government of People's Republic of China (PRC) and Pakistan through a strategic partnership are developing the China Pakistan economic corridor (CPEC) as the most important project of \$1.4 trillion USD Belt and Road Initiative (BRI)[2]. The Belt and Road Initiative by China integrates a grand scale of enterprises like energy, trade and economy, transportation, culture. The BRI's physical section includes to the North is the 'land Route (Belt),' that cuts across Eurasia and to the South there is the 'Maritime Silk Road (Road),' starting in the Chinese Coast transient through East Asia into the Indian Ocean touching several ports on the way before dismissing in Europe[16]. Two economic institutions that are The 'Asian Infrastructure Investment Bank' (AIIB) and 'New Silk Road Fund' (NSRF) are launched to facilitate and for the sustenance of the

BRI[17]. There have been many debates internationally regarding different facets of this mega Belt and Road Initiative. According to the view and vision articulated in the Chinese white paper on BRI is that it is primarily economic in nature. There are parallel initiatives in education, technology development, culture, healthcare and other areas in the greater BRI scheme.

CPEC was publicized in July 2013 during the Prime Minister of Pakistan's visit to PRC. CPEC is a long-term initiative having a time frame of 2014 – 2030[18]. There are five main components of CPEC.

1. Development of Gwadar city and port
2. Energy (hydel, coal, solar, wind, LNG etc.)
3. The infrastructure of transportation (Rail, Road, Air)
4. Industrial and Investment Cooperation (Free zone in Gwadar and industrial parks)
5. Other areas of mutually agreed interest[19].

According to the Board of Investment (BOI), 74 % of the total CPEC projects are energy projects, which comprise: hydro, coal, solar and wind. Total Chinese investment in the project is estimated to be \$ 46 billion out of which around \$ 35 billion have been reserved for energy[20]. Due to the overwhelming significance of energy in the CPEC project, it is also known as the Pakistan-China Energy and Economic Corridor (PCEEC)[21]. In 1993, Zhu Rongji, the Vice Premier of China and Shahid Javed Burki, a Pakistani and at that time Director of World Bank in China shared the idea of PCEEC, as an approach to warm water through Pakistan's Gwadar. This notion was to develop Western China by developing a transport and communication network, comprising road, rail, oil and gas pipeline between the city of Gwadar port in Pakistan with the Western Chinese city of Kashgar [21].

A number of research articles and books have been presented on the importance of China- Pakistan Economic Corridor. No doubt, CPEC is a massive developmental project that aims to link Gwadar Port to China through a network of highways, pipelines, and railways. CPEC is being considered a source of job opportunities, to excel the economic activity, infrastructure, roads and rail networks, the establishment of new industrial estates and cultural activities among the people of Pakistan and China[22].

Energy is the backbone of any country like Pakistan. It is considered a very important factor of socio-economic development of the society [23]. Recently, Pakistan is facing energy crisis with a shortfall of 5,400 MW. As Pakistan is an energy consuming country and losing 2.5% of its annual GDP due to the shortage of energy. This massive shortfall has severely hit the industrial sector, services sector and agriculture sector which has been resulted in a

major economic downturn[24]. China has announced to invest \$33 billion in 22 energy projects in Pakistan through CPEC from 2018 to 2020 at fast track policy. These energy projects have been financed through Exim Bank of China at a rate of 5-6%. According to some researchers [25, 26], there is a link between energy and economic development in Pakistan. Moreover, the study concludes that energy has a positive impact on employment opportunities. On the other hand, a study by [27] exhibits no relationship between energy and economic growth of the country.

Turning out to the challenges and risks of CPEC to the Pakistani economy, China has its economic and strategic interests, which are One Belt, One Road, control over Gwadar port and access over central Asia through the sea. According to a study by [28], the revival of Pakistani economy does not depend on CPEC but focusing on competitive exports.

The above literature brings forth multi-faceted and numerous aspects of the energy projects of CPEC. Additionally, there are some studies available that focus on CPEC. But, to the best of author's knowledge, no considerable study is available in this regard in Pakistan. Thus, the present research is going to fulfill this gap.

3- METHODOLOGY

This study is based on descriptive research. Therefore, adopted research methodology is an exploratory review of existing literature on the socio-economic benefits of energy projects under the flag of CPEC. The Data have been gathered through official website of CPEC, different books, research articles, journals, magazines, newspapers, different reports, and seminars.

4- DISCUSSIONS

The Pakistan-China Energy and Economic Corridor (PCEEC) also termed as China-Pakistan Economic Corridor (CPEC) is a leading plan of BRI has brought notable socio-economic benefits for Pakistan. The China-Pakistan Economic Corridor (CPEC) whose total cost has gone up to \$62 billion from an initial \$46 billion. It is further expected that \$100 billion worth more will be needed for additional projects in the CPEC by 2030. The CPEC is observed to have invested \$ 33,793 billion in energy projects in Pakistan. The CPEC energy projects aim to add some 17,000 megawatts of electricity generation to the national grid through different sources including coal, wind, solar, and hydropower to combat the growing and pressing energy needs of Pakistan[29].

According to studies Pakistan was in the severe energy crisis of 4000 MW in 2008 and it was expected that energy shortage will increase to 8000 MW till 2010 and this energy shortage will continuously grow at the usual yearly pace of 5.67%. In 2015 Pakistan faced an energy deficit of 5201 MW and on daily basis, there was load-shedding of 14-18hours across the country continuing from 2011. According to the present government prediction, it is expected that the energy crisis in Pakistan will completely finish in 2019 and the country will produce the surplus energy of 2732 MW. According to this study, Pakistan was generating 553.3 MW of electricity through modern renewable energy technologies in 2015-16 which is added to the national grid [30]. Still, Pakistani energy scenario heavily depends on oil to produce electricity until 2013-14 a shift from oil to gas have been witnessed in the power sector to produce energy for industrial, household, commercial and transport sector consumption. As compared to 2008, the fossil fuel cost increased in 2009 resulting in a 0.6 % decrease in the total energy supplies which badly affected the economy of the country. The contribution of fossil fuel remains the highest in form of oil and gas i.e., 64% resource utilization in order to generate electricity. Despite all these efforts, Pakistan is unable to fulfill the demands of energy requirement. This situation mainly affected the industrial sector resulting in the export minimization and resulting in adverse effects on the economic growth of the country. The total installed capacity in terms of fossil fuel, hydropower and nuclear power plant to generate electricity in Pakistan up to July 2017 reach to 25100 MW and with a generation of 108408 GWh [31].

Like other countries one of the main element for Pakistan's economy is energy. Since the last decade, Pakistan is faced with severe energy shortages. CPEC energy projects have greatly helped Pakistan to mitigate energy poverty in the country. Table 1 shows details of the energy projects completed, ongoing and the ones in the planning stage under the umbrella of CPEC.

Table 1: CPEC Energy Projects progress

Project Name and Progress
1- Coal Fired (2×660MW) power plant, Port Qasim, Karachi <ul style="list-style-type: none"> • Civil works started in May 2015 • Jetty completed, Energization begin in October 2017 and inaugurated in November 2017 • The second unit started commercial

operation from 25th April 2018
2- Suki Kinari Hydropower Station, Naran, Khyber Pakhtunkhwa <ul style="list-style-type: none"> • Land acquisition awarded on 17th Nov 2016 and Financial Close granted on 31st December 2016. • Construction is in the process, Expected to start commercial operation by December 2022.
3-Coal Fired (2×660MW) power plant, Sahiwal, Punjab <ul style="list-style-type: none"> • Financial Closed (FC) granted in December 2015 and project completed and connected to the national grid in 28th October 2017
4-Mine Mouth Lignite Coal Fired (Engro Thar Block II 2×330MW, Thal Nova 1×330MW and TEL 1×330MW) power plants, Sindh, Pakistan <ul style="list-style-type: none"> • Financial closed awarded in April 2016. • Currently construction in process and expected to complete June 2019.
5-Surface mine (block II) Thar Coal field <ul style="list-style-type: none"> • Financial close achieved in April 2016 and IA/EA signed • Mining work started with an annual capacity of 3.8 MTPA • Expected completion date December 2018
6-Dawood Wind power project, Gharo, Thatta <ul style="list-style-type: none"> • Financing achieved on March 27, 2015 and commercial operations started in April 2017
7-Imported Coal Based (300MW) Power Project, Gwadar <ul style="list-style-type: none"> • Initially, LOI was issued in May, 2017 then extension in validity was made up to November 2018. • The site has been finalized by CCCC and NEPRA's tariff determination is in process
8-Quaid-e-Azam (1000MW) Solar Park, Bahawalpur <ul style="list-style-type: none"> • Commercial production of 3 x 100 MW started in August 2016
9- Jhimpir (UEP) Wind Farm, Thatta <ul style="list-style-type: none"> • Financial Closed (FC) achieved on March 30, 2015 and Commercial production started in 16th June, 2017
10- Jhimpir (Sachal) Wind Farm, Thatta <ul style="list-style-type: none"> • Financial Closed (FC) achieved on December 18, 2015 and Commercial production started in 11 April, 2017
11-SSRL(I 6.8 MTPA) Coal Block &SEC Mine Mouth (2×660MW) Power Plant, Thar <ul style="list-style-type: none"> • Financial Close of Plant and Mine second quarter of 2017.

<ul style="list-style-type: none"> • Mine Commercial production is expected by 2019. • Plant Expected Commercial Operation Date (COD) 2018/2019.
<p>12-Karot Hydropower Station</p> <ul style="list-style-type: none"> • Land acquisition award did. • Financial Close attained in February 2017 and land was acquired. • Construction (41% civil works completed) in process. • Expected Commercial Operation Date (COD) December 2021.
<p>13-Three Gorges (2nd & 3rd) Wind Power Project</p> <ul style="list-style-type: none"> • Financial Close attained in March 2017 and commercial production started in June and July 2018.
<p>14-CPHGC Coal-fired (1,320MW) Power Plant, Hub, Balochistan</p> <ul style="list-style-type: none"> • Power Purchase Agreement Signed on 25th January 2017 • Expected Commercial Operation Date (COD) 660 MW Dec 2018, 660 MW Aug 2019
<p>15-Matiari to Lahore (± 660kV) HVDC Transmission Line Project</p> <ul style="list-style-type: none"> • IA initialed in December 2016, land acquisition completed • Agreement signed between PPIB and State Grid of China on May 2018 and expected to complete in March 2021
<p>16-Matiari to Faisalabad Transmission Line Project</p> <ul style="list-style-type: none"> • A feasibility study completed and commercial operationalization expected in 2018 / 2019
<p>17- Mine Mouth Oracle(1320MW surface mine) Power Plant, Thar</p> <ul style="list-style-type: none"> • Feasibility stage tariff obtained for coal. • Shareholding agreement on new equity partners in the process.

Source: Author's compilation based on date from CEPC website.

5- CONCLUSION

The main objective of the present study is to investigate the impact of energy projects of CPEC on the socio-economic development of Pakistan. The study concludes that energy project regarding CPEC are contributing in all fields like Transportation, Foreign Direct Investment, Employment Opportunities, Industrial Parks, Infrastructure Development, Regional Integration, Socio-Economic

Cooperation, exchange of cultures, Tourism etc. The study also concludes that CPEC proves a fine medium to bring a positive and bright face of the Pakistani society at national and international level.

Despite of positive points, there are some risks and challenges too as: terrorism, security, fair allocation of funds, political consensus, stabilization of local businesses etc.

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