

Issue

Brief

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China's Belt and Road Initiative in the Energy Sector: Progress, Direction, and Trends

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Abstract

China's Belt and Road Initiative (BRI) is central to the country's ambitious policy reorientation. The energy sector accounts for nearly 40 percent of all investments under the BRI, with significant geostrategic and geoeconomic implications. In recent years, China has adopted a "greening the BRI" strategy, emphasising green energy projects. This brief analyses China's BRI investments in the energy sector to establish the potential trends and initiatives that Beijing will likely follow while investing overseas.

Since its initiation a decade ago, China's Belt and Road Initiative (BRI) has been central to geopolitical and geoeconomic debates. Chinese President Xi Jinping first articulated the broad vision for the BRI in 2013 during his official visits to Kazakhstan and Indonesia.¹ Drawing parallels with the original Silk Road that operated during the Han and the Tang dynasties, Xi unveiled the two main components of the BRI—continental linkages under the Silk Road Economic Belt² and maritime linkages under the Maritime Silk Road.³ These were meant to connect China with the Eurasian landmass, Southeast Asia, South Asia, and parts of East Africa and West Asia. Gradually, routes were added in different geographies, with the BRI growing in scope from a regional to a near-global initiative.⁴ Between 2013 and 2022, Chinese banks and state companies invested over US\$1 trillion in about 2,500 projects in nearly three-fourths of all countries worldwide, resulting in a slew of developmental projects and growth that was also characterised by debt distress and opaque lending patterns.⁵ Today, under the BRI, China partners with over 150 countries and collaborates with nearly 30 international organisations.⁶

The BRI began as a white paper in 2015, released by China's Ministry of Foreign Affairs in collaboration with the Ministry of Commerce, and the National Development and Reform Commission, outlining the policy objectives, ideals, and aims.⁷ Building 'trade infrastructure', 'deepening China's financial integration with participant countries', 'building resilient global supply chains', and 'promoting cooperation in the connectivity of energy infrastructure, and 'ensuring the security of oil and gas pipelines and other transport routes' featured as priorities in the white paper.

The 21st-century Maritime Silk Road and the Silk Road Economic Belt were supplemented with the Health Silk Road in 2016,⁸ the Digital Silk Road in 2017,⁹ and the Green Silk Road in 2020.¹⁰ In 2016, the BRI was incorporated into the Chinese Communist Party's constitution, elevating it to an overarching national priority.¹¹ To realise the policy objectives, Beijing mobilised its policy banks, such as the EXIM Bank of China, and state-led multilateral lenders, including the Asian Infrastructure Investment Bank and the China Development Bank, to service loans to BRI participant countries. At the same time, Chinese companies and contractors started to build infrastructural capacity in other nations. For instance, China has built energy infrastructure across West Africa and Russia (especially for Rosneft, a Russian state-owned energy company) as part of 'oil-for-loans' deals.¹²

Since its inception, the BRI has included different sectors related to infrastructure and connectivity, with regular reviews of plans and periodic monitoring and evaluation of projects. However, the energy sector has dominated BRI investments, given the substantial energy requirements for development in middle- and low-income economies.¹³ Between 2013 and 2022, Chinese loans and investments in the BRI's energy sector constituted 40 percent of total BRI economic engagement.¹⁴ During this period, Chinese institutions and companies led upstream and downstream exploration projects, built energy generation infrastructure, enhanced physical connectivity and distribution networks, made significant investments, and renovated and constructed ports and oil and gas pipelines in BRI partner countries. Indeed, overseas investments in the energy sector to build energy infrastructural and generation capacity was a prominent feature when the vision was outlined in 2015 and has since found centrality in China's five-year plans. The Made in China 2025 plan outlined targets for global market share, with the energy sector as one of 10 key areas.¹⁵

“Between 2013 and 2022, the energy sector dominated BRI investments, accounting for about 40 percent of all such economic engagement in partner countries.”

Progress in the Energy Sector Under the BRI (2013-2022)

BRI participant countries account for around 60 percent of proven oil reserves and 50 percent of all gas reserves worldwide.¹⁶ These countries are also poised to gain approximately 50 percent of the global energy market share in the next few decades.¹⁷ Some of the most resource-intensive (conventional energy) economies collaborate with China through the BRI; Kazakhstan, the Kyrgyz Republic, and Russia, which border China, are founding collaborators of the BRI. Pakistan, Myanmar, and a few Southeast Asian countries are also significant partners in the BRI's energy sector.¹⁸

After becoming a net oil importer in 1993,¹⁹ China focused on consolidating resilient and diversified energy supply chains. Between 1991 and the inception of the BRI, China built four energy transit channels—the East route (maritime trade oil and LNG imports through its ports), the Northeast channel (Russian oil and gas), the Northwest route (Central Asian oil and gas), and the South channel (gas imports facilitated through Myanmar).²⁰ The Silk Road Economic Belt, the BRI's continental component, aligned well with these routes. China's vision document, *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*, also states that the country should “expand development and cooperation in the exploration of coal, oil, gas, metal minerals and other conventional energy sources”, and “advance cooperation in hydropower, nuclear power, wind power, solar power and other clean, renewable energy sources”.²¹

Building on the aims and objectives of this document, China initiated several energy projects and investments, which were consolidated under the BRI. Between 2013 and 2022, Beijing invested US\$396.4 billion in energy collaboration,²² accounting for about 39.7 percent of all BRI investments (see Table 1).

Progress in the Energy Sector Under the BRI (2013-2022)

Table 1: Chinese energy investments under the BRI

Year	BRI energy investments (in US\$ billions)	BRI investments (in US\$ billions)	Share of energy in yearly BRI investments (%)	Sectoral investments within the energy sector (%)
2013	39.07	77.02	51.55	Oil (40.01%), Gas (14.89%), Coal (17.04%), Hydro (22.51%), Solar/Wind (5.55%)
2014	36.73	100	36.73	Oil (32.48%), Gas (18.20%), Coal (22.53%), Hydro (21.45%), Solar/Wind (>5%)
2015	53.07	116.3	45.64	Oil (11.06%), Gas (16.33%), Coal (45.43%), Hydro (19.98%), Solar/Wind (8.83%)
2016	73.64	165.13	44.06	Oil (14.48%), Gas (32.24%), Coal (24.18%), Hydro (21.45%), Solar/Wind (7.55%)
2017	41.37	113.9	36.33	Oil (24.35%), Gas (17.7%), Coal (15.08%), Hydro (31.45%), Solar/Wind (11.35%)
2018	36.94	121.98	30.29	Oil (40.54%), Gas (10.50%), Coal (14.35%), Hydro (17.7%), Solar/Wind (16.84%)
2019	39.98	105.6	37.86	Oil (17.26%), Gas (29.02%), Coal (17%), Hydro (20.22%), Solar/Wind (16.5%)

Progress in the Energy Sector Under the BRI (2013-2022)

Year	BRI energy investments (in US\$ billions)	BRI investments (in US\$ billions)	Share of energy in yearly BRI investments (%)	Sectoral investments within the energy sector (%)
2020	26.2	60.5	42.04	Oil (12.98%), Gas (6%), Coal (25.96%), Hydro (26.35%), Solar/Wind (28.71%)
2021	25.3	59.5	36.86	Oil (35.72%), Gas (41.04%), Hydro (8.49%), Solar/Wind (14.75%)
2022	24.1	67.7	35.59	Oil (16.14%), Gas (40.37%), Coal (%), Hydro (26.17%), Solar/Wind (13.73%)
Total	396.4	987.63	Average: 39.69%	Average: Oil (24.5%), Gas (22.6%), Coal (18.2%), Hydro (21.6%), Solar/Wind (13.1%)

Sources: American Enterprise Institute;²³ Boston University Global Development Policy Center;²⁴ China Overseas Finance Inventory Database;²⁵ Green Finance and Development Center²⁶

The sectoral distribution has varied each year, with conventional sources such as coal and oil leading in the initial years, and green energy now gaining pace. Still, the overall percentage share between 2013 and 2022 was 24.5 percent for oil, 22.6 percent for gas, 21.6 percent for hydro, 18.2 percent for coal, and 13.1 percent for solar and wind.^a

To better understand the multifaceted nature of the BRI's engagement in the energy sector, it is necessary to assess the progress in the different subsectors:

^a Data has been computed from the table.

Progress in the Energy Sector Under the BRI (2013-2022)

- **Oil**

Beijing's state energy complex has invested nearly US\$97 billion in oil.^b In the initial years, Chinese state oil companies built energy exploration and production capacities in low- and middle-income countries such as Angola, Nigeria, Niger, Venezuela, Iran, Kazakhstan, and Kenya by acquiring stakes and exploration rights to oil fields.²⁷ State institutions such as the China National Petroleum Corporation, China National Offshore Oil Corporation, and PowerChina built energy infrastructure in some of these countries and, in turn, acquired multi-decade contracts for concessional oil from the new production centres. However, this policy did not significantly alter China's dependence on the international oil market to meet its growing domestic energy demands. Beijing's oil-for-loans strategy was also widely criticised,²⁸ with deals in politically volatile and economically fragile countries such as Nigeria, Angola, and Venezuela.²⁹ External shocks such as the international oil price collapse in 2014 exacerbated financial pressures on these oil export-dependent economies. Yet, they had to meet their contractual obligations to China, further creating economic pressures.

Under the oil-for-loans policy in the BRI's initial years, China invested in midstream and downstream oil exploration projects and built maritime and land-based transportation infrastructure in the participant countries. The oil-for-loans policy was subsequently discontinued in 2016. A strong network of pipelines has been developed in diverse areas, such as the China-Pakistan Economic Corridor, China-Central Asia-West Asia Economic Corridor, and the China-Myanmar Economic Corridor.³⁰

- **Gas**

China became a net importer of gas in 2007.³¹ According to the International Energy Agency's 2021 Energy Outlook, China's natural gas imports are expected to reach 2.8×10^{11} cubic metres by 2040 with import dependence spiking to 50 percent.³² China's BRI strategy for this sector focuses on building land-based gas transmission pipeline networks across Asia, further diversifying and securing its gas import supply chains.

b Data has been computed from Table A.

Progress in the Energy Sector Under the BRI (2013-2022)

Since the inception of the BRI, China has invested nearly US\$90 billion in acquiring stakes in natural gas reserves abroad and building pipeline infrastructure.^c China's BRI policy for the gas sector has differed from that of its oil sector. As a somewhat preferred energy source, China considers gas a means of energy independence. China's immediate neighbourhood is crowded with gas-rich nations such as Russia, Kazakhstan, Kyrgyz Republic, Tajikistan, and Mongolia. Under the BRI, China has sought to build gas transportation pipelines from/through these nations, which connect to its own domestic pipelines.^{33,34} Pipeline networks such as the Power of Siberia link to these domestic pipelines, which supply the LNG production on China's East coast.³⁵ In countries where infrastructure and associated technologies have been basic and limited, the costs of gas projects have been higher and returns lower.³⁶ China has accorded priority to the Arctic LNG Route, Power of Siberia 1 and 2, Myanmar gas pipeline, and China-Central Asia Gas Pipeline comprising three lines that run from the border of Turkmenistan, through Uzbekistan and Kazakhstan, to Horgos in China's Xinjiang province.^{37,38}

- **Coal**

China has been the largest financier of overseas coal projects for the past few years, and under the BRI, it has built more than 250 coal-powered plants in over a decade.³⁹ As coal combustion contributes to over 40 percent of global energy emissions,⁴⁰ coal-related investments have come under scrutiny, with many countries committing to phasing out or phasing down coal-based capacities, primarily in the power sector. Between 2014 and 2020, Beijing invested nearly US\$160 billion in coal-fired power plants under the BRI.^d Of these, investments of over US\$65 billion have been put on hold or cancelled, with some additional projects seeing construction delays.⁴¹ In 2019-2020 alone, coal power plants worth US\$22 billion were put on hold and worth US\$25 billion were cancelled.⁴² Numerous factors contribute to the reduction of coal-power BRI projects. Financing costs for coal-fired power plants have increased by 38 percent over the past decade, while various carbon pricing initiatives worldwide have made coal financing less competitive.⁴³ The coal exit was also partly driven by increasing solar power competitiveness, as solar power costs dropped by 80 percent between 2013 and 2022.⁴⁴ International criticism about the environmental risks and lack of due diligence in BRI projects has also contributed to the coal exit. In December 2020, the BRI Green Development

c Data has been computed from Table A.

d Data has been computed from Table A.

Progress in the Energy Sector Under the BRI (2013-2022)

Coalition under the Ministry of Ecology and Environment put all coal-related investments on a “restricted” project list through the Traffic Light System.^{45,c} In 2022, coal projects comprised five percent of all BRI energy investments.

- **Hydropower**

Chinese enterprises have constructed about 320 hydropower projects overseas, with a total installed capacity of 81 GW and an investment of over US\$30 billion. Compared to other energy subsectors, investments in hydropower projects have been relatively successful. Chinese hydel power projects have fared relatively well, as is evident by the consistency of Chinese loans and investments in such projects. Hydropower investments accounted for 21.6 percent of total BRI investments between 2012 and 2022. The Lower Se San 2 Dam in Cambodia; the Karuma Hydroelectric Power Station in Uganda; the Nurek Hydropower Plant Rehabilitation Project in Tajikistan; and the Tarbela 5 Hydropower Extension Project, Suki Kinari Hydropower Project, and the Phandar Hydropower Station in Pakistan are prime examples of the BRI’s success in the hydel space.

- **Renewables**

China’s Energy Development Strategy Action Plan (2014-2020)⁴⁶ notes that the country should focus on green energy development and sustainable technology, and establish supply chains required to garner the critical minerals necessary to further the decarbonisation and greening of the Chinese economy. The document also states that China should build energy reserves, develop the Chinese eastern coast for LNG infrastructure, and push for “comprehensive cooperation with other countries to realise energy security in an open environment”.⁴⁷ The ‘Guidance on Promoting Green Belt and Road,’⁴⁸ ‘Belt and Road Ecological and Environmental Cooperation Plan,’⁴⁹ and ‘Vision and Actions on Energy Cooperation in Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road’⁵⁰ also state that renewable energy projects should be accorded priority.

e The traffic-light system classifies projects into colour-coded categories based on their potential harm to the environment, climate, and biodiversity.

Progress in the Energy Sector Under the BRI (2013-2022)

The ‘Green Belt and Road’ document emphasised that BRI investments and projects should further the Paris climate goals and promote the Sustainable Development Goals (SDGs), and will be motivated by the need to “share the ecological civilisation philosophy and achieve sustainable development.”⁵¹ During the second BRI Forum in 2019, Xi highlighted that China would focus on “greening” the BRI.⁵² Since then, the investment share of non-conventional energy sources and the share of gas investments required to manufacture LNG has become more pronounced (see Table 1). Solar and wind energy investments have steadily increased in the past five years. Over the past two years, the average annual increase in China’s wind power capacity was 178.6 terawatt hours (TWh), or 350 percent more than the average yearly increase from 2015 through 2020.⁵³ China’s solar capacity also grew considerably by an average of 78.3 TWh in 2021-22, or roughly twice the yearly growth pace of 39.6 TWh from 2015 to 2020.⁵⁴

- **Nuclear**

Chinese investments under the BRI in the nuclear power sector have been driven primarily by domestic climate goals and nuclear raw material supply chain resilience. China’s 14th Five-Year Plan aims to reduce carbon intensity by 18 percent and energy intensity (emissions per capita GDP) by 12.5 percent by 2025.⁵⁵ Of greater significance is China’s massive nuclear programme—the country aims to build 150 nuclear power plants by 2035 at a cost of around US\$440 billion, effectively doubling its current capacity.⁵⁶ Once completed, it will be the world’s most expansive nuclear power programme.

Following its domestic climate goals, Beijing has officially changed track in the BRI energy sector. The ‘Green Belt and Road’ document iterates that China should promote green and nuclear energy development in BRI countries through “nuclear technology and capacity” developed domestically. In 2019, during the Second Belt and Road Forum for International Cooperation, Xi restated the commitment to nuclear development in his keynote speech.

In the years since the BRI started, China has invested close to US\$18 billion in building 14 nuclear plants overseas—six in Pakistan, two in Romania, three in Kazakhstan, and two each in Türkiye and Argentina. Notably, the BRI’s nuclear component has not run into any financial or political troubles in the recipient nation.^{57,58} This is perhaps because Chinese assistance in this subsector is relatively prudent and financially viable.

Progress in the Energy Sector Under the BRI (2013-2022)

Scope and Geographical Distribution of BRI Energy Investments

Chinese BRI energy investments have gradually expanded to different regions worldwide (including resource-rich areas), with substantial investments in West, Central, and East Asia (see Table 2). Countries such as Pakistan, Mongolia, Uzbekistan, Tajikistan, and Turkmenistan also have land transit potential, and China has endeavoured to build oil and gas pipelines through these countries for its own requirements.

Table 2: Regional distribution of Chinese BRI energy investments

Region	Countries	Total BRI investment (in US\$ billions)	Total energy investment under the BRI (in US\$ billions)	% share of the energy sector in BRI investments
Southeast Asia	Indonesia, Vietnam, Laos, Brunei, Thailand, Myanmar, the Philippines, Cambodia, Singapore, and Malaysia.	213.39	68.5	32.1
Sub-Saharan Africa	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo (Brazzaville), Congo (Democratic Republic), Côte d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Réunion, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Western Sahara, Zambia, and Zimbabwe.	174	50.3	29

Progress in the Energy Sector Under the BRI (2013-2022)

Region	Countries	Total BRI investment (in US\$ billions)	Total energy investment under the BRI (in US\$ billions)	% share of the energy sector in BRI investments
North Africa and the Middle East	Algeria, Djibouti, Egypt, Libya, Morocco, Sudan, Tunisia, Western Sahara; Bahrain, Iran, Iraq, Kuwait, Jordan, Lebanon, Oman, Qatar, Saudi Arabia, UAE, Yemen	143.23	73.14	51.6
West and East Asia	Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, Tajikistan, Afghanistan, Iran, Pakistan, China, Mongolia, and Russia.	141.89	83.9	59.1
South Asia	Afghanistan, Bangladesh, Maldives, Nepal, Pakistan, Sri Lanka	91.47	51.06	55.8
Latin America and the Caribbean	Antigua and Barbuda, Argentina, Barbados, Bolivia, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Salvador, Guyana, Jamaica, Panama, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela,	84.3	37.5	43.22
Europe	Hungary, Moldova, Poland, Romania, Slovakia, Ukraine, Bosnia and Herzegovina, Croatia, Greece, Italy, Malta, Portugal, Romania	51.1	17.6	34.4
Number of regions: 11	Total BRI participants in the energy sector: 112			

Sources: American Enterprise Institute;⁵⁹ Boston University Global Development Policy Center;⁶⁰ China Overseas Finance Inventory Database;⁶¹ and Green Finance and Development Center.⁶²

Through the BRI, China has supported new energy producers, additional refining capacities, associated port infrastructure, and alternative energy routes. For instance, China's transportation of frozen gas from the Arctic under the Yamal project is a key success story.⁶³ In its geographical distribution, the BRI has also attempted to adapt to the energy sector's changing global supply chains.

Progress in the Energy Sector Under the BRI (2013-2022)

China's dependence on gas imports through the Malacca Strait has reduced from 85 percent in 2012 to around 70 percent in 2021, which is supplemented by the gas pipelines in Central Asia, Russia and Myanmar.^{64,65}

Most of the BRI energy projects so far have been in the fossil fuels sector, which has been criticised for increasing the developing world's dependence on conventional energy sources.⁶⁶ Additionally, China-financed coal power plants have run into delays, abandonment, and debt-repayment issues in 55 percent of all cases,⁶⁷ with regional policy barriers, local policymakers' preferences, and the pattern of Chinese incentives adversely impacting planning and project management.

“BRI energy investments have gradually expanded to different regions worldwide, with substantial investments in West, Central, and East Asia. China has supported new energy producers, additional refining capacities, associated port infrastructure, and alternative energy routes in the recipient countries.”

Global Alternatives to the BRI

Despite the many challenges that China's BRI faces in infrastructural development and capacity building, it has primarily been seen as the sole and largest investor in energy infrastructure development.⁶⁸ While there has been strong criticism of China's BRI, including its so-called 'debt-trap policy',⁶⁹ the European Union (EU), the US, and other countries opposed to the BRI were slow to provide an alternative to the Chinese initiative.

Although it is a relatively new provider of large-scale overseas investments, China now dominates project finance in the developing world through the BRI, with investments in over 25 economic sectors worldwide.⁷⁰ This has created several strategic inroads for China and provided it with geo-economic advantages in various BRI participant countries, such as Russia, Kenya, Sri Lanka, Pakistan, and Angola. However, it has become challenging for China to sustain BRI engagement at the same pace in the post-pandemic environment.

Since 2015, the US and the EU have begun to put forward new approaches to connectivity partnerships and investments as alternatives to the BRI, including the Trans-Pacific Partnership⁷¹ and the Indo-Pacific Economic Framework.⁷² The US enacted the Better Utilization of Infrastructure Leading to Development (BUILD) Act⁷³ and the Blue Dot Network to promote investments, quality standards, and project finance in different regions worldwide. In June 2021, US President Joe Biden announced the 'Build Back Better World' initiative to focus on connectivity and development,⁷⁴ which was relaunched as the Partnership for Global Infrastructure and Investment (PGII) in 2022.⁷⁵ The PGII aims to focus on the positive impact of infrastructure development, raising economic efficiency, climate resilience, good governance, and social justice.⁷⁶

The PGII outlines a plan to mobilise US\$600 billion by 2027, including nearly US\$200 billion by the US, about US\$276 billion by the EU, and contributions from the UK, Japan, and Canada. Unlike the BRI, the PGII also focuses on social and environmental projects, including healthcare. According to a fact sheet released in May 2023, the US has mobilised around US\$30 billion to "build out transformative economic corridors through PGII and drive infrastructure investments that can boost and connect economic development across multiple countries and sector".⁷⁷ The document identified "delivering energy" as a key area of engagement, with the PGII aspiring to build sustainable, green, and fiscally responsible energy infrastructure across its participating countries. Initial investments in the energy sector were indicated in Indonesia, the

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Philippines, Zambia, the Democratic Republic of Congo, and Angola. The PGII will also seek to aggregate demand for clean energy solutions.⁷⁸

In December 2021, the EU launched the Global Gateway, a new connectivity programme,⁷⁹ with digital, energy, transport, health, and education as the priority sectors. An investment of US\$276 billion was planned for up to 2027. Though the Global Gateway is steered and managed by the European Commission, it is aligned with the G7 commitments, and the investments planned are included in the PGII. Priority has been accorded to projects in Africa, Latin America, and the Caribbean in the initial stages. In the energy sector, the focus is on clean energy, green hydrogen, and electricity corridors.

India, Australia, and Japan have also announced investment programmes independently and in partnership. These include the Indian Development Assistance Scheme;⁸⁰ the Quality Infrastructure Investment Programme, Japan's collaboration with the World Bank;⁸¹ and Australia's 2023 ASEAN-Australia Infrastructure Cooperation Project.⁸² The total value of investments planned by the three countries is approximately US\$112 billion. Japan has also pledged to invest US\$75 billion in infrastructure development in the Indo-Pacific⁸³ and US\$32 billion in Africa by 2030.⁸⁴

A key challenge for global alternatives to the BRI is to mobilise private investments that will form a significant component of the planned targets. This is particularly relevant for the energy sector, wherein investment patterns are driven by forecasts and assessments related to market conditions. The PGII and the Global Gateway appear to be focused primarily on clean energy programmes, with no specific projects indicated for the other sub-sectors such as coal, oil, and gas.

“Global alternatives to the BRI include the Trans-Pacific Partnership, the Partnership for Global Infrastructure and Investment, the Global Gateway programme, and the Indian Development Assistance Scheme.”

Future Trajectory of the BRI Energy Sector

The emergence of competing global alternatives, changing multilateral structures, and a resurgence in regional groupings will impact the BRI's trajectory. The Global South's dissatisfaction with the current multilateral structure, wherein their unique developmental needs remain largely unaddressed, coupled with the financing gap in infrastructure development, had pushed many countries to embrace the BRI, but continued engagement will depend on many factors. The health of the Chinese economy, emerging alternatives, changing shares of sectoral investments under the BRI, and managing debt distress in the developing world (exacerbated by Beijing's loans) are some of the critical determinants of the BRI's future.

- **Realigning the BRI to the changing economic environment and imperatives**

The Chinese economy entered deflation in July 2023, following lower economic growth of 2.7 percent in 2022.⁸⁵ The BRI's engagement in the post-pandemic period has seen a downward trend, owing to the economic slowdown at home and broader geostrategic and geoeconomic factors. These include US actions specifically targeted to manage its strategic competition with China, global financial headwinds, widespread debt stress challenges, the Russia-Ukraine war, reassessment by some countries and groupings about levels of economic partnership with China,⁸⁶ and concerns regarding over-dependence on Sino-centric supply chains.⁸⁷ Apprehensions about economic coercion, long-term sustainability, lack of transparency, social and environmental impacts, lack of respect for sovereignty, and inadequate incorporation of local needs have also played a role in slowing down the BRI. The total external investment target (including non-BRI) specified in China's 14th Five-Year Plan is US\$550 billion,⁸⁸ which is 25 percent lower than in the previous plan.⁸⁹ The gross value of BRI engagement is, hence, likely to be lower in the next few years.

- **Sectoral recalibration within the energy sector**

While the energy sector continues to dominate BRI investments, the subsectoral distribution has been undergoing a significant shift.⁹⁰ The global energy crisis experienced since October 2021 and exacerbated by the Russia-Ukraine war has also resulted in the reorientation of energy supply chains, finance, and markets, and policy reforms and adaptation, with a new emphasis on renewables (in addition to targets defined by climate-related goals).^{91,92,93} China's coal-related

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projects under the aegis of the BRI have decreased significantly between 2017-22 (see Table 2). Given that China has either delayed or cancelled many coal-powered energy infrastructure projects after Xi announced the “greening of the BRI,” it is likely that investments in coal-based power plants overseas will be discontinued entirely. Though oil and gas are expected to dominate the global energy landscape for the next decade or two, the BRI’s engagement in this subsector may also gradually decline in the coming years, particularly in upstream operations. Participation in hydropower projects will likely continue, as will the trend of increased green energy investments, especially given China’s desire to sustain its leadership in the clean technology ecosystem and the importance of occupying a key position in the emerging energy architecture.

- **Emerging alternatives**

Given the declining credit levels from traditional project financing mechanisms and increasing gaps in infrastructure funding in the early 2000s,⁹⁴ China positioned itself as the only viable option to address these gaps in the developing world. Initiatives by other leading countries and groupings to counter the BRI remained fragmented till around 2018. Post-pandemic, these initiatives have been better aligned, although their delivery on the ground is yet to become substantive to effectively rival the BRI. A few Chinese studies have highlighted that there has been significant energy poverty alleviation in BRI countries since 2013, with the multidimensional energy poverty index declining by 1.75 percent to 2.30 percent.^{95,96,97,98} Such impact data on other global initiatives, such as the PGII, Global Gateway, and Blue Dot Network, is currently lacking. The Chinese studies are focused primarily on the renewable energy subsector. Thus, renewable energy will likely be a critical area of competition between the BRI and the new global initiatives. It is also apparent that the alternative initiatives, particularly in the renewable energy space, do not seek to match the BRI in terms of volume of investments and number of projects, but focus more on financial and environmental sustainability, and supply-chain security and reliability.

- **Financial viability and debt sustainability in BRI projects**

A key challenge for the BRI has been ensuring the financial viability of projects for Chinese companies and addressing problems of debt stress in the recipient countries.⁹⁹ In the initial years of the BRI, many Chinese firms, both state-owned and private, were overzealous and lacked adequate oversight and

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risk management strategies.¹⁰⁰ There is now a recognition that non-bankable projects should be avoided, and risks need to be suitably addressed. The BRI faced widespread criticism, under the broader term of ‘debt diplomacy’, after Chinese companies took over the Hambantota International Port in Sri Lanka in 2017 for defaulting on the loan.¹⁰¹ Amid such criticism, China’s finance ministry issued a comprehensive debt sustainability framework in April 2019.¹⁰² However, more cases of debt stress came to light in the post-2021 period. The combined challenge of financial viability and debt sustainability is likely to impact oil, gas and power generation and distribution projects in some countries. It is also expected that smaller value energy projects may be given priority under the BRI, and an increased number of collaborative/joint ventures may be planned for high-value energy projects.


- **The BRI narrative**

The energy sector will likely remain central to China’s projection of the benefits of the BRI for all participants. As seen at the third BRI Forum held in October 2023, China will continue to insist that energy cooperation through the BRI will strengthen multilateralism, increase collective alignment, enhance progress on the SDGs,¹⁰³ play a pivotal role in alleviating challenges in both energy-rich and energy-poor countries, and facilitate the broader development agenda of all participants. It will highlight the BRI’s perceived capacity to increase the voice of the Global South in the new energy architecture and governance, which was dominated by the West and resource-rich countries in the past.¹⁰⁴ China will also seek to counter concerns about the dangers of energy value chains emanating from the BRI projects while sustaining efforts to dominate in new and affordable clean technologies.

“The health of the Chinese economy, emerging investment alternatives, changing shares of sectoral investments under the BRI, and managing debt distress in the developing world are some of the critical determinants of the BRI’s future.”

Energy infrastructure projects worldwide constitute over 40 percent of all BRI investments since 2013 and have helped rapidly expand China's geographical reach. China has also diversified its own sources of energy supply through the BRI. In recent years, the BRI has begun to focus on green energy and renewables, a trend that is likely to continue. Still, the BRI energy projects have also faced criticism due to the lack of transparency, limited local participation, partner countries' debt sustainability ability and financial mismanagement, and environmental concerns. China has attempted to address these concerns by shelving or delaying some projects (particularly coal-related), but this has only partially succeeded in curbing criticism.

New alternatives to the BRI put forward by the US, the EU, Japan, Australia, India, and others are gaining cohesion in the post-pandemic period. However, the primary focus of the two main programmes—the PGII and the Global Gateway—is on clean energy, green hydrogen, and electricity corridors, which are just a few of the BRI's many components.

Given China's economic slowdown, global financial distress, geopolitical developments, and a re-evaluation of the partnership by BRI countries, energy investments and projects under the initiative will now likely be less ambitious. Lower-value energy projects may also be prioritised due to the considerations of financial viability. Renewables and green energy projects will likely gain prominence under the BRI as China seeks to sustain its lead in this sector and dominate the global energy governance architecture in the post-fossil fuel era. Overall, the energy sector will continue to remain central to the BRI, and China will continue to stress that energy cooperation through the initiative will contribute to a stable, multipolar, and beneficial global and regional order. 

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