China's Overseas Coal Pledge

What Next for Cambodia's Energy Development?

Stung Hav coal power plants.
PC: (CC) Dmitry Makeev.

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For over a decade, the development of Cambodia's energy infrastructure has been dependent on investment, financing, and construction from Chinese companies and banks. With hydropower proving highly susceptible to recent droughts, Cambodia sought to diversify generation sources and approved a number of coal-fired power plants. All but one of Cambodia's proposed, under construction, and operational coal plants have some level of involvement from Chinese stakeholders. However, Xi Jinping's announcement that China would cease building overseas coal plants could again result in Cambodia shifting focus to other energy-generation options.

In September 2020, Chinese President Xi Jinping announced in a speech to the UN General Assembly that China aimed to hit peak carbon emissions by 2030 and achieve carbon neutrality before 2060 (Xi 2020). The statement focused on China's domestic emissions, but in the months that followed, there was much speculation about what it would mean for China's involvement in overseas coal power plants. Just short of one year later—again, in a speech to the General Assembly—President Xi addressed this speculation, stating that China would no longer build new coal-fired power plants abroad (Xi 2021). This section of the speech is worth quoting in full:

We need to improve global environmental governance, actively respond to climate change and create a community of life for

man and nature. We need to accelerate transition to a green and low-carbon economy and achieve green recovery and development. China will strive to peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060. This requires tremendous hard work, and we will make every effort to meet these goals. *China will step up support for other developing countries in developing green and low-carbon energy, and will not build new coal-fired power projects abroad.* (Xi 2021; emphasis added)

After years of campaigning by local and international civil society groups to bring an end to the construction of new coal plants, this statement was welcomed, but a number of questions remain. What does ‘build’ mean? Which projects will be regarded as ‘new’? When will this come into effect?

As documented in various project profiles on *The People’s Map of Global China*, Chinese energy projects often involve a diverse range of actors, all of which, in their own ways, contribute to the ‘building’ of coal power plants. While public attention often falls on the project developer, Chinese policy and commercial banks provide financing, insurers such as Sinosure provide risk guarantees, and (usually state-owned) Chinese firms are brought on board as engineering, procurement, and construction (EPC) contractors. Subcontracts are then awarded to other firms for survey and design work, inspection and monitoring, equipment supply, and construction of components for the plant and supporting infrastructure (Zhang 2021). If Xi’s statement is interpreted broadly, the interests of a huge number of actors are potentially at stake.

The question of which projects will be regarded as ‘new’ is crucial. A conservative interpretation could exclude projects that are already under discussion, whereas a broader reading, and one that climate campaigners, including my organisation Inclusive Development International, and affected communities are pushing for, is all projects that have not yet reached financial close—that is, signed a binding financing agreement. Complex and expensive energy projects may sit in the pipeline for years as they are studied, discussed,

restudied, and shepherd through host-country approval processes. Even when EPC contracts are signed, they often stipulate the contract will come into effect only when the project reaches financial close and secures insurance. Because of this protracted project cycle, many Chinese-linked coal plants around the world are now in a state of limbo as developers wait to see how state agencies, banks, and insurers formalise their positions in light of Xi’s announcement.

While we wait for a clearer signal on how President Xi’s speech will be interpreted, a few actors have taken the initiative and publicly set out their own positions. One of the first movers was the Bank of China. Just three days after the General Assembly speech, the bank announced that, from 1 October 2021, except for projects for which an agreement is already signed, it would no longer provide financing for new overseas coal mining and coal power projects (Bank of China 2021). Private steel company Tsingshan Holding Group was even faster to react and, within 24 hours, issued a statement saying it would ‘proactively implement the spirit’ of the announcement by moving away from overseas coal power projects and prioritise hydro-power, wind, and solar (Tsingshan 2021).

Both announcements are significant. Bank of China is one of the largest financiers of coal plants in the world (Bank of Coal 2021) and, although a commercial bank, it is majority state-owned. Importantly, the bank’s statement goes a step further than Xi’s by excluding coal mining and may also give an indication of how ‘new’ will be interpreted by other financial institutions. The move by Tsingshan could also have major impacts, as it is the world’s largest steel producer and the driving force behind the huge steel and nickel production complex Indonesia Morowali Industrial Park (Ginting and Moore forthcoming). The park has its own dedicated power stations, with 1.26 GW generated from coal. There were plans to expand this capacity, but these may now be reassessed. Just the month prior, the Tsingshan announcement, the company signed a contract with China Energy Engineering Corporation to build three 380 MW coal power units in Morowali. It is unclear whether this contract will be affected by Tsingshan’s new commitment (Seetao 2021).

Amid such uncertainty, countries that have included new coal plants in their near-term national energy planning—such as Indonesia, Vietnam, and Pakistan—may find themselves having to rapidly adjust these plans (Yu 2021). Another country that could feel the impacts of this shift in both the near and the long term is Cambodia. Chinese capital has played a huge role in developing the country's energy infrastructure and, in addition to operational plants and those under construction, Cambodia is depending on as-yet-unrealised coal projects to meet the power demands predicted by its energy planners. Looking at the Cambodian case, therefore, can yield some insights into the challenges ahead as China shifts away from coal.

China's Role in Developing Cambodian Coal Power Plants

As I discussed in another essay earlier this year (Grimsditch 2021), all but one of Cambodia's proposed, under construction, and operational coal plants have some level of involvement from Chinese stakeholders. Chinese investment, finance, and aid have played an indispensable role in drastically expanding Cambodia's energy-generation and transmission infrastructure and boosting domestic generation capacity. The role of Chinese companies

Project	Chinese Developer	Financing	Project status	Installed capacity
CIIDG Erdos Hongjun Sihanoukville Coal Power Plant	Erdos Group	Bank of China	Operational	405 MW
CIIDG-Huadian Sihanoukville Coal Power Plant	Huadian Group	ICBC	Under construction	700 MW
Sihanoukville Special Economic Zone Coal Power Plant	Wuxi Guolian	ICBC, Bank of China	Under construction	100 MW
Oddar Meanchey Coal Power Plant	Guodian Kangneng	Unknown	Under construction	265 MW
Botum Sakor Coal Power Plant	Sinosteel	Unknown	Under preparation	700 MW
Total				2,170 MW

Table 1: Cambodian Coal Plants Developed by Chinese Companies.

is so extensive that, by 2018, almost three-quarters of Cambodia's domestic power supply came from Chinese-built and financed power plants (Mao and Nguon 2018). Much of the power generated reaches businesses and homes via transmission lines that, in many cases, are also Chinese funded and built; according to the then Chinese Ambassador, as of mid-2019, about 8,000 kilometres of transmission lines had been built by Chinese companies (Huang 2019).

Chinese companies are the driving force behind five coal plants, one of which is operational, three under construction, and one in the stage of clearing and preparing land (see Table 1).

The development of these projects came in response to the Cambodian Government's drive to expand energy-generating capacity and ensure stable and affordable power. While Chinese investment in power projects initially focused on hydro-power, the precarity of Cambodia's reliance on dams for close to 50 per cent of its power was laid bare during recent droughts. This resulted in the fast-tracking of approval for the Botum Sakor and Oddar Meanchey plants (Grimsditch 2021).

The expansion of coal power in Cambodia has alarmed not only environmentalists, but also private sector actors, principally manufacturers who produce or source products from Cambodia and who have made pledges to green their supply chains (Grimsditch 2021; Turton 2020). Some estimates suggest that current energy planning puts Cambodia on track to an energy mix that is more than 75 per cent dependent on fossil fuels by 2030 (Zein 2020)—a huge jump from the 51 per cent in 2019 (Electricity Authority of Cambodia 2020). This shift could push companies with public commitments to move towards 100 per cent renewable supply chains to take their business elsewhere (Ford 2020). Vietnam has committed to a target of 30 per cent renewables in its energy mix by 2030 (Tachev 2021) and is moving towards allowing companies to buy power directly from renewable energy producers, which will likely create further competition for Cambodia (Nguyen 2021).

On the ground, the full impacts of Cambodia's already operational coal plants are not well understood. Most have not made their environmental impact assessments widely available and, if there

is monitoring being conducted of air and water pollution, it is not being published. Cambodia now has three operational coal plants and one under construction, with this coal power concentrated along a stretch of Preah Sihanouk Province's coastline, and one plant under preparation across the Bay of Kampong Som in Koh Kong Province. This is an important marine fishery for local people and no studies have been published that examine the impacts of industrialisation of this coastline.

One of the most immediate impacts on those living in the vicinity of the existing plants in Stung Hav District, Preah Sihanouk Province, has been pollution from coal ash waste. Companies purchase the waste ash and process it for use in products such as cement. For years, media have reported on the plight of villagers close to the ash-processing factories, who reported suffering rashes, sores, hair loss, and breathing problems because of the ash falling on their homes (Pike 2019; Sony and Keeton-Olsen 2021). The largest ash-processing factory in the area was finally closed in 2021 after years of warnings from local government (Soth 2019; Ouch and Keeton-Olsen 2021). However, as more coal plants come online, the amount of ash and other types of waste will increase, as will associated harms to local communities, inevitably testing the already stretched regulatory capacities of provincial and environmental authorities.

How Might Xi's Statement Impact Cambodia's Coal Power Plants?

While noting that there is still a lack of clarity around how President Xi's statement will be interpreted and implemented, given the centrality of Chinese investment and finance to Cambodia's energy sector, it is important to assess the impact this may have on the country's power development. Of the projects currently under construction, the 700 MW CIIDG–Huadian plant and 100 MW Sihanoukville Special Economic Zone (SEZ) plants are well advanced and have received financing from

Power lines running through Cambodia's countryside. PC: Dmitry Makeev (CC).

Chinese commercial banks (Ham 2021a, 2021b). These projects are unlikely to be affected by Xi's statement.

The situation for the Oddar Meanchey and Botum Sakor plants is less clear. The 265 MW Oddar Meanchey plant is under construction, but this has been slowed by the COVID-19 pandemic (Ham 2021c). The lead EPC contractor of the Cambodian-Chinese joint venture, Guodian Kang-neng Technology, reports that the project will be financed 25 per cent by the developers' equity and 75 per cent through bank financing. It provides no information on which bank(s), and no information could be found indicating the project had reached financial close. The Botum Sakor plant has a similar equity-finance structure (IDI 2021). In November 2020, local company Royal Group signed an EPC contract for the project with Sinosteel, and one of the conditions for the contract to become effective was the project reaching financial close (Sinosteel International 2020). Again, no further information is accessible confirming whether financial close was achieved. If the two projects are not yet fully financed, Xi's no-coal pledge could have serious impacts for the developers.

The statement could also have potential impacts beyond Cambodia's borders that will have to be reckoned with. Cambodia still imports power from neighbouring countries to meet domestic demand and, in September 2019, signed an agreement with Laos to purchase 2,400 MW of electricity over 30 years (Khan 2019). These purchases were set to begin in 2024, with power coming from two as-yet unbuilt coal power plants in Xekong Province (Xinhua 2019). Cambodia approved a new US\$330-million 500 kV transmission line linking Phnom Penh to the Laos border to facilitate this power transfer (Thou 2020). This raised serious concerns among conservation groups, as the powerlines will run directly through the heart of Prey Lang Forest, a wildlife sanctuary and the largest of Southeast Asia's few remaining major lowland forests (Keeton-Olsen 2020). There is limited transparency around the status of these plants and who is developing them, but Chinese companies are connected to at least one of them (MofCOM 2013). If they have not yet reached financial close, they could also be in jeopardy.

While we can only speculate on whether the projects in Cambodia and Laos will be impacted by China's move away from overseas coal, if these projects are indeed dropped by Chinese firms and banks, it could leave a sizeable hole in Cambodia's power development plan. To date, Cambodia's strong reliance on Chinese energy infrastructure investment has been a boon in terms of enhancing domestic generation capacity, but also leaves the country exposed to policy shifts within China. With the global coal power industry on the rocks, various countries including key coal financiers South Korea and Japan have moved to stop public finance flowing to overseas coal projects, followed by several key commercial banks (IDI 2020). While these commitments vary in terms of their comprehensiveness, the pool of coal financing available is drying up, and the likelihood that non-Chinese actors will step in to finance coal power around the world is increasingly slim.

Developing Green and Low-Carbon Energy

While committing to stop building new overseas coal plants, President Xi also said: 'China will step up support for other developing countries in developing green and low-carbon energy.' Even though no concrete measures in this sense have been announced yet, in 2019, China was described by the International Renewable Energy Agency as 'the world's largest producer, exporter and installer of solar panels, wind turbines, batteries and electric vehicles, placing it at the forefront of the global energy transition' (IRENA 2019: 40). As such, it is well placed to make such a commitment a reality.

Both China and countries that heavily rely on Chinese-backed coal plants now find themselves at a crossroads and, once again, Cambodia is a good example of this dilemma. Even if all existing

Company	Role	Province	Status	Installed capacity
JinkoSolar	Provide solar panels	Kampong Speu	Operational	60 MW
Risen Energy	Developer	Battambang	Operational	60 MW
China Energy Engineering Group	EPC contractor	Banteay Meanchey	Operational	39 MW
JA Solar Technology	Provide solar panels			
JinkoSolar	Provide solar panels	Kampong Chhnang	Operational	60 MW
JinkoSolar	Provide solar panels	Pursat	Under construction	30 MW
China CACS Engineering	EPC contractor	Kampong Chhnang	Under construction	60 MW
Total				309 MW

Table 2: Cambodian Solar Power Projects with Chinese Involvement.

coal power projects in Cambodia move forward as planned, there is unlikely to be financing to cover new plants in the future, yet power demand will continue to grow. Although China views hydropower as green technology, such projects often come with extensive environmental and social impacts and in some cases have proved highly controversial in Cambodia (see, for instance, Mahanty 2021, on the Lower Sesan 2 Dam). There are plans to increase imports of natural gas and develop national infrastructure for its distribution, but this will not address the worsening climate crisis.

Cambodia's renewable energy industry is nascent and growing slowly, but China's move away from overseas coal could represent an important catalyst for its development. Cambodia has now approved at least 11 solar power projects; Chinese actors are involved in more than half of these.

As can be seen in table 2, the installed capacity from Chinese-linked solar projects is a little more than one-tenth of that of Chinese coal plants. However, there is much potential for Cambodia's solar industry to grow. In September 2021, a Chinese company received approval for a US\$30-million solar panel factory, which could further improve the competitiveness of the solar market (Phal 2021). Cambodia does not yet have any wind farms, but a Chinese firm is currently studying a US\$200-million 100 MW wind farm in eastern Mondulkiri Province (Hin 2021).

For the past few years, there has been a gradual shift in Chinese overseas energy investment, with renewables on the rise (Springer 2020). However, Chinese renewable energy companies face challenges expanding globally and have been less likely to receive state financing than firms involved in traditional energy. It is important to consider here the 'pull' and 'push' factors at play (Kong and Gallagher 2021). On the one hand, Chinese investment is generally market and demand driven. If a country does not actively seek financing for renewables and if local market circumstances are not favourable, it is much less likely to attract investors. On the other hand, China's policy banks often view overseas renewables as unattractive as they have less experience financing such projects, which are

often small in scale and distributed (rather than grid-based), and of much lower value. Financing multiple smaller projects creates more work for bank investment managers and makes it harder to hit lending targets.

Meanwhile, Cambodian energy planners have been reluctant to move decisively towards renewables, often presenting the technology as unproven or unable to meet demand. A recent *Nikkei Asian Review* article quoted a director-general from Cambodia's Ministry of Mines and Energy defending the fast-tracking of fossil fuel projects as a necessary balance between 'green' and 'the economy' (Turton 2021). However, renewable energy advocates challenge this calculation. Local nongovernmental organisation (NGO) EnergyLab Cambodia argues that current modelling shows solar, wind, and storage can build on the already operational fossil and hydropower output and meet demand, and at a lower overall system cost (McIntosh 2021). The economic argument for shifting to renewables has been bolstered by the recent rocketing price of coal, which in the past 12 months has almost quadrupled (Duguet 2021). Cambodia's shift to coal was in part motivated by a desire to increase energy security and reduce dependence on imports, yet operational plants are 100 per cent fuelled by imported coal—almost all of which comes from Indonesia. This means Cambodia is exposed to both price volatility in the coal market and the risk of supply chain disruptions.

The above calculation does not consider the economic costs of the health impacts of polluting energy projects or the costs associated with decommissioning plants when they reach the end of their operating life. Nor does it consider the millions of dollars that could be generated by nurturing a local renewable energy industry, with parts of the production based in Cambodia, generating revenue and jobs, and providing economic stimulus to support the country through the post-COVID-19 economic contraction. NGOs are not the only ones championing renewables for Cambodia. In an interview with *The Third Pole*, Pou Sothirak, an academic and former Minister for Industry, Mines and Energy, National Assembly member, and Cambodian Ambassador to Japan, stated:

Solar energy represents a viable prospect for meeting energy demand in Cambodia and diversifies renewable power. For a nation that counts on large dams, fossil fuels and coal power to meet increased energy demand, solar energy in Cambodia has potential to be a significant step toward a lower-carbon electricity grid. Solar is a renewable energy that allows Cambodia to opt away from controversial hydropower that could adversely affect the Mekong River and it reduces Cambodia's dependence on fossil fuel-generated power. (Roney 2021)

A New Chapter in 'Greening' the Belt and Road?

President Xi's statement came as a surprise to many, perhaps including stakeholders who have significant interests in the construction of overseas coal plants. In particular, state-owned construction companies that have 'gone global' have benefited hugely from coal plant contracts, and they could take a significant hit. With coal plants representing such a large portion of China's global energy portfolio, it will not be a simple task to shift focus, but countries like Cambodia, with still developing energy infrastructure, present promising testing grounds for an invigorated push into renewable energy development. In Cambodia and beyond, excluding the most polluting forms of overseas energy projects could represent a major shift towards the 'Green Belt and Road' China has been promoting. ■

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