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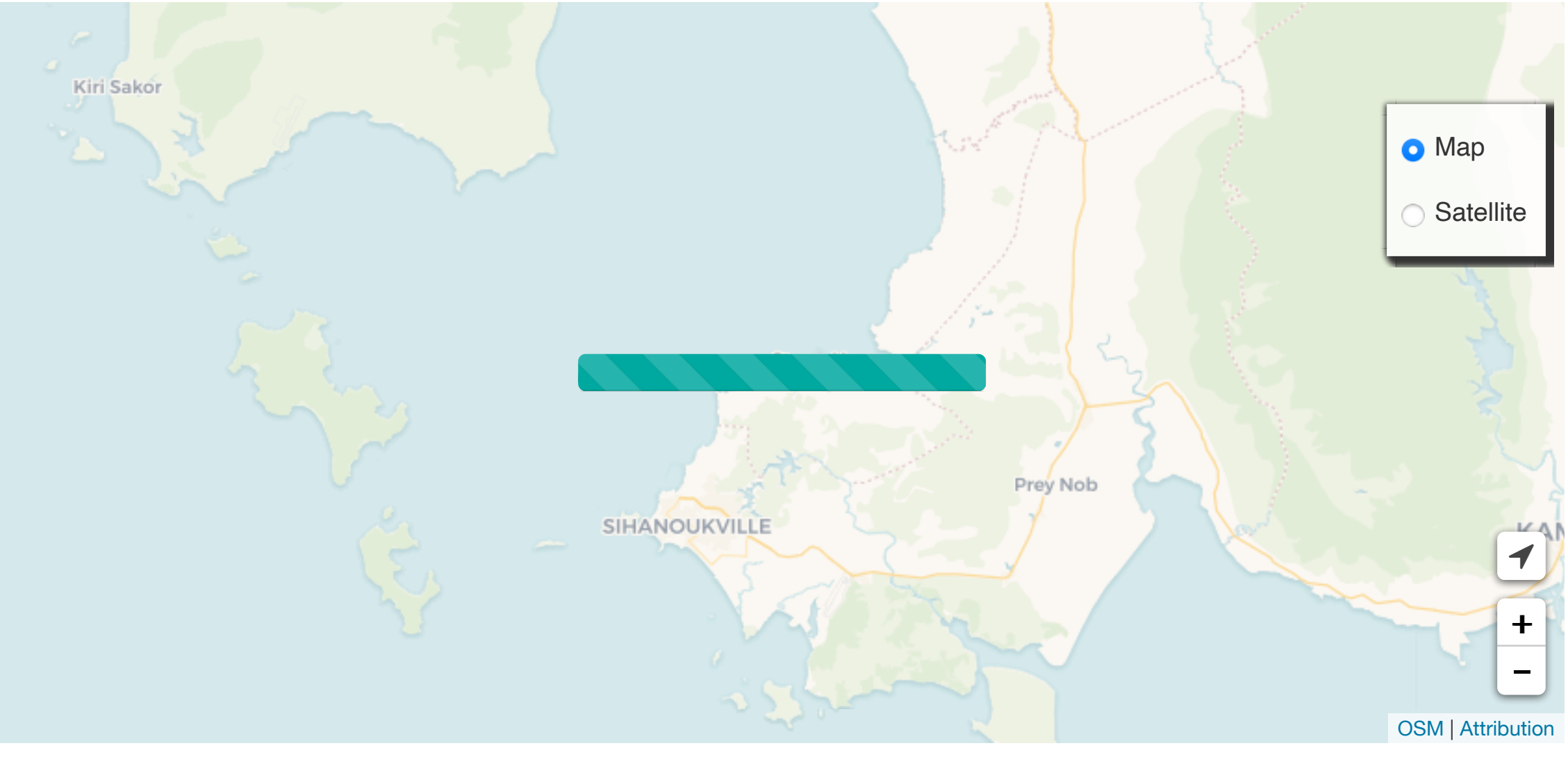

CIIDG–Huadian Sihanoukville Coal Power Plant

Stung Hav District, Preah Sihanouk Province, Cambodia

WRITTEN BY OUDOM HAM ON OCTOBER 18, 2021.

The CIIDG–Huadian Sihanoukville Coal Power Plant is a 700 MW power plant currently under construction in Cambodia's Preah Sihanouk Province. The project is jointly developed by local conglomerate Cambodia International Investment Development Group and a subsidiary of state-owned China Huadian Group. Since its approval in 2018, the project has moved fast. Concerns exist about the lack of transparency around the project's environmental impact assessment, which has still not been made public, as well as the contribution this development will make to Cambodia's carbon emissions.

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Basic Information

Chinese Name: 西哈努克港2×350MW燃煤电站项目
Location: Stung Hav District, Preah Sihanouk Province, Cambodia
Type of Project: Energy (coal)
Project Developers: Huadian Sihanoukville Power Generation Company Limited, a joint venture between Cambodia International Investment Development Group (CIIDG) and China Huadian Hong Kong Company Limited (CHDHK), a member of China Huadian Group).
Main Contractors: Various Chinese state-owned companies were contracted for the project, including subsidiaries of China Energy Engineering Group, Dongfang Electric Corporation, Power Construction Corporation of China, and China Communications Construction Company.
Known Financiers: The project is funded by a mix of company equity and bank financing. The Industrial and Commercial Bank of China (ICBC) provided 600 million USD in financing.
Cost: 1–1.3 billion USD
Project Status: Under construction

Project Outline

The CIIDG–Huadian Sihanoukville Coal Power Plant is a 700 MW plant in the coastal district of Stung Hav, in Cambodia's Preah Sihanouk Province. Approved in mid-2018 under a 35-year build–own–operate agreement, the project is being developed in two phases, the first of which was initially projected to connect to the grid in 2023 and the second to go online in 2024. However, since the project is progressing quickly, more recent reports moved these estimates up to 2022–23. The development is sometimes referred to as CIIDG 2 as it is the second coal plant developed with the involvement of the local CIIDG company (for more on the first project, the CIIDG–Erdos Hongjun Coal Power Plant, see here).

The project will build two 350 MW supercritical coal-fired power units with a total installed capacity of 700 MW. An 8,000-tonne coal berth and a 1.5-kilometre 230 kV transmission line will also be built. It was agreed to sell the power to Électricité du Cambodge (EdC) for 0.0743 USD per kilowatt hour (kWh). The project is expected to have an annual power output of between 4.6 and 5.2 billion kWh (figures differ between media reports; see, for instance, here and here). According to the Cambodian Ministry of Mines and Energy, there is still no certainty about where coal for the project will be sourced from. However, as the project includes a coal jetty, it is clear coal will be imported and, according to the UN Comtrade database, almost all Cambodia's coal is currently imported from Indonesia.

Media reports value the project between 1 and 1.3 billion USD. According to the Ministry of Mines and Energy, it will create at least 150 jobs and provide power for household consumption and factories. The project broke ground in December 2019. The ground-breaking ceremony was attended by the Economic and Commercial Counsellor of the Chinese Embassy in Cambodia, the President of the Chinese Chamber of Commerce in Cambodia, and representatives of the Cambodian Prime Minister.

Artist's impression of completed plant. PC: Sohu.com.

In October 2019, Huadian Sihanoukville Power Generation Company Limited was established to implement the project. It is a collaboration between a Cambodian conglomerate and a subsidiary of Chinese state-owned Huadian. The local partner is called Cambodia International Investment Development Group (CIIDG), which, according to Cambodia's company register, is owned by the wife of Cambodian Senator Lao Meng Khin. CIIDG is linked to several energy-generation and transmission projects, including a 405 MW coal plant adjacent to this project.

CIIDG was given the green light for the project in July 2018, and China Huadian Hong Kong Company Limited (CHDHK, 华电香港公司) stepped in later as a joint-venture partner. CHDHK is a subsidiary of Huadian Power International Corporation (华电国际电力股份有限公司), which is majority owned by China Huadian Group (中国华电集团有限公司), one of China's top-five power-generation companies. Huadian also developed the Lower Russei Chhrum Hydropower Project in Koh Kong and in 2021 received approval to develop the Upper Russei Chhrum Hydropower Project.

Many Chinese state-owned companies have been contracted to work on the project. Several key contractors are listed in the table below.

Contractor	Parent Company	Role in Project
Southwest Electric Power Design Institute (SWEPDI)	China Energy Engineering Group	Survey and design consultant
China Energy Engineering Group Anhui No.1 Electric Power Construction Co. Ltd	China Energy Engineering Group	Installation of main building of Unit 1
Dongfang Electrical Machinery Co. Ltd	Dongfang Electric Corporation	Supply of power generators
Dongfang Turbine Co. Ltd	Dongfang Electric Corporation	Supply of steam turbines
Shandong Power Construction Sichuan Co. Ltd	Power Construction Corporation of China	Construction of 'B section' of plant, installation of Unit 2
Sinohydro Engineering Bureau 8 Co. Ltd	Power Construction Corporation of China	Third-party inspection of construction
CCCC First Harbour Engineering Co. Ltd	China Communications Construction Co.	Construction of 8,000-tonne coal unloading berth and 2,000-tonne large project berth
Hubei Institute of Hydrogeology and Engineering Geology	Geological Bureau of Hubei Provincial Government	Geotechnical survey

A statement by the developer indicates that the project is funded by a mix of bank financing and the company's own equity. In April 2020, ICBC Asia, a Hong Kong-based subsidiary of the Industrial and Commercial Bank of China (ICBC), signed a loan agreement with Huadian to finance the project. The signing ceremony was held online due to the COVID-19 situation and was also attended by a representative of the ICBC Phnom Penh Branch and witnessed by the Chinese Ambassador to Cambodia. ICBC Asia and ICBC Phnom Penh Branch will collectively provide a 600 million USD loan for the first phase of the project; this is about 50% of the reported project cost.

Project Impacts

- **Impact Assessment:** According to official statements in the media, an environmental impact assessment (EIA) has been conducted but has not been made public. It appears the project was approved before the assessment was complete.
- **Pollution:** The plant is in a coastal area and will result in increased ocean traffic as large ships dock to deliver coal; it will use seawater for cooling, while also releasing wastewater into the sea. Waste ash from existing coal plants has already had severe impacts on local villages. In the absence of a published EIA, it is unclear how these impacts will be managed.
- **Climate Change:** When operational, the plant will further increase the share of Cambodia's energy mix that depends on fossil fuels. This will contribute to climate change but also impact on Cambodia's competitiveness as companies seek production bases with clean energy options.

Cambodia has struggled for many years to meet existing electricity demand, and unreliable and expensive power supplies have often been cited as a barrier to investment and economic growth. Starting in the late 2000s, Chinese investment and finance began to pour into Cambodia's energy infrastructure and drastically increased the country's generating capacity. This initially focused on supporting several large hydropower dams and transmission infrastructure, and later expanded to coal plants. While these projects have drastically increased Cambodia's domestic generating capacity and reduced expensive electricity imports, their social and environmental impacts have raised concerns.

Local media reports indicate the CIIDG–Huadian project was approved by Cambodia's Council of Ministers in May 2018; however, this was at least two years before the completion of the EIA. Media reports indicate that the EIA was presented to the provincial government in a meeting in July 2020. At this meeting, the provincial government expressed support for the project, but stated the EIA still required national-level approval. Chinese media reported on 18 August 2020 that construction had commenced. With the EIA completed so close to the project commencing, when financing was already confirmed, it is unlikely it will have any significant impact on the project's design.

According to the author's discussion with local villagers, in Village 2, O'Tres Commune, Stung Hav District, in August 2020, people were unaware of any EIA being conducted. They had met with local government officials several times, but only to raise concerns about the dust pollution from coal waste from already operational plants. The final EIA has not been published, so it is impossible for civil society groups and local people to review the potential impacts and the adequacy of the mitigation measures that are in place to address affected areas such as water, air, and fisheries—all of which are central to local people's livelihoods and wellbeing.

Map of Stung Hav showing operational plants: CEL1 (blue) and CEL2 (green) are owned by Malaysian firm Leader; CIIDG–Erdos Hongjun (yellow), profiled here; and the location of the CIIDG-CHDHK (red) plant, under construction.

A major impact of the two coal plants that already operate in Stung Hav is dust pollution. Local companies purchase coal ash from the power plants and use it in the production of cement. In the process of transporting, storing, and using the ash, it blows into the air and rains down on surrounding villages, resulting in skin and respiratory illnesses. This issue has become so severe the provincial government threatened to close coal ash processing factories on numerous occasions, before finally shuttering the largest in 2021. When the new power plant goes online, it will more than double the existing coal generation capacity of the area, and in the process drastically increase the amount of coal used and the resulting ash by-product. Without proper management of the plant's waste, the current problems could worsen.

The Cambodian authorities have said on many occasions that they are committed to fighting climate change, yet in the past few years Cambodia has rapidly expanded its coal power production. As of 2020, around 50% of the country's energy came from hydropower dams, but the current development of coal plants and plans to increase the use of natural gas could flip Cambodia's energy mix to being almost 75% dependent on fossil fuels. This will make it harder for Cambodia to meet its climate change commitments and also impact on Cambodia's competitiveness as companies seek production bases with clean energy options (for further discussion of this issue, see this essay in the Map's blog).

In-Depth Sources

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Oudom Ham is an environmental and human rights consultant. He has expertise in investigative research, fact-finding, and documentation of social and environmental impacts associated with energy development. He closely follows the development of coal-fired power, large-scale hydropower, and clean energy projects in Cambodia and the Greater Mekong Subregion.

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