

Investing in a Sustainable Solution for Hong Kong

The South Soko Liquefied Natural Gas (LNG) Project

Submission by CLP Power/ Castle Peak Power Company Limited to Panel on Environmental Affairs, The Legislative Council, Hong Kong SAR

Sourcing clean fuels

Everyone in Hong Kong shares an interest in the quality of their environment. CLP Power (CLP) and Castle Peak Power Company Limited (CAPCO) understand Hong Kong's desire for clean air, which is why we are committed to sourcing clean fuels for electricity generation. In 1996, CLP/ CAPCO pioneered the introduction of natural gas to Hong Kong. Together with nuclear power and coal, CLP/ CAPCO have been using a balanced mix of fuels that addresses the need for clean and reliable power generation.

Over the past decade, emissions of nitrogen oxides (NO_x), sulphur dioxide (SO₂) and particulates have been reduced substantially despite an 80% increase in electricity demand over the same period. However, a regular redetermination of the Yacheng gas field four years ago revealed that our natural gas supply from Hainan Island would be depleted by early next decade. To enable CLP/ CAPCO to continue sourcing clean fuel for our power plants, we have been exploring a sustainable replacement gas supply to meet our future power generation needs. Following extensive study involving industry experts, we have concluded that bringing liquefied natural gas (LNG) to Hong Kong by building a LNG receiving terminal in the HKSAR provides the most viable means of providing future gas supplies.

Why LNG

Natural gas currently contributes 25% of Hong Kong's electricity supply, meeting the electricity needs of around 2 million people. Natural gas is one of the cleanest and most efficient forms of energy available, producing virtually no particulates or SO₂ and less NO_x and carbon dioxide (CO₂) than other fossil fuels. LNG is natural gas that has been cooled until it becomes a liquid. Since sulphur is almost entirely removed in the liquefaction process, combustion of regasified LNG emits only negligible amounts of sulphur dioxide (SO₂).

A Hong Kong receiving terminal - a sustainable gas supply solution

CLP/ CAPCO has spent four years conducting thorough studies on replacement gas supply

options, both locally and outside Hong Kong, and has concluded that a Hong Kong-based LNG terminal provides benefits over other options, including:

Energy supply security

- With a Hong Kong terminal, CLP/ CAPCO can directly access and contract with LNG suppliers around the world. This will ensure that Hong Kong's gas needs are accorded priority and that electricity supply reliability can be maintained.

Environmental benefits

- With LNG, we can raise the proportion of natural gas in our fuel mix. This will help CAPCO to meet GoHK's 2010 air quality targets in a sustainable manner and will continue to reduce our CO₂ emission.

Time certainty

- Developing a local terminal under one jurisdiction will give the project time certainty. With timely approval by the Government, the terminal can be in operation in time to meet our gas needs.

CLP/ CAPCO carefully considered all options for the development of our power generation infrastructure before reaching this conclusion. Securing the most viable and reliable solution for meeting our power generation needs remains our priority.

In recent years, the demand for natural gas has been on the rise, and South China in particular has shown strong demand for clean fuel to meet its economic growth and environmental needs. Given South China's needs and priorities and Hong Kong's total dependency on imported fuel, there is no certainty that gas via Mainland infrastructure can be timely available to meet our requirements. For CLP/ CAPCO to secure timely replacement supplies sufficient to meet the large gas volumes required, building a LNG terminal in the HKSAR provides the best solution.

A win-win solution for the environment - the South Soko plan

The choice of South Soko Island for our proposed LNG terminal is the fruit of four years of thorough technical and environmental studies and intensive engagement with key interested parties.

Comprehensive EIA study and extensive engagement

The unanimous endorsement of our Environmental Impact Assessment (EIA) Report by the

Advisory Council on the Environment (ACE) earlier this year, and the subsequent issuance of the Environmental Permit for the construction and operation of the terminal on South Soko by the Environmental Protection Department (EPD) in April this year, signified that the environmental authorities are satisfied that all relevant environmental principles and criteria can be met and that any residual environmental impacts are within the governmental criteria.

The 3,000-page EIA Report is the culmination of years of meticulous work including:

- A rigorous site selection process, with two potential sites shortlisted from 29 sites in Hong Kong;
- The unprecedented approach of conducting the statutory EIA study on two sites to ensure the best option was chosen within the most efficient timeframe;
- The intensive engagement programme undertaken with interested parties, featuring hundreds of seminars, workshops and site visits to solicit and collect feedback, which has been incorporated in improved design and key conservation initiatives.

The benefits of the South Soko terminal were identified as follows:

- The island is away from busy traffic and population centres.
- It takes shorter project development time with commissioning of the terminal advanced by at least 1 year.
- It requires limited reclamation of only 0.6 hectares. The site uses as much as possible the abandoned platform of the disused refugee detention centre. 75% of the island will remain untouched by the project.
- It requires less maintenance dredging, i.e., less than once every 10 years.

Sourcing natural gas while preserving the environment

CLP/ CAPCO fully appreciates the concerns of interested parties over the perceived impacts of the project on the island's natural surroundings.

Stringent monitoring and mitigation measures

In implementing the South Soko terminal project, we will implement a stringent package of mitigation and monitoring measures to minimize environmental impacts, including:

- A comprehensive package of mitigation measures to protect terrestrial and marine environments during both the construction and operation phases of the terminal;
- A rigorous monitoring system overseen by an independent environmental team to ensure all recommended mitigation measures are implemented in a timely and effective manner;

- Submission of monitoring results to the EPD; these are to be routinely and publicly displayed via a dedicated website featuring a 24-hour on-site webcam;
- An Independent Environmental Monitoring Committee will monitor our environmental performance and, additionally, a Scientific and Educational Advisory Committee will advise CLP/ CAPCO on our comprehensive environmental measures.

LNG and conservation go hand in hand

In addition, CLP/ CAPCO has proposed an enhancement plan to include conservation as an integral part of the project to benefit the wider community. The plan includes:

- Provision of ‘seed’ funding to help turn an earlier government-proposed marine reserve plan for the area into a reality;
- Studying the feasibility of artificial reefs to enhance the marine environment in a former marine borrow ground in the northwest of South Soko;
- Support work to preserve the natural heritage of South Soko Island;
- Enhancement of educational and recreational facilities;
- Improvement of public access to the island.

Compatible with marine conservation

Currently, several LNG terminals are located within national parks or marine conservation zones. These include Dominion Cove Point LNG Terminal in Maryland, USA, four along the coast of Japan’s Seto Naikai National Park and two others in Europe.

LNG, a sustainable energy source for our future

CLP/ CAPCO recognises the critical importance of implementing an environmentally sound strategy for Hong Kong's future energy needs. Accessing worldwide LNG supplies through a terminal on South Soko Island will provide Hong Kong with an environmentally sound, sustainable, and reliable energy solution. We look forward to working with the community to make the LNG project a reality.

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