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Driving Private Financing for Green Industries in Hong Kong – The Catalytic Role of a Green Investment Bank

The Financial Services Business Council (**FSBC**) of the European Chamber of Commerce in Hong Kong (**EuroCham**) published a briefing paper, “[Driving Private Financing for Green Industries in Hong Kong - The Catalytic Role of a Green Investment Bank](https://www.eurocham.com.hk/wp-content/uploads/2018/12/THE-CATALYTIC-ROLE-OF-A-GREEN-INVESTMENT-BANK-A-Tracy.pdf)”, authored by Alexandra Tracy, Founder and President of Hoi Ping Ventures, on 27 December 2018 (**Green Finance Briefing Paper**). The Green Finance Briefing Paper elaborates on a concept paper issued by EuroCham in 2017, “[Leading Asia’s Financial Future – Hong Kong Green Investment Bank](https://www.eurocham.com.hk/wp-content/uploads/2017/10/Leading-Asias-Financial-Future-Hong-Kong-Green-Investment-Bank.pdf)”, which introduced the idea of a Green Investment Bank and outlined the argument for establishing such an institution in Hong Kong (**Hong Kong Greenbank**). The Green Finance Briefing Paper reviews models of Green Investment Banks across the globe and the projects they have financed to identify potential funding opportunities for a Hong Kong Greenbank.

**Green Investment Bank**

A Green Investment Bank is a financial institution set up and owned by the government to direct private finance into low carbon infrastructure and environmentally friendly construction. The Green Investment Bank structures projects on a commercial basis and seeks to create different liquid markets that can operate independently.

The key issue in most markets is that many projects are unable to obtain finance to invest in low carbon infrastructures. The Green Investment Bank model seeks to remedy this by mobilising private investment capital.

* Tackling investment barriers

Investors’ reluctance to invest in low carbon infrastructure projects is often due to their lack of understanding of the associated risks. Green Investment Banks thus play a crucial role in making investors comfortable with green investment through the provision of credit support, education and information.

* Attracting private capital

The role of the Green Investment Bank is to attract private sector investment to green projects by providing financial tools (such as coinvestment, insurance etc.) and market support to reduce the perceived risks. A Green Investment Bank may also suggest aggregating small projects into larger vehicles to appeal to institutional investors.

* Developing private markets

Green Investment Banks play an important role in educating investors in relation to the risks and opportunities of green sector investment. Once investors gain experience of green investments supported by Green Investment Banks, they are more likely to invest in other green sector investments, even those without Green Investment Bank support.

**Potential Funding Opportunities for Hong Kong Greenbank**

***Rooftop Solar Power***

Experience in other markets has shown that providing affordable financing to home owners to install rooftop solar systems increases installation rates. This is particularly true where mechanisms are provided to simplify the process of accessing finance and physically installing the systems.

*Connecticut Green Bank (****CTGB****) Case Study*

Over a decade ago, the government of the state of Connecticut created incentives to produce a target amount of residential solar power systems. However, the upfront cost of purchasing and installing the solar panels and the lack of available financing acted as a major deterrent to solar panel installation.

A solar lease programme was implemented which used a combination of solar rebates and investment tax credits to give residents access to affordable solar energy. Under the lease, residents could install solar panels with no upfront cost and instead paid a fixed lease price for 15 years. To fund the programme, CTGB entered into partnerships with banks and provided credit support to provide comfort to its financing partners.

The programme adopted by the CTGB was fully utilised and a number of residential lease providers later entered the market, so that CTGB’s support was no longer required.

CTGB’s solar lease programme could be replicated by Hong Kong Greenbank with local banks in Hong Kong. Consideration could also be given to developing similar programmes in the Greater Bay Area. Further, Hong Kong Greenbank could facilitate the securitisation of deals through Hong Kong’s bond market, possibly in partnership with the Hong Kong Mortgage Corporation.

***Offshore Wind***

*UK Green Investment Bank Case study*

In 2014, the UK identified offshore wind as a potentially substantial source of renewable energy. However, investors were cautious about this sector due to their limited familiarity with offshore wind projects.

As the most active investor in the industry at the time, the UK Green Investment Bank used its experience to create the world’s first dedicated offshore wind fund. The UK Green Investment Bank provided expertise and acted as the anchor investor in the fund to allow investors to rely on its expertise.

The offshore wind fund is now Europe’s largest dedicated renewable energy fund and has attracted new investors such as Swedish Life Insurance and Strathclyde Pension Fund.

Although the offshore wind industry is relatively new to Asia, Hong Kong Greenbank could play a major role, either by encouraging equity investors as in the UK, or by providing support for commercial bank financing or bond issues to refinance completed projects.

***Energy Efficiency for Buildings***

Hong Kong’s building sector is the main source of its carbon emissions. Retrofitting existing buildings offers significant potential for reducing electricity usage. The major obstacle to building retrofitting is however the lack of available commercial funding.

*Clean Energy Finance Corporation (****CEFC****) Case Study*

In Australia, existing buildings are responsible for a substantial percentage of its greenhouse gas emissions. Although upgrades of older commercial buildings would reduce emissions and lower operating costs, many building owners have not invested in retrofits due to the perceived project risk and limited availability of funding.

The Clean Energy Finance Corporation and the National Australia Bank established a fund to provide financing to improve the efficiency of commercial buildings. The fund provides loans to owners for building upgrades which are paid back through a surcharge on local property taxes to increase the certainty of repayment.

The building upgrades financed through the fund reduced base building electricity consumption by up to 50%. Building improvements made to improve energy performance and energy costs often increase the value of the property and extend its useful life.

The Hong Kong Greenbank could adopt a similar lien-based financing structure that allows building owners to repay an energy upgrade loan through the payment of property taxes. Hong Kong Greenbank could also work with the Hong Kong government to enact legislation that would accommodate a similar funding model by attaching a lien to the property tax charged on a property’s income.

*New York Green Bank (****NYGB****) Case Study*

New York State’s electricity rates were one of the highest in the United States but energy efficiency upgrades in the state were constrained by several factors. Home owners were reluctant to make improvements, as they were not aware of the benefits and were put off by the complicated process and additional costs.

The NYGB provided debt financing to Sealed Inc., an energy software company, to provide energy audits and equipment and to explore a method for customers to pay for improvements. Further, in 2016, NYGB provided a revolving credit facility to Sealed Inc. to allow them to launch a programme that enabled the company to undertake energy saving projects amounting to US$7.5m.

As a result, 400 individual homes were upgraded resulting in a significant reduction in greenhouse gas emissions. NYGB’s financing allowed Sealed Inc. to pool together a sufficiently large number of projects to be securitised or sold to a long term investor.

In Hong Kong, two utility companies have committed with the Hong Kong government to promoting energy efficiency and conservation. Hong Kong Greenbank could try to introduce “on bill financing”, which is a structure whereby an energy upgrade loan is repaid through the customer’s utility bill. The introduction of “on bill financing” could attract significant investment to energy upgrades. Hong Kong Greenbank could also consider the potential for securitisation of project portfolios once they reach a sufficiently large scale.

***Waste Management***

The need to find a solution to Hong Kong’s waste problem has been made more urgent by China’s recent ban on importing waste.

*Clean Energy Finance Corporation (****CEFC****) Recycling Case Study*

In Australia, organic waste amounts to around 42% of landfills from Australia’s municipal and commercial waste. However, since local councils often operate under significant financial constraints, many recycling projects were not adopted due to the lack of governmental funding.

The CEFC provided a loan to finance the South Eastern Organics Processing Facility which will process household garden and food waste into compost and is due to be fully operational in 2019.

It is estimated that the facility will be able to cut 85% of emissions as compared to the amount that would have been generated in a landfill.

In Hong Kong, 3,600 tons of food waste is sent to landfills every day. Although the Hong Kong government is developing plans to recycle organic waste, the Hong Kong Greenbank could play a crucial role in financing and promoting the implementation of organic waste treatment plants.

*UK Green Investment Bank – Waste to Energy Case Study*

In 2014, the UK Government confirmed that it sees a longstanding role for energy from waste to be a waste management tool and a source of energy. However, securing funding for facilities to convert waste to energy proved problematic.

In 2013, the UK Green Investment Bank provided debt funding to UBB Waste (Gloucestershire) Ltd to develop a waste to energy plant to process all of the UK’s residual household waste left for recycling. UK Green Investment Bank then extended equity bridge and long term debt facilities, with three commercial banks.

The waste energy plant will ensure that at least 92% of incoming waste is diverted from landfills before the residual is used for energy creation. By providing long term debt financing, UK Green Investment Bank was able to mobilise around four times more private investment capital.

Like the UK government, the Hong Kong government is developing a long term plan for the processing of waste to energy facilities. Hong Kong Greenbank could help to mobilise private sector funding by working with local banks to develop their expertise in lending to this sector.

***Low Carbon Transportation***

*CEFC Low Emission Vehicles Case Study*

In Australia, transportation is a key contributor to greenhouse gas emissions. Large numbers of vehicles are leased by corporates and the government which means that the procurement pattern of fleet buyers and lessees could play a major role in increasing the number of low emission vehicles in use. However, buyers are often deterred from choosing low emission vehicles by the additional cost and lack of attractive financing options.

The CEFC provided funding to encourage government, business and not for profit buyers of fleets to choose low emission vehicles. This allowed Eclipx Group, one of Australia’s largest independent fleet leasing companies, to offer favourable interest rates on financing for vehicles meeting low emissions benchmarks.

In the first eighteen months of the initiative, the emissions per kilometre travelled for cars financed by Eclipx Group were 27.1% below the national average, while emissions for light commercial vehicles were 31.2% below the national average. Further, the improved fuel efficiency of low emission vehicles could see Australia saving up to $7.9 billion annually through reduced fuel usage.

The Hong Kong government has been criticised in the past for using taxpayers’ funds to subsidise the purchase of electric vehicles in Hong Kong. Hong Kong Greenbank could instead support the electric vehicle market by promoting the provision of affordable financing for consumers wanting to buy or lease an electronic vehicle. Once a sufficiently large portfolio of vehicle loans exists, the potential for securitisation can be considered.

*Connecticut Green Bank (****CTGB****) - Electric Vehicle Charging Infrastructure*

Motor vehicles in the state of Connecticut are key contributors to the emission of greenhouse gasses and smog forming particles. The state has set a goal to reduce greenhouse gas emissions by 80% by 2050, but electric vehicles make up only a small percentage of vehicles in the state due to the high prices of electric vehicles and lack of charging facilities in many areas.

CTGB worked with local commercial lenders to provide long-term financing at low interest rates for electric vehicle charging stations. As the take up was not significant, to boost additional private investment in charging infrastructure, CTGB developed a system of using carbon credit markets to increase the revenues derived from charging stations.

The carbon credits will be available for sale in 2019 and CTGB hopes that additional revenue from the credits will increase returns on capital invested in charging stations. This should in turn encourage greater private investment in charging facilities and help increase the demand for electric vehicles in Connecticut.

Currently, Hong Kong does not have an efficient and well-established charging infrastructure for electric vehicles. There is a shortage of home charging facilities, which would allow slow charging overnight or during unused hours rather than fast charging which requires much more energy. To provide incentives for building owners/managers to install charging infrastructure, Hong Kong Greenbank could consider introducing a system that would provide carbon credits or renewable energy credits which could be sold to provide revenues.

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