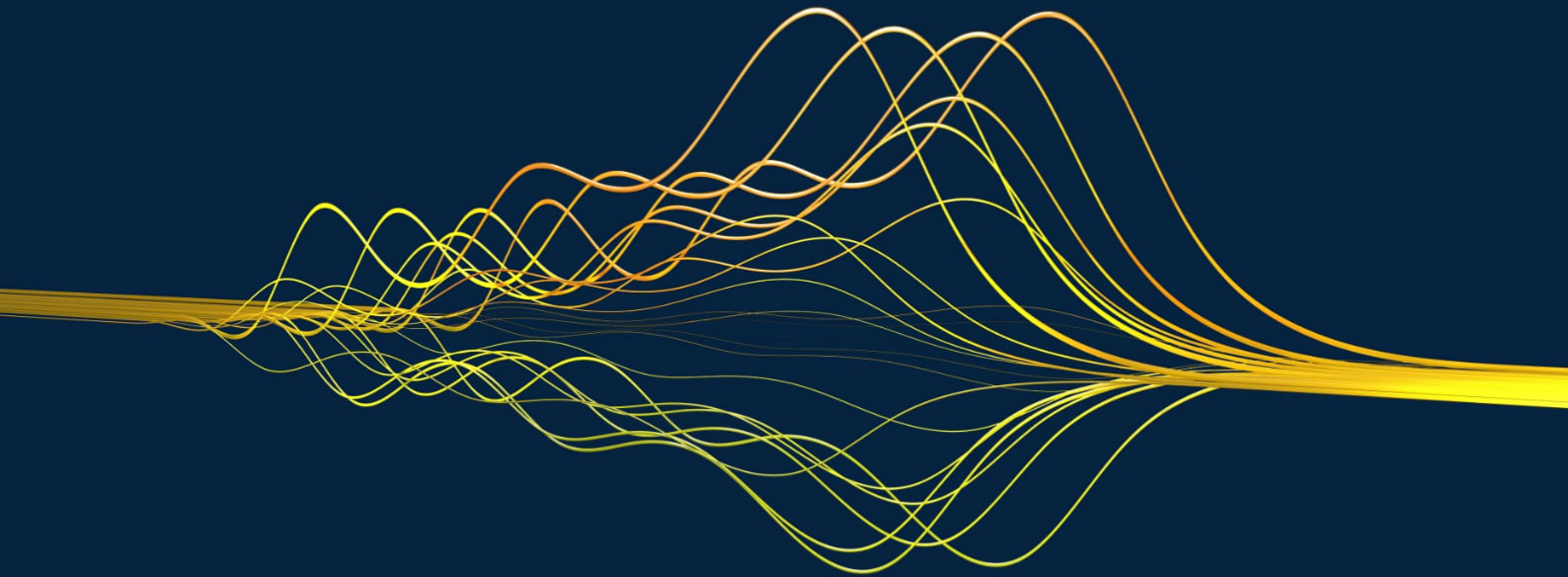


HONG KONG

# Global Renewable Energy Guide



## About

In a world where the demands for energy are growing exponentially, those operating in the energy sector are looking to their lawyers to provide more than legal skill; they are also seeking in-depth sector know-how and innovative solutions to the challenges they face. DLA Piper's energy lawyers deliver to our clients the focused, innovative sector advice they need, wherever in the world they need it.

In a sector of relentless change, demand and complexity, private and public corporations wisely rely on experienced, global legal counsel for any matter involving energy.

We are entering an era of unprecedented demand for power generation and transmission, especially within emerging economies. This dynamic, together with the challenges we all face from climate change, is creating new opportunities for alternative energies and new technologies.

Our energy clients receive coordinated, across-the-board coverage for their needs, including construction and projects, corporate, competition, regulatory, contractual, trading, litigation/arbitration, dispute resolution and tax issues. We understand the technical, geographical, commercial and geopolitical factors that shape the industry and have first-hand access to contacts, sponsors and decision makers worldwide.

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# Hong Kong

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## Overview

| Topic                                  | Details  |
|--|--|
| Key facts                              | <ul style="list-style-type: none"> <li>• <b>Jurisdiction:</b> Common Law</li> <li>• <b>Language:</b> English, Traditional Chinese (written), Cantonese (spoken), Mandarin (spoken)</li> </ul>  |
| Population                             | 7.5 million  |
| Gross national income (GNI) per capita | HK\$ 380,205 / USD 48,630  |
| Business environment                   | <ul style="list-style-type: none"> <li>• 2021 World Competitiveness Ranking (Swiss-based International Institute for Management Development): 7 of 138 (down 2 rankings)</li> <li>• 2021 Economic Freedom Report (Fraser Institute): 1 of 180 (no change since 1996)</li> <li>• 2021 Corruption Perceptions Index (Transparency International): 12 of 180 (down 1 from 2021)</li> <li>• 2020 UN Development Programme Human Development Index: 4 of 189</li> </ul>   |
| Profile                                | <ul style="list-style-type: none"> <li>• Hong Kong is a former British colony and became a special administrative region of the People's Republic of China (PRC) on 1 July 1997, when Hong Kong was handed over to the PRC and the Basic Law came into effect.</li> <li>• The Basic Law is the constitutional document of the Hong Kong Administrative Region (HKSAR) and guarantees that the principles and policies governing the region, such as "one country, two systems" and "Hong Kong people administering Hong Kong", will remain unchanged for 50 years. The Basic Law ensures that Hong Kong remains within the common law system and the judiciary is</li> </ul> |

independent from the executive and legislative branches of the government.

- Hong Kong is located to the southeast of the PRC and lies in the vicinity of Peral River Delta and in conjunction with Shenzhen Special Economic District, forming a gateway between the PRC and other parts of the world.
- The Hong Kong government is led by the Chief Executive. The Chief Execution appoints people among senior officials of the executive authorised, members of the Legislative Council and public figures to the Executive Council, which assists the Chief Executive in policy-making. The Legislative Council is the law-making body of the HKSAR.
- Hong Kong has an economy characterised by free trade, low taxation and minimum governmental intervention.

## Electricity industry overview

### Electricity industry overview

- Electricity in Hong Kong is provided by two privately owned companies, CLP Power Hong Kong Limited (CLP) and The Hongkong Electric Company Limited (HKE).
- CLP supplies electricity to Kowloon and the New Territories. Electricity is generated by three power stations: Castle Peak (4108 MW), Black Point (3175 MW) and Penny's Bay (300 MW), with a total installed capacity of 7583 MW. CLP has also contracted to purchase about 70% (on a temporary basis until 2023) of the power generated from the two 984 MW pressurised water reactors in the Guangdong Daya Bay Nuclear Power station. It also has the right to use 50% of the 1200 MW capacity of Phase 1 of the Guangzhou Pumped Storage Power Station at Conghua.
- HKE supplies electricity to Hong Kong Island, Ap Lei Chau and Lamma Island. Electricity is generated by the Lamma Power Station, which has a total installed capacity of 3637 MW at the end of 2020.
- Between 2009 to 2020, electricity generation in Hong Kong has remained around the level of 35 to 40 TWh per year. The volume of electricity imported since 2008 has increased, while the volume of coal imported has decreased. This is due to the fact that Hong Kong is cutting down reliance on fossil fuels.

### Electricity laws

- The regulation of the electricity market is exercised through the Scheme of Control Agreements entered into between the Government of Hong Kong and CLP and HKE, respectively. The Scheme of Control Agreements sets out, among other things, the rights and obligations of the power companies, the electricity-related financial affairs of the power companies as well as their reliability and environmental performance in providing electricity. The current Scheme of Control Agreements will expire on 31 December 2033.
- The Electricity Ordinance (Cap. 406) regulates the safe supply of electricity and the safety of household electrical products. Among other things, it covers the registration of generating facilities, contractors and workers for electrical installations, wiring installation standards and safe distribution and use of electricity.
- The Electrical Products (Safety) Regulation was enacted in 1997 and its main provisions, including specified safety requirements for household electrical products, came into effect in May 1998. The remaining provisions concerning certificates of safety compliance requirements commenced operation in December 2000.
- The Electricity Supply Lines (Protection) Regulation was enacted in April 2000 to deter damage to underground electricity cables and overhead electricity lines. It commenced operation on 1 April 2001.

## Renewable energy overview

## Renewable energy overview

- Based on commercially available technologies, it is estimated that Hong Kong has a renewable energy potential of about 3-4% of total electricity consumption arising from wind, solar and waste-to-energy that can be exploited between now and 2030. In 2018, the amount of electricity generated from renewable energy accounted for less than 1% of power consumption in Hong Kong.

## Solar

- Currently, the largest solar energy generation system in Hong Kong has been installed at the Hong Kong Disneyland Resort, which has a capacity of 2,100 KW and is comprised over 5000 monocrystalline solar panels on the rooftops of 20 buildings.
- The current cumulative photovoltaic (PV) installation capacity in Hong Kong is less than 5 MW. There are over 200 relatively small projects in Hong Kong, where PV panels and solar water heaters have been installed mainly at schools and on the rooftops of public sector buildings and facilities as a result of the Hong Kong Government taking the lead to encourage the use of solar energy to generate electricity.

## Wind

- Since 2000, the Hong Kong Observatory began to use wind power as an energy source in some remote automatic weather stations which have been relying on solar power. As sunshine in cloudy days may not be sufficient to keep the operation of those weather stations, wind turbine generators have been employed to provide an alternative energy source.
- The first commercial-scale wind power station was completed in February 2006 on Lamma Island, operated by HKE. The rotor diameter is 50 meters with a rated output power of 800 KW.
- Studies show that Hong Kong has two potential sites for developing wind power on a commercial scale, one at South West Lamma with the potential to develop a 100 MW capacity wind farm producing 175 GWh of electricity annually and another at South East Ninepin with potential to develop a 200 MW wind farm.

## Solar & wind

- The first wind/solar hybrid system in Hong Kong was installed at the Shek Kwu Chau Drug Rehabilitation Centre. The first commercial-scale combined PV and wind turbine renewable energy power station at 200 kW capacity on Town Island was completed in 2011.

## Waste-to-energy

### *Landfill*

- There are three strategic landfills in Hong Kong, namely West New Territories Landfill, South East New Territories Landfill and North East New Territories, which have been utilizing landfill gas for energy production. The current uses include generating electricity for use in on-site infrastructures.
- The surplus landfill gas generated from North East New Territories Landfill is treated and delivered to Hong Kong & China Gas' (HKCG) production plant in Tai Po for use as alternative energy source.
- The surplus landfill gas generated from South East New Territories Landfill is treated (in the form of synthetic natural gas) and conveyed to HKCG's Offtake Station at Tseng Lan Shue, where the treated gas is blended with town gas for injection to the supply grid for HKCG's customers.
- Apart from the strategic landfills mentioned above, there are 13 closed landfills. The landfill gas generated from some of the larger closed landfills, namely Shuen Wan, Gin Drinkers Bay, Jordan Valley, Tseung Kwan O Stage I, II and III and Pillar Point Valley landfills, has been used as an energy source.
- For Shuen Wan Landfill, a special arrangement has been made with HKCG for piping the landfill gas to their plant for utilization. Landfill gas is also used as fuel in electricity generation to meet on-site uses in Jordan Valley and Tseung Kwan O Stage I landfills. For Gin Drinkers Bay, Tseung Kwan O Stage II/III and Pillar Point Valley, the landfill gas is used as a thermal energy source in the treatment of landfill leachate.

## Biogas

- Hong Kong has been utilizing biogas from digesters in the sewage treatment works in Sha Tin, Tai Po, Fan Ling, Yuen Long for a number of purposes – in boilers for producing hot water for the digesters, in engine-driven blowers to provide compressed air for the sewage treatment process, and in engine-driven electric generators to provide electricity for the sewage treatment works.
- An example is the 330 KW engine-driven combined heat and power generator at Shek Wu Hui Sewage Treatment Works, which was commissioned in 2006 and subsequently connected to CLP's distribution network in 2008. The electricity generated is supplied to existing E&M facilities while the recovered thermal energy is used for pre-heating the recirculation water for maintaining the required temperature for the sludge digestion process in the sewage treatment works.

## Current issues in the renewables industry

- Hong Kong has neither indigenous fuel sources nor the physical conditions favorable for large-scale development of renewable energy as it only has a land area of 1,106 square kilometers, much of which is hilly terrain.
- Although the technologies for renewable energy has advanced, there is concern about the cost of renewable energy being generally higher than that of conventional energy. For instance, studies show that it may take over HK\$10 billion to build the two potential wind farms mentioned above but the electricity generated could only provide for less than 1.5% of Hong Kong's total electricity consumption.
- It will depend on whether technology for renewable energy storage may allow large quantities of renewable energy to be stored in order for renewable energy to become a reliable source of energy production in Hong Kong.

## Government incentive schemes

- In 2018 CLP introduced its Feed-in Tariff (FiT) Scheme in respect of electricity produced by solar or wind power systems with a generating capacity of up to 1 MW under the current Scheme of Control Agreements. Under the FiT Scheme, CLP will purchase the electricity produced by an approved renewable energy system once successfully connected to CLP's power grid. A smart meter will be installed to record the amount of electricity generated by the renewable energy system.
- A summary of the key terms of the CLP FiT Scheme is set out below.

| Term   | Summary Description  |
|--|--|
| Parties  | CLP and the account holder   |
| Eligibility criteria, Application Process and Participation in the FiT Scheme. | <p>Among other criteria, that the account holder is a holder of a CLP electricity supply account, the renewable energy system has an aggregate generation capacity of up to 1 MW, ("Eligibility Criteria").</p> <p>A FiT application must be submitted, following which there is a technical assessment, systems test and meter installation. Grid connection and confirmation of the participation in the FiT Scheme is done by the issuance of a Completion Letter, setting out details of the renewable energy systems and the applicable FiT Rate.</p> |
| FiT Scheme Participation Agreement   | Comprising the Application, Completion Letter and the general terms and conditions (the "FiT Agreement").  |
| Term   | From the Commencement Date (as set out in the Completion Letter) until 31 December 2033.   |
| Sale and Purchase of Electricity   | CLP agrees to purchase all electricity generated from the  |

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renewable energy system.

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#### FIT Rate and payments

As set out in the Completion Letter. The FIT Rate is fixed for the duration of the FIT Agreement (subject to an increase in the capacity of the system, which is scaled down based on an increased capacity of the system). Any reduction of general capacity will not affect the FIT Rate.

FIT payments are reflected as credits in the electricity bill to offset charges. The account holder is still required to purchase electricity at the prevailing tariff rates for the gross demand and energy consumption at the relevant premises. This is measured by the FIT Meter.

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#### Risk Allocation

CLP does not bear any liability in respect of third parties, any indirect or consequential loss or special loss, any loss of profit due to any act or omission.

CLP has a liability cap of HK\$2 million in respect of any loss or damage caused by it.

There is no force majeure coverage or "take-or-pay" arrangement. Only electricity actually provided and measured by the meter is purchased and recognized for payment.

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#### Termination, Suspension and Recovery

The account holder may terminate the FIT Agreement by giving CLP 90 days' prior written notice.

CLP may terminate the FIT Agreement, suspend the purchase of electricity and recover FIT payments if the account holder has breached a material term of the FIT Agreement, ceases to fulfil the Eligibility Criteria, after 12 months of disconnection of the system, bankruptcy / insolvency of the account holder.

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#### Others

No assignment of the FIT Agreement is permitted.

CLP may set off amounts owing by the applicant.

CLP may unilaterally amend any provision of the FIT Agreement, provided that the amendment does not contravene applicable laws. CLP reserves the right to revise the terms and conditions of the FIT Agreement. However, CLP may not unilaterally amend the FIT Rate, as a result of its contractual obligations in the Scheme of Control Arrangement, which expires on 31 December 2033.

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#### Governing law and enforcement

Hong Kong law with submission to the exclusive jurisdiction of the courts of Hong Kong.

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- As part of the Scheme of Control arrangements, from 1 January 2019, HKE agrees to purchase electricity generated from relevant renewable energy power system for the duration of the FiT Agreement at the applicable FiT rate stipulated in the FiT Agreement for generating capacity below 10 KW (for generating capacity above 10 KW, the FiT rate will need to be determined by a case by case basis with approval from the HKSAR Government). Under the FiT Scheme, HKE will purchase the electricity produced by an approved renewable energy system once successfully connected to HKE's power grid. A smart meter will be installed to record the amount of electricity generated by the renewable energy system.
- A summary of the key terms of the HKE FiT Scheme is set out below.

| Term   | Summary Description  |
|--|--|
| <b>Parties</b>   | <b>HKE and the "applicant" or "customer"</b>   |
| Eligibility criteria, Application Process and Participation in the FiT Scheme. | <p>Among other criteria: that the applicant is a registered customer of HKE's electricity account, the system is not undertaking or owned by the HKSAR Government, the system is only a solar photovoltaic (PV) system and/or wind power system, and that the system is not connected to any non-renewable energy source or energy storage system.</p> <p>A FiT Scheme Application Form must be submitted together with certain ancillary documents, such as technical drawings, followed by an assessment of the application by HKE. After an initial assessment, HKE will issue a letter for its in-principle approval through a Consent Letter which will detail the application and give a Provision FiT Rate, following which the installation of the system can commence. Upon connection of the system to the grid, HKE will issue a Completion Letter with the FiT Agreement Start Date and the applicable FiT Rate.</p> |
| FiT Scheme Participation Agreement   | Comprising the Completion Letter, terms and conditions of the FiT scheme, the Application and Consent Letter (the "FiT Agreement").  |
| Term   | From the FiT Agreement Start Date (as set out in the Completion Letter) until the project life of the system or until 31 December 2033, whichever is earlier.  |
| Sale and Purchase of Electricity   | HKE agrees to purchase, and the applicant agrees to sell, transfer and surrender, all the electricity generated from the system and the associated rights and benefits, including the rights to claim all greenhouse gases and other pollutant emissions reduction benefits for the duration of the FiT Agreement.   |
| FiT Rate and payments  | <p>At the applicable FiT rate stipulated in the FiT Agreement.</p> <p>FiT payments are made as a credit to the electricity account to offset the electricity charges, unless there is a credit balance, and the applicant can choose to retain and carry forward the</p>   |

|                                      |  |
|--------------------------------------|--|
|                                      | credit on future electricity bills or paid by cheque/bank transfer to an account that is under the applicant's name.   |
| Risk Allocation                      | <p>HKE is not liable for any loss or damage to the system or its connection to the grid, any loss or damages to any third party, any indirect or consequential or economic loss.</p> <p>HKE has a liability cap of HK\$2 million in respect of any loss or damage caused by it.</p> <p>There is no force majeure coverage or "take-or-pay" arrangement. Only electricity actually provided and measured by the meter is purchased and recognized for payment.</p> <p>The applicant indemnities HKE for any loss, cost or damage as a result of the occurrence of any event which arise substantially from the same cause up to HK\$2 million (but excluding liability for claims arising from death or personal injury).</p> |
| Termination, Suspension and Recovery | <p>The applicant may terminate, without giving reasons, the FiT Agreement by giving HKE 60 days' prior written notice.</p> <p>HKE may terminate the FiT Agreement, electricity account, suspend the purchase of electricity if (amongst others): the applicant breaches a material term of the FiT Agreement, the system is disconnected from the grid by HKE, the applicants proceeds with a substantial alteration of the system for which a new application is necessary, the applicant becomes bankrupt or insolvent, the electricity account is terminated.</p>   |
| Others                               | <p>No assignment of the FiT Agreement is permitted unless to a succeeding Customer.</p> <p>HKE may set off amounts owing by the applicant.</p>   |
| Governing law and enforcement        | Hong Kong law with submission to the exclusive jurisdiction of the courts of Hong Kong.  |

## Major projects and companies

See [introduction of FiT Scheme in Hong Kong](#).

## Foreign investment ownership

There are generally no restrictions on foreign investment in Hong Kong. It does not distinguish in law or practice between investments by foreign-controlled companies and those controlled by local interests. Foreign firms and individuals can incorporate their operations in Hong Kong, register branches of foreign operations, and set up representative offices. There is no restriction on the ownership of

such operations. Company directors are not required to be citizens of, or resident in, Hong Kong. Reporting requirements are straightforward and not onerous.

## UNFCCC – Paris Commitments and beyond

- The Paris Agreement applies to Hong Kong.
- In January 2017, Hong Kong released the Climate Action Plan 2030+ which outlines its targets, including reducing its carbon intensity by 65% to 70% by 2030 using 2005 as a base.
- Hong Kong will review its climate change efforts every 5 years since 2019 and align them with the submission timelines under the Paris Agreement.
- The carbon reduction plan includes phasing down coal for electricity generation and replacing it with natural gas by 2030.

## Relevant resources and references

### Gross national income per capita

- [Census and Statistics Department](#)
- [World Bank - Hong Kong](#)

### Business environment

- [IMD World Competitiveness Ranking](#)
- [Fraser Institute: Economic Freedom of the World 2021](#)
- [Transparency International: Corruption Perceptions Index](#)
- [UNDP Human Development Report 2020](#)

### Electricity industry in Hong Kong

- [Hong Kong: Power and Gas Supplies \(PDF\)](#)
- [Electricity consumption in Hong Kong from 2009 to 2020, by use](#)

### Electricity laws

- [The Government of HKSAR](#)

### Renewable energy overview

- [Renewable Energy in Hong Kong](#)
- [List of Photovoltaic \(PV\) Projects](#)
- [Example Projects](#)
- [Landfill Gas Utilization](#)
- [From Sewage to Energy](#)

### Current issues in the renewables industry

- [Hong Kong's Climate Action Plan 2023+ \(PDF\)](#)
- [Foreign investment ownership](#)
- [Paris Commitments \(PDF\)](#)

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