



Summary of Carbon Footprint for Listed Companies 上市公司碳足跡摘要

Part 1 Reporting Entity Information 第一部分 報告機構資料	
1.1 Company information 公司資料	
Name of reporting entity: 報告機構名稱:	Eng: HK Electric Investments and HK Electric Investments Ltd. 中文: 港燈電力投資 與 港燈電力投資有限公司
Stock code: 股份代號:	2638
Hang Seng Industry Classification 恆生行業分類 (HSIC) (Please see Appendix / 請參考 附件):	
(i) Industry: (e.g. Financials – 50) 行業: (例如: 金融業 – 50)	40
(ii) Sector: (e.g. Banks – 5010) 業務類別: (例如: 銀行 – 5010)	4000
1.2 Basis of information reported in this form (e.g. weblink(s) to the carbon audit report, GHG accounting report, Environmental, Social and Governance report (ESG report) or sustainability report (GHG emission-related chapter) of the reporting entity, etc) 報告內容的基礎 (例如: 報告機構的碳審計報告、溫室氣體排放核算報告、「環境、社會及管治報告」或可持續發展報告(與溫室氣體排放有關的章節)之網絡連結等):	
HKEI's Sustainability Report 2020 https://www.hkelectric.com/en/sustainability/sustainability-reports/year-2020	

Part 2 Greenhouse Gas (GHG) Emissions 第二部分 溫室氣體排放		
2.1 GHG Emission Data 溫室氣體排放數據		
Reporting period (yyyy/m/d): 報告期(年/月/日):	2020/1/1 to/至 2020/12/31	
GHG Accounting Standard / Guideline: 溫室氣體核算標準 / 指引:	<input checked="" type="checkbox"/> EPD/ EMSD Guidelines 環境保護署/ 機電工程署指引 <input type="checkbox"/> GHG Protocol 溫室氣體議定書 <input checked="" type="checkbox"/> International Organization for Standardization (ISO) 14064 國際標準化組織 (ISO) 14064 <input type="checkbox"/> Others, please specify: (其他, 請說明:)	
Operational boundary 營運邊界 ¹ :	Brief description on emission sources 排放來源簡述	Emission data 排放數據
Scope 1 範圍 1:	It includes electricity generation at Lamma Power Station (LPS) on Lamma Island, transmission and distribution of electricity to Hong Kong Island, Ap Lei Chau and Lamma Island as well as our power system development projects.	7190000 tonnes CO ₂ -e 公噸二氧化碳當量
Scope 2 範圍 2:	Based on operational control approach, HK Electric is responsible for 100% of GHG emissions reported. HK Electric provide electricity in Hong Kong only. HK Electric is a vertically integrated utility and does NOT purchase electricity or heat from others. All electricity is generated and consumed locally and the losses in transmission and distribution of electricity are generated from HK Electric's Lamma Power Station. Hence, the Scope 2 emission is included in the Scope 1 emission which has been reported in accordance with the ISO 14064-1 requirements as verified by qualified independent assessor. To avoid double counting, the scope 2 emission reported is therefore "zero".	0 tonnes CO ₂ -e 公噸二氧化碳當量
Scope 3 範圍 3:	Not reported	0 tonnes CO ₂ -e 公噸二氧化碳當量
Reported GHG emissions in total: 所報告的溫室氣體排放總和:	7190000 tonnes CO ₂ -e / 公噸二氧化碳當量	
2.2 Company related information 與公司有關的資料		
Total number of full-time-equivalent employees of the entity(s) covered in the reported GHG emission data during the reporting period: 報告期內溫室氣體排放數據所涵蓋機構的相等於全職僱員總人數:	1800	
Total gross floor area owned/controlled by the entity(s) covered in the reported GHG emission data during the reporting period (m ²): 報告期內溫室氣體排放數據所涵蓋機構擁有/ 控制的總樓面面積(平方米):	N/A	
Total revenue of the entity(s) covered in the reported GHG emission data during the reporting period (HK\$ million): 報告期內溫室氣體排放數據所涵蓋機構的總收入(百萬港元):	10389	
Other information which is relevant to the entity's business operations covered in the reported GHG emissions during the reporting period, please specify (e.g., total no. of passengers, total no. of customers, total unit of goods produced, total no. of hotel rooms occupied, total kWh electricity	Electricity sold: 10134 millions of kWh	

generated, or total measures of freight load, etc.):

報告期內溫室氣體排放數據所涵蓋機構的其他有關營運資料，請說明

(例如：乘客總人數、顧客總人數、製成產品總數量、酒店入住房間總數、總發電量(千瓦/小時)或貨運總量等):

2.3. Geographical coverage of reported GHG emission data 所報告的溫室氣體排放數據地域範圍:

Operations within Hong Kong 香港以內的營運

Operations outside Hong Kong (Please specify city(ies)/country(ies)):

香港以外的營運 (請說明城市/國家名稱): _____

Please also specify the percentage of GHG emissions arising from Hong Kong operations: _____

請同時說明由香港營運所產生的溫室氣體百分比: _____

Subsidiaries
附屬公司

Please list out the subsidiaries covered in the GHG emission data during the reporting period:

請列出報告期內溫室氣體排放數據所涵蓋的附屬公司:

Additional information on physical boundary in relation to GHG emission reported (if applicable):

與所報告的溫室氣體排放數據相關之建築物邊界的附加資料(如適用):

N/A

Part 3 GHG Emission Reduction Measures, Future Initiatives and Targets

第三部分 減少溫室氣體排放的措施、未來計劃及目標

3.1 GHG emission reduction measures implemented during the Reporting Period*

在報告期內減少溫室氣體排放的措施*

No. 列序	GHG Emission Reduction Measures 減少溫室氣體排放的措施
1.	In February 2020, we commissioned L10, which is the first new gas-fired generating unit to be completed as part of our 2019-2023 Development Plan. Over the year, power generated from natural gas comprised approximately 50% of total output from Lamma Power Station; increasing from around 30% in 2019. As a result, the carbon intensity of our power supply declined to 0.71 kg of CO ₂ e per kWh, compared with 0.81 kg/kWh in 2019.
2.	HK Electric introduced wind power in 2006 and solar power in 2010 to its power generation profile. We operate an 800-kW "Lamma Winds" turbine, as well as an 1-MW solar panel system on Lamma Island. In 2020, these systems generated more than 0.8 and 1.1 GWh of green electricity respectively. To support a wider use of RE in the community, we encourage customers to install RE power systems to connect to our electricity grid. In return, HK Electric will purchase all the electricity generated from these RE systems through the Feed-in Tariff (FiT) Scheme. As at end of 2020, about 130 customer RE installations with a combined capacity of about 2.3 MW have been connected to our grid and generated about 1.6 GWh of green electricity.
3.	In addition to decarbonising our power generation, HK Electric strives to reduce the carbon footprint of our day-to-day operations across all our premises through "4R" practices: <ol style="list-style-type: none"> 1. Reduce fresh water consumption: Rainwater and plant processing water are collected for reuse to help cut down on fresh water used. 2. Save energy: upgrade of mechanical ventilation and airconditioning systems at Lamma Power Station to further improve thermal insulation and increase efficiency. 3. Reduce paper consumption by digitising work processes. 4. Reduce food waste and donate surplus food.

3.2 GHG emission reduction measures for future initiatives and targets*

為未來計劃及目標而制訂的減少溫室氣體排放措施*

No. 列序	Future Initiatives 未來計劃	Target GHG Reduction (Qualitative/ Quantitative) 減排目標 (性質/ 數量)
1.	At present, we are progressing well with the construction of two more gas-fired generating units, L11 and L12, which will come into operation progressively in 2022 and 2023.	By 2023, our gas-fired generating capacity will increase to about 70% of total output. By increasing the use of natural gas, we envisage a progressive reduction in absolute carbon emissions, reaching to about 40% in 2023 when compared with the base year of 2005.
2.	HK Electric has the potential to substantially increase the share of RE in our generation fuel mix through the proposed development of an 100-MW offshore wind farm to the south-west of Lamma Island.	The 100-MW wind farm will be able to produce around 200 GWh of zero-carbon electricity annually, or about 2% of the Company's annual electricity output.
3.		

*Please use separate sheet(s) where the space provided in the form is not sufficient 如表格內提供的空位不足夠, 請另加紙張填寫

Part 4 Renewable Energy
第四部分 可再生能源

4.1 Feed-in Tariff (FiT) Scheme
上網電價計劃

Has your company joined the FiT Scheme? 是否已參與上網電價計劃?	<input type="checkbox"/> Yes – please fill in the blanks below 是 – 請填寫以下空格 <input checked="" type="checkbox"/> No 否
--	--

Renewable Technology (Generation Capacity) 可再生能源技術 (發電容量)	<input checked="" type="checkbox"/> Solar 太陽能 (800 kW 千瓦) <input checked="" type="checkbox"/> Wind 風能 (1000 kW 千瓦) <input type="checkbox"/> Others (Please Specify) 其他(請註明) (kW 千瓦)
---	--

4.2 Renewable Energy (RE) Certificate
可再生能源證書

Has/Have RE Certificate(s) been purchased? 有否購買可再生能源證書?	<input type="checkbox"/> Yes – please fill in the blanks below 有 – 請填寫以下空格 <input checked="" type="checkbox"/> No 沒有
---	---

Purchased from 購自	<input type="checkbox"/> The Hongkong Electric Co., Ltd 香港電燈有限公司	<input type="checkbox"/> CLP Power Hong Kong Ltd 中華電力有限公司
-----------------------------	---	--

Amount of Electricity Purchased 購買的電量	kWh 千瓦時	kWh 千瓦時
---	------------	------------

Part 5 Verification
第五部分 核證

5.1 Verification information 核證資料

Has verification² been conducted? 是否曾經進行核證？	<input checked="" type="checkbox"/> Yes – please fill in the blanks below 是 – 請填寫以下空格 <input type="checkbox"/> No 否
Verification body 核證機構:	Hong Kong Quality Assurance Agency
Verification standard: 核證標準:	<input checked="" type="checkbox"/> International Organization for Standardization (ISO) 14064-3:2006 - Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions 國際標準化組織 (ISO) 14064-3:2006 – 溫室氣體 - 第3部分：溫室氣體確定的證實和驗證的規範與指南 <input type="checkbox"/> Others, please specify: 其他 (請說明):
Date of verification (yyyy/m/d): 核證日期 (年/月/日):	2021/2/19
Remarks (e.g. various verification status for different subsidiaries): 備註(例如: 各附屬公司的核證情況):	

¹ GHG emissions (direct and indirect) and removals in relation to the buildings can be broadly classified into three separate scopes as below –

- Scope 1 – direct emissions and removals;
- Scope 2 – energy indirect emissions; and
- Scope 3 – other indirect emissions.

The definitions of Scopes 1, 2 and 3 emissions can be found in the “Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purposes) in Hong Kong (2010 Edition)”

與建築物有關的溫室氣體排放 (直接或間接) 及減除，可概括分為以下三個不同的範圍 –

- 範圍 1 -- 直接溫室氣體排放及減除；
- 範圍 2 -- 使用能源間接引致的溫室氣體排放；以及
- 範圍 3 -- 其他間接溫室氣體排放。

有關溫室氣體排放範圍 1、2及3的定義，可參照《香港建築物 (商業、住宅或公共用途) 的溫室氣體排放及減除的核算和報告指引》(2010年版)

² The reporting entity is encouraged to carry out verification of the GHG emissions by an independent verifier. Independent verification of GHG emissions can facilitate the management to have better understanding of the carbon footprint of the company’s operation and identify areas for improvement, provide credibility and quality assurance on the disclosure of carbon footprint, and enhance the corporate image in respect of transparency and accountability. In December 2012, the Hong Kong Accreditation Service (HKAS) introduced accreditation service for ISO 14064 GHG validation and verification for validation/verification bodies’ voluntary application. Accredited validation/verification bodies’ technical competence is rigorously assessed by HKAS, so that the reliability of their results can be assured. Relevant HKAS-accredited validation/verification bodies, once available, will be announced at HKAS’s website at:

https://www.itc.gov.hk/en/quality/hkas/conformity_assessment_bodies/hkas.html.

我們鼓勵報告機構聘請獨立核證人核證溫室氣體排放，溫室氣體排放的獨立核證能促使管理層對公司營運引致的碳足跡有更佳的了解，並找出可作改善的地方；此舉亦為所披露的碳足跡資料提供可信性和質量保證，在透明度和問責層面提升企業形象。2012年12月香港認可處就 ISO 14064 審定和核查查推出認可服務，供審定/核查查機構自願申請。獲認可審定/核查查機構的技術能力由香港認可處進行嚴格評審，因此能確保其審定/核查查結果更為可靠。當有獲香港認可處認可的相關審定/核查查機構，將在香港認可處網站公布：

https://www.itc.gov.hk/en/quality/hkas/conformity_assessment_bodies/hkas.html。

Hang Seng Industry Classification 恒生行業分類**Industry 行業**

Energy 能源業 – 00
Materials 原材料業 – 05
Industrials 工業 – 10
Consumer Discretionary 非必需性消費 – 23
Consumer Staples 消費者服務業 – 25
Healthcare 醫療保健業 – 28
Telecommunications 電訊業 – 35
Utilities 公用事業 – 40
Financials 金融業 – 50
Properties & Construction 地產建築業 – 60
Information Technology 資訊科技業 – 70
Conglomerates 綜合企業 – 80

Sector 業務類別

Oil & Gas 石油及天然氣 – 0010
Coal 煤炭 – 0020
Gold & Precious Metals 黃金及貴金屬 – 0510
Diversified Metals & Minerals 一般金屬及礦石 – 0520
Basic Materials 原材料 – 0530
Industrial Engineering 工業工程 – 1010
Industrial Transportation 工用運輸 – 1020
Commercial & Professional Services 工用支援 – 1030
Automobiles 汽車 – 2310
Household Goods & Electronics 家庭電器及用品 – 2320
Textiles, Clothing 紡織及服飾 – 2330
Travel & Leisure 旅遊及消閒設施 – 2340
Media & Entertainment 媒體及娛樂 – 2350
Support Services 支援服務 – 2360
Specialty Retail 專業零售 – 2370
Food & Beverages 食物飲品 – 2510
Agricultural Products 農業產品 – 2520
Consumer Staple Retailers 消費者主要零售商 – 2530
Pharmaceuticals & Biotechnology 藥品及生物科技 – 2810
Healthcare Equipment & Services 醫療保健設備和服務 – 2820
Telecommunications 電訊 – 3500
Utilities 公用事業 – 4000
Banks 銀行 – 5010
Insurance 保險 – 5020
Other Financials 其他金融 – 5030
Properties 地產 – 6010
Construction 建築 – 6020
IT Hardware 資訊科技器材 – 7010
Software & Services 軟件服務 – 7020
Semiconductors 半導體 – 7030
Conglomerates 綜合企業 – 8000

Source: Hang Seng Indexes (<http://www.hsi.com.hk/HSI-Net/HSI-Net>)

來源: 恆生指數 (<http://www.hsi.com.hk/HSI-Net/HSI-Net>)