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屋宇署 BUILDINGS DEPARTMENT

樓宇發展項目每年能源消耗量聲明
Declaration on Annual Energy Use of a Building Development

認可人士、註冊結構工程師及註冊岩土工程師作業備考
PNAP
APP-151
附錄 Appendix **B**

• 請以正楷填寫，並在適當方格內加上『√』號，填寫前，請細閱《注意事項》。
• Read the "Matters to Note", complete in BLOCK LETTERS and tick the appropriate boxes.

致建築事務監督 To the Building Authority

第一部 樓宇詳情
Part 1 Building Particulars

樓宇名稱(如知悉) (中文) Name of Building (if known) (Chinese)

西貢酒店

樓宇名稱(如知悉) (英文) Name of Building (if known) (English)

SAI KUNG HOTEL

地盤地址(中文) Address of Site (Chinese)

新界西貢28號惠民路

地盤地址(英文) Address of Site (English)

28 WAI MAN ROAD, SAI KUNG
NEW TERRITORIES

地段編號 Lot No.

LOT NO.1950 IN D.D.221

樓宇類型 Type of Building

☑ 住宅樓宇 Domestic Building
☐ 非住宅樓宇 Non-domestic Building
☐ 綜合用途樓宇 Composite Building

提供中央空調 Provision of Central Air Conditioning

☑ 是 Yes ☐ 否 No

提供具能源效益的設施 Provision of Energy Efficient Features

☑ 是 Yes ☐ 否 No

擬安裝 / 已安裝的具能源效益的設施
Proposed / Installed Energy Efficient Features

☐ 擬安裝 Proposed / ☑ 已安裝 Installed

	中文 Chinese	英文 English
1.		TIMER TO CONTROL LIGHTING
2.		BMS / OCCUPANCY SENSOR TO CONTROL LIGHTING
3.		HIGH PERFORMANCE LED LIGHTING ADOPTED

ⓘ 如空位不敷應用，請另加附頁。
If space is insufficient, please fill in the additional sheet(s).

☑ 另加附加頁 Additional 1 張 Pages

第二部 擬興建 / 已竣工樓宇 / 部分樓宇預計每年能源消耗量
Part 2 Predicted Annual Energy Use of Proposed / Completed Building / Part of Building

☐ 擬興建 Proposed / ☑ 已竣工 Completed ☑ 樓宇 Building / ☐ 部分樓宇 Part of Building ⓘ 見註 See Note (1)

發展項目類型 Type of Development	位置 Location	使用有關裝置的內部樓面面積 Internal Floor Area Served (平方米 m²)	基線樓宇每年能源消耗量 Annual Energy Use of Baseline Building (平方米/年 m²/annum) ⓘ 見註 See Note (2)		擬興建/已竣工樓宇每年能源消耗量 Annual Energy Use of Proposed/Completed Building (平方米/年 m²/annum)	
			電力 Electricity 千瓦小時 kWh	煤氣 / 石油氣 Town Gas / LPG 用量單位 Unit	電力 Electricity 千瓦小時 kWh	煤氣 / 石油氣 Town Gas / LPG 用量單位 Unit
住用發展項目 (不包括酒店) Domestic Development (excluding Hotel)	中央屋宇裝備裝置 Central building services installation ⓘ 見註 See Note (3)					
非住用發展項目 (包括酒店) Non-domestic Development (including Hotel) ⓘ 見註 See Note (4)	平台 (中央屋宇裝備裝置) Podium(s) (central building services installation)	27,134.109	5,553,302	0	3,697,145	7,994
	平台 (非中央屋宇裝備裝置) Podium(s) (non-central building services installation)	4,532.456	2,400,043	0	1,703,897	5,471
	塔樓 (中央屋宇裝備裝置) Tower(s) (central building services installation)	3,156.43	1,422,159	0	950,982	1,781
	塔樓 (非中央屋宇裝備裝置) Tower(s) (non-central building services installation)	10,817.5	3,951,687	0	2,773,959	8,907

一般來說,樓宇的預計每年每平方米能源消耗量愈低,樓宇的能源消耗愈有效。例如,如果擬興建樓宇的預計每年能源消耗量少於基線樓宇預計的每年能源消耗量,則表示擬興建樓宇的預計能源使用效益或樓宇有效,減少愈多,效能愈大。

In general, the lower the estimated "Annual Energy Use" of the building, the more efficient the building in terms of energy use. For example, if the estimated "annual energy use of proposed building" is less than the estimated "annual energy use of baseline building", it means the predicted use of energy is more efficient in the proposed building than in the baseline building. The larger the reduction, the greater the efficiency.

第三部 按機電工程署公布的相關實務守則設計 / 完成的裝置
Part 3 Installation(s) Designed / Completed in Accordance with the Relevant Codes of Practice Published by the Electrical and Mechanical Services Department

以下裝置乃按機電工程署公布的相關實務守則
In accordance with the relevant Codes of Practice published by the Electrical and Mechanical Services Department, the following installation(s) is / are ☐ 設計 designed / ☑ 完成 completed :

裝置類型 Type of Installations	是 Yes	否 No	不適用 N/A
照明裝置 Lighting Installations	☑	☐	☐
空調裝置 Air Conditioning Installations	☑	☐	☐
電力裝置 Electrical Installations	☑	☐	☐
升降機及自動梯的裝置 Lift & Escalator Installations	☑	☐	☐
以總能源為本的方法 Performance-based Approach	☐	☐	☑

註冊專業工程師 / 註冊能源效益評核人資料
Details of the Registered Professional Engineer / Registered Energy Assessor

中文姓名* Name in Chinese* ⓘ 姓氏先行 Surname first
鍾志良

英文姓名* Name in English* ⓘ 姓氏先行 Surname first
CHUNG CHI LEONG

註冊證明書編號* Certificate of Registration Number*
EA000037 / G

註冊屆滿日期* Date of Expiry of Registration*
01 09 2021
日 dd 月 mm 年 yyyy

專業身份 Professional Capacity
☐ 註冊專業工程師 Registered Professional Engineer
☑ 註冊能源效益評核人 Registered Energy Assessor

申請人資料
Details of the Applicant

姓名/公司名稱(中文) Name / Company (Chinese)
智豪有限公司

姓名/公司名稱(英文) Name / Company (English)
CHEER REGAL LIMITED

第四部 聲名
Part 4 Declaration

認可人士姓名(中文)*
Name of Authorized Person (Chinese)* ⓘ 姓氏先行 Surname first
鄭育良

註冊證明書編號* Certificate of Registration Number*
AP(A) 51 / 88

認可人士姓名(英文)*
Name of Authorized Person (English)* ⓘ 姓氏先行 Surname first
CHENG Yuk LEUNG

註冊屆滿日期* Date of Expiry of Registration*
13 08 2020
日 dd 月 mm 年 yyyy

本人在載有此聲明書的唯讀光碟上簽署並誠衷誠作出此項鄭重聲明確信上述資料為真確無訛。
By signing the DVD Rom containing this declaration, I make this solemn declaration conscientiously believing the information contained in this declaration is true.

日期 Date
15 05 2018
日 dd 月 mm 年 yyyy

* 根據註冊記錄
* In accordance with the registration record

注意事項

"#" 任何人如作出虛假聲明或就重要事項作出失實陳述即屬觸犯刑事罪行，可能會被檢控。

註

1. 預計每年每平方米能源消耗量〔以耗電量(千瓦小時)及煤氣/石油氣消耗量用量單位〕計算)，指將發展項目的每年能源消耗總量除以使用有關裝置的內部樓面面積所得出的商,其中:
   (a) "每年能源消耗量" 與新建樓宇BEAM Plus標準(現行版本)第4節及附錄8中的「年能源消耗」具有相同涵義；及
   (b) 樓宇、空間或單位的 "內部樓面面積" ，指外牆及/或共用牆的內壁之內表面起量度出來的樓面面積。

2. "基線樓宇" 與新建樓宇BEAM Plus標準（現行版本）第4節及附錄8中的 "基準建築物模型（零分標準）" 具有相同涵義。

3. "中央屋宇裝備裝置" 與機電工程署發出的《屋宇裝備裝置能源效益實務守則》中的涵義相同。

4. 平台一般指發展項目的最低部分 (通常為發展項目最低15米部分及其地庫(如適用))，並與其上的塔樓具有不同用途。對於並無明確劃分平台與塔樓的發展項目，應視整個發展項目為塔樓。

甲. 個人資料

收集的目的

1. 屋宇署會使用透過本表格所獲得的個人資料作下列用途：
   (a) 處理你在本表格中所呈交的文件的相關事務；
   (b) 處理有關上述擬進行工程、《建築物條例》及有關法例的相關事務；及
   (c) 方便屋宇署與你聯絡。
2. 你必須提供本表格所要求的個人資料。假如你未能提供所需資料，可能導致處理你所呈交的文件時出現延誤，或甚至導致無法處理你的申請。

獲轉交資料的部門/人士

3. 本署可能會向其他政府部門、決策局、機構或任何人士披露你透過本表格所提供的個人資料，以作上述第 1 段所列的用途。

索閱個人資料

4. 根據《個人資料（私隱）條例》，你有權查閱及改正你所提交的個人資料。屋宇署有權就有關資料索閱的要求收取合理費用。如要求查閱及改正你的個人資料，請與屋宇署聯絡。

乙. 填寫表格

1. 請填妥表格載列所有有關的部分，請附上所有證明文件。
2. 所提供的資料如有不全或錯誤，屋宇署將不能處理呈交的文件。
3. 如對本表格有任何疑問，請與屋宇署聯絡。

Matters to Note

Any person making a false declaration or misrepresenting a material fact shall be guilty of a criminal offence and subject to prosecution.

Note

1. The predicted annual energy use per m² per annum, in terms of electricity consumption (kWh) and town gas/LPG consumption (unit) of the development by the internal floor area served, where:-
   (a) "total annual energy use" has the same meaning of "annual energy use" under Section 4 and Appendix 8 of the BEAM Plus for New Building (current version); and
   (b) "internal floor area", in relation to a building, a space or a unit means the floor area of all enclosed space measured to the internal faces of enclosing external and/or party walls.

2. "Baseline Building" has the same meaning as "Baseline Building Model (zero-credit benchmark)" under Section 4 and Appendix 8 of the BEAM Plus for New Building (current version).

3. 'Central Building Services Installation' has the same meaning as that in the Code of Practice for Energy Efficiency of Building Services Installation issued by the Electrical and Mechanical Services Department.

4. Podium(s) normally means the lowest part of the development (usually the lowest 15m of the development and its basement, if any) carrying different use(s) from that of the tower(s) above. For development without clear demarcation between podium(s) and tower(s), the development, as a whole, should be considered as tower(s).

A. Personal Data

Purposes of Collection

1. The personal data provided by means of this form will be used by the Buildings Department for the following purposes:
   (a) activities relating to the processing of your submission in this form;
   (b) activities relating to the above proposed works, and administration of the Buildings Ordinance and other legislations; and
   (c) facilitating communication between the Buildings Department and yourself.
2. It is obligatory for you to provide the information as required in the form. If you fail to provide the required data, delay may be caused in processing of your submission or even result in rejection of the application.

Classes of Transferees

3. The personal data you provided by means of this form may be disclosed to other government departments, bureaux, organisations or any persons for the purposes mentioned in paragraph 1 above.

Access to Personal Data

4. You have the right of access and correction with respect to the personal data as provided under the Personal Data (Privacy) Ordinance. The Buildings Department has the right to charge a reasonable fee for the processing of any data access request. Request for personal data access and correction should be addressed to the Buildings Department.

B. Completion of Form

1. Please ensure that all relevant parts of the form are duly completed. Please enclose all supporting documents.
2. If incomplete or erroneous information is provided in the form, the Buildings Department may not be able to process the submission.
3. Enquiries regarding this form should be addressed to the Buildings Department.

丙. 呈交方法

1. **郵寄/親身呈交** - 本表格連同有關文件應郵寄或親身呈交至屋宇署：

   呈交有關勸諭信 / 命令 / 通知 / 指示的表格：
   九龍旺角彌敦道750號始創中心12樓屋宇署收發處。

   呈交至拓展部有關其他事宜的表格：
   香港鰂魚涌太古滙道14號太古城中心第三期7樓屋宇署收發處。

C. Submission Methods

1. **By Post / In Person** - This form together with the relevant documents shall be posted to or submitted in person to the Buildings Department:

   For submissions relating to advisory letter/order/notice/direction:
   Receipt & Despatch Counter, Building Department, 12/F Pioneer Centre, 750 Nathan Road, Kowloon.

   For other submissions to the New Buildings Division:
   Receipt & Despatch Counter, Building Department, 7/F Cityplaza Three, 14 Taikoo Wan Road, Quarry Bay, Hong Kong.

丁. 聯絡資料

屋宇署
地址：九龍旺角彌敦道750號始創中心12樓
電話：2626 1616 (由 "1823" 接聽)
傳真：2537 4992
電郵：enquiry@bd.gov.hk

D. Contact Details

Buildings Department
Address: 12/F, Pioneer Centre, 750 Nathan Road, Kowloon.
Tel No.: 2626 1616 (handled by "1823")
Fax No.: 2537 4992
Email: enquiry@bd.gov.hk

擬安裝 / 已安裝的具能源效益的設施
Proposed / Installed Energy Efficient Features

	中文 Chinese	英文 English
1.		VSD WATER COOLED CHILLER
2.		DESICCANT WHEEL
3.		VSD PUMP
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		

AEE SUSTAINABILITY ENGINEERS

Energy Modeling Summary Results

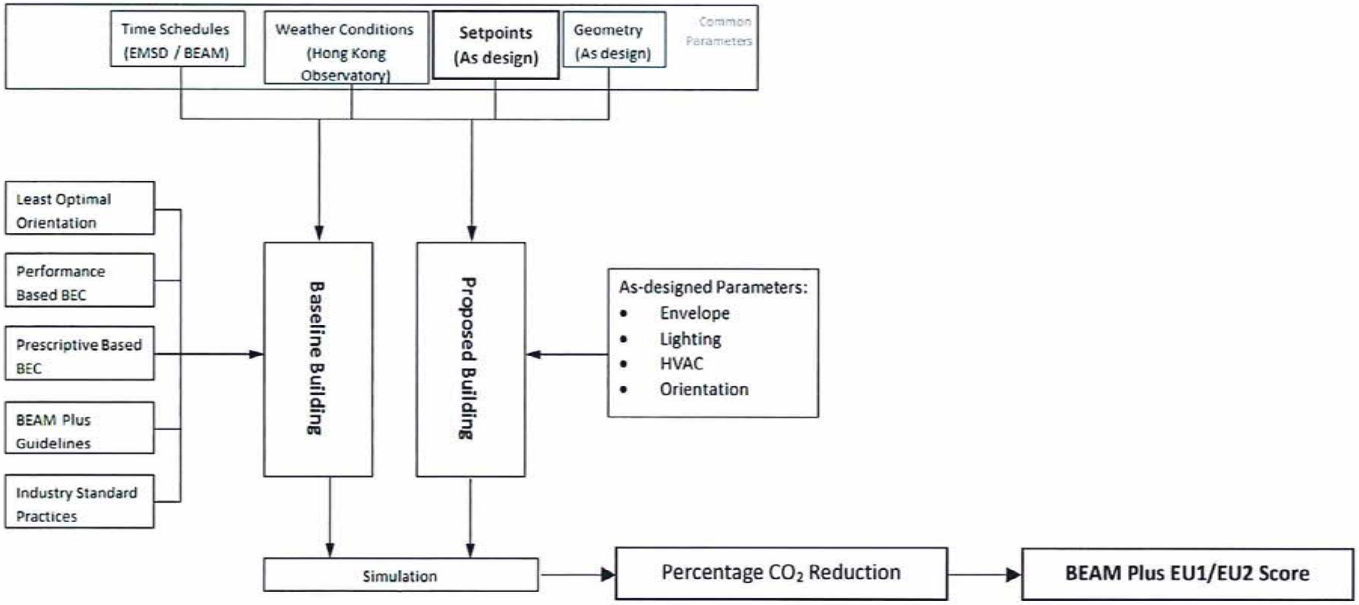
1. Project Introduction

The assessed project is Sai Kung Hotel. The development consists of below-grade floors housing

2. Energy Simulation Software

In order to achieve credits EU1 Reduction of CO_2 Emissions and EU2 Peak Electricity Demand Reduction of BEAM Plus Ver. 1.2, the building must undergo a whole building energy simulation. Ultimately, the energy savings must be converted to CO_2 emissions savings. For this purpose, as stated above, IES VE software has been employed. The current simulation has been performed with IES VE 2017 version 2017.0.1.0.

3. Methodology Overview



The building energy simulation is performed for all building systems.

a. Weather File

The energy simulation has been run using CHN_Hong.Kong.SAR.450070_CityUHK.epw weather file. The file is based on data from the Hong Kong Observatory and it is developed by the City University of Hong Kong and it is available through the Energy Plus Weather Database.

b. Reference Codes and Guidelines

As required to fulfil BEAM Plus EU1 and EU2 modelling requirements the following standards and codes have been referenced during the modelling process.

- HK BEAM Plus for New Building Version 1.1
- Code of Practice for Energy Efficiency of Air Conditioning Installations, 2012 Edition
- Code of Practice for Energy Efficiency of Lighting Installations, 2012 Edition
- Code of Practice for Energy Efficiency of Lift & Escalator Installations, 2012 Edition
- Code of Practice for Energy Efficiency of Electrical Installations, 2012 Edition
- Performance-based Building Energy Code, 2007 Edition
- ASHRAE 90.1 – 2010
- CIBSE Guide D – Transportation Systems in Buildings (2010)
- Advanced Energy Modeling For LEED Technical Manual v1.0
- U.S. Department of Energy Commercial Reference Building Models of the National Building Stock, 2011

4. Baseline Results (BEAM Plus NB 1.2 + BEC 2012 rev 1)

Date	Lighting (MWh)	Equipment (MWh)	Heating (MWh)	Chillers (MWh)	Distr Fans (MWh)	Distr Pumps (MWh)	Heat Rej (MWh)	Lifts (MWh)	Ventilation Fans (MWh)	Total (MWh)
Jan 01-31	161.8	86.5	128.8	122.9	34.8	48.7	290.0	153.4	47.9	**1074.8**
Feb 01-28	146.0	77.8	120.4	115.3	31.8	44.9	262.3	138.8	43.3	**980.5**
Mar 01-31	161.4	85.7	85.2	170.4	30.6	53.1	305.3	154.0	47.9	**1093.7**
Apr 01-30	156.6	83.6	44.6	222.0	27.8	53.2	295.9	148.5	46.4	**1078.6**
May 01-31	161.6	86.1	32.5	289.7	30.8	55.7	307.6	153.7	47.9	**1165.6**
Jun 01-30	156.3	83.2	27.9	320.3	31.8	55.2	298.3	148.8	46.4	**1168.2**

Jul 01-31	161.8	86.5	26.5	336.2	34.1	57.3	308.3	153.4	47.9	**1212.0**
Aug 01-31	161.4	85.7	26.9	332.5	33.6	57.0	308.3	154.0	47.9	**1207.3**
Sep 01-30	156.6	83.6	27.5	305.4	31.8	54.7	298.3	148.5	46.4	**1152.9**
Oct 01-31	161.8	86.5	32.0	257.3	30.6	54.0	307.8	153.4	47.9	**1131.3**
Nov 01-30	156.1	82.8	45.1	180.6	27.2	50.2	287.6	149.2	46.4	**1025.2**
Dec 01-31	161.8	86.5	102.1	125.6	31.9	48.6	279.3	153.4	47.9	**1037.1**
Summed total	1,903.3	1,014.6	699.6	2,778.1	376.7	632.8	3,548.9	1,809.0	564.2	**13,327.2**

5. Proposed Building Results

Date	Lighting (MWh)	Equipment (MWh)	Heat Rej (MWh)	Distr Fans (MWh)	Distr Pumps (MWh)	Chillers (MWh)	Lifts (MWh)	Ventilation Fans (MWh)	Total (MWh)	Heating (MJ)
Jan 01-31	86.3	86.5	2.7	72.5	24.3	196.5	88.1	47.9	**604.99**	110,956
Feb 01-28	77.9	77.8	3.8	66.0	22.9	177.9	79.7	43.3	**549.34**	122,053
Mar 01-31	86.2	85.7	23.7	69.7	32.7	239.8	88.5	47.9	**674.12**	123,200
Apr 01-30	83.5	83.6	76.5	69.8	38.9	254.0	85.3	46.4	**737.96**	108,194
May 01-31	86.2	86.1	152.4	77.2	42.1	272.0	88.3	47.9	**852.31**	985,67
Jun 01-30	83.4	83.2	207.6	77.7	40.8	263.6	85.5	46.4	**888.27**	718,15
Jul 01-31	86.3	86.5	224.6	82.0	42.2	272.4	88.1	47.9	**930.09**	765,03
Aug 01-31	86.2	85.7	219.3	81.5	42.2	272.4	88.5	47.9	**923.61**	762,48
Sep 01-30	83.5	83.6	184.9	77.5	40.8	263.6	85.3	46.4	**865.63**	874,18
Oct 01-31	86.3	86.5	110.4	76.5	41.8	270.9	88.1	47.9	**808.46**	115,489
Nov 01-30	83.4	82.8	43.7	68.9	36.3	240.6	85.7	46.4	**687.74**	95,155
Dec 01-31	86.3	86.5	7.7	71.1	25.5	190.2	88.1	47.9	**603.45**	73,836
Summed total	1015.6	1014.6	1257.3	890.5	430.4	2913.9	1039.5	564.2	**9,125.98**	1,159,433

6. Proposed Building Results

The whole building energy modeling results are divided into four sections as per APP 151 Appendix B. Due to the nature of the base building HVAC systems, their use cannot be separately modeled for different parts of the building. Therefore, the following approach has been used to separate the loads:

Lighting loads and equipment loads have been separated according to their space location:

Building Area	Lighting	Equipment
Podium central	549.6	217.3
Podium non-central (Retail)	137.2	322.7
Tower Central	54.8	
Tower non-Central (Guestroom)	274.1	474.6

Based on the above internal loads, the HVAC energy use is prorated.

The lifts and ventilation fans energy consumption is prorated according to the area of podium and hotel towers:

Building Area	Area (m^2)	%
Podium central	27,134.11	69%
Podium non-central (Retail)	4,523.46	
Tower Central	3,156.43	31%
Tower non-Central (Guestroom)	1,0817.5	

The total building energy divided into the four area categories is summarized below:

Building Area	Baseline Electricity (kWh)	Baseline Town Gas (Units)	Proposed Electricity (kWh)	Proposed Town Gas (Units)
Podium central	5,553,302	0	3,697,145	7,994.46
Podium non-central (Retail)	2,400,043	0	1,703,897	5,471.40
Tower Central	1,422,159	0	950,982	1,781.50
Tower non-Central (Guestroom)	3,951,687	0	2,773,959	8,907.49