Carbon Exchange (Hong Kong) Ltd.
香港碳交易有限公司

SMART 610

User Manual

V 1.2.0

1 Revision History

Version	Date	Notes	Contributor	Approver
0.1	2021/07/20	Initial version	Leo Chan	Howard Cheung
1.0	2021/11/04	Version 1.0	Howard Cheung	Tony Ho
1.1	2022/01/21	Version 1.1	Howard Cheung	Tony Ho
1.1.1	2022/01/25	Version 1.1.1	Howard Cheung	Tony Ho
1.2.0	2022/03/25	Version 1.2.0	Howard Cheung	Tony Ho

2 About this manual

This manual describes the procedures and the settings to use the SMART 610 online Software-as-a-Service (SaaS) V1.1.0. For details about its Terms of Services, please visit the software website for more information.

2.1 Disclaimer

The contents of this document are subject to change without notice due to continued progress in methodology, design and manufacturing. Carbon Exchange (Hong Kong) Limited shall have no liability for any error or damage of any kind resulting from the use of this document.

The document may provide links to third party websites. Carbon Exchange (Hong Kong) Limited is not responsible for the third-party websites and makes no representations or warranties. Carbon Exchange (Hong Kong) Limited shall have no liability for any error or damage of any kind resulting from the use or access of the third-party websites.

Although significant delays or losses of data are rare when SaaS is used in a normal manner with a well-constructed network, due to the nature of Internet communications, transmission and reception of data can never be guaranteed, the meter should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Carbon Exchange (Hong Kong) Limited accepts no responsibility for damages of any kind resulting from delays or errors in data loss using the SaaS.

2.2 Contact

Address: Unit 535A, 5/F, Core Building 2, No.1 Science Park West Avenue, Hong Kong Science Park, N.T., Hong Kong

Email: supports@smart610.com Web: www.smart610.com

3 Table of Contents

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

4 Introduction

4.1 Features of the SMART 610

SMART 610 is an online Software-as-a-Service that facilitates efficient and cost-effective building energy audits following Code of Practice for Building Energy Audit (EAC) for compliance with Building Energy Efficiency Ordinance (Cap. 610) in Hong Kong. It has the following features to support its users

- Guiding users to input necessary data for building energy audit to avoid missing data
- Automatically organizing data of Central Building Services Installations (CBSI) in buildings for simple tracking and review
- Analysing CBSI data automatically for summarizing building performance for energy audits
- Auto-visualizing results from building energy audits following requirements in EAC
- Automatically filling in compliance forms with the analysis according to EAC to avoid erroneous copying-and-pasting
- Filling in the additional AIT1 form for extra credits for BEAM Plus Existing Building certification schemes

SMART 610 is a cloud-based SaaS that allows users to enter building data from energy audit projects in an organized sequence from administrative and technical building metadata, building internal zoning information, specifications and locations of CBSI and important non-CBSI equipment, energy consumption and generation profiles, optional measurement, and energy management opportunities. The data will be organized and analysed to provide necessary materials for statuary submissions of energy audits in Hong Kong, including compliance forms filled with analysis results, diagrams required by EAC and AIT1 form for credits in BEAM Plus Existing Building certification. The all-in-one SaaS allows energy audits to be performed without missing data and inconsistency among results, leading to fast, accurate and cost-effective energy audits that benefits energy auditors and their customers.

4.2 Specification

Minimum requirement of SMART 610 SaaS is shown in Table 1.1.

Table 1.1 Minimum requirements

Software	
Web Browser	Chrome Version 92.0 or above Mozilla Firefox Version 91.0 or above Safari Version 14 or above
Hardware	
Processor Speed	1.5 GHz or above
RAM	4 GB or above
Disk Space	500 MB of available hard-disk or above

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

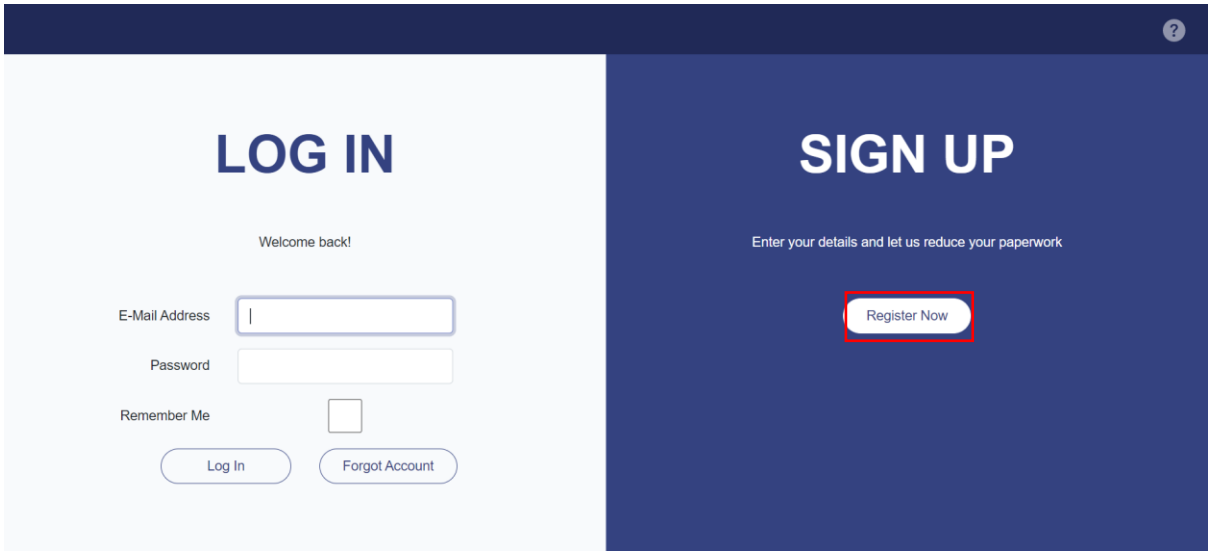
5 SMART 610 Subscription and Registration

This Chapter introduces the subscription method of SMART 610 and provides instructions to register an account at the SaaS.

5.1 SMART 610 Subscription

There are two types of project reports to be subscribed – "SMART 610 Pro" and "SMART 610 Pro Max". SMART 610 Pro provides the basic functions for energy end use calculation, and SMART 610 Pro Max provides extra functions to complete compliance forms. You decide which version to subscribe when you use the function "Create New Report" as shown in Section 6.2.

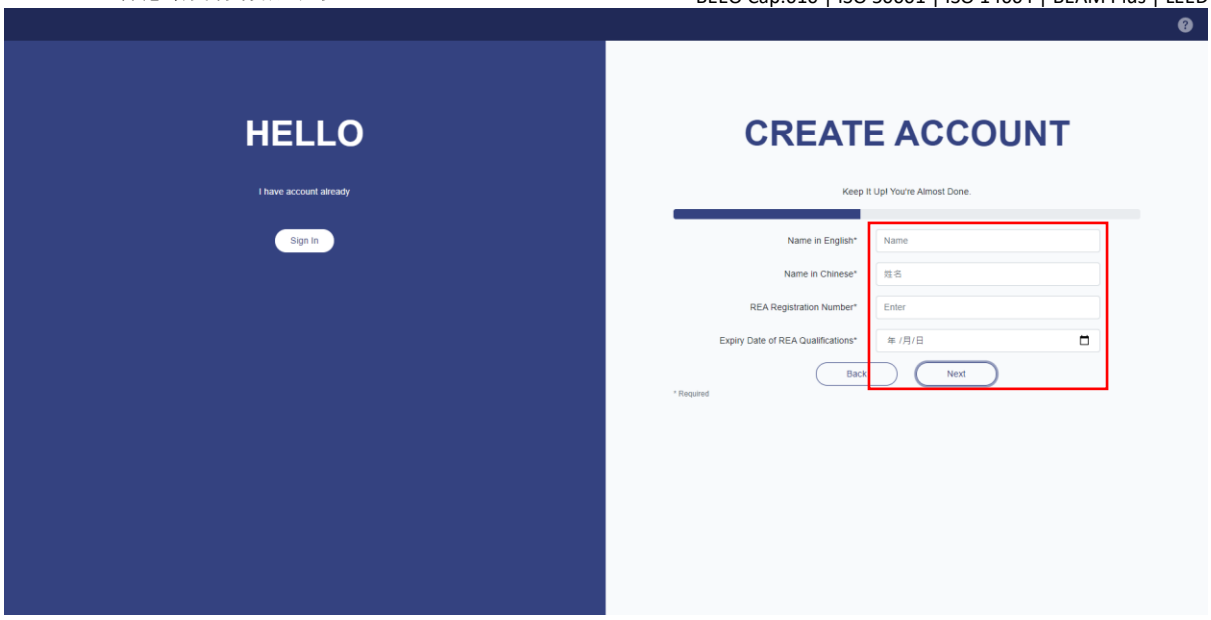
5.2 SMART 610 Account Registration



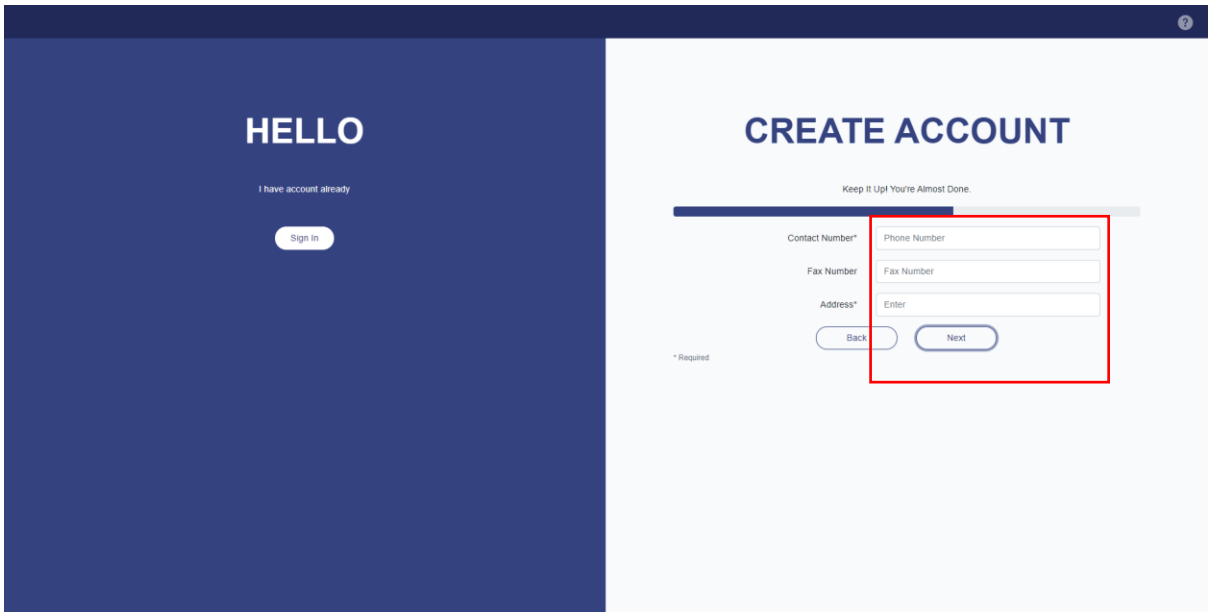
(1) Select the "Register Now".

(2) Fill in your email address and password, re-enter your password to confirm and then press the "Next".

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

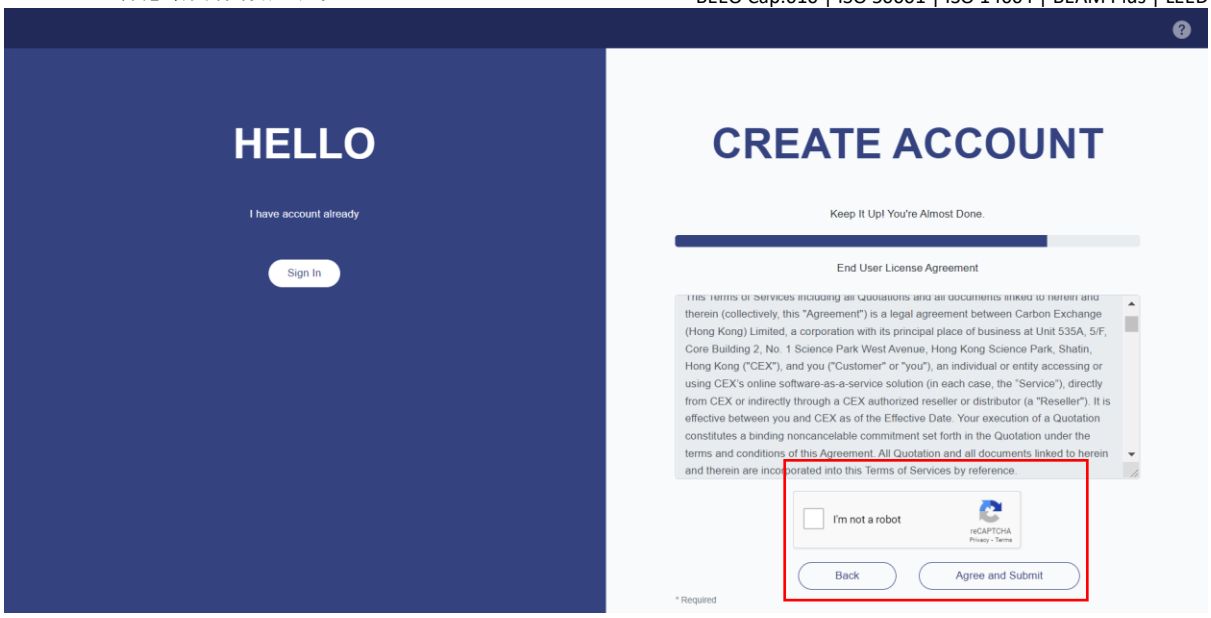


(3) Fill in your name in English and Chinese, REA registration number and expiry date of REA qualification. After that, press the “Next”.



(4) Fill in your contact number, fax number and address. Then, press the “Next”.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net



(5) Read the End User License Agreement and select “I am not a robot”. Finally, press the “Submit”.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6 SMART 610 Function and Configuration

This Chapter gives a description on

(1) the functions of the input boxes, and

(2) the configurations of the application

6.1 Login page of the SMART 610

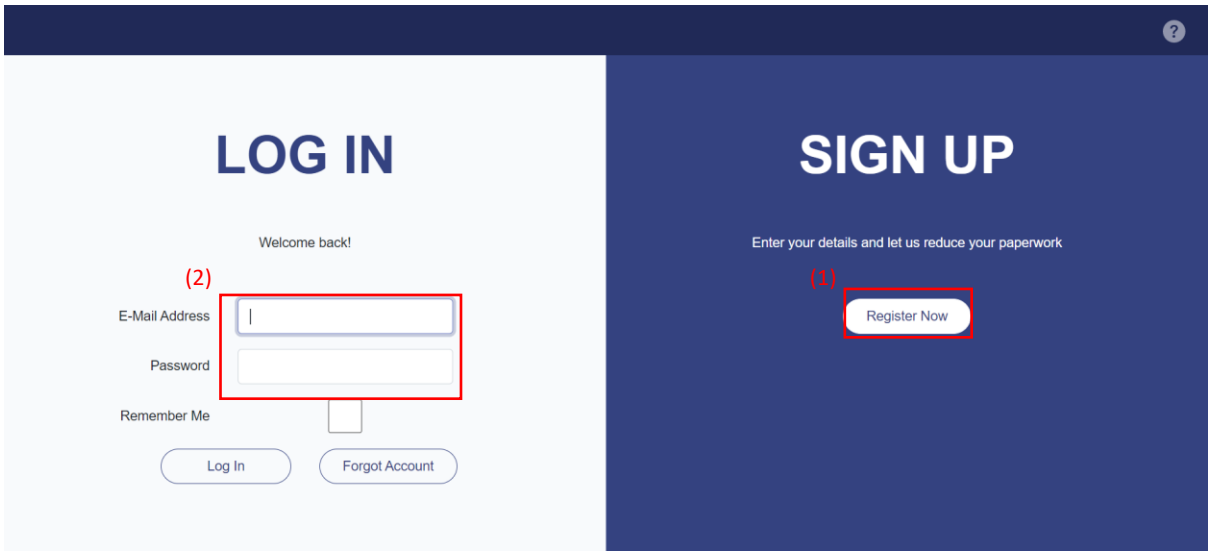


Figure 6.1 Login page of SMART 610

Please go to the website http://test.enaudit.dittoex.tk/login. To access SMART 610,

(1) press the “Sign Up Now” button to create an account.

(2) fill in the registered e-mail address and password to login to the SMART 610.

The detailed positions of the required steps are shown in Figure 6.1.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.2 Project list page in the SMART 610

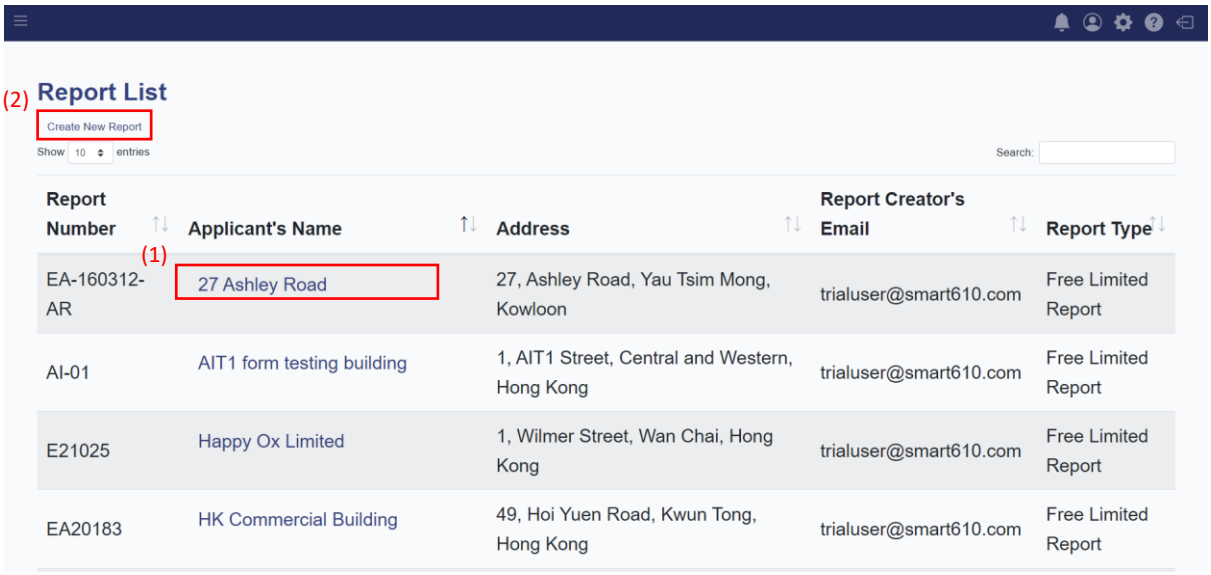


Figure 6.2 Project list page

After logging in, you will see a report list page.

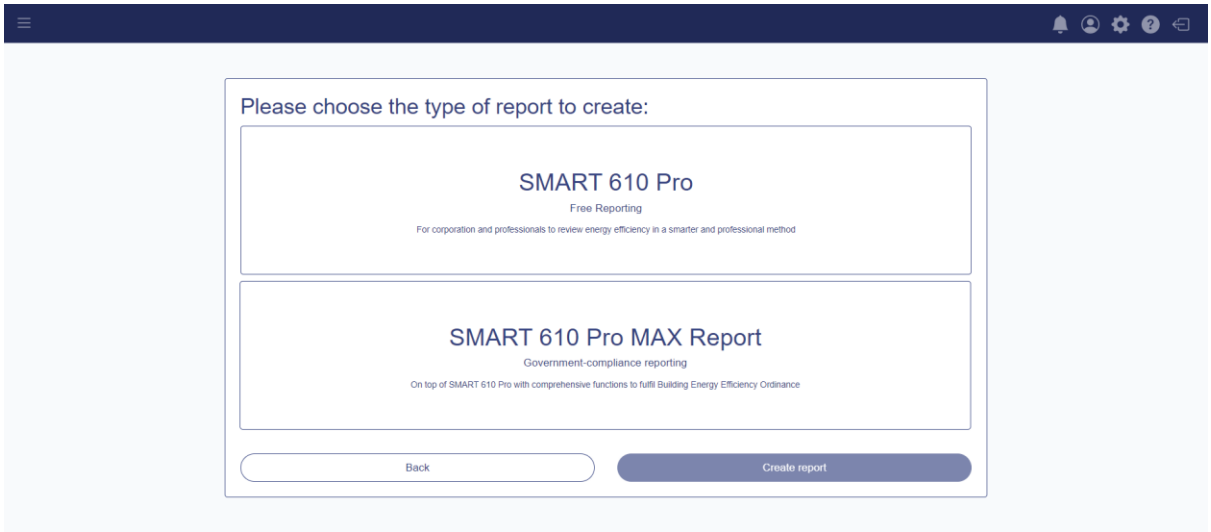
To select an existing project,

(1) click on the name of the existing project.

To create a new project,

(2) click on the “Create New Project” button as shown in Figure 6.2.

and you will see a page on selecting the type of report.



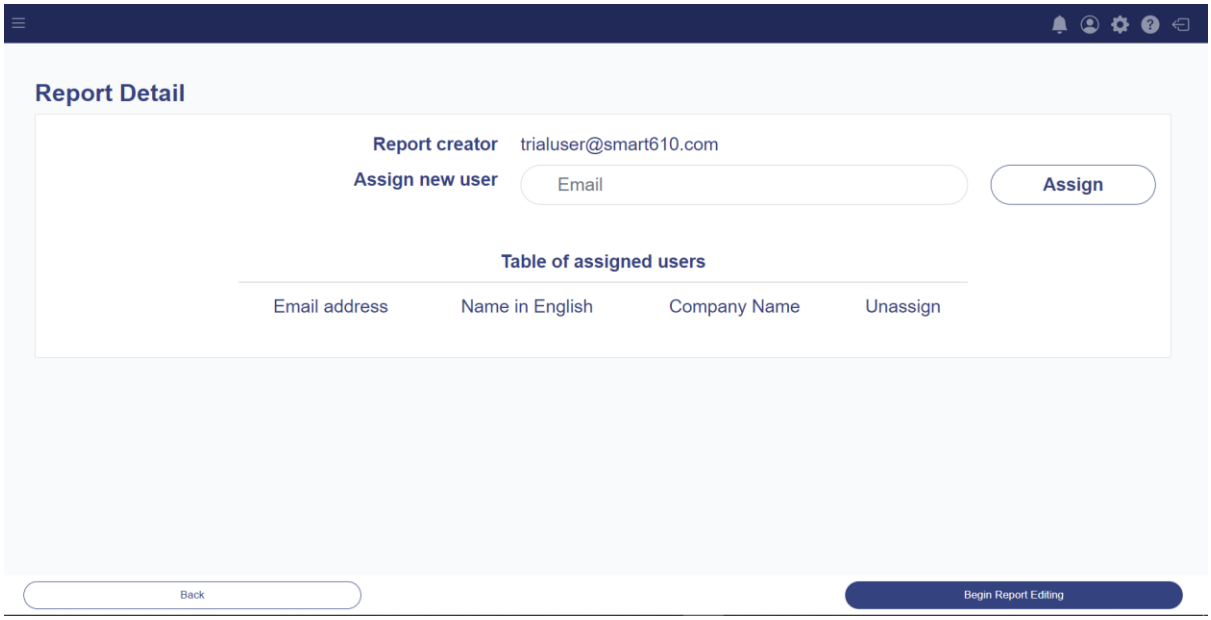
If you want to try the basic functions of the SaaS, you can select “SMART 610 Pro” and click “Create report”. If you want to pay for the comprehensive functions to generate government compliance forms, select “SMART 610 Pro MAX Report” and click “Proceed to payment” and pay for the report.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

You can enter any promotion code at this point if you have any. You can always choose to convert "SMART 610 Pro" reports to "SMART 610 Pro MAX" by clicking at any "Pro MAX" features later.

6.3 Report user assignment

Once you click at an existing report, you may be able to see the following page:



This page allows you to share the report with other existing users by writing down their email at "Assign new user" and clicking "Assign". Please ensure that the user has already registered the account following Section 5.2.

To proceed to edit the report, click "Being Report Editing".

6.4 Background information section in the SMART 610

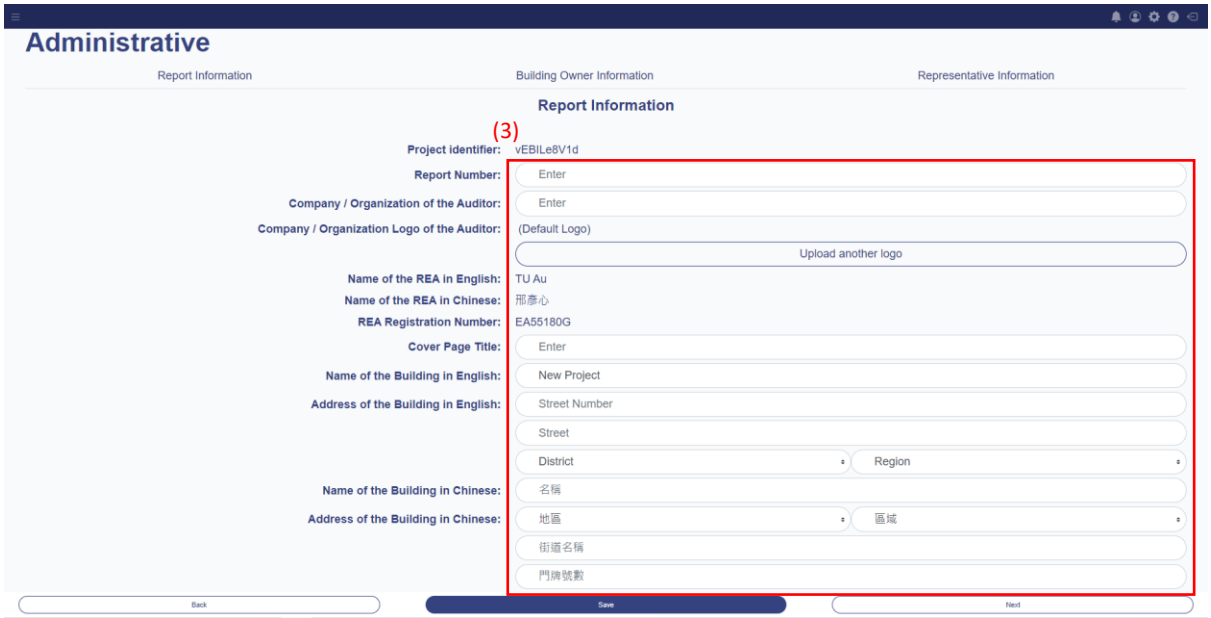


Figure 6.3 Report information section

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(3) fill in the auditor information and report information as shown in Figure 6.3. At each entry, fill in the followings:

Report Number: fill in the project reference number for easy tracking

Company/ Organization of the Auditor: fill in the name of your company

Company/ Organization Logo of the Auditor: upload your company logo photo

Name of REA in English, Name of REA in Chinese, REA Registration Number: The information will fill in automatically and base on the information that you provided during the creation of your account

Cover Page Title: fill in the project name

Name of the Building in English: fill in the English name of the audited building

Address of the Building in English: fill in the address of the audited building in English

Name of the Building in Chinese: fill in the Chinese name of the audited building

Address of the Building in Chinese: fill in the address of the audited building in Chinese

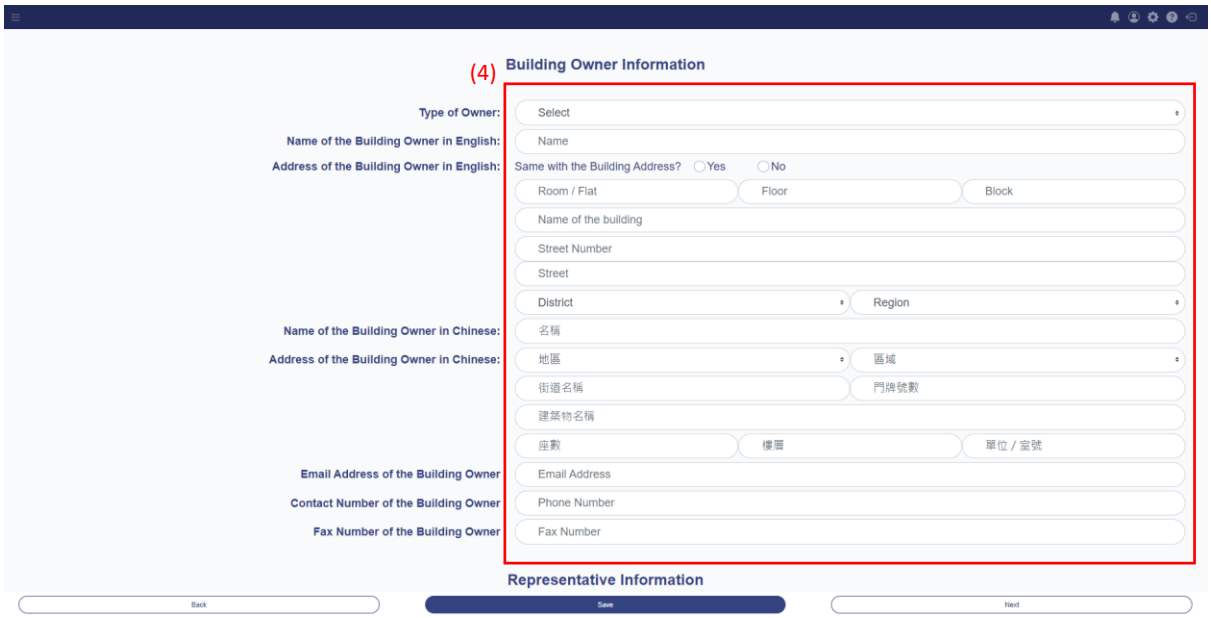


Figure 6.4 Building owner information section

(4) scroll down and fill in the building owner information as shown in Figure 6.4. At each entry, fill in the followings:

Type of Owner: fill in the owner type

Name of the Building Owner in English: fill in the English name of the building owner

Address of the Building in English: fill in the address of the building owner in English

Name of the Building Owner in Chinese: fill in the Chinese name of the building owner

Address of the Building in Chinese: fill in the address of the building owner in Chinese

Email Address of the Building Owner: fill in the email address of the building owner

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Contact Number of the Building Owner: fill in the contact number of the building owner

Fax Number of the Building Owner: fill in the fax number of the building owner

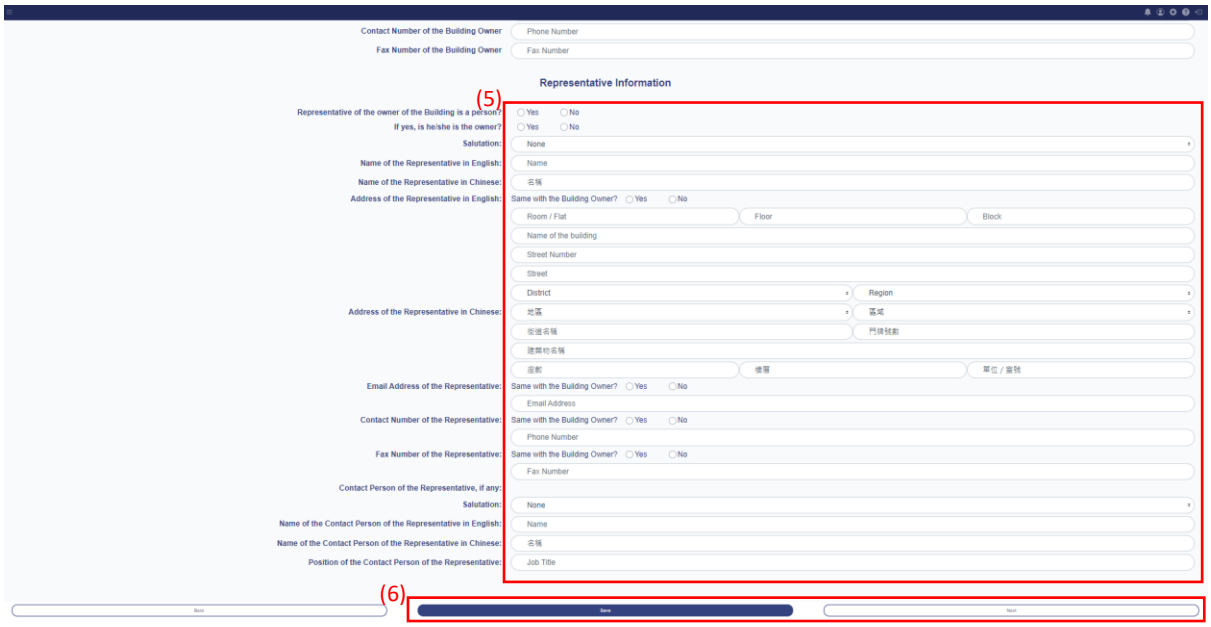


Figure 6.5 Representative information section

(5) scroll down and fill in the representative information as shown in Figure 6.5. At each entry, fill in the followings:

Representative of the owner of the Building is a person? Tick yes or no according to the nature of the owner of the Building

If yes, is he/she is the owner? Tick yes or no

Salutation: Select the salutation of the representative

Name of the Representative in English: fill in the English name of the representative

Name of the Representative in Chinese: fill in the Chinese name of the representative

Address of the Representative in English: fill in the address of the representative in English

Address of the Representative in Chinese: fill in the address of the representative in Chinese

Email Address of the Representative: fill in the email address of the representative

Contact Number of the Representative: fill in the contact number of the representative

Fax Number of the Representative: fill in the fax number of the representative

Contact Person of the Representative, if any:

Salutation: Select the salutation of the contact person of representative

Name of the Contact Person of the Representative in English: fill in the English name of the contact person of representative

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Name of the Contact Person of the Representative in Chinese: fill in the Chinese name of the contact person of representative

Position of the Contact Person of the Representative: fill in the position of the contact person of representative

(6) press the “Save” button to save the data and press the “Next” button to continue to the next page.

6.5 Technical information section in the SMART 610

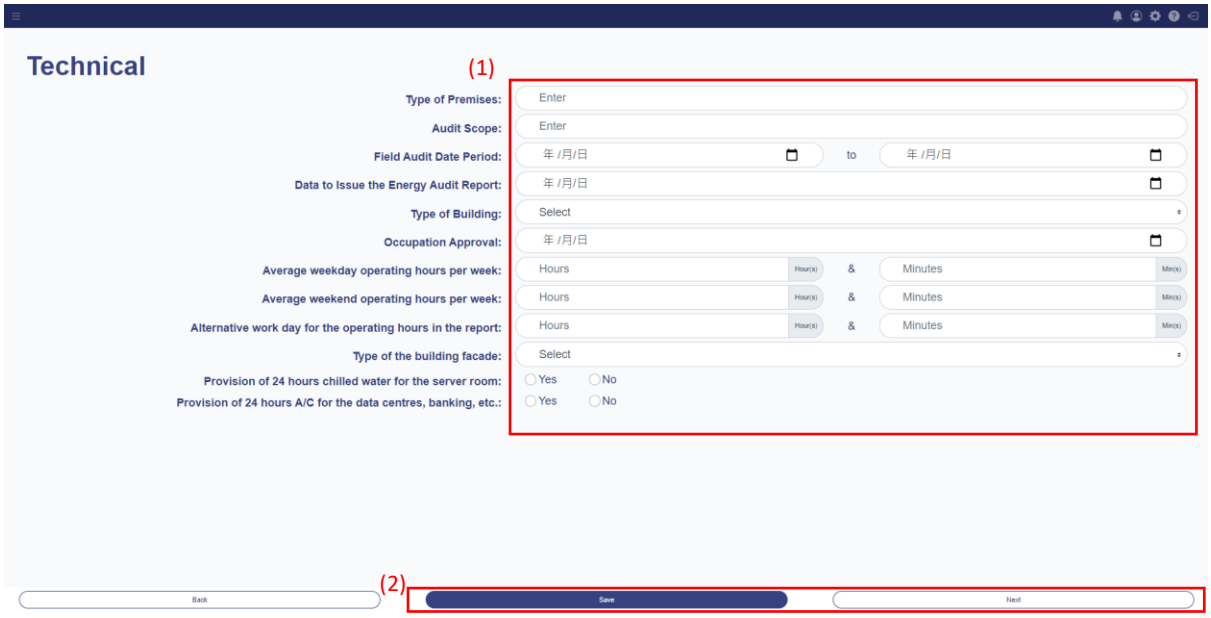


Figure 6.6 Technical information section

(1) fill in the technical information as shown in Figure 6.6. At each entry, fill in the followings:

Type of Premises: fill in the type of the audited building

Audit Scope: fill in the scope of the audit

Field Audit Date Period: fill in the start and the end of the field audit date

Data to Issue the Energy Audit Report: fill in the issue date of the energy audit report

Type of Building: select the type of the audited building

Occupation Approval: fill in the date of occupation approval of audited building

Average weekday operating hours per week: fill in the total operating hours of weekday per week

Average weekend operating hours per week: fill in the total operating hours of weekend per week

Alternative work day for the operating hours in the report: leave it blank

Type of the building facade: select the type of building facade

Provision of 24 hours chilled water for the server room: select yes or no

Provision of 24 hours A/C for the data centres, banking, etc.: select yes or no

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.6 Photos and location plan section of the building in the SMART 610

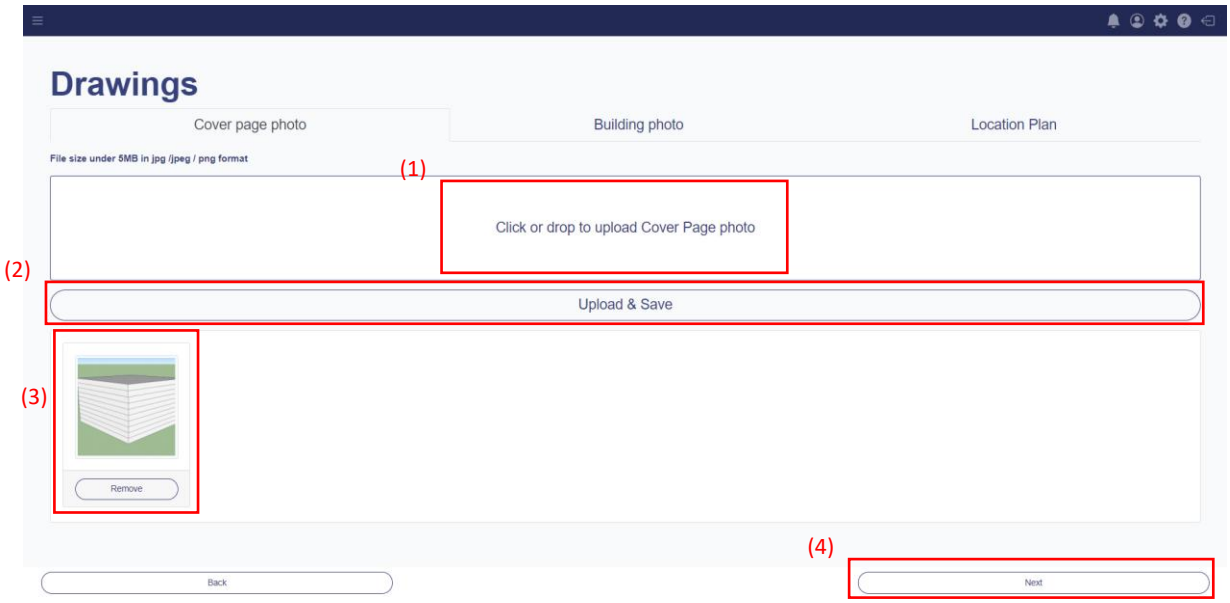


Figure 6.7 Cover page photo section

To upload the cover page photo, (1) click on the box to select the photo you want to upload or drop the photo within the box. (2) press the “Upload & Save” button to upload the photo. (3) check the uploaded photo. (4) if the photo is correct, press the “Next” button to continue to the next page as shown in Figure 6.7 Cover page photo.

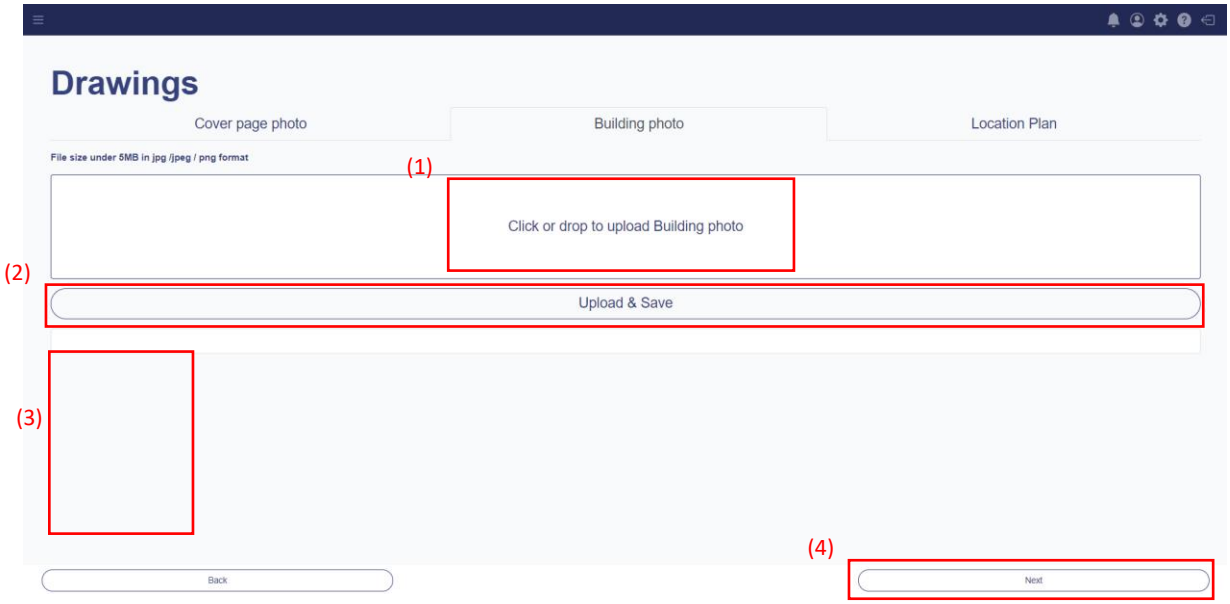


Figure 6.8 Building photo section

To upload the building photo, (1) click on the box to select the photo you want to upload or drop the photo within the box. (2) press the “Upload & Save” button to upload the photo. (3) check the uploaded photo. (4) if the photo is correct, press the “Next” button to continue to the next page as shown in Figure 6.8.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

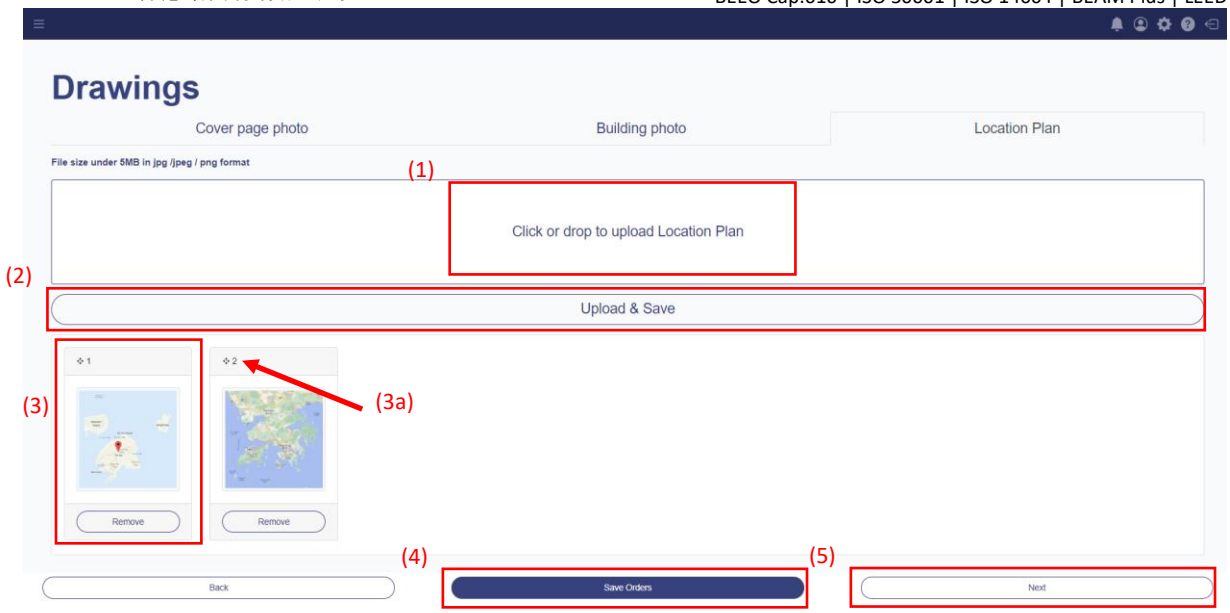


Figure 6.9 Location plan section

To upload the location plans, (1) click on the box to select the location plans you want to upload or drop the location plans within the box. (2) press the "Upload & Save" button to upload the location plans. (3) check the uploaded location plans. To reorder the location plans, press the "+" button indicated as (3a) in Figure 6.9 and drag the location plan to the correct position. (4) if the location plans are correct, press the "Save Orders" button to save the orders. (5) press the "Next" button to continue to the next page as shown in Figure 6.9.

6.7 Floor and room section in the SMART 610

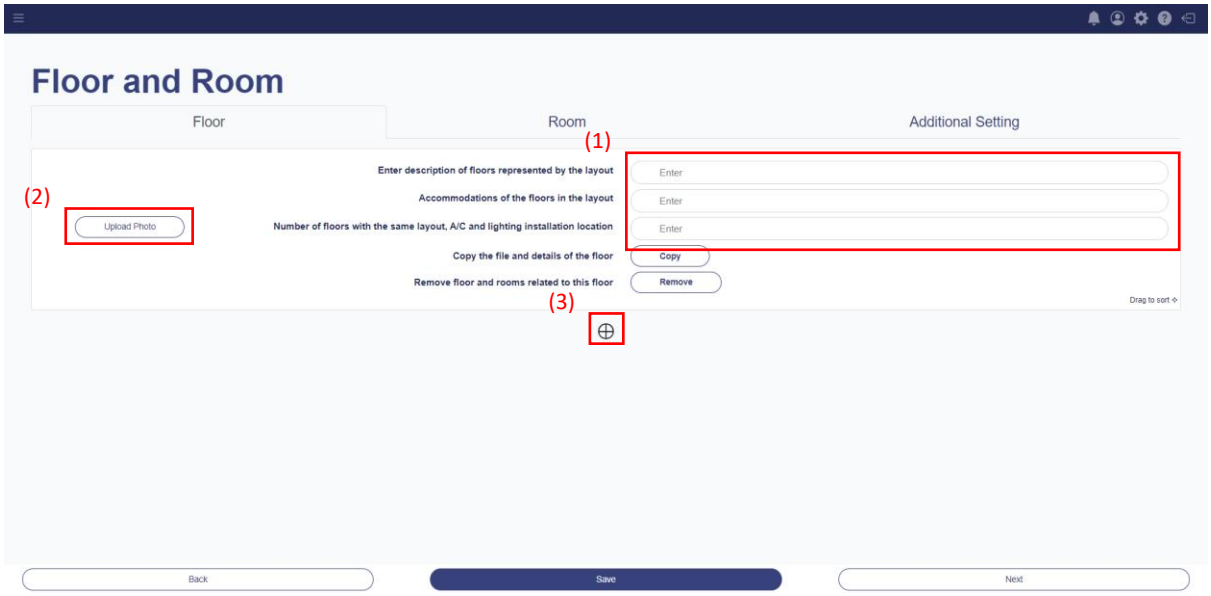


Figure 6.10 Floor information section (1)

(1) fill in the floor information as shown in Figure 6.10. At each entry, fill in the followings:

Enter description of floors represented by the layout: fill in the description of the floor

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Accommodations of the floors in the layout: fill in the type of accommodations of the floor which can be input more than 1 type and for easy recognition only

Number of floors with the same layout, A/C and lighting installation location: fill in number of floors that have the same layout

(2) upload the photo of the layout plan. (3) press the "+" button to add a new floor.

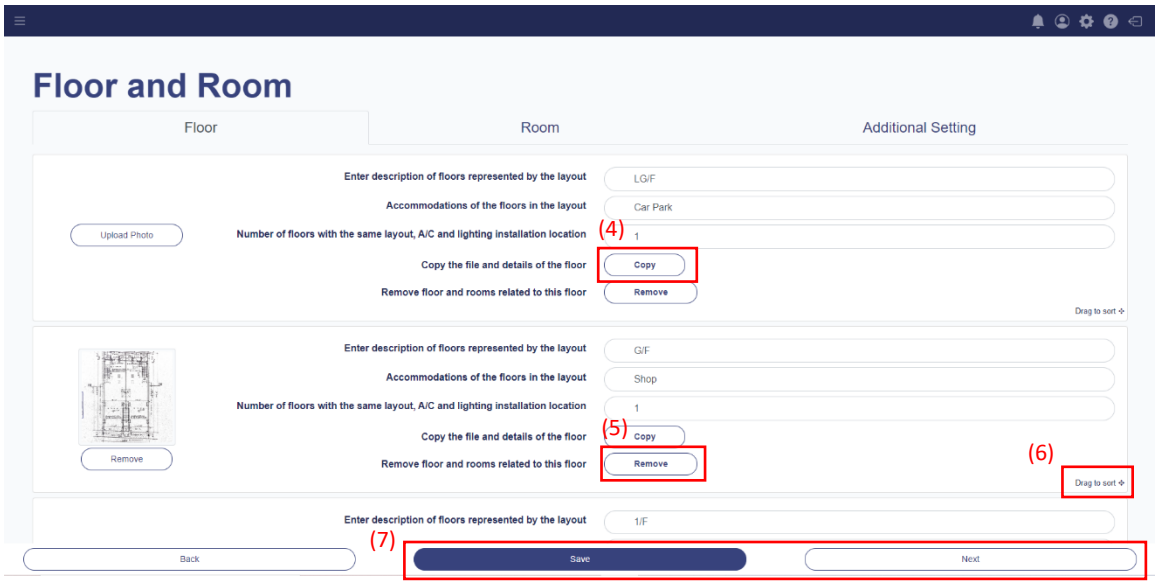


Figure 6.11 Floor information section (2)

If a new floor has similar feature with the floor previous entered, you can copy the previous floor to form a new floor. (4) press the "Copy" button, a duplicate floor will generate automatically. To remove the unwanted floor, (5) press the "remove" button to remove the entire floor and the rooms associated. To reorder the floors, (6) press the "Drag to sort +" button and drag the floor to the correct position. (7) press the "Save" button to save the data and press "Next" button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

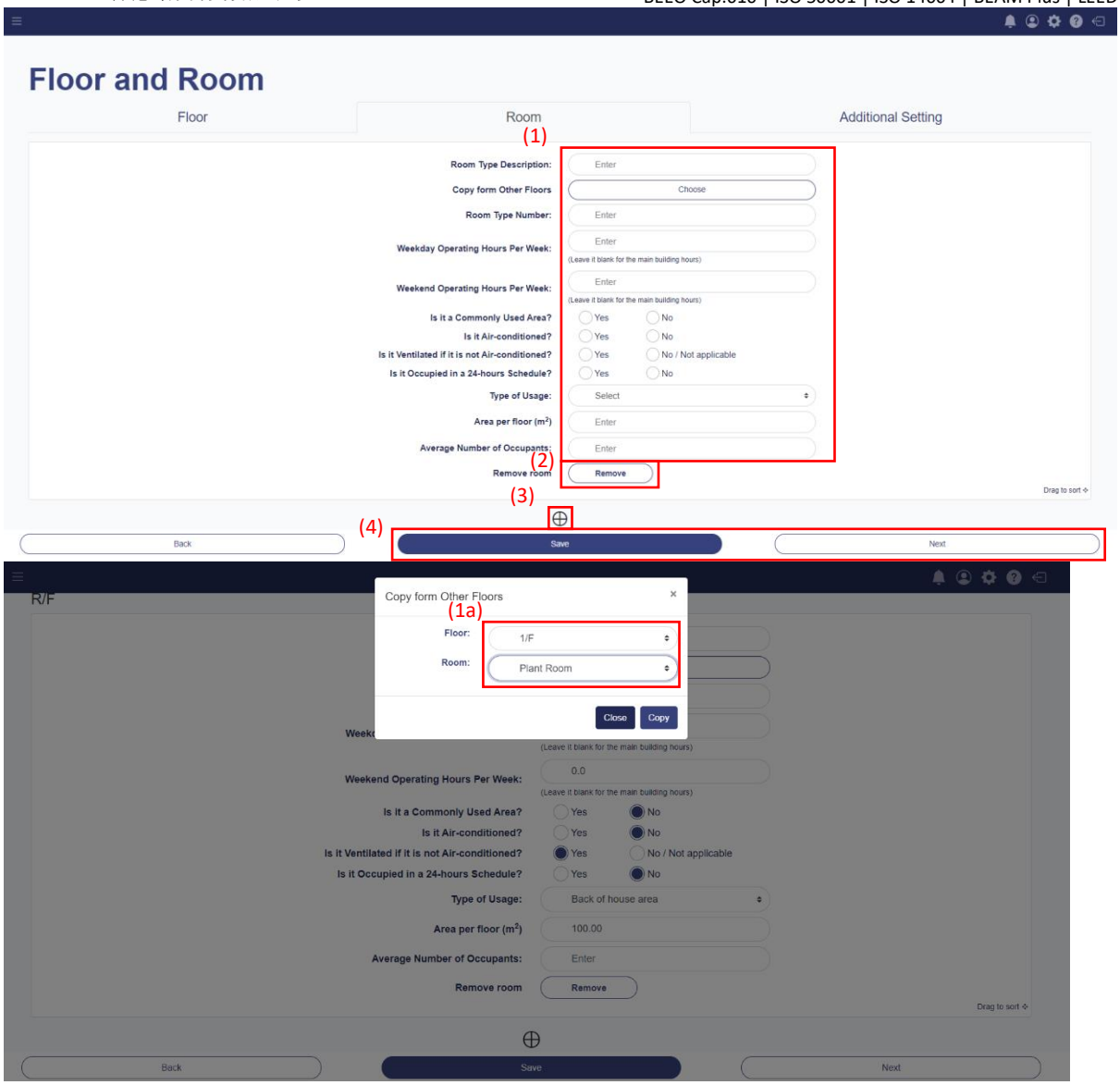


Figure 6.12 Room information section

(1) fill in the room information as shown in Figure 6.12. At each entry, fill in the followings:

Room Type Description: fill in the description of the Room

Copy form Other Floors: select a room from other floors that previous input to copy as shown in Figure 6.12 (1a)

Room Type Number: add a reference number for the room type (optional)

Weekday Operating Hours Per Week: fill in the weekday operating hours per week of the room (if it is same as the main building operating hours. Leave it blank)

Weekend Operating Hours Per Week: fill in the weekend operating hours per week of the room (if it is same as the main building operating hours. Leave it blank)

Is it a Commonly Used Area?: select yes or no

Is it Air-conditioned?: select yes or no

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Is it Ventilated if it is not Air-conditioned?: select yes or no

Is it Occupied in a 24-hours Schedule?: select yes or no

Type of Usage: select the type of usage of the room

Area per floor (m2): fill in the area of the room

Average Number of Occupants: fill in the average number of occupants in the room

To remove the unwanted room, (2) press the “remove” button to remove the entire room. (3) press the “+” button to add a new floor. (4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

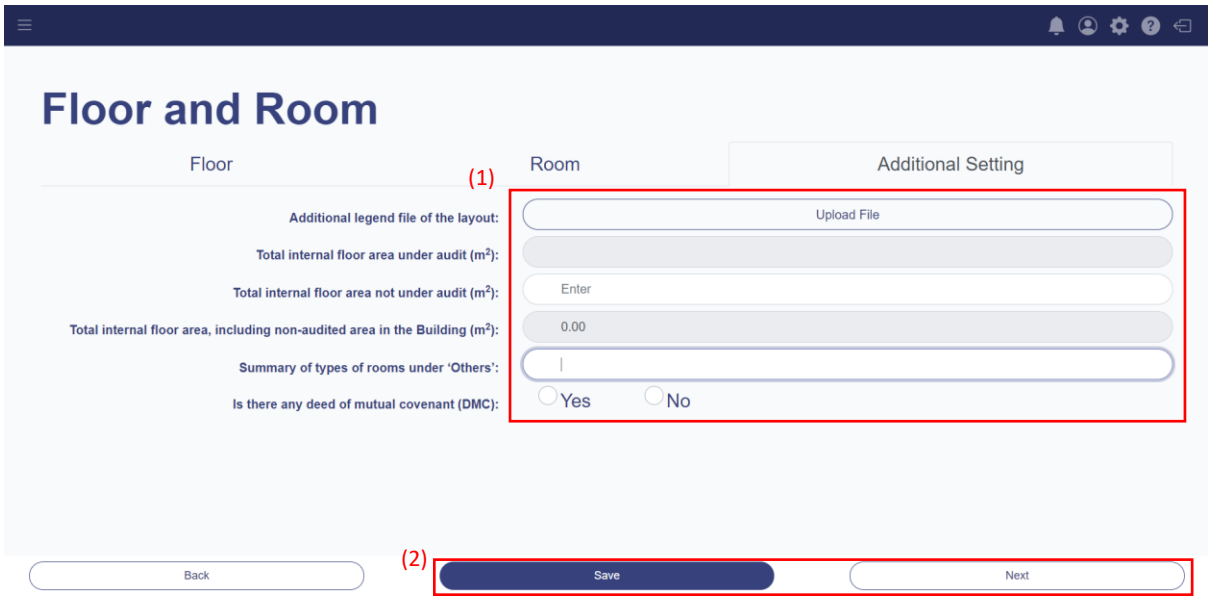


Figure 6.13 Additional setting of area section

(1) fill in the room information as shown in Figure 6.13. At each entry, fill in the followings:

Additional legend file of the layout: select a file that contain the legend of the layout

Total internal floor area under audit (m2): the total internal floor area is sum by the area that entered in the “Room” section automatically

Total internal floor area not under audit (m2): fill in the total non-audit area here

Total internal floor area, including non-audited area in the Building (m2): the total internal area is calculated automatically

Summary of types of rooms under ‘Others’: fill in the description of room type of others

Is there any deed of mutual covenant (DMC): select yes or no

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.8 AC installation section in the SMART 610

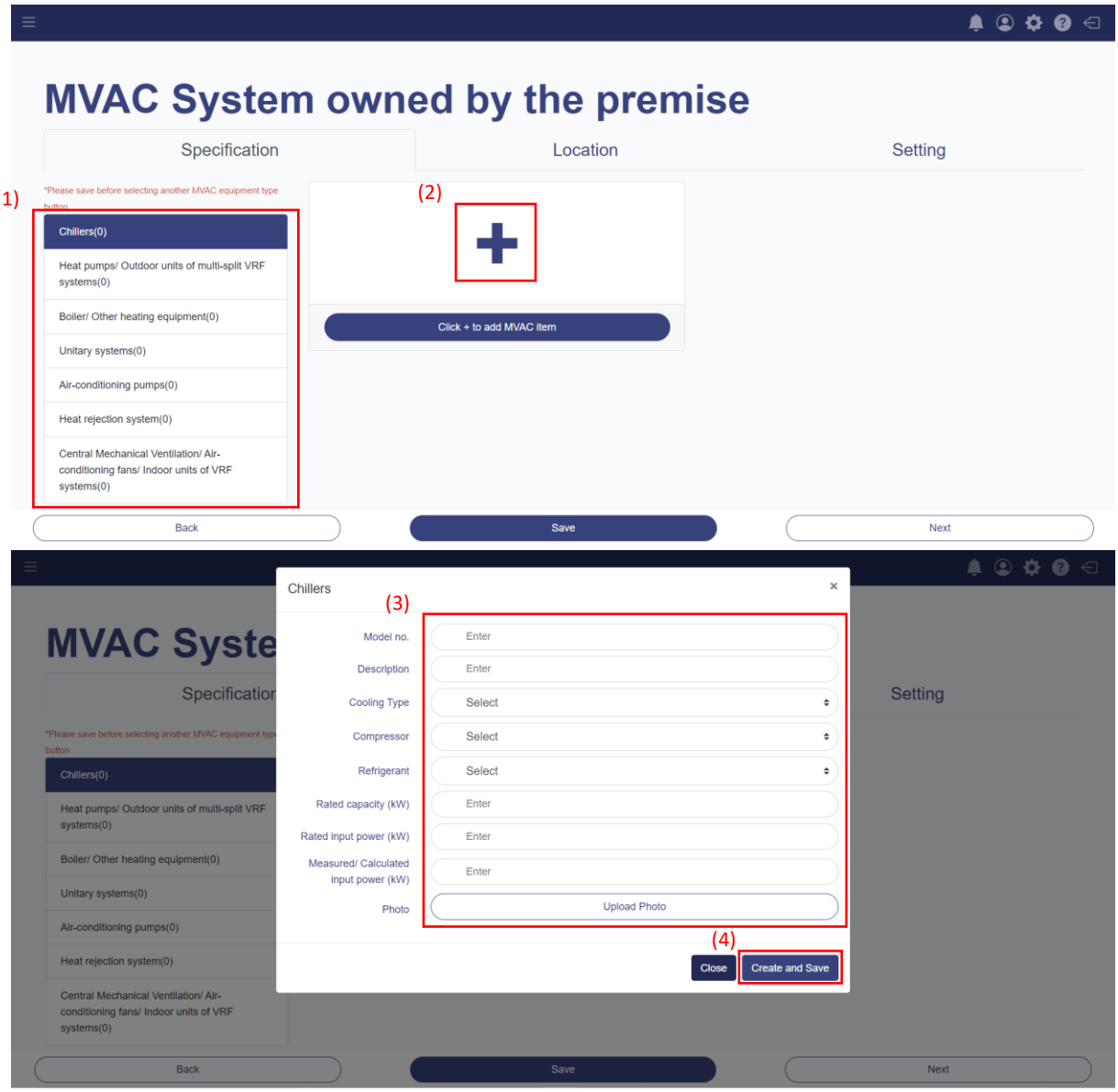


Figure 6.14 MVAC system specification section (1)

To input the details of the MVAC system, (1) select the type of AC installation that you would like to input. (2) press the "+" button to add a new MVAC item. (3) fill in the details of MVAC item as shown in Figure 6.14. At each entry, fill in the followings:

Model no.: fill in the model number of the MVAC item

Description: add a description for the MVAC item

Cooling Type: select the cooling type of the MVAC item

Compressor: select the compressor type of the MVAC item

Refrigerant: select the refrigerant type of the MVAC item

Rated capacity (kW): fill in the rated capacity of the MVAC item

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Rated input power (kW): fill in the rated input power of the MVAC item. If you have filled in the measured or calculated input power, you do not have to fill in the rated input power.

Measured/ Calculated input power (kW): fill in the measured or calculated input power of the MVAC item. If you have filled in the rated input power, you do not have to fill in the measured or calculated input power.

Photo: upload a photo of the MVAC item

(4) press the “Create and Save” button to save the details.

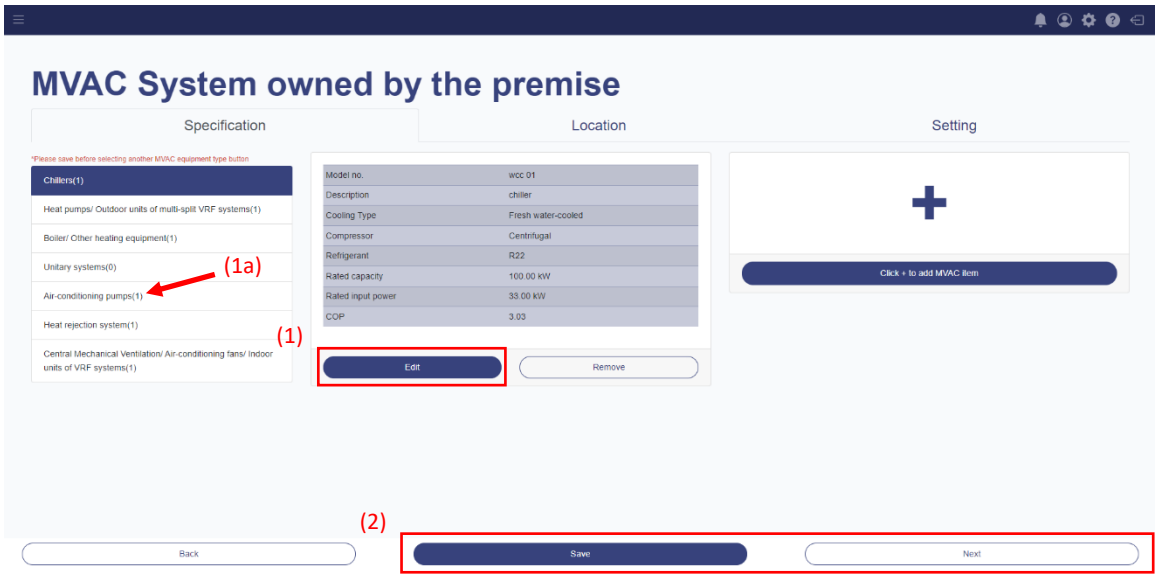


Figure 6.15 Specification of MVAC system section (2)

If you want to edit the information that you entered, (1) press the “edit” button and fill in the data you would like to correct. The number behind the item represent the number of items you have input as shown in Figure 6.15 (1a). (2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Figure 6.16 Location of MVAC system section

To input the location of the AC Installation, (1) select the type of AC Installation first. The number behind the item represent the number of locations you have input as shown in Figure 6.16 (1a). (2) press the “New location information for mvac system” button to add a new location. (3) fill in the details of MVAC item,

Floor: select the floor that the MVAC item located in

Room type: select the room that the MVAC item located in

Model no.: select the model that you are entering

Quantity: fill in the quantity of the MVAC item

Annual operating hour: fill in the annual operating hours of the MVAC item

Diversity factor: fill in the diversity factor of the MVAC item

Display operating schedule in Energy audit report: select display the operating schedule or not

(4) if you want to remove the location, you can press “Remove” button to remove the location. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

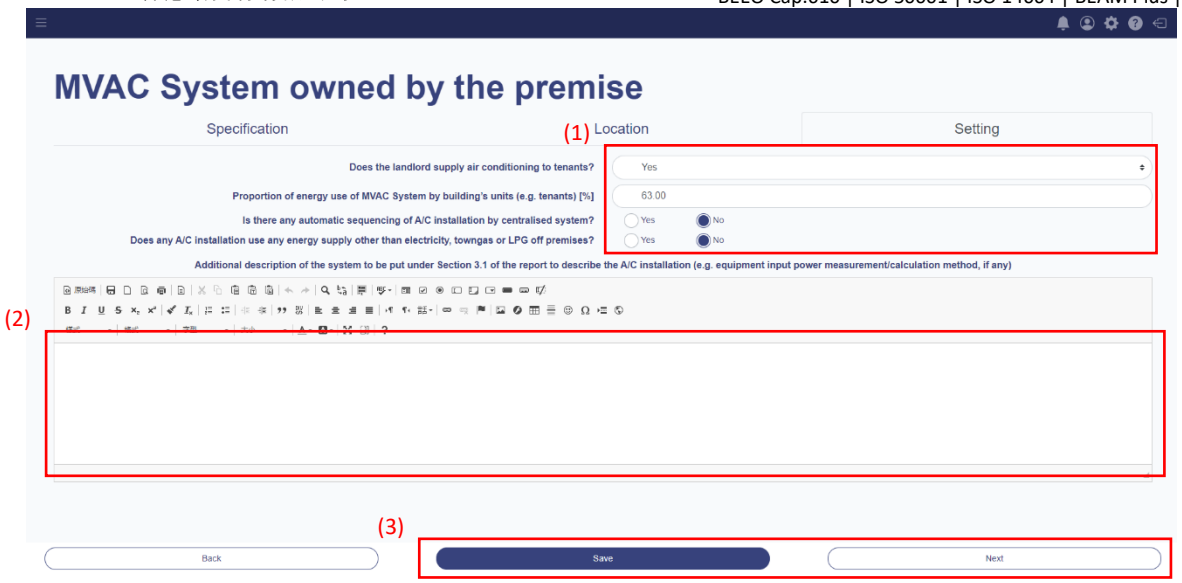


Figure 6.17 Additional setting of MVAC system section

(1) fill in the extra information about the MVAC system,

Does the landlord supply air conditioning to tenants?: select yes, no or not applicable

Proportion of energy use of MVAC System by building's units (e.g. tenants) [%]: fill in the percentage of energy use of MVAC system by building's units.

Is there any automatic sequencing of A/C installation by centralised system?: select yes or no

Does any A/C installation use any energy supply other than electricity, towngas or LPG off premises?: select yes or no

(2) fill in the additional description of the system, if any. (3) press the "Save" button to save the data and press the "Next" button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.9 Lighting installation section in the SMART 610

Figure 6.18 Specification of lighting installation section

To input the details of the lighting equipment, (1) press on the "+" button to add a new luminaire. (2) fill in the information of the luminaire,

Code: fill in the reference code for the luminaire

Luminaire description: fill in the description of the luminaire

Lamp Type: select the type of the luminaire

Is it a light strip?: select yes or no

Number of lamp per luminaire/ Length of light strip [m]: If the luminaire is not a light strip, fill in the number of lamp per luminaire. If the luminaire is a light strip, fill in the length of light strip.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Unit lamp power [W]/ Rating of light strip [W/m]: If the luminaire is not a light strip, fill in the input power of the lamp. If the luminaire is a light strip, fill in the input power per length of light strip.

Ballast Type: select the type of ballast

Controlgear Loss [W]: fill in the total controlgear loss of the luminaire

Total Luminarie Power [W]: the total luminaire power is calculated automatically

(3) upload photo of the luminaire. (4) if you want to remove the luminaire, press the “Remove” button. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

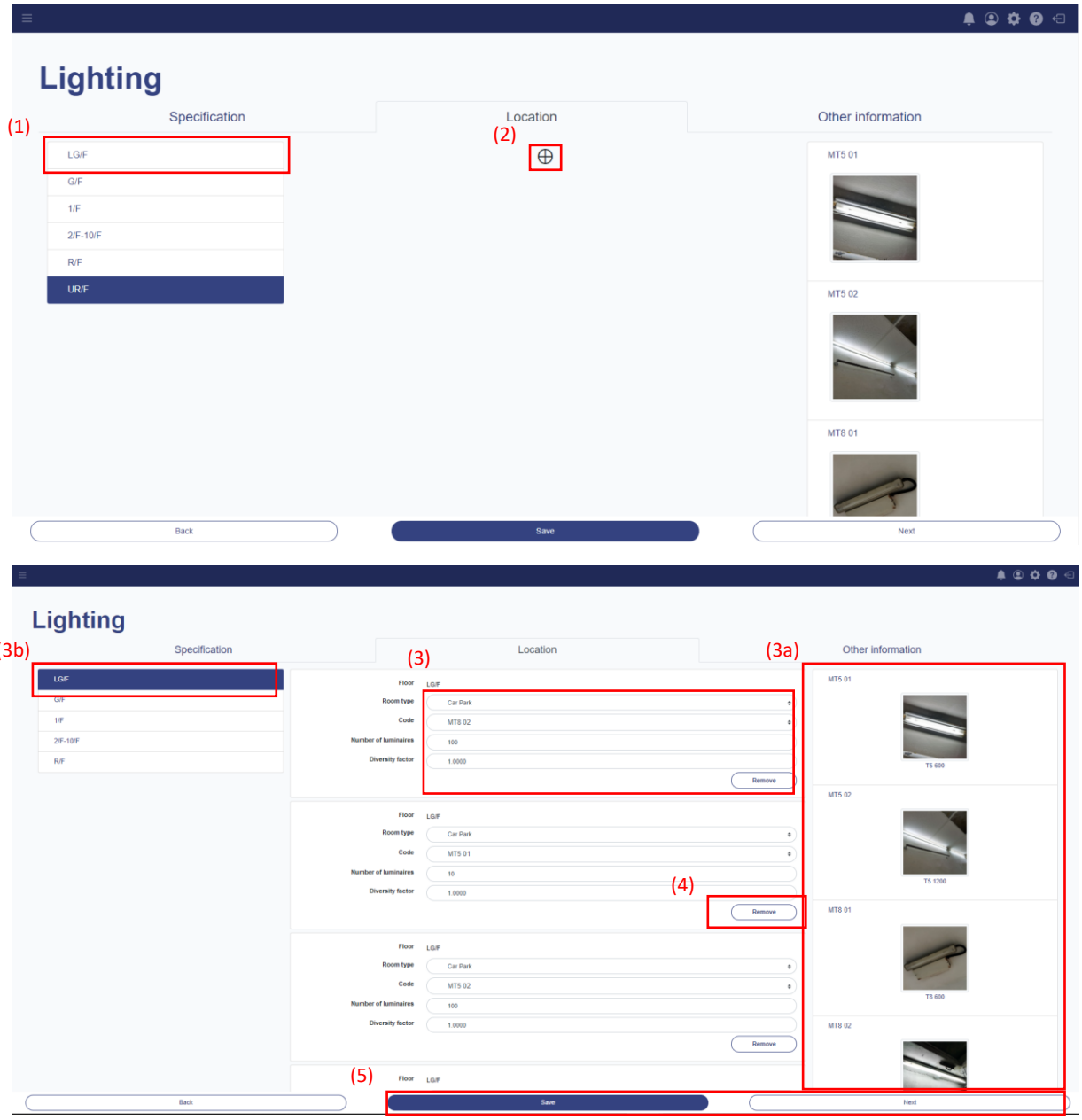


Figure 6.19 Location of lighting installation section

To input the location details of the luminaire, (1) select the floor you would like to input. (2) press the “+” button to add a new location for luminaire. (3) fill in the details of the location and luminaire,

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Floor: indicate the current floor that you are inputting

Room type: select the room that you previous input in the “Floor and Room” section

Code: select the luminaire. If you forget the code of luminaire, you can look at the photos on the right side indicated as (3a) in Figure 6.19 Location of lighting installation section.

Number of luminaires: fill in the quantity of luminaires in the room. If the floor type has more than one floor, which same as the example (3b) in Figure 6.19, please fill in the total quantity of luminaires of all floors.

Diversity factor: adjust the lighting power input due to automatic control, deterioration, etc. It should range from 0 to 1. Default 1.0 (i.e. no degradation)

(4) if you want to remove the location, press the “Remove” button. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

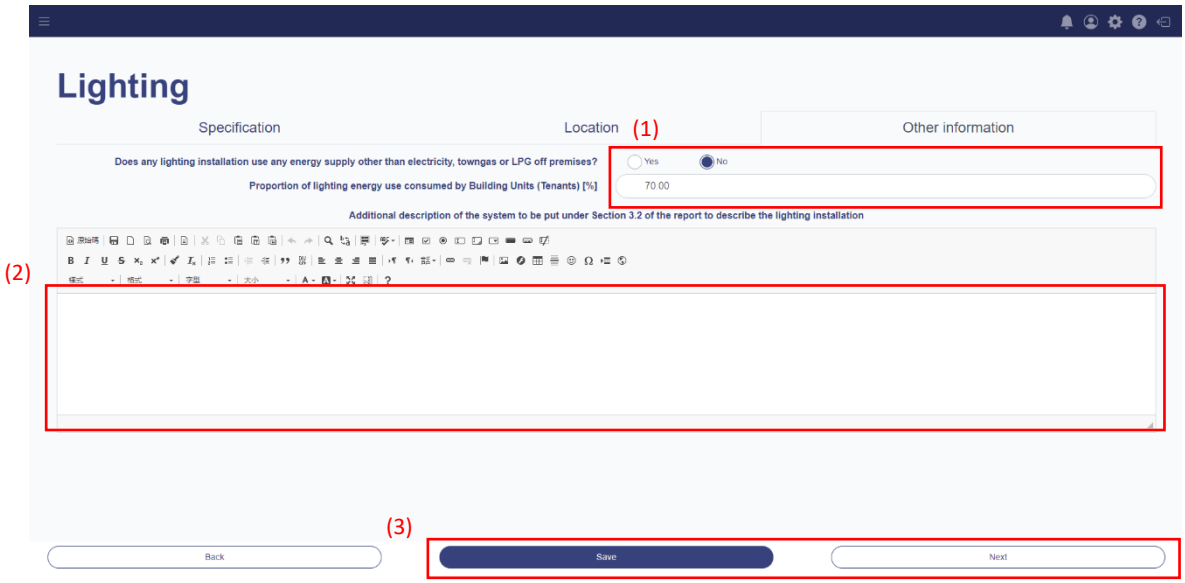


Figure 6.20 Additional information of lighting installation section

(1) fill in the extra information about the lighting equipment as shown in Figure 6.20. At each entry, fill in the followings:

Does any lighting installation use any energy supply other than electricity, towngas or LPG off premises?: select yes or no

Proportion of lighting energy use consumed by Building Units (Tenants) [%]: fill in the percentage of energy use of lighting equipment by building’s units.

(2) fill in the additional description of the system, if any. (3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.10 Lift installation section in the SMART 610

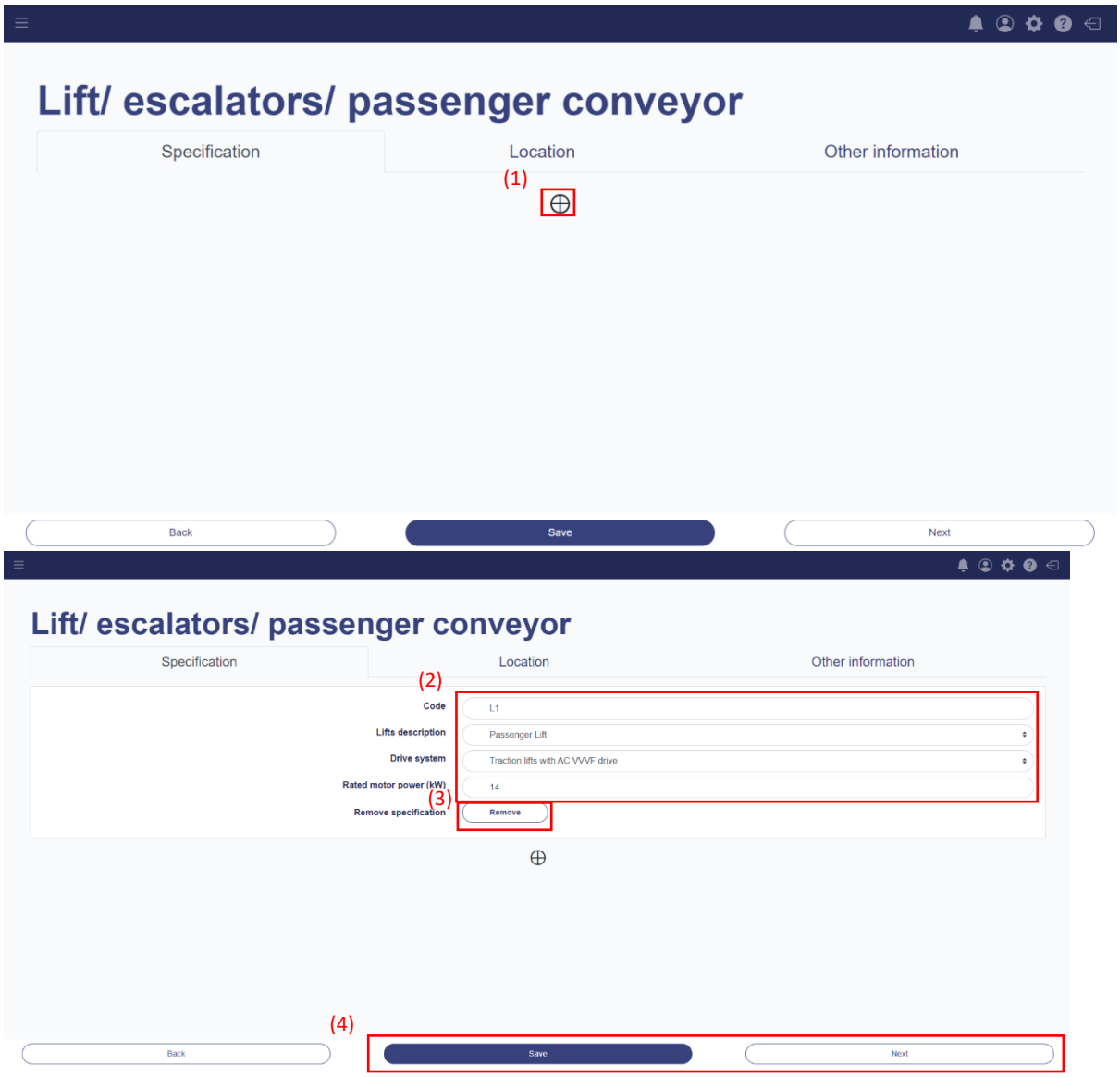


Figure 6.21 Specification of lift installation section

To input the details of lift installation, (1) press the "+" button to add a new lift installation. (2) fill in the specification of the lift installation as shown in Figure 6.21. At each entry, fill in the followings:

Code: fill in the reference code for the lift/ escalators/ passenger conveyor

Lifts description: select the type of the lift/ escalators/ passenger conveyor

Drive system: select the type of drive system of the lift/ escalators/ passenger conveyor

Rated motor power (kW): fill in the rated motor power of the lift/ escalators/ passenger conveyor

(3) if you want to remove the lift, press the "Remove" button. (4) press the "Save" button to save the data and press the "Next" button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

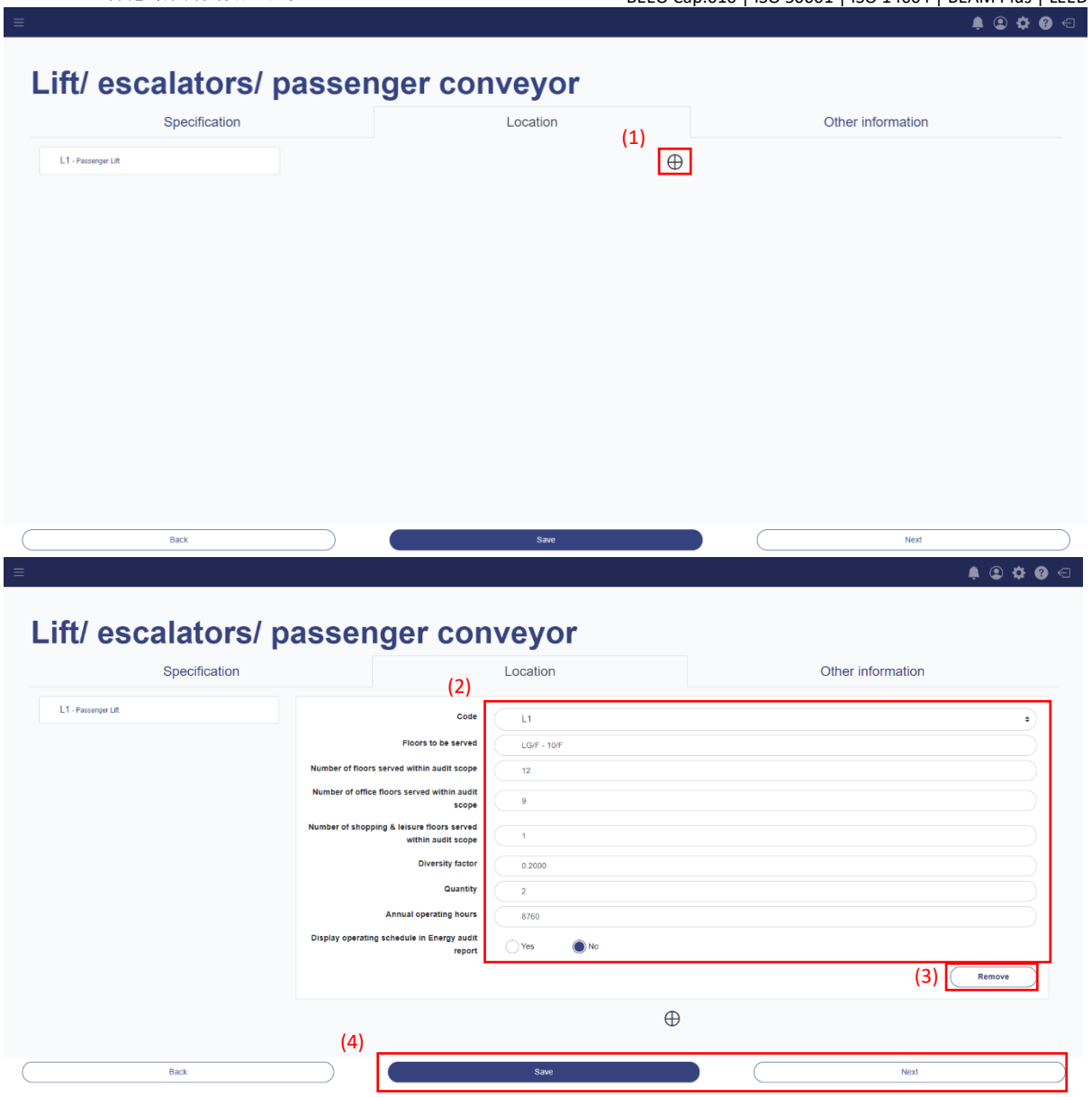


Figure 6.22 Location of lift installation section

To input the location of lift installation, (1) press the "+" button to add a new lift installation. (2) fill in the location information of the lift installation as shown in Figure 6.22. At each entry, fill in the followings:

Code: select the lift installation code that you input in "Specification" section

Floors to be served: fill in the serving floors of the lift

Number of floors served within audit scope: fill in the number of serving floors of the lift that is within audit scope

Number of office floors served within audit scope: fill in the number of floors of the lift that is serving office floors

Number of shopping & leisure floors served within audit scope: fill in the number of floors of the lift that is serving shopping and leisure floors

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Diversity factor: fill in the value of diversity factor of the lift

Quantity: fill in the quantity of lift

Annual operating hours: fill in the annual operating hours of the lift

Display operating schedule in Energy audit report: select yes or no to display operating schedule

(3) if you want to remove the lift, press the “Remove” button. (4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

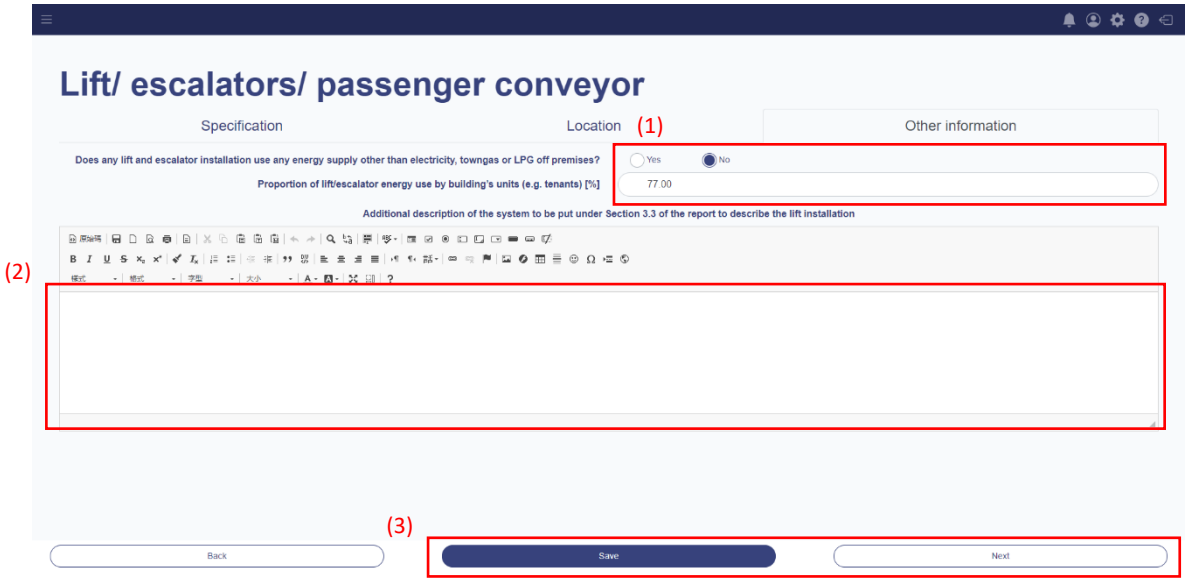


Figure 6.23 Additional information of lift installation section

(1) fill in the extra information about the lift installation as shown in Figure 6.23. At each entry, fill in the followings:

Does any lift and escalator installation use any energy supply other than electricity, towngas or LPG off premises?: select yes or no

Proportion of lift/escalator energy use by building’s units (e.g. tenants) [%]: fill in the percentage of energy use of lift installation by building’s units.

(2) fill in the additional description of the system, if any. (3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.11 Electrical supply section in the SMART 610

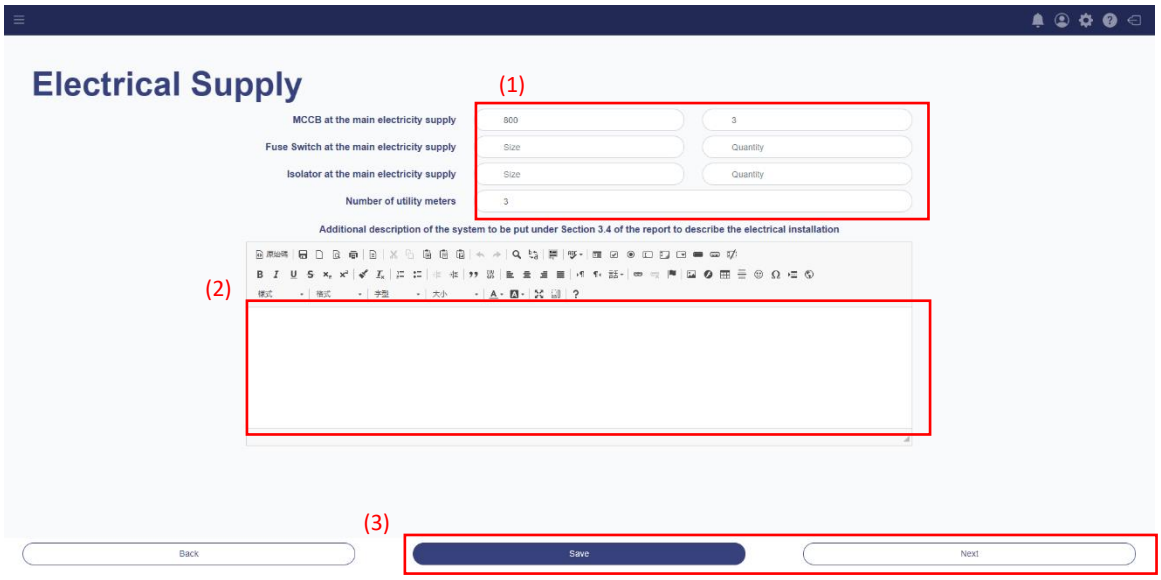


Figure 6.24 Electrical supply section

To input the details of electrical supply, (1) fill in the information about the electrical supply as shown in Figure 6.24. At each entry, fill in the followings:

MCCB at the main electricity supply: fill in the size in Ampere of the MCCB on the left side and quantity on the right side

Fuse Switch at the main electricity supply: fill in the size in Ampere of the fuse switch on the left side and quantity on the right side

Isolator at the main electricity supply: fill in the size in Ampere of the isolator on the left side and quantity on the right side

Number of utility meters: fill in the total number of utility meters

(2) fill in the additional description of the system, if any. (3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.12 Non-CBSI power consuming equipment section in the SMART 610

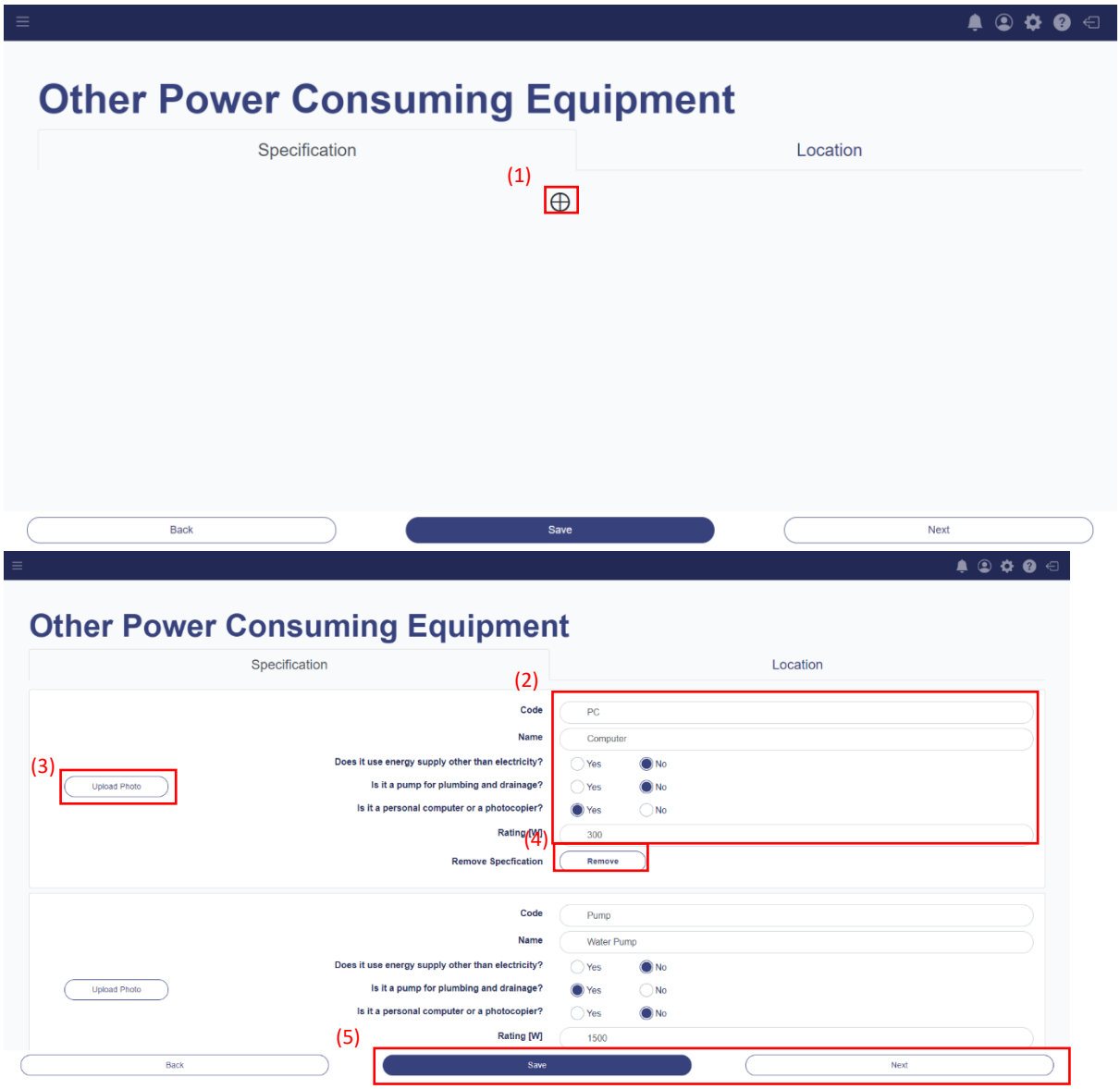


Figure 6.25 Specification of non-CBSI power consuming equipment section

To input the details of non-CBSI power consuming equipment, (1) press the "+" button to add a new equipment. (2) fill in the specification of the equipment as shown in Figure 6.25. At each entry, fill in the followings:

Code: fill in the reference code for the non-CBSI power consuming equipment

Name: fill in the name of the non-CBSI power consuming equipment

Does it use energy supply other than electricity?: select yes or no

Is it a pump for plumbing and drainage?: select yes or no

Is it a personal computer or a photocopier?: select yes or no

Rating [W]: fill in the rated input power of the non-CBSI power consuming equipment

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(4) if you want to remove the equipment, press the “Remove” button. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

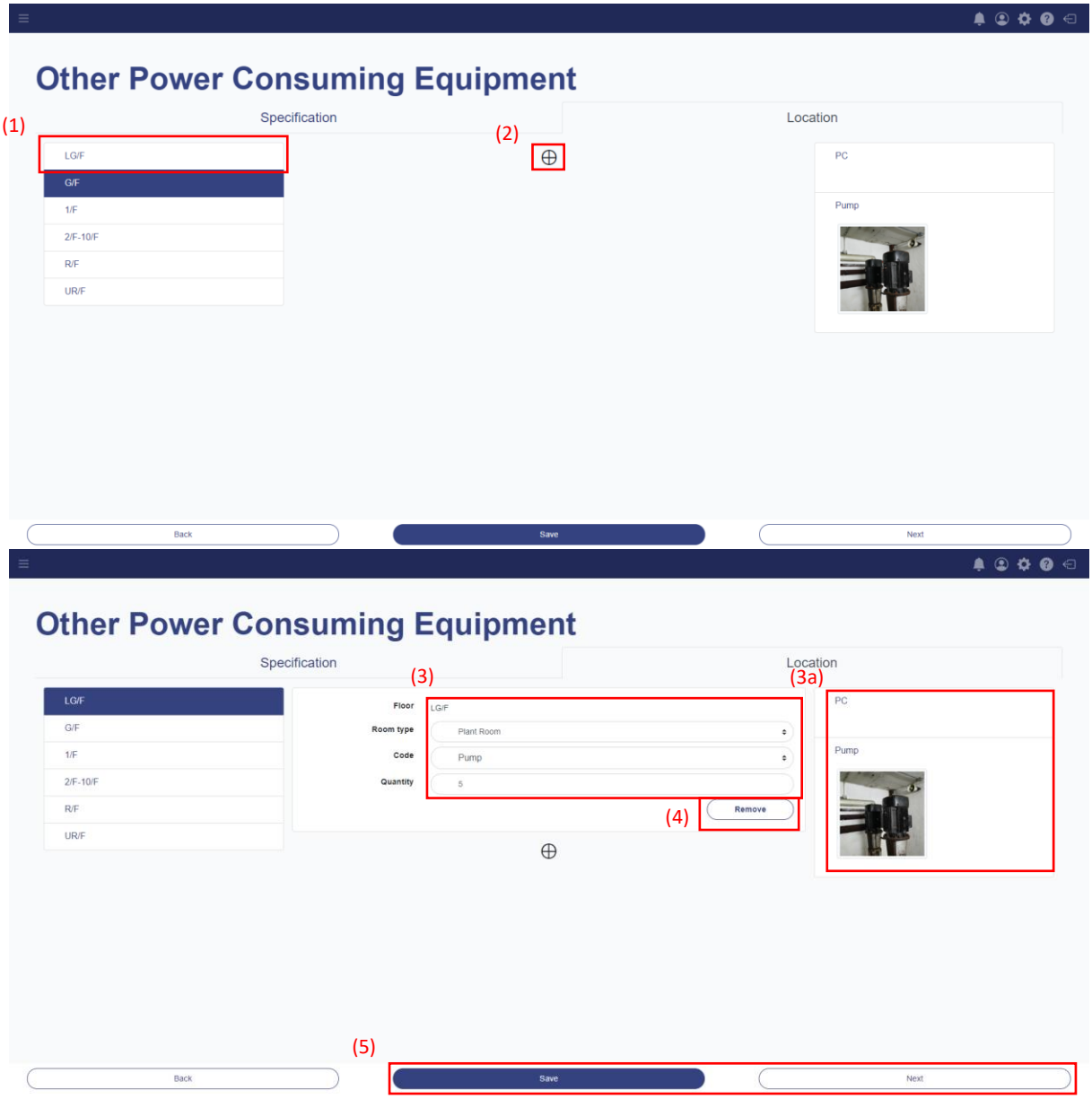


Figure 6.26 Location of non-CBSI power consuming equipment section

To input the location details of the non-CBSI power consuming equipment, (1) select the floor you would like to input. (2) press the “+” button to add a new location for equipment. (3) fill in the details of the location and equipment,

Floor: indicate the current floor that you are inputting

Room type: select the room that you previous input in the “Floor and Room” section

Code: select the equipment. If you forget the code of non-CBSI power consuming equipment, you can look at the photos on the right side indicated as (3a) in Figure 7.24

Quantity: fill in the quantity of equipment in the room.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(4) if you want to remove the location, press the “Remove” button. (5) press the “Save” button to save the data and press “Next” button to continue to the next page.

6.13 Energy consumption records section in the SMART 610

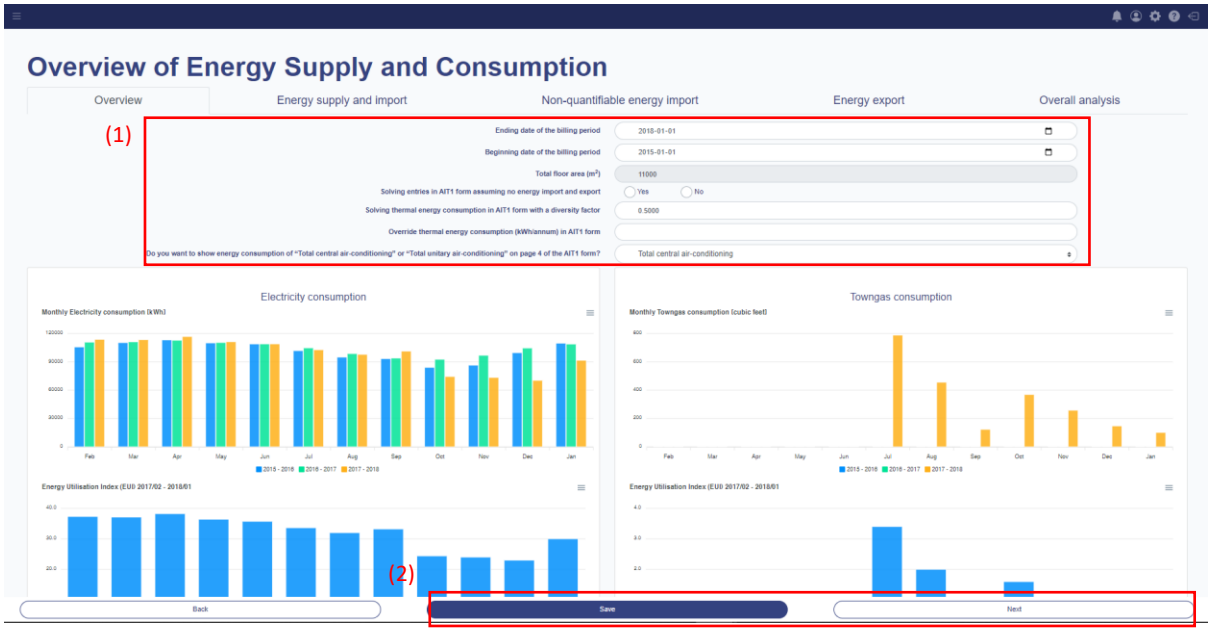


Figure 6.27 Overview of energy consumption records

To input the energy consumption records, (1) fill in the information of the bill as shown in Figure 6.27. At each entry, fill in the followings:

Ending date of the billing period: fill in the end date of the bill

Beginning date of the billing period: fill in the start date of the bill

Total floor area (m2): It will show the total internal floor area, including non-audited area in the building

Solving entries in AIT1 form assuming no energy import and export: If you want to solve everything on Page 4 of the AIT1 form assuming no energy import and export

Solving thermal energy consumption in AIT1 form with a diversity factor: To calculate the thermal energy output on page 4 of the AIT1 form with a diversity factor

Override thermal energy consumption (kWh/annum) in AIT1 form: If you do not need any estimation of thermal energy output and have data records, please use this box

Do you want to show energy consumption of “Total central air-conditioning” or “Total unitary air-conditioning” on page 4 of the AIT1 form?: If you want to use “Total central air-conditioning” system energy consumption or “Total unitary air-conditioning” system energy consumption in the first row of the table on page 4 of the AIT1 form. Default “Total central air-conditioning”.

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

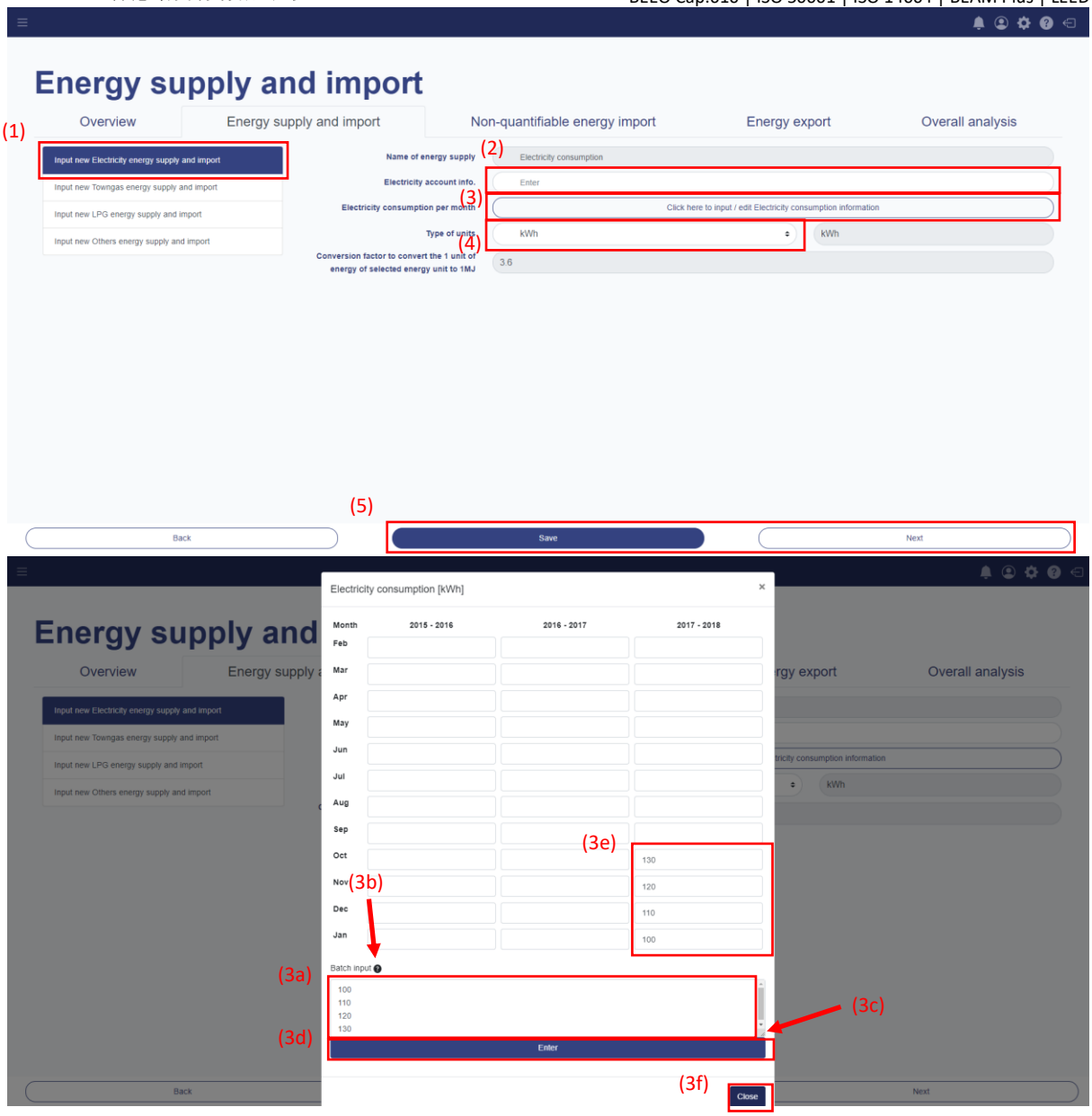


Figure 6.28 Energy consumption input section

To input the monthly data of the energy consumption records, (1) select the type of energy you would like to input. (2) fill in the account numbers of the energy consumption records. (3) click on the “Click here to input/…” button to input the monthly data. (3a) use batch input to input all the data at one time, the batch input must be in column and in chorological order as shown in Figure 6.28. For more details about the batch input, please point your mouse to the “?” next to the “Batch input” as shown in (3b). Also, to extend the height of the input box, click on the bottom of the scroll bar and drag to extend the height as shown in (3c). After input the data in (3a), press on the “Enter” button as shown in (3d). (3e) review the input data to ensure the data were input correctly. (3f) press “Close” button to close the consumption data box. (4) select the unit of the energy consumption. If there are other types of energy consumption, repeat the (1) to (4). (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

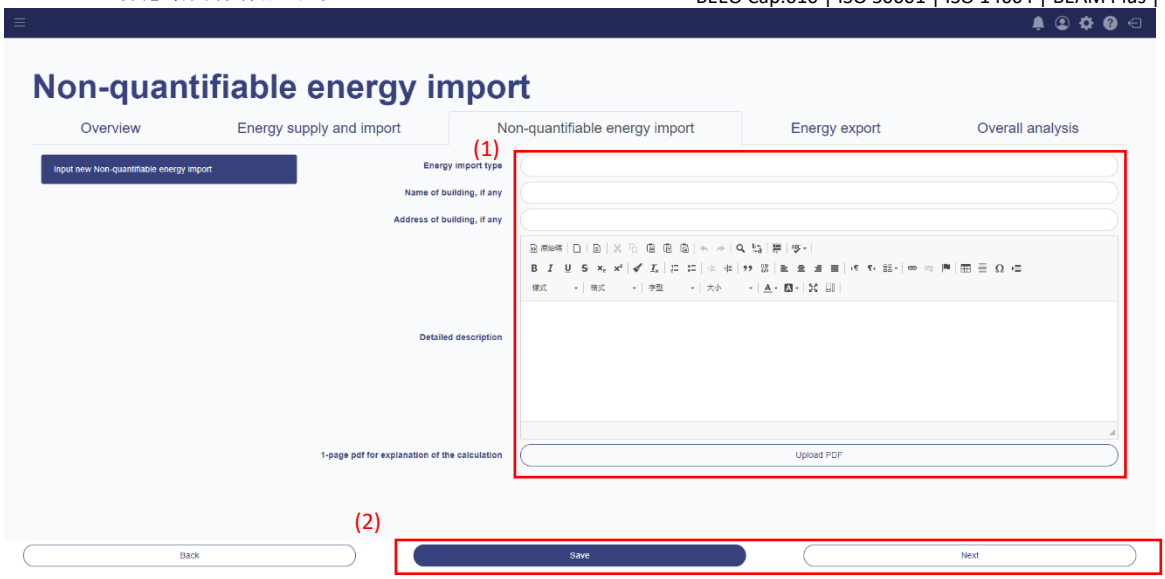


Figure 6.29 Non-quantifiable energy import section

To input the non-quantifiable energy import, (1) fill in the information of the energy import as shown in Figure 6.29. At each entry, fill in the followings:

Energy import type: fill in the type of energy imported

Name of building, if any: fill in the name of the building that provide the energy

Address of building, if any: fill in the address of the building that provide the energy

Detailed description: fill in the description for this energy import

1-page pdf for explanation of the calculation: upload a PDF to further explain the non-quantifiable energy import

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

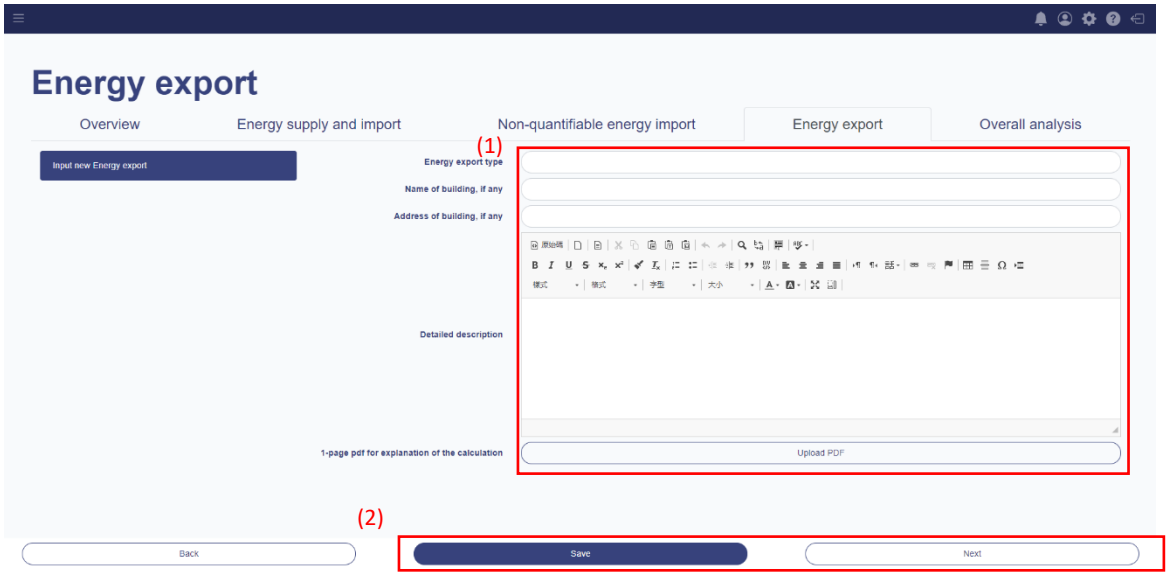


Figure 6.30 Energy export section

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

To input the energy export, (1) fill in the information of the energy export as shown in Figure 6.30. At each entry, fill in the followings:

Energy export type: fill in the type of energy exported

Name of building, if any: fill in the name of the building that receive the energy

Address of building, if any: fill in the address of the building that receive the energy

Detailed description: fill in the description for this energy export

1-page pdf for explanation of the calculation: upload a PDF to further explain the energy export

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

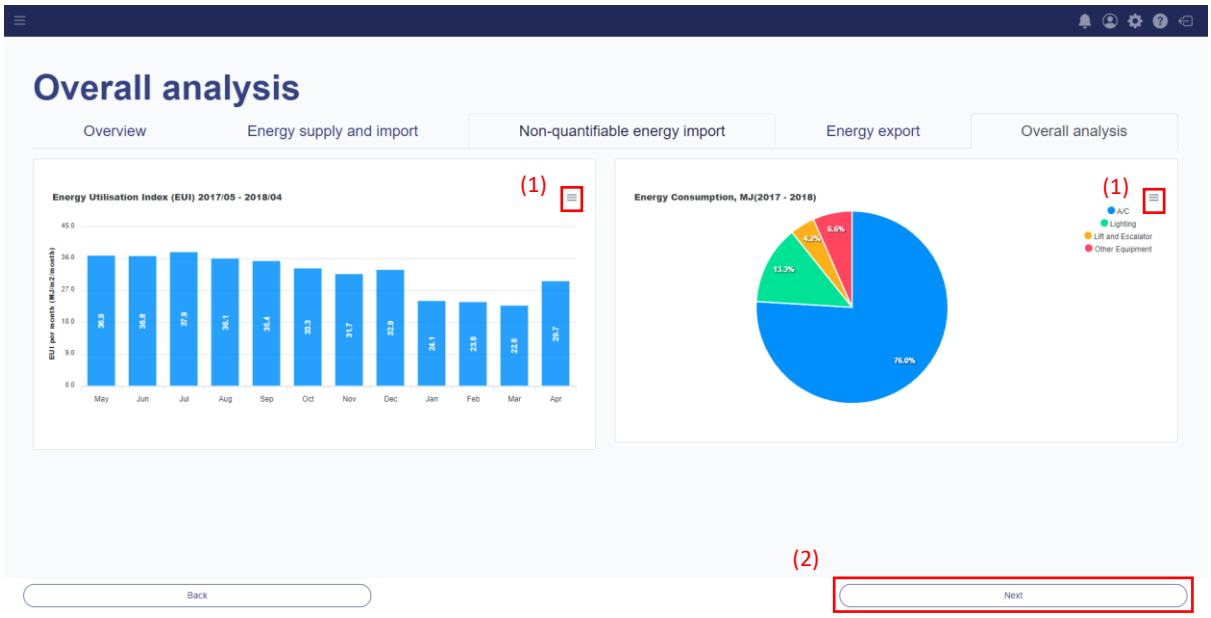


Figure 6.31 Overall analysis of energy consumption section

In this page, you can view the annual EUI and the energy consumption breakdown as shown in Figure 6.31. You can also download the graph in SVG, PNG or CSV format by clicking on the top right corner of the graph as shown in (1). (2) press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.14 Existing energy saving measures section in the SMART 610

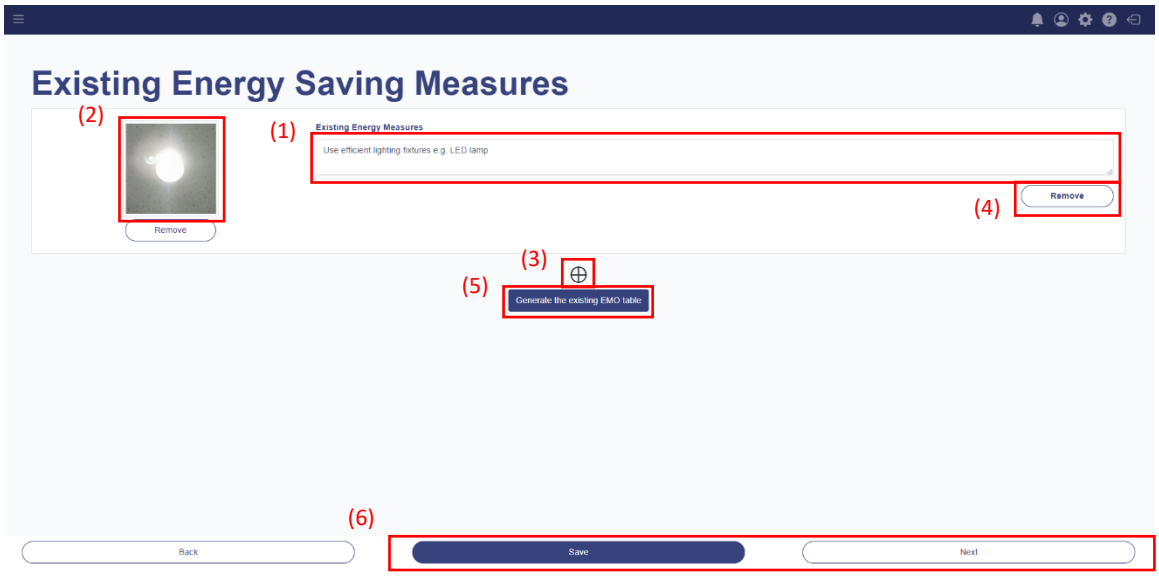


Figure 6.32 Existing energy saving measures section

To input the existing energy saving measures, (1) fill in the description of the existing energy saving measure as shown in Figure 6.32. (2) upload the photo for the measure. To add a new measure, (3) press the "+" button to add a new empty box for new existing saving measure. (4) if you want to remove the measure, press the "Remove" button. (5) press the "Generate the existing EMO table" button to preview the existing energy saving measure table. (6) press the "Save" button to save the data and press the "Next" button to continue to the next page.

6.15 Measurement of room temperature section in the SMART 610

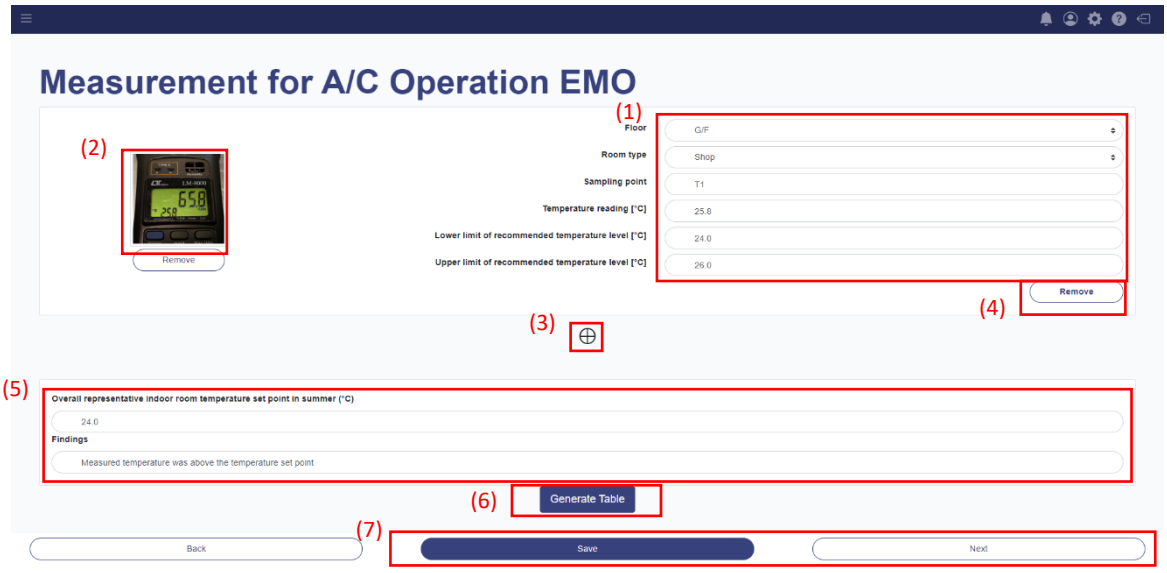


Figure 6.33 Measurement of room temperature section

To input the measurement of room temperature, (1) fill in the details of the measurement as shown in Figure 6.33. At each entry, fill in the followings:

Floor: select the floor that the temperature measurement take place

Room type: select the room type that the temperature measurement take place

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Sampling Point: fill in the reference number of the temperature measurement

Temperature reading: fill in the temperature reading in degree Celsius

Lower limit of recommended temperature level: fill in the recommended lower limit of temperature in degree Celsius

Upper limit of recommended temperature level: fill in the recommended upper limit of temperature in degree Celsius

(2) upload the photo for the measurement. To add a new sampling point, (3) press the "+" button to add a new empty box for new temperature measurement. (4) if you want to remove the sampling point, press the "Remove" button. (5) input the representative indoor room temperature set point in degree Celsius and the description of findings. (6) press the "Generate Table" button to preview the temperature measurement table. (7) press the "Save" button to save the data and press the "Next" button to continue to the next page.

6.16 Measurement of lux reading section in the SMART 610

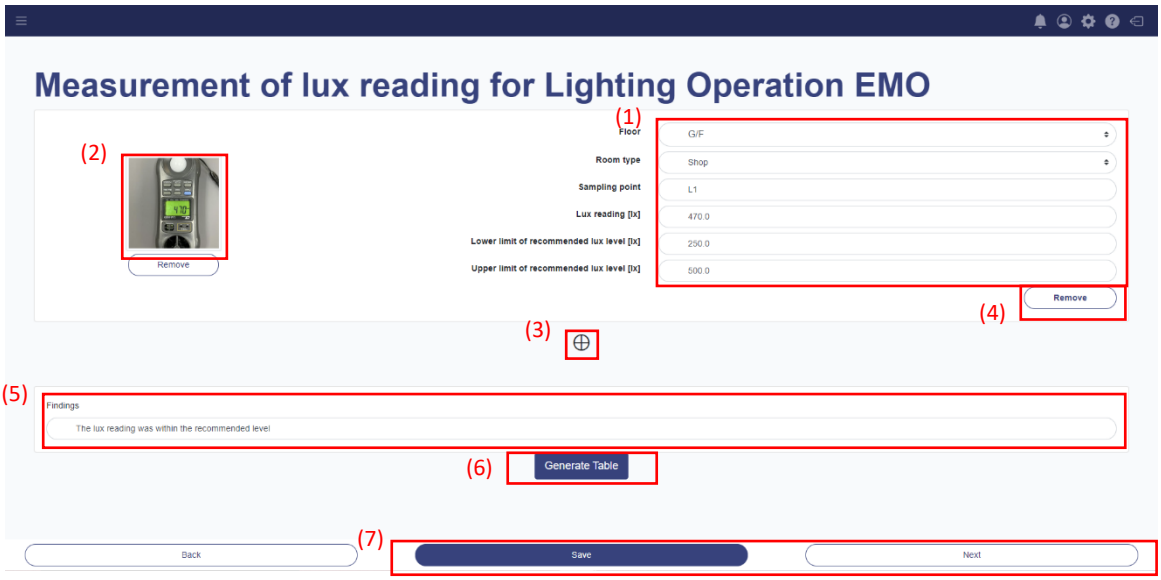


Figure 6.34 Measurement of lux reading section

To input the measurement of lux reading, (1) fill in the details of the reading as shown in Figure 6.34. At each entry, fill in the followings:

Floor: select the floor that the lux reading take place

Room type: select the room type that the lux reading take place

Sampling Point: fill in the reference number of the lux reading

Lux reading: fill in the lux reading

Lower limit of recommended lux level: fill in the recommended lower limit of lux level

Upper limit of recommended lux level: fill in the recommended upper limit of lux level

(2) upload the photo for the reading. To add a new sampling point, (3) press the "+" button to add a new empty box for new lux reading. (4) if you want to remove the sampling point, press the "Remove"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

button. (5) input the description of findings. (6) press the “Generate Table” button to preview the lux reading table. (7) press the “Save” button to save the data and press the “Next” button to continue to the next page.

6.17 Calculation of lighting power density section in the SMART 610

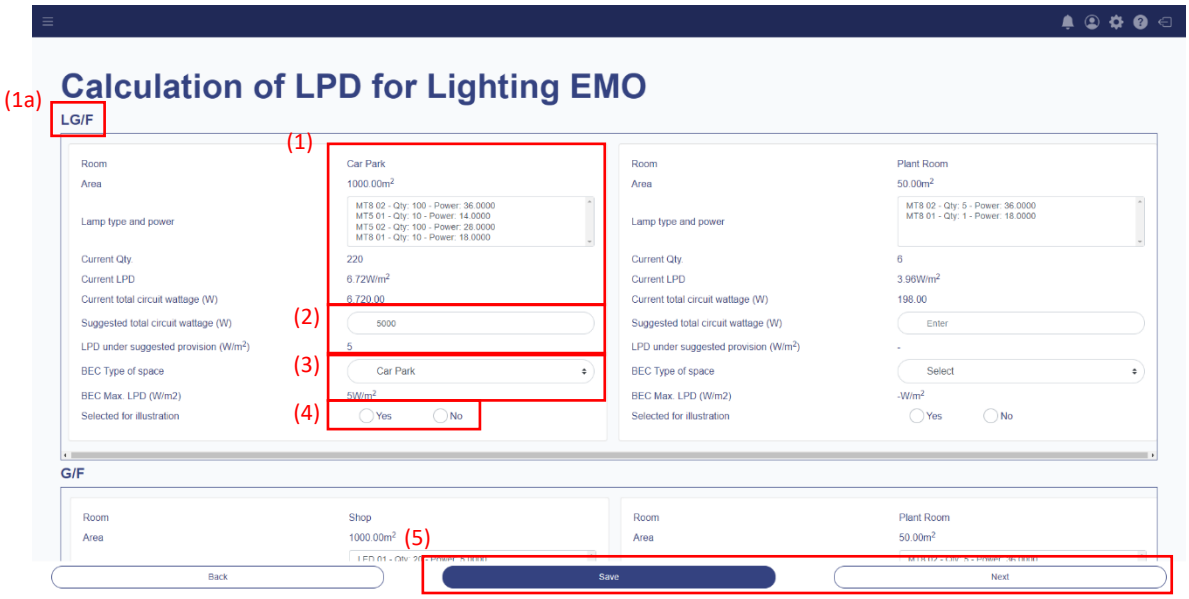


Figure 6.35 Calculation of lighting power density section

In this section, the calculation of LPD is calculated automatically as shown in Figure 6.35. (1) review the details of the LPD,

Make sure that you are in the correct floor by following the (1a)

Room: show the room type of the selected room

Area: show the area of the selected room

Lamp type and power: show the details of the luminaires in the selected room

Current Qty.: show the total quantity of the luminaires in the selected room

Current LPD: show the lighting power density of the selected room

Current total circuit wattage (W): show the total power of the luminaires in the selected room

If you proposed a new EMO that related to lighting and will change the total power of the luminaires, you can input the new total power of luminaires in “Suggested total circuit wattage (W)” and the new LPD will be calculated automatically as shown in (2). (3) select the type of space as specified by BEC and the maximum of LPD will show in below “BEC Max. LPD”. (4) selected rather show the LPD in the report or not. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

6.18 Summary of energy management opportunities section in the SMART 610

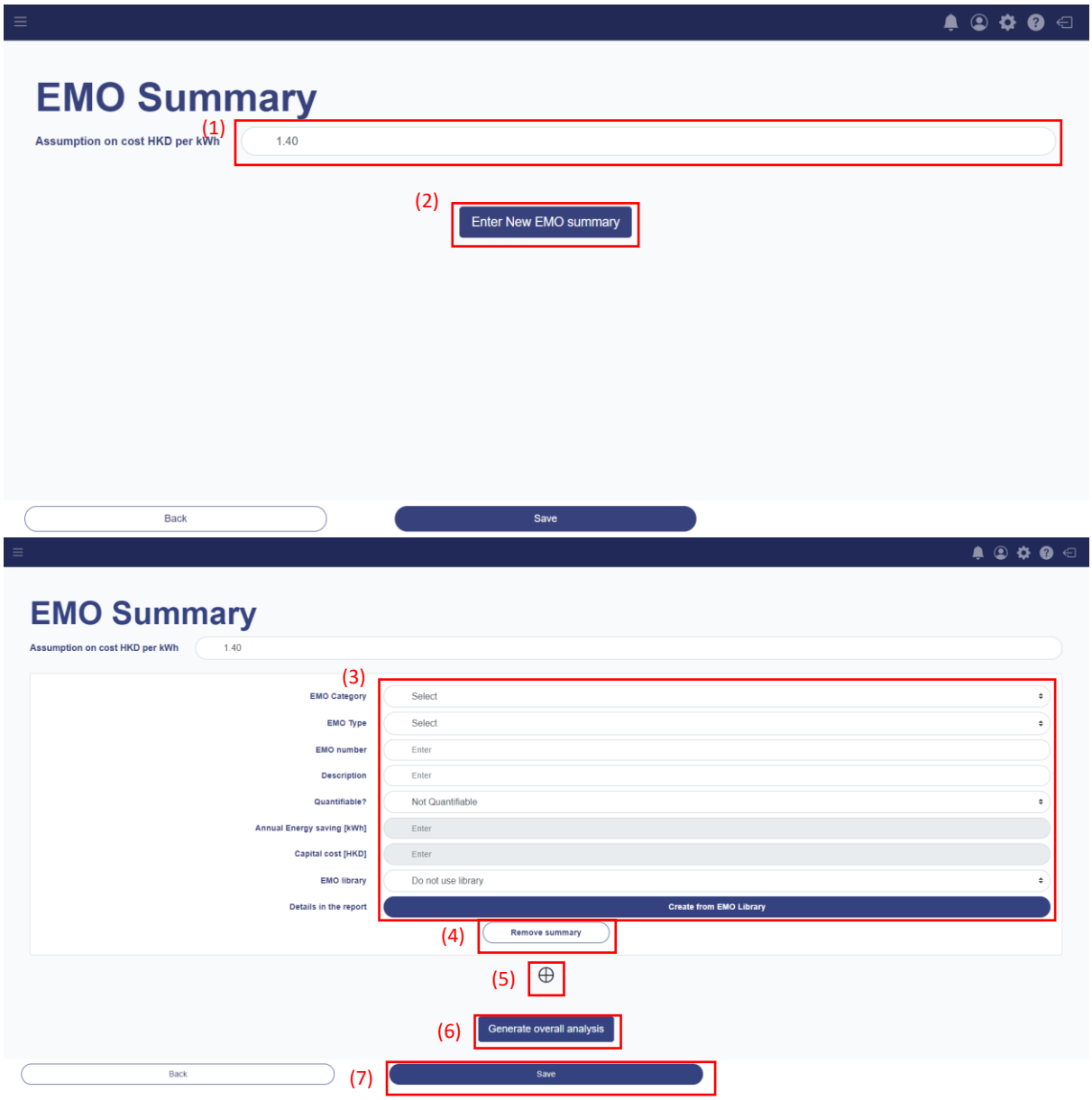


Figure 6.36 EMO summary section

(1) input the cost per kWh in HKD for the calculation later. (2) press the "Enter New EMO summary" button to create a new EMO. (3) input the details of the new EMO as shown in Figure 6.36. At each entry, fill in the followings:

EMO Category: select the EMO category

EMO Type: select the EMO type such as lighting or AC

EMO number: fill in the reference number for the EMO

Description: enter the description for the EMO

Quantifiable?: select is the EMO Quantifiable

Annual Energy saving [kWh]: if the EMO is quantifiable, input the annual energy saving amount

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Capital cost [HKD]: if the EMO is quantifiable, input the capital cost for the EMO

EMO library: select to use EMO library or not

Details in the report: edit the details of the EMO manually

(4) if you want to remove the EMO, press the “Remove summary” button. To add a new EMO, (5) press the “+” button to add a new EMO. (6) press the “Generate overall analysis” button to preview the EMO summary table. (7) press the “Save” button to save the data.

6.19 Forms generation in the SMART 610

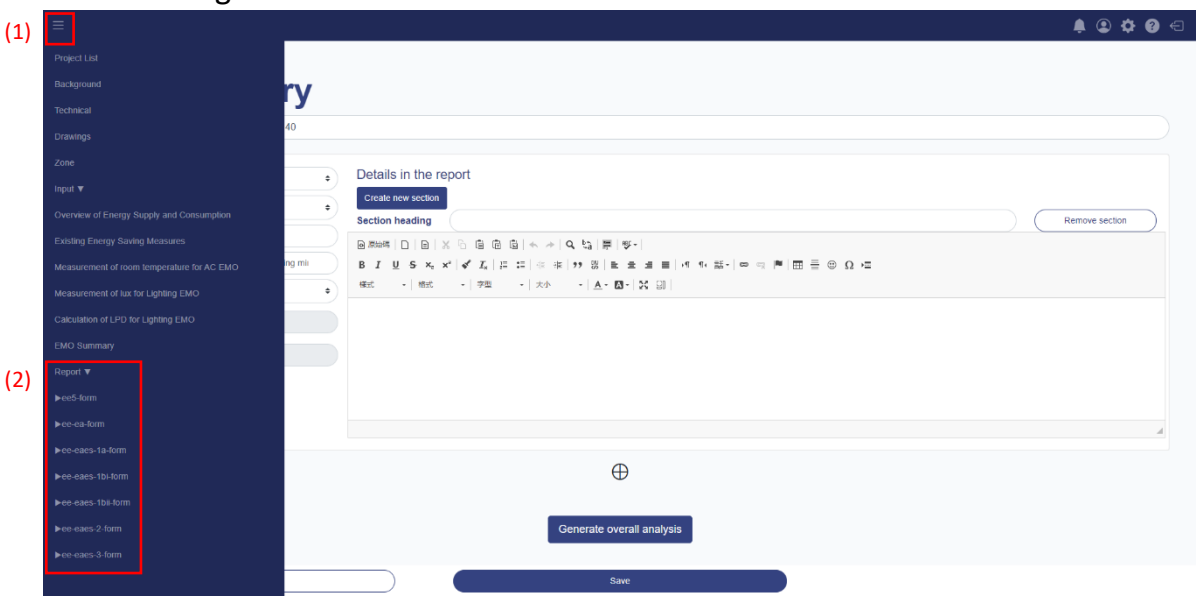


Figure 6.37 Forms generation

To generate the forms, (1) click on the top left corner button. (2) select the “Report” and there are compliance forms required for building energy audits in Hong Kong filled following the previous entries.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7 Tutorial to create EMSD-required energy audit forms through SMART 610

This chapter gives a tutorial on

(1) how to analyse energy audit data, and

(2) how to create energy audit compliance forms required by EMSD

for a sample energy audit project through the use of SMART 610 in the following steps:

1. Connect to the SMART 610 website
2. Input the obtained data into the SMART 610 website
3. Save the inputs in the SMART 610 website
4. Generate the reports and forms

The scenario of this tutorial is 2 floors building with an area of 200 m^2. The building contains 20 fluorescent tubes, 3 window type air conditioners and 1 ACVVVF lift.

7.1 Access to the SMART 610 website

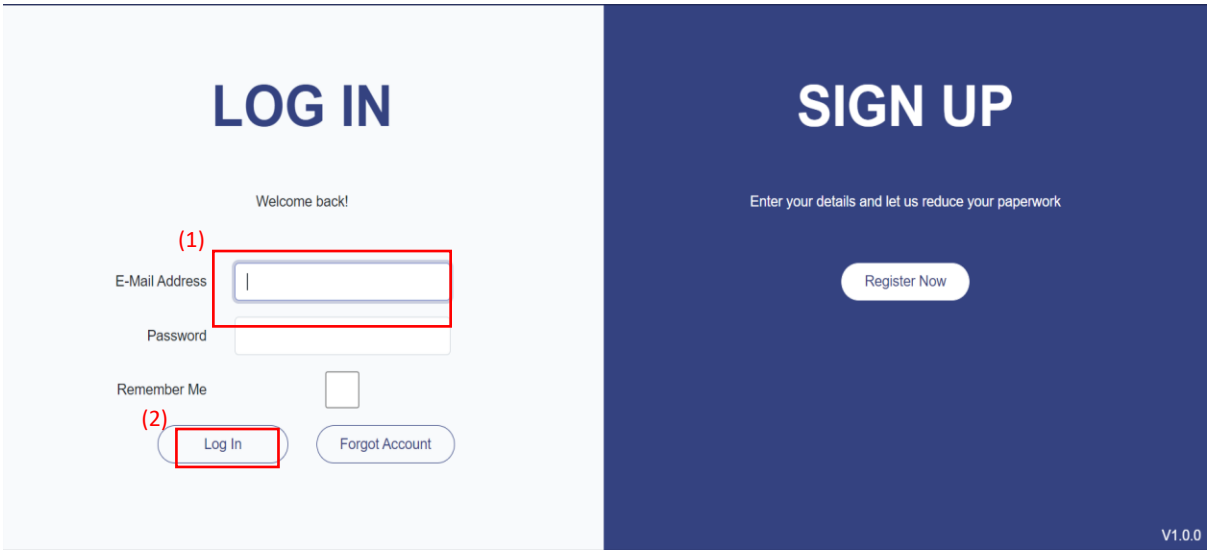


Figure 7.1 Login procedure for SMART 610

Please go to the website http://www.smart610.com/. Click at the Login button on the top right hand-corner.

(1) fill in your registered email address: user@smart610.com (example)

fill in your password: user_password (example)

(2) click on the “Sign In” button to login

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.2 Create a new project in the SMART 610

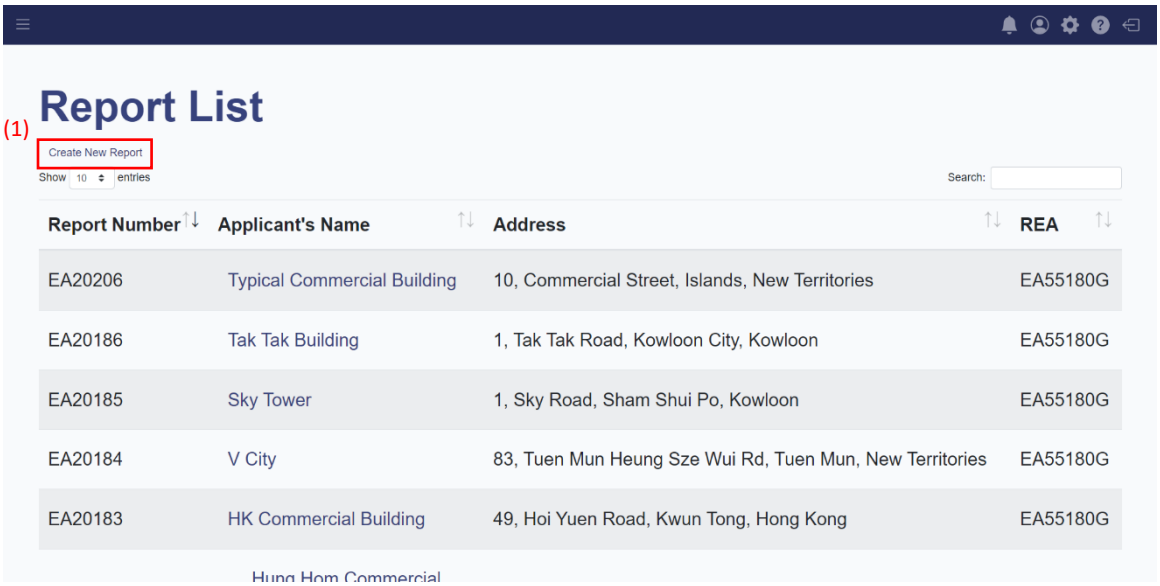
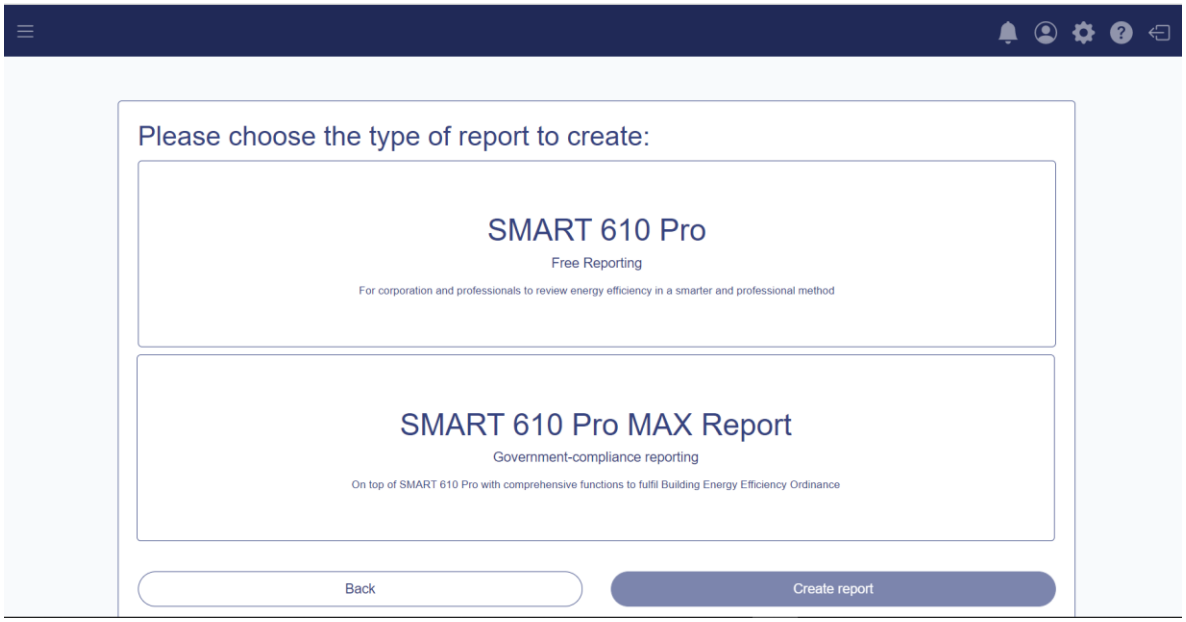


Figure 7.2 Create new project on report list page

(1) click on the "Create New Report" button. You will see the following page:



If you want to have a free trial, you can click at "SMART 610 Pro" and click at "Create report" at the bottom. For fuller experience to create government compliance forms, please click at "SMART 610 Pro MAX Report" and click "Proceed to payment" at the bottom. You will then be able to continue after payment.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

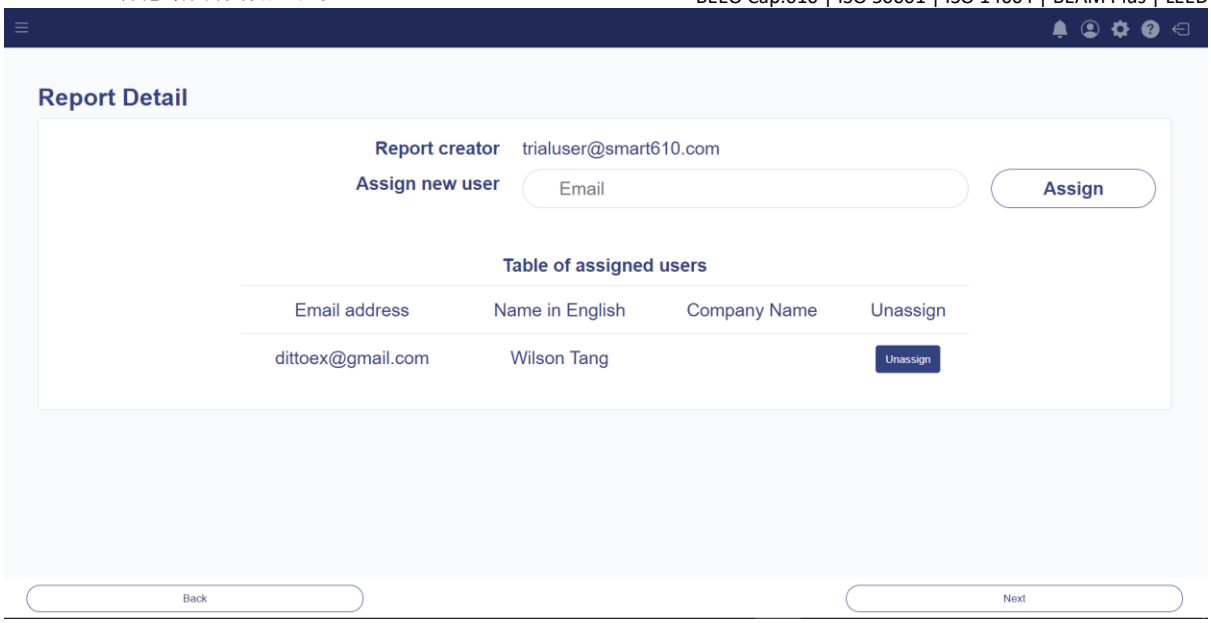


Figure 7.3 User assignment section

This is the section to assign multiple users to work on the same report. We do not need it in the tutorial. Press “Next” on the right hand corner to move to the next page.

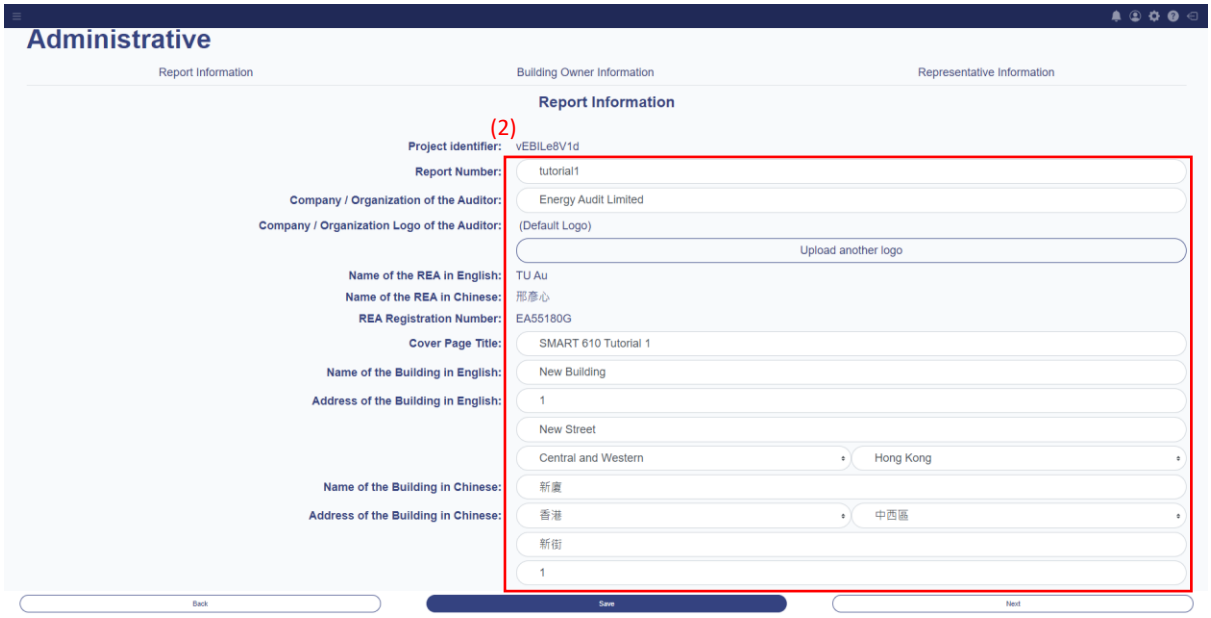


Figure 7.4 Fill in the report information

(2) fill in the report information as followings:

Report Number: tutorial 1

Company/ Organization of the Auditor: Energy Audit Limited

Cover Page Title: SMART 610 Tutorial 1

Name of the Building in English: New Building

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Address of the Building in English: 1, New Street, select Central and Western, select Hong Kong

Name of the Building in Chinese: 新廈

Address of the Building in Chinese: select 香港, select 中西區, 新街, 1

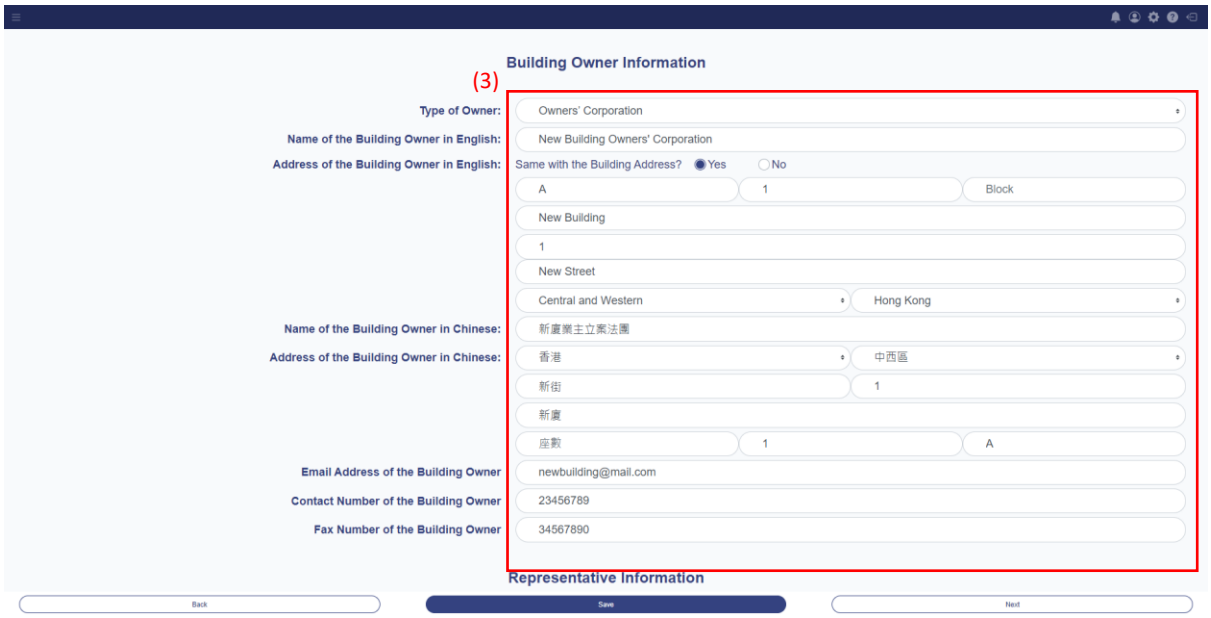


Figure 7.5 Fill in the building owner information

(3) fill in the building owner information as followings:

Type of Owner: select Owners' Corporation

Name of the Building Owner in English: New Building Owners' Corporation

Address of the Building in English: Same with the building Address? Select Yes

Email Address of the Building Owner: newbuilding@mail.com

Contact Number of the Building Owner: 23456789

Fax Number of the Building Owner: 34567890

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

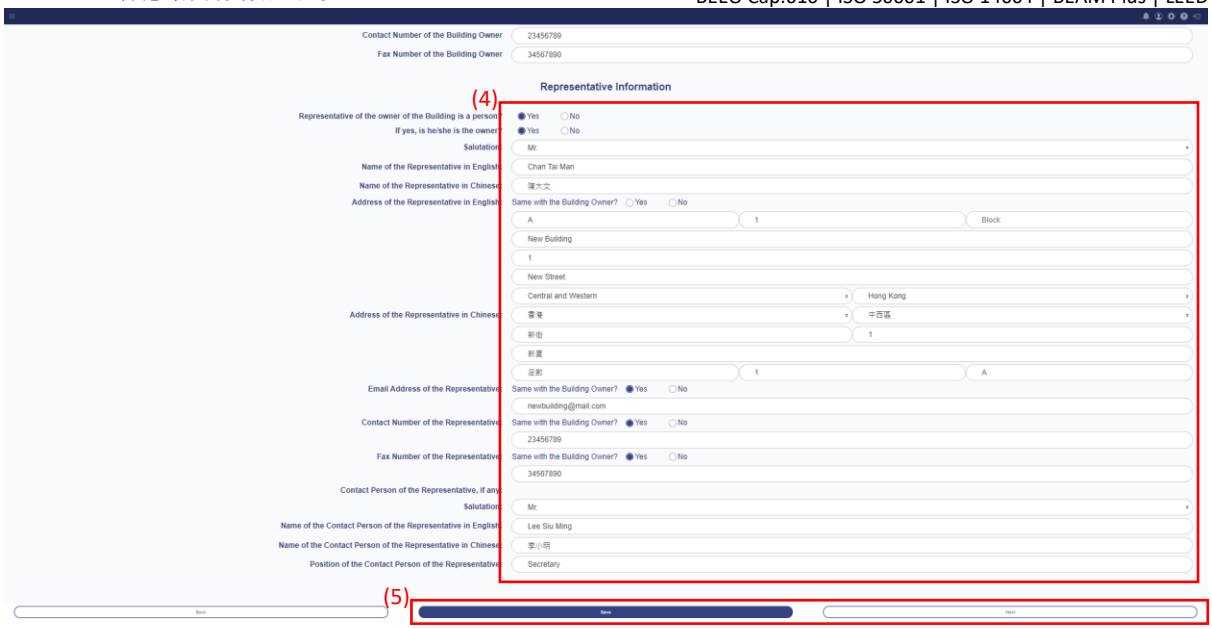


Figure 7.6 Fill in the representative information

(3) fill in the representative information as followings:

Representative of the owner of the Building is a person? select Yes

If yes, is he/she is the owner? select Yes

Salutation: select Mr.

Name of the Representative in English: Chan Tai Man

Name of the Representative in Chinese: 陳大文

Address of the Representative in English: Same with the Building Owner? Select Yes

Email Address of the Representative: Same with the Building Owner? Select Yes

Contact Number of the Representative: Same with the Building Owner? Select Yes

Fax Number of the Representative: Same with the Building Owner? Select Yes

Contact Person of the Representative, if any:

Salutation: select Mr.

Name of the Contact Person of the Representative in English: Lee Siu Ming

Name of the Contact Person of the Representative in Chinese: 李小明

Position of the Contact Person of the Representative: Secretary

(5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.3 Fill in the technical information

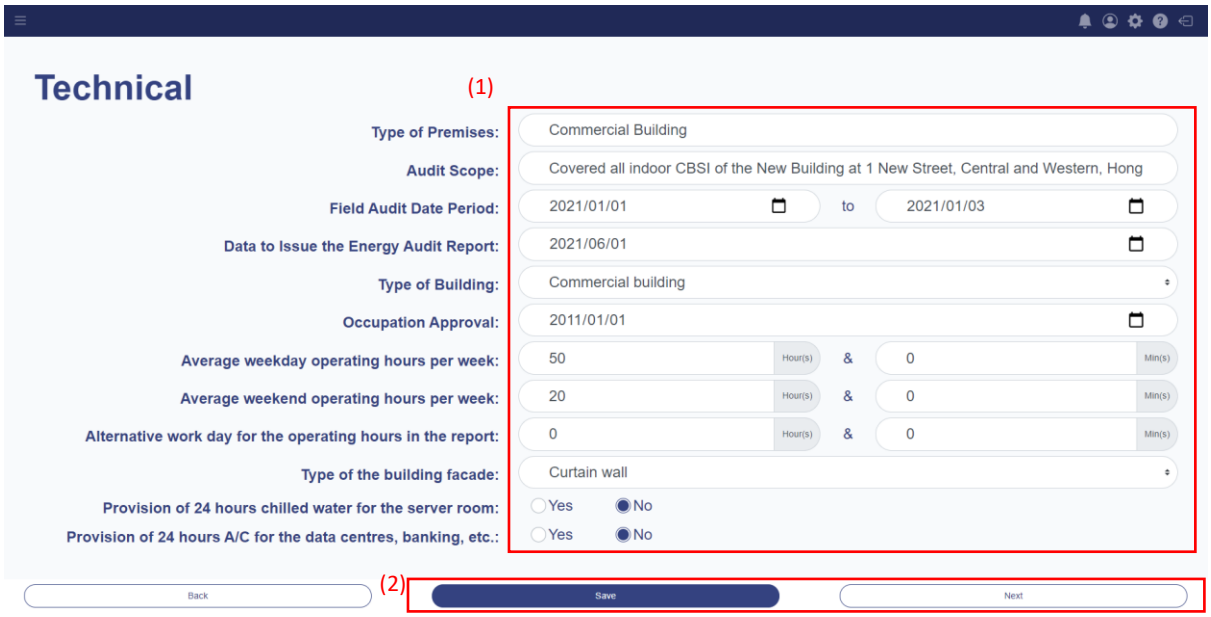


Figure 7.7 Fill in the technical information

(1) fill in the technical information as followings:

Type of Premises: Commercial Building

Audit Scope: Covered all indoor CBSI of the New Building at 1 New Street, Central and Western, Hong Kong

Field Audit Date Period: 2021/01/01 to 2021/01/03

Data to Issue the Energy Audit Report: 2021/06/01

Type of Building: select Commercial building

Occupation Approval: 2011/01/01

Average weekday operating hours per week: 50 hours

Average weekend operating hours per week: 20 hours

Alternative work day for the operating hours in the report: leave it blank

Type of the building facade: select Curtain wall

Provision of 24 hours chilled water for the server room: select no

Provision of 24 hours A/C for the data centres, banking, etc.: select no

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.4 Upload the photos and location plan for building background information

For this simple forming filling tutorial, the photos are not required, and it will be skipped in this tutorial.

7.5 Input floor and room for building zone information

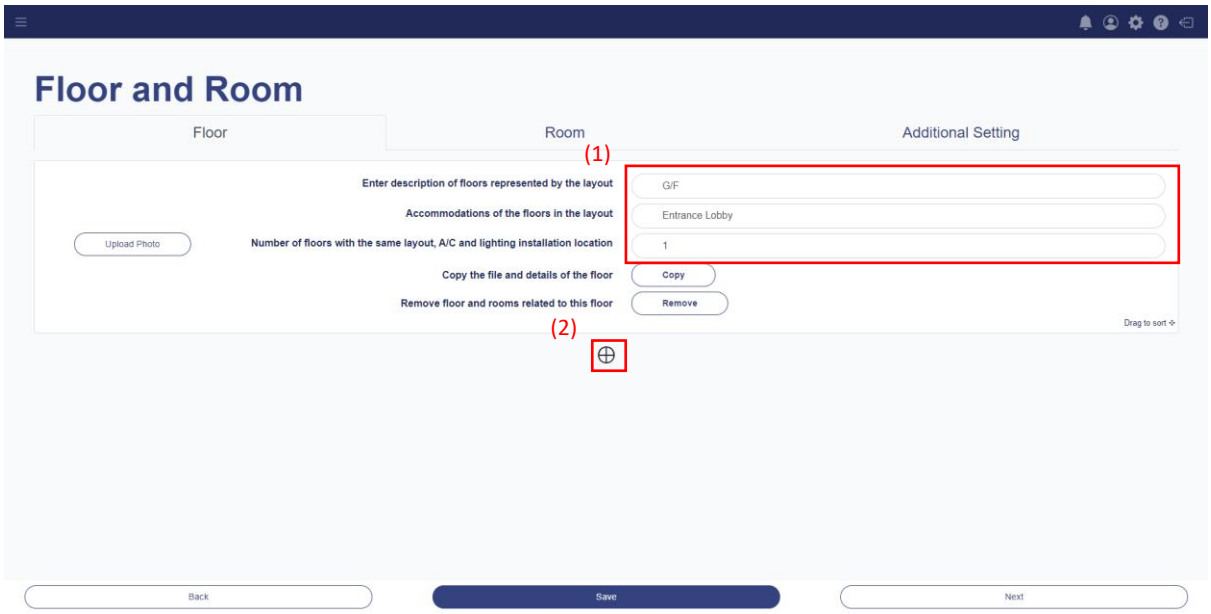


Figure 7.8 Input floor information (1)

(1) fill in the floor information as followings:

Enter description of floors represented by the layout: G/F

Accommodations of the floors in the layout: Entrance Lobby

Number of floors with the same layout, A/C and lighting installation location: 1

(2) press the "+" button to add a new floor.

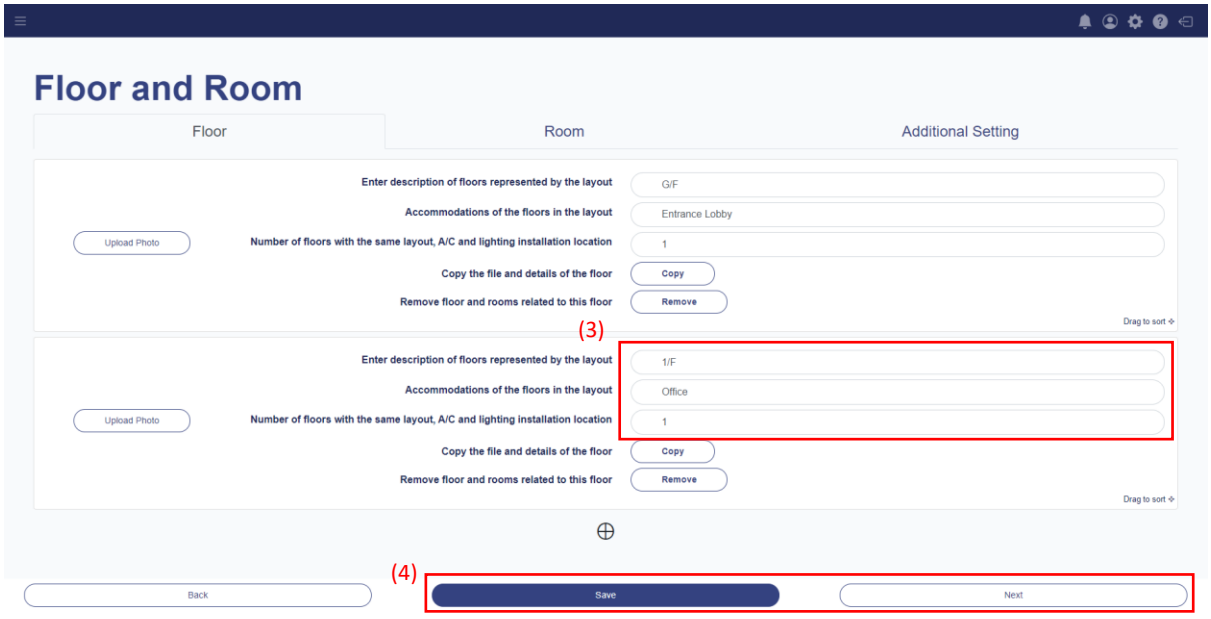


Figure 7.9 Input floor information (2)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(3) fill in the floor information as followings:

Enter description of floors represented by the layout: 1/F

Accommodations of the floors in the layout: Office

Number of floors with the same layout, A/C and lighting installation location: 1

(4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

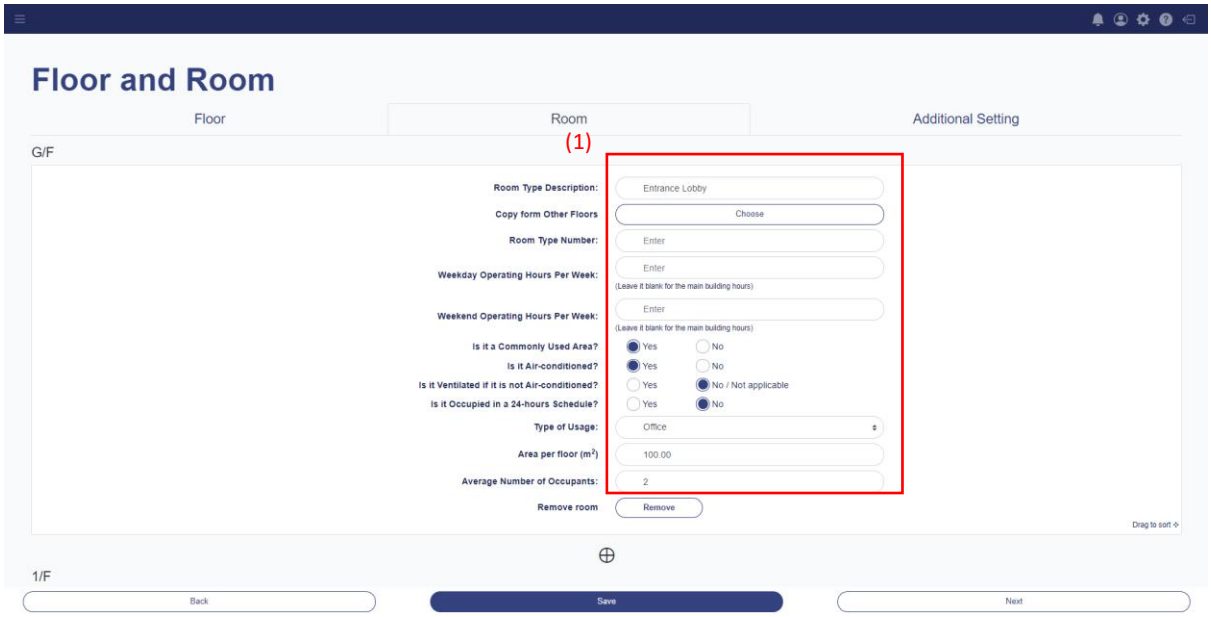


Figure 7.10 Input room information

(1) fill in the G/F room information as followings:

Room Type Description: Entrance Lobby

Room Type Number: leave it blank

Weekday Operating Hours Per Week: leave it blank

Weekend Operating Hours Per Week: leave it blank

Is it a Commonly Used Area?: select yes

Is it Air-conditioned?: select yes

Is it Ventilated if it is not Air-conditioned?: select no

Is it Occupied in a 24-hours Schedule?: select no

Type of Usage: select Office

Area per floor (m2): 100m2

Average Number of Occupants: 2

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

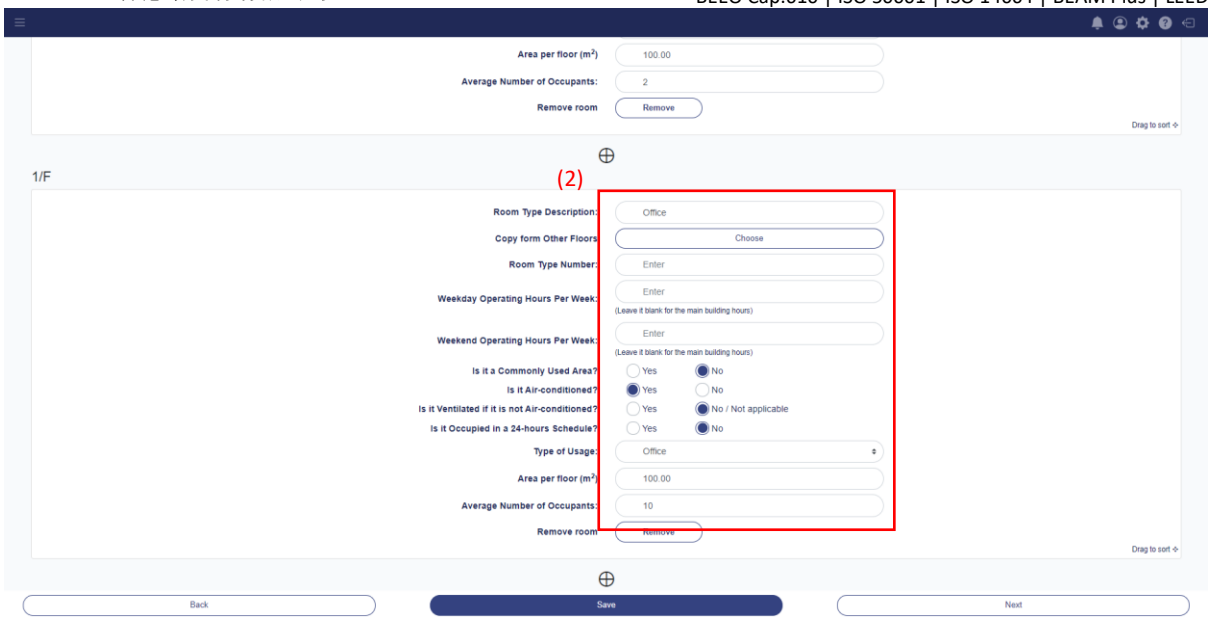


Figure 7.11 Copy the room information from other floors

(2) fill in the 1/F room information as followings:

Room Type Description: Office

Room Type Number: leave it blank

Weekday Operating Hours Per Week: leave it blank

Weekend Operating Hours Per Week: leave it blank

Is it a Commonly Used Area?: select no

Is it Air-conditioned?: select yes

Is it Ventilated if it is not Air-conditioned?: select no

Is it Occupied in a 24-hours Schedule?: select no

Type of Usage: select Office

Area per floor (m2): 100m2

Average Number of Occupants: 10

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

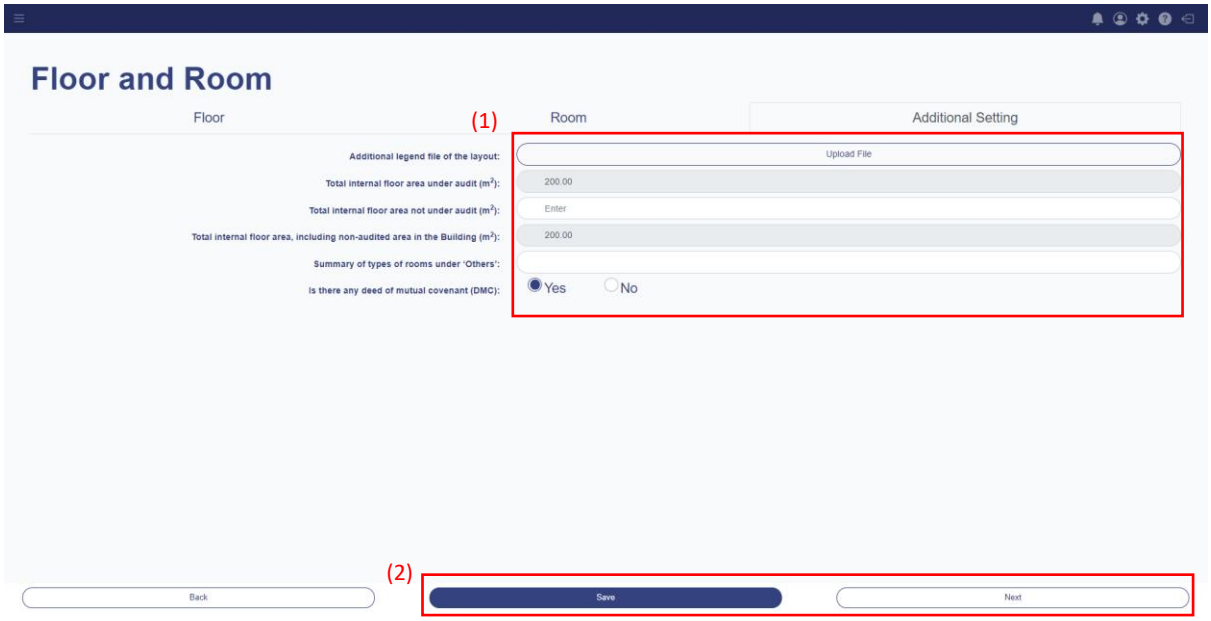


Figure 7.12 Input area information

(1) fill in the additional information as followings:

Additional legend file of the layout: in this form filling tutorial, we will skip this

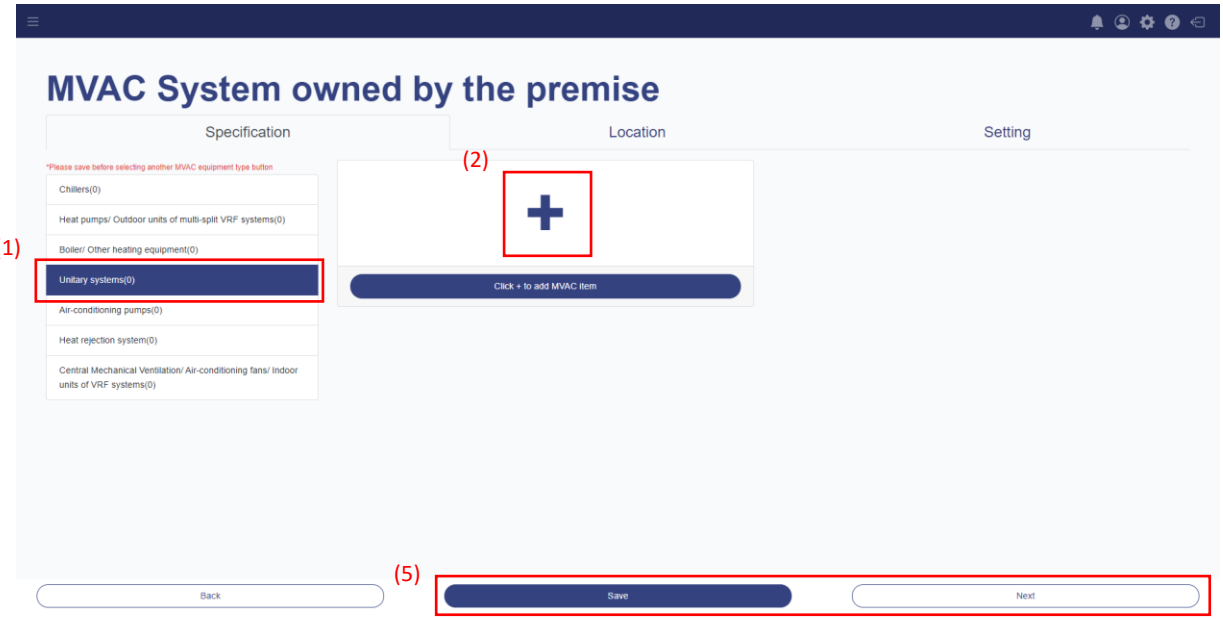
Total internal floor area not under audit (m2): leave it blank

Summary of types of rooms under 'Others': leave it blank

Is there any deed of mutual covenant (DMC): select yes

(2) press the "Save" button to save the data and press the "Next" button to continue to the next page.

7.6 Input of AC Installation



Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

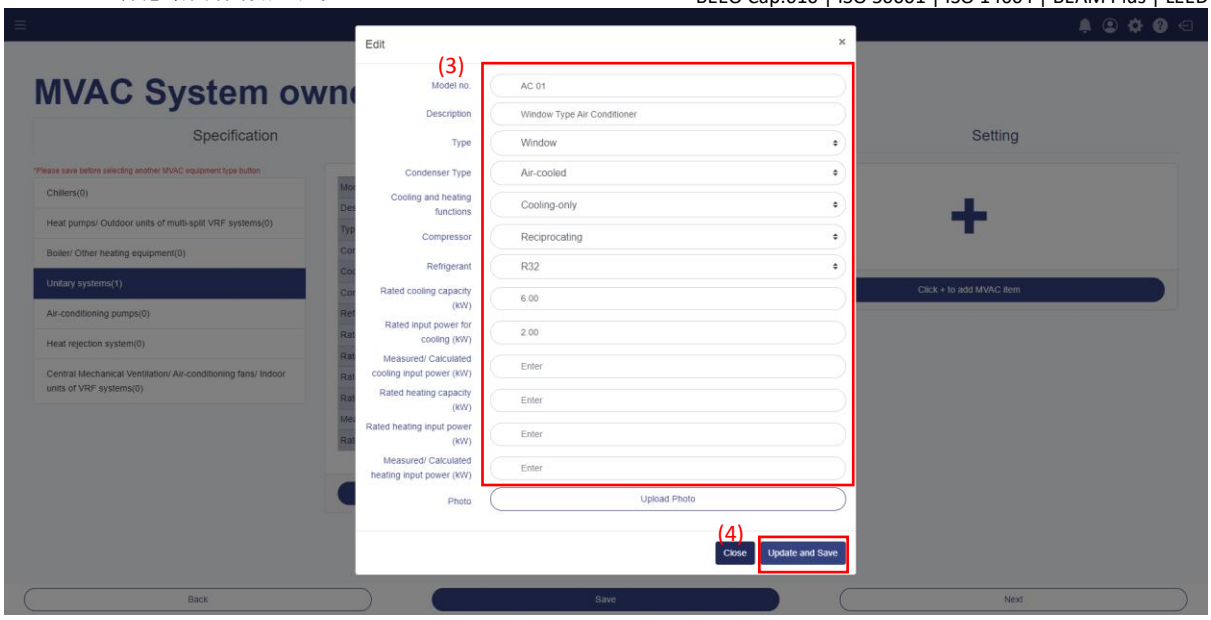


Figure 7.13 Input the specification of MVAC system

(1) select Unitary system.

(2) press the “+” button to add a new item.

(3) fill in the details of unitary system as followings:

Model no.: AC 01

Description: Window Type Air Conditioner

Type: select Window

Condenser Type: select Air-cooled

Compressor: select Reciprocating

Refrigerant: select R32

Rated capacity (kW): 6

Rated input power (kW): 2

(4) press the “Create and Save” button to save the details. (5) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Figure 7.14 Input the location of MVAC system

(1) select Unitary system.

(2) press the “New location information for mvac system” button to add a new location.

(3) fill in the location details of unitary system as followings:

Floor: select 1/F

Room type: select Office

Model no.: select AC 01

Quantity: 3

Annual operating hour: 3640

Diversity factor: 0.5

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Display operating schedule in Energy audit report: select yes

(4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

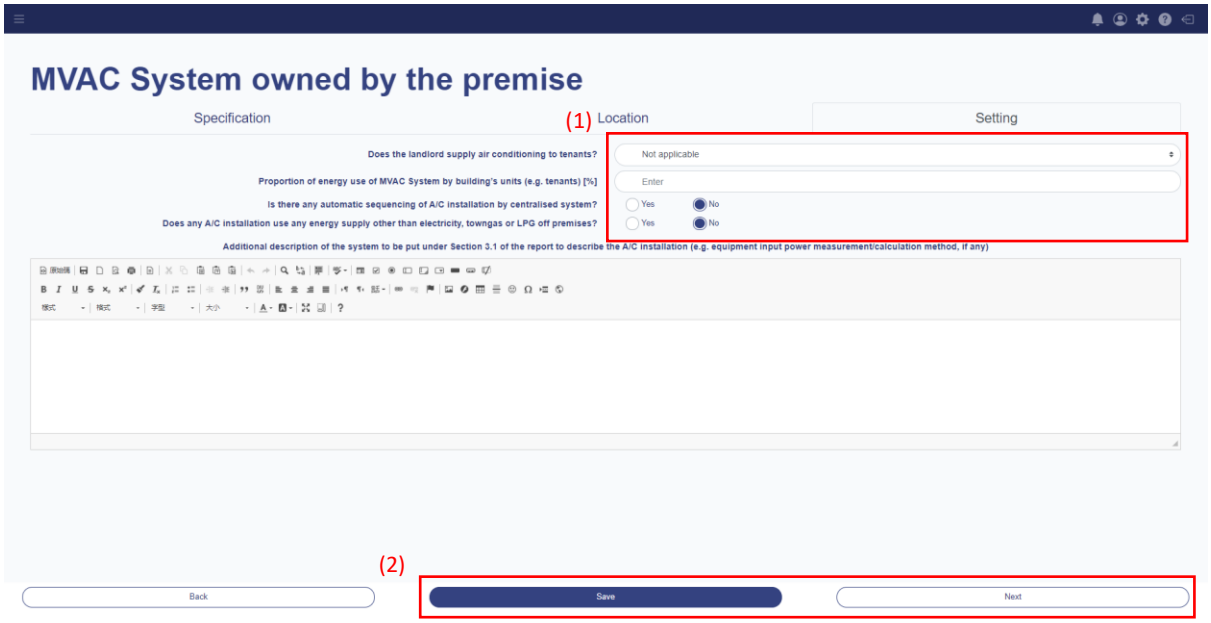


Figure 7.15 Input the additional information of MVAC system

(1) fill in the extra information about the MVAC system as followings:

Does the landlord supply air conditioning to tenants?: select not applicable

Proportion of energy use of MVAC System by building’s units (e.g. tenants) [%]: leave it blank

Is there any automatic sequencing of A/C installation by centralised system?: select no

Does any A/C installation use any energy supply other than electricity, towngas or LPG off premises?: select no

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.7 Input of Lighting Equipment

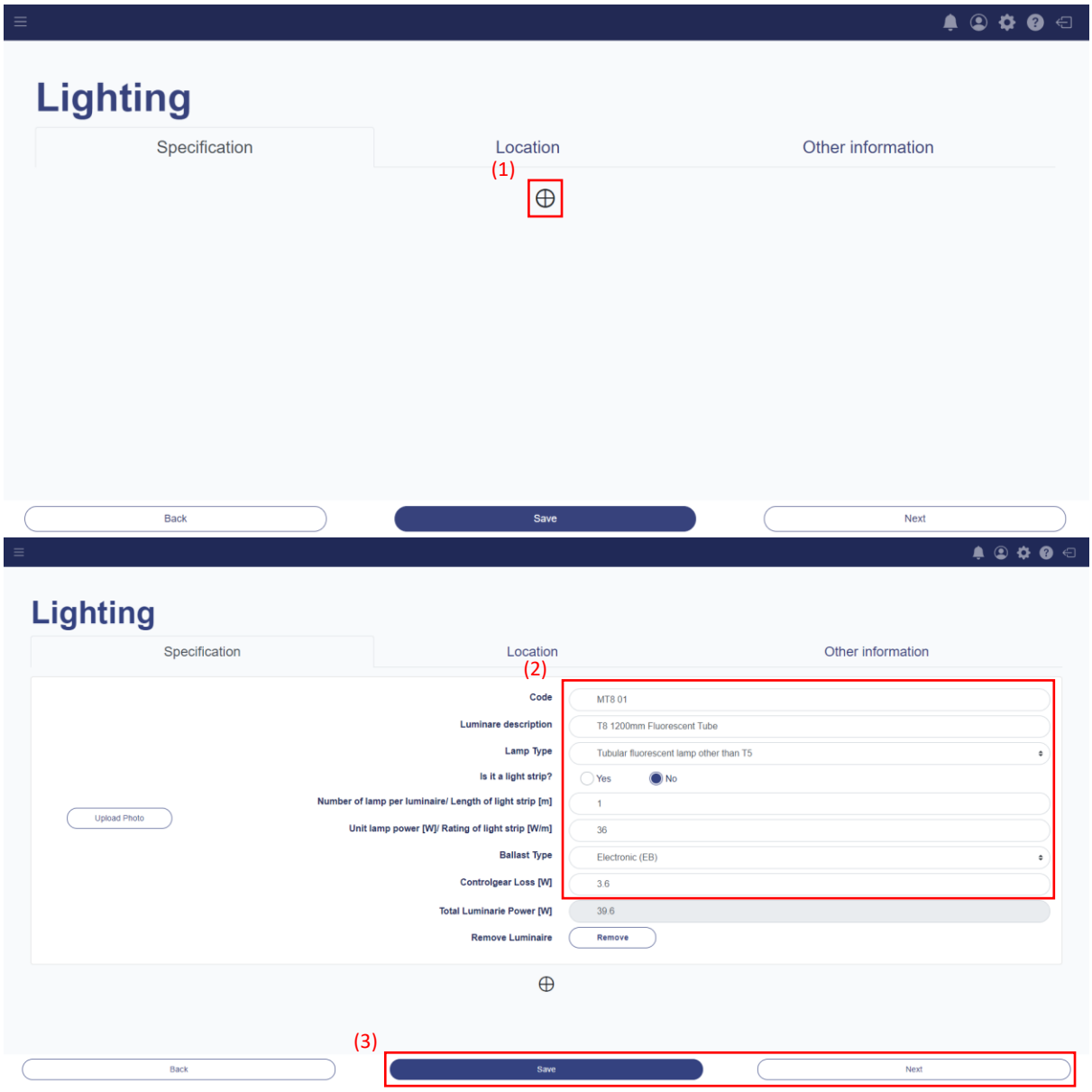


Figure 7.16 Input specification of lighting equipment

(1) click on the "+" button to add a new luminaire.

(2) fill in the information of the luminaire as followings:

Code: MT8 01

Luminaire description: T8 1200mm Fluorescent Tube

Lamp Type: select Tubular fluorescent lamp other than T5

Is it a light strip?: select no

Number of lamp per luminaire/ Length of light strip [m]: 1

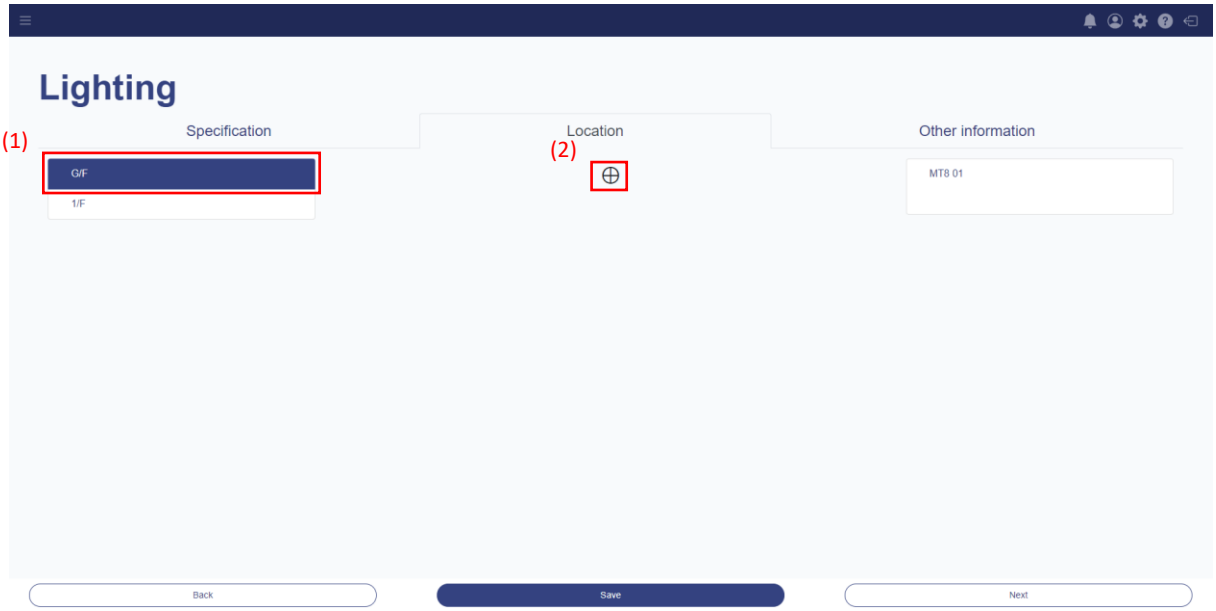
Unit lamp power [W]/ Rating of light strip [W/m]: 36

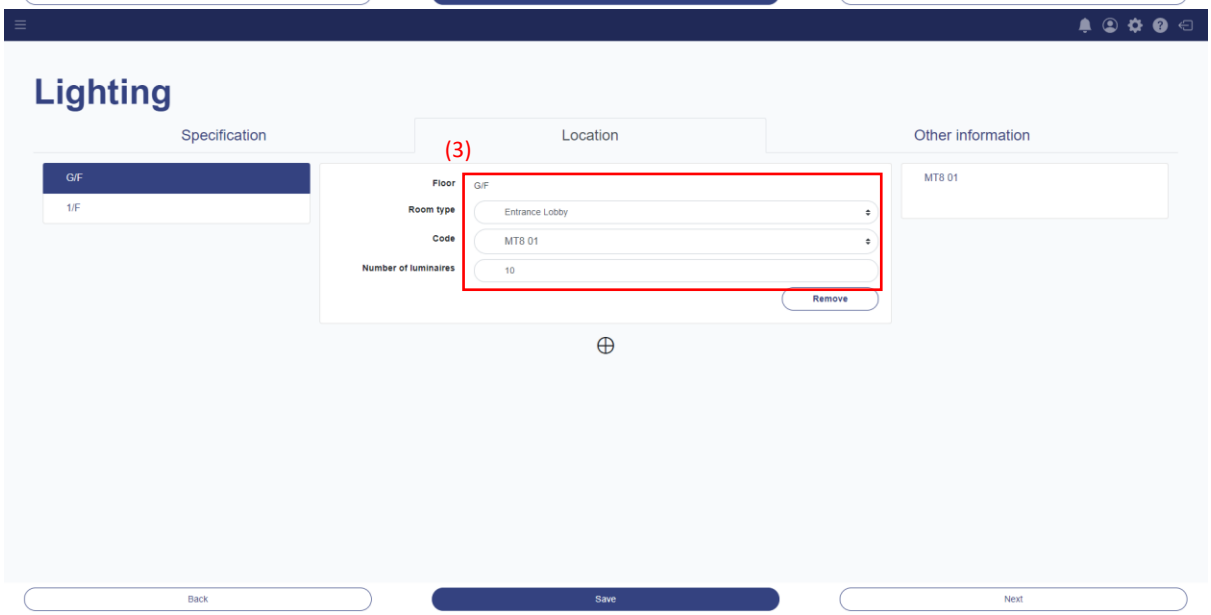
Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Ballast Type: select EB

Controlgear Loss [W]: 3.6

(3) press the “Save” button to save the data and press the “Next” button to continue to the next page.





Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

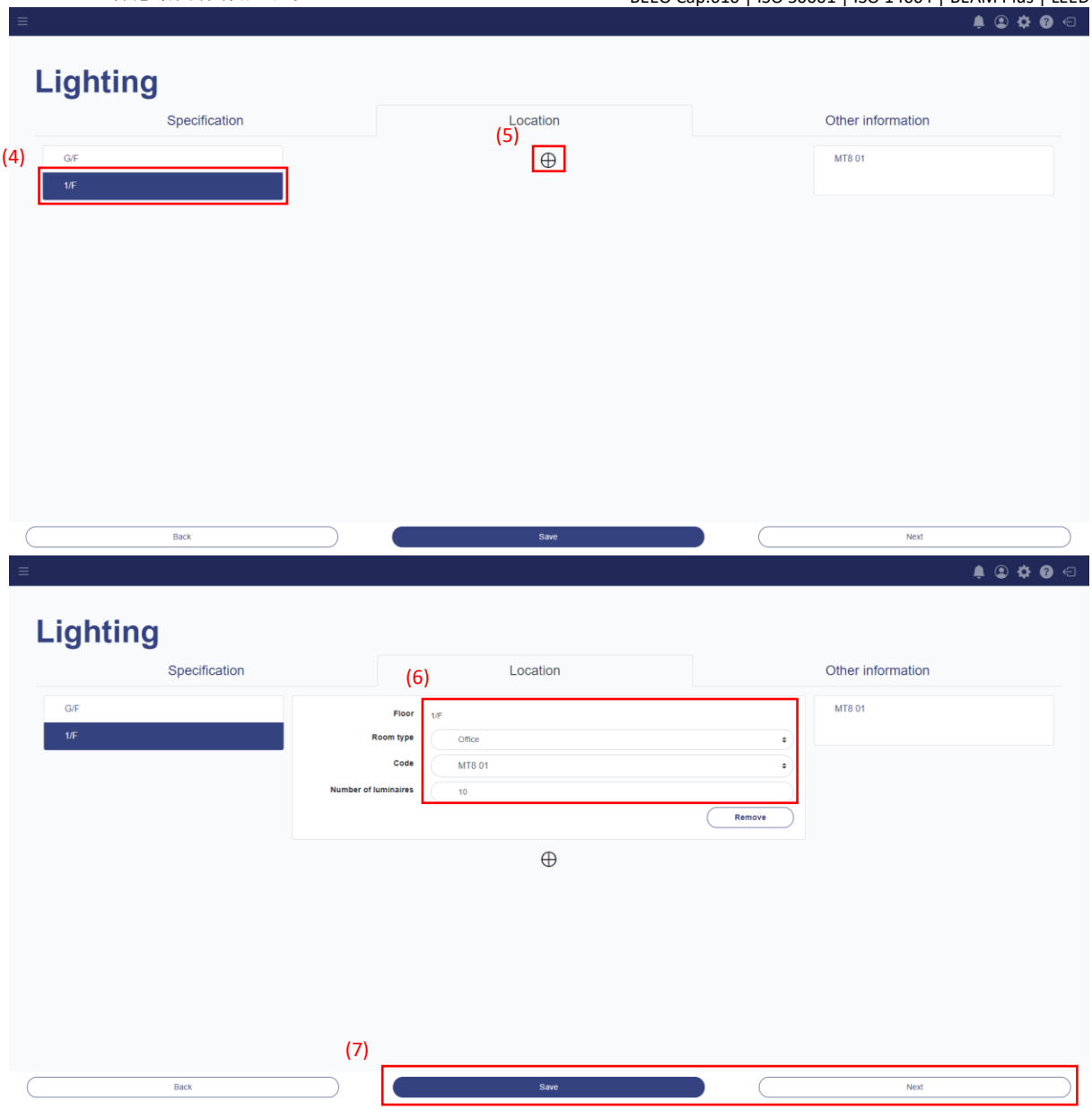


Figure 7.17 Input location information of luminaire

(1) select the G/F floor.

(2) press the "+" button to add a new location for luminaire.

(3) fill in the details of the location and luminaire as followings:

Room type: select Entrance Lobby

Code: select MT8 01

Number of luminaires: 10

(4) select the 1/F floor.

(5) press the "+" button to add a new location for luminaire.

(6) fill in the details of the location and luminaire as followings:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Room type: select Office

Code: select MT8 01

Number of luminaires: 10

(7) press the “Save” button to save the data and press the “Next” button to continue to the next page.

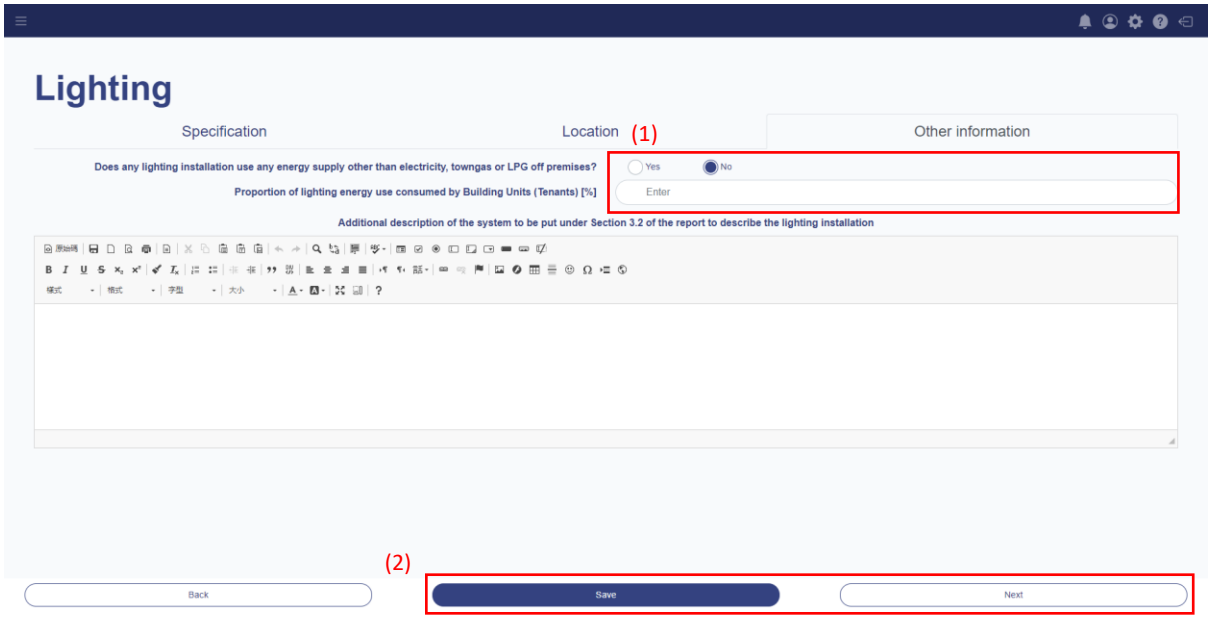


Figure 7.18 Input additional information of lighting equipment

(1) fill in the extra information about the lighting equipment as followings:

Does any lighting installation use any energy supply other than electricity, towngas or LPG off premises?: select no

Proportion of lighting energy use consumed by Building Units (Tenants) [%]: leave it blank

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.8 Input of lift/ escalators/ passenger conveyor

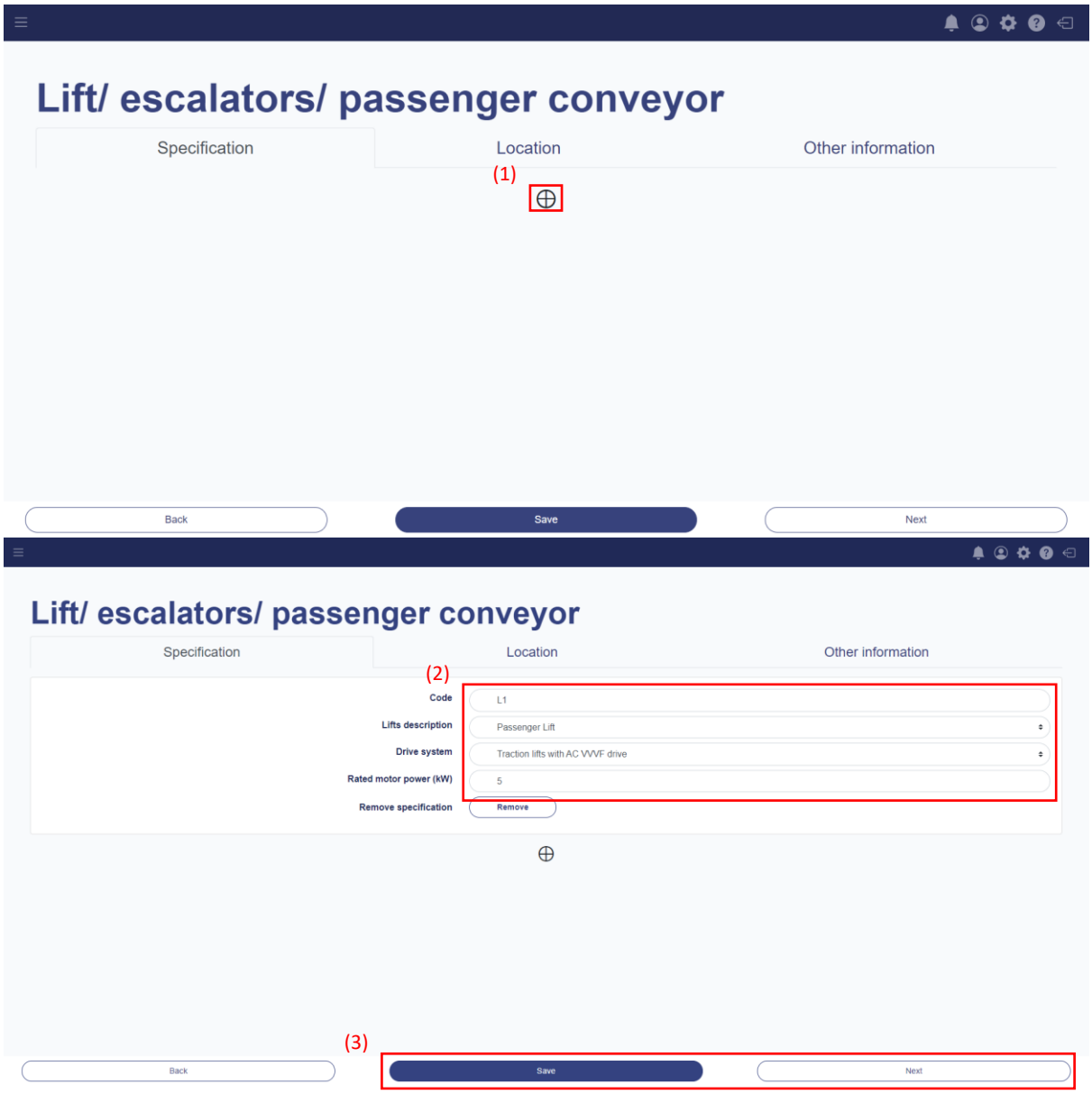


Figure 7.19 Input specification of lift installation

(1) press the "+" button to add a new lift installation.

(2) fill in the specification of the lift installation as followings:

Code: L1

Lifts description: select passenger conveyor

Drive system: select Traction lifts with AC VVVF drive

Rated motor power (kW): 5

(3) press the "Save" button to save the data and press the "Next" button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

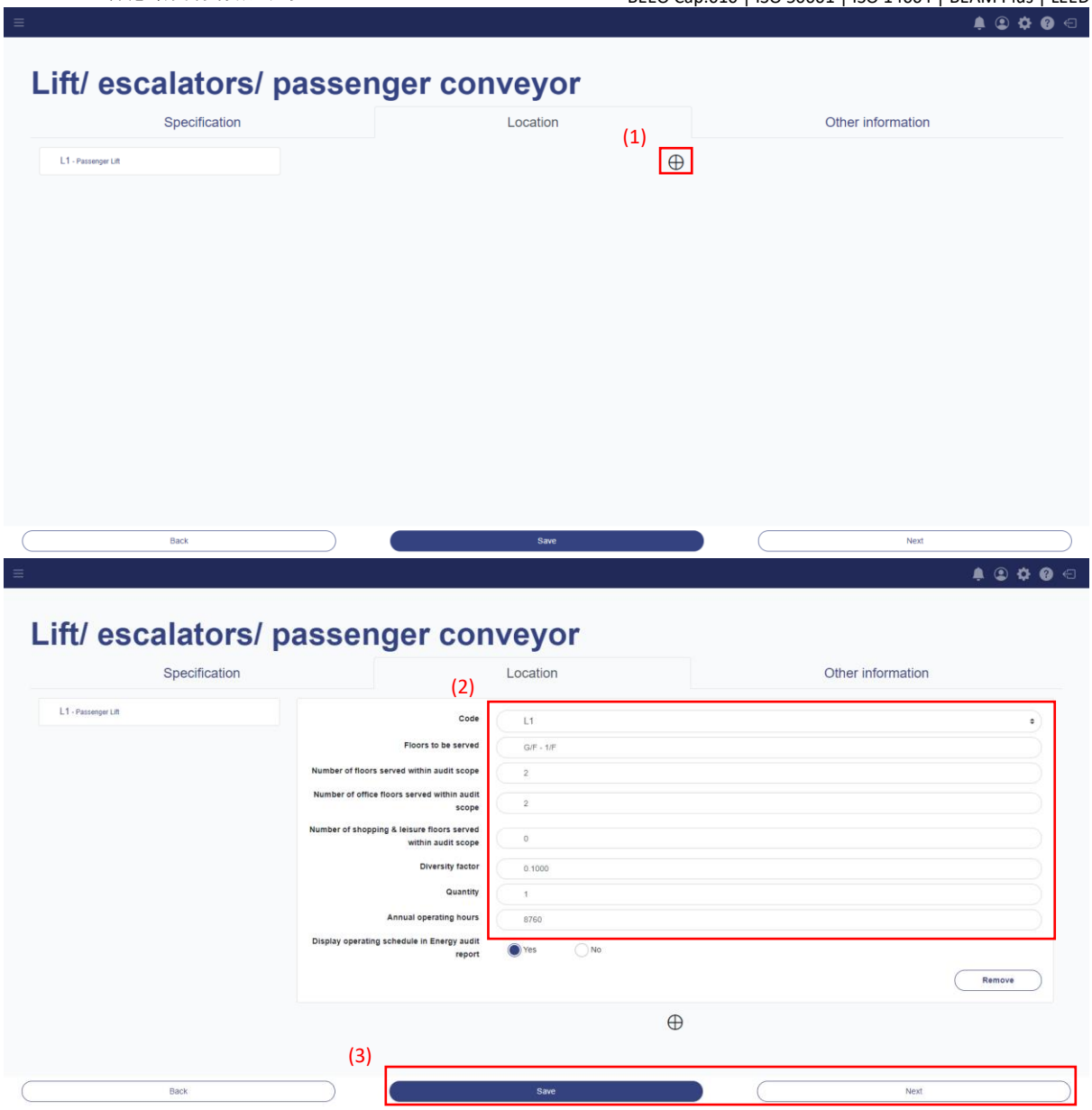


Figure 7.20 Input location information of lift installation

(1) press the "+" button to add a new lift installation.

(2) fill in the location information of the lift installation as followings:

Code: select L1

Floors to be served: G/F – 1/F

Number of floors served within audit scope: 2

Number of office floors served within audit scope: 2

Number of shopping & leisure floors served within audit scope: 0

Diversity factor: 0.1

Quantity: 1

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Annual operating hours: 8760

Display operating schedule in Energy audit report: select yes

(3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

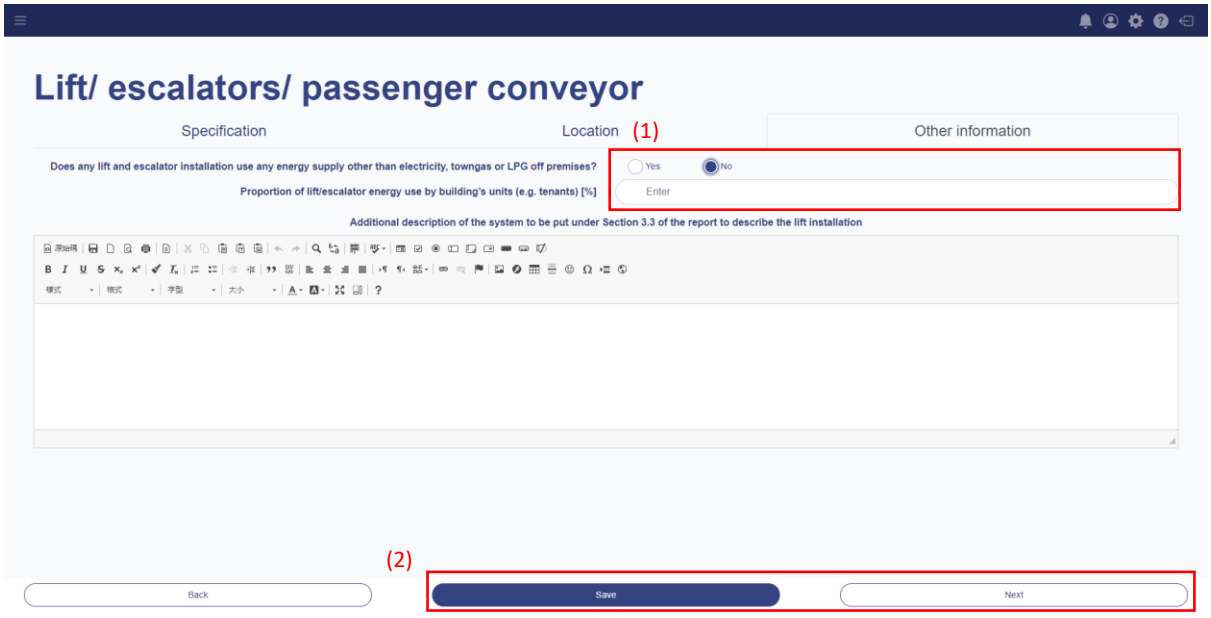


Figure 7.21 Input additional information of lift installation

(1) fill in the extra information about the lift installation as followings:

Does any lift and escalator installation use any energy supply other than electricity, towngas or LPG off premises?: select no

Proportion of lift/escalator energy use by building’s units (e.g. tenants) [%]: leave it blank

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.9 Input of electrical supply

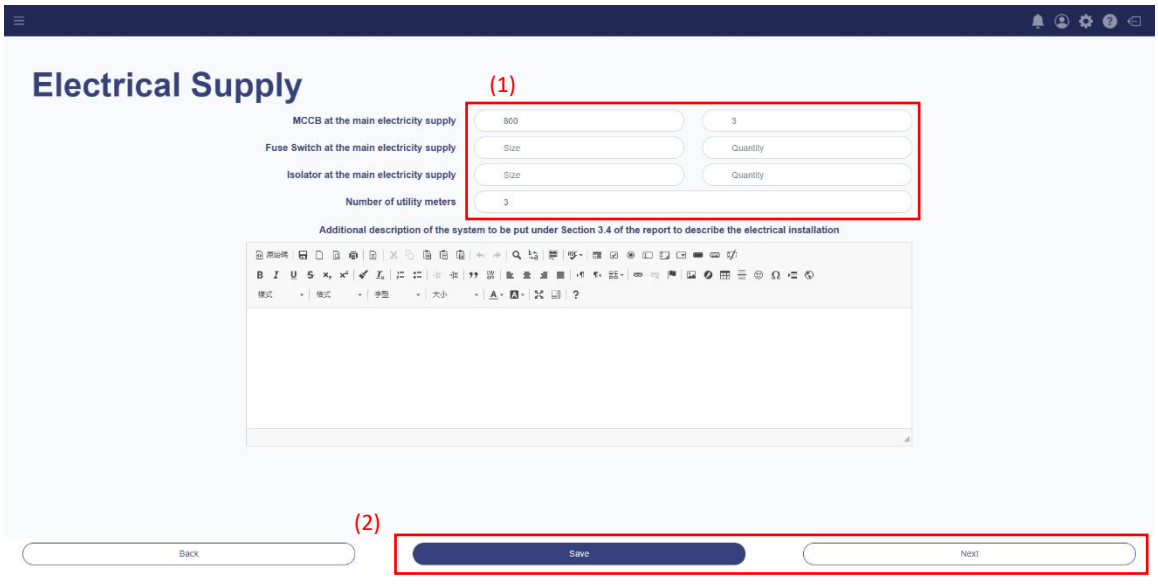


Figure 7.22 Input information of electrical supply

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(1) fill in the information about the electrical supply as followings:

MCCB at the main electricity supply: 800, 3

Fuse Switch at the main electricity supply: leave it blank

Isolator at the main electricity supply: leave it blank

Number of utility meters: 3

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.10 Input of non-CBSI power consuming equipment

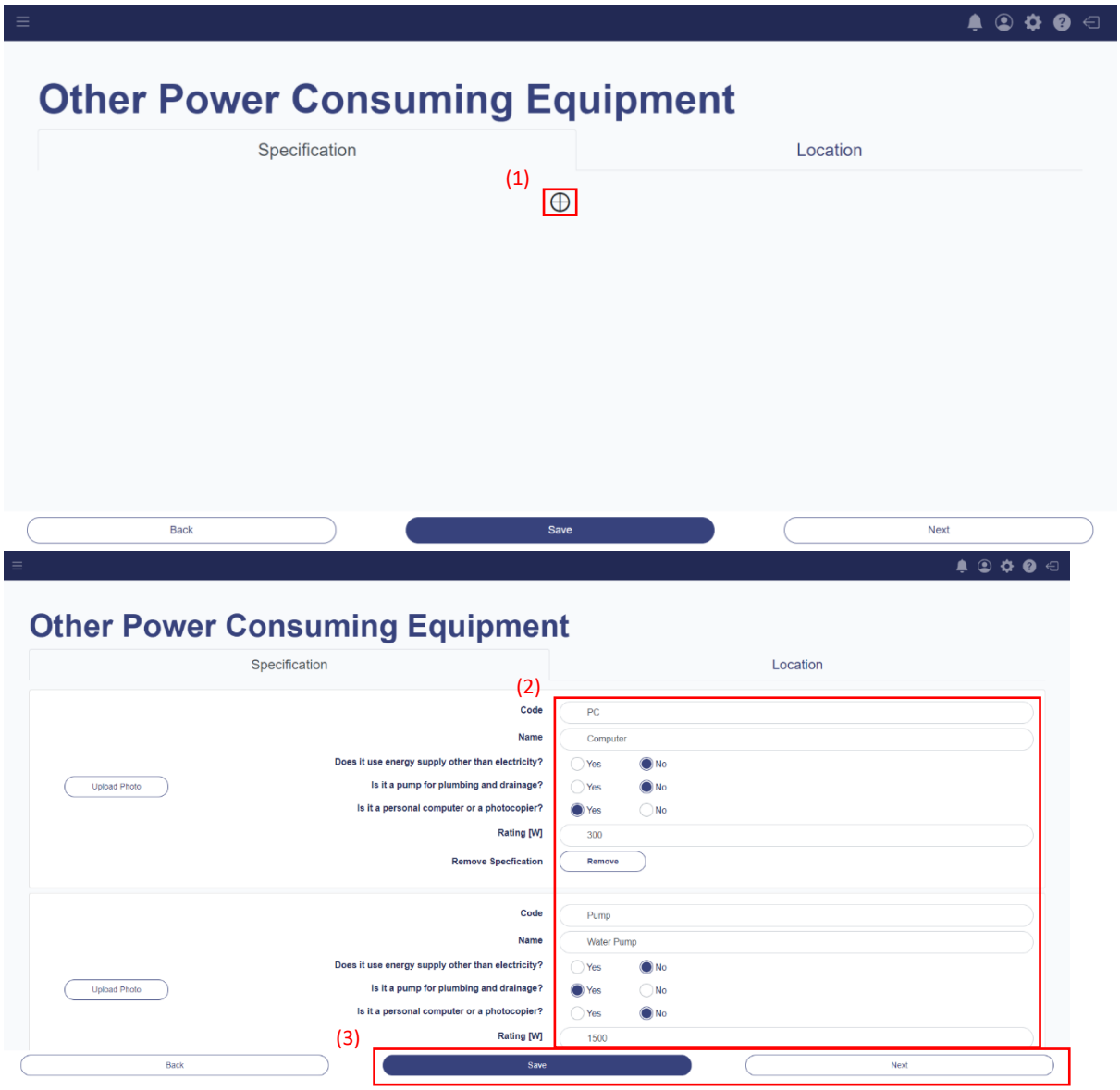


Figure 7.23 Input specification of non-CBSI power consuming equipment

(1) press the “+” button twice to add two new equipment.

(2) fill in the specification of the equipment as followings:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

First equipment:

Code: PC

Name: Computer

Does it use energy supply other than electricity?: select no

Is it a pump for plumbing and drainage?: select no

Is it a personal computer or a photocopier?: select yes

Rating [W]: 300

Second equipment:

Code: Pump

Name: Water Pump

Does it use energy supply other than electricity?: select no

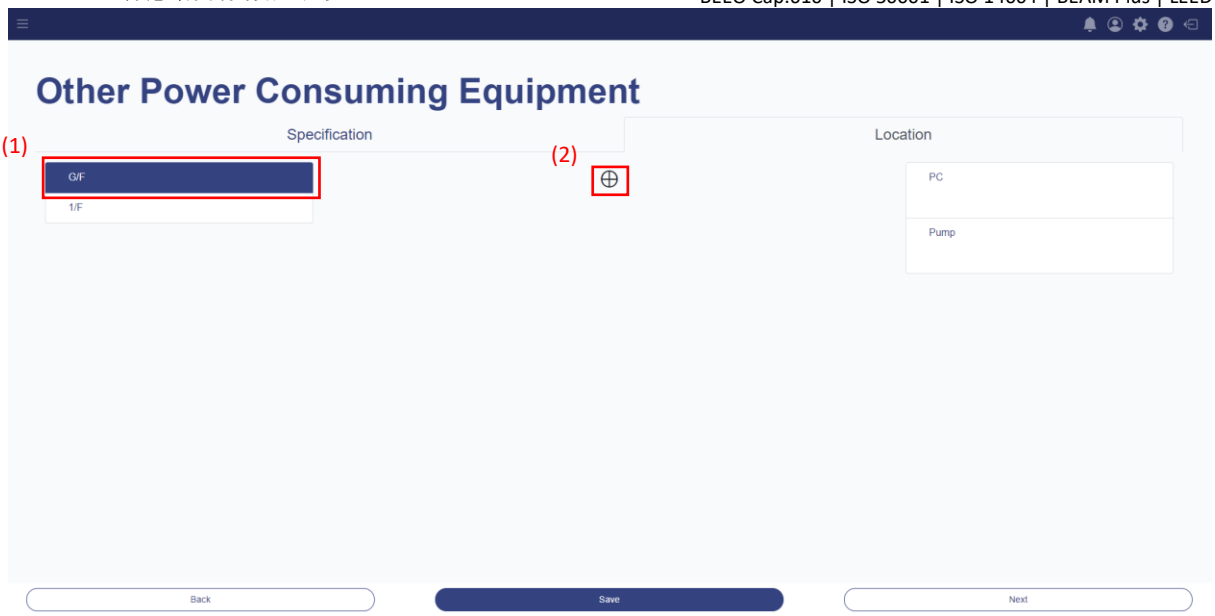
Is it a pump for plumbing and drainage?: select yes

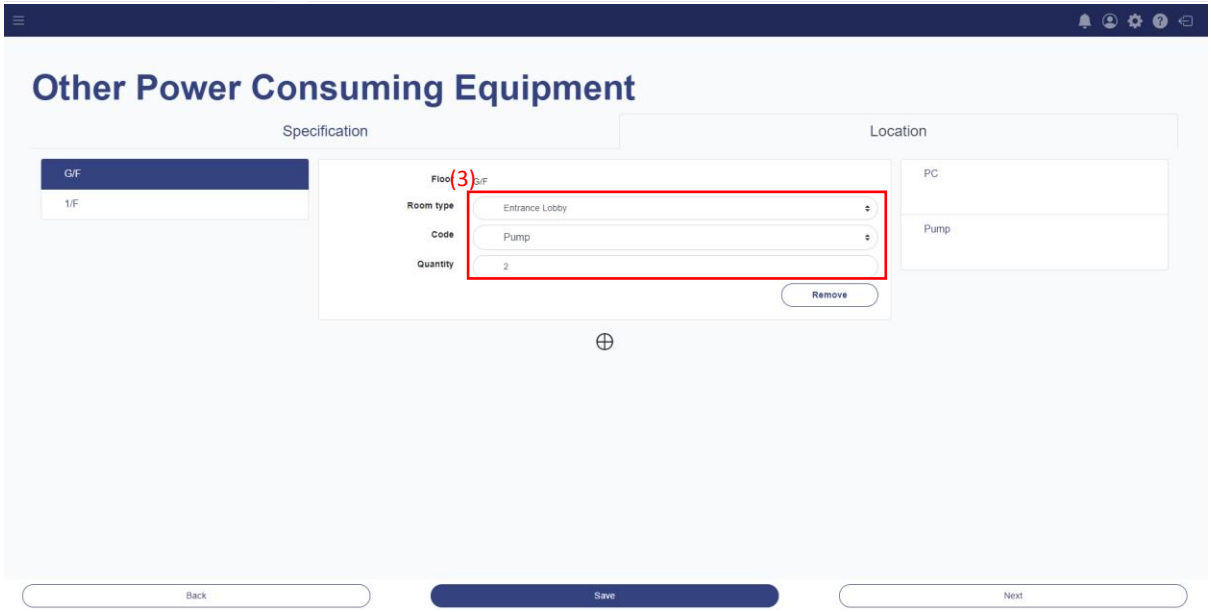
Is it a personal computer or a photocopier?: select no

Rating [W]: 1500

(3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net





Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

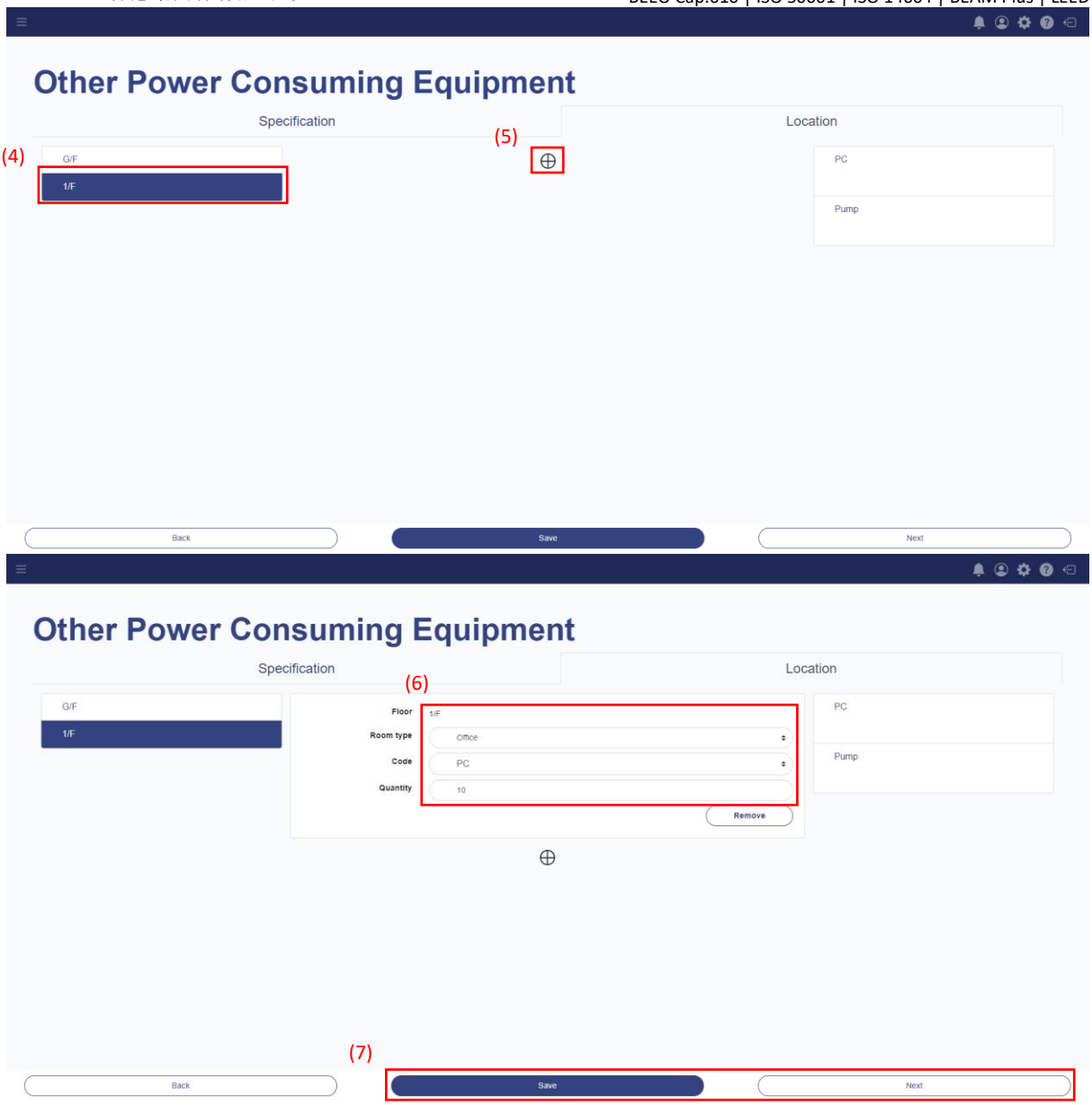


Figure 7.24 Input location information of non-CBSI power consuming equipment

(1) select G/F.

(2) press the "+" button to add a new location for the equipment.

(3) fill in the details of the location and equipment as followings:

Room type: select Entrance Lobby

Code: select Pump

Quantity: 2

(4) select 1/F.

(5) press the "+" button to add a new location for the equipment.

(6) fill in the details of the location and equipment as followings:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Room type: select Office

Code: select PC

Quantity: 10

(7) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.11 Input of energy consumption records

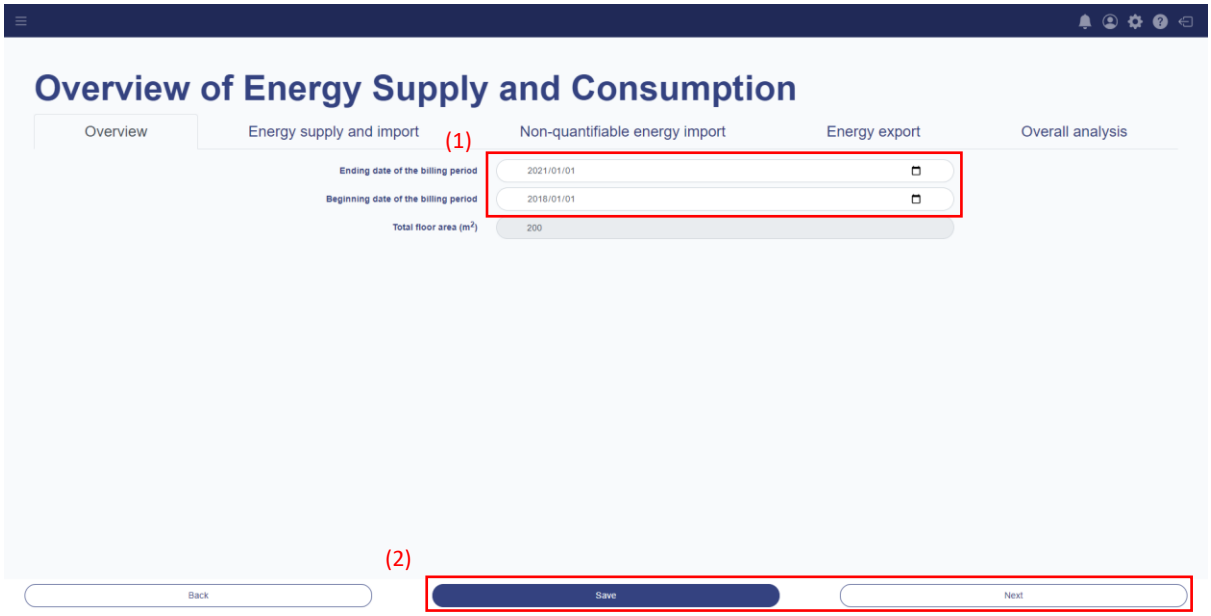


Figure 7.25 Billing period of the energy consumption

(1) fill in the information of the bill as followings:

Ending date of the billing period: 2021/01/01

Beginning date of the billing period: 2018/01/01

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

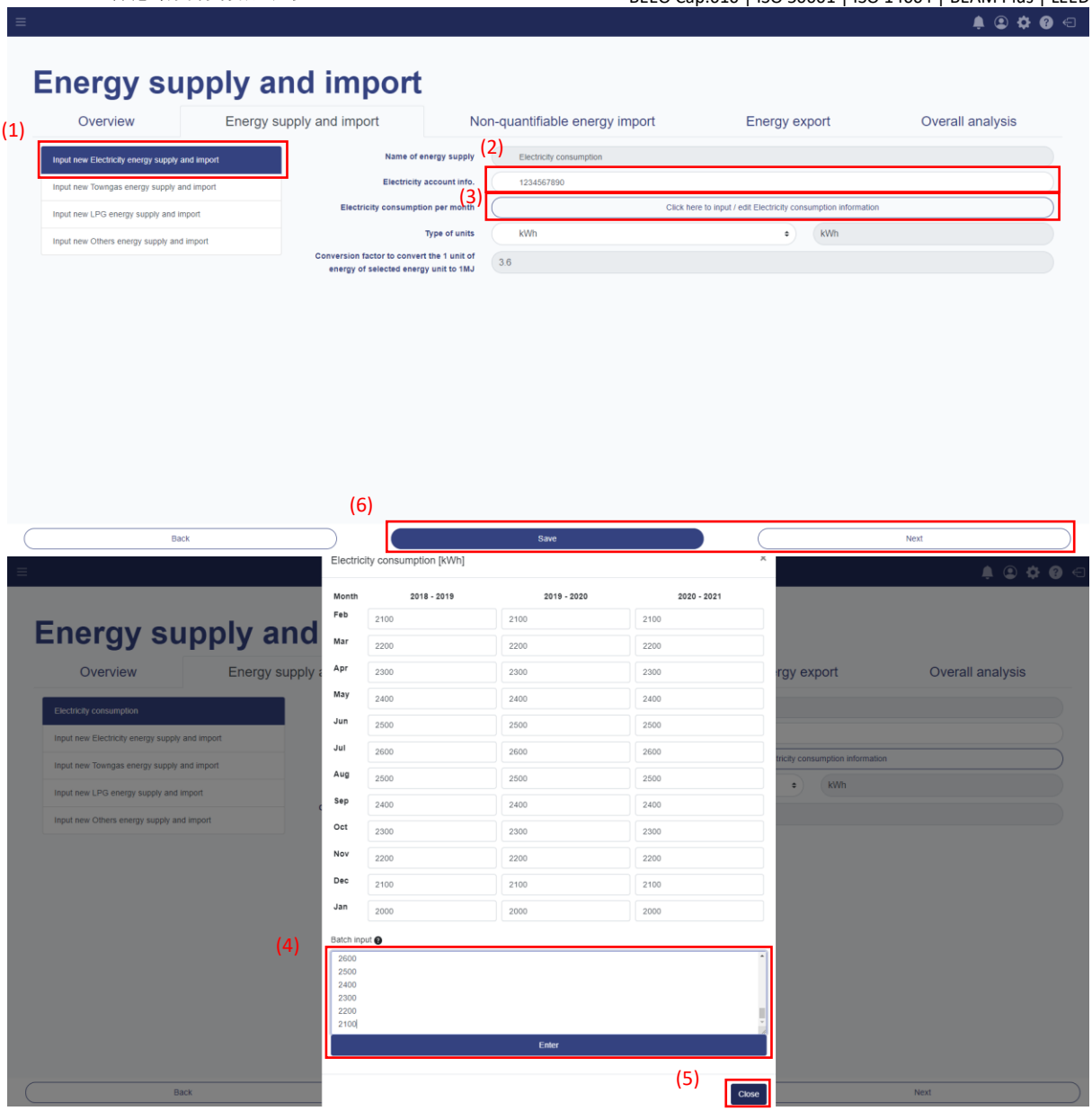


Figure 7.26 Input the energy consumption records

(1) select “Input new Electricity energy supply and import”.

(2) fill in 1234567890.

(3) click on the “Click here to input/ edit Electricity consumption information” button.

(4) use batch input to input the electricity record in chorological order from the newest to the oldest as followings:

2000
2100
2200
2300
2400
2500
2600
2500
2400

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

2300
2200
2100
2000
2100
2200
2300
2400
2500
2600
2500
2400
2300
2200
2100
2000
2100
2200
2300
2400
2500
2600
2500
2400
2300
2200
2100

And then press “Enter”.

(5) press “Close” button to close the consumption data box.

(6) press the “Save” button to save the data and press the “Next” button to continue to the next page.

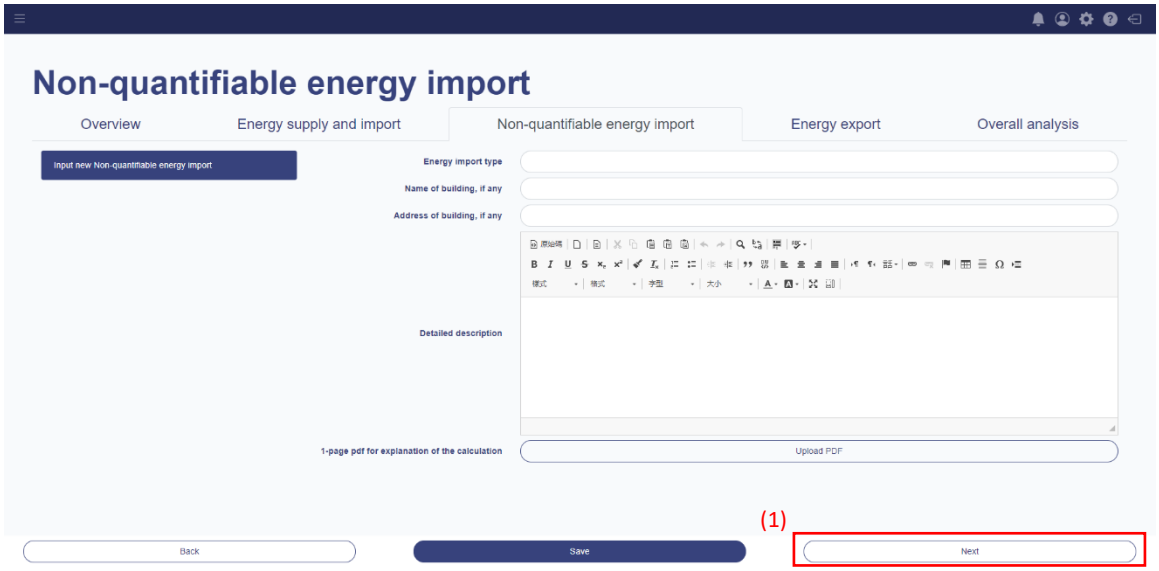


Figure 7.27 Input the non-quantifiable energy import

(1) leave it blank and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

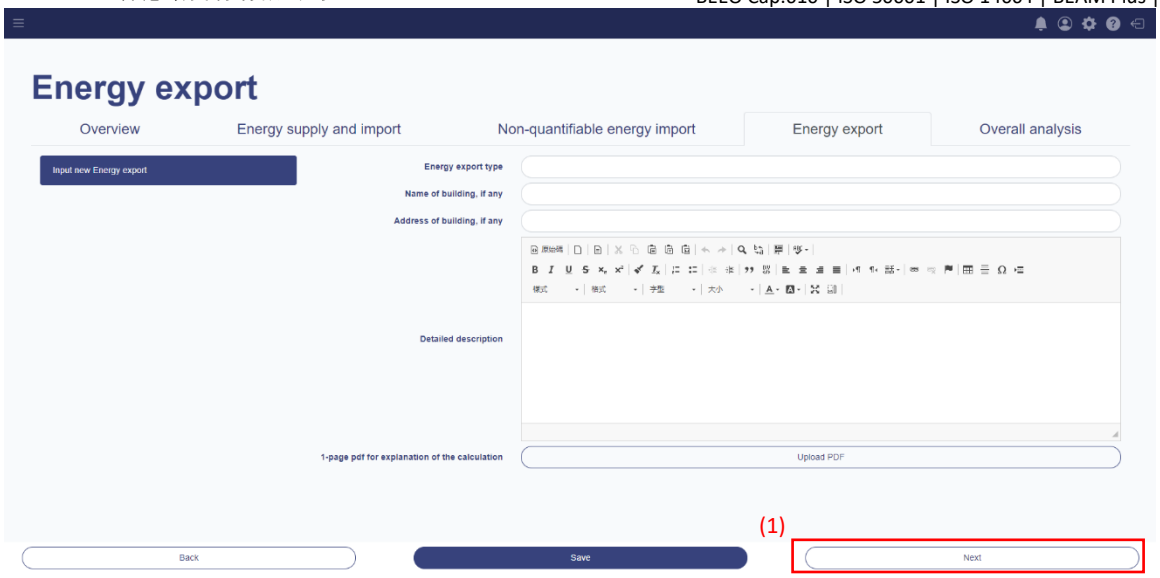


Figure 7.28 Input the energy export

(1) leave it blank and press the "Next" button to continue to the next page.

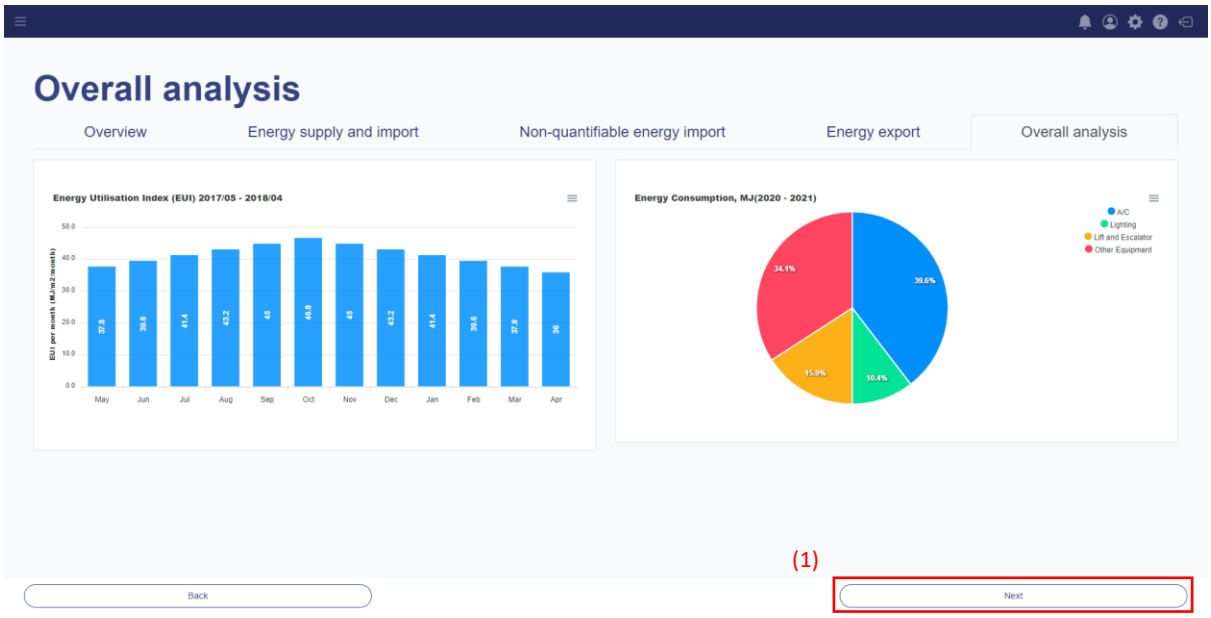


Figure 7.29 Overall analysis of energy consumption

After filling in all the data of the equipment and consumption records, the energy utilization index and energy consumption chart should be same as the above Figure 7.29 Overall analysis of energy consumption. (1) press the "Next" button to continue to the next page.

Please note that to continue the tutorial starting from the next subsection, you need to have purchased the "SMART 610 Pro MAX" feature for your report. Otherwise, you can continue to enjoy the charts and visualization delivered by our "SMART 610 Pro".

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.12 Input of existing energy saving measures

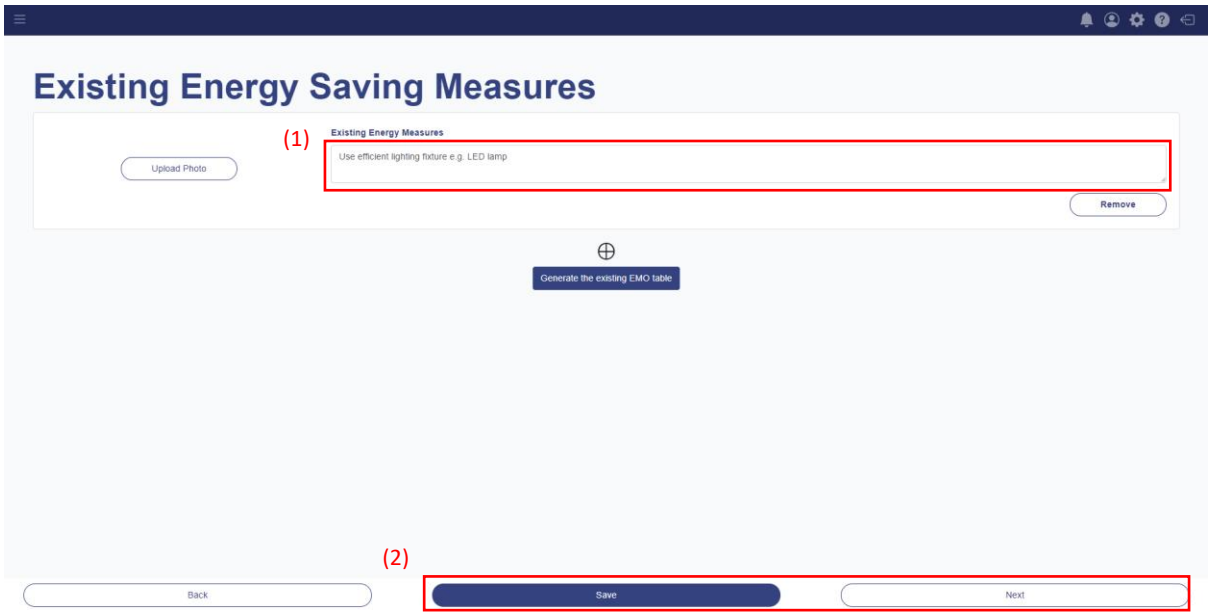


Figure 7.30 Input of existing energy saving measures

(1) Use efficient lighting fixture e.g. LED lamp.

(2) press the “Save” button to save the data and press the “Next” button to continue to the next page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.13 Input of measurement of room temperature

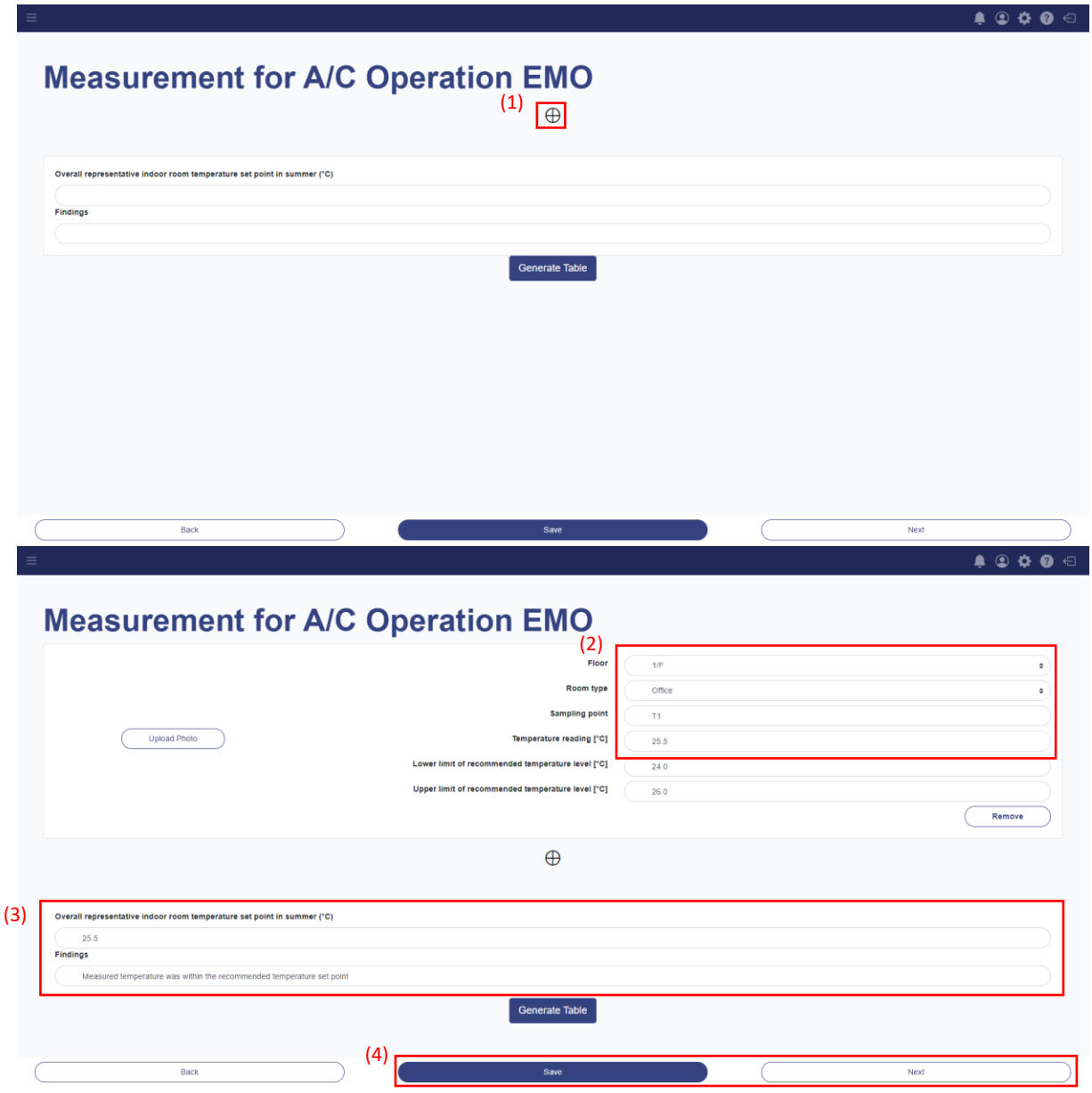


Figure 7.31 Input of measurement of room temperature

(1) press the "+" button to add a new empty box for new temperature measurement.

(2) fill in the details of the temperature measurement as followings:

Floor: select 1/F

Room type: select Office

Sampling Point: T1

Temperature reading: 25.5

(3) fill in the findings as followings:

Overall representative indoor room temperature set point in summer (˚C): 25.5

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Findings: Measured temperature was within the recommended temperature set point

(4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.14 Input of measurement of lux reading

Figure 7.32 Input of measurement of lux reading

(1) press the “+” button to add a new empty box for new lux reading.

(2) fill in the details of the lux reading as followings:

Floor: select 1/F

Room type: select Office

Sampling Point: L1

Lux reading: 470

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Lower limit of recommended lux level: 250

Upper limit of recommended lux level: 500

(3) findings: The lux reading was within the recommended level.

(4) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.15 Calculation of lighting power density

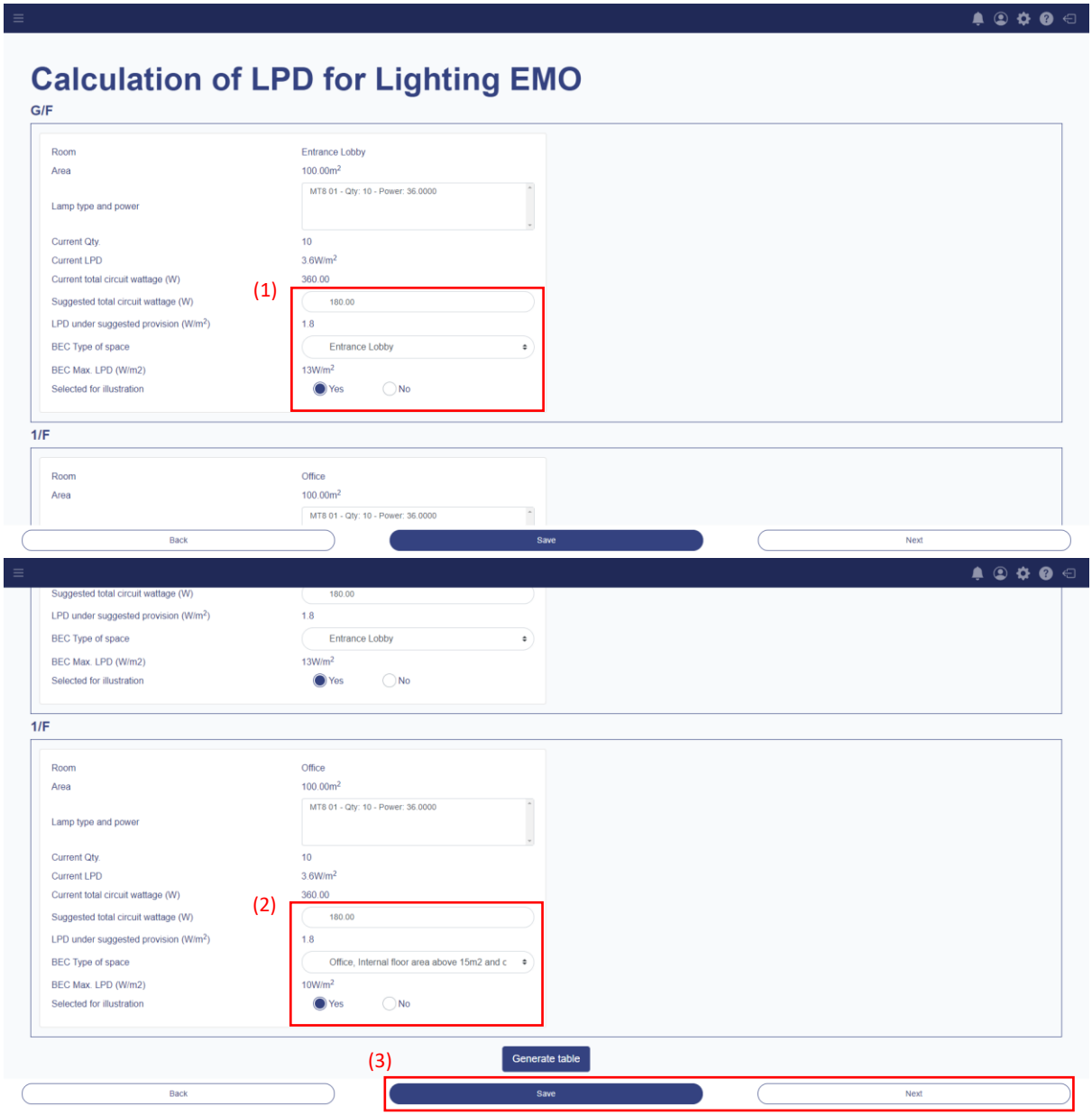


Figure 7.33 Calculation of lighting power density

(1) fill in the LPD information of G/F as followings:

Suggested total circuit wattage (W): 180

BEC Type of space: select Entrance Lobby

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Selected for illustration: select yes

(2) fill in the LPD information of 1/F as followings:

Suggested total circuit wattage (W): 180

BEC Type of space: select Office, Internal floor area above 15m2 and of or below 200m2

Selected for illustration: select yes

(3) press the “Save” button to save the data and press the “Next” button to continue to the next page.

7.16 Summary of energy management opportunities

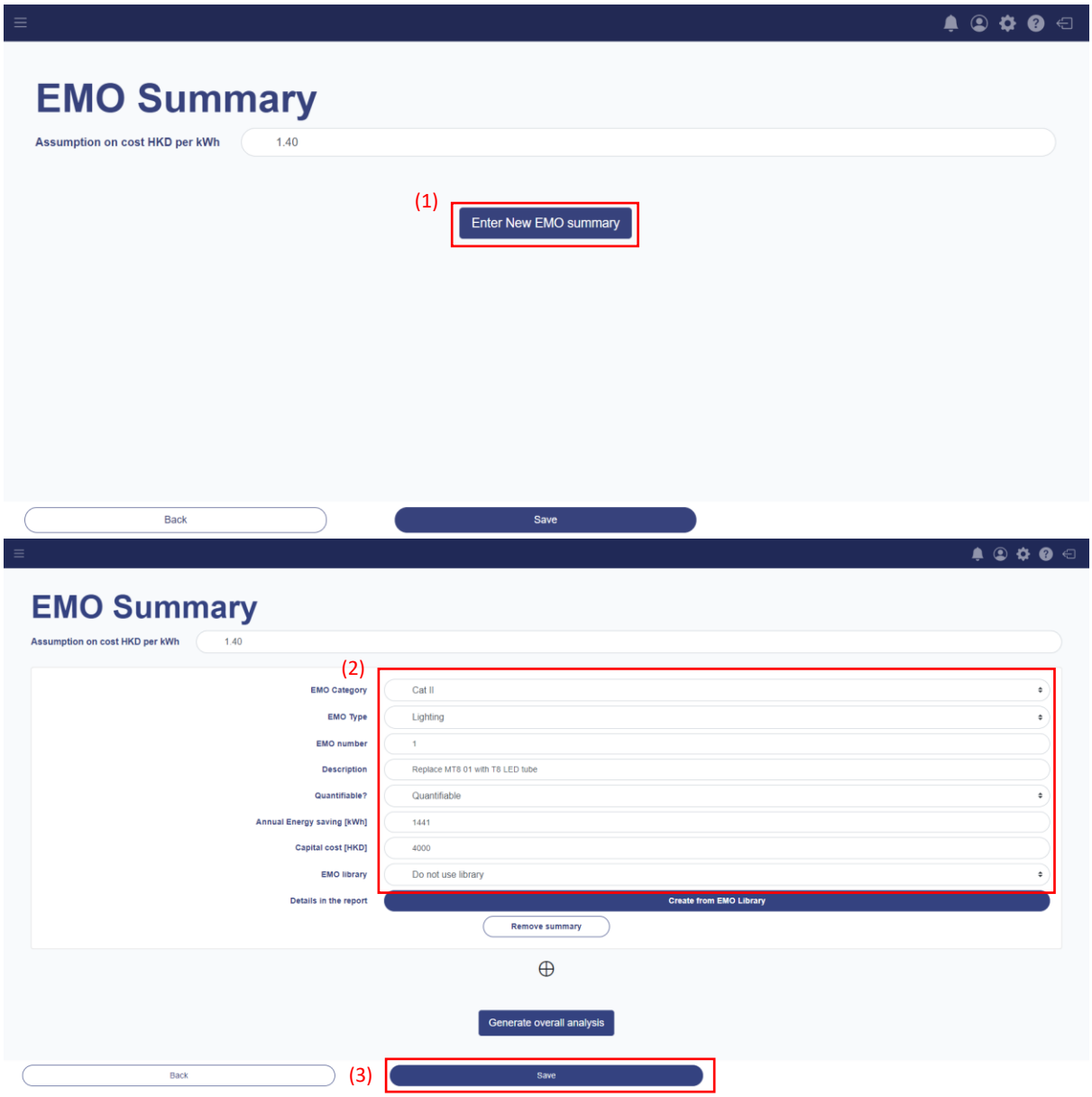


Figure 7.34 Input the EMO summary

(1) press the “Enter New EMO summary” button to create a new EMO. (2) input the details of the new EMO as followings:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

EMO Category: select Cat II

EMO Type: select Lighting

EMO number: 1

Description: Replace MT8 01 with T8 LED tube

Quantifiable?: select Quantifiable

Annual Energy saving [kWh]: 1441

Capital cost [HKD]: 4000

EMO library: select Do not use EMO library

(3) press the “Save” button to save the data.

7.17 Generate the forms

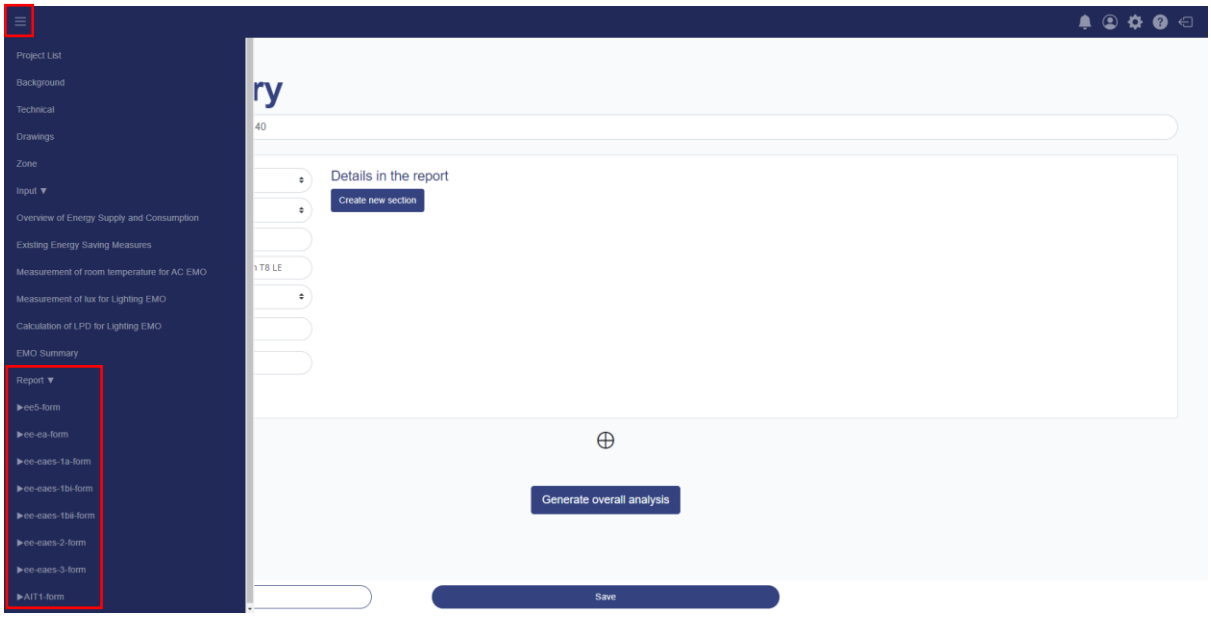


Figure 7.35 Form generation buttons

(1) click on the top left corner button. (2) select the “Report” then generate all the forms and you will get the followings. You can find the outputs of the forms on the next pages for your reference. Detail description of the forms can be referred at the Code of Practice for Building Energy Audit at the EMSD website.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

EE5-form

機電工程署 EMSD

Form EE5 表格 EE5

The Government of the Hong Kong Special Administrative Region Buildings Energy Efficiency Ordinance (Chapter 610, Section 22) Energy Audit Form	香港特別行政區政府 建築物能源效益條例 （第 610 章 第 22 條） 能源審核表格

Section A 甲 部：General Information 一般資料

Name of Building 建築物名稱	English 英文	New Building	
	Chinese 中文	新廈	
Address of Building 建築物地址	Street No. 街道號碼	1	
	Street 街道 English 英文	New Street	
	Chinese 中文	新街	
	District 地區 English 英文	Central and Western	☑ Hong Kong 香港 ☐ Kowloon 九龍 ☐ New Territories 新界
	Chinese 中文	中西區	

Section B 乙 部：Declaration 聲明

To 致： Building owner 建築物擁有人

cc 副本抄送： The Director of Electrical and Mechanical Services 機電工程署署長

In accordance with section 22 of the Buildings Energy Efficiency Ordinance (Chapter 610), I, (full name) TU Au, Registered Energy Assessor (Registration No.: EA55180G), certify that an Energy Audit in respect of the above building was completed on 03 / 01 / 2021 (DD/MM/YYYY). This Energy Audit Form will expire on 31 / 05 / 2031 (DD/MM/YYYY). (see note 4)

The energy utilization index (EUI) per annum of the past 12-month period of the above building is 496.8 MJ/m^2/annum, equivalent to 138.0 kWh/m^2/annum. (see note 5)

茲根據建築物能源效益條例（第 610 章）第 22 條之規定，本人（姓名）邢彥心
作爲註冊能源效益評核人（註冊號碼: EA55180G），現證明上述建築物的能源審核已於 2021 年 01 月 03 日完成。本能源審核表格將於 2031 年 05 月 31 日屆滿。（見須知事項 4）

有關上述建築物過去 12 個月期間的按年計能源使用指數爲 496.8 兆焦耳/平方米/年，相當於 138.0 千瓦小時/平方米/年。（見須知事項 5）

Signature of Registered Energy Assessor 註冊能源效益評核人簽名	01 / 06 / 2021 Date of issue (DD/MM/YYYY) 簽發日期 (日/月/年)

1/4 EMSD/EE5 (Rev. 11/13)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

EE-EA-form

Energy Audit Checklist for Energy Audit Code (EAC) Form EE-EA
(Please refer to Code of Practice for Building Energy Audit)

Part 1 - General Information

Name of Building	New Building (English)		新廈 (中文)	
Address of Building	1 (Street No.)	New Street (Street)		
	Central and Western (District)		☑ HK ☐ Kowloon ☐ New Territories	
Owner of Building	New Building Owners' Corporation (Name (~~Company / Organization~~ / Owners' Corporation)*)		新廈業主立案法團 (名稱 (~~公司/機構~~/業主立案法團) *)	
	A (Room/Flat)	1 (Floor)	(Block)	New Building (Building)
	1 (Street No.)	New Street, Central and Western (Street and District)		
	Correspondence Address of Owner			
	23456789 (Tel No.)	newbuilding@mail.com (Email Address)		34567890 (Fax No.)
Representative of Owner of Building	Chan Tai Man (Name in English*)		陳大文 (中文名*)	Mr. (Title)
	A (Room/Flat)	1 (Floor)	(Block)	New Building (Building)
	1 (Street No.)	New Street, Central and Western (Street and District)		
	Correspondence Address of Representative (can be a company, an organization or a person)			
	23456789 (Tel No.)	newbuilding@mail.com (Email Address)		34567890 (Fax No.)
	(If the Representative is a company or organization, please indicate below the Representative's contact person.)			
	Secretary (Position in company/organization)	Lee Siu Ming (Name in English (contact person)#)	李小明 (中文名(聯絡人)#)	Mr. (Title)

Documents submitted (Please tick where appropriate)	No. of Sheets
☑ Form EE-EA Part 1 to Part 3 (to be appended with Form EE-EAes@)	
☑ Form EE-EAes@ Part 1: Administrative Information & Building Characteristics	
☑ Form EE-EAes@ Part 2: Historical Energy Consumption Analysis	
☑ Form EE-EAes@ Part 3: Energy Management Opportunities	
☑ Others (Please give details)	

Remarks:-
1) * If the name is for a person, please have his/her surname to precede the given name, and indicate his/her relevant title.
2) @ This form should be appended with Form EE-EAes in the submission
3) The information provided in Form EE-EA and Form EE-EAes are for demonstration of compliance with the EAC for the energy audit of the central building services installations, and should cover all the relevant items governed by the EAC.
4) Any incomplete or erroneous information in this Form EE-EA and Form EE-EAes may render the forms being regarded invalid.

EMSD/EAC Page 1 of 3 EMSD/EE-EA(V.2)

Energy Audit Checklist for Energy Audit Code (EAC) Form EE-EA
(Please refer to Code of Practice for Building Energy Audit)

Part 2 - Energy Audit Requirement (EAC Section 7) (Please select Yes or No)

1.	Building information collected and studied (EAC Clause 7.2)?	Yes
2.	Site inspection for energy consuming equipment/systems of central building services installations conducted and records of their characteristics compiled (EAC Clause 7.3.1)?	Yes
3.	Power and energy consumption of building services energy consuming equipment/systems identified and calculated (EAC Clause 7.3.2)?	Yes
4.	Potential energy management opportunities (EMO) identified (EAC Clause 7.4)?:	Yes
	a) The evaluation on energy consumption equipment / systems conducted (EAC Clause 7.4.1)?	Yes
	b) The comparison with original design and operating conditions conducted (EAC Clause 7.4.2)?	Yes
	c) Potential EMO on the improvement on behaviours of the responsible person of units outside common area considered (EAC Clause 7.4.3)?	Yes
	d) The viability of replacement of energy consuming equipment / systems with more efficient model or adjustment to operate the equipment in more energy means studied (EAC Clause 7.4.4)?	Yes
	e) The viability of deployment of energy recovery system(s) and on-site renewable energy system(s) studied (EAC Clause 7.4.4)?	Yes
	f) The obvious opportunities of energy saving based on the results of site inspection identified (EAC Clause 7.4.5)?	Yes
	g) Potential EMO based on energy consumption pattern and in respect of enhancement of automatic control / system balancing / system optimization identified (EAC Clause 7.4.6)?	Yes
5.	Cost benefit of potential EMO analyzed (EAC Clause 7.5)?:	Yes
	(a) The energy saving and capital cost on potential EMO estimated and the cost benefit analysis carried out accordingly (EAC Clause 7.5.1)?	Yes
	(b) The conditions that will affect the measurement of energy use properly recorded (EAC Clause 7.5.3)?	Yes
	(c) The equipment's service life and degradation of energy efficiency considered (EAC Clause 7.5.4)?	Yes
	(d) Energy prices for evaluation of cost benefit specified (EAC Clause 7.5.5)?	Yes
	(e) The period of time for energy use measurement to cover a complete operating cycle or the methodology of projection of measured energy indicated (EAC Clause 7.5.6)?	Yes
	(f) Metering point, metering information and measurement interval recorded (EAC Clause 7.5.7)?	Yes
6.	Recommendations for implementation of EMO provided (EAC Clause 7.6)?	Yes
	(a) Recommendations for the implementation of EMO based on energy savings, cost benefits and the robustness of the energy data made (EAC Clause 7.6.1)?	Yes
	(b) The intended result and procedure to implement / install the EMO under proper conditions described (EAC Clause 7.6.2)?	Yes
	(c) The metering point and measurement device / parameter / time interval summarized (EAC Clause 7.6.3)?	Yes
	(d) The known programmed operation & maintenance activities of the building highlighted (EAC Clause 7.6.4)?	Yes
7.	Energy audit report compiled (EAC Clause 7.7)?	Yes

EMSD/EAC Page 2 of 3 EMSD/EE-EA(V.2)

Energy Audit Checklist for Energy Audit Code (EAC) Form EE-EA
(Please refer to Code of Practice for Building Energy Audit)

Part 3 - Energy Audit Report (EAC Section 8) (Please select Yes or No)

1.	Executive summary (prepared using Form EE-EAes) included in the energy audit report (EAC Clause 8.2), and copied as attachment to this Form EE-EA?		Yes
2.	Following information included in the energy audit report (EAC Clause 8.1)?		
	(a)	energy audit scope (EAC Clause 8.1(a))	Yes
	(b)	building characteristics (floor area, occupancy, hours of operation, etc.) (EAC Clause 8.1(b))	Yes
	(c)	description of equipment/systems audited (EAC Clause 8.1(c))	Yes
	(d)	energy consumption and performance evaluation of equipment/systems (EAC Clause 8.1(d))	Yes
	(e)	detailed technical characteristics of air-conditioning equipment/systems (EAC Clause 8.1(e))	Yes
	(f)	total lighting power (EAC Clause 8.1(f))	Yes
	(g)	analysis of historical energy consumption of building (EAC Clause 8.1(g))	Yes
	(h)	the energy supply from the central building services installation to the building's units (EAC Clause 8.1(h))	Yes
	(i)	potential EMO found through information review and site inspection (EAC Clause 8.1(i))	Yes
	(j)	evaluations of potential EMO, including cost benefit analyses with consideration of equipment's service life and degradation of energy efficiency (EAC Clause 8.1(j))	Yes
	(k)	referencing to past energy audit report, if available (EAC Clause 8.1(k))	Yes
	(l)	classifications of EMO into categories I, II or III and recommendations with suggestions & viability of implementing energy recovery system(s) and/or on-site renewable energy system(s) (EAC Clause 8.1(l))	Yes
	(m)	administrative information (audit commencement, energy bill reference month, etc.) (EAC Clause 8.1(m))	Yes

EMSD/EAC Page 3 of 3 EMSD/EE-EA(V.2)

EE-EAES-1a-form

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

This Executive Summary (technical form EE-EAes) forms part of the report (EA report) of the energy audit carried out under the Buildings Energy Efficiency Ordinance (Cap 610), for the building hereinafter cited, and consists of the following parts :

Part 1 – Administrative Information & Building Characteristics

(A) Administrative Information
(B) Building Characteristics
(I) Building Type, Usage & Operation
(II) Central Building Services Installation (CBSI)
Part 2 – Historical Energy Consumption Analysis
Part 3 – Energy Management Opportunities (EMO)

This Executive Summary form provides an overview of the audited building's characteristics (type, usage, operation, and performance of key components), its historical energy performance, and the energy management opportunities identified in the audit. The detailed building characteristics and audit findings should be included in the EA report.

(The EXCEL version of this form has built in certain calculation functions for cells in yellow shading.)

This form also provides an itemized framework for the REA to collect essential information, such that he/she can gain better insight to the building's characteristics, operation and its central building services installation (CBSI) and be more effective in identifying energy management opportunities (EMO).

Please refer to the EAC and its Technical Guidelines on the EAC《TG-EAC》for interpretations and intents of various terminologies and expressions.

Part 1 – Administrative Information & Building Characteristics				
(A) Administrative Information (EAC Clause 8.1)				
Name of Building [^1]	New Building			
Address of Building	1 New Street, Central and Western, Hong Kong			
1) **Date of commencement of energy audit :**	01/01/2021 (dd/mm/yyyy)			
2) **Date of completion of energy audit:** (not later than 6 months after the energy bill reference month)	03/01/2021 (dd/mm/yyyy)			
3) **Energy Audit Form validity period - issued on :**	01/06/2021 (dd/mm/yyyy)	**and expired on:**	31/05/2031 (dd/mm/yyyy)	
4) **Energy Audit Report reference no. (optional) :**	tutorial 1			
5) **Does the audited building import or export energy from/to other building ?**	Building(s) importing energy or to which energy is exported		Import or export	
	Name(s) of building(s)	Address(es) of building(s)		
☐ Yes ☑ No				
If yes, please provide information [^34]. (Refer TG-EAC clause 4.4)				

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

EE-EAES-1bi-form

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) — Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

(B) Building Characteristics (EAC Clause 8.1)

(I) Building Type, Usage & Operation (Please click to select where applicable and insert N/A for non-applicable items.)

1) Type of Building		
(a) Please choose the type (tick one item only) of building of the building entity [*2] audited :		
☑ Commercial building	☐ Commercial portion of composite (commercial & residential) building	☐ Commercial portion of composite (commercial & industrial) [*3] building
(b) Please indicate the portion of the building entity being common area [*4]:	50.00	%
(c) Please indicate the no. of blocks [*5] of the building entity:	1	no. of blocks
2) Total internal floor area [*6] of the building entity (m^2):	200.00	
3) No. of floors [*6] of the building entity:	2	
4) Major type of building facade:	☑ Curtain wall ☐ Non-curtain wall	
5) Date(s) of issue of occupation approval (dd/mm/yyyy) [*7]:	01/01/2011	
6) Type of central air-conditioning [*8] provided:		
☑ Cool air ☐ Chilled water ☐ Condenser water only ☐ Not applicable		

7) Summary of operation characteristics of categorized major usages of CBSI-served areas :
(Below is a summary of the categorized usages in item 8). Item 8) should be completed first, based on which the following summary information can be provided.) (EXCEL version of Form EE-EAes has the built-in function to automatically add the corresponding % area figures in item 8) and insert in the relevant yellow shaded cells in item7).)

Operation characteristics / Major usage	%tage area of total of building entity [*9]	%tage AC area of total of building entity [*10]	Average weekly operating hours (hrs/week) [*11*12]	Daily average no. of occupants [*12]
(a) Office	100.00	100.00	55.00	12
(b) Shopping & leisure	0.00	0.00	N/A	0
(c) Back of house area	0.00	0.00	N/A	0
(d) Restaurant	0.00	0.00	N/A	0
(e) Car park	0.00	0.00	N/A	N/A
(f) Others [*13]	0.00	0.00	N/A	0
Total [*14]	100.00	100.00	N/A	12
Daily average occupant density (m^2 per person) [*15]				17

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) — Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

8) Details of operation characteristics of CBSI-served areas grouped under categorized major usages [*16]
(with energy consumption on account of the building owner) :

CBSI served Categorized major usages / Operation characteristics		Norm [*17] of operation: General or 24-hour	Norm [*17] of operation: AC or non-AC	%tage area of total of building entity	Weekly operating hours [*12] (hrs/week) [sum up hours of "weekday" and hours of "weekend" to obtain hours of "week total"]: weekday	weekend	week total
(a)	(i) (Commonly used areas [*18] on office floors (office tower entrance lobby, lift lobbies, common corridors, common toilets etc.)	General	AC	50.00%	40.00	30.00	70.00
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
	(ii) Areas specific for office works (general office, private office, meeting rooms, data centres, server rooms, clinics, laboratories, tutorial schools, private toilets etc.)	General	AC	50.00%	30.00	10.00	40.00
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
(b)	(i) Commonly used areas [*18] on shopping & leisure floors (shopping mall entrance lobby, public circulation areas, atrium, visitor toilets, etc.)	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
	(ii) Areas specific for shopping & leisure (retail shops, department stores, cinemas, health clubs, private toilets etc.)	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
(c)	Back of house areas (plant rooms, cleaner rooms, staircases (non-public circulation areas))	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
(d)	Restaurants	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
(e)	Car parks	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
(f)	Others [*13] (if applicable, please specify)	General	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A
		24-hour	AC	0.00%	N/A	N/A	N/A
			Non-AC	0.00%	N/A	N/A	N/A

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

EE-EAES-1bii-form

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

(II) Central Building Services Installation *19

1) Air-conditioning Installation

(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling) *20*34

Type of equipment (C/VRF/HP) *21 (C: Chiller, VRF: VRF system, HP: Heat Pump)	Cooling (for heat rejection) (A/FW/SW/FE) *22	Compressor *23 (Ce/Se/So/Re)	Refrigerant (R134a/ R123/ R407c/ R410a/ R12/ R11 etc.) *24	Rated Capacity (kW)	Input power *35 Measured/ Calculated (kW)	Input power *35 Rated (kW)	Quantity	COP (kW/kW) *25
Total for cooling *26, **of all** chillers / VRF system / heat pumps								

(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating *20*34

Type of equipment (C/VRF/HP/B/O) *21 (C: Chiller, VRF: VRF system, HP: Heat Pump, B: Boiler, O: Other heating)	Cooling (for heat rejection) (A/FW/SW/FE) *22	Compressor *23 (Ce/Se/So/Re)	Refrigerant (R134a/ R123/ R407c/ R410a/ R12/ R11 etc.) *24	Rated Capacity (kW)	Input power *35 Measured/ Calculated (kW)	Input power *35 Rated (kW)	Quantity	COP (kW/kW) *25
Total for heating *26, **of all** boilers / VRF system / heat pumps / other heating								

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

(II) Central Building Services Installation *19

1) Air-conditioning Installation

(a)(ii) Part 1: Unitary air-conditioners (Cooling model) *20*34

Type of equipment (R/S/P) *21 (R:Room type, S:Split type, OU:Other Unitary air-conditioner)	Cooling (for heat rejection) (A/FW/SW/FE) *22	Compressor (Se/So/Re) *23	Refrigerant (R134a/ R123/ R407c/ R410a/ R22/ R12/ R11 etc.) *24	Rated Capacity (kW)	Input power *35 Measured/ Calculated (kW)	Input power *35 Rated (kW)	Quantity	COP (kW/kW) *25
R	A	Re	R32	18		6.00	3	1.00
Total for cooling *26, **of all** unitary air-conditioners:				18		6.00	3	3.00

(a)(ii) Part 2: Unitary air-conditioners (Heating model) *20*34

Type of equipment (R/S/P) *21 (R:Room type, S:Split type, OU:Other Unitary air-conditioner)	Cooling (for heat rejection) (A/FW/SW/FE) *22	Compressor (Se/So/Re) *23	Refrigerant (R134a/ R123/ R407c/ R410a/ R22/ R12/ R11 etc.) *24	Rated Capacity (kW)	Input power *35 Measured/ Calculated (kW)	Input power *35 Rated (kW)	Quantity	COP (kW/kW) *25
Total for heating *26, **of all** unitary air-conditioners:								

Percentage (based on total cooling capacity) of all unitary air-conditioners (add up to 100%) :	100% for office floors	0% for shopping & leisure floors	0% for other floors

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

		Pump motor input power *35 Measured / Calculated (kW)	Pump motor input power *35 Rated (kW)	Pump capacity *35 Measured / Calculated (L/s)	Pump capacity *35 Rated (L/s)	Quantity	Performance (W per L/s)
(b) Air-conditioning pumps							
(i) Chilled water pumps	Primary circuit, sub-total of all pumps *27						
	Secondary circuit, sub-total of all pumps *27						
	Total, of all chilled water pumps *27A						
(ii) Condenser water pumps	Fresh water, sub-total of all pumps *27						
	Sea water, sub-total of all pumps *27						
	Total, of all condenser water pumps *27B						
(iii) **Heater water pumps - total of all** heated water pumps *27							

	Fan motor input power *35 Measured / Calculated (kW)	Fan motor input power *35 Rated (kW)	Rated heat rejection capacity (kW) *27C	Quantity	Performance (kW / kW) *27C
(c) Heat rejection					
Sub-total, of all cooling towers *27C					
Sub-total, of all radiators *27C					
Total, of all heat rejection equipment *27C					

	Fan motor input power *35 Measured / Calculated (kW)	Fan motor input power *35 Rated (kW)	Fan capacity *35 Measured / Calculated (L/s)	Fan capacity *35 Rated (L/s)	Quantity	Performance (W per L/s)
(d) Air-conditioning fans						
Sub-total, of all AHUs & FCUs (excluding primary air AHU) *27						
Sub-total, of all primary air AHUs, fresh air and return air fans (for conditioned areas) *27						
Total, of all air-conditioning fans *27D						

Percentage (based on total fan rated motor power) of all air-conditioning fans (add up to 100%) :	0% for office floors	0% for shopping & leisure floors	0% for other floors

(e) Chilled / Heated water plant sequencing control

Please indicate if automatic sequencing control is provided:	☐ Yes	☑ No
(f) Overall COP of chiller plant *27F (kW/kW)		0.00
(g) Overall representative indoor room temperature set point in summer (°C):		25.5

(h) Major type of air-side system (CBS1) : (may tick more than one item, if it serves 20% or more of AC area of building entity)

☐ Chilled water AHU (VAV/CAV) ☐ Chilled water FCU ☑ Unitary air-conditioner
☐ VRF System ☐ Not applicable

(i) Is power supply to air-side system AHU/FCU fans/terminal units of VRF system mainly on account of the building owner or tenants ? (please tick only one item):

☐ On account of the building owner ☐ On account of tenants ☑ Not applicable

Part 1 – Administrative Information & Building Characteristics

2) Central Mechanical Ventilation

	Fan motor input power *35 Measured / Calculated (kW)	Fan motor input power *35 Rated (kW)	Fan capacity *35 Measured / Calculated (L/s)	Fan capacity *35 Rated (L/s)	Quantity	Performance (W per L/s)
Sub-total, of all exhaust and intake fans for car park *27						
Sub-total, of all exhaust and intake fans for toilets, pantries, un-conditioned areas etc *27						
Total, of all central mechanical ventilation fans *27B						

Total internal floor area of areas served by central mechanical ventilation (m²) :			0.00
Percentage (based on total rated motor power) of all central mechanical ventilation fans (add up to 100%) :	0% for office floors	0% for shopping & leisure floors	0% for other floors

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 1 – Administrative Information & Building Characteristics

3) Lighting Installation (Lighting power below to be based on rated luminaire wattage, and to include decoration lighting of the building owner but not external lighting)	
(a) Sub-total lighting power, of all luminaires with T5 fluorescent lamps (kW)	0.00
(b) Sub-total lighting power, of all luminaires with fluorescent lamps other than T5 (kW)	0.79
(c) Sub-total lighting power, of all luminaires with compact fluorescent lamps (kW)	0.00
(d) Sub-total lighting power, of all luminaires with incandescent lamps (tungsten filament, tungsten halogen etc.) (kW)	0.00
(e) Sub-total lighting power, of all luminaires with discharge lamps (metal halide, high pressure sodium vapour etc.) (kW)	0.00
(f) Sub-total lighting power, of all luminaires with LED (light emitting diode) lamps (kW)	0.00
(g) Sub-total lighting power, of all luminaires with other types of lamps, if any (kW)	0.00
Total lighting power, of all luminaires (kW) [obtained by summing up all figures in (a) to (g)]	0.79
Total internal floor area of areas having CBS1 lighting installation (m²):	200.00
Total lighting power density (kW/m2) [obtained by dividing total lighting power by total internal floor area (having CBS1 lighting) above]:	0.00

Percentage (based on total lighting power) of all luminaires (add up to 100%):	100.00% for office floors	0.00% for shopping & leisure floors	0.00% for other floors

4) Lift and Escalator Installation

	Rated Motor Power (kW)	Quantity
Sub-total, of all traction lifts with DC Ward Leonard drive	0.00	0
Sub-total, of all traction lifts with DC thyristor Leonard drive	0.00	0
Sub-total, of all traction lifts with AC variable voltage (VV) drive	0.00	0
Sub-total, of all traction lifts with AC variable frequency (VF) drive	0.00	0
Sub-total, of all traction lifts with AC VVVF drive	5.00	1
Sub-total, of all traction lifts with other types of drive	0.00	0
Sub-total, of all hydraulic lifts	0.00	0
Sub-total, of all escalators and passenger conveyors	0.00	0
Total, of all lifts, escalators and passenger conveyors	5.00	1

Percentage (based on total rated motor power) of all lifts, escalators & passenger conveyors (add up to 100%):	100.00% for office floors	0.00% for shopping & leisure floors	0.00% for other floors

5) Other Installations *28*34

Total quantity of personal computers and photocopiers, with electricity consumption on account of the building owner:	10
Total rated motor power, of all plumbing & drainage pumps (kW)	3.00
Other installations, if applicable (please specify, and insert N/A if not applicable) *28*34	

N/A

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Executive Summary of Energy Audit Report for Energy Audit Code (EAC)
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Form EE-EAes

Part 2 – Historical Energy Consumption Analysis[^29]				(EAC Clause 8.1(g))
1) **Annual electricity consumptiuon of last 36-month (kWh/annum)** (EAC Clause 8.1(g)ii))		27,600.00 (kWh/annum) Past 1st 12-month	27,600.00 (kWh/annum) Past 2nd 12-month	27,600.00 (kWh/annum) Past 3rd 12-month
2) **Annual consumption of energy**[^30] **other than electricity, of last 36-month (MJ/annum)** (EAC Clause 8.1(g)ii))		0.00 (MJ/annum) Past 1st 12-month	0.00 (MJ/annum) Past 2nd 12-month	0.00 (MJ/annum) Past 3rd 12-month
3) **Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2))** (EAC Clause 8.1(g)ii))		99,360.00 (MJ/annum) Past 1st 12-month	99,360.00 (MJ/annum) Past 2nd 12-month	99,360.00 (MJ/annum) Past 3rd 12-month
4) **Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m2/annum) (EAC Clause 8.1(g)ii))** (Value in kWh/m2/annum can be obtained by dividing the MJ/m2/annum figure by 3.6)		496.80 (MJ/m^2/annum) Past 1st 12-month	496.80 (MJ/m^2/annum) Past 2nd 12-month	496.80 (MJ/m^2/annum) Past 3rd 12-month
5) **Monthly EUI of past 1st 12-month period (MJ/m2/month)** (EAC Clause 8.1(g)iii))	37.80 1st mth	39.60 2nd mth	41.40 3rd mth	43.20 4th mth
	45.00 5th mth	46.80 6th mth	45.00 7th mth	43.20 8th mth
	41.40 9th mth	39.60 10th mth	37.80 11th mth	36.00 12th mth
6) **Annual energy consumption breakdown, of past 1st 12-month period (MJ/annum)** (EAC Clause 8.1(g)iv))	39,312.00 Air-conditioning[^32]	8,154.00 Lighting	15,768.00 Lift & Escalator	36,126.00 Others[^33]
7) **Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1st 12-month period**(EAC Clause 8.1(h))				0.00 (%)
8) **Energy bill reference month** (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12th month of item 5) **ending on**				01/01/2021 (dd/mm/yyyy)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Executive Summary of Energy Audit Report for Energy Audit Code (EAC) — Form EE-EAes
(Please refer to Section 8, Code of Practice for Building Energy Audit)

Part 3 – Energy Management Opportunities (EMO)[^34]

Summary (numbers) of EMO Categorization [^27E]:										
			1							
			Category I			Category II			Category III	
			1							
			Lighting	Air-conditioning		Electrical		Lift/Esclator		Others

Ref. No.	EMO Category and Type. (Please click to select where applicable)				Description of EMO (Please provide information below) (Please insert additional rows, if necessary) (EAC Clause 8.1 (j)(i))
EMOII-Ltg-1	☐ I ☑ II ☐ III	☑ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		Replace MT8 01 with T8 LED tube
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		
	☐ I ☐ II ☐ III	☐ Lighting ☐ Air-conditioning ☐ Others	☐ Electrical ☐ Lift/Escalator		

EMSD/EAC2018 — Page 1 of 1 — EE-EAes2018(V.0)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Carbon Management Opportunities

Carbon Management Opportunities (CMO)			
Summary (numbers) of CMO:	1		
Ref. No.	Description of EMO (Please provide information below)	Emission Factor (kg-CO2e per kWh)	Estimated Carbon Emission Reduction Potential (kg-CO2e per year)
EMOII-Ltg-1	Replace MT8 01 with T8 LED tube	0.7000	1008.7

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

7.18 Appendix tutorial: edit the report after re-login

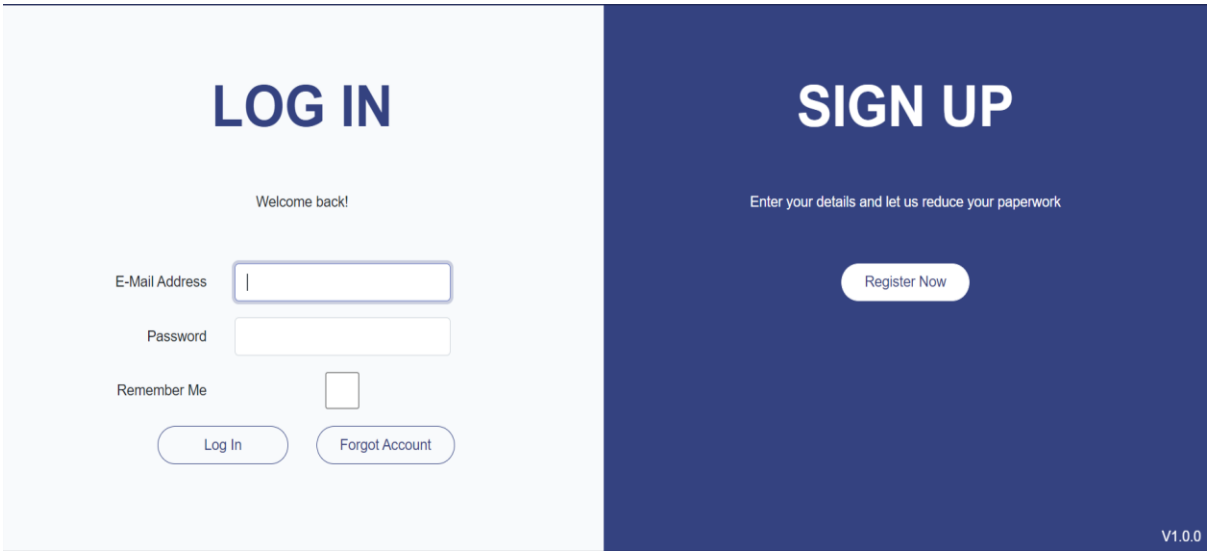


Figure 7.36 Login screen for SMART 610

Please go to the website http://www.smart610.com/. Click at the Login button on the top right hand-corner to access the above page. Re-login following the procedure in Section 7.1.

In the report list, click at the "Applicant's Name" of the report to be edited.

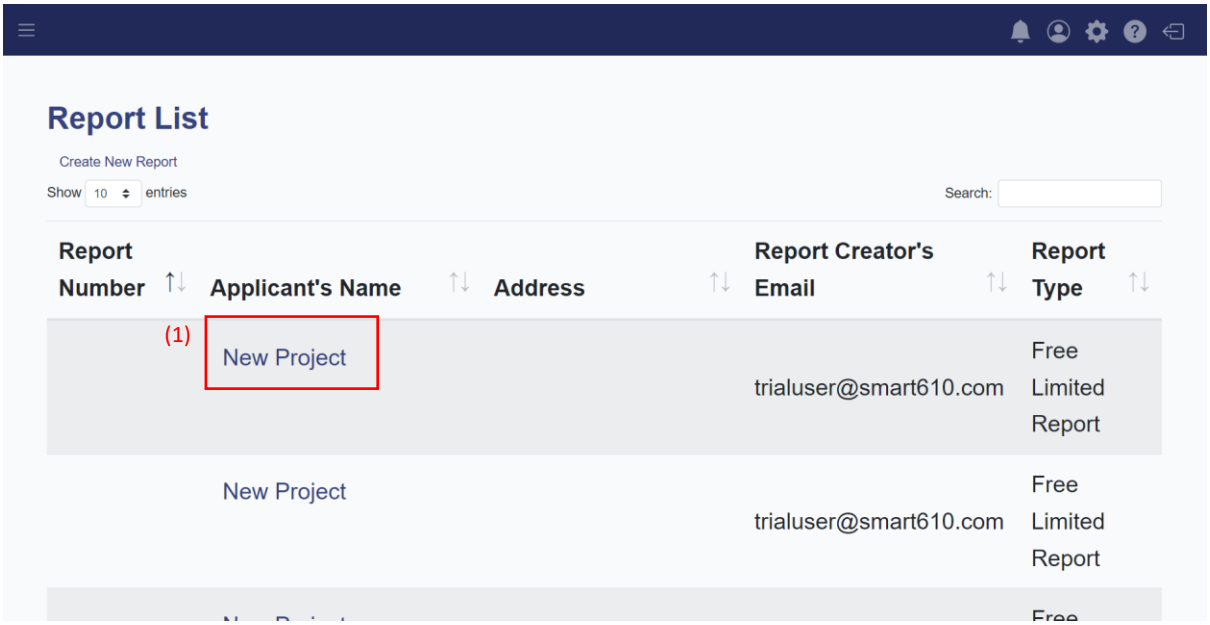


Figure 7.37 Report List for SMART 610

You will see the user assignment page. Click "Begin report editing". You will go back to the "Administrative" page to enter the energy audit information.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

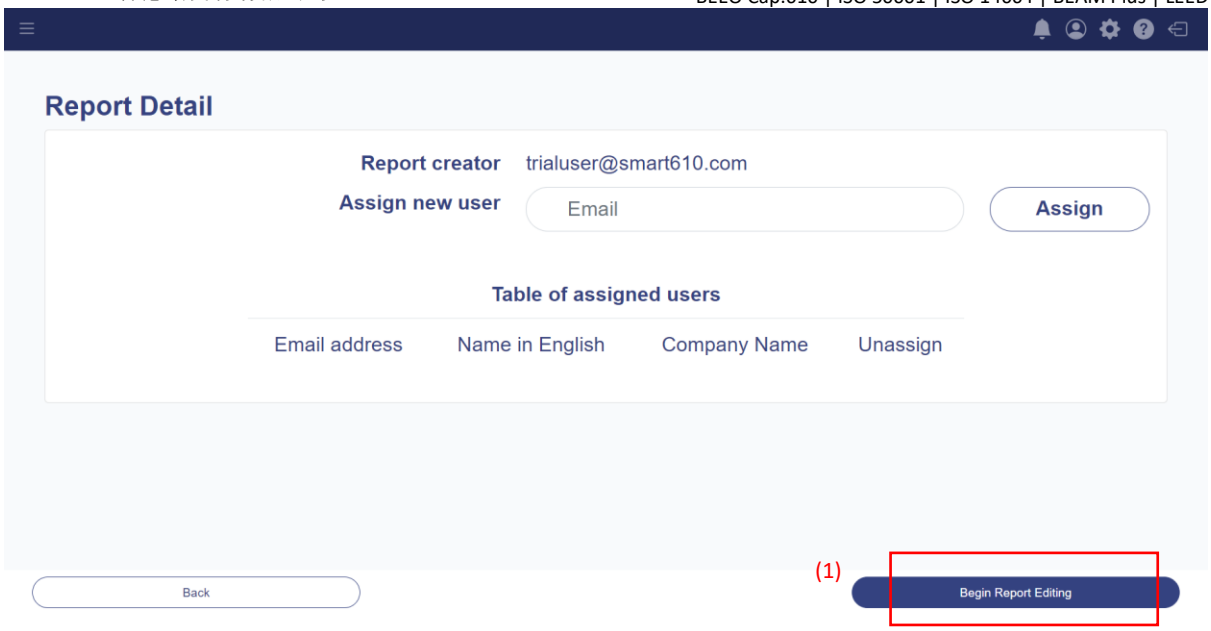


Figure 7.38 User assignment page

7.19 Appendix tutorial: share a report with the other users

To have another user to work on the same report, you log in to reach the report list first. Click at the report's "Applicant's Name" you want to share with the other user.

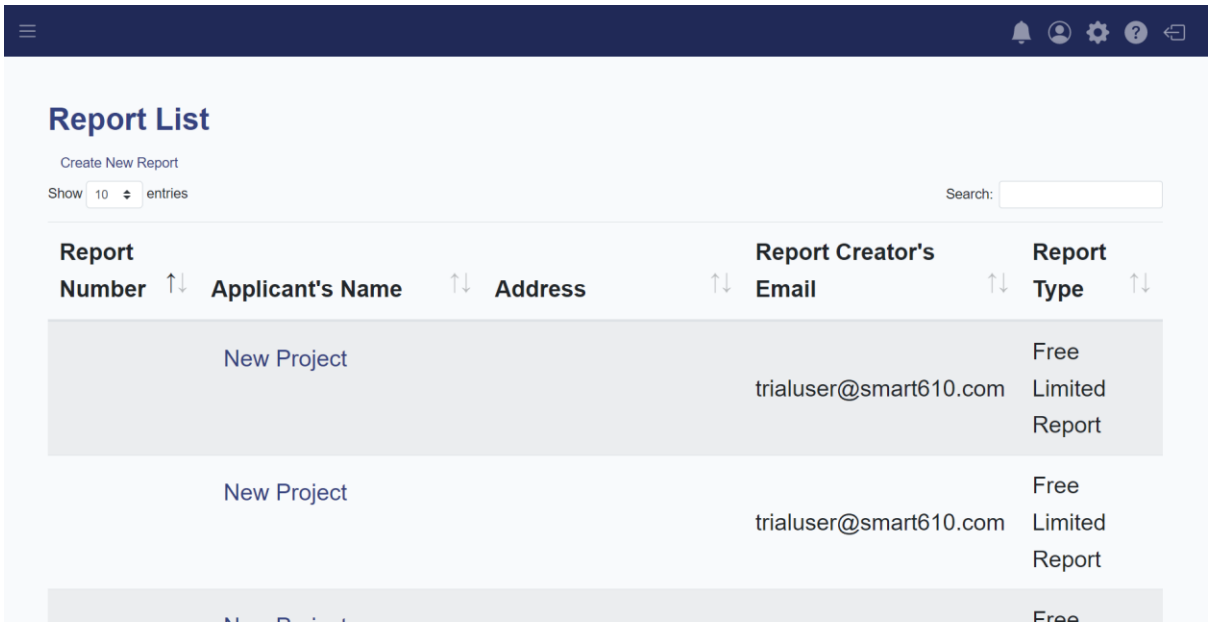


Figure 7.39 Report list of SMART 610

At the user assignment page below, put the other user's email address at the item "Assign new user" and click "Assign".

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

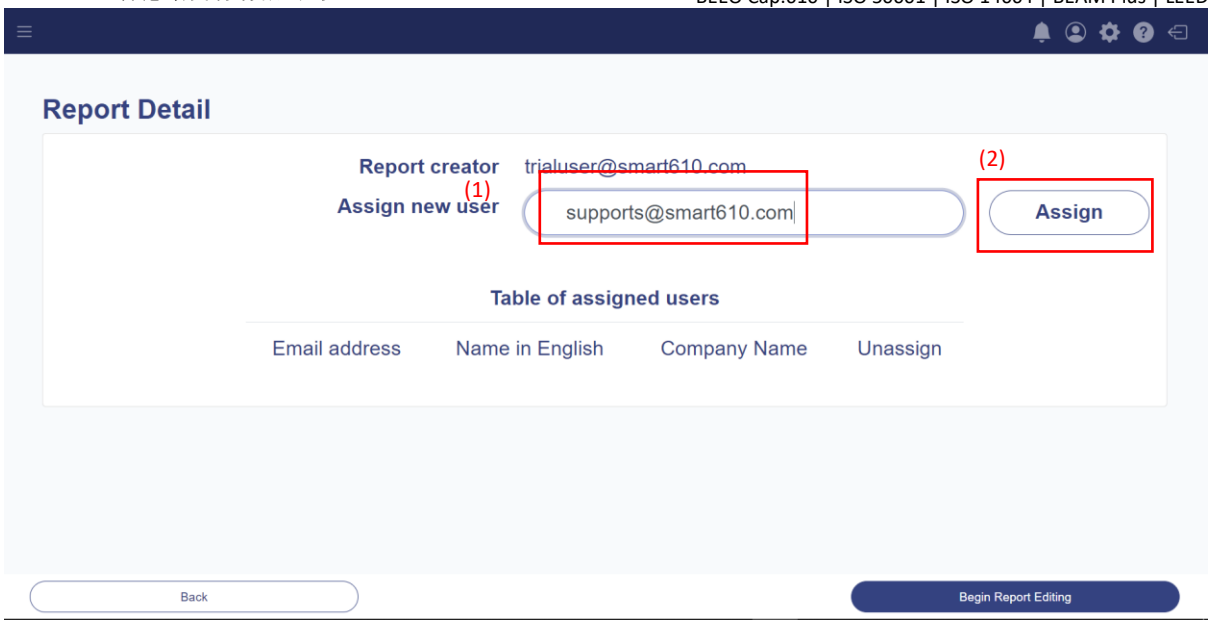


Figure 7.38 User assignment page

You will see the new user details below. If you no longer wants the user to work on the same report, click the corresponding “Unassign” button.

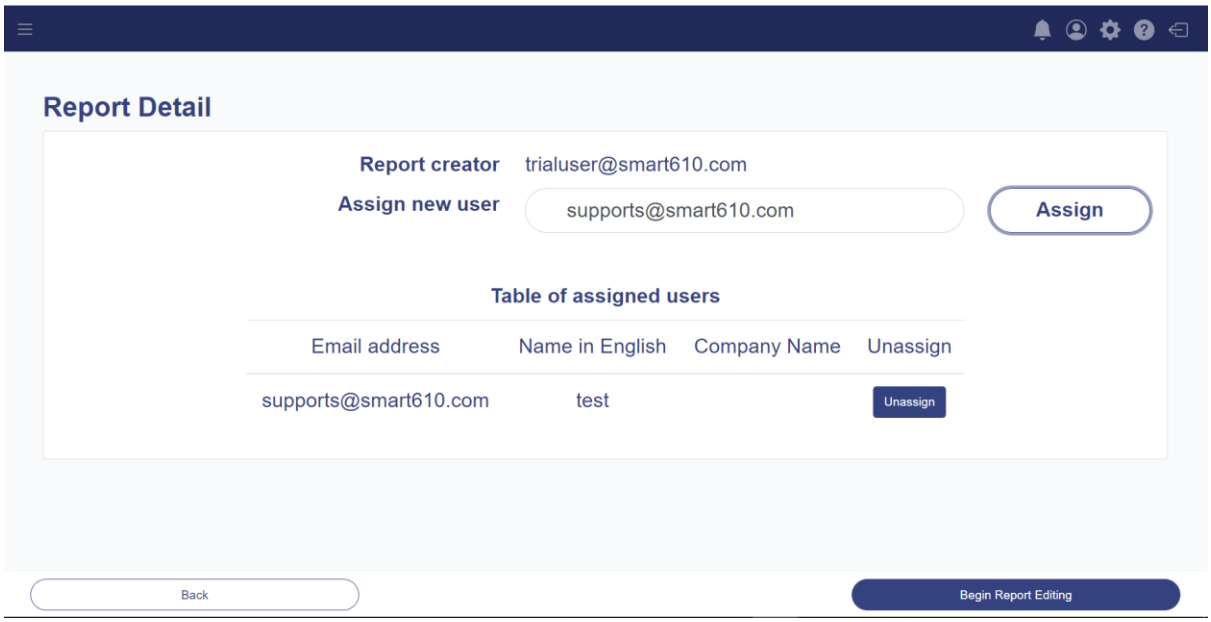


Figure 7.38 User assignment page with the additional user assignment

The new user should be able to access the report at their own Report List.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

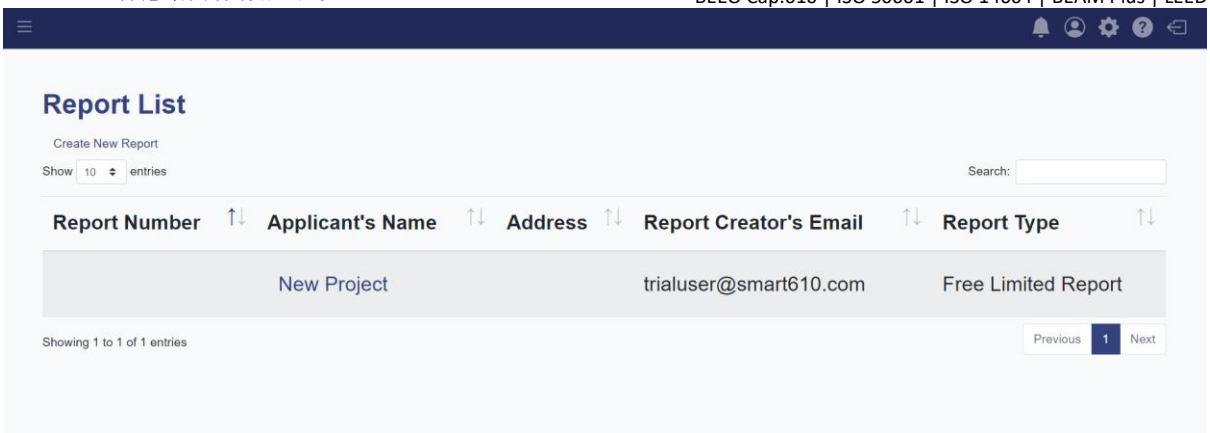


Figure 7.38 Report list of the assigned user

7.20 Appendix tutorial: upgrade a report from "SMART 610 Pro" to "SMART 610 Pro Max"

To enjoy additional features in "SMART 610 Pro Max" in a "SMART 610 Pro" report, in the report that you would like to upgrade, for pages beyond "Administrative" page as follows, click on the left-hand corner menu button. You will see the feature menu bar.

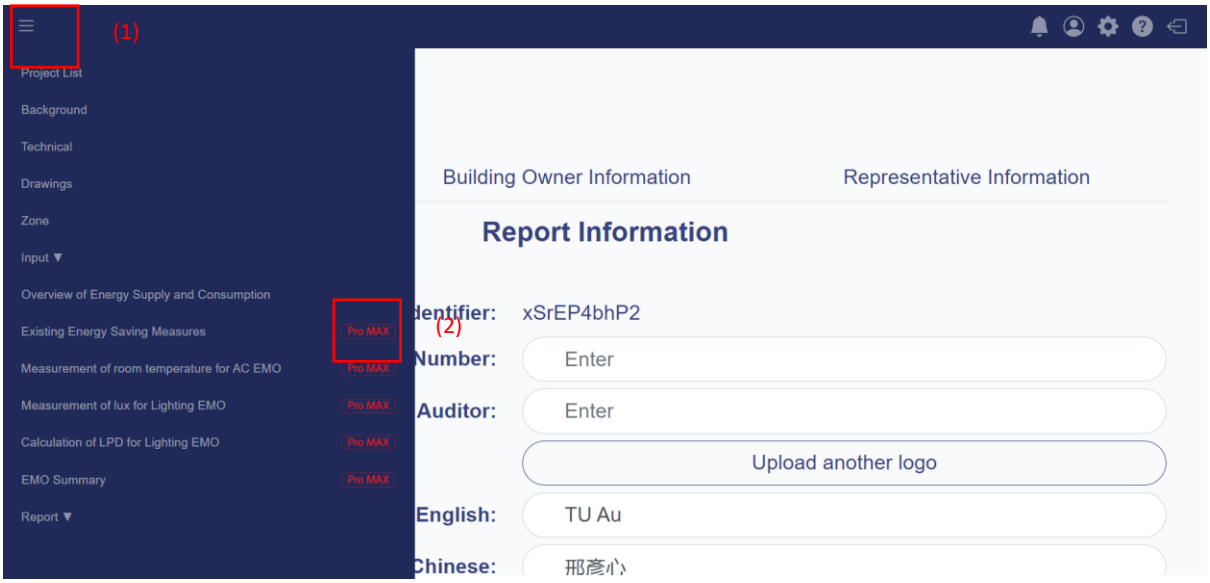


Figure 7.38 Report feature menu bar

Click at any features with "Pro MAX" icon. You will be directed to a report upgrade page.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

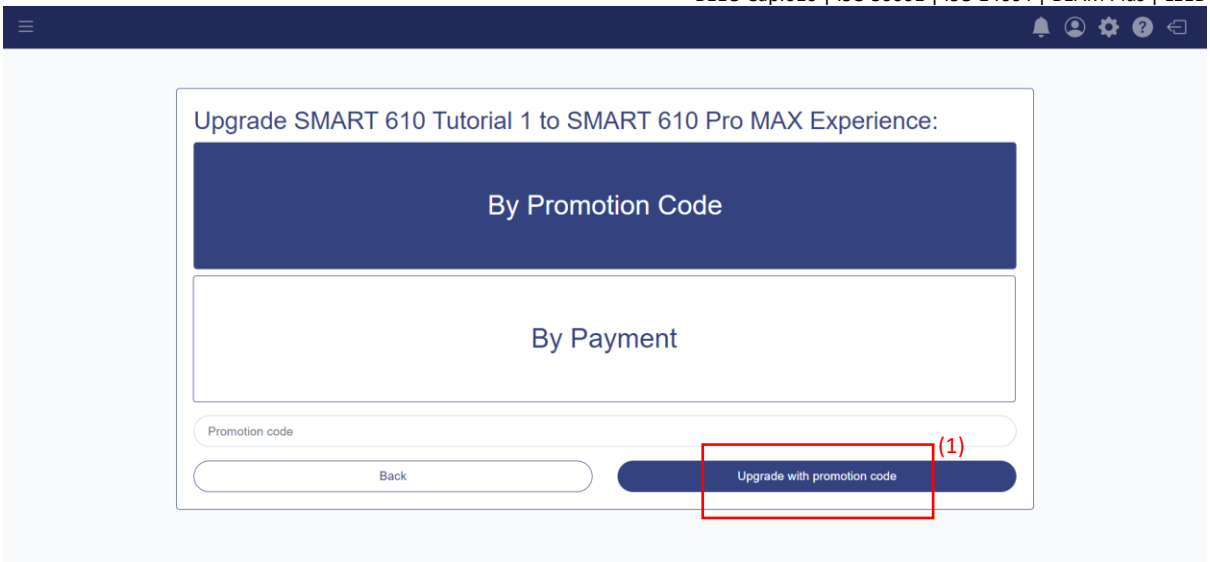


Figure 7.38 Report upgrade page

If you have a promotion code, you can enter it at the Promotion Code item and click “Upgrade with promotion code”. Otherwise, click “By Payment” and click “Proceed to Payment” to upgrade it with payment.

After that, if your payment or promotion code works, you should be directed to the report page with the “SMART 610 Pro MAX” feature, indicating the success of the upgrade.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

8 Deliverables and other compliance forms created for energy audits

Upon completion of the entries at the user interface, the deliverables

- Diagrams required for report submission following EAC
- Forms for energy audit submissions to Electrical and Mechanical Services Department (EMSD)
- Other values to be reported in energy audit reports

8.1 Diagrams required for report submission following EAC

The SaaS generated the following diagrams that are required in the energy audit report in the energy audit submission to EMSD.

- EUI per annum of the past consecutive 36 months
- Monthly EUI of the past 1st 12-month period
- Total energy consumption percentage breakdown of the central building services installations of the past 1st 12-month period

8.1.1 EUI per annum of the past consecutive 36 months

8.1.1.1 Definition

EUI per annum of the past consecutive 36 months are yearly energy utilisation index of the building in MJ/m^2. The calculation is performed by getting the total floor area by performing sum and product with the number of floors with the same layout, A/C and lighting installation location under the "Floor" tab under "Zone" and the corresponding area per floor under the "Room" tab under "Zone". The total floor area in m^2 should be shown under the "Overview" tab of "Overview of Energy Supply and Consumption". The values of the yearly energy consumption in the past 36 months period are calculated by summing the yearly energy supply and import converted to MJ in different years entered at the tab "Energy supply and import" under "Overview of Energy Supply and Consumption". Division of the yearly energy consumption by the total floor area yields the yearly EUI in the past 36 months period.

8.1.1.2 Getting the diagram

The diagram can be obtained by accessing the tab "Overview Analysis" under "Overview of Energy Supply and Consumption". After finding the diagram on the left, a user can download the diagram by clicking at the Menu button  on the top right corner of the diagram as shown in Figure 7.29.

8.1.2 Monthly EUI of the past 1st 12-month period

8.1.2.1 Definition

Monthly EUI of the past 1st 12-month period are monthly energy utilisation index of the building in MJ/m^2. The calculation is performed by getting the total floor area by performing sum and product with the number of floors with the same layout, A/C and lighting installation location under the "Floor" tab under "Zone" and the corresponding area per floor under the "Room" tab under "Zone". The total floor area in m^2 should be shown under the "Overview" tab of "Overview of Energy Supply and Consumption". The values of the monthly energy consumption in the past 1st 12-month period are calculated by summing the monthly energy supply and import converted to MJ in different months entered at the tab "Energy supply and import" under "Overview of Energy Supply and Consumption". Division of the monthly energy consumption by the total floor area yields the monthly EUI in the past 1st 12-month period.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

8.1.2.2 Getting the diagram

The diagram can be obtained by accessing the tab "Overview Analysis" under "Overview of Energy Supply and Consumption". After finding the diagram on the left, a user can download the diagram by clicking at the Menu button  on the top right corner of the diagram as shown in Figure 7.29.

8.1.3 Total energy consumption percentage breakdown of the central building services installations of the past 1st 12-month period

8.1.3.1 Definition

Total energy consumption percentage breakdown of the central building services installations of the past 1st 12-month period are annual energy consumption of each central building services installations in %. The calculation is performed by getting the annual energy consumption of each installation by performing sum and product with the power of A/C, lift and lighting installation under the "Specification" tab under "Input" and the corresponding quantity under the "Location" tab under "Input". The values of the total annual energy consumption in the past 1st 12-month period are calculated by summing the annual energy supply and import converted to MJ entered at the tab "Energy supply and import" under "Overview of Energy Supply and Consumption". Division of the annual energy consumption of each installation by total annual energy consumption yields the total energy consumption percentage breakdown of the central building services installations of the past 1st 12-month period.

8.1.3.2 Getting the diagram

The diagram can be obtained by accessing the tab "Overview Analysis" under "Overview of Energy Supply and Consumption". After finding the diagram on the right, a user can download the diagram by clicking at the Menu button  on the top right corner of the diagram as shown in Figure 7.29.

8.2 Forms for energy audit submissions to Electrical and Mechanical Services Department (EMSD)

The SaaS generated the following forms that are required in the energy audit report in the energy audit submission to EMSD.

- Form EE5
- Form EE-EA
- Form EE-EAes
- Form AIT1

8.2.1 From EE5

8.2.1.1 Introduction

Form EE5 is the Energy Audit form to be submitted to EMSD. It contains the preliminary administrative information and a summary of the energy audit in the form of the energy utilisation index. It can also be used to be displayed at public locations to show the results of the energy audit after submission.

8.2.1.2 Entry Formation/ Calculation

There are different entries in the form that are consolidated from the inputs in SaaS in the following manner:

Section A:

Name of Building:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

English: Copied from "Name of the Building in English" under "Background"

Chinese: Copied from "Name of the Building in Chinese" under "Background"

Address of Building:

Street No.: Copied from the first line of "Address of the Building in English" under "Background"

English Name of the Street: Copied from the second line of "Address of the Building in English" under "Background"

Chinese Name of the Street: Copied from the second line of "Address of the Building in Chinese" under "Background"

District

English: Copied from the first entry on the third line of "Address of the Building in English" under "Background"

Chinese: Copied from the first entry on the first line of "Address of the Building in Chinese" under "Background"

Region: Copied from the second entry on the third line of "Address of the Building in English" under "Background"

Section B:

English name of Registered Energy Assessor: Copied from the "Name in English" during the account registration according to Section 5.2

Registration No.: Copied from the "REA Registration No." during the account registration according to Section 5.2

Energy audit completion date: Copied from the second date from "Field Audit Date Period" under "Technical"

Energy audit expiry date: Calculated by adding ten years to the date at "Date to Issue the Energy Audit Report"

Energy utilisation index in MJ/m^2/annum:

Calculated by summing the values of numbers calculated under Section 8.1.2.1.

Energy utilisation index in kWh/m^2/annum:

Calculated by dividing the "Energy utilisation index in MJ/m^2/annum" by 3.6.

Chinese name of Registered Energy Assessor: Copied from the "Name in English" during the account registration according to Section 5.2

Registration No., *energy audit completion date*, *energy audit expiry date*, *energy utilisation index in MJ/m^2/annum* and *Energy utilisation index in kWh/m^2/annum* in the Chinese statement are filled in the same manner as their English counterparts.

Date of issue: Coped from the date at "Date to Issue the Energy Audit Report"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

8.2.2 From EE-EA

8.2.2.1 Introduction

Form EE-EA is the Energy Audit form to be submitted to EMSD. It contains the general information of the building and a checklist for energy audit code.

8.2.2.2 Entry Formation/ Calculation

There are different entries in the form that are consolidated from the inputs in SaaS in the following manner:

Part 1 – General Information:

Name of Building:

English: Copied from "Name of the Building in English" under "Background"

Chinese: Copied from "Name of the Building in Chinese" under "Background"

Address of Building:

Street No.: Copied from the first line of "Address of the Building in English" under "Background"

Street: Copied from the second line of "Address of the Building in English" under "Background"

District: Copied from the first entry on the third line of "Address of the Building in English" under "Background"

Region: Copied from the second entry on the third line of "Address of the Building in English" under "Background"

Owner of Building:

Name: Copied from "Name of the Building Owner in English" under "Background"

名稱: Copied from "Name of the Building Owner in Chinese" under "Background"

Room/Flat: Copied from the first entry on the first line of "Address of the Building Owner in English" under "Background"

Floor: Copied from the second entry on the first line of "Address of the Building Owner in English" under "Background"

Block: Copied from the third entry on the first line of "Address of the Building Owner in English" under "Background"

Building: Copied from the second line of "Address of the Building Owner in English" under "Background"

Street No.: Copied from the third line of "Address of the Building Owner in English" under "Background"

Street and District: Copied from the fourth line of "Address of the Building Owner in English" under "Background" and copied from the first entry on the fifth line of "Address of the Building Owner in English" under "Background"

Tel No.: Copied from "Contact Number of the Building Owner" under "Background"

Email Address: Copied from "Email Address of the Building Owner" under "Background"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Fax No.: Copied from "Fax Number of the Building Owner" under "Background"

Representative of Owner of Building:

Name in English: Copied from "Name of the Representative in English" under "Background"

中文名: Copied from "Name of the Representative in Chinese" under "Background"

Title: Copied from "Salutation" under "Representative Information" under "Background"

Room/Flat: Copied from the first entry on the first line of "Address of the Representative in English" under "Background"

Floor: Copied from the second entry on the first line of "Address of the Representative in English" under "Background"

Block: Copied from the third entry on the first line of "Address of the Representative in English" under "Background"

Building: Copied from the second line of "Address of the Representative in English" under "Background"

Street No.: Copied from the third line of "Address of the Representative in English" under "Background"

Street and District: Copied from the fourth line of "Address of the Representative in English" under "Background" and copied from the first entry on the fifth line of "Address of the Representative in English" under "Background"

Tel No.: Copied from "Contact Number of the Representative" under "Background"

Email Address: Copied from "Email Address of the Representative" under "Background"

Fax No.: Copied from "Fax Number of the Representative" under "Background"

Position in company/organization: Copied from "Position of the Contact Person of the Representative" under "Background"

Name in English (contact person): Copied from "Name of the Contact Person of the Representative in English" under "Background"

中文名(聯絡人): Copied from "Name of the Contact Person of the Representative in Chinese" under "Background"

Title: Copied from "Salutation" under "Contact Person of the Representative, if any" under "Background"

Documents submitted:

The information required is currently outside the scope of the SaaS (i.e. no. of sheets of the reports). The REA shall fill in the section manually for completeness of the form.

Part 2 and Part 3 of the form:

All information are filled "Yes" by default because they are all necessary to be fulfilled for completeness of the energy audit submission.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

8.2.3 Form EE-EAes

There are different entries in the form that are consolidated from the inputs in SaaS in the following manner:

Part 1 – Administrative Information & Building Characteristics

(A) Administration Information:

Name of Building: Copied from "Name of the Building in English" under "Background"

Address of Building: Copied from the first line of "Address of the Building in English" under "Background", copied from the second line of "Address of the Building in English" under "Background", copied from the first entry on the third line of "Address of the Building in English" under "Background", copied from the second entry on the third line of "Address of the Building in English" under "Background"

1) Date of commencement of energy audit: Copied from the first entry of "Field Audit Date Period" under "Technical"

2) Date of completion of energy audit: Copied from the second entry of "Field Audit Date Period" under "Technical"

3) Energy Audit From Validity period – issued on: Copied from "Date to Issue the Energy Audit Report" under "Technical"

and expired on: Calculated by adding ten years to the date at "Date to Issue the Energy Audit Report"

4) Energy Audit Report reference no. (optional): Copied from "Report Number" under "Background"

5) Does the Audited building import or export energy from/to other building?:

Check "Yes" if any of the following is filled:

"Non-quantifiable energy import" under "Overview of Energy Supply and Consumption"

"Energy export" under "Overview of Energy Supply and Consumption"

Otherwise, check "No".

Name(s) of building(s):

All items in "Name of building, if any" under "Non-quantifiable energy import" under "Overview of Energy Supply and Consumption", "Name of building, if any" under "Energy export" under "Overview of Energy Supply and Consumption", and "Name of building, if any" under "Input new Others energy supply and import" under "Energy supply and import" under "Overview of Energy Supply and Consumption".

Address(es) of building(s):

All items in "Address of building, if any" under "Non-quantifiable energy import" under "Overview of Energy Supply and Consumption", "Name of building, if any" under "Energy export" under "Overview of Energy Supply and Consumption" and "Address of building, if any" under "Input new Others energy supply and import" under "Energy supply and import" under "Overview of Energy Supply and

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Consumption". The addresses should be put one the same row as "Name of building, if any" written in the same input tabs.

Import or export:

If the "Name(s) of building(s)" on the same row is copied from "Energy export" under "Overview of Energy Supply and Consumption", "Export" is written. Otherwise, "Import" is written.

(B) Building Characteristics:

(I) Building Type, Usage & Operation:

1) Type of Building:

(a) Please choose the type (tick one item only) of building of the building entity audited:

Copied from "Type of Building" under "Technical"

(b) Please indicate the portion of the building entity being common area:

Calculated by dividing the sum of the product of all commonly used area under "Room" of "Floor and Room" and the corresponding "Number of floors with the same layout, A/C and lighting installation location" under "Floor" of "Floor and Room" by "Total internal floor area, including non-audited area in the Building (m2)" under "Additional Setting" of "Floor and Room".

(c) Please indicate the no. of blocks of the building entity:

2) Total internal floor area of the building entity (m2): Copied from "Total internal floor area under audit (m2)" under "Additional Setting" under "Zone"

3) No. of floors of the building entity: Calculated by summing up the "Number of floors with the same layout, A/C and lighting installation location" of each floor under "Floor" under "Zone"

$$\sum_{i=1}^{n} A_i$$

A = floor area

i = number of floors

4) Major type of building façade: Copied from "Type of the Building facade" under "Technical"

5) Date(s) of issue of occupation approval (dd/mm/yyyy): Copied from "Occupation Approval" under "Technical"

6) Type of central air-conditioning provided:

Cool air:

The box will be ticked, if

$$\frac{\sum_{i=1}^{n} US_i + \sum_{i=1}^{n} AF_i + \sum_{i=1}^{n} VRF_i}{CBSI_A} > 0.1$$

US_i = the total estimated annual consumption of all unitary systems. Calculated by multiplying the "Rated cooling input power(kW)" in the "Unitary system" under "Specification" under "AC Installation"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

under "Input", the "Quantity" of corresponding installation in the "Unitary system" under "Location" under "AC Installation" under "Input" and the "Annual operating hour in cooling mode" of corresponding installation in the "Unitary system" under "Location" under "AC Installation" under "Input"

AF_i = the total estimated annual consumption of all A/C fans. Calculated by multiplying the "Rated motor power(kW)" in the "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" and the "Annual operating hour" of corresponding installation in the "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

VRF_i = the total estimated annual consumption of all multi-split VRF systems. For the "VRF (Variable-refrigerant flow) or Heat Pump?" selected VRF in "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input", VRF_i calculated by multiplying the "Rated input power for cooling(kW)" in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" and the "Annual operating hour in cooling mode" of corresponding installation in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input"

$CBSI_A$ = the total annual energy consumption of CBSI (Air-conditioning, Lighting and Lift & Escalator). Calculated by summing up the "Air-conditioning", "Lighting" and "Lift & Escalator" in "6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m^2/month) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis"

Chilled water:

The box will be ticked, if

$$\frac{\sum_{i=1}^{n} CH_i + \sum_{i=1}^{n} HP_i + \sum_{i=1}^{n} ACP_i}{CBSI_A} > 0.1$$

CH_i = the total estimated annual consumption of all chillers. Calculated by multiplying the "Rated input power (kW)" in the "Chillers" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Chillers" under "Location" under "AC Installation" under "Input" and the "Annual operating hour" of corresponding installation in the "Chillers" under "Location" under "AC Installation" under "Input"

HP_i = the total estimated annual consumption of all heat pumps. For the "VRF (Variable-refrigerant flow) or Heat Pump?" selected Heat Pump in "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input", HP_i calculated by multiplying the "Rated input power for cooling (kW)" in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" and the "Annual operating hour in cooling mode" of corresponding installation in the "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

ACP_i = the total estimated annual consumption of all air-conditioning pumps. For the "Type" selected Primary or Secondary in "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input", ACP_i calculated by multiplying the "Rated input power (kW)" or "Measured/ Calculated input power (kW)" in the "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" and the "Annual operating hour" of corresponding installation in the "Air-conditioning pumps" under "Location" under "AC Installation" under "Input"

$CBSI_A$ = the total annual energy consumption of CBSI (Air-conditioning, Lighting and Lift & Escalator). Calculated by summing up the "Air-conditioning", "Lighting" and "Lift & Escalator" in "6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis"

Condenser water only:

The box will be ticked, if

$$\frac{\sum_{i=1}^{n} HR_i + \sum_{i=1}^{n} CDP_i}{CBSI_A} > 0.1 \text{ and } \sum t_{HR,i} q_{HR,i} > 1.05 \sum t_{chiller,i} q_{chiller,i}$$

HR_i = the total estimated annual consumption of all heat rejection systems. Calculated by multiplying the "Rated fan input power (kW)" or "Measured fan input power (kW)" in the "Heat rejection system" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Heat rejection system" under "Location" under "AC Installation" under "Input" and the "Annual operating hour" of corresponding installation in the "Chillers" under "Location" under "AC Installation" under "Input"

CDP_i = the total estimated annual consumption of all air-conditioning pumps. For the "Type" selected Fresh water condenser or Sea water condenser in "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input", CDP_i calculated by multiplying the "Rated input power (kW)" or "Measured/ Calculated input power (kW)" in the "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input", the "Quantity" of corresponding installation in the "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" and the "Annual operating hour" of corresponding installation in the "Air-conditioning pumps" under "Location" under "AC Installation" under "Input"

$CBSI_A$ = the total annual energy consumption of CBSI (Air-conditioning, Lighting and Lift & Escalator). Calculated by summing up the "Air-conditioning", "Lighting" and "Lift & Escalator" in "6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis"

$t_{HR,i}$ is the annual operating hour listed under "MVAC System owned by the premise" -> "Location" -> "Heat rejection system"

$q_{HR,i}$ is the quantity listed under "MVAC System owned by the premise" -> "Location" -> "Heat rejection system"

$t_{chiller,i}$ is the annual operating hour listed under "MVAC System owned by the premise" -> "Location" -> "Chillers"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

$q_{HR,i}$ is the quantity listed under "MVAC System owned by the premise" -> "Location" -> "Chillers"

Not applicable:

The box will be ticked, if the "Cool Air", "Chilled water" and "Condenser water only" are not ticked.

7) Summary of operation characteristics of categorized major usages of CBSI-served areas:

(a) Office:

The following inputs calculated from the "Type of Usage" selected Office under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

(b) Shopping & leisure:

The following inputs calculated from the "Type of Usage" selected Shopping & leisure under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

(c) Back of house area:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

The following inputs calculated from the "Type of Usage" selected Back of house area under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

(d) Restaurant:

The following inputs calculated from the "Type of Usage" selected Restaurant under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

(e) Car Park:

The following inputs calculated from the "Type of Usage" selected Car Park under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

(f) Others:

The following inputs calculated from the "Type of Usage" selected Others under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

%tage AC area of total of building entity: Calculated by summing up all the "Area per floor (m^2)", which selected "Yes" in "Is it Air-conditioned?", under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Average weekly operating hours (hrs/week): Calculated by summing up all the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" and "Weekend Operating Hours Per Week" are blank, the "Average weekday operating hours per week" and "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Daily average no. of occupants: Calculated by summing up all the "Average Number of Occupants" under "Room" under "Zone" and then divide the sum by the total number of rooms.

Total:

%tage area of total of building entity: Calculated by summing up all the "*%tage area of total of building entity*" above

%tage AC area of total of building entity: Calculated by summing up all the *"%tage AC area of total of building entity" above*

Average weekly operating hours (hrs/week): Calculated by summing up all the *"Average weekly operating hours (hrs/week)" above*

Daily average no. of occupants: Calculated by summing up all the *"Daily average no. of occupants" above*

Daily average occupant density (m^2 per person):

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Calculated by dividing the "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone" by the total "*Daily average no. of occupants"*

8) Details of operation characteristics of CBSI-served areas grouped under categorized major usages:

(a)(i) (Commonly used areas on office floors (office tower entrance lobby, lift lobbies, common corridors, common toilets etc.)

General:

The following inputs copied from the "Type of Usage" selected Office, "Is it a Commonly Used Area?" selected Yes and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Office, "Is it a Commonly Used Area?" selected Yes and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(a)(ii) Areas specific for office works (general office, private office, meeting rooms, data centres, server rooms, clinics, laboratories, tutorial schools, private toilets etc.)

General:

The following inputs copied from the "Type of Usage" selected Office, "Is it a Commonly Used Area?" selected No and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Office, "Is it a Commonly Used Area?" selected No and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(b)(i) Commonly used areas on shopping & leisure floors (shopping mall entrance lobby, public circulation areas, atrium, visitor toilets, etc.)

General:

The following inputs copied from the "Type of Usage" selected Shopping & leisure, "Is it a Commonly Used Area?" selected Yes and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

24-hour:

The following inputs copied from the "Type of Usage" selected Shopping & leisure, "Is it a Commonly Used Area?" selected Yes and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(b)(ii) Areas specific for shopping & leisure (retail shops, department stores, cinemas, health clubs, private toilets etc.)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

General:

The following inputs copied from the "Type of Usage" selected Shopping & leisure, "Is it a Commonly Used Area?" selected No and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

The following inputs copied from the "Type of Usage" selected Shopping & leisure, "Is it a Commonly Used Area?" selected No and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(c) Back of house areas (plant rooms, cleaner rooms, staircases (non-public circulation areas))

General:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

The following inputs copied from the "Type of Usage" selected Back of house area and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

> *%tage area of total of building entity:* Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"
>
> *Weekly operating hours (weekday):* Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (weekend):* Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.
>
> *Weekly operating hours (week total):* Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Back of house area and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(d) Restaurants

General:

The following inputs copied from the "Type of Usage" selected Restaurant and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up *"Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up *"Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Restaurant and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(e) Car Parks

General:

The following inputs copied from the "Type of Usage" selected Car park and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Car park and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(f) Others (if applicable, please specify)

Copied from "Summary of types of rooms under 'Others'" under "Additional Setting" under "Zone"

General:

The following inputs copied from the "Type of Usage" selected Others and "Is it Occupied in a 24-hours Schedule?" selected NO under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

24-hour:

The following inputs copied from the "Type of Usage" selected Others and "Is it Occupied in a 24-hours Schedule?" selected Yes under "Room" under "Zone"

AC: The following inputs copied from the "Is it Air-conditioned" selected Yes under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

Non-AC: The following inputs copied from the "Is it Air-conditioned" selected No under "Room" under "Zone"

%tage area of total of building entity: Calculated by summing up all the "Area per floor (m^2)" under "Room" under "Zone" and then divide the sum by "Total internal floor area under audit (m^2)" under "Additional Setting" under "Zone"

Weekly operating hours (weekday): Calculated by summing up all the "Weekday Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekday Operating Hours Per Week" is blank, the "Average weekday operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (weekend): Calculated by summing up all the "Weekend Operating Hours Per Week" under "Room" under "Zone" and then divide the sum by the total number of rooms. If the "Weekend Operating Hours Per Week" is blank, the "Average weekend operating hours per week" under "Technical" will be used. The value is corrected to the nearest 0.5 hours/week.

Weekly operating hours (week total): Calculated by summing up "*Weekly operating hours (weekday)"* and *"Weekly operating hours (weekend)"*

(II) Central Building Services Installation:

1) Air-conditioning Installation:

(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling):

Type of equipment (C/VRF/HP) (C:Chiller, VRF:VRF system, HP: Heat Pump): Copied from "Specification" under "AC Installation" under "Input" for chillers and copied from "VRF (Variable-refrigerant flow) or Heat Pump?" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" for heat pump/ VRF

Cooling (for heat rejection) (A/FW/SW/FE): Copied from "Cooling Type" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Evaporator Type" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Compressor (Ce/Se/So/Re): Copied from "Compressor" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Compressor" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Refrigerant (R134a/ R123/ R407c/ R410a/ R12/ R11 etc.): Copied from "Refrigerant" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Refrigerant" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Rated Capacity (kW): Calculated by multiplying "Rated capacity (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Rated cooling capacity (kW)" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF

Input Power Measured/Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Measured/ Calculated cooling input power (kW)" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF

Input Power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Rated cooling input power" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF

Quantity: Calculated by summing up "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller and calculated by summing up "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF

COP (kW/kW): Copied from "COP" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Rated cooling COP" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Total for cooling, of all chillers/VRF system/heat pumps:

Rated Capacity (kW): Calculated by summing up all the "Rated Capacity (kW)" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)"

Input Power Measured/Calculated (kW): Calculated by summing up all the "Input Power Measured/Calculated (kW)" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)"

Input Power Rated (kW): Calculated by summing up all the "Input Power Rated (kW)" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Quantity: Calculated by summing up all the "Quantity" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)"

COP (kW/kW): Calculated by dividing the total "Rated Capacity (kW)" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)" by the sum of total "Input Power Measured/Calculated (kW)" and total "Input Power Rated (kW)" in "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)"

(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating:

Type of equipment (C/VRF/HP/B/O) (C:Chiller, VRF:VRF system, HP: Heat Pump, B: Boiler, O: Other heating): Copied from "Specification" under "AC Installation" under "Input" for chillers, copied from "VRF (Variable-refrigerant flow) or Heat Pump?" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" for heat pump/ VRF and copied from "Boiler?" under "Boiler/ Other heating equipment" under "Specification" under "AC Installation" under "Input" for boiler/ other heating

Cooling (for heat rejection) (A/FW/SW/FE): Copied from "Cooling Type" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Evaporator Type" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Compressor (Ce/Se/So/Re): Copied from "Compressor" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Compressor" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Refrigerant (R134a/ R123/ R407c/ R410a/ R12/ R11 etc.): Copied from "Refrigerant" under "Chillers" under "Specification" under "AC Installation" under "Input" and copied from "Refrigerant" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Rated Capacity (kW): Calculated by multiplying "Rated capacity (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Rated heating capacity (kW)" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/VRF; besides, calculated by multiplying "Rated heating capacity (kW)" under "Boiler/ Other heating equipment" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Boiler/ Other heating equipment" under "Location" under "AC Installation" under "Input" of each boiler/ other heating

Input Power Measured/Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Measured/ Calculated heating input power (kW)" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF; besides, calculated by multiplying "Measured/ Calculated heating input power (kW)" under "Boiler/ Other heating equipment" under

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

"Specification" under "AC Installation" under "Input" by "Quantity" under "Boiler/ Other heating equipment" under "Location" under "AC Installation" under "Input" of each boiler/ other heating

Input Power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Chillers" under "Specification" under "AC Installation" under "Input" and "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller; also, calculated by multiplying "Rated heating input power (kW)" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF; besides, calculated by multiplying "Rated heating input power (kW)" under "Boiler/ Other heating equipment" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Boiler/ Other heating equipment" under "Location" under "AC Installation" under "Input" of each boiler/ other heating

Quantity: Calculated by summing up "Quantity" under "Chillers" under "Location" under "AC Installation" under "Input" of each chiller, calculated by summing up "Quantity" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Location" under "AC Installation" under "Input" of each heat pump/ VRF and calculated by summing up "Quantity" under "Boiler/ Other heating equipment" under "Location" under "AC Installation" under "Input" of each boiler/ other heating

COP (kW/kW): Copied from "COP" under "Chillers" under "Specification" under "AC Installation" under "Input", copied from "Rated heating COP" under "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input" and copied from "Rated efficiency" under "Boiler/ Other heating equipment" under "Specification" under "AC Installation" under "Input"

Total for heating, of all boilers/VRF system/heat pumps/other heating:

Rated Capacity (kW): Calculated by summing up all the "Rated Capacity (kW)" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating"

Input Power Measured/Calculated (kW): Calculated by summing up all the "Input Power Measured/Calculated (kW)" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating"

Input Power Rated (kW): Calculated by summing up all the "Input Power Rated (kW)" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating"

Quantity: Calculated by summing up all the "Quantity" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating"

COP (kW/kW): Calculated by dividing the total "Rated Capacity (kW)" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers. Other Heating" by the sum of total "Input Power Measured/Calculated (kW)" and total "Input Power Rated (kW)" in "(a)(i) Part 2: VRF System (Heating), Heat Pumps (Heating), Boilers, Other Heating"

(a)(ii) Part 1: Unitary air-conditioners (Cooling model):

Type of equipment (R/S/P)(R:Room type, S:Split type, OU: Other Unitary air-conditioner): Copied from "Type" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Cooling (for heat rejection) (A/FW/SW/FE): Copied from "Condenser Type" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Compressor (Se/So/Re): Copied from "Compressor" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Refrigerant (R134a/R123/R407c/R410a/R22/R12/R11 etc.): Copied from "Refrigerant" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Rated Capacity (kW): Calculated by multiplying "Rated cooling capacity (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Input Power Measured/Calculated (kW): Calculated by multiplying "Measured/ Calculated cooling input power (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Input Power Rated (kW): Calculated by multiplying "Rated input power for cooling (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Quantity: Copied from "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

COP (kW/kW): Copied from "Rated cooling COP" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Total for cooling, of all unitary air-conditioners:

Rated Capacity (kW): Calculated by summing up all the "Rated Capacity (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

Input Power Measured/Calculated (kW): Calculated by summing up all the "Input Power Measured/Calculated (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

Input Power Rated (kW): Calculated by summing up all the "Input Power Rated (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

Quantity: Calculated by summing up all the "Quantity" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

COP (kW/kW): Calculated by dividing the total "Rated Capacity (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)" by the sum of total "Input Power Measured/Calculated (kW)" and total "Input Power Rated (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

(a)(ii) Part 2: Unitary air-conditioners (Heating model):

Type of equipment (R/S/P)(R:Room type, S:Split type, OU: Other Unitary air-conditiner): Copied from "Type" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Cooling (for heat rejection) (A/FW/SW/FE): Copied from "Condenser Type" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Compressor (Se/So/Re): Copied from "Compressor" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Refrigerant (R134a/R123/R407c/R410a/R22/R12/R11 etc.): Copied from "Refrigerant" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Rated Capacity (kW): Calculated by multiplying "Rated heating capacity (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Input Power Measured/Calculated (kW): Calculated by multiplying "Measured/ Calculated heating input power (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Input Power Rated (kW): Calculated by multiplying "Rated heating input power (kW)" under "Unitary systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

Quantity: Copied from "Quantity" under "Unitary systems" under "Location" under "AC Installation" under "Input" of each unitary system

COP (kW/kW): Copied from "Rated heating COP" under "Unitary systems" under "Specification" under "AC Installation" under "Input"

Total for heating, of all unitary air-conditioners:

Rated Capacity (kW): Calculated by summing up all the "Rated Capacity (kW)" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)"

Input Power Measured/Calculated (kW): Calculated by summing up all the "Input Power Measured/Calculated (kW)" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)"

Input Power Rated (kW): Calculated by summing up all the "Input Power Rated (kW)" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)"

Quantity: Calculated by summing up all the "Quantity" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)"

COP (kW/kW): Calculated by dividing the total "Rated Capacity (kW)" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)" by the sum of total "Input Power Measured/Calculated (kW)" and total "Input Power Rated (kW)" in "(a)(ii) Part 2: Unitary air-conditioners (Heating model)"

Percentage (based on total cooling capacity) of all unitary air-conditioners (add up to 100%):

For office floors:

$$\frac{\sum_{i=1}^{n}(C_i \times Q_i)}{C_R} \times 100\%$$

i = the installations with the "Room type" under "Unitary system" under "Location" under "AC Installation" under "Input" that is selected Office in "Type of Usage" under "Room" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

C_i = the "Rated cooling capacity (kW)" under "Unitary system" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Unitary system" under "Location" under "AC Installation" under "Input"

C_R = the "Total for cooling, of all unitary air-conditioners: Rated Capacity (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

For shopping & leisure floors:

$$\frac{\sum_{i=1}^{n}(C_i \times Q_i)}{C_R} \times 100\%$$

i = the installations with the "Room type" under "Unitary system" under "Location" under "AC Installation" under "Input" that is selected shopping & leisure in "Type of Usage" under "Room" under "Zone"

C_i = the "Rated cooling capacity (kW)" under "Unitary system" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Unitary system" under "Location" under "AC Installation" under "Input"

C_R = the "Total for cooling, of all unitary air-conditioners: Rated Capacity (kW)" in "(a)(ii) Part 1: Unitary air-conditioners (Cooling model)"

For other floors:

Calculated by 100% minus "Percentage for office floors" minus "Percentage for shopping & leisure floors"

(b) Air-conditioning pumps:

(i) Chilled water pumps:

Primary circuit, sub-total of all pumps: The following inputs copied from the "Type" selected Primary under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input"

Pump motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump motor input power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Quantity: Copied from "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Performance (W per L/s): Copied from "Performance" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Secondary circuit, sub-total of all pumps: The following inputs copied from the "Type" selected Secondary under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input"

Pump motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump motor input power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Quantity: Copied from "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Performance (W per L/s): Copied from "Performance" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Total, of all chilled water pumps:

Pump motor input power Measured/ Calculated (kW): Calculated by summing up all the "Pump motor input power Measured/ Calculated (kW)" in "(i) Chilled water pumps"

Pump motor input power Rated (kW): Calculated by summing up all the "Pump motor input power Rated (kW)" in "(i) Chilled water pumps"

Pump capacity Measured/ Calculated (L/s): Calculated by summing up all the "Pump capacity Measured/ Calculated (L/s)" in "(i) Chilled water pumps"

Pump capacity Rated (L/s): Calculated by summing up all the "Pump capacity Rated (L/s)" in "(i) Chilled water pumps"

Quantity: Calculated by summing up all the "Quantity" in "(i) Chilled water pumps"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Performance (W per L/s): Calculated by dividing the sum of "Pump motor input power Measured/ Calculated (kW) and "Pump motor input power Rated (kW)" in "(i) Chilled water pumps" by the sum of "Pump capacity Measured/ Calculated (L/s)" and "Pump capacity Rated (L/s)" in "(i) Chilled water pumps"

(ii) Condenser water pumps:

Fresh water, sub-total of all pumps: The following inputs copied from the "Type" selected Fresh water condenser under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input"

Pump motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump motor input power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Quantity: Copied from "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Performance (W per L/s): Copied from "Performance" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Sea water, sub-total of all pumps: The following inputs copied from the "Type" selected Sea water condenser under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input"

Pump motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump motor input power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

"Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Pump capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Quantity: Copied from "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Performance (W per L/s): Copied from "Performance" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump

Total, of all condenser water pumps:

Pump motor input power Measured/ Calculated (kW): Calculated by summing up all the "Pump motor input power Measured/ Calculated (kW)" in "(ii) Condenser water pumps"

Pump motor input power Rated (kW): Calculated by summing up all the "Pump motor input power Rated (kW)" in "(ii) Condenser water pumps"

Pump capacity Measured/ Calculated (L/s): Calculated by summing up all the "Pump capacity Measured/ Calculated (L/s)" in "(ii) Condenser water pumps"

Pump capacity Rated (L/s): Calculated by summing up all the "Pump capacity Rated (L/s)" in "(ii) Condenser water pumps"

Quantity: Calculated by summing up all the "Quantity" in "(ii) Condenser water pumps"

Performance (W per L/s): Calculated by dividing the sum of "Pump motor input power Measured/ Calculated (kW) and "Pump motor input power Rated (kW)" in "(ii) Condenser water pumps" by the sum of "Pump capacity Measured/ Calculated (L/s)" and "Pump capacity Rated (L/s)" in "(ii) Condenser water pumps"

(iii) Heater water pumps – total of all heated water pumps:

The following inputs copied from the "Type" selected Heater water pump under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input"

Pump motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured/ Calculated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Measured/ Calculated input power (kW)

Pump motor input power Rated (kW): Calculated by multiplying "Rated input power (kW)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Rated input power (kW)

Pump capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

"Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Measured/ Calculated flow rate (L/s)

Pump capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Air-conditioning pumps" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Rated flow rate (L/s)

Quantity: Copied from "Quantity" under "Air-conditioning pumps" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Quantity

Performance (W per L/s): Calculated by dividing the sum of "Pump motor input power Measured/ Calculated (kW)" and "Pump motor input power Rated (kW)" in "(iii) Heater water pumps – total of all heated water pumps" by the sum of "Pump capacity Measured/ Calculated (L/s)" and "Pump capacity Rated (L/s)" in "(iii) Heater water pumps – total of all heated water pumps"

(c) Heat rejection:

Sub-total, of all cooling towers: The following inputs copied from the "Type" selected Cooling tower under "Heat rejection system" under "Specification" under "AC Installation" under "Input"

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured fan motor power (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Measured fan motor power (kW)

Fan motor input power Rated (kW): Calculated by multiplying "Rated fan motor power (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Rated fan motor power (kW)

Rated heat rejection capacity (kW): Calculated by multiplying "Rated heat rejection capacity (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Rated heat rejection capacity (kW)

Quantity: Copied from "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Quantity

Performance (kW/kW): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all cooling towers" by the sum of "Rated heat rejection capacity (kW)" in "Sub-total, of all cooling towers"

Sub-total, of all radiators: The following inputs copied from the "Type" selected Radiator under "Heat rejection system" under "Specification" under "AC Installation" under "Input"

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured fan motor power (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Measured fan motor power (kW)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Fan motor input power Rated (kW): Calculated by multiplying "Rated fan motor power (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Rated fan motor power (kW)

Rated heat rejection capacity (kW): Calculated by multiplying "Rated heat rejection capacity (kW)" under "Heat rejection system" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each heat rejection system and sum up all the Rated heat rejection capacity (kW)

Quantity: Copied from "Quantity" under "Heat rejection system" under "Location" under "AC Installation" under "Input" of each air-conditioning pump and sum up all the Quantity

Performance (kW/kW): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all radiators" by the sum of "Rated heat rejection capacity (kW)" in "Sub-total, of all radiators"

(d) Air-conditioning fans:

Sub-total, of all AHUs & FCUs (excluding primary air AHU): The following inputs copied from the "Type" selected Chilled water FCU, Chilled-water AHU and Indoor (terminal) unit of VRF system under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured fan motor power (kW)

Fan motor input power Rated (kW): Calculated by multiplying "Rated motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated fan motor power (kW)

Fan capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured/ Calculated flow rate (L/s)

Fan capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated flow rate (L/s)

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Quantity: Copied from "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Quantity

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all AHUs & FCUs (excluding primary air AHU)" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "Sub-total, of all AHUs & FCUs (excluding primary air AHU)"

Sub-total, of all primary air AHUs, fresh air and return air fans (for conditioned areas): The following inputs copied from the "Type" selected Primary Chilled-water AHU, Primary AHU connected to VRF system, Fresh air fan, Intake air fan and Return air fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input". For Fresh air fan, Intake air fan, and Return air fan, the system will only select the "Room Type" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" that is selected Yes in "Is it Air-conditioned?" under "Room" under "Zone".

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Rated motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured fan motor power (kW)

Fan motor input power Rated (kW): Calculated by multiplying "Rated motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated fan motor power (kW)

Fan capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured/ Calculated flow rate (L/s)

Fan capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated flow rate (L/s)

Quantity: Copied from "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Quantity

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all primary air AHUs, fresh

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

air and return air fans (for conditioned areas)" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "Sub-total, of all primary air AHUs, fresh air and return air fans (for conditioned areas)"

Total, of all air-conditioning fans:

Fan motor input power Measured/ Calculated (kW): Calculated by summing up all the "Fan motor input power Measured/ Calculated (kW)" in "(d) Air-conditioning fans"

Fan motor input power Rated (kW): Calculated by summing up all the "Fan motor input power Rated (kW)" in "(d) Air-conditioning fans"

Fan capacity Measured/ Calculated (L/s): Calculated by summing up all the "Fan capacity Measured/ Calculated (L/s)" in "(d) Air-conditioning fans"

Fan capacity Rated (L/s): Calculated by summing up all the "Fan capacity Rated (L/s)" in "(d) Air-conditioning fans"

Quantity: Calculated by summing up all the "Quantity" in "(d) Air-conditioning fans"

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW) and "Fan motor input power Rated (kW)" in "(d) Air-conditioning fans" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "(d) Air-conditioning fans"

Percentage (based on total fan rated motor power) of all air-conditioning fans (add up to 100%):

For office floors:

$$\frac{\sum_{i=1}^{n}(P_i \times Q_i)}{P_M + P_R} \times 100\%$$

i = the installations with the "Room type" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" that is selected Office in "Type of Usage" under "Room" under "Zone"

P_i = the "Rated motor power (kW)" or "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

P_M = the "Total, of all air-conditioning fans: Fan motor input power Measured/ Calculated (kW)" in "(d) Air-conditioning fans"

P_R = the "Total, of all air-conditioning fans: Fan motor input power Rated (kW)" in "(d) Air-conditioning fans"

For shopping & leisure floors:

$$\frac{\sum_{i=1}^{n}(P_i \times Q_i)}{P_M + P_R} \times 100\%$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installations with the "Room type" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" that is selected shopping & leisure in "Type of Usage" under "Room" under "Zone"

P_i = the "Rated motor power (kW)" or "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

P_M = the "Total, of all air-conditioning fans: Fan motor input power Measured/ Calculated (kW)" in "(d) Air-conditioning fans"

P_R = the "Total, of all air-conditioning fans: Fan motor input power Rated (kW)" in "(d) Air-conditioning fans"

For other floors:

Calculated by 100% minus "Percentage for office floors" minus "Percentage for shopping & leisure floors"

(e) Chilled/Heated water plant sequencing control:

Please indicate if automatic sequencing control is provided: Copied from "Is there any automatic sequencing of A/C installation by centralised system?" under "Setting" under "AC Installation" under "Input"

(f) Overall COP of chiller plant (kW/kW):

Calculated by dividing the "Rated Capacity (kW)" in "Total for cooling, of all chillers/VRF system/heat pumps" of "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)" under "1) Air-conditioning Installation" by the sum of "Input Power Rated (kW)" and "Input Power Measured/Calculated (kW)" in "Total for cooling, of all chillers/VRF system/heat pumps" of "(a)(i) Part 1: Chillers (Cooling), VRF System (Cooling)" under "1) Air-conditioning Installation", "Pump motor input power Rated (kW)" and "Pump motor input power Measured/Calculated (kW)" in "Total, of all chilled water pumps" of "(i) Chilled water pumps" under "(b) Air-conditioning pumps", "Pump motor input power Rated (kW)" and "Pump motor input power Measured/Calculated (kW)" in "Total, of all condenser water pumps" of "(ii) Chilled water pumps" under "(b) Air-conditioning pumps" and "Fan motor input power Rated (kW)" and "Fan motor input power Measured/Calculated (kW)" in "Total, of all heat rejection equipment" of "(c) Heat rejection"

(g) Overall representative indoor room temperature set point in summer (˚C):

Copied from "Overall representative indoor room temperature set point in summer (˚C)" under "Measurement for A/C Operation EMO"

(h) Major type of air-side system (CBSI): (may tick more than one item, if it serves 20% or more of AC area of building entity):

Calculated by dividing the area of each type of air-side system by the total area of AC served. If it is greater than 0.2, tick on the box. The area of each type of air-side system is calculated by summing up the "Area per floor (m^2)" in "Room" under "Zone" based on the "Room type" in "Location" under

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

"AC Installation" under "Input" that the air-side system located. The total area of AC served is calculated by summing up the "Area per floor (m^2)" in "Room" under "Zone" with "Is it Air-conditioned?" selected Yes.

(i) Is power supply to air-side system AHU/FCU fans/terminal units of VRF system mainly on account of the building owner or tenants? (please tick only one item):

Copied from "Does the landlord supply air conditioning to tenants?" under "Setting" under "AC Installation" under "Input"

2) Central Mechanical Ventilation:

Sub-total, of all exhaust and intake fans for car park: The following inputs copied from the "Type" selected Fresh air fan/Intake air fan/Return air fan/Exhaust fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" and the "Room type" is Car Park in "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured fan motor power (kW)

Fan motor input power Rated (kW): Calculated by multiplying "Rated motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated fan motor power (kW)

Fan capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured/ Calculated flow rate (L/s)

Fan capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated flow rate (L/s)

Quantity: Copied from "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Quantity

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all AHUs & FCUs (excluding

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

primary air AHU)" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "Sub-total, of all AHUs & FCUs (excluding primary air AHU)"

Sub-total, of all exhaust and intake fans for toilets, pantries, un-conditioned areas etc.: The following inputs copied from the "Type" selected Fresh air fan/Intake air fan/Return air fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" and the "Is it Ventilated if it is not Air-conditioned?" is selected Yes in "Room" under "Zone", and from the "Type" selected Exhaust fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" and the "Room type" is not Car Park in "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

Fan motor input power Measured/ Calculated (kW): Calculated by multiplying "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured fan motor power (kW)

Fan motor input power Rated (kW): Calculated by multiplying "Rated motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated fan motor power (kW)

Fan capacity Measured/ Calculated (L/s): Calculated by multiplying "Measured/ Calculated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Measured/ Calculated flow rate (L/s)

Fan capacity Rated (L/s): Calculated by multiplying "Rated flow rate (L/s)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input" by "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Rated flow rate (L/s)

Quantity: Copied from "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "Location" under "AC Installation" under "Input" of each air-conditioning fan and sum up all the Quantity

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW)" and "Fan motor input power Rated (kW)" in "Sub-total, of all AHUs & FCUs (excluding primary air AHU)" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "Sub-total, of all AHUs & FCUs (excluding primary air AHU)"

Total, of all central mechanical ventilation fans:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Fan motor input power Measured/ Calculated (kW): Calculated by summing up all the "Fan motor input power Measured/ Calculated (kW)" in "2) Central Mechanical Ventilation"

Fan motor input power Rated (kW): Calculated by summing up all the "Fan motor input power Rated (kW)" in "2) Central Mechanical Ventilation"

Fan capacity Measured/ Calculated (L/s): Calculated by summing up all the "Fan capacity Measured/ Calculated (L/s)" in "2) Central Mechanical Ventilation"

Fan capacity Rated (L/s): Calculated by summing up all the "Fan capacity Rated (L/s)" in "2) Central Mechanical Ventilation"

Quantity: Calculated by summing up all the "Quantity" in "2) Central Mechanical Ventilation"

Performance (W per L/s): Calculated by dividing the sum of "Fan motor input power Measured/ Calculated (kW) and "Fan motor input power Rated (kW)" in "2) Central Mechanical Ventilation" by the sum of "Fan capacity Measured/ Calculated (L/s)" and "Fan capacity Rated (L/s)" in "2) Central Mechanical Ventilation"

Total internal floor area of areas served by central mechanical ventilation (m^2): Calculated by summing up all the "Area per floor (m^2)" that the "Is it Ventilated if it is not Air-conditioned?" selected Yes in "Room" under "Zone"

Percentage (based on total rated motor power) of all central mechanical ventilation fans (add up to 100%):

For office floors:

$$\frac{\sum_{i=1}^{n}(P_i \times Q_i)}{P_M + P_R} \times 100\%$$

i = the installations with the "Room type" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" that is selected Office in "Type of Usage" under "Room" under "Zone" and the "Type" is selected Fresh air fan/Intake air fan/Return air fan/Exhaust fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

P_i = the "Rated motor power (kW)" or "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

P_M = the "Total, of all central mechanical ventilation fans: Fan motor input power Measured/ Calculated (kW)" in "(d) Air-conditioning fans"

P_R = the "Total, of all central mechanical ventilation fans: Fan motor input power Rated (kW)" in "(d) Air-conditioning fans"

For shopping & leisure floors:

$$\frac{\sum_{i=1}^{n}(P_i \times Q_i)}{P_M + P_R} \times 100\%$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installations with the "Room type" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input" that is selected shopping & leisure in "Type of Usage" under "Room" under "Zone" and the "Type" is selected Fresh air fan/Intake air fan/Return air fan/Exhaust fan under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

P_i = the "Rated motor power (kW)" or "Measured motor power (kW)" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

Q_i = the "Quantity" under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Location" under "AC Installation" under "Input"

P_M = the "Total, of all central mechanical ventilation fans: Fan motor input power Measured/ Calculated (kW)" in "(d) Air-conditioning fans"

P_R = the "Total, of all central mechanical ventilation fans: Fan motor input power Rated (kW)" in "(d) Air-conditioning fans"

For other floors:

Calculated by 100% minus "Percentage for office floors" minus "Percentage for shopping & leisure floors"

3) Lighting Installation:

(a) Sub-total lighting power, of all luminaires with T5 fluorescent lamps (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected Tubular fluorescent lamp T5 in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(b) Sub-total lighting power, of all luminaires with fluorescent lamps other than T5 (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected Tubular fluorescent lamp other than T5 in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(c) Sub-total lighting power, of all luminaires with compact fluorescent lamps (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected Compact fluorescent lamp in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(d) Sub-total lighting power, of all luminaires with incandescent lamps (tungsten filament, tungsten halogen etc.) (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected incandescent lamps (Tungsten filament,

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

tungsten halogen etc.) in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(e) Sub-total lighting power, of all luminaires with discharge lamps (metal halide, high pressure sodium vapour etc.) (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected Metal Halide lamps, High Pressure Sodium Lamp, Low Pressure Sodium Lamp or Mercury Vapour in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(f) Sub-total lighting power, of all luminaires with LED (light emitting diode) lamps (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is selected LED (light emitting diode) in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

(g) Sub-total lighting power, of all luminaires with other types of lamps, if any (kW):

Calculated by summing up the product of "Number of luminaires" in "Location" under "Lighting" under "Input" with "Code" that the "Lamp Type" is Others or N/A in "Specification" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting"

Total lighting power, of all luminaires (kW) [obtained by summing up all figures in (a) to (g)]:

Calculated by summing up the (a) Sub-total lighting power, of all luminaires with T5 fluorescent lamps (kW), (b) Sub-total lighting power, of all luminaires with fluorescent lamps other than T5 (kW), (c) Sub-total lighting power, of all luminaires with compact fluorescent lamps (kW), (d) Sub-total lighting power, of all luminaires with incandescent lamps (tungsten filament, tungsten halogen etc.) (kW), (e) Sub-total lighting power, of all luminaires with discharge lamps (metal halide, high pressure sodium vapour etc.) (kW), (f) Sub-total lighting power, of all luminaires with LED (light emitting diode) lamps (kW) and (g) Sub-total lighting power, of all luminaires with other types of lamps, if any (kW).

Total internal floor area of areas having CBSI lighting installation (m^2):

$$\sum nA_i$$

where

A_i is the area of room indicated under "Area per floor (m^2)" of "Room" of "Zone" which is indicated under any of the settings in "Room type" under "Location" under "Lighting" under "Input"

n is the "Number of floors with the same layout, A/C and lighting installation location" corresponding to the "Room" for A_i according to the settings in "Floor" and "Room" under "Zone"

Total lighting power density (kW/m2) [obtained by dividing total lighting power by total internal floor area (having CBSI lighting) above]:

Calculated by diving "Total lighting power, of all luminaires (kW) [obtained by summing up all figures in (a) to (g)]" by "Total internal floor area of areas having CBSI lighting installation (m^2)"

Percentage (based on total lighting power) of all luminaires (add up to 100%):

For office floors:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Calculated by diving the sum of product of "Number of luminaires" in "Location" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting" under "Input" that the location is selected Office in "Type of Usage" in "Room" under "zone" by "Total lighting power density (kW/m2) [obtained by dividing total lighting power by total internal floor area (having CBSI lighting) above]" and then multiply 100%

For shopping & leisure floors:

Calculated by diving the sum of product of "Number of luminaires" in "Location" under "Lighting" under "Input" and "Total Luminaire Power [W]" in "Specification" under "Lighting" under "Input" that the location is selected shopping & leisure in "Type of Usage" in "Room" under "zone" by "Total lighting power density (kW/m2) [obtained by dividing total lighting power by total internal floor area (having CBSI lighting) above]" and then multiply 100%

For other floors:

Calculated by 100% minus "Percentage for office floors" minus "Percentage for shopping & leisure floors"

4) Lift and Escalator Installation:

Sub-total lighting power, of all traction lifts with DC Ward Leonard drive:

The following inputs copied from the "Drive system" selected Traction lifts with DC Ward Leonard drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all traction lifts with DC thyristor Leonard drive:

The following inputs copied from the "Drive system" selected Traction lifts with thyristor Leonard drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all traction lifts with AC variable voltage (VV) drive:

The following inputs copied from the "Drive system" selected Traction lifts with AC variable voltage (VV) drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all traction lifts with AC variable frequency (VF) drive:

The following inputs copied from the "Drive system" selected Traction lifts with AC variable frequency (VF) drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all traction lifts with AC VVVF drive:

The following inputs copied from the "Drive system" selected Traction lifts with AC VVVF drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all traction lifts with other types of drive:

The following inputs copied from the "Drive system" selected Traction lifts with other types of drive in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all hydraulic lifts:

The following inputs copied from the "Drive system" selected hydraulic lifts in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Sub-total lighting power, of all escalators and passenger conveyors:

The following inputs copied from the "Drive system" selected escalators or passenger conveyors in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Rated Motor Power (kW): Calculated by multiplying the "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" by "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity: copied from "Quantity" in "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Total, of all lifts, escalators and passenger conveyors:

Rated Motor Power (kW): calculated by summing up the above "Rated Motor Power (kW)" of each type of lift in 4) Lift and Escalator Installation

Quantity: calculated by summing up the above "Quantity" of each type of lift in 4) Lift and Escalator Installation

Percentage (based on total rated motor power) of all lifts, escalators & passenger conveyors (add up to 100%):

For office floors: calculated by diving the product of "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input", "Quantity" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and "Number of office floors served within audit scope" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" by the product of "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input", "Quantity" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and "Number of floors served within audit scope" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and then multiply by 100%

For shopping & leisure floors: calculated by diving the product of "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input", "Quantity" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and "Number of shopping & leisure floors served within audit scope" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" by the product of "Rated motor power (kW)" in "Specification" under "Lift/ escalators/ passenger conveyor" under "Input", "Quantity" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and "Number of floors served within audit scope" in "Location" under Lift/ escalators/ passenger conveyor" under "Input" and then multiply by 100%

For other floors: Calculated by 100% minus "Percentage for office floors" minus "Percentage for shopping & leisure floors"

5) Other Installation:

Total quantity of personal computers and photocopiers, with electricity consumption on account of the building owner: calculated by summing up the "Quantity" in "Location" under "Other Power" under "Input" for the code is selected Yes in "Is it a personal computer or a photocopier?" in "Specification" under "Other Power" under "Input"

Total rated motor power, of all plumbing & drainage pumps (kW): Calculated by multiplying the "Rating (W)" in "Specification" under "Other Power" under "Input" by "Quantity" in "Location" under "Other Power" under "Input" for the code is selected Yes in "Is it a pump for plumbing and drainage?" in "Specification" under "Other Power" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Other installations, if applicable (please specify, and insert N/A if not applicable): copied from "Name" in "Specification" under "Other Power" under "Input" for the code selected No in "Is it a personal computer or a photocopier?" and "Is it a pump for plumbing and drainage?" in "Specification" under "Other Power" under "Input"

Part 2 – Historical Energy Consumption Analysis

1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)ii)):

Past 1st 12-month: calculated by summing up the last column in "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Past 2nd 12-month: calculated by summing up the middle column in "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Past 3rd 12-month: calculated by summing up the first column in "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

2) Annual consumption of energy other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)ii)):

Past 1st 12-month:

$$48 \times \sum_{i=1}^{12} T_i + 46 \times \sum_{i=1}^{12} L_i + 3.6 \times \sum_{i=1}^{12} O_i$$

T = the consumption record of towngas in the last column of "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L = the consumption record of LPG in the last column of "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O = the consumption record of Others energy supply and import in the last column of "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

i = the number of months

Past 2nd 12-month:

$$48 \times \sum_{i=1}^{12} T_i + 46 \times \sum_{i=1}^{12} L_i + 3.6 \times \sum_{i=1}^{12} O_i$$

T = the consumption record of towngas in the middle column of "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L = the consumption record of LPG in the middle column of "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

O = the consumption record of Others energy supply and import in the middle column of "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

i = the number of months

Past 3rd 12-month:

$$48 \times \sum_{i=1}^{12} T_i + 46 \times \sum_{i=1}^{12} L_i + 3.6 \times \sum_{i=1}^{12} O_i$$

T = the consumption record of towngas in the first column of "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L = the consumption record of LPG in the first column of "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O = the consumption record of Others energy supply and import in the first column of "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

i = the number of months

3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii)):

Past 1st 12-month: calculated by summing up the Past 1st 12-month of 1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)ii)), which multiplied by 3.6, and Past 1st 12-month of 2) Annual consumption of energy other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)ii))

Past 2nd 12-month: calculated by summing up the Past 2nd 12-month of 1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)ii)), which multiplied by 3.6, and Past 2nd 12-month of 2) Annual consumption of energy other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)ii))

Past 3rd 12-month: calculated by summing up the Past 1st 12-month of 1) Annual electricity consumption of last 36-month (kWh/annum) (EAC Clause 8.1(g)ii)), which multiplied by 3.6, and Past 3rd 12-month of 2) Annual consumption of energy other than electricity, of last 36-month (MJ/annum) (EAC Clause 8.1(g)ii))

4) Annual Energy Utilisation Index (EUI) of last 36-month (MJ/m2/annum) (EAC Clause 8.1(g)ii)) (Value in kWh/m2/annum can be obtained by dividing the MJ/m2/annum figure by 3.6):

Past 1st 12-month: calculated by diving the Past 1st 12-month of 3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii)) by "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

Past 2nd 12-month: calculated by diving the Past 2nd 12-month of 3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii)) by "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Past 3rd 12-month: calculated by diving the Past 3rd 12-month of 3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii)) by "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

5) Monthly EUI of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iii)):

1st mth:

$$\frac{(3.6 \times E_1 + 48 \times T_1 + 46 \times L_1 + 3.6 \times O_1)}{A}$$

E_1 = the past 1st consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_1 = the past 1st consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_1 = the past 1st consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_1 = the past 1st consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

2nd mth:

$$\frac{(3.6 \times E_2 + 48 \times T_2 + 46 \times L_2 + 3.6 \times O_2)}{A}$$

E_2 = the past 2nd consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_2 = the past 2nd consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_2 = the past 2nd consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_2 = the past 2nd consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

3rd mth:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

$$\frac{(3.6 \times E_3 + 48 \times T_3 + 46 \times L_3 + 3.6 \times O_3)}{A}$$

E_3 = the past 3rd consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_3 = the past 3rd consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_3 = the past 3rd consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_3 = the past 3rd consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

4th mth:

$$\frac{(3.6 \times E_4 + 48 \times T_4 + 46 \times L_4 + 3.6 \times O_4)}{A}$$

E_4 = the past 4th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_4 = the past 4th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_4 = the past 4th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_4 = the past 4th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

5th mth:

$$\frac{(3.6 \times E_5 + 48 \times T_5 + 46 \times L_5 + 3.6 \times O_5)}{A}$$

E_5 = the past 5th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

T_5 = the past 5th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_5 = the past 5th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_5 = the past 5th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

6th mth:

$$\frac{(3.6 \times E_6 + 48 \times T_6 + 46 \times L_6 + 3.6 \times O_6)}{A}$$

E_6 = the past 6th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_6 = the past 6th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_6 = the past 6th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_6 = the past 6th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

7th mth:

$$\frac{(3.6 \times E_7 + 48 \times T_7 + 46 \times L_7 + 3.6 \times O_7)}{A}$$

E_7 = the past 7th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_7 = the past 7th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_7 = the past 7th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

O_7 = the past 7th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

8th mth:

$$\frac{(3.6 \times E_8 + 48 \times T_8 + 46 \times L_8 + 3.6 \times O_8)}{A}$$

E_8 = the past 8th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_8 = the past 8th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_8 = the past 8th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_8 = the past 8th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

9th mth:

$$\frac{(3.6 \times E_9 + 48 \times T_9 + 46 \times L_9 + 3.6 \times O_9)}{A}$$

E_9 = the past 9th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_9 = the past 9th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_9 = the past 9th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_9 = the past 9th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

10th mth:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

$$\frac{(3.6 \times E_{10} + 48 \times T_{10} + 46 \times L_{10} + 3.6 \times O_{10})}{A}$$

E_{10} = the past 10th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_{10} = the past 10th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_{10} = the past 10th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_{10} = the past 10th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

11th mth:

$$\frac{(3.6 \times E_{11} + 48 \times T_{11} + 46 \times L_{11} + 3.6 \times O_{11})}{A}$$

E_{11} = the past 11th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

T_{11} = the past 11th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_{11} = the past 11th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_{11} = the past 11th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

12th mth:

$$\frac{(3.6 \times E_{12} + 48 \times T_{12} + 46 \times L_{12} + 3.6 \times O_{12})}{A}$$

E_{12} = the past 12th consumption record of electricity in the "Electricity consumption per month" under "Electricity consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

T_{12} = the past 12th consumption record of towngas in the "Towngas consumption per month" under "Towngas consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

L_{12} = the past 12th consumption record of LPG in the "LPG consumption per month" under "LPG consumption" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

O_{12} = the past 12th consumption record of Others energy supply and import in the "Energy supply per month" under "Others energy supply" under "Energy supply and import" under "Overview of Energy Supply and Consumption"

A = the area in the "Total internal floor area, including non-audited area in the Building (m^2):" in "Additional Setting" under "Zone"

6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv)):

Air-conditioning:

$$\sum(P_i \times N_i \times t_i \times DF_i) \times 3.6$$

i = the installations of AC system inputted in the "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

Lighting:

$$\frac{\sum(P_i \times N_i \times t_i \times DF_i) \times 3.6}{1000}$$

i = the luminaire of lighting system inputted in the "Specification" under "Lighting" under "Input"

P_i = the total luminaire power of corresponding luminaire in the "Specification" under "Lighting" under "Input"

N_i = the quantity of corresponding luminaire in the "Location" under "Lighting" under "Input"

t_i = the annual operating hour of corresponding room type in the "Room" under "Zone"

DF_i = the diversity factor of corresponding installation in the "Location" under "Lighting" under "Input"

Lift & Escalator:

$$\sum(P_i \times N_i \times t_i) \times DF_i \times 3.6$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installation of lift system inputted in the "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

P_i = the rated motor power of corresponding installation in the "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "Lift/ escalators/ passenger conveyor" under "Input"

Others:

The Past 1st 12-month in 3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii)) minus Air-conditioning, Lighting and Lift & Escalator in 6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))

7) Energy supply from CBSI to building's units, as a percentage of the total energy consumption of past 1st 12-month period (EAC Clause 8.1(h)):

$$\frac{(E_{AC} \times R_{AC}) + (E_{LG} \times R_{LG}) + (E_{LT} \times R_{LT})}{E_{1st}} \times 100\%$$

E_{AC} = the annual total energy consumption of MVAC systems in the 6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))

R_{AC} = the percentage of energy use of MVAC System by building's units in the "Proportion of energy use of MVAC System by building's units (e.g. tenants) [%]" under "Setting" under "AC Installation" under "Input"

E_{LG} = the annual total energy consumption of Lighting systems in the 6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))

R_{LG} = the percentage of lighting energy use consumed by building's units in the "Proportion of lighting energy use consumed by Building Units (Tenants) [%]" under "Other information" under "Lighting" under "Input"

E_{LT} = the annual total energy consumption of Lift & Escalator systems in the 6) Annual energy consumption breakdown, of past 1st 12-month period (MJ/m2/month) (EAC Clause 8.1(g)iv))

R_{LT} = the percentage of lift/escalator energy use by building's units in the "Proportion of lift/escalator energy use by building's units (e.g. tenants) [%]" under "Other information" under "Lift/ escalators/ passenger conveyor" under "Input"

E_{1st} = the annual total energy consumption of past 1st 12-month in the 3) Annual total energy consumption, of last 36-month (MJ/annum) (sum of figures in 1) & 2)) (EAC Clause 8.1(g)ii))

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

8) Energy bill reference month (month for which the most recent energy bill has been issued by the energy supply utility prior to commencement of energy audit, i.e. the 12th month of item 5) ending on:

Copied from "Ending date of the billing period" in "Overview" under "Overview of Energy Supply and Consumption"

Part 3 – Energy Management Opportunities (EMO)

Summary (numbers) of EMO Categorization:

Category I: Calculated by counting the number of EMO that the "EMO Category" under "EMO Summary" is selected Cat I

Category II: Calculated by counting the number of EMO that the "EMO Category" under "EMO Summary" is selected Cat II

Category III: Calculated by counting the number of EMO that the "EMO Category" under "EMO Summary" is selected Cat III

Lighting: Calculated by counting the number of EMO that the "EMO Type" under "EMO Summary" is selected Lighting

Air-conditioning: Calculated by counting the number of EMO that the "EMO Type" under "EMO Summary" is selected Air-conditioning

Electrical: Calculated by counting the number of EMO that the "EMO Type" under "EMO Summary" is selected Electrical

Lift/Escalator: Calculated by counting the number of EMO that the "EMO Type" under "EMO Summary" is selected Lift/Escalator

Others: Calculated by counting the number of EMO that the "EMO Type" under "EMO Summary" is selected Others or Multiple

Ref. No.: concatenate the "EMO Category" under "EMO Summary", "EMO Type" under "EMO Summary" and "EMO number" under "EMO Summary"

EMO Category and Type: tick the boxes according to the "EMO Category" under "EMO Summary" and "EMO Type" under "EMO Summary"

Description of EMO: copied from the "Description" under "EMO Summary"

8.2.4 Form AIT1

8.2.4.1 Introduction

Form AIT1 is an optional energy audit form provided by EMSD to consolidate the findings in the energy audit report for more in-depth analysis of the energy performance of various CBSI equipment. While it is not necessary for energy audit submission, its filling helps to fulfil 3 to 5 credits of EU 2 Category under BEAM Plus Existing Buildings Version 2.0 Comprehensive Scheme and is crucial for getting higher ratings in the BEAM Plus Certification system.

8.2.4.2 Entry Formation/ Calculation

There are different entries in the form that are consolidated from the inputs in SaaS in the following manner:

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Page 1

Building EUI = u / IFA: Building Energy utilization index in kWh/m^2/annum calculated by u1 on page 4 of Form AIT1 divided by IFA on page 1 of Form AIT1.

Other nos. on page 1 of AIT1 form: These numbers are calculated following the formula listed on page 1 of AIT1 form with corresponding variables on the other pages of Form AIT1. Please refer to the form for details.

Page 2

(I) Building Characteristics

1) Floor area

Total internal floor area of building entity (IFA): Copied from "Total internal floor area, including non-audited area in the Building (m^2)" under "Additional Setting" and "Floor and Room"

CBSI lighting area (LTA): Copied from "Total internal floor area of areas having CBSI lighting installation (m^2)" in From EE-EAes Part 1 – 3) Lighting Installation. Please refer to Section 8.2.3.1 for detailed calculation.

Air-conditioned floor area (ACA): Calculated by

$$\sum nA_{ACA}$$

where

A_{ACA} is the area of room indicated under "Area per floor (m^2)" of "Room" of "Zone" with "Yes" answer under "Is it Air-conditioned?"

n is the "Number of floors with the same layout, A/C and lighting installation location" corresponding to the "Room" for A_{ACA} according to the settings in "Floor" and "Room" under "Zone"

Central mechanical ventilation floor area (MVA): Calculated by

$$\sum nA_{MVA}$$

where

A_{MVA} is the area of room indicated under "Area per floor (m^2)" of "Room" of "Zone" with "Yes" answer under "Is it Ventilated if it is not Air-conditioned?"

n is the "Number of floors with the same layout, A/C and lighting installation location" corresponding to the "Room" for A_{MCA} according to the settings in "Floor" and "Room" under "Zone"

2) Provision of 24 hours chilled water for server room

Copied from "Provision of 24 hours chilled water for the server room" under "Technical"

3) Provision of 24 hour air-conditioning for data centre, call centre and 24 hours finance office

Copied from "Provision of 24 hours A/C for the data centres, banking, etc." under "Technical"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

(II) A/C – Chillers/Heat pumps (exclude standby chillers/heat pump)

a1) Calculated by

$$\sum nW_{AC}$$

where

W_{AC} is the rated input power or measured/ calculated input power of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Air-cooled" or "Fresh-water evaporatively cooled" selected as its "Cooling Type"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

a2) Calculated by

$$\sum nW_{WC}$$

where

W_{WC} is the rated input power or measured/ calculated input power of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh water-cooled" or "Sea-water cooled" selected as its "Cooling Type"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

a) Calculated by summing *a1)* and *a2)*

b1) Calculated by

$$\sum nQ_{AC}$$

where

Q_{AC} is the rated capacity of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Air-cooled" or "Fresh-water evaporatively cooled" selected as its "Cooling Type"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs" , excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

b2) Calculated by

$$\sum nQ_{WC}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Q_{WC} is the rated capacity of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh water-cooled" or "Sea-water cooled" selected as its "Cooling Type"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

b) calculated by *b1)* and *b2)*

c1) Calculated by

$$\sum nV_{AC}$$

where

V_{AC} is the rated chilled water flow capacity of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Air-cooled" or "Fresh-water evaporatively cooled" selected as its "Cooling Type"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

c2) Calculated by

$$\sum nV_{WC}$$

where

V_{WC} is the rated chilled water flow capacity of "Chillers" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh water-cooled" or "Sea-water cooled" selected as its "Cooling Type", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs"

c) calculated by *c1)* and *c2)*

d2) Calculated by

$$\sum nV_{CDP}$$

where

V_{CDP} is the rated flow rate of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh water condenser" or "Sea water condenser" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Operating hours of Air-cooled chillers (hrs/wk): Calculated by

$$\frac{\sum nH_{AC}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

H_{AC} is the annual operating hour of "Chillers" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the chiller is listed as "Air-cooled" or "Fresh-water evaporatively cooled" selected as its "Cooling Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Operating hours of Water-cooled chillers (hrs/wk): Calculated by

$$\frac{\sum nH_{WC}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

H_{AC} is the annual operating hour of "Chillers" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the chiller is listed as "Fresh water cooled" or "Sea water cooled" selected as its "Cooling Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding chillers listed under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Air-cooled chillers: Calculated by summation of quantity under "Chillers" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the chiller is listed as "Air-cooled" or "Fresh-water evaporatively cooled" selected as its "Cooling Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Water-cooled chillers: Calculated by summation of quantity under "Chillers" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the chiller is listed as "Fresh water cooled" or "Sea water cooled" selected as its "Cooling Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Total chillers: Sum of *Quantity of Air-cooled chillers* and *Quantity of Water-cooled chillers*

Operating hours of Total chillers (hr/wk): Calculated by dividing the sum and product of *Operating Hours* and *Quantity* above by *Quantity of Total chillers*.

(III) A/C – Air-conditioning pumps (exclude standby pumps)

e1) Calculated by

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

$$\sum nW_{CHP}$$

where

W_{CHP} is the rated input power or measured/ calculated input power of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Primary" or "Secondary" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

e2) Calculated by

$$\sum nW_{CDP}$$

where

W_{CDP} is the rated input power or measured/ calculated input power of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Water Condenser" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

e3) Calculated by

$$\sum nW_{SCDP}$$

where

W_{SCDP} is the rated input power or measured/ calculated input power of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Sea Water Condenser" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

e) calculated by summation of *e1)*, *e2)* and *e3)*

f1) Calculated by

$$\sum nV_{CHP}$$

where

V_{CHP} is the rated flow rate or measured/ calculated flow rate of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Primary" or "Secondary" selected as its "Type"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

f2) Calculated by

$$\sum nV_{CDP}$$

where

V_{CDP} is the rated flow rate or measured/ calculated flow rate of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Water Condenser" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

f3) Calculated by

$$\sum nV_{SCDP}$$

where

V_{CHP} is the rated flow rate or measured/ calculated flow rate of "Air-conditioning pumps" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Sea Water Condenser" selected as its "Type"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Operating hours of Chilled water pumps (hrs/wk): Calculated by

$\frac{\sum nH_{CHP}}{52\sum n}$, corrected to the nearest 0.5 hours

where

H_{CHP} is the annual operating hour of "Air-conditioning Pumps" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the pump is listed with "Primary" or "Secondary" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Operating hours of Condensing water pumps (hrs/wk): Calculated by

$\frac{\sum nH_{CDP}}{52\sum n}$, corrected to the nearest 0.5 hours

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

H_{CDP} is the annual operating hour of "Air-conditioning Pumps" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the pump is listed with "Fresh water condenser" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Operating hours of Seawater pumps (hrs/wk): Calculated by

$$\frac{\sum nH_{CDP}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

H_{CDP} is the annual operating hour of "Air-conditioning Pumps" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the pump is listed with "Seawater condenser" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding pumps listed under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Chilled water pumps: Calculated by summation of quantity under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the pump is listed with "Primary" or "Secondary" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Condensing water pumps: Calculated by summation of quantity under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the pump is listed with "Fresh water condenser" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Seawater pumps: Calculated by summation of quantity under "Air-conditioning pumps" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the pump is listed with "Sea water condenser" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Total Air-conditioning pumps: Calculated by summation of *Quantity of Chilled water pumps*, *Quantity of Condensing water pumps* and *Quantity of Seawater pumps*

(IV) A/C – Heat rejection units (exclude standby chillers/heat pump)

Rated Motor Power (kW) of Cooling Towers: Calculated by

$$\sum nW_{CT}$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

where

W_{CT} is the rated or measured fan motor power of "Heat rejection system" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Cooling Tower" selected as its "Type"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Rated Motor Power (kW) of Radiators: Calculated by

$$\sum nW_{RD}$$

where

W_{RD} is the rated or measured fan motor power of "Heat rejection system" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Radiator" selected as its "Type"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

g) calculated by summing *Rated Motor Power (kW) of Cooling Towers* and *Rated Motor Power (kW) of Radiators*

Rated Heat Rejection Capacity (kW) of Cooling Towers: Calculated by

$$\sum nQ_{CT}$$

where

Q_{CT} is the rated input power or measured fan motor power of "Heat rejection system" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Cooling Tower" selected as its "Type"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Rated Heat Rejection Capacity (kW) of Radiators: Calculated by

$$\sum nQ_{RD}$$

where

Q_{RD} is the rated input power or measured fan motor power of "Heat rejection system" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Radiator" selected as its "Type"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

h) calculated by summing *Rated Heat Rejection Capacity (kW) of Cooling Towers* and *Rated Heat Rejection Capacity (kW) of Radiators*

Operating hours of Cooling Towers (hrs/wk): Calculated by

$$\frac{\sum nH_{CT}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

H_{CT} is the annual operating hour of "Heat rejection systems" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the pump is listed with "Cooling tower" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Operating hours of Radiators (hrs/wk): Calculated by

$$\frac{\sum nH_{RD}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

H_{RD} is the annual operating hour of "Heat rejection systems" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the equipment is listed with "Radiators" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Cooling Towers: Calculated by summation of quantity under "Heat rejection systems" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the heat rejection systems is listed with "Cooling Tower" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Quantity of Radiators: Calculated by summation of quantity under "Heat rejection systems" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the heat rejection systems is listed with "Fresh water condenser" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Total Operating hours of Heat Rejection System (hrs/wk): Calculated by

$$\frac{\sum nH_{HR}}{52\sum n}$$, corrected to the nearest 0.5 hours

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

H_{RD} is the annual operating hour of "Heat rejection systems" input under "Location" under "MVAC System owned by the premise" under "Input" where the equipment is listed with "Heat Rejection System" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding heat rejection systems listed under "Heat rejection systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Annual operating hour" is entered as zero to exclude standby equipment

Total Quantity of Heat Rejection Units: Sum of *Quantity of Cooling Towers* and *Quantity of Radiators*

(V) A/C – Air-conditioning fans

k1) Rated Motor Power (kW) of AHUs (including FCUs): Calculated by

$$\sum nW_{AHU}$$

where

W_{AHU} is the rated or measured fan motor power of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Chilled-water FCU", "Chilled water AHU", or "Indoor (terminal) unit of VRF system" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs"

k2) Rated Motor Power (kW) of Primary air AHUs & Fresh air fans & Return air fans: Calculated by

$$\sum nW_{PAHU}$$

where

W_{PAHU} is the rated or measured fan motor power of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Primary Chilled-water AHU", "Primary AHU connected to VRF system", "Fresh Air Fan", or "Return Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone"

k) calculated by summing *k1)* and *k2)*

m1) Rated Air Flow Capacity (l/s) of AHUs (including FCUs): Calculated by

$$\sum nV_{AHU}$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

where

V_{AHU} is the rated fan flow rate or calculated/ measured fan flow rate of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Chilled-water FCU", "Chilled water AHU", or "Indoor (terminal) unit of VRF system" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs"

m2) Rated Air Flow Capacity (l/s) of Primary air AHUs & Fresh air fans & Return air fans: Calculated by

$$\sum nV_{PAHU}$$

where

V_{PAHU} is the rated fan flow rate or calculated/ measured fan flow rate of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Primary Chilled-water AHU", "Primary AHU connected to VRF system", "Fresh Air Fan", or "Return Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone"

Operating hours of AHUs (including FCUs): Calculated by

$$\frac{\sum nH_{AHU}}{52\sum n}$$

where

H_{CT} is the annual operating hour of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Location" under "MVAC System owned by the premise" under "Input" where the model no. of the pump is listed with "Chilled-water FCU", "Chilled water AHU", or "Indoor (terminal) unit of VRF system" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs"

Operating hours of Primary air AHUs & Fresh air fans & Return air fans (hrs/wk): Calculated by

$$\frac{\sum nH_{PAHU}}{52\sum n}$$

where

H_{PAHU} is the annual operating hour of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Location" under "MVAC System owned by the premise" under

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

"Input" where the model no. of the pump is listed with "Primary Chilled-water AHU", "Primary AHU connected to VRF system", "Fresh Air Fan", or "Return Air Fan" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding quantities which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone"

Quantity of AHUs (including FCUs): Calculated by summation of quantity under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the heat rejection systems is listed with "Chilled-water FCU", "Chilled water AHU", or "Indoor (terminal) unit of VRF system" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input"

Quantity of Primary air AHUs & Fresh air fans & Return air fans: Calculated by summation of quantity under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the heat rejection systems is listed with "Primary Chilled-water AHU", "Primary AHU connected to VRF system", "Fresh Air Fan", or "Return Air Fan" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone"

Total Quantity of Air-conditioning fans: Sum of *Quantity of AHUs (including FCUs)* and *Quantity of Primary air AHUs & Fresh air fans & Return air fans*

(VI) Central mechanical ventilation

k'1) Rated Motor Power (kW) at Carpark: Calculated by

$$\sum nW_{Car}$$

where

W_{Car} is the rated or measured fan motor power of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding ones which "Type of Usage" under "Location" is listed with options other than "Carpark" under "Room" in "Zone"

k3) Rated Motor Power (kW) at Toilet & pantry etc.: Calculated by

$$\sum nW_{Toilet}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

W_{Toilet} is the rated or measured fan motor power of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs". It excludes quantities of Fresh Air Fan, Intake Air Fan and Return Air Fan which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone" and ones which "Type of Usage" under "Location" is listed with "Carpark" selected under "Room" in "Zone"

k') calculated by summing *k'1)* and *k3)*

m'1) Rated Air Flow Capacity (l/s) at Carpark: Calculated by

$$\sum nV_{Car}$$

where

V_{Car} is the rated fan flow rate or calculated/ measured fan flow rate of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding ones which "Type of Usage" under "Location" is listed with options other than "Carpark" under "Room" in "Zone"

m3) Rated Air Flow Capacity (l/s) at Toilet & pantry etc.: Calculated by

$$\sum nV_{Toilet}$$

where

V_{Toilet} is the rated fan flow rate or calculated/ measured fan flow rate of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs". It excludes quantities of Fresh Air Fan, Intake Air Fan and Return Air Fan which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone" and ones which "Type of Usage" under "Location" is listed with "Carpark" selected under "Room" in "Zone"

Operating hours at Carpark (hrs/wk): Calculated by

$$\frac{\sum nH_{Car}}{52\sum n}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

H_{Car} is the annual operating hour of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" in "Location" in "MVAC System owned by the Premise" in "Inputs", excluding ones which "Type of Usage" under "Location" is listed with options other than "Carpark" under "Room" in "Zone"

Operating hours at Toilets & pantry etc. (hrs/wk): Calculated by

$$\frac{\sum nH_{Toilet}}{52\sum n}$$

where

H_{Toilet} is the annual operating hour of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs". It excludes quantities of Fresh Air Fan, Intake Air Fan and Return Air Fan which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone" and ones which "Type of Usage" under "Location" is listed with "Carpark" selected under "Room" in "Zone"

Quantity at Carpark: Calculated by summation of quantity under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the fans is listed with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding ones which "Type of Usage" under "Location" is listed with options other than "Carpark" under "Room" in "Zone"

Quantity at Toilet & pantry etc.: Calculated by summation of quantity under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs" where the model no. of the fans is listed with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" selected as its "Type" under "Specification" under "MVAC System owned by the premise" under "Input", excluding quantities which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone" and ones which "Type of Usage" under "Location" is listed with "Carpark" selected under "Room" in "Zone". When the "Type" under "Specification" under "MVAC System owned by the premise" under "Input" is entered as "Exhaust Fan", all of them are included regardless of the corresponding "Room" setting.

Total Operating hours of Central Mechanical Ventilation (hrs/wk): Calculated by

$$\frac{\sum nH_{CMV}}{52\sum n}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

H_{Toilet} is the annual operating hour of "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" input under "Specification" under "MVAC System owned by the premise" under "Input" with "Fresh Air Fan", "Intake Air Fan", "Return Air Fan" or "Exhaust Air Fan" selected as its "Type"

n is the "Quantity" of the corresponding fans (Intake Air Fan and Exhaust Air Fan) listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF system" in "Location" in "MVAC System owned by the Premise" in "Inputs". It excludes quantities of Fresh Air Fan, Intake Air Fan and Return Air Fan which "Room type" refers to an area which "Is it Air-conditioned" is listed as "No" under "Room" in "Zone"

Total Quantity of Central mechanical ventilation: Sum of *Quantity at Carpark* and *Quantity at Toilet & pantry etc.*

(VII) Lifts & Escalators

n1) Rated Motor Power (kW) of Traction/ Hydraulic lifts of Passenger Nature: Calculated by

$$\sum nW_{LE,P}$$

where

$W_{LE,P}$ is the rated motor power of lifts under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Passenger Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

n2) Rated Motor Power (kW) of Traction/ Hydraulic lifts of Freight Nature: Calculated by

$$\sum nW_{LE,F}$$

where

$W_{LE,F}$ is the rated motor power of lifts under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Cargo Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

n3) Rated Motor Power (kW) of Traction/ Hydraulic lifts of Car Park: Calculated by

$$\sum nW_{LE,C}$$

where

$W_{LE,C}$ is the rated motor power of lifts under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Car Park Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

n4) Rated Motor Power (kW) of Escalators/Conveyors: Calculated by

$$\sum nW_{LE,EC}$$

where

$W_{LE,EC}$ is the rated motor power of lifts under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Escalator" or "Passenger conveyor" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

n) is the sum of *n1)*, *n2)*, *n3)* and *n4)*

Operating hours of Traction/ Hydraulic lifts of Passenger Nature (hrs/wk): Calculated by

$$\frac{\sum nH_{LE,P}}{52\sum n}$$

where

$H_{LE,P}$ is the annual operating hour of lifts entered under "Location" under "Lift/ escalators/ passenger conveyor" under "Input" which corresponding "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Passenger Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

Operating hours of Traction/ Hydraulic lifts of Freight Nature (hrs/wk): Calculated by

$$\frac{\sum nH_{LE,F}}{52\sum n}$$

where

$H_{LE,F}$ is the annual operating hour of lifts entered under "Location" under "Lift/ escalators/ passenger conveyor" under "Input" which corresponding "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Cargo Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

Operating hours of Traction/ Hydraulic lifts of Car Park (hrs/wk): Calculated by

$$\frac{\sum nH_{LE,C}}{52\sum n}$$

where

$H_{LE,C}$ is the annual operating hour of lifts entered under "Location" under "Lift/ escalators/ passenger conveyor" under "Input" which corresponding "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Car Park Lift" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

Operating hours of Escalator/Conveyors (hrs/wk): Calculated by

$$\frac{\sum nH_{LE,EC}}{52\sum n}$$

where

$H_{LE,EC}$ is the annual operating hour of lifts entered under "Location" under "Lift/ escalators/ passenger conveyor" under "Input" which corresponding "Specification" under "Lift/ escalators/ passenger conveyor" under "Input" with "Escalator" or "Passenger Conveyor" selected as its "Lift Description"

n is the "Quantity" of the corresponding lifts listed in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

Quantity at Traction/ Hydraulic lifts of Passenger Nature: Calculated by summation of quantity under "Lift/ escalators/ passenger conveyor" in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs" where the code is listed with "Passenger Lift" selected as its "Lift Description" under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity at Traction/ Hydraulic lifts of Freight Nature: Calculated by summation of quantity under "Lift/ escalators/ passenger conveyor" in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs" where the code is listed with "Cargo Lift" selected as its "Lift Description" under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity at Traction/ Hydraulic lifts of Car Park Nature: Calculated by summation of quantity under "Lift/ escalators/ passenger conveyor" in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs" where the code is listed with "Car Park Lift" selected as its "Lift Description" under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Quantity at Escalators/Conveyors: Calculated by summation of quantity under "Lift/ escalators/ passenger conveyor" in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs" where the code is listed with "Escalator" or "Passenger Conveyor" selected as its "Lift Description" under "Specification" under "Lift/ escalators/ passenger conveyor" under "Input"

Total Quantity: Calculated by summation of quantity in "Location" in "Lift/ escalators/ passenger conveyor" in "Inputs"

(VIII) Lighting

p1) Floor area (m^2) of Arcade/Atrium/Foyer: Calculated by

$$\sum nA_{AAF}$$

where

A_{AFF} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Atrium/Foyer with headroom over 5m" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

p2) Floor area (m^2) of Lift lobby & common corridor: Calculated by

$$\sum nA_{LLCC}$$

where

A_{Shop} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Corridor" or "Lift lobby" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

p3) Floor area (m^2) of Back of house area: Calculated by

$$\sum nA_{House}$$

where

A_{House} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Plant Room / Machine Room / Switch Room", "Refuge floor" or "Storeroom / Cleaner" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

p4) Floor area (m^2) of Carpark: Calculated by

$$\sum nA_{Car}$$

where

A_{Car} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Car Park" or "Loading & Unloading Area" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

p5) Floor area (m^2) of Staircase: Calculated by

$$\sum nA_{Stair}$$

where

A_{Stair} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Staircase" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

p6) Floor area (m^2) of Toilet: Calculated by

$$\sum nA_{Toilet}$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

where

A_{Toilet} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Toilet / Washroom / Shower Room" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

n is the "Number of floors with the same layout, A/C and lighting installation location" of the floor of the corresponding room listed in "Room" in "Floor and Room" in "Zone"

p) is calculated by summation of *p1)*, *p2)*, *p3)*, *p4)*, *p5)* and *p6)*

q1) Rated Luminaire Wattage (kW) at Arcade/Atrium/Foyer: Calculated by

$$\frac{\sum n_{AAF} W_{light}}{1000[W/kW]}$$

where

n_{AAF} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", which "Atrium/Foyer with headroom over 5m" is selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q2) Rated Luminaire Wattage (kW) at Lift lobby & common corridor: Calculated by

$$\frac{\sum n_{LLC} W_{light}}{1000[W/kW]}$$

where

n_{LLCC} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", which "Corridor" or "Lift lobby" is selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q3) Rated Luminaire Wattage (kW) at Back of house area: Calculated by

$$\frac{\sum n_{House} W_{light}}{1000[W/kW]}$$

where

n_{House} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", which "Plant Room / Machine Room / Switch Room", "Refuge floor" or "Storeroom / Cleaner" is selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q4) Rated Luminaire Wattage (kW) at Carpark: Calculated by

$$\frac{\sum n_{Car} W_{light}}{1000[W/kW]}$$

where

n_{Car} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Car park" or "Loading & Unloading Area" selected its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q5) Rated Luminaire Wattage (kW) at Staircase: Calculated by

$$\frac{\sum n_{Stair} W_{light}}{1000[W/kW]}$$

where

n_{Stair} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Staircase" selected its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q6) Rated Luminaire Wattage (kW) at Toilet: Calculated by

$$\frac{\sum n_{Toilet} W_{light}}{1000[W/kW]}$$

where

n_{Toilet} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Toilet / Washroom / Shower Room" selected its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

W_{light} is the "Total Luminaire Power" of the corresponding luminaire marked by the same "Code" under "Specification" under "Lighting" under "Input"

q) is calculated by summation of *q1)*, *q2)*, *q3)*, *q4)*, *q5)*, and *q6)*

Operating hours of Arcade/Atrium/Foyer (hrs/wk): Calculated by

$$\frac{\sum A_{AAF} H}{\sum A_{AAF}}$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

where

A_{AFF} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Atrium/Foyer with headroom over 5m" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Operating hours of Lift lobby & common corridor (hrs/wk): Calculated by

$$\frac{\sum A_{LLCC}H}{\sum A_{LLCC}}$$

where

A_{LLCC} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Lift lobby" or "Corridor" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Operating hours of Back of house area (hrs/wk): Calculated by

$$\frac{\sum A_{House}H}{\sum A_{House}}$$

where

A_{House} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Plant Room / Machine Room / Switch Room", "Refuge floor" or "Storeroom / Cleaner" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Operating hours of Car Park (hrs/wk): Calculated by

$$\frac{\sum A_{Car}H}{\sum A_{Car}}$$

where

A_{House} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Car Park", "Loading & Unloading Area" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Operating hours of Staircase (hrs/wk): Calculated by

$$\frac{\sum A_{Stair}H}{\sum A_{Stair}}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

A_{Stair} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Staircase" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Operating hours of Toilet (hrs/wk): Calculated by

$$\frac{\sum A_{Toilet} H}{\sum A_{Toilet}}$$

where

A_{Toilet} is the "Area per floor" under "Room" under "Floor and Room" under "Input" with "Toilet / Washroom / Shower Room" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO"

H is the corresponding total of weekday and weekend operating hour of the area listed "Room" under "Floor and Room" under "Input"

Total Operating hours (hrs/wk): Sum and product of the Floor Area and Operating hours above, and divide the value by the *Total Floor Area.*

Quantity at Arcade/Atrium/Foyer: Calculated by

$$\sum n_{AAF}$$

where

n_{AAF} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Atrium/Foyer with headroom over 5m" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Quantity at Lift lobby & common corridor: Calculated by

$$\sum n_{LLCC}$$

where

n_{LLCC} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Lift lobby" or "Corridor" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Quantity at Back of house area: Calculated by

$$\sum n_{House}$$

where

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

n_{House} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Plant Room / Machine Room / Switch Room", "Refuge floor" or "Storeroom / Cleaner" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Quantity at Car parks: Calculated by

$$\sum n_{Car}$$

where

n_{Car} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Car Park" or "Loading & Unloading Area" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Quantity at Staircase: Calculated by

$$\sum n_{Stair}$$

where

n_{Stair} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Staircase" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Quantity at Toilet: Calculated by

$$\sum n_{Toilet}$$

where

n_{Toilet} is the "Number of luminaires" of the luminaires under which "Room type" refers to a room in "Room" in "Floor and Room" in "Zone", with "Toilet / Washroom / Shower Room" selected as its "BEC Type of space" under "Calculation of LPD for Lighting EMO", multiplied by the "Number of floors with the same layout, A/C and lighting installation location" of the corresponding floor in "Floor" in "Zone"

Total Quantity is calculated by summation of the *Quantity in the table*

(IX) Measured/Estimated Annual electricity consumption breakdown

r1) is calculated by summation of r2), r3), r4) and r5) if the "Total central air-conditioning" is selected in "Do you want to show energy consumption of "Total central air-conditioning" or "Total unitary air-conditioning" on page 4 of the AIT1 form?" under "Overview of Energy Supply and Consumption". If the alternative is selected, r1) is calculated by

$$\sum (P_i \times N_i \times t_i \times DF_i)$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installations of AC system inputted in "Unitary systems" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r2) is calculated by

$$\sum(P_i \times N_i \times t_i \times DF_i)$$

i = the installations of AC system inputted in "Chillers" and "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r3) is calculated by

$$\sum(P_i \times N_i \times t_i \times DF_i)$$

i = the installations of AC system inputted in "Air-conditioning Pumps" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r4) is calculated by

$$\sum(P_i \times N_i \times t_i \times DF_i)$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installations of AC system inputted in "Heat rejection system" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r5) is calculated by

$$\sum(P_i \times N_i \times t_i \times DF_i)$$

i = the installations of AC system inputted in "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input". For ones that are listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" which indicates a "Room Type" under "Location" that is not air-conditioned according to "Room" under "Zone", set the value to 0 to filter equipment that belongs to central mechanical ventilation systems

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r6) is calculated by dividing the value at "Lighting" under "Annual energy consumption breakdown, of past 1st 12-month period (MJ/annum) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis" of Form EE-EAes by 3.6

r7) is calculated by dividing the value at "Lift & Escalator" under "Annual energy consumption breakdown, of past 1st 12-month period (MJ/annum) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis" of Form EE-EAes by 3.6

r8) is calculated by dividing the value at "Others" under "Annual energy consumption breakdown, of past 1st 12-month period (MJ/annum) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis" of Form EE-EAes by 3.6

r9) is calculated by

$$\sum(P_i \times N_i \times t_i \times DF_i)$$

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

i = the installations of AC system inputted in "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" under "Specification" under "AC Installation" under "Input"

P_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input". For ones that are not listed under "Central Mechanical Ventilation/ Air-conditioning fans/ Indoor units of VRF systems" which indicates a "Room Type" under "Location" that is not air-conditioned according to "Room" under "Zone", set the value to 0 to filter equipment that belongs to central mechanical ventilation systems

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF_i = the diversity factor of corresponding installation in the "Location" under "AC Installation" under "Input"

r10) is calculated by subtracting *r8)* by *r9)*

r) equals to the value at "Past 1st 12-month" under "Annual energy consumption breakdown, of past 1st 12-month period (MJ/annum) (EAC Clause 8.1(g)iv))" under "Part 2 – Historical Energy Consumption Analysis" of Form EE-EAes

s1) to s10) and *s)* are set to be empty. The current tool assumes that all building equipment is supported by electricity, gas or liquified petroleum consumed on site (i.e. billed on site) and there are no energy import to support any of their operation.

t1) to *t10)* and *t)* are set to be empty. The current tool assumes that all electricity, gas or liquified petroleum consumed on site (i.e. billed on site) are used to support building equipment on site and there are no energy export to support any energy consumption operation at other sites.

u1) to *u10)* and *u)* are set to be equal to *r1)* to *r10)* and *r)* respectively.

v) is calculated by

$$\sum (Q_i \times N_i \times t_i) \times DF$$

i = the installations of AC system inputted in "Chillers" and "Heat pumps/ Outdoor units of multi-split VRF systems" under "Specification" under "AC Installation" under "Input"

Q_i = the input power of corresponding installation in the "Specification" under "AC Installation" under "Input"

N_i = the quantity of corresponding installation in the "Location" under "AC Installation" under "Input"

t_i = the annual operating hour of corresponding installation in the "Location" under "AC Installation" under "Input"

DF = the diversity factor of corresponding installation in the "Solving thermal energy consumption in AIT1 form with a diversity factor" in "Overview" under "Overview of Energy Supply and Consumption" under "Input"

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net

w) is assumed as zero and is left blank. The current version of SaaS assumes that there is no significant thermal energy import into the building by other off-site chiller plants.

x) is assumed as zero and is left blank. The current version of SaaS assumes that there is no significant thermal energy export from the chiller plant of the building to other sites.

y) is set to be the same as *v)*

Carbon Exchange (Hong Kong) Limited 香港碳交易有限公司
香港新界沙田 香港科學園 科技大道西 1 號 核心大樓 2 座 5 樓 535A 室
Unit 535A, 5/F, Core Building 2, No. 1 Science Park West Avenue, Hong Kong Science Park, Shatin, Hong Kong
T: +852 3421 0027 F: +852 3585 0569 E: hotline@carbonexhcange.net W: www.carbonexchange.net