



United Nations  
Educational, Scientific and  
Cultural Organization  
聯合國教育科學及文化組織



Hong Kong Institute of  
Education for Sustainable Development  
香港可持續發展教育學院  
The Movement of Centres of UNESCO

# Topic: UN SDGs Introduction and Supporting for Hong Kong SMEs Sustainable Development Planning Oct 25<sup>th</sup> 2023



Andy's Personal Sustainable  
Development Sharing  
WhatsApp Group

### **馮偉邦 先生**

- 香港可持續發展教育學院 SDGCampus總監
- 香港可持續發展教育學院 講師
- 香港特別行政區政府民政事務總署 分區委員會委員
- 香港特別行政區政府 西貢區公民教育委員會委員

### **Mr. Andy Fung**

- Lead of SDGCampus of Hong Kong Institute of Education for Sustainable Development;
- Lecturer of Hong Kong Institute of Education for Sustainable Development
- HKSAR - Home Affairs Department Area Committee
- HKSAR - Sai Kung District Civic Education Promotion Committee

## **Experiences**

- ❖ Certified Sustainable Development Professional (CSDP)
- ❖ ISO9001 品質管理系統 - Lead Auditor
- ❖ ISO20000 資訊服務管理系統 - Lead Auditor
- ❖ ISO27001 資訊安全管理系統 – Lead Auditor
- ❖ HiESD Official Lecturer :
  - ✓ Proficiency Certificate in Sustainable Development Planning
  - ✓ ESG & SDP & Professional Integration Course Series
  - ✓ Sustainable Development Planning Report
  - ✓ Project Management Professional
  - ✓ ISO21001 – Education Organization Management System
  - ✓ ISO9001 – Quality Management System
  - ✓ ISO14001 – Environmental Management System
  - ✓ ISO14064 – Green House Gas
  - ✓ ISO10015 – Training Guidelines
  - ✓ ISO30401 – Knowledge Management System
  - ✓ ISO10002 – Complaint Handling System Management
  - ✓ ISO45001 – OCCUPATIONAL HEALTH AND SAFETY
  - ✓ Green Office Management System



## Agenda

- UN SDGs17 Overview
- UN SDGs Mapping for HK SMEs Sustainable Development Planning
- SMEs Self Development on Carbon Inventory
- Case Study - Towards Net Zero Event

# HONG KONG INSTITUTE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT 香港可持續發展教育學院

## Introduction

<http://hiesd.org/wp/>

From 2003 to 2023

20

years of HiESD



As a regional coordinator, HiESD in collaboration with UNESCO Hong Kong Association and World Institute of Sustainable Development Planners (WISDP) and in support of the UNESCO Chair in Regional Education Development and Lifelong Learning, promote ESD in Hong Kong.



HiESD Expert Team

HiESD is an interdisciplinary research-based and innovative application institute with the main purpose of proposing Sustainable Development Goals (SDGs). It is the partner-expert and service provider of United Nations Industrial Development Organization (UNIDO) (IRD Ref No. 12958). HiESD focuses on promoting “The 2030 Agenda for Sustainable Development” and is the partner-expert of United Nations Department of Economic and Social Affairs (UNDESA), as well as the implementation agency of the UNESCO Global Action Programme on Education for Sustainable Development (GAP). HiESD is the member of the CNFUCA, founding association and secretariat of UNESCO HK, host of UN75 Dialogues, and the member of UN Sustainable Development Solution Network (UNSDSD).



### Vision

Promoting Education for Sustainable Development and let world to be more sustainable



### Mission

Enrichment of formal education with Education for Sustainable Development. Supporting & cooperating UN's Sustainable Development Goals and targets for 2030

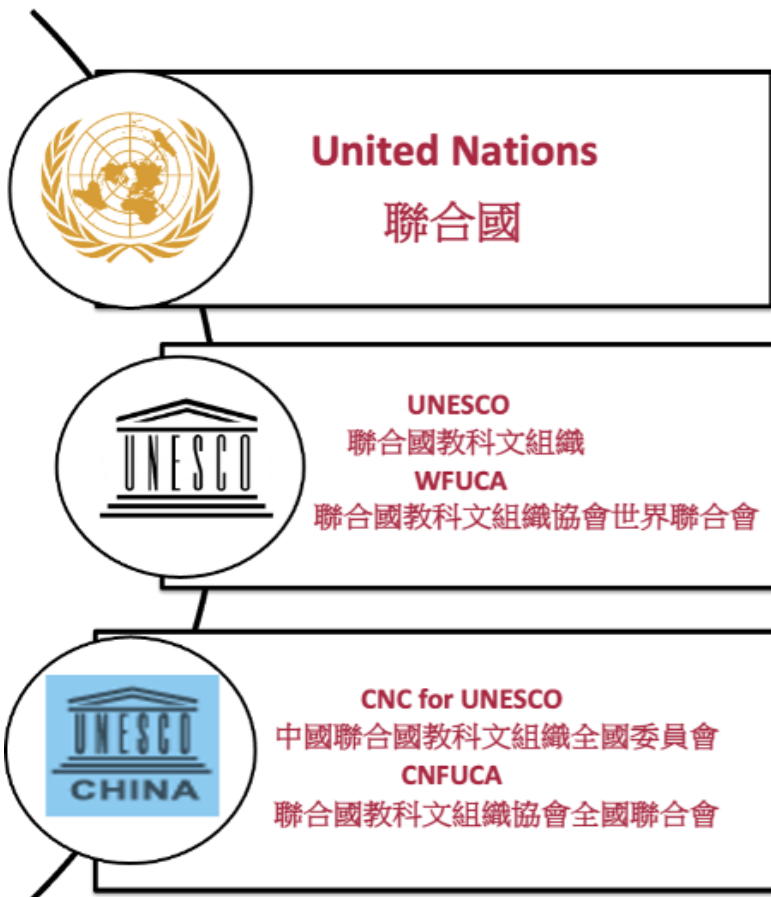


### Objectives

To proliferate the culture and awareness; to uplift people's education and knowledge of Sustainable Development. To drive the implementation & actions of UN's 17 Sustainable Development Goals

# Introduction

認識「聯合國」&「聯合國教科文組織」



- 由主權國家組成，193成員國
- 政府間國際組織
- 健康地球上的和平、尊严与平等
- 維護國際和平與安全、保護人權、提供人道主義援助、維護國際法、促進可持續發展
- **United Nations Educational, Scientific and Cultural Organization**
- **World Federation of UNESCO Clubs, Centres and Association**
- **Chinese National Commission for UNESCO**
- **Chinese National Federation of UNESCO Clubs, Centres and Associations**

## 聯合國教科文組織 (UNESCO)

United Nations Educational, Scientific and Cultural Organization

### 成立

1945年11月16日成立  
是聯合國(UN)屬下的專門機構  
總部在法國巴黎

### 宗旨

促進教育、科學、文化及傳播，以推進各國之間的相互了解、國際合作，維護世界和平與可持續發展

### 主要職能

前瞻性研究  
制定準則  
優質教育  
信息與傳播  
知識與技術的發展與交流

Source: : UNESCO



# 關於我們

“通過教育、科學、文化及傳播，促進可持續發展及推動國際間交流。”

*Promoting sustainable development and international exchanges through education, sciences and culture*



United Nations  
Educational, Scientific and  
Cultural Organization  
聯合國教育科學及文化組織



UNESCO Hong Kong Association  
香港聯合國教科文組織協會  
The Movement of Associations of UNESCO

Member of Chinese National  
Federation of UNESCO Clubs,  
Centres and Associations

Regional Reporting  
Member of  
United Nations Global  
Compact

Achieving UNESCO's  
mission

中國聯合國教科文組織協會  
全國聯合會成員機構

聯合國全球契約組織地  
區報告成員

實現聯合國教科文  
組織的核心使命

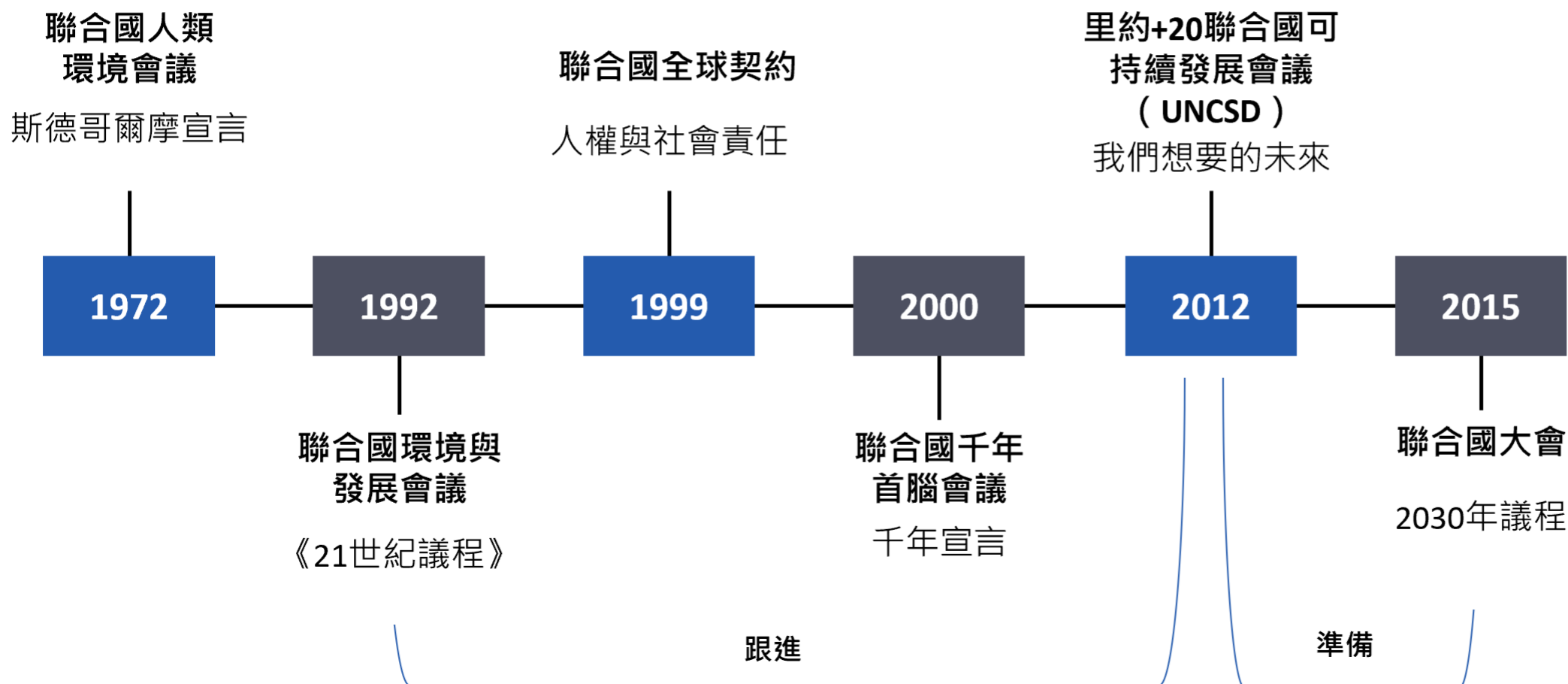


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# 聯合國可持續發展的演變

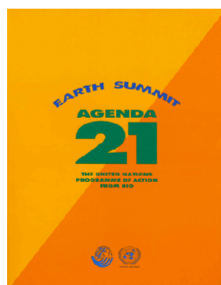


# 《21世紀議程》



## 它是...

關於發展與環境合作的官方的全球共識



## 它旨在...

反映為國家的可持續發展戰略和計劃提供支援的國際共識。它呼籲所有國家參與改善、保護和更好地管理生態系統，並對未來承擔共同責任。



## 它的締約方包括...

178多個出席於1992年6月3日至14日在巴西里約熱內盧舉行的聯合國環境與發展會議的國家政府，與《關於環境與發展的里約宣言》和《可持續森林管理原則聲明》一同被採納。



# 京都議定書

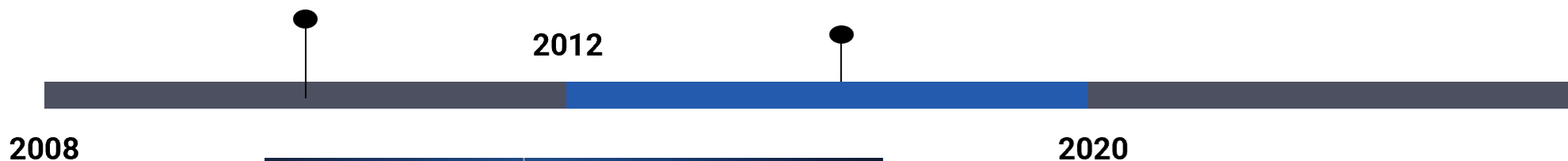
## 第一承諾期 2008-2012

37個工業化國家和歐盟承諾：

- 在 2008 年至 2012 年承諾期內將京都議定書中的6種溫室氣體的全部排放量相比 1990 年水平減少至少5%
- 確保其二氧化碳排放當量不超過其配額

## 第二承諾期 2013-2020

- 《京都議定書》的多哈修正案
- 在1990年水平的基礎上減少至少18%的溫室氣體排放量
- 37個參與第二承諾期的國家佔全世界14%的排放量



# 聯合國 千年宣言

- 2000年9月——聯合國千年首腦會議通過《聯合國千年宣言》
- 建立新的全球夥伴關係，旨在減少極端貧困，並制定一系列有時限的目標
- 到2015年要實現8項千年發展目標
- 消滅極端貧窮和飢餓
- 實現普及初等教育
- 促進性別平等並賦予婦女權力
- 降低兒童死亡率
- 改善產婦保健
- 與愛滋病毒/愛滋病、瘧疾以及其他疾病作鬥爭
- 確保環境的可持續能力
- 制訂促進發展的全球夥伴關係
- 包括 18 個具體目標

Source: UN, <https://www.un.org/millenniumgoals/bkgd.shtml>



## SUSTAINABLE DEVELOPMENT GOALS

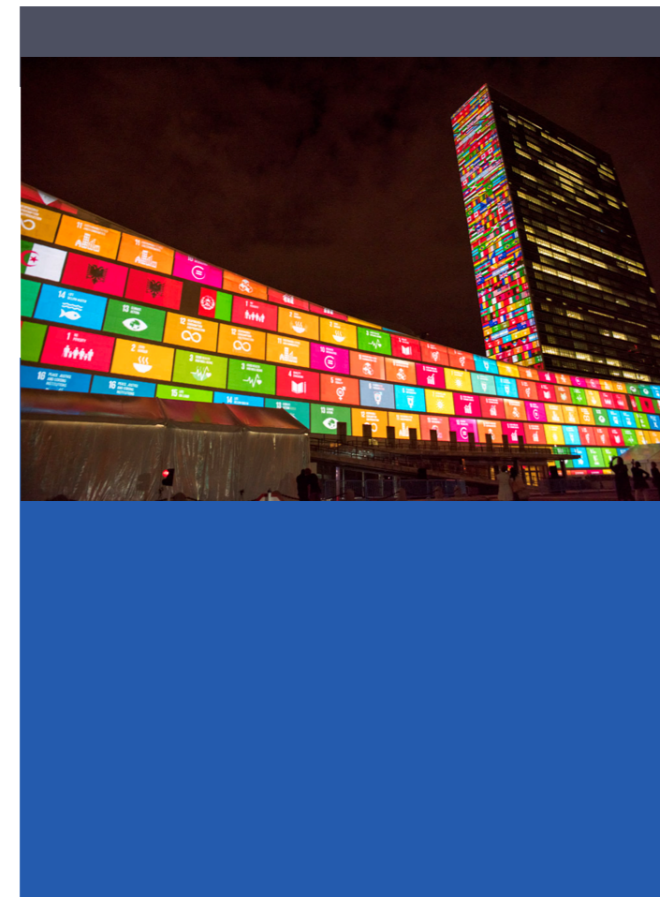


## 介紹 聯合國可持續發展目標 ( UN SDGs )

# 聯合國可持續發展目標

2015年，150多位世界領導人齊聚紐約聯合國總部，召開了為期三天的可持續發展峰會，正式通過一項目標遠大的可持續發展新議程。

- 該新議程稱作“**變革我們的世界：2030年可持續發展議程**”
- 包括1項宣言、**17個可持續發展目標**和**169個具體目標**
- 新議程旨在尋找新的方式改善全世界人民的生活、消除貧困、促進所有人的健康與福祉、保護環境以及應對氣候變化
- 目標到2030年實現



# 3 大支柱



生活



經濟與技術發展

經濟目標



平等



社會發展

社會目標



資源



環境

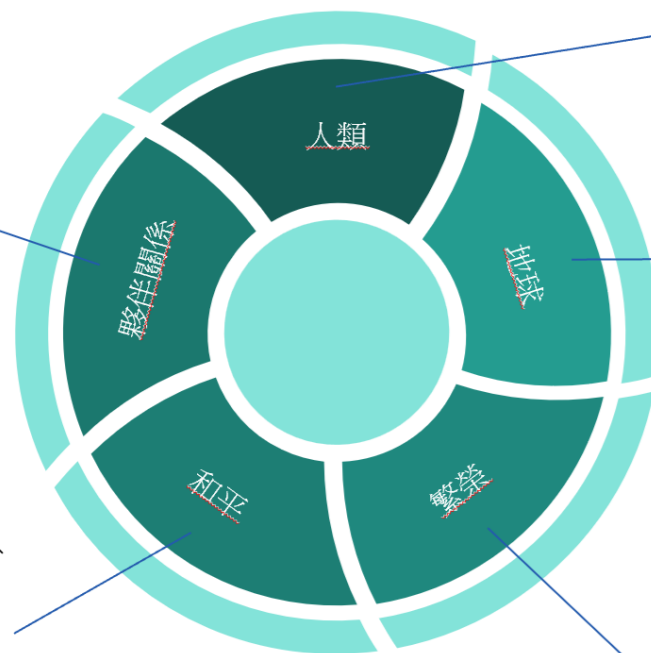
環境目標



# 5P 框架

我們決心動用必要的手段來執行這一議程，本著加強全球團結的精神，在所有國家、所有利益攸關方和全體人民參與的情況下，恢復全球可持續發展夥伴關係的活力，尤其注重滿足最貧困最脆弱群體的需求。

我們決心推動創建沒有恐懼與暴力的和平、公正和包容的社會。沒有和平，就沒有可持續發展；沒有可持續發展，就沒有和平。

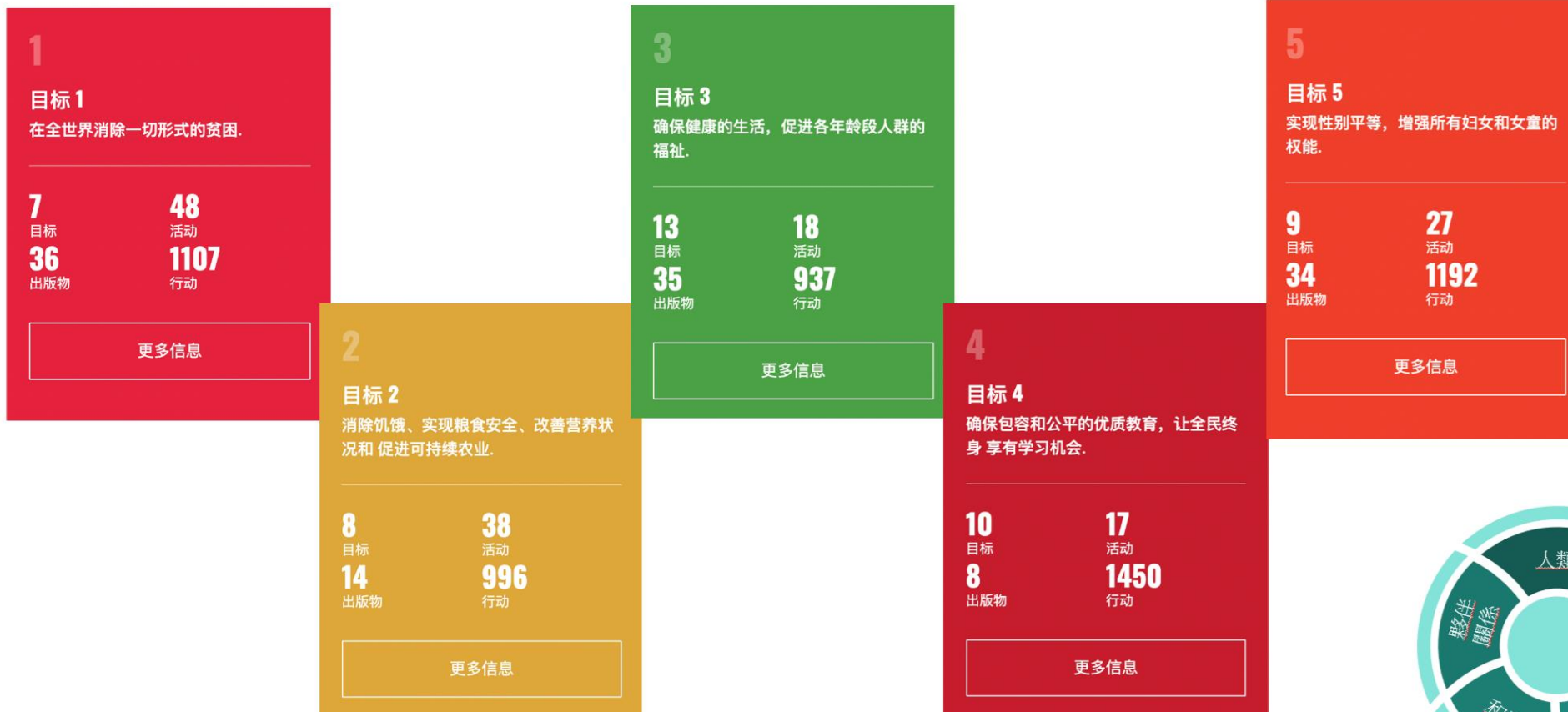


我們決心消除一切形式和表現的貧困與饑餓，讓所有人平等和有尊嚴地在一個健康的環境中充分發揮自己的潛能。

我們決心阻止地球的退化，包括以可持續的方式進行消費和生產，管理地球的自然資源，在氣候變化問題上立即採取行動，使地球能夠滿足今世後代的需求。

我們決心讓所有的人都過上繁榮和充實的生活，在與自然和諧相處的同時實現經濟、社會和技術進步。

# 人類



# 環境

6

## 目标 6

为所有人提供水和环境卫生并对其进行可持续管理。

8  
目标  
32  
出版物

15  
活动  
862  
行动

更多信息

7

## 目标 7

确保人人获得可负担、可靠和可持续的现代能源。

5  
目标  
32  
出版物

11  
活动  
810  
行动

更多信息

13

## 目标 13

采取紧急行动应对气候变化及其影响。

5  
目标  
33  
出版物

15  
活动  
1364  
行动

更多信息

14

## 目标 14

保护和可持续利用海洋和海洋资源以促进可持续发展。

10  
目标  
38  
出版物

59  
活动  
2215  
行动

更多信息

15

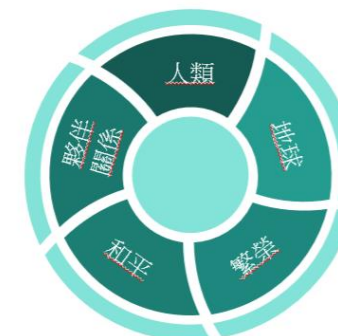
## 目标 15

保护、恢复和促进可持续利用陆地生态系统，可持续管理森林，防治荒漠化，制止和扭转土地退化，遏制生物多样性的丧失。

12  
目标  
31  
出版物

15  
活动  
864  
行动

更多信息



# 繁榮

8

## 目标 8

促进持久、包容性和可持续的经济增长，充分的 生产性就业和人人获得体面工作。

12  
目标

36  
出版物

49  
活动

1494  
行动

更多信息

10

## 目标 10

减少国家内部和国家之间的不平等。

10  
目标

11  
出版物

30  
活动

724  
行动

更多信息

12

## 目标 12

确保采用可持续的消费和生产模式。

11  
目标

13  
出版物

10  
活动

1145  
行动

更多信息

9

## 目标 9

建设具有适应力的基础设施，促进包容性和 可持续的工业化，推动创新。

8  
目标

14  
出版物

35  
活动

715  
行动

更多信息

11

## 目标 11

建设包容、安全、有抵御灾害能力和可  
持续的 城市和人类住区。

10  
目标

16  
出版物

33  
活动

890  
行动

更多信息



- 
- SMEs Self Development on Carbon Inventory



## 建立碳賬簿 基本9項信息:

### 第1項:

使用柴油、液化石油氣、煤油、木炭和煤氣等固定來源的溫室氣體排放

e.g. 鍋爐、熔爐、烤箱和應急發電機等。

### 第2項

使用柴油/無鉛汽油的移動車輛的溫室氣體排放

e.g. 乘用車、私家車、公共小巴、輕型貨車、重型貨車、中型貨車、其他

### 第3項

製冷/空調設備（運行過程）產生的溫室氣體排放（HFC和PFC）

### 第4項

從新種植的樹木中直接清除溫室氣體

樹的數量

### 第5項

從電力公司購買的電力產生的溫室氣體排放

電費上報的區域/設施

### 第6項

購自香港中華煤氣公司（中華煤氣）的中華煤氣的溫室氣體排放量

煤氣費上報的區域/設施

### 第7項

香港垃圾填埋場因棄置廢紙而產生甲烷

廢紙

### 第8項

供水部門淡水處理用電產生的溫室氣體排放

水費上報的區域/設施

### 第9項

渠務署用於污水處理的電力產生的溫室氣體排放

污水處理費上報的區域/設施

	A	B	C	D	E	F	G	H	I	J
1										Version 2.4 (18-May-2021)
2	Greenhouse Gas Emissions Reporting Templates for Buildings									
3										
4	Project:	"Paper Approach" Carbon Audit								
5	Venue:	YOGA Development Ltd., 4-5/F, May Ti								
6	Reporting Period:	From	01	01	2021	To	31	12	2021	
7	(12 months)		(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)	
8	Total Floor Area(m <sup>2</sup> ):	5,000								
9	No. of Full Time Staff:	205								
10	No. of Floors	2								
11	Year Built	2002								
12	Operating Characteristics							0800-2000		
13		Operation hours per day (Weekend or public holiday, if any):								
14		Total operation days per year:								
15	Contact Person	Name:	Maggie CHAN					0800-2000		
16		Post:	EHS Manager					244		
17	Contact Details	Tel:	28961235							
18		Email:	maggiechan@yoga.com.hk							
19										
20	Content									
21										
22	Emission sources	Report Table	Summary							
23	Scope 1	Table 1	GHG Emissions from Stationary Sources							
24	Direct GHG Emissions &	Table 2	GHG Emissions from Mobile Sources							
25	Removals	Table 3	HFC and PFC Emissions from Refrigeration / Air-conditioning Equipment (Operation Process)							
26		Table 4	GHG Removals from Newly Planted Trees							
27	Scope 2	Table 5	GHG Emissions from Electricity Purchased from Power Companies							
28	Energy Indirect GHG	Table 6	GHG Emissions from Towngas Purchased from the Hong Kong and China Gas Company (Towngas)							
29	Emissions	Table 7	Methane Generation at Landfill in Hong Kong due to Disposal of Paper Waste							
30	Scope 3	Table 8	GHG Emissions from Electricity Used for Fresh Water Processing by Water Supplies Department							
31	Other Indirect GHG	Table 9	GHG Emissions from Electricity Used for Sewage Processing by Drainage Services Department							
32	Emissions									

Page 1



	B	C	D	E	F	G	H	I	J	K
1	Project:	"Paper Approach" Carbon Audit								
2	Venue:	可持續發展碳中和示範中學								
3	Reporting Period:	From	01	01	2021	To	31	12	2021	
4			(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)	
5										
6	Table 1: GHG Emissions from Stationary Sources using Diesel Oil, LPG, Kerosene, Charcoal, and Towngas etc.									
7	Step 1	Step 2			Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
8	A	B	C	D	E	F	G	H	I	J
9	Source description with location (e.g. Boilers, Furnaces, ovens, and emergency electricity generator etc.)	Fuel Information			CO <sub>2</sub> emission factor	CO <sub>2</sub> emission in tonnes of CO <sub>2</sub> equivalent ((BxE)/1000)	CH <sub>4</sub> emission factor	CH <sub>4</sub> emission in tonnes of CO <sub>2</sub> equivalent ((BxG)/(1000x1000) x GWP)	N <sub>2</sub> O emission factor	N <sub>2</sub> O emission in tonnes of CO <sub>2</sub> equivalent ((BxI)/(1000x1000) x GWP)
Fuel used per reporting year		Fuel type								
Amount			Unit <sup>Note 1</sup>							
11	(1) Generator	(2) 234.10	(3) Litre	(4) Diesel Oil	2.614	0.61	0.0239	1.17E-04	0.0074	5.37E-04
12	Towngas Consumption	4,316.00	Unit	Diesel Oil	2.549	11.00	0.0446	4.04E-03	0.0099	1.32E-02
13			kg	LPG	3.017	0.00	0.0020	0.00E+00	0.0000	0.00E+00
14				Charcoal						
15			Litre	Towngas						
16				Others						
17	Total			Diesel Oil	2.614	0.00	0.0239	0.00E+00	0.0074	0.00E+00
18						11.61		0.00		0.01
19	Data to be input selected by users/owners									
20	Results of GHG emissions from stationary sources									

1) 請填寫有關於發電資源名稱. 例如: 後備發電機 (可填多於一項)

2) 請填寫全年耗用量

3) 請填寫燃料單位

4) 請選擇燃料種類

注意: 如果 貴校沒有此類型發電機或裝置可不需要填寫這一頁.

第 1 頁

	B	C	D	E	F	G	H	I	J
1	Project: "Paper Approach" Carbon Audit								
2	Venue: 可持續發展碳中和示範中學								
3	Reporting Period:	From	01	01	2021	To	31	12	2021
4			(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)
5									
6	Table 2: GHG Emissions from Mobile Vehicles using Diesel Oil / Unleaded Petrol								
7	Step 1	Step 2		Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
8	A	B	C	D	E	F	G	H	I
9	Source description (by different vehicle and fuel types)	Fuel Information		CO <sub>2</sub> emission factor	CO <sub>2</sub> emission in tonnes of CO <sub>2</sub> equivalent ((BxD)/1000)	CH <sub>4</sub> emission factor	CH <sub>4</sub> emission in tonnes of CO <sub>2</sub> ~ equivalent ((BxF)/(1000x1000)) x GWP	N <sub>2</sub> O emission factor	N <sub>2</sub> O emission in tonnes of CO <sub>2</sub> equivalent ((BxH)/(1000x1000)) x GWP
10		Amount of fuel used (in litres)	Fuel type						
11	Road Transport								
12	(1)	(2)	(3)						
13	Motorcycle	2,556.60	Unleaded Petrol (ULP)	0.000	0.00	0.000	0.00	0.000	0.00
14	Passenger Car	1,541.60	Diesel Oil (DO)	2.360	3.64	0.253	0.01	1.105	0.53
15	Private Van		Unleaded Petrol (ULP)						
16	Public Light Bus	2,390.10	Diesel Oil (DO)	2.614	6.25	0.072	0.00	0.506	0.37
17	Light Goods Vehicle			0.000	0.00	0.000	0.00	0.000	0.00
18	Heavy Goods Vehicle			0.000	0.00	0.000	0.00	0.000	0.00
19	Medium Goods Vehicle			0.000	0.00	0.000	0.00	0.000	0.00
20	Others			0.000	0.00	0.000	0.00	0.000	0.00
21	Navigation								
22	Ships	(4) 0.00	Gas Oil	2.645	0.00	0.146	0.00	1.095	0.00
23	Aviation								
24	Aviation	(5) 0.00	Kerosene	2.429	0.00	0.069	0.00	0.000	0.00
25	Total				9.89		0.01		0.90

第 1 頁

Table 2

Basic information | Table 1 | **Table 2** | Table 3 | Table 4 | Table 5 | Table 6 | Table 7 | Table 8 | Table 9 | Report Table | Gree

- 1) 請選擇汽車種類  
(可填多於一項)
- 2) 請填寫全年耗用量
- 3) 請選擇燃料種類
- 4) 請填寫全年耗用量
- 5) 請填寫全年耗用量

注意: 如果 貴校沒有此類型汽車或裝置可不需  
要填寫這一頁.

	A	B	C	D	E	F	G	H	I
1	<b>Project:</b>	<b>"Paper Approach" Carbon Audit</b>							
2	<b>Venue:</b>	可持續發展碳中和示範中學							
3	<b>Reporting Period:</b>	<b>From</b>	<b>01</b>	<b>01</b>	<b>2021</b>	<b>To</b>	<b>31</b>	<b>12</b>	<b>2021</b>
4			<b>(DD)</b>	<b>(MM)</b>	<b>(YYYY)</b>		<b>(DD)</b>	<b>(MM)</b>	<b>(YYYY)</b>
5									
6	<b>Table 3: GHG emissions (HFC and PFC) arising from Refrigeration / Air-conditioning Equipment (Operation Process)</b>								
7	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Step 6</b>	<b>Step 7</b>		
8	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>		
9	<b>Type of refrigerant</b> <sup>Note 1</sup>	<b>Amount of refrigerant at the beginning of the reporting period (kg)</b>	<b>Amount of refrigerant purchased during the reporting period (kg)</b>	<b>Amount of refrigerant disposed (through environmentally responsible means) during the reporting period (kg)</b>	<b>Amount of refrigerant at the end of the reporting period (kg)</b>	<b>GWP of refrigerant</b>	<b>GHG emissions (HFC and PFC) in tonnes of CO<sub>2</sub> equivalent ((B+C-D-E) x F / 1000)</b>		
10	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>				
11	HFC-134a	403.20	100.00	50.00	410.00	1,300	56.16		
12	HFC-134a	59.00	100.00	50.00	60.00	1,725	84.53		
13	HFC-143a								
	HFC-152a								
	HFC-236fa								
	R-401A					0	0.00		
	R-401B					0	0.00		
	R-401C					0	0.00		
	R-402A					0	0.00		
14									

第 1 頁

Basic information
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Green measure...

1) 請選擇雪種種類  
(可填多於一項)

2) 請填寫年初儲存量

3) 請填寫全年購買量

4) 請填寫全年處置量

5) 請填寫年底儲存量

注意: 如果 貴校沒有使用雪種可不需要填寫這一頁.





	A	B	C	D	E	F	G	H	I			
1	Project:	"Paper Approach" Carbon Audit										
2	Venue:	可持續發展碳中和示範中學										
3	Reporting Period:	From	01	01	2021	To	31	12	2021			
4			(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)			
5												
6	Table 5: GHG Emissions from Electricity Purchased from Power Companies											
7	Step 1	Step 2	Step 3	Step 4		Step 5						
8	A	B	C <sup>Note 1</sup>	D <sup>Note 2</sup>		E						
9	Facility / source description (i.e. Area/ facilities the electricity bill is reporting)	Amount of electricity as shown in electricity bill	Amount of electricity produced by renewable energy (RE) sources as shown in RE Certificate	Emission factor (kg/kWh)		Indirect GHG emission in tonnes of CO <sub>2</sub> equivalent ((B - C) x D/1000)						
10		(in kWh) (1)	(in kWh) (2)									
11	可持續發展碳中和示範中學	725,896.00	0.00	CLP	(Year 2021)	0.37	268.58					
12		0.00	CLP HEC Territory-wide	(Year 2014) (Year 2015) (Year 2016) (Year 2017) (Year 2018) (Year 2019) (Year 2020) (Year 2021)	0.37	0.00						
13	Total	725,896.00					268.58					
14												
15	Note 1: RE Certificates are sold by the power companies for electricity generated by RE sources such that buyers can claim that their operations help reduce carbon emissions. These Certificates also represent the units of RE purchased by buyers.											
	Note 2: The reporting entity is required to account for GHG emissions associated with the electricity purchased in Hong Kong based on two emission factors. The reporting entity can quantify the emissions based on a territory-wide default value of 0.7kg/kWh. The reporting entity can also quantify the emissions based on specific emission factors provided by its respective provider of electricity. In case that the specific emission factor for the reporting period is not available at the time of accounting, the latest specific emission factor from the power company may be											
	Basic information	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9	Report Table	Green measure...

- 1) 請填寫全年耗電量 (可填多於一項)
- 2) 請填寫全年耗電量 (Renewable Energy Certificate) (如果沒有，請不必填寫)
- 3) 請選擇電力公司名稱
- 4) 請選擇全年耗電年份

注意: 如果 貴校沒有耗電可不需要填寫這一頁.

	A	B	C	D	E	F	G	H	I
1	<b>Project:</b>	<b>"Paper Approach" Carbon Audit</b>							
2	<b>Venue:</b>	可持續發展碳中和示範中學							
3	<b>Reporting Period:</b>	<b>From</b>	<b>01</b>	<b>01</b>	<b>2021</b>	<b>To</b>	<b>31</b>	<b>12</b>	<b>2021</b>
4			<b>(DD)</b>	<b>(MM)</b>	<b>(YYYY)</b>		<b>(DD)</b>	<b>(MM)</b>	<b>(YYYY)</b>
5									
6	<b>Table 6: GHG Emissions from Towngas Purchased from the Hong Kong and China Gas Company (Towngas)</b>								
7	<b>Step 1</b>	<b>Step 2</b>	<b>Step 3</b>		<b>Step 4</b>				
8	<b>A</b>	<b>B</b>	<b>C</b>		<b>D</b>				
9	<b>Facility / source description (i.e. Area/ facilities the Towngas bill is reporting)</b>	<b>Amount of Towngas purchased (Unit <sup>Note</sup>)</b> <b>(1)</b>	<b>Emission factor (kg/Unit)</b> <b>(2)</b>		<b>Indirect GHG emission in tonnes of CO<sub>2</sub> equivalent (B x C/1000)</b>				
10	可持續發展碳中和示範中學	4,316.00	(Year 2021)		0.592	2.56			
11		0.00	(Year 2014) (Year 2015) (Year 2016) (Year 2017) (Year 2018) (Year 2019) (Year 2020) (Year 2021)		0.592	0.00			
12		<b>Total</b>	4,316.00				2.56		
13									
Note: Each unit registered by gas meter represents that the town gas with a heat value of 48 MJ. Based on the information from the Hong Kong and China Gas Company, the emissions factors for the past five years were derived as below. This factor only accounts for the emissions during the production of Towngas within the company. Reporting entity should report in Table 1 as well the GHG emissions associated with combustion of Towngas within the physical boundary under Scope 1.									

1) 請填寫全年耗天然氣量  
(可填多於一項)

2) 請選擇全年耗天然氣年份

注意: 如果 貴校沒有耗天然氣可不需要填寫這一頁.



	A	B	C	D	E	F	G	H	I			
1	Project:	"Paper Approach" Carbon Audit										
2	Venue:	可持續發展碳中和示範中學										
3	Reporting Period:	From	01	01	2021	To	31	12	2021			
4			(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)			
5												
6	Table 8: GHG Emissions from Electricity Used for Fresh Water Processing by Water Supplies Department											
7	Step 1	Step 2	Step 3		Step 4							
8	A	B	C		D							
9	Source description (i.e. Area/ facilities the water bill is reporting)	Amount of water consumed as listed on the water service bill (m <sup>3</sup> )	Emission factor (kg/m <sup>3</sup> )		Emission in tonnes of CO <sub>2</sub> equivalent (B x C/1000)							
10												
11	可持續發展碳中和 示範中學	14,015.00 (1)	(Year 2020/21) (2)	0.417	5.84							
12		0.00	(Year 2013/14) (Year 2014/15) (Year 2015/16) (Year 2016/17) (Year 2017/18) (Year 2018/19) (Year 2019/20) (Year 2020/21)	0.417	0.00							
13	Total	14,015.00			5.84							
14												
15	In case that the unit electricity consumption for processing fresh water for the reporting period is not available at the time of accounting, the latest emission factor from table below may be used as an approximation.											
16												
	Basic information	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6	Table 7	Table 8	Table 9	Report Table	Green measure: ...

1) 請填寫全年耗水量

2) 請選擇全年耗水年份

注意: 如果 貴校沒有使用紙  
可不需要填寫這一頁.



	A	B	C	D	E	F	G	H	I
1	<b>Project:</b>	<b>"Paper Approach" Carbon Audit</b>							
2	<b>Venue:</b>	可持續發展碳中和示範中學							
3	<b>Reporting Period:</b>	<b>From</b>	<b>01</b>	<b>01</b>	<b>2021</b>	<b>To</b>	<b>31</b>	<b>12</b>	<b>2021</b>
4			(DD)	(MM)	(YYYY)		(DD)	(MM)	(YYYY)
5									
6	<b>Table 9: GHG Emissions from Electricity Used for Sewage Processing by Drainage Services Department</b>								
7	<b>Step 1</b>		<b>Step 2</b>	<b>Step 3</b>		<b>Step 4</b>			
8	<b>A</b>		<b>B</b>	<b>C</b>		<b>D</b>			
9	<b>Source description (i.e. Area/facilities the water bill is reporting)</b>	<b>Usage of premises (Restaurants and catering services; or Other commercial, residential and institutional purposes)</b>	<b>Fresh water consumption (m<sup>3</sup>)</b>	<b>Default Emission factor (kg/m<sup>3</sup>)</b>		<b>Emission in tonnes of CO<sub>2</sub> equivalent (B x C/1000)</b>			
10	可持續發展碳中和 示範中學	Restaurants and catering services (1)	14,015.00 (2)	(Year 2020/21) (3)	0.200	1.96			
11		Restaurants and catering services		(Year 2013/14)					
12		Other commercial, residential and institu and institutional purposes	0.00	(Year 2014/15)	0.200	0.00			
13			0.00	(Year 2015/16)					
14				(Year 2016/17)					
15				(Year 2017/18)					
16				(Year 2018/19)					
17				(Year 2019/20)					
18				(Year 2020/21)					
19	<b>Total</b>		14,015.00			1.96			
20	<b>Source Description</b>		<b>Default Emission Factor (kg/m<sup>3</sup>)</b>						
21	Restaurants and catering Services		(0.7 x Emission Factor) assuming 70% of the fresh water consumed will enter the sewage system						
22	Other commercial, residential and institutional purposes		(1.0 x Emission Factor) assuming 100% of the fresh water consumed						

- 1) 請選擇排污種類
- 2) 請填寫全年排污量
- 3) 請選擇排污年份

注意: 如果 貴校沒有使用紙  
可不需要填寫這一頁.

	A	B
1	Please list the green measures and environmental initiatives implemented:	
2		
3	Energy saving	Always consider to use electrical equipment with Grade 1 energy label.
4	Paper saving	Print on both sides of the paper. Use electronic means to communicate.
5	Water saving	Maintain effective plumbing and drainage systems.
6	Vehicles	Carry out regular maintenance of electrical equipment and vehicles.
7	Practice of recycling activities	Provide recycling bins in public areas. Encourage staff to reduce waste and to recycle.
8	Staff engagement	Celebrate Earth Day on April 22.
9	Housekeeping measures	
10	Others	Place posters and other publicity materials in prominent places to encourage energy and water conservation.
11		
12	To be input/selected by users/owners	

◀▶...

Table 1

Table 2

Table 3

Table 4

Table 5

Table 6

Table 7

Table 8

Table 9

Report Table

Green measures

1) 請填寫全年學校在不同範疇舉行之環保活動。

第 1 頁

- 
- Case Study - Towards Net Zero Event



12.04 可持續發展教育課程計劃 邁向淨零排放活動  
 參加者出行碳排放問卷

2022年12月4日，由香港聯合國教科文組織協會主辦的可持續發展教育課程計劃 ESD Learning Programme 開幕儀式嘉賓頒發「UNSDGs」邁向淨零低碳活動嘉許證書，活動有效實踐、傳播和宣傳聯合國2030可持續發展目標，和香港2050碳中和目標，活動全體參與師生共同真實紀錄並核算碳排放，包括參加者、嘉賓和工作人員所使用的交通工具往返里程、場地使用的設備的能耗量等，並通過微藻設施的運作進行二氧化碳排放量等抵消。



活動所使用的微藻設施經 CMA Testing (香港中華廠商聯合會檢定中心) 檢測，可有效去除空氣中的二氧化碳，達到抵消作用。



## Request Recognition for 「UNSDGs」 Towards Net Zero Event Recognition Award

### Step 1 Application

- The recognition process need to be supervised by a [Certified Sustainable Development Planner \(CSDP\)](#)
- Complete the [online application form](#) and submit the basic information of the event, such as the type of event, the expected number of participants. etc.
- Choose the [level of award](#) ( Merit / Excellence / Extraordinary)

### Step 2 Calculation

- Event organizers provide required specifications of equipment and electric appliances
- Identify emission reduction and carbon offset measures (such as placing [microalgae carbon absorption facilities at the event site](#), etc.)
- \*Requirement of an on-site inspection depends on the details of the activity.

### Step 3 Certification

- A [certificate will be presented during the event](#)
- A logo with unique registration code can be used on promotion materials and publications related to the event
- Demonstrate your carbon reduction actions and commitment to your stakeholders
- Receive a report for the event

## Level of Award

### MERIT

START YOUR CLIMATE ACTION

## Select 7

Self-report 7 out of 10 Towards Net Zero Low Carbon Event Measures from the list below:

- ✓ Recycling bins on site
- ✓ Adopt environmental friendly lighting measure or use natural light
- ✓ Keep air conditioner's temperature above 24 degrees
- ✓ Use LED Display Monitor with Level 1 Energy Label
- ✓ Only use audio equipments when needed
- ✓ Adopt paper-less policy
- ✓ Encourage participants to use public transportation methods
- ✓ Encourage participants to use electric vehicles for transportation
- ✓ Prize / Certificates with low-carbon elements
- ✓ Low-carbon catering declaration

APPLY NOW

### EXCELLENCE

READY TO BECOME ZERO CARBON

## 7+4+1

> On top of 7/10 MERIT Low Carbon Measures:

> Collect 4 Carbon Emission Data:

★ Energy consumption of equipment used during the event (eg: lights, air conditioners, water dispensers)

- ★ Recycling bins
- ★ Printing paper

★ emission from transportation of participants (to the venue)

> Choose 1 offsetting method : (e.g.)

- ☐ Solar System
- ☐ Wind Energy
- ☐ Microalgae System
- ☐ Waste to Energy System
- ☐ or other methods of offsetting

APPLY NOW

### EXTRAORDINARY

NET ZERO SUPER STAR

## 7+5+2

> On top of 7/10 MERIT Low Carbon Measures:

> Collect 5 Carbon Emission Data:

★ Energy consumption of equipment used during the event (eg: lights, air conditioners, water dispensers)

- ★ Recycling bins
- ★ Printing paper


★ emission from transportation of participants (to the venue)

★ Catering

> Choose 2 offsetting methods : (e.g.)

- ☐ Solar System
- ☐ Wind Energy
- ☐ Microalgae System
- ☐ Waste to Energy System
- ☐ Carbon Credit
- ☐ or other methods of offsetting

APPLY NOW



# Q&A





United Nations  
Educational, Scientific and  
Cultural Organization  
聯合國教育科學及文化組織



*Hong Kong Institute of  
Education for Sustainable Development*  
香港可持續發展教育學院

The Movement of Centres of UNESCO

■ End