



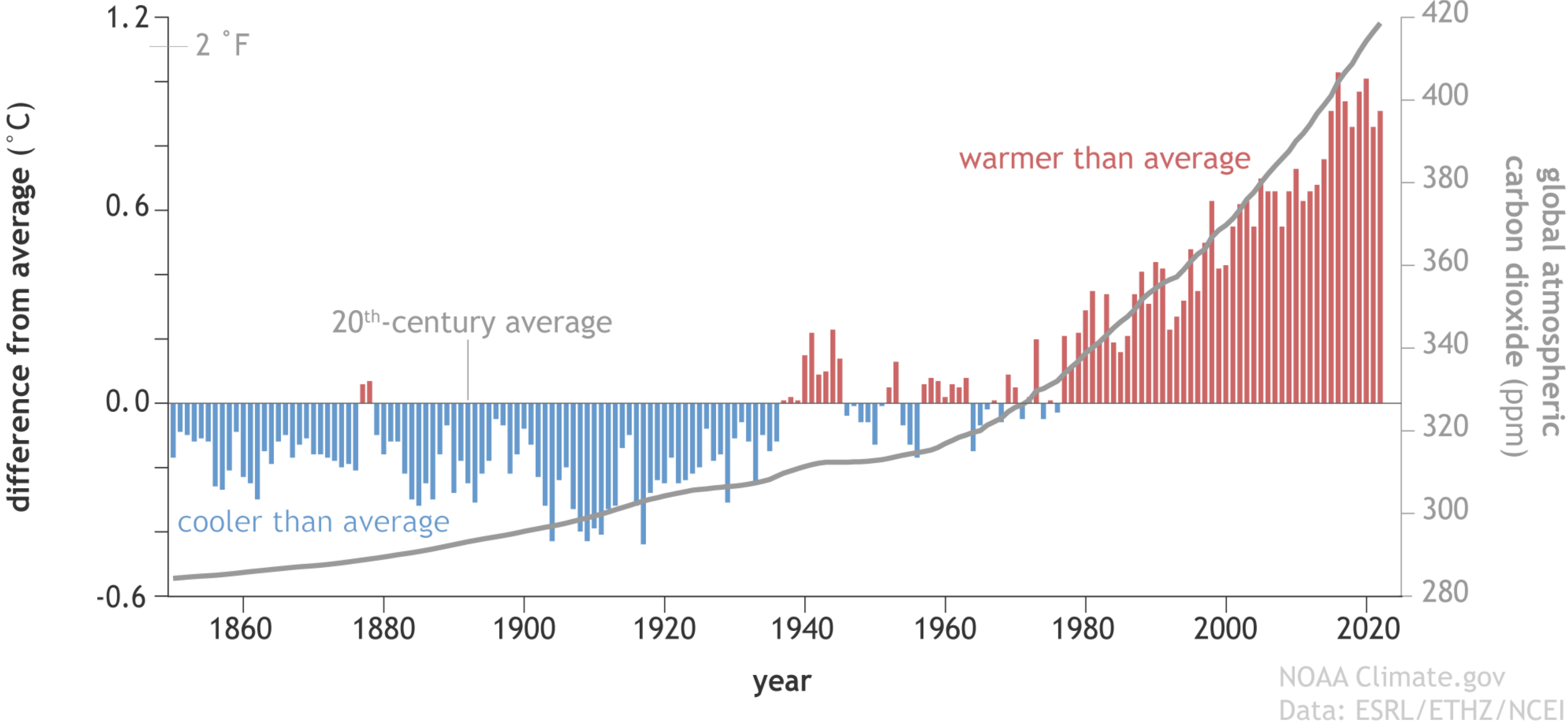
# CORAL LIFE

อาคารประหยัดพลังงาน

[www.corallife.co.th](http://www.corallife.co.th)

ตกลงอาคารประหยัดพลังงานเป็นแค่จุดขาย หรือ เรื่องจำเป็น ?

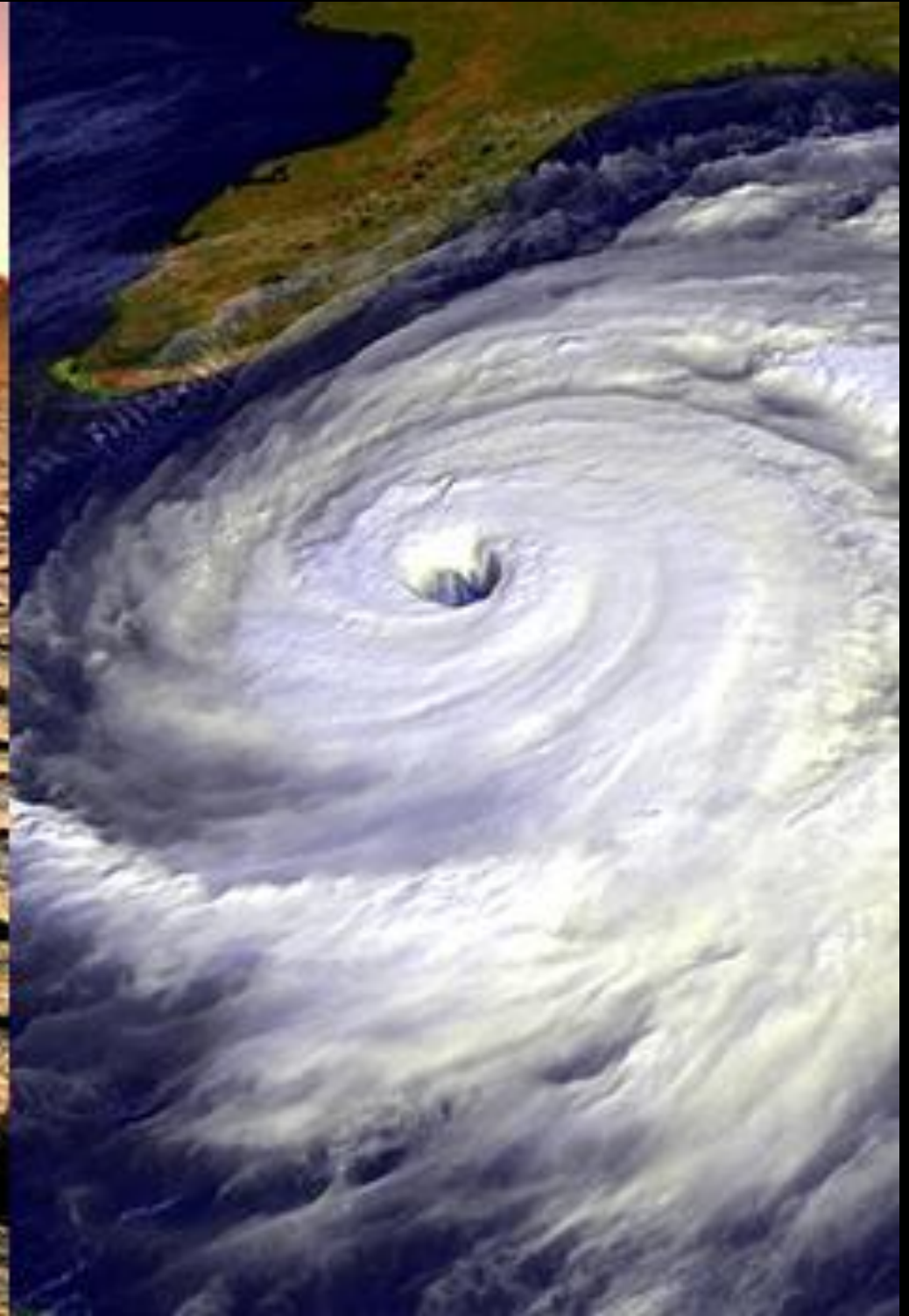
# Yearly global surface temperature and atmospheric carbon dioxide (1850-2022)



NOAA Climate.gov  
Data: ESRL/ETHZ/NCEI

Yearly temperature compared to the twentieth-century average (red bars mean warmer than average, blue bars mean colder than average) from 1850–2022 and atmospheric carbon dioxide amounts (gray line): 1850-1958 from [IAC](#), 1959-2019 from [NOAA ESRL](#). Original graph by Dr. Howard Diamond (NOAA ARL), and adapted by NOAA Climate.gov.

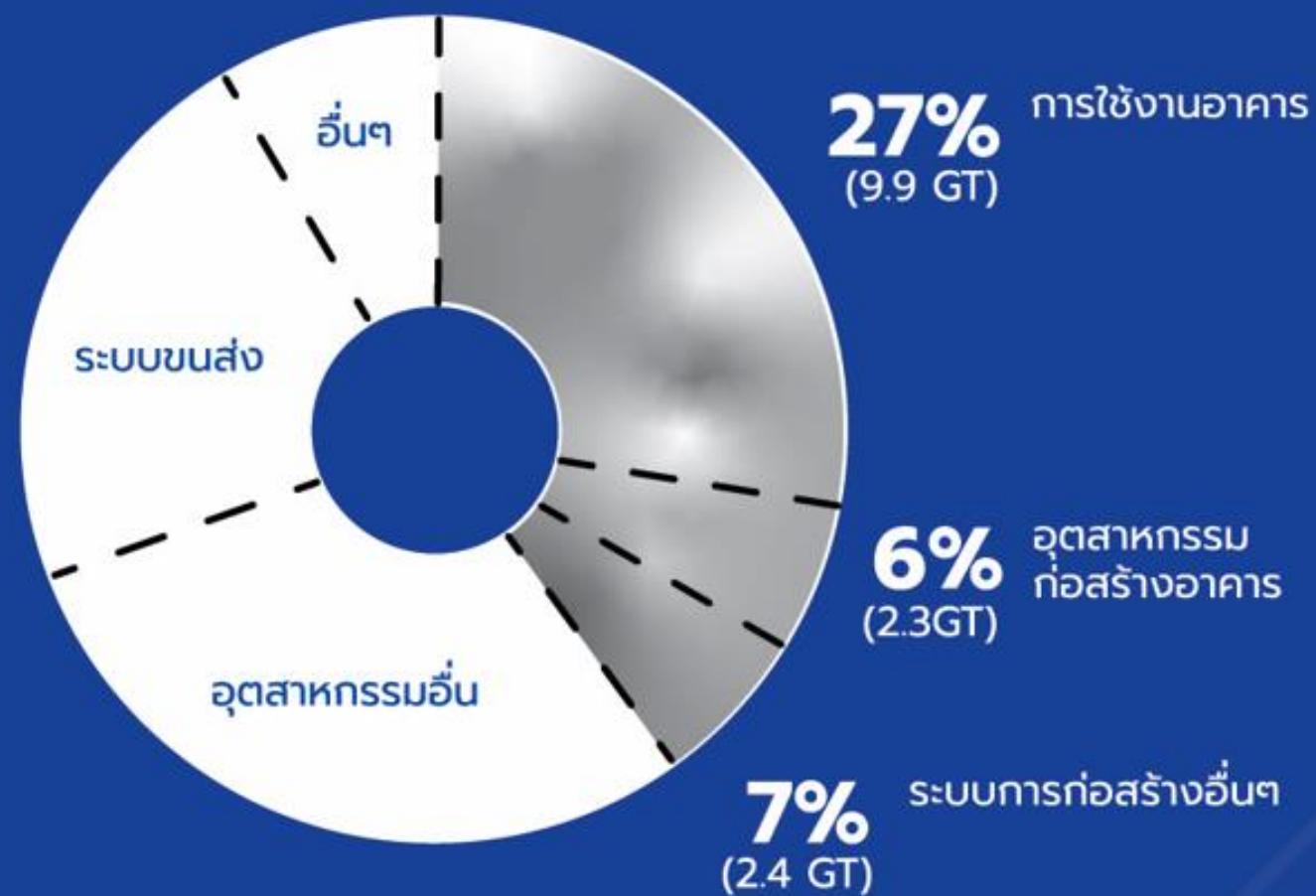
# URGENT GLOBAL ISSUE



# การก่อสร้างและการใช้งานอาคาร ปล่อยคาร์บอนสูงถึง **40%**

\* ของปริมาณการปลดปล่อย  
คาร์บอนทั้งหมด

## รายงานค่าคาร์บอนประจำปี



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data Source : IEA(2022), Building, IEA, Paris

building construction Industry and Other Construction  
industry represent emissions from concrete, steel  
and aluminum for building and infrastructure represent

1. Climate change เป็นผลมาจาก CO2 emission
2. CO2 มาจากการใช้พลังงาน
3. การใช้พลังงานเยอะที่สุดมากถึง **40%** มาจากกลุ่มก่อสร้างอิฐซีเมนต์

# URGENT INDIVIDUAL ISSUE



ห้อง 1 ห้อง เครื่องฟอก 9 ตัว



# CORAL LIFE TOTAL SOLUTION



**1** *24-Hour Air Quality :  
Experience Swiss-like Freshness*



**2** *Over 70% reduction  
in building energy consumption*

แล้วอาคารประหยัดพลังงานอย่างยั่งยืน เป็นอย่างไร ?

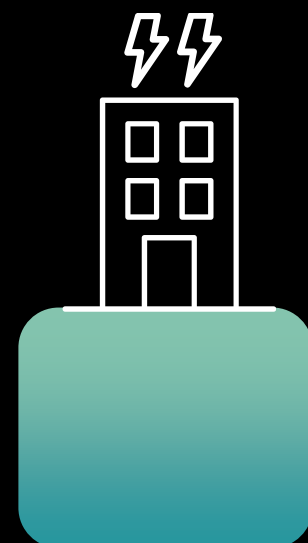


# Energy Demand

Energy Demand  
**100 %**



Energy Demand  
**30 %**



**Conventional Building**

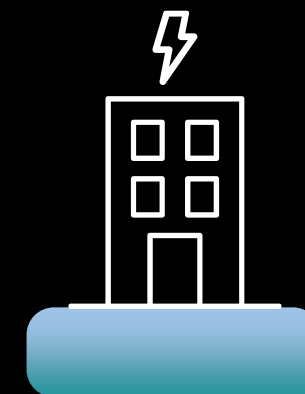


**Coral Building**

# Clean Energy Supply 20%



Energy Consumption  
**10 %**



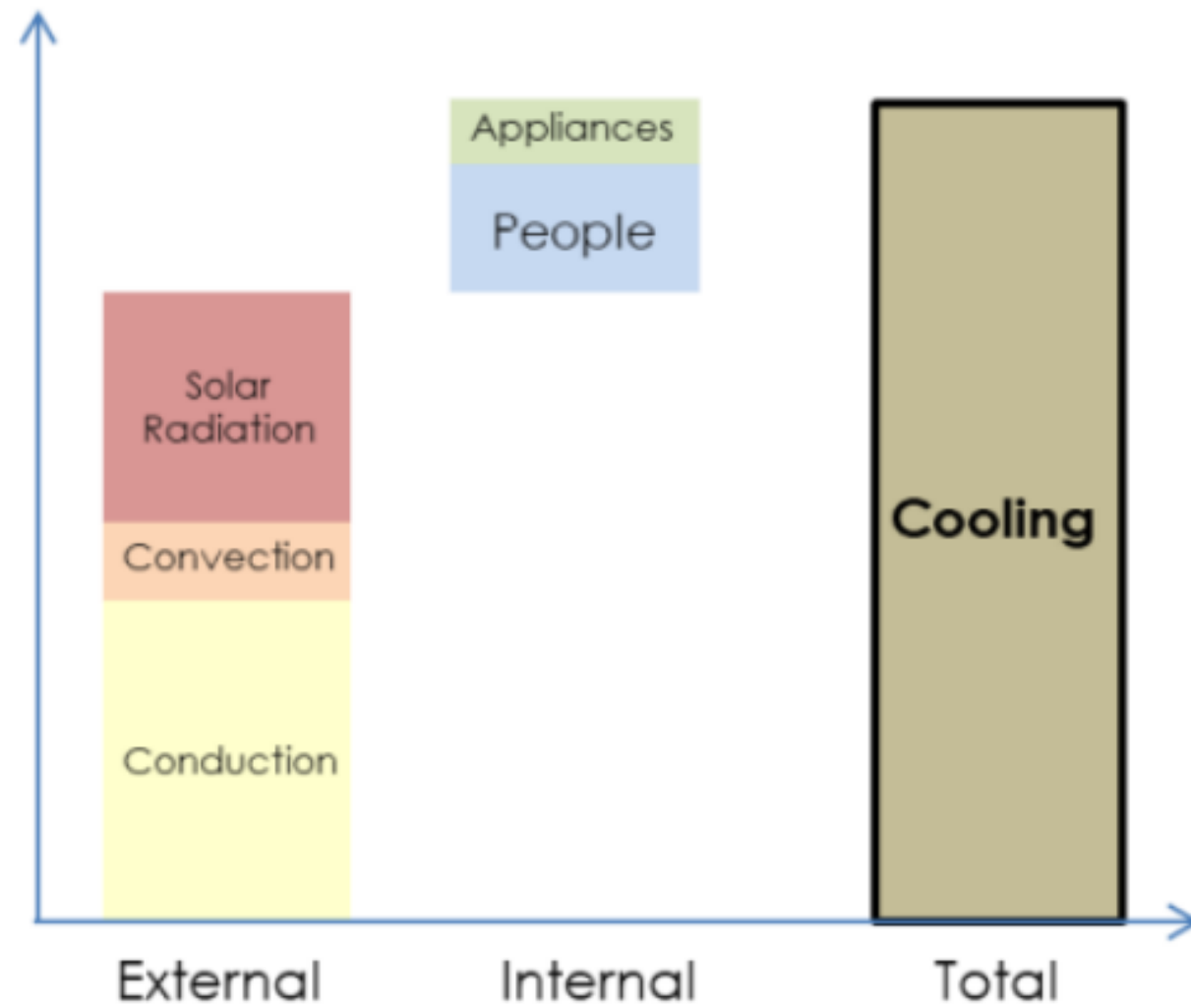
**Net Zero building**



**Coral Building + Solar cell**

# Cooling Principle

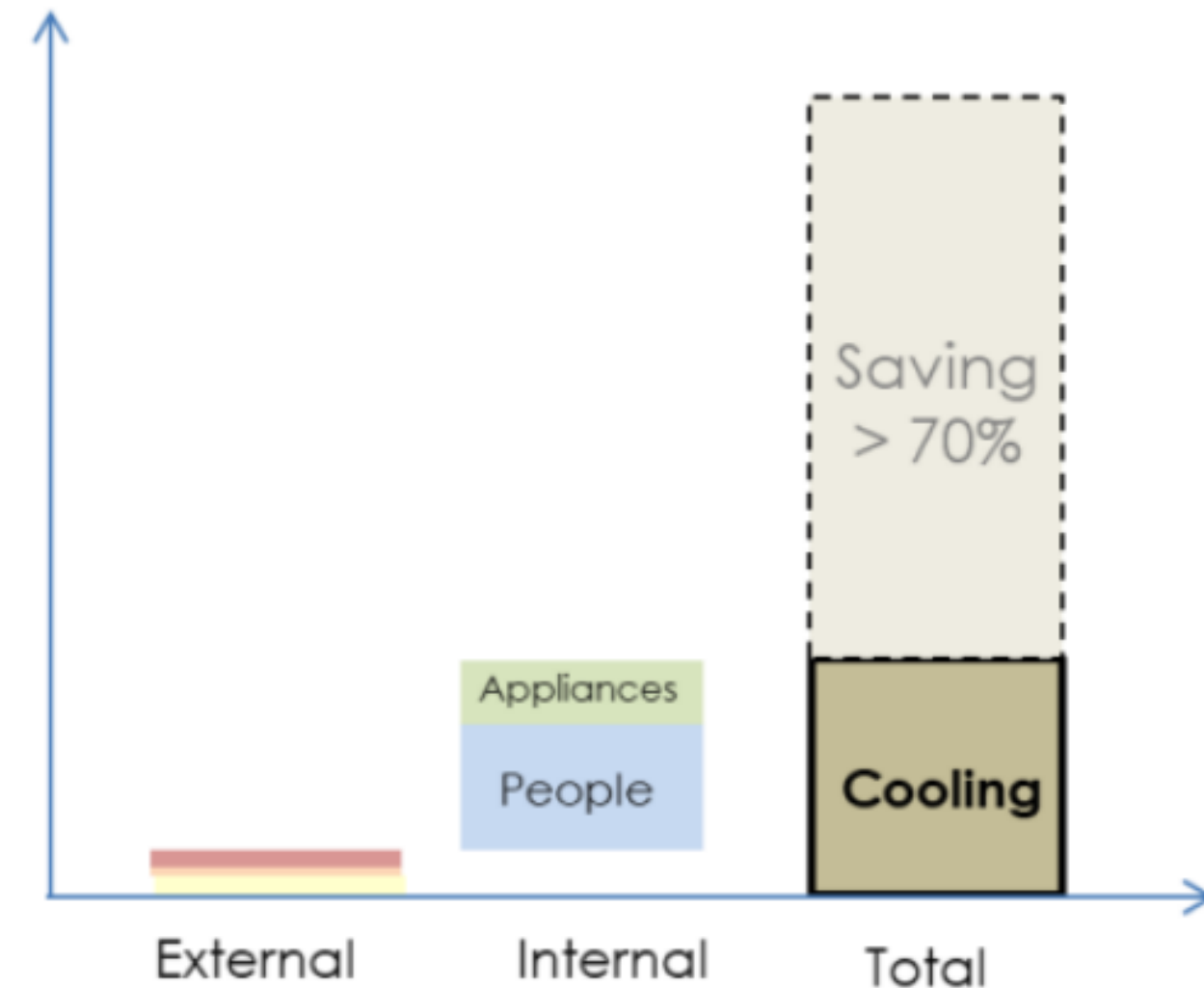
## Normal



800-1,200 BTU/M2

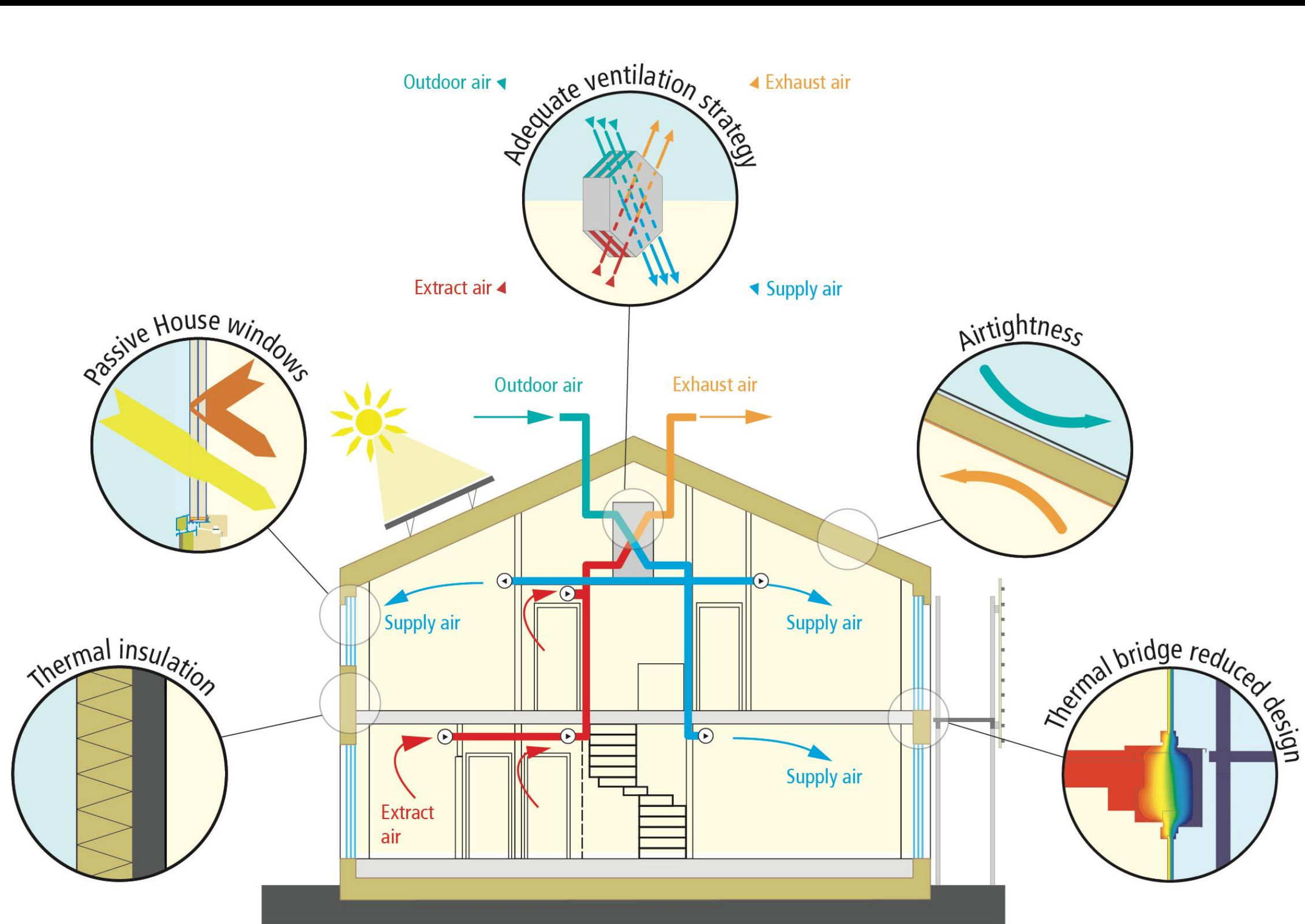
VS

## Our concept



100-250 BTU/M2

# Passive House Design Principle



และนี่คือบทพิสูจน์



**Coral Head Quarter @ Sukhumvit 39**

# Cooling area 3,000 sqm – อาคาร 5 ชั้น

อาคารทั่วไป

BTU 3,000,000

ค่าไฟ

500,000 บาท/เดือน

VS

CORAL HQ  
สุขุมวิท 39

BTU 500,000

ค่าไฟ

88,000 บาท/เดือน

↓ 80%

↓ 80%

# Cooling area 3,000 sqm – อาคาร 5 ชั้น



# Measurable



## High-quality indoor air

PM2.5	_____	Level 0
VOC	_____	Level 0 – 1
CO <sup>2</sup>	_____	Level below 800 ppm
R. Humidity	_____	Level 40 – 60 %
Cooling temp	_____	Level 25 °C






***Coral Life  
incorporated***



***The 1st and only  
PHI Certified building  
in Southeast Asia***


## Certificate

Certified Passive House Classic



**Passive House  
Institute**  
Dr. Wolfgang Feist  
6020 Innsbruck  
Austria

**First Passive House in Thailand, located in Bangkok**  
**22/11 Krungthep Kreetta Rd. Klong Song Tong nun, Ladkrabang,  
 Bangkok, Thailand**



Certified  
**Passive House**  
Passive House Institute

| classic | plus | premium |

Client	James Duan 1550 Thanapoom Tower, Fl.31, New Petchburi Road, Makasan, Rattewi 10400 Bangkok, Thailand
Architect	BWK Green Architecture Co. Ltd. 3F., No.16, Sec. 2, Heping E. Rd. Da'an Dist. 10662 Taipei, Taiwan, Province of China
Building Services	James Duan 1550 Thanapoom Tower, Fl.31, New Petchburi Road, Makasan, Rattewi 10400 Bangkok, Thailand
Energy Consultant	BWK Green Architecture Co. Ltd. 3F., No.16, Sec. 2, Heping E. Rd. Da'an Dist. 10662 Taipei, Taiwan, Province of China

Passive House buildings offer excellent thermal comfort and very good air quality all year round. Due to their high energy efficiency, energy costs as well as greenhouse gas emissions are extremely low.

**2017**

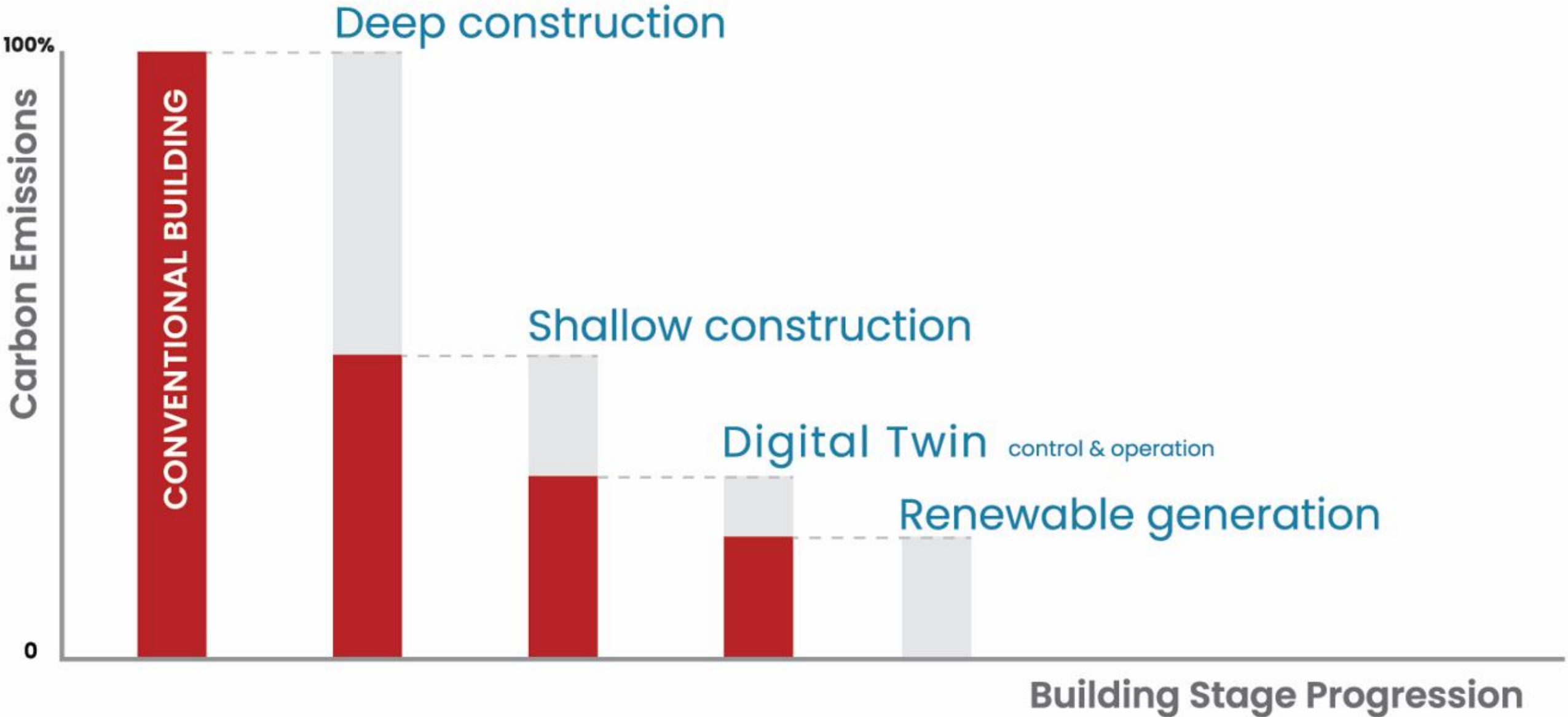
**2019**

***R&D Period***

เชิญมาทำด้วยกัน

# Sustainable Development

## NET ZERO PATHWAY FOR NEW CONSTRUCTION





# Value to Our Customers



**1** *24-Hour Air Quality :  
Experience Swiss-like Freshness*



**2** *Over 70% reduction  
in building energy consumption*



# Project References



# 1<sup>st</sup> Passive House project in Southeast Asia



**27,000 Non-stop Testing Hour**  
From Dec 2018 – Jan 2022

In 2018 we built, tested, and certified  
**the 1<sup>st</sup> Passive House project in Southeast Asia.**

## Certificate

Certified Passive House Classic



Dr. Wolfgang Feist  
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**First Passive House in Thailand, located in Bangkok**  
**22/11 Krungthep Kreetta Rd. Klong Song Tong nun, Ladkrabang,**  
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# BEFORE



# AFTER



Office (Retrofit)

Cooling area : 2,200 sqm.

Cooling load : 522,000 BTU. (43.5 Ton)

Saving CO2  
emission  
90 Ton/Y



# BEFORE



# AFTER



Office (Retrofit)

Cooling area : 2,200 sqm.

Cooling load : 522,000 BTU. (43.5 Ton)

Saving CO2  
emission  
90 Ton/Y

## Office (24Hr. Run) – EXTENSION

Cooling area : 1,500 sqm.

Cooling load : 272,000BTU. (22.6 Ton)

Saving CO2  
emission  
195 Ton/Y





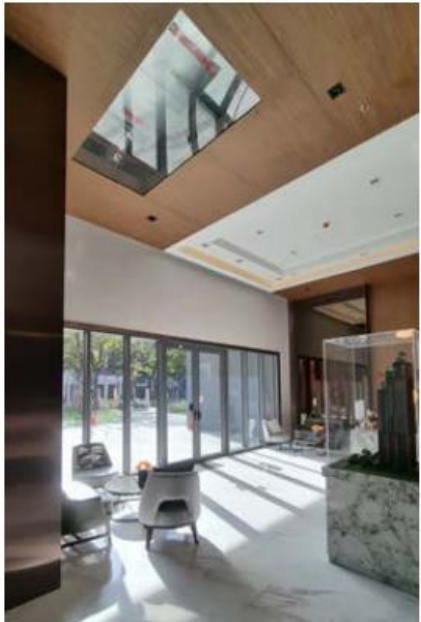
Home office (New Construction)  
Cooling area : 780 sqm.  
Cooling load : 176,000 BTU. (14.6 Ton)

Saving CO2  
emission  
35 Ton/Y

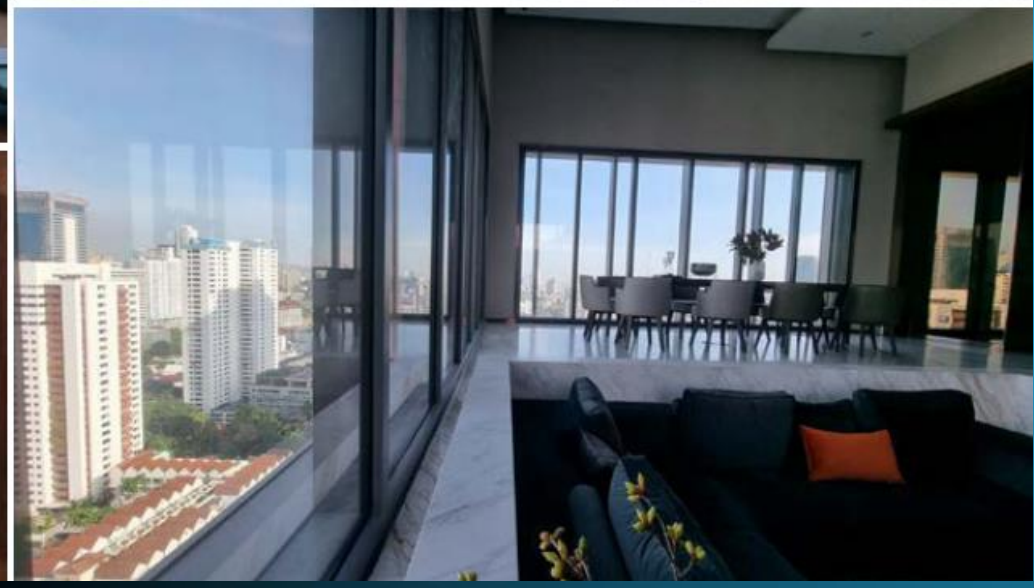
# Condominium Facilities on Sukhumvit 31



Clubhouse  
3 sides with Laminated Double Glass Low-e



Laminated Double Glass Low-e and Aluminum Frame with Thermal Break



# OFFICE (24 Hr. Run) \_ NEW CONSTRUCTION

Cooling area : 2,600 sqm.

Cooling load : 646,000BTU. (53.8 Ton)

Saving CO2  
emission  
350 Ton/Y



# OFFICE (24 Hr. Run) \_ NEW CONSTRUCTION

Cooling area : 2,600 sqm.

Cooling load : 646,000BTU. (53.8 Ton)

Saving CO2  
emission  
350 Ton/Y



## Office – Extension

Cooling area : 1,293 sqm.

Cooling load : 300,000BTU. (43.5 Ton)





**The House at Cornell Tech, Roosevelt Island, New York**  
 the world's tallest Passive House, conforming to the most rigorous international green building standards.

COMPLETED 2017  
 26 STORIES  
 352 UNITS  
 TOTAL AREA  
 25,300 SQ.M

PASSIVE HOUSE: THE HOUSE AT CORNELL TECH

BURHAPPOLD ENGINEERING

World's tallest and largest Passive House residential building

**26**  
 stories high

Total area  
**272,500sf**

**352**  
 residential units

Amount of CO<sub>2</sub> saved each year\*

**882 tons**

equal to\*

**5,300**  
 trees planted

\* Expected savings

Cornerstone of Cornell Tech's new

**2.1 million sf campus**

Obtained incentives from the

**NYSERDA MPP**

The New York State Energy Research and Development Authority's Multifamily Performance Program

Certified

**LEED Platinum**

Attained

**Passive House**  
 accreditation





ANSWER TO CLIMATE CHANGE  
IS CLIMATE ACTION

CONTACT US

[Corallife.co.th](http://Corallife.co.th)