

# **Opening Remarks**

for Side Event on Higher Energy Efficient Cooling  
and HFC Lifecycle Management  
as a Key Contribution to Climate Change Mitigation and Adaptation

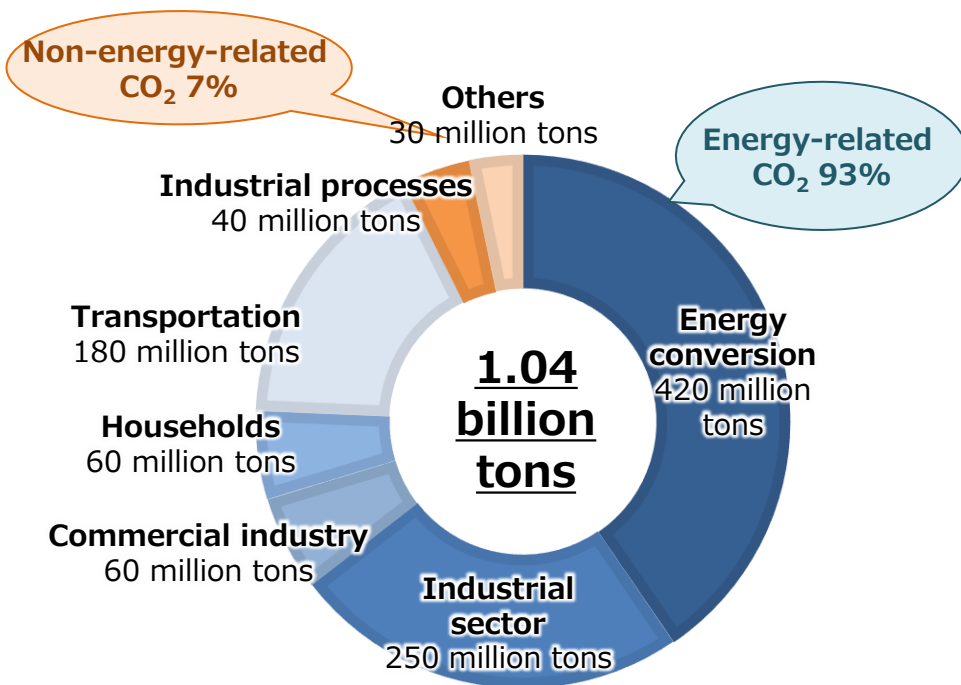
**December 5, 2023**

**Japan Pavilion at UNFCCC COP28 in Dubai,  
the United Arab Emirates**

# Japan's CO<sub>2</sub> emissions and solution to the world

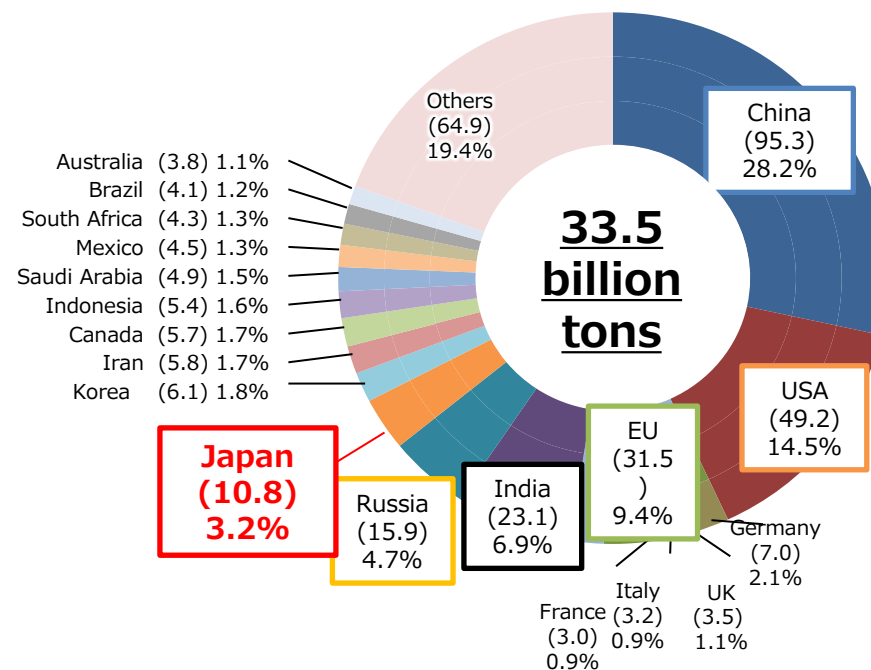
- Most of Japan's CO<sub>2</sub> emissions are energy-related.
- Japan will contribute to global emission reduction by providing solution for ourselves and beyond.

## Japan's CO<sub>2</sub> emissions (2020)



(Source)  
Created from Greenhouse Gas Inventory Office  
"Japanese greenhouse gas emission data"

## Global energy-related CO<sub>2</sub> emissions (2020)



(Source) IEA, CO<sub>2</sub> Emissions from Fuel Combustion Highlights 2020

## Various pathways according to each country's situation

- highlight various pathways according to each country's energy situation, industrial and social structures, and geographical conditions should lead to our common goal of net zero

Energy security and clean energy transitions (Para 49)

## Engagement with other developing and emerging countries

- We reaffirm the critical importance of collective action, and engagement with other developing and emerging countries, particularly within the G20, to accelerate emission reduction, including by supporting their transition to net-zero GHG emissions through various and practical pathways taking into account national circumstances

Collective action (Para 58)

## Energy efficiency as the "first fuel"

- We highlight the role of energy efficiency as the "first fuel" as a key pillar in the global energy transition towards net-zero GHG emissions in 2050.

Energy efficiency (Para 63)

## Avoided Emissions

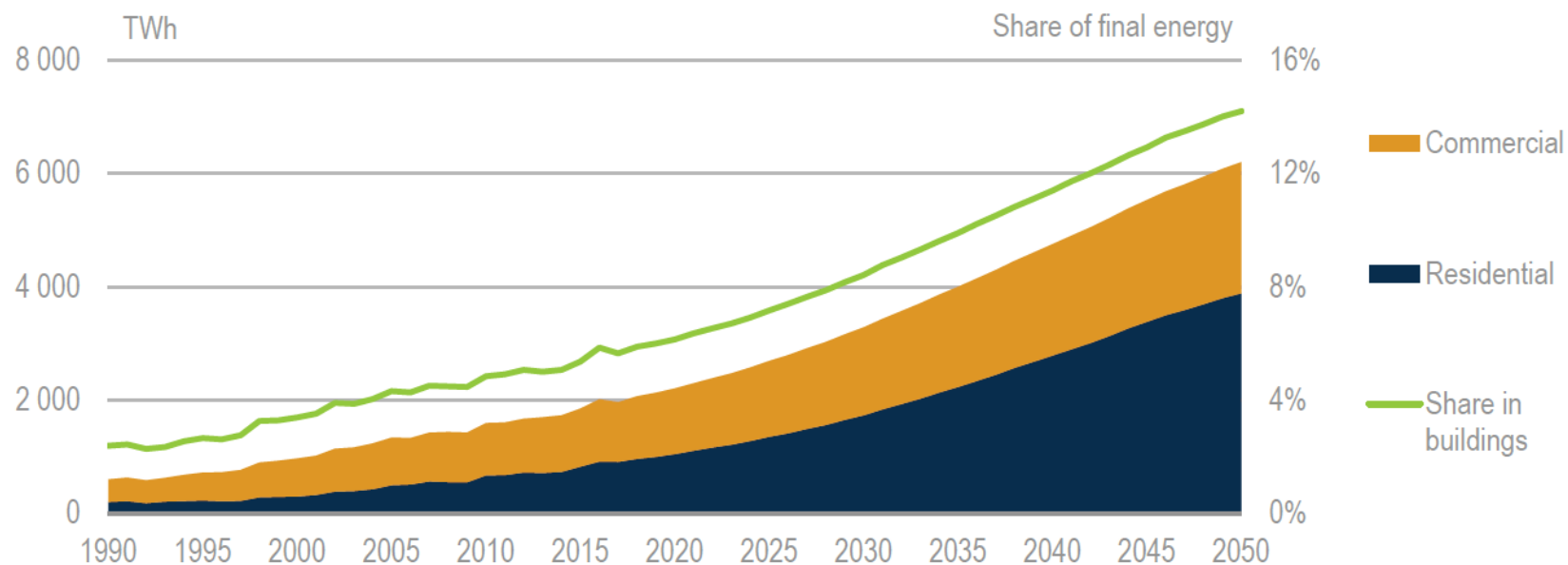
- There is also value in acknowledging the contribution of a certain entity to emission reductions of other entities by providing decarbonization solutions in a given system, in other words "avoided emissions".

Perspective to realize emission reduction throughout the value chain (Para 51) 2

# Importance of higher energy efficient cooling

- In the IEA report, global energy use for space cooling is projected to jump from 2,020 TWh in 2016 to 6,200 TWh in 2050 – an astounding threefold increase.

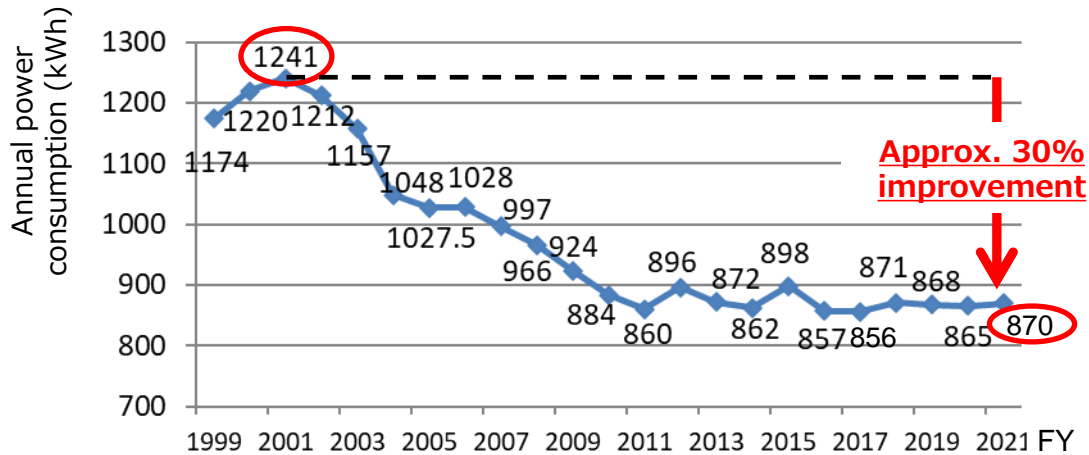
**Figure 3.5 • World energy use for space cooling by subsector in the Baseline Scenario**



**Key message •** On current trends, energy needs for space cooling – almost entirely in the form of electricity – will more than triple between 2016 and 2050, driven mainly by the residential sector.

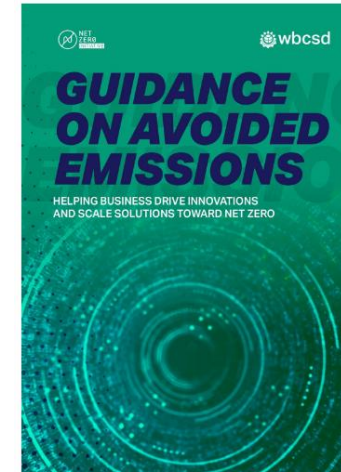
Source: The future of cooling (2018), IEA

## Annual power consumption of air-conditioner in Japan

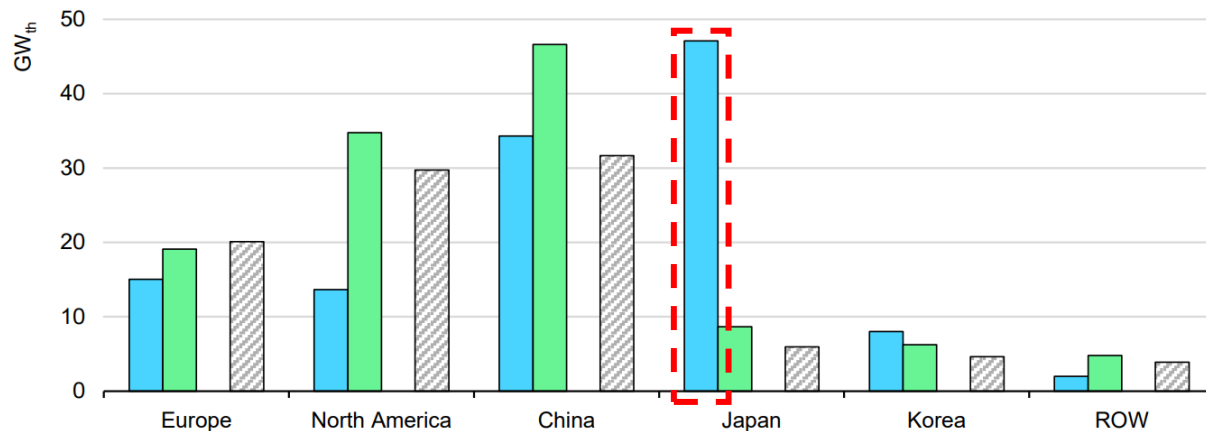


- Trend in simple average of air-conditioners with heating/cooling capacity of 2.8 kW
- Annual power consumption is based on the Japanese Industrial Standard JIS C 9612:2005

## WBCSD published Guidance on Avoided Emissions



**Figure 2.16 Heat pump manufacturing capacity by company headquarters and plant location, and installations by region/country, 2021**



■ Total manufacturing capacity of companies with HQ in the region ■ Total manufacturing capacity in the region ■ Installations

Source: Energy Technology Perspective 2023, IEA

## METI hold GGX×TCFD Summit to accelerate discussion on AE



**Thank you for your kind attention**