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# Japan's Life Cycle Management Approach towards 2050 Carbon Neutrality Goal

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# Today's topics



1. Japan's HFC emissions year-on-year decrease in 2022
2. Importance of preventing leakage emissions and addressing bank issues
3. IFL's activities

# Time series of HFCs emissions in Japan



- In 2022, HFC emissions posted 46.1 Mt-CO<sub>2</sub> eq., 1.6% decrease compared to the emissions in 2021, after the growing trend since 2004.

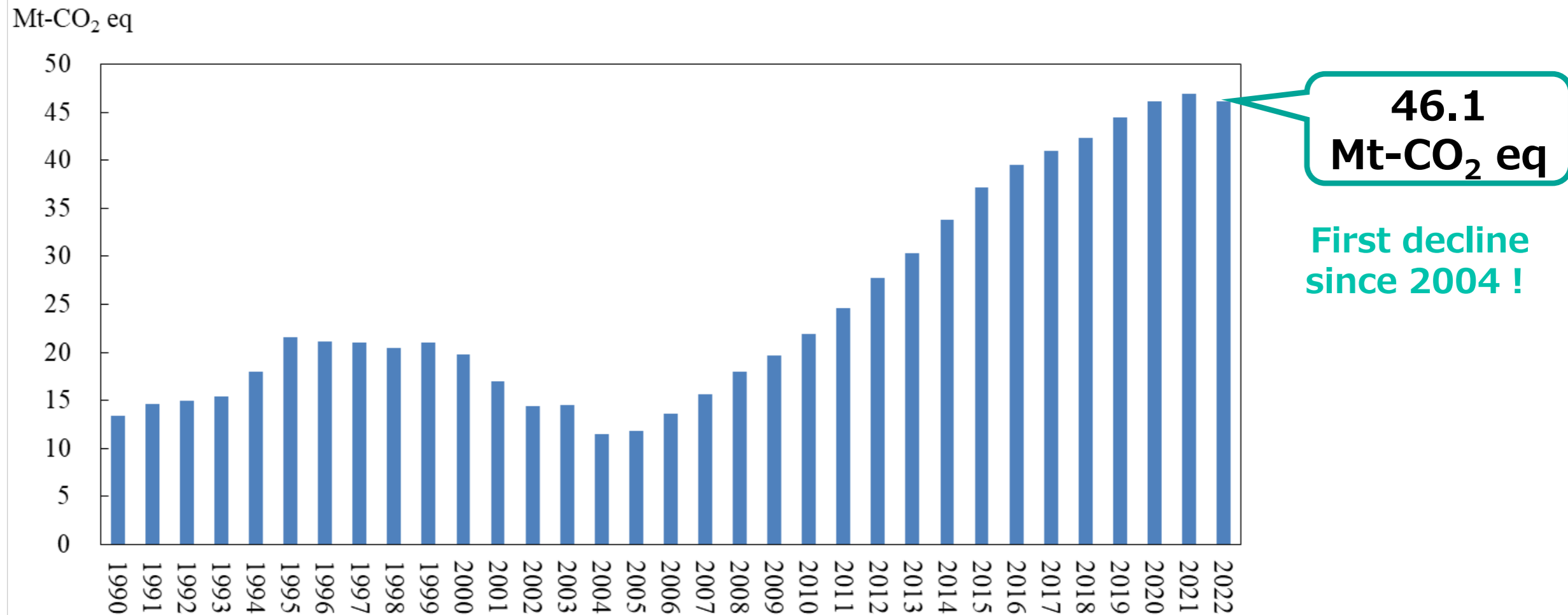


Fig. 1 Time series of HFCs Emission in Japan

# Breakdown of HFC emissions

- HFC emissions in 2022 account for 4.1% of total GHG emissions in Japan.
- 92.8% of HFC emissions come from the refrigeration.

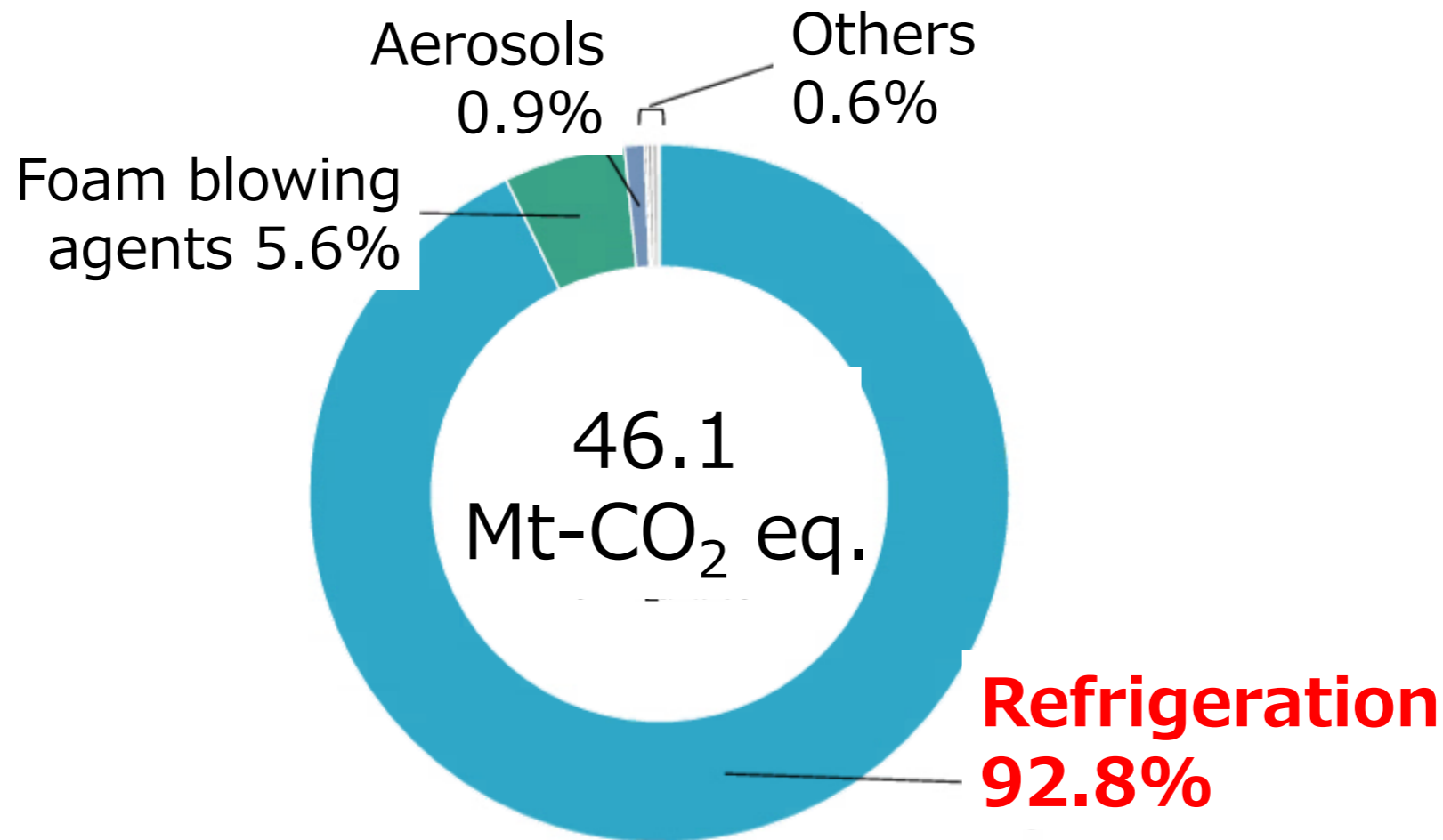


Fig. 2 HFC Emissions in Japan in 2022

# HFC emissions at life cycle stage

- More than 70% of HFC emissions come from commercial use : **41% of Commercial Refrigerators, 32% of Commercial AC.**
- For the emissions from commercial use, regulated by Fluorocarbon Emissions Control Act, **leakage during use was larger than emissions at disposal.**

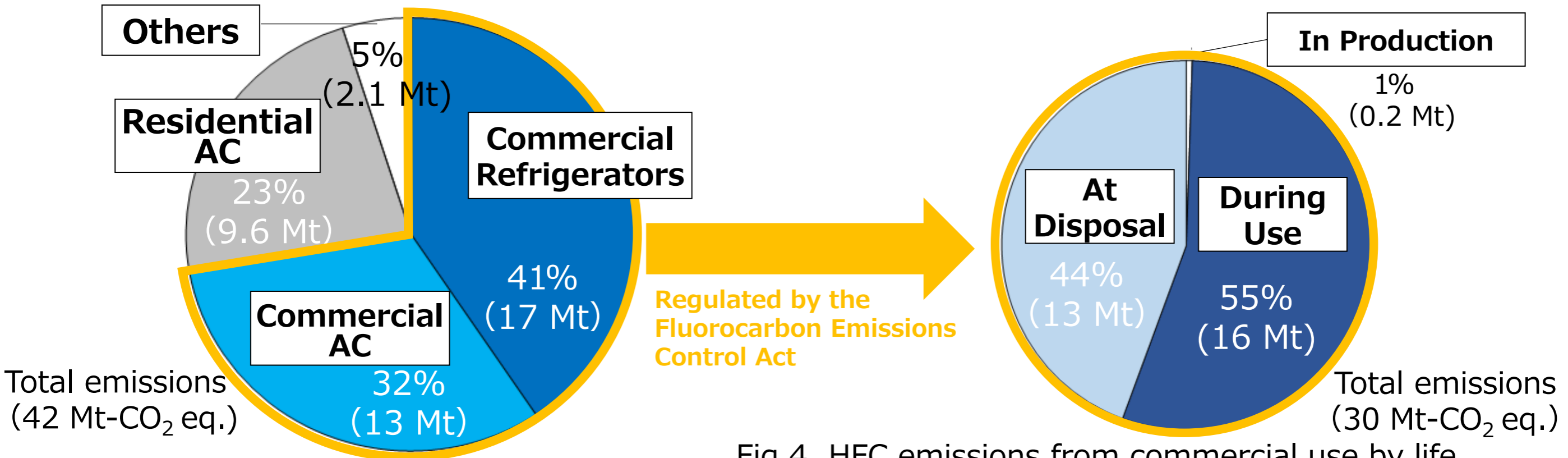


Fig.3. HFC emissions by equipment type in Japan, 2022

Fig.4. HFC emissions from commercial use by life cycle stage in Japan, 2022

# HFC emission reduction target for 2030

- HFC emission reduction target for 2030: 52% reduction from 2013 level
- To achieve the target, 69% reduction from 2022 level is required.

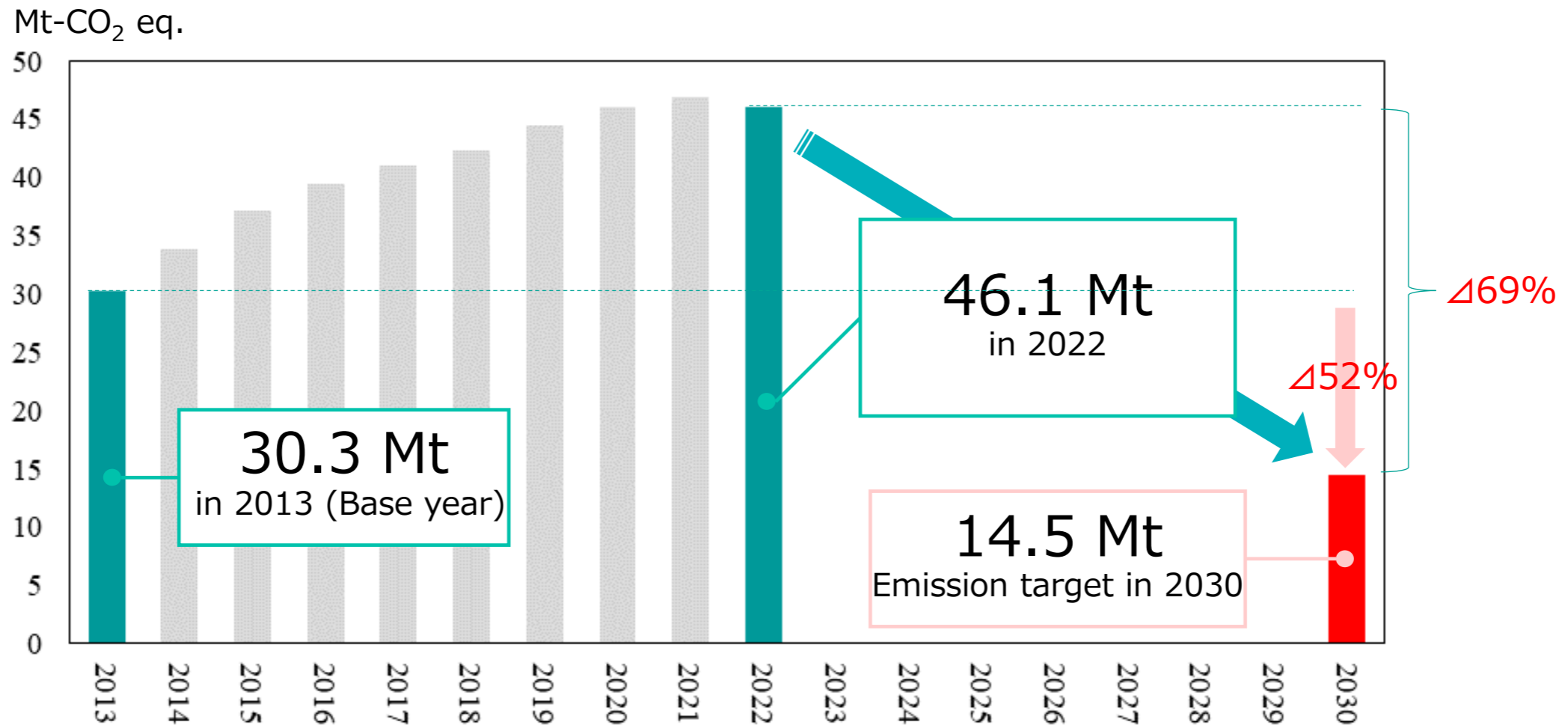







Fig.5. Time series of HFC Emissions by 2030 in Japan

# Carbon Neutrality by 2050 in HFCs sector in Japan

■ Carbon Neutrality by 2050 in HFC sector through promoting its life cycle management and its phase-down.

-  ◆ Steady implementation of the Kigali Amendment to the Montreal Protocol.
-  ◆ Development of low-GWP refrigerants and promotion of natural refrigerants.
-  ◆ Leakage prevention of fluorocarbons in RAC equipment usage.
-  ◆ Recovery and proper management of fluorocarbons from RAC equipment.
-  ◆ International cooperation on fluorocarbons reduction.

- Global cooling demand is expected to increase dramatically.
- Even with production/consumption control of HFCs under the Kigali Amendment, HFC emissions are expected to increase to about 2,000 Mt-CO<sub>2</sub>eq (WMO/UNEP2018).
- Japan-led Initiative on Fluorocarbons Life Cycle Management (IFL) is actively working to promote Refrigerant Life Cycle Management.

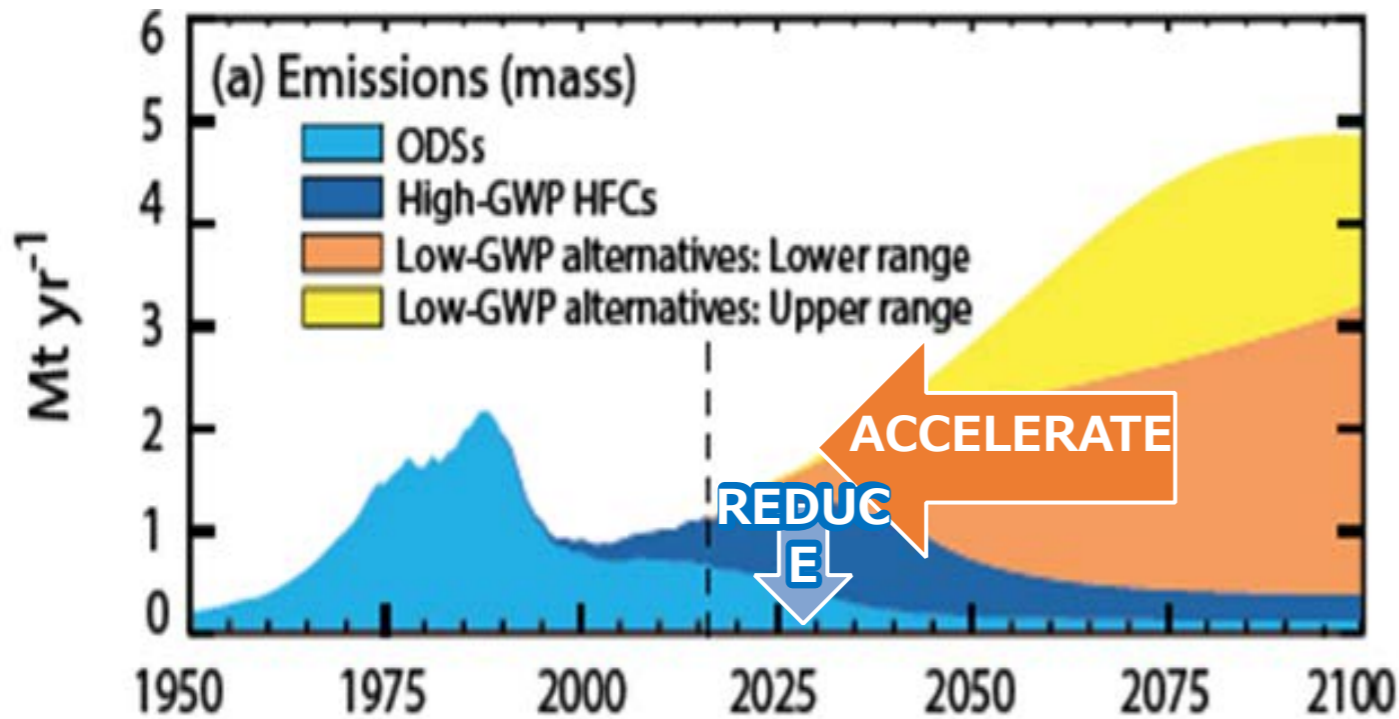


Fig.5. Time series of fluorocarbons bank in the world.  
Source: Scientific Assessment of Ozone Depletion: 2018 (WMO, 2018)

Pic.1. IFL launching ceremony at COP25 (2019)



# Japan's Support for Capacity Development under IFL



@Viet Nam

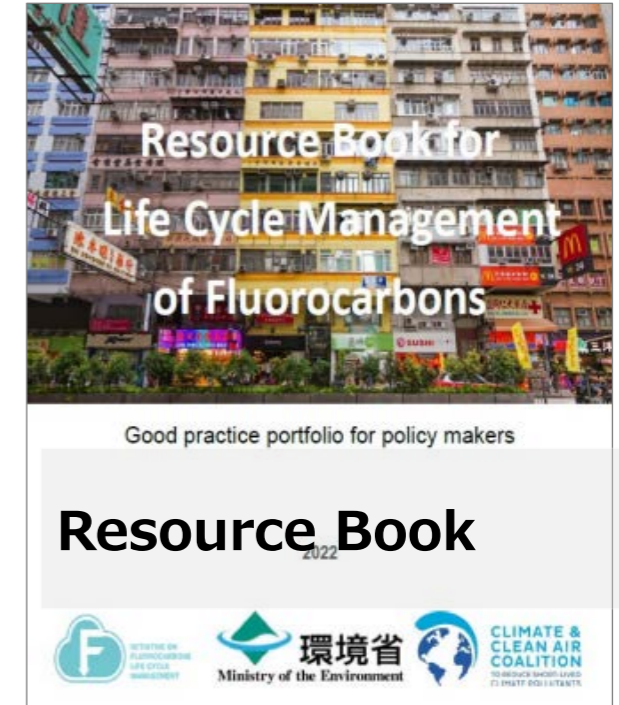


Legislation on Life Cycle Management of Fluorocarbons

@Thailand



Training for proper use of equipment for HFC recovery



## Supporting developing countries through

- Organizing seminars for knowledge sharing by policy makers and practitioners
- Disseminating good practice on mitigation policies and measures
- Consulting for elaborating National GHG inventory for HFCs



**Thank you very much for your kind attention!**

Visit here for more information on the Initiative!

[http://www.env.go.jp/en/earth/ozone/fluorocarbon\\_initiative/index.html](http://www.env.go.jp/en/earth/ozone/fluorocarbon_initiative/index.html)

<https://www.youtube.com/channel/UCtFtrM-SzUUI6r87heLK-gA/videos>