
Fluorocarbon Emissions Control in Japan

8th July, 2025

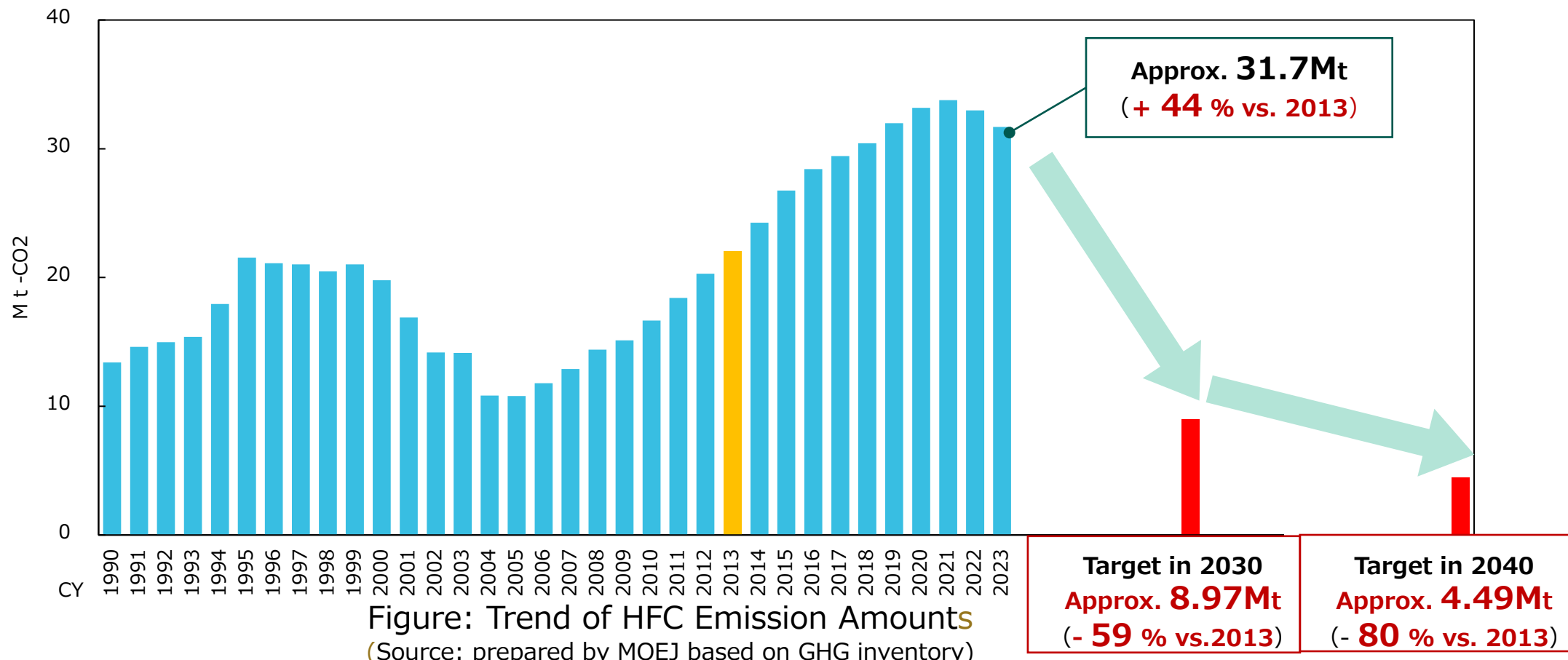
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HFC Emission Trend

- The amount of HFC emissions had been increasing since 2005 but turned downward in 2022. **In 2023, the emissions decreased further from the previous year.**
- Further efforts are required **to achieve the 2030 and 2040 reduction targets** set out in the Plan for Global Warming Countermeasures (approved by Cabinet in February 2025).



Note: Due to revision in the method for calculating emissions following the formulation of the Plan for Global Warming Countermeasures in February 2025, the target values have changed from those set at the time of the plan's formulation.

Breakdown of HFC Emission Amounts by Equipment Type/Life Cycle



- Regarding equipment use, emissions from commercial refrigeration and freezing equipment account for the largest portion.
- Regarding equipment disposal, there is a tendency for uncollected quantities from commercial and residential air conditioners to be high.

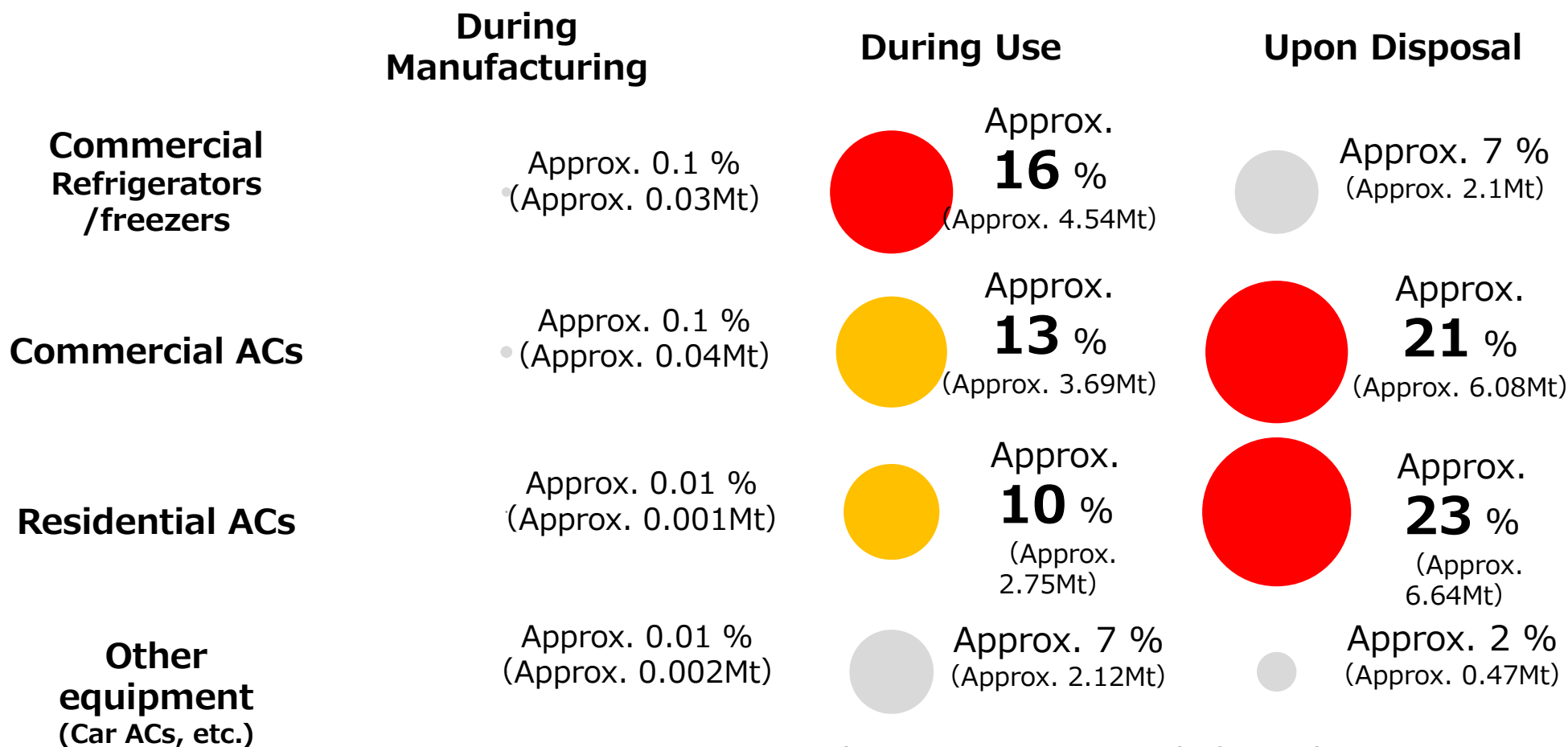


Figure: HFC Emission Amounts by Equipment Type/Life Cycle

Overview of Legal System for Fluorocarbon Measures

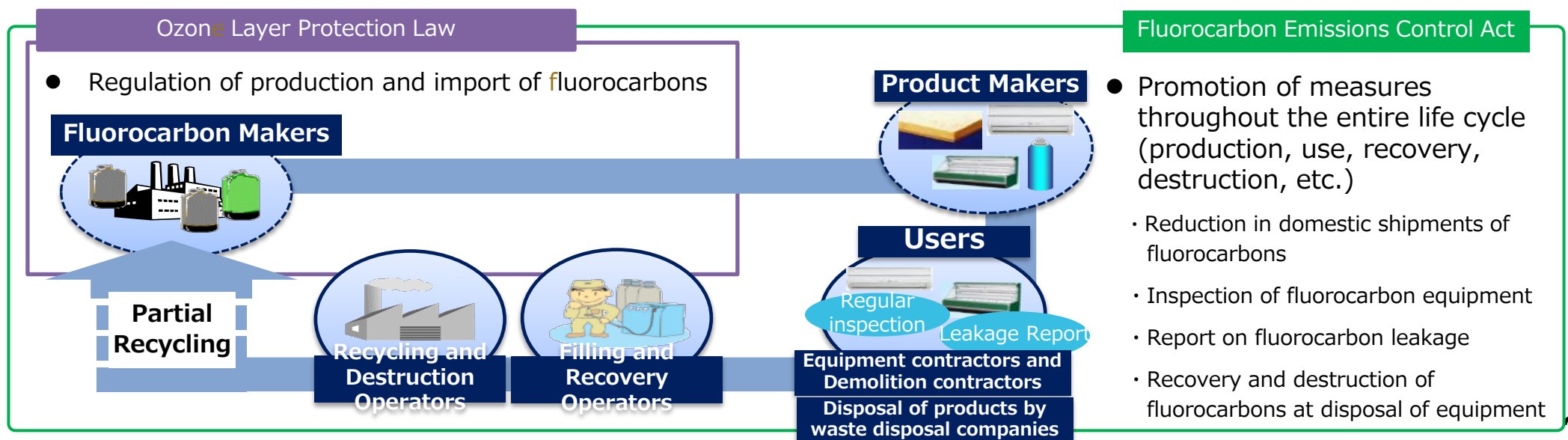


■ Ozone Layer Protection Law

- Domestic measures to ensure compliance with the Montreal Protocol by capping production and import of fluorocarbons

■ Fluorocarbon Emissions Control Act

- The preceding law, the “Fluorocarbons Recovery and Destruction Law,” was enacted by a private members’ bill of the Diet (in 2001).
- Currently, the act stipulates measures to reduce emissions throughout the entire life cycle of fluorocarbons, including proper management during use and mandatory recovery of fluorocarbons at the time of disposal for commercial ACs, refrigeration and freezing equipment. The recovery of fluorocarbons from residential ACs and refrigerators is covered by the Home Appliance Recycling Law.
- This year, 2025, marks the fifth year since the revised Fluorocarbon Emissions Control Act came into effect in 2019. We plan to review the law as necessary, taking into account its state of implementation.



Major Measures Implemented in FY2023

【Promotion of refrigerant conversion】

- The subsidy program for the introduction of natural refrigerant equipment has been renewed to allow for use of the program for projects spanning multiple fiscal years, and to require large companies to set and publish targets for switching to natural refrigerant equipment.

【Suppression of atmospheric emissions during equipment use】

- To promote the widespread adoption of continuous monitoring systems, we created brochures on early detection of leaks to reduce power consumption and case studies booklets.

【Thorough recovery of refrigerants when disposing of equipment】

- Approx. 1,700 building demolition site inspections were conducted by local governments. The number of inspections has been increasing year by year.
- Approx. 2,493t of fluorocarbon refrigerants were recovered from household ACs (FY2023 results.)



Figure: Brochure on the proposal for reducing power consumption through early detection of leaks

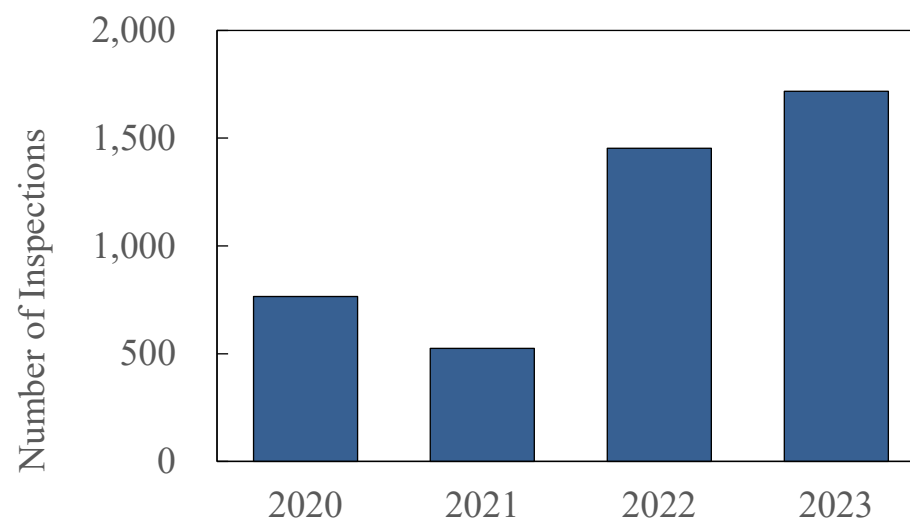
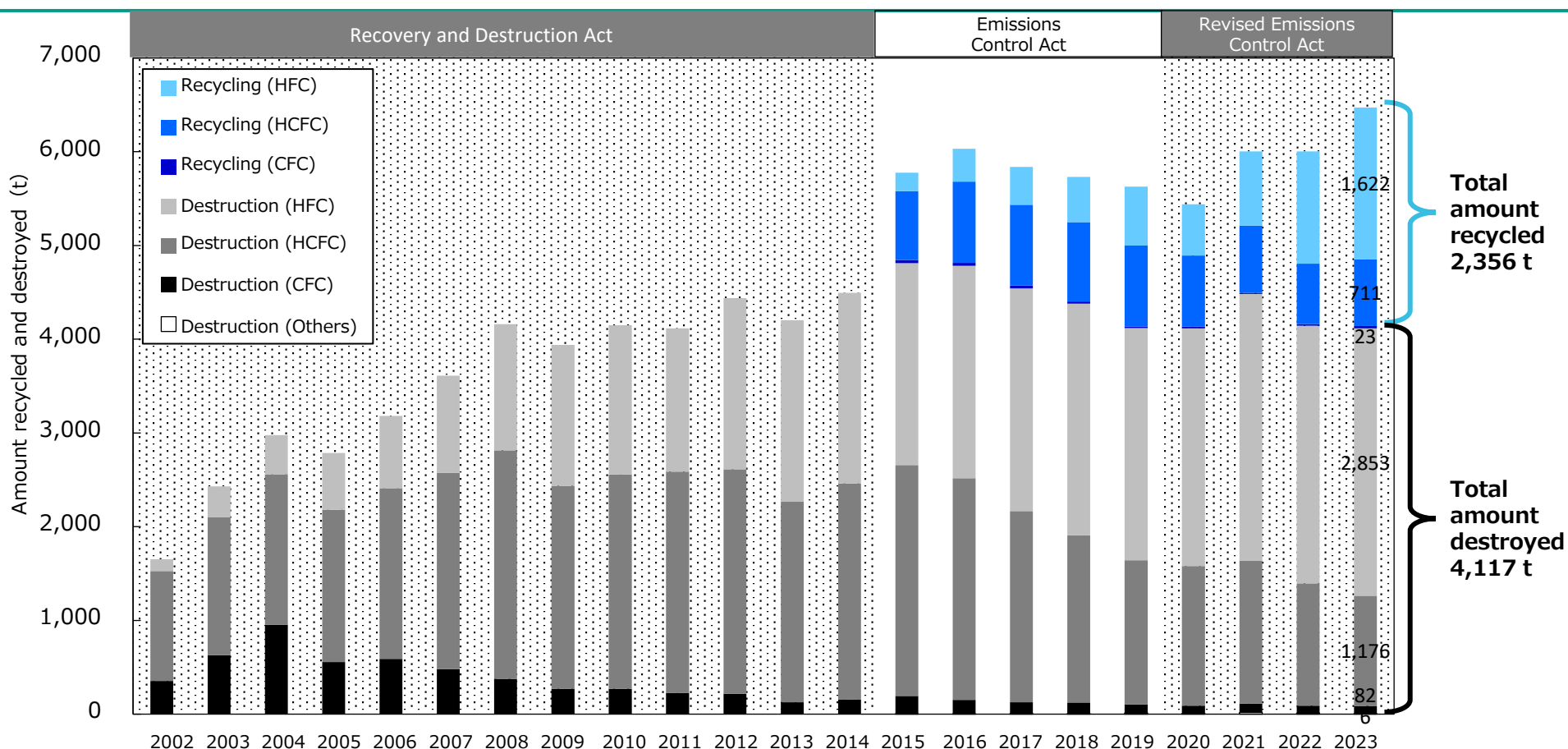


Figure: Number of inspections conducted by local governments at building demolition sites

Amount Recycled and Destroyed after Recovery

- In recent years, while the amount destroyed has remained almost the same, **the amount recycled is on the rise.**
- The amount of CFCs and HCFCs (ODS) **recycled accounts for about 30% of the total amount recycled.**



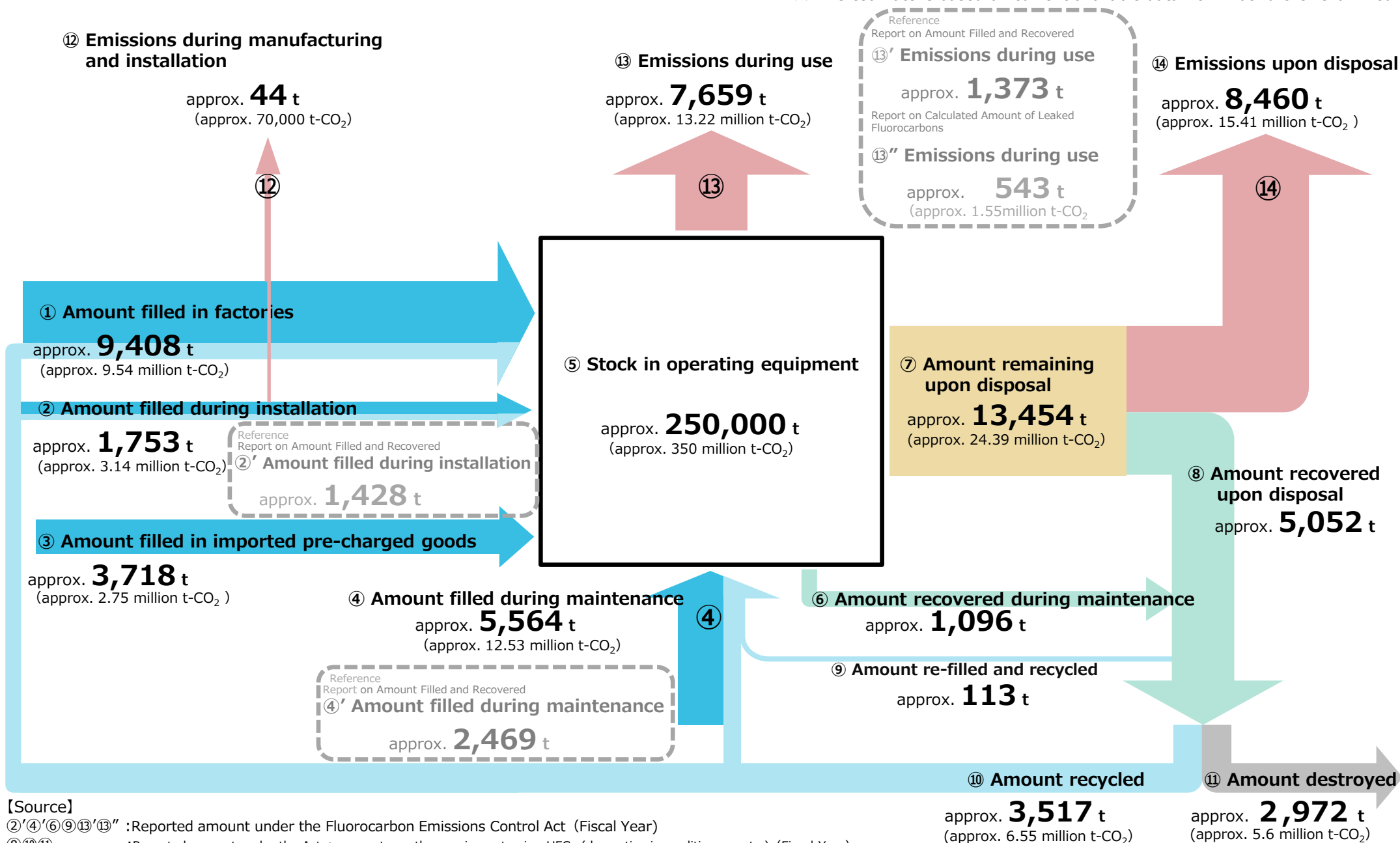
Trends in Amounts Recycled and Destroyed

※ Reports on Recycling and Destruction (Others) amounts were not required before FY2014

(Reference) Material Flow of HFC Refrigerants (2023)



※ This estimate is based on current available data. It will be further examined.



【Source】

②'④'⑥⑨⑬'⑬'' : Reported amount under the Fluorocarbon Emissions Control Act (Fiscal Year)

⑧⑩⑪ : Reported amount under the Act + amount on other equipment using HFCs (domestic air conditioners, etc.) (Fiscal Year)

①②③④⑤⑦⑫⑬⑭ : Estimation used for GHG inventory, etc. (Calendar Year)

Thank you very much for your kind attention!