
Fluorocarbon Emissions Control in Japan

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HFC Emission Trend

- The amount of HFC emissions had been increasing since 2005 but turned downward in 2022. **In 2024, the emissions decreased for the three consecutive years.**
- 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).

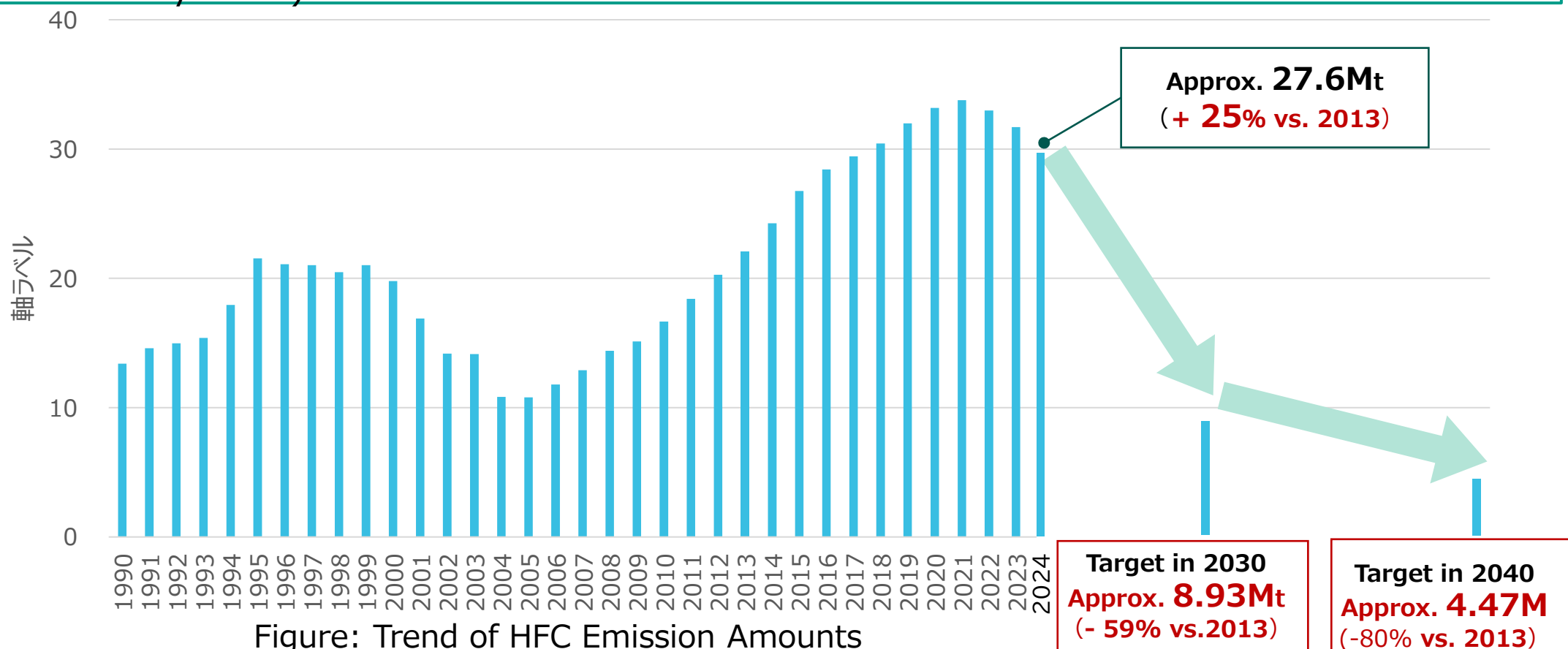


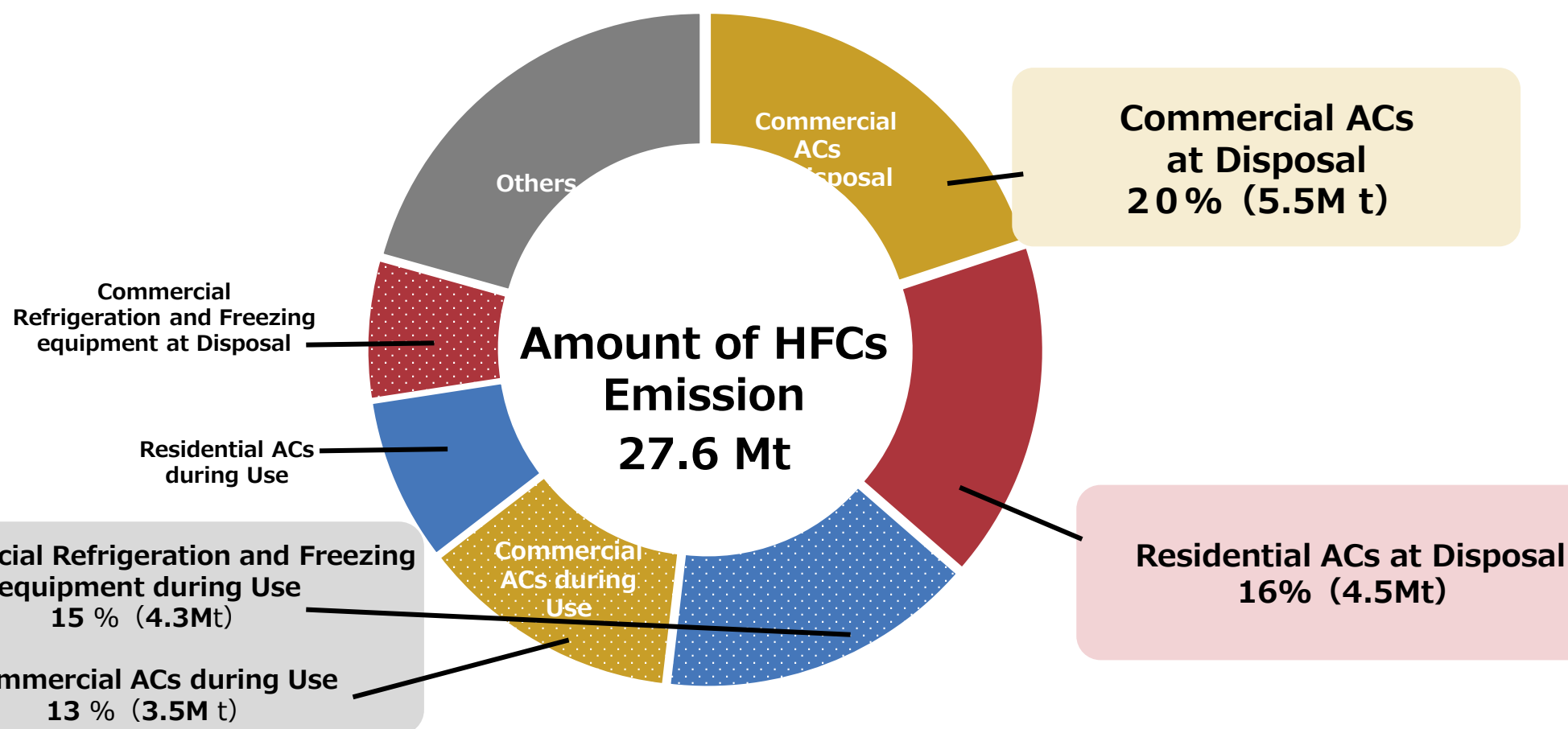
Figure: Trend of HFC Emission Amounts

(Source: prepared by MOEJ based on GHG inventory)

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.

Detailed breakdown of HFCs emission in Japan (2024)

- Emissions from unrecovered refrigerants in commercial ACs at disposal account for the largest share, followed by residential ACs (around 40% combined).



Breakdown of HFCs Emissions (by life cycle stage and equipment type) (2024年)

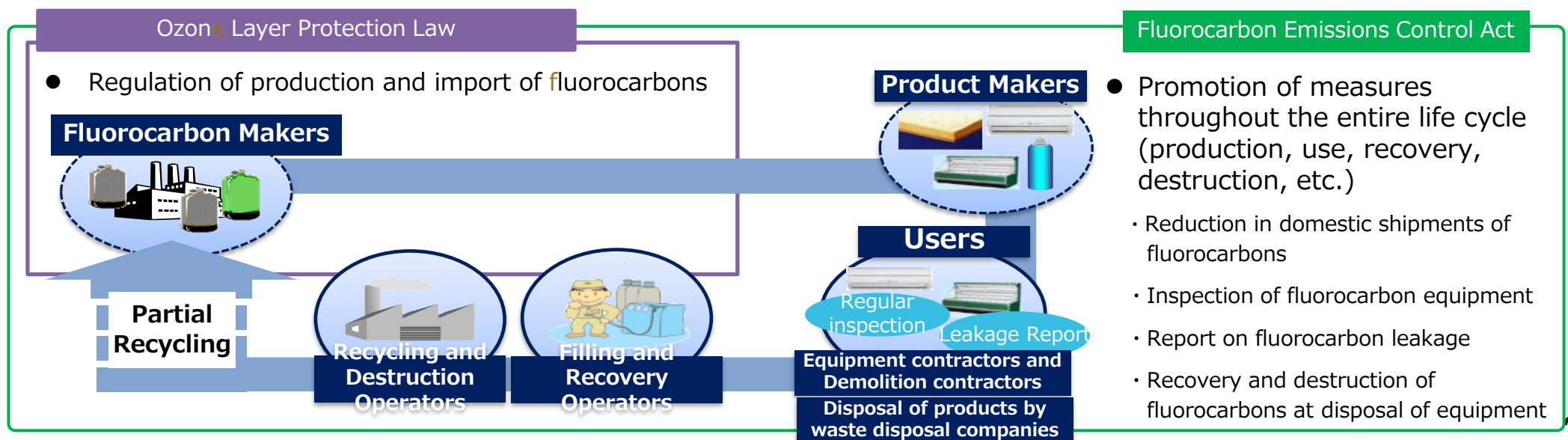
Overview of Legal System for Fluorocarbon Measures

■ 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 Recent Years

【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.)



Fluorocarbon leakage detection system

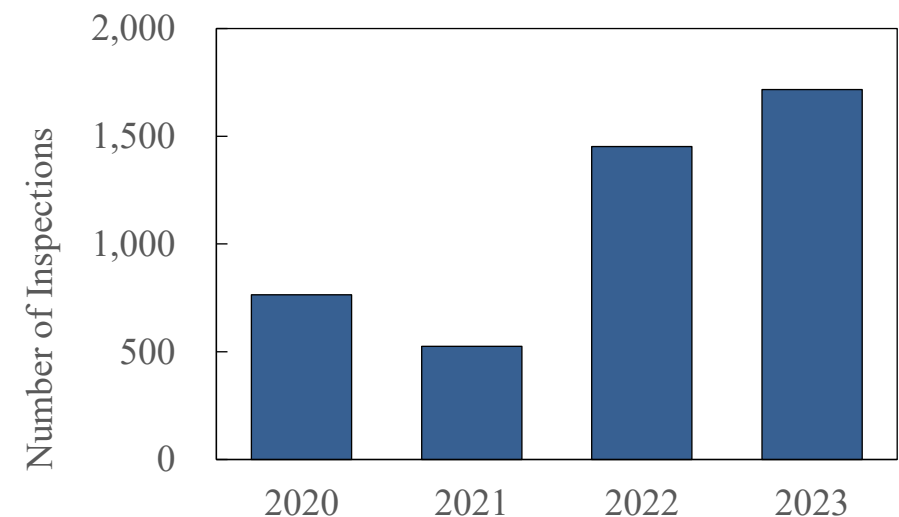
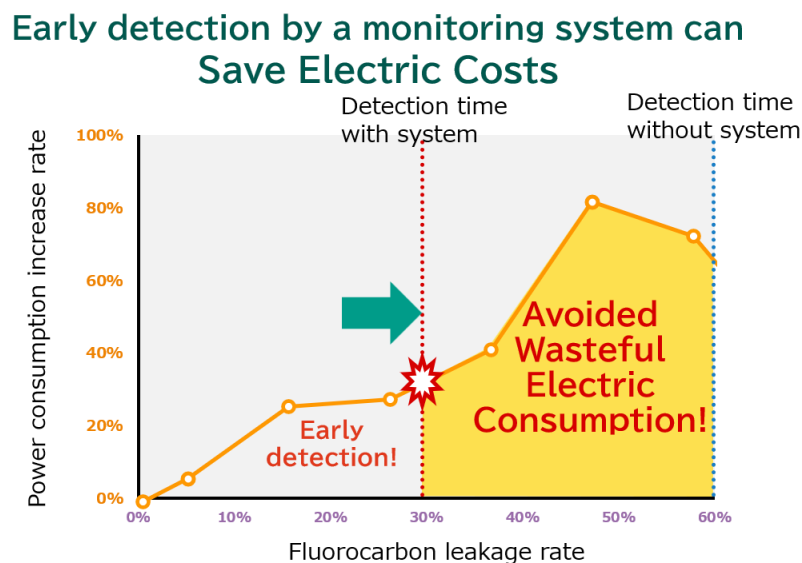
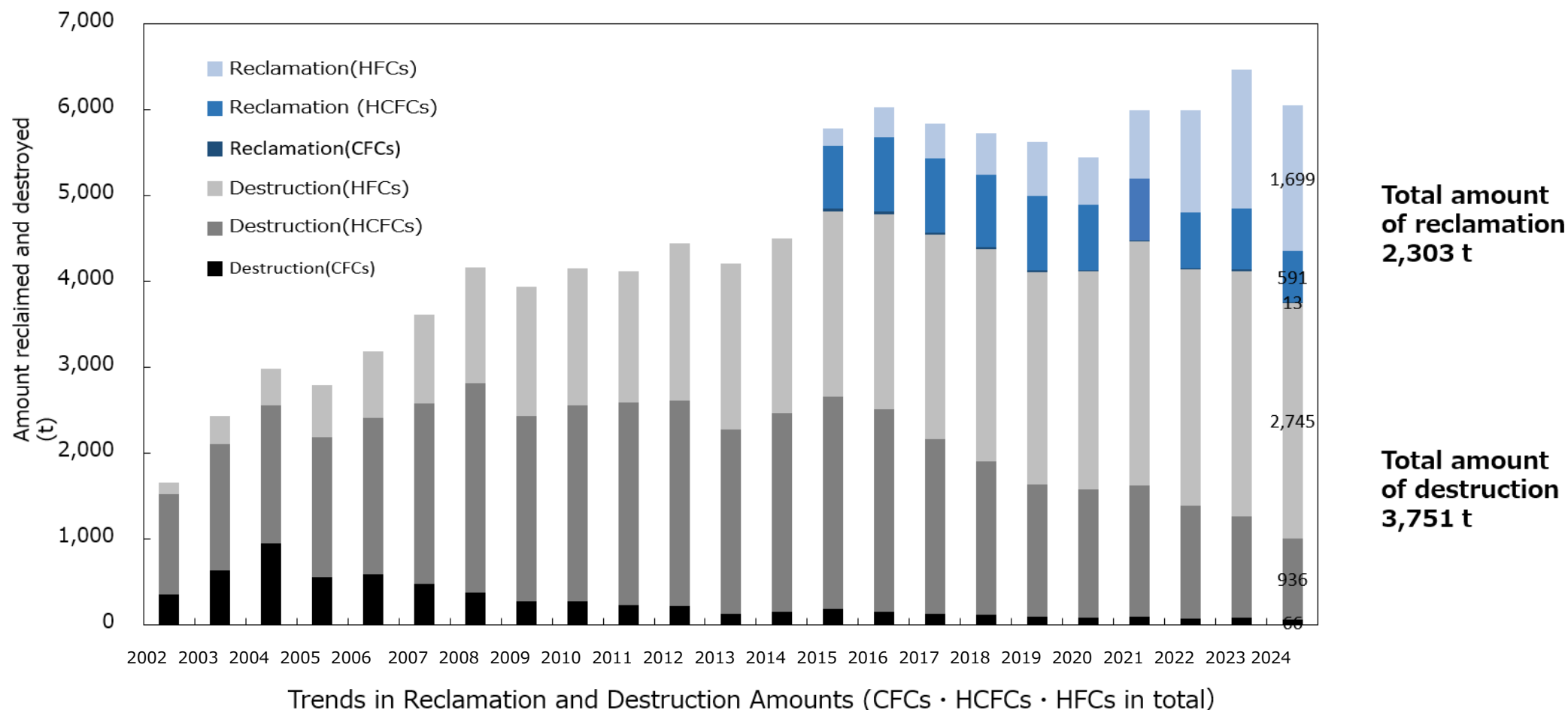


Figure: Number of inspections conducted by local governments at building demolition sites

Amount of Reclamation / Destruction After Recovery

- In recent years, while the amount of destruction has been decreasing, **the amount of reclamation (especially of HFCs) has been increasing.**
- However, of the total amount reclaimed, the reclamation of CFCs and HCFCs, which deplete the ozone layer, accounts for about **30%**, representing a significant volume.

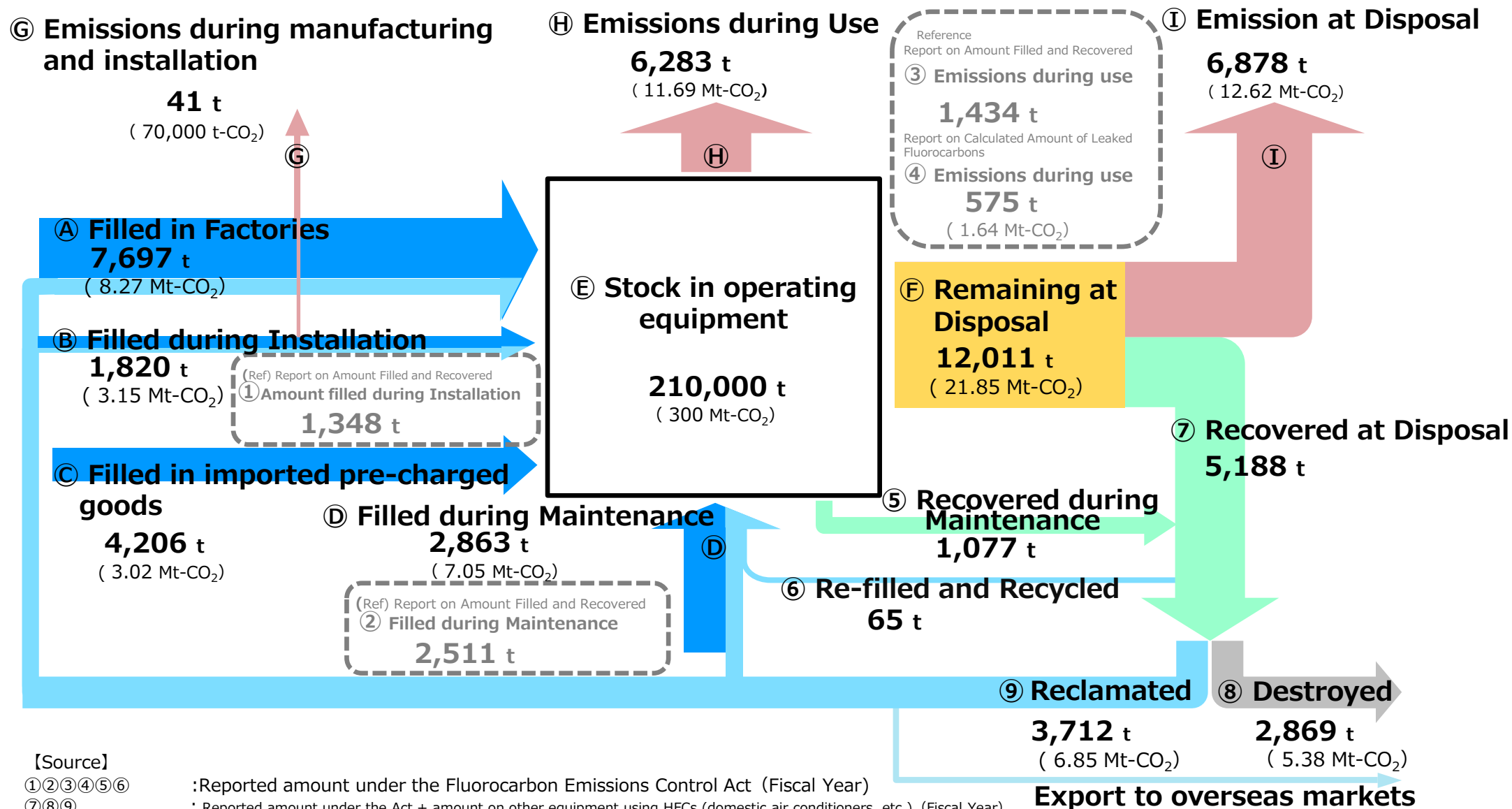


※Reported amount of destruction includes the destruction of fluorocarbons originating from Class II specified products (car ACs).
 ※No reports on amount of reclamation prior to FY2014.

Material Flow of HFCs Refrigerants in Japan (2024)



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



Source: Aggregated Results of Reported Information under the Act on Rational Use and Proper Management of Fluorocarbons for FY2025

Thank you very much for your kind attention!