



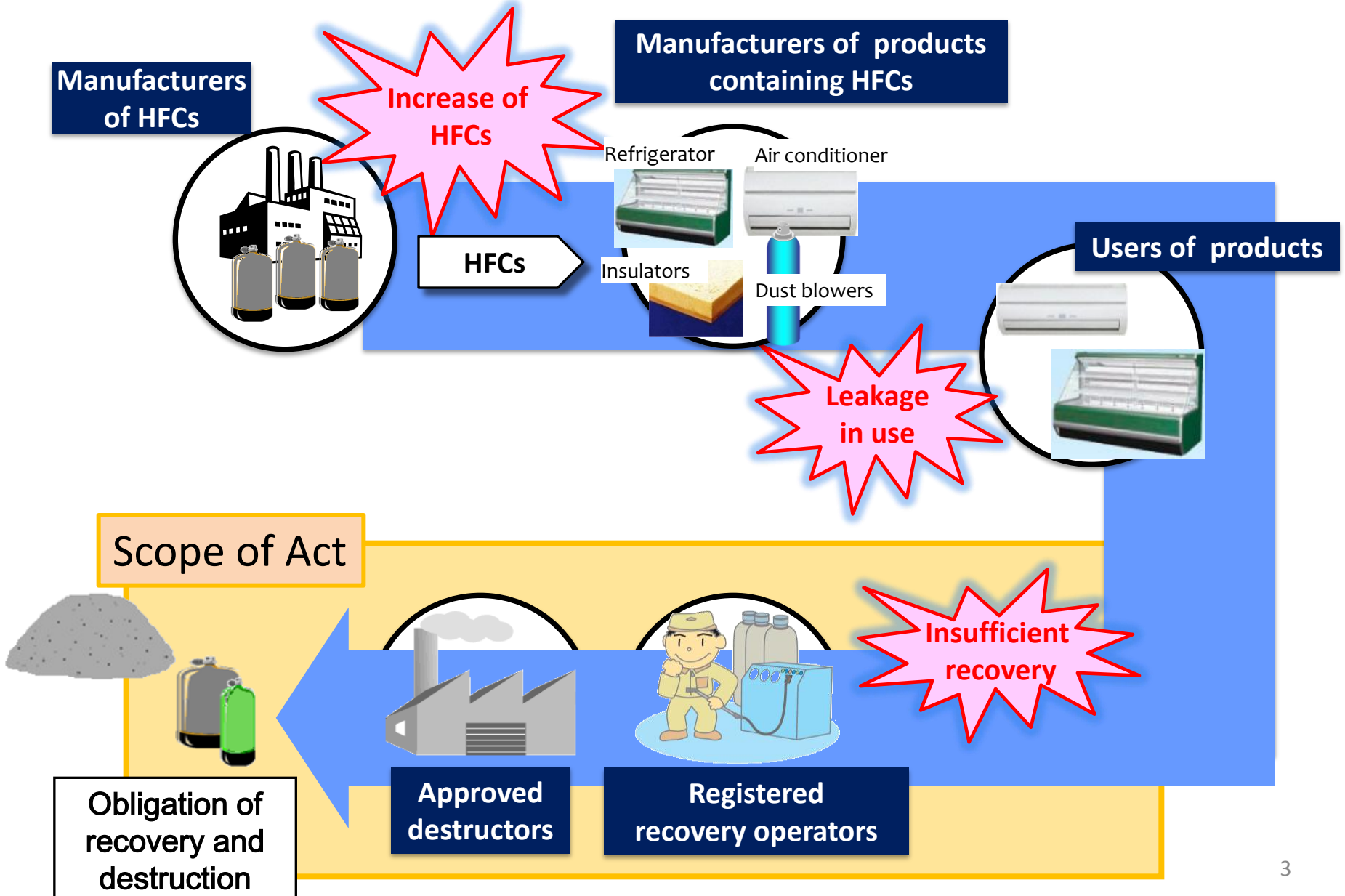
Regulation and funding policy for promotion of fluorinated gases reduction in Japan

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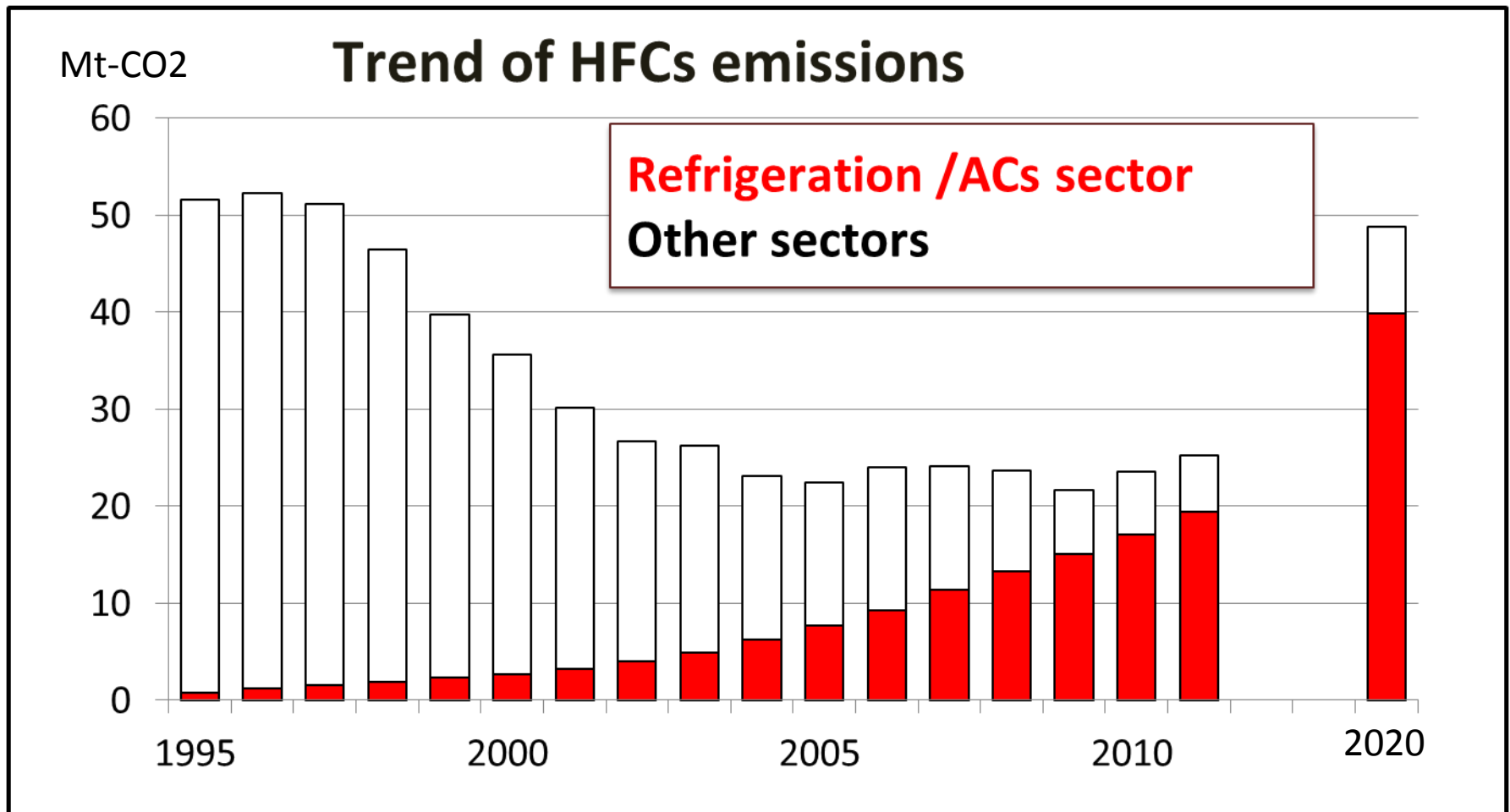
On June 5, 2013, all the members agreed to pass the Bill for the Partial Revision of the Act on Ensuring the Implementation of Recovery and Destruction of Fluorocarbons concerning Designated Products through the Diet.

Before Revision (Present State)



Trend of HFC Emissions

HFC Emissions from refrigeration / AC sector are rapidly increasing and the trend will continue.



Target of the Amendment

1. Manufacture and Import of HFCs*
2. Manufacture and Import of products containing HFCs*
3. Use of Products with CFC, HCFC, and HFCs
4. Refill of CFC, HCFC, and HFCs
5. Recycle of CFC, HCFC, and HFCs

* Manufacturing CFC , HCFC, and products with them are phasing down successfully.

Points of Amendment

- (1) Manufacturers and importers of HFCs: Phase-down of HFCs by shifting from high GWP HFCs to alternatives with none or low GWP
- (2) Manufacturers and importers of products containing HFCs: Promotion of low GWP products by a target year for each product
- (3) Users of products: Containment from commercial refrigeration and A/C by conducting a periodical check and reporting of annual amounts of leakage
- (4) Fillers and recyclers: to be registered/approved by the government to ensure the proper management of refrigerants during servicing and at end of life



The act covers the whole lifecycle of refrigerants. It will come into operation in 2015.

After Revision

Scope of Revised Act

(1) Phase-down of HFCs



Low GWP HFCs
Natural Refrigerant

HFCs

Manufacturers of products containing HFCs

Refrigerator

Air conditioner

Insulators

Dust blowers

Products with alternatives

(2) Promotion of alternatives

(3) Containment from commercial equipment

Users of products

Periodical check

Report of leakage

Maintenance

**Reuse
(Promotion of recovery)**

(5) Proper destruction and recycle

(4) Proper refill and recovery

Registered fillers/recovery operators

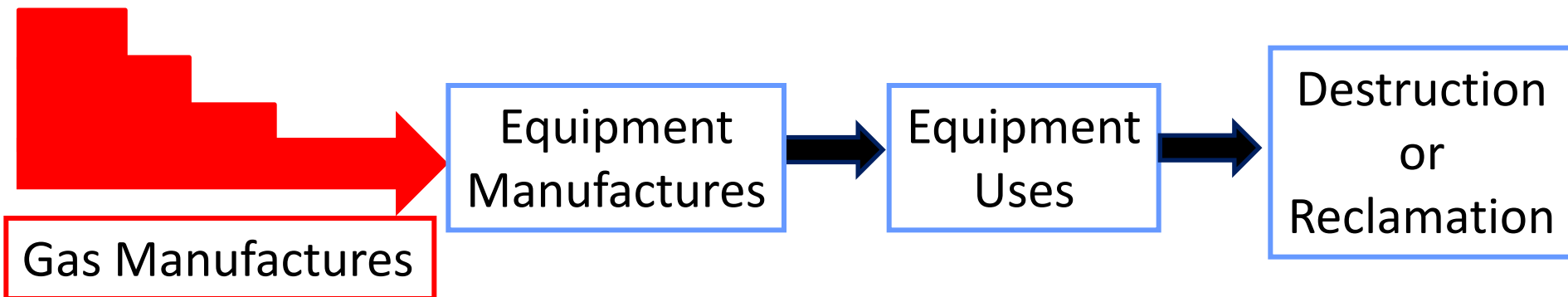
Approved destructors/recycle

Obligation of destruction

Manufacture and Import of HFCs

Manufactures and Importers of fluorinated gases are required to take deliberate efforts such as phasing down virgin gases.

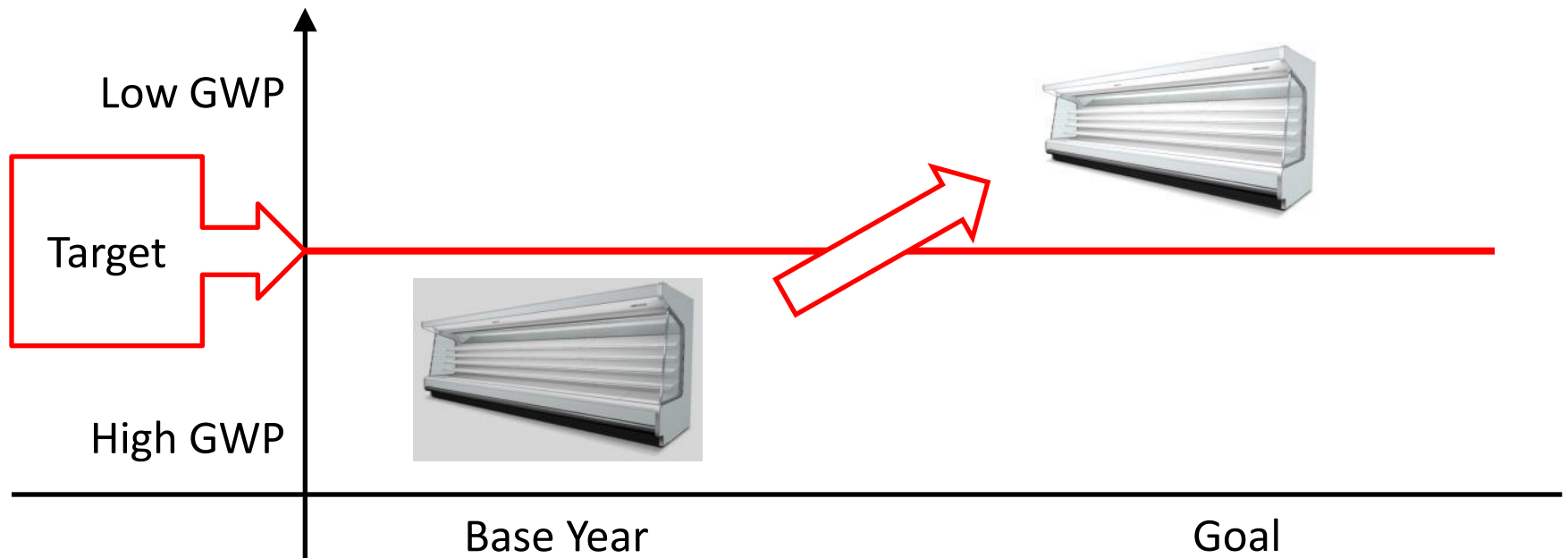
- F-gas supply amount : Start of the lifecycle of F-gases
- Harmonization with international agreements



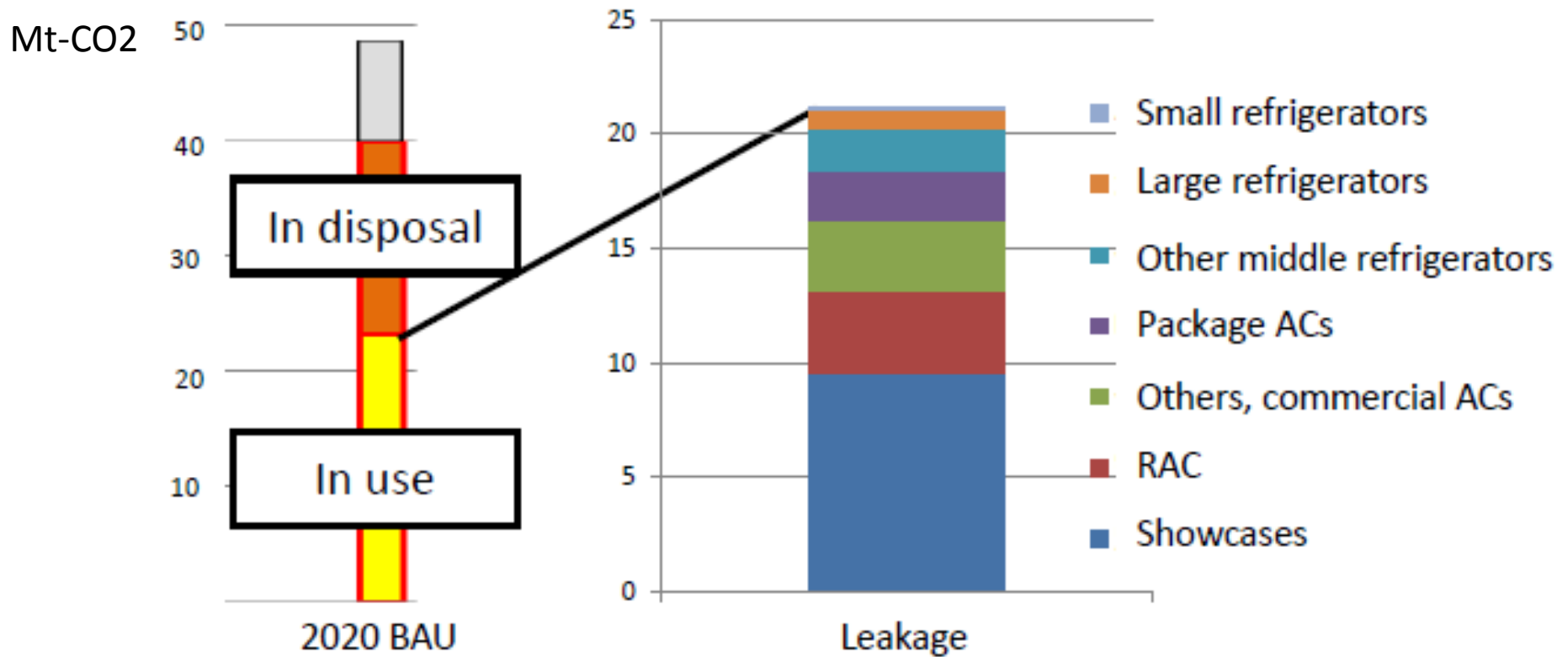
Manufacture and Import of HFCs

Manufacturers and Importers of products with HFCs are required to introduce to the market products with non-fluorinated gases or low GWP alternatives.

- Target : determined by sector by sector
- Consideration of Safety, energy efficiency, cost etc.



Use of Products with CFC, HCFC, and HFCs



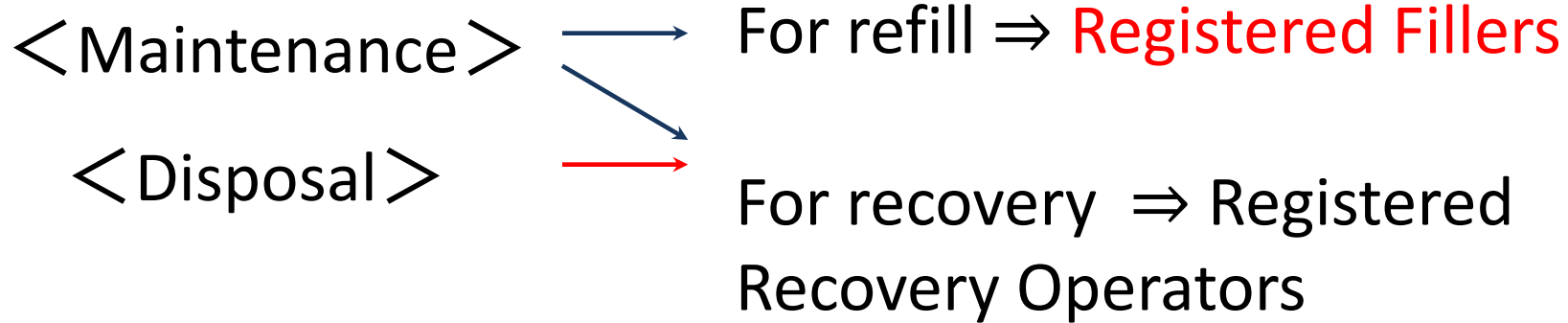
Almost the half of F-gas emissions will come from leakage during using equipment in 2020.

→ End uses of commercial refrigerators and A/C are required;

- To take deliberate efforts to containment such as checking leakage

- To report the leakage to the government if the amount of escape is over a certain criteria

Refill of CFC, HCFC, and HFCs



NEW

Fillers and Recovery Operators:
To be registered by local government

Purpose

- ✓ Prevent leakage of refrigerant during servicing
- ✓ Secure refilling of appropriate amount of refrigerant
- ✓ Prevent filling refrigerant into poorly maintained and leaking equipment



Recycling and Destructions of CFC, HCFC, and HFCs

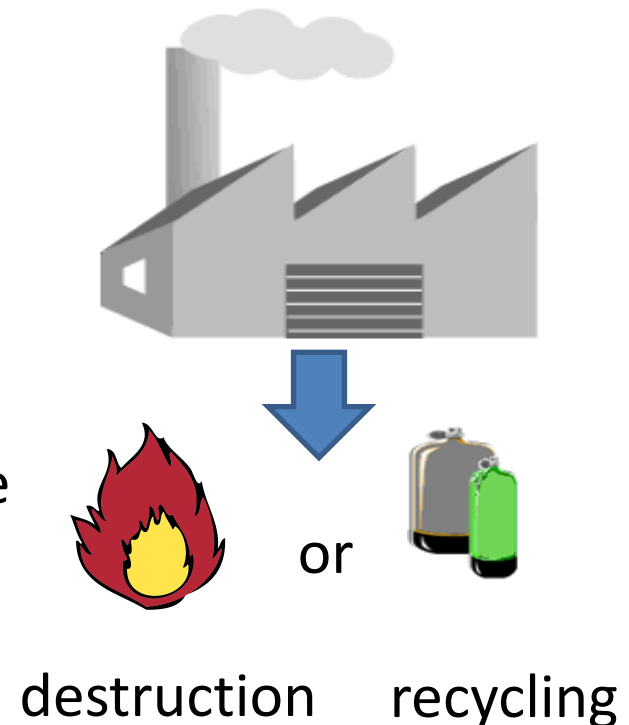
Recovered HFCs \Rightarrow Destructed / Recycled

NEW

Destructors and **Recyclers are approved** by national government to ensure the proper management of refrigerants.

Purpose

- ✓ Prevent leakage of refrigerant during destruction / recycle
- ✓ Prevent emission of exhaust gas and sewage from the plant



Effect of the Amendment on Reduction of HFC Emission

(Preliminary calculation by the Council of MOE and METI)

* To be revised along with the development of details of the operating policy such as schedule of promotion of low GWP alternatives.

(unit = 10,000 t-CO₂)

year	BAU	Promotion of low GWP equipment and products	Containment from commercial equipment in use	Total reduction
2010	1,713			
2020	4,020	▲ 390 ~ 660	▲ 530 ~ 950	▲ 970 ~ 1,560
2030	4,810	▲ 2,210 ~ 2,730	▲ 270 ~ 560	▲ 2,550 ~ 3,180

Schedule

2013

Jun. Pass of revised act

Aug. To develop standards of license for recycling

2014

Jan. To convene a committee to discuss guidelines and standards

Spring~ To develop the guidelines

Summer~ To make the other standards

2015

Apr. Enforcement of revised act

Funding policy for promotion of fluorinated gases reduction

Background

- Presently, refrigerants used for refrigerators and air-conditioners are mainly HFCs, and so HFCs emissions have increased.
- It's important to promote natural refrigerant developed recently and to make refrigerator and air-conditioner more energy-saving.

Outline

- To provide subsidies for introducing energy-saving equipment with natural refrigerators.(5,000 million JPY)

Objective	Subside
Refrigerated Warehouses	1/2 of introduction cost
Retail Store Showcases	1/3 of introduction cost
The Others	1/3 of the difference to equipment with fluorocarbon



- To raise recognition of natural refrigerant technology.(50 million JPY)

Thank you for your attention.