Recovery, Recycling & Destruction of CFC, HCFC, & HFC

In Japan, CFCs, HCFCs, and HFCs are controlled and they must be recovered from home appliances, cars, and commercial equipment when the equipment containing these gases is discarded. Recovered gas must be recycled or destroyed, instead of being released into the air.

- **Household end-of-life refrigerators, freezers, A/C and heat-pump washer-dryers**
  - Will be recovered under “Home Appliance Recycling Law”
  - Request the shop from which you bought the end-of-life product or the shop from which you buy a new product to take back the end-of-life product
  - Pay for collection, transportation and recycling when handing over the end-of-life product
  - *Price for collection and transportation differs between shops. Recycling fee differs between product manufacturers.*
  - After you have paid the recycling fee, request the shop to issue a home appliance recycling ticket
  - You can monitor the status of recycling on the internet with the ID number on the ticket.

- **End-of-life automobiles**
  - Will be recovered under “End-of-life Vehicle Recycling Law”
  - Hand over the end-of-life vehicle to collection operators registered with local governments, (Car dealers or servicing workshops)
  - Pay recycling fee
  - *Recycling fee differs between car manufacturers,
  - When and to whom to pay
  - Purchase of a new car
  - When purchasing
  - To the car dealer
  - For already owned cars
  - Before next periodic inspection
  - To Transport bureau or servicing workshops
  - After you discard a car before next automotive inspection
  - When discarding
  - To the collection operator
  - Once the payment has been made at the time of purchase or periodic inspection, no more payment is required at the time of discarding the vehicle

- **Fluorocarbons**
  - Recovered for recycling or destruction
  - Iron, aluminum, etc.
  - Recycled as resources

Service or discard of commercial refrigeration and A/C

- **Commercial A/C**
- **Cold showcase and freezers**
- **Commercial refrigerators and freezers**
- **Freezing units for transportation**

*Those who wish to discard any of the listed above equipment must...*

Major F-gas destruction technologies in use in Japan and their capacity ranges

In Japan, there are more than 40 home-appliance recycling plants, more than 20 F-gas recycling facilities and more than 60 F-gas destruction facilities in commercial operation using various technologies such as superheated steam, municipal waste incinerators, cement kiln, etc. More than 7,000 tons of refrigerant CFC, HCFC and HFC was recovered from equipment in Japan in 2014, and about 965 tons of refrigerant was recycled and about 4,800 tons of refrigerant was destroyed in Japan in 2015.

<table>
<thead>
<tr>
<th>Type</th>
<th>Technology</th>
<th>Decomposition capacity (indicative)</th>
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</thead>
<tbody>
<tr>
<td><strong>Devoted system</strong></td>
<td></td>
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<tr>
<td>Superheated steam</td>
<td>25 kg/h</td>
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<tr>
<td>Submerged combustion</td>
<td>10 kg/h – 300 kg/h</td>
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<tr>
<td>Ark plasma</td>
<td>Large 10 kg / Small 1 kg – 2 kg</td>
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<tr>
<td>Solid alkali reaction</td>
<td>10 kg/h</td>
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<tr>
<td>Catalyst</td>
<td>6 kg/h</td>
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<tr>
<td><strong>Multipurpose system</strong></td>
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<tr>
<td>Municipal waste incineration</td>
<td>10 kg/h – 120 kg/h</td>
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<tr>
<td>Cement kiln, Lime calcination furnace</td>
<td>15 kg/h – 50 kg/h</td>
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<tr>
<td>Electric furnace</td>
<td>50 kg/h</td>
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