



# Japan's On-Going Efforts for the Future

It is the policy of the Ministry of the Environment of Japan to ensure the compliance with the Montreal Protocol by phasing out ozone depleting substances according to the Montreal Protocol schedule and at the same time to make sure that the most environmentally sound alternatives and technologies are selected in the process, taking into consideration climate impact, energy efficiency, and safety.

The Ministry of the Environment of Japan is making continuous efforts to promote non-F-gas products, equipment, and technologies.

Although there are still sectors in which non-F-gas technologies are not commercially available now or in the near future, the use of non-fluorinated gases such as ammonia and hydrocarbons is gradually spreading in some uses.

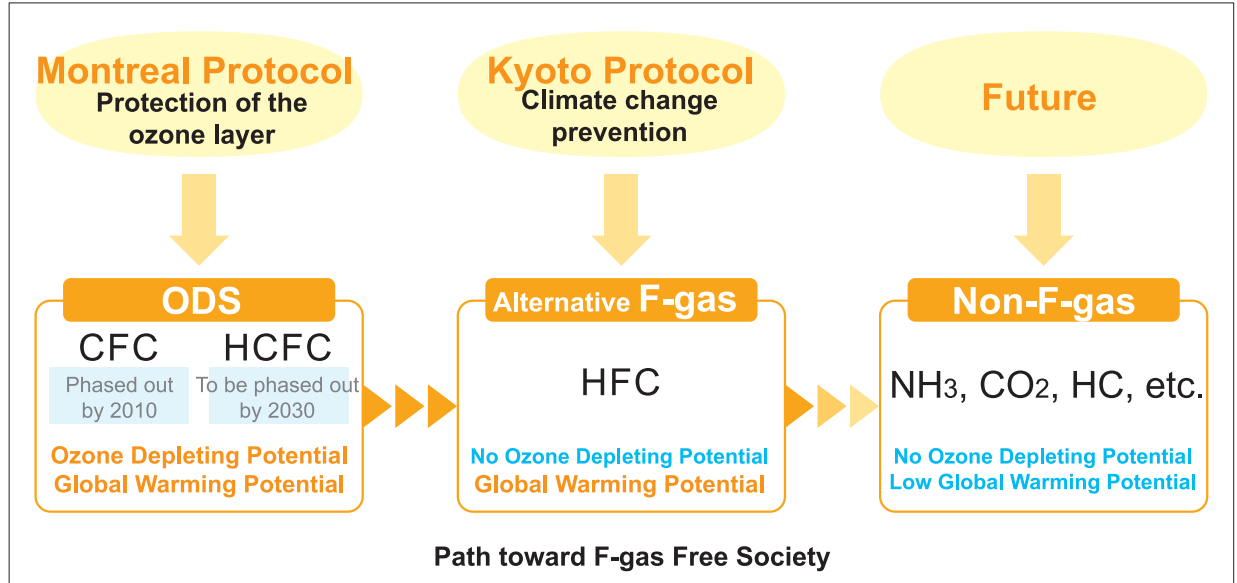
In addition, for uses that are said to be difficult to replace with non-fluorinated gases, substances with lower impact on climate are being developed and used.

As a measure to promote the adoption of non-F-gas products, equipment, and technologies, consumers and end-users are encouraged to choose the products marked "non-F-gas" in Japan (right).



The national government and other government organizations of Japan are required by the "Green Procurement Law" of Japan to choose non-F-gas products whenever such products are available and private companies and individuals are also encouraged to do the same. (<http://www.env.go.jp/en/laws/policy/green/index.html>)

The Ministry of the Environment of Japan provides a subsidy to private companies in Japan to cover a part of the cost when they purchase commercial and industrial refrigeration equipment that is highly energy efficient and based on non-fluorinated, natural refrigerants. (<http://www.env.go.jp/earth/ozone/hojokin.html> (Japanese))



## Air duster / spray

Non-F-gas products (DME, CO2, etc.) are available and widely in use.



## Commercial / industrial refrigeration

Non-F-gas options are increasing in many applications and sizes.



## Foam

Insulation boards free from F-gas and non-F-gas spray technologies are available (JIS Type A).



## Domestic refrigerators

R600a (HC) refrigerant and cyclopentane (HC) insulation foam are used in most products in the market.



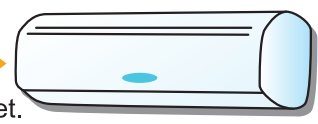
## Vending machines

Non-F-gas vending machines and energy-efficient HFC-based vending machines are in use.



## Domestic air-conditioners

R410a (HFC) products are currently the mainstream in the market. What refrigerant will be used in the next step is under discussion.



## Mobile air-conditioning

R134a (HFC) A/C is currently the mainstream. What refrigerant will be used in the next step is under discussion.



The Latest Situation of F-Gas Use in Japan (2011)