

# Member Briefing – JAPAN

- Presented by: Tetsuji Okada, JRAIA

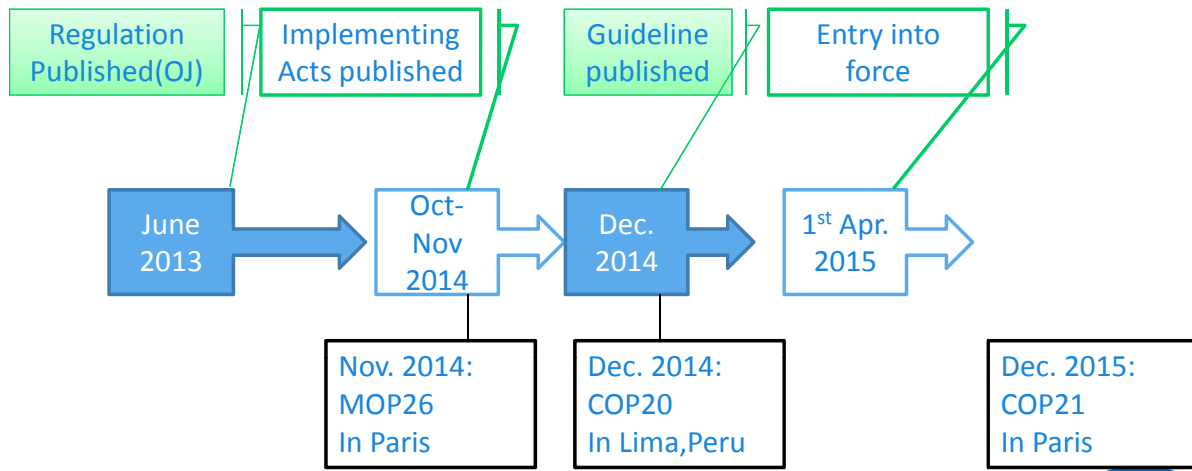


## Top 3 issues Oct. 2014

1. Implementation of “the Act on Rational Use and Proper Management of Fluorocarbons”.
2. International Activities.
  - Harmonization of the regulation
  - Increasing demand in the developing countries.
3. Choice of the next generation refrigerants.



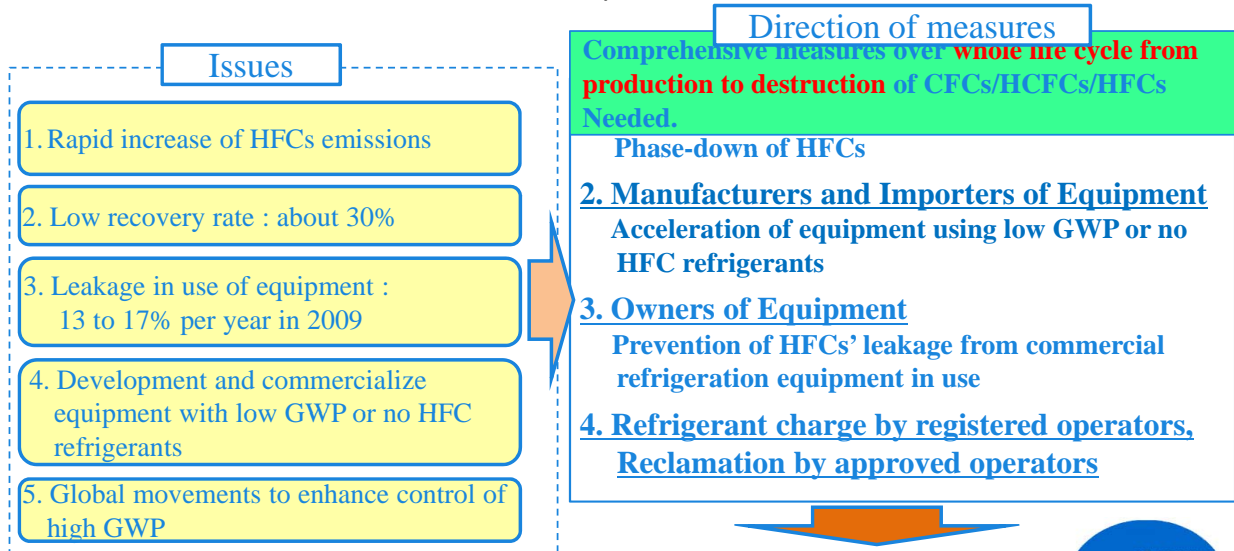
# Timeline



JRAIA 一般社団法人 日本冷凍空調工業会  
The Japan Refrigeration and Air Conditioning Industry Association



## “the Act on Rational Use and Proper Management of Fluorocarbons” in Japan 1. Direction of measures for HFCs in Japan

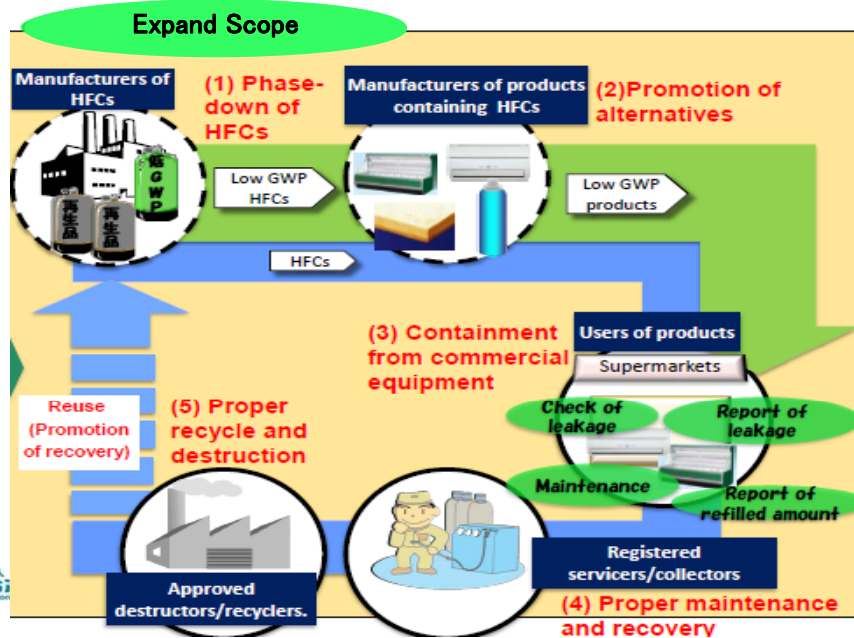


JRAIA 一般社団法人 日本冷凍空調工業会  
The Japan Refrigeration and Air Conditioning Industry Association

Publication of the Revision of Fluorocarbons Recovery & Destruction Law in Jun 2013

“the Act on Rational Use and Proper Management of Fluorocarbons” in Japan

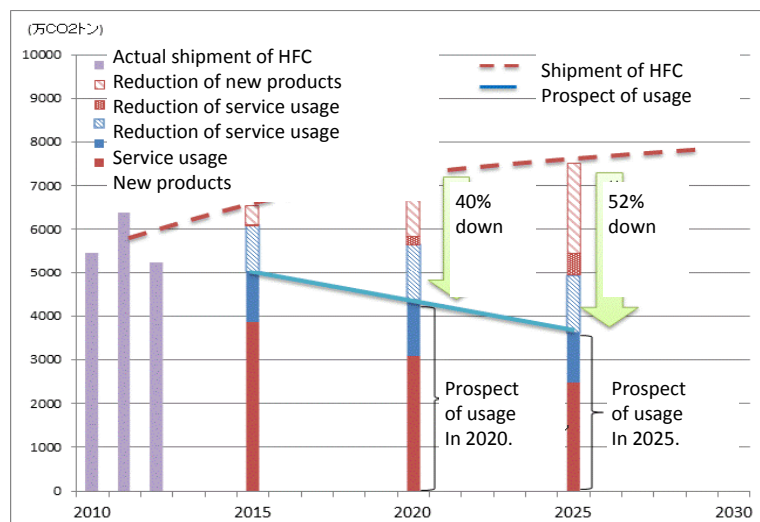
2. Scope



“the Act on Rational Use and Proper Management of Fluorocarbons” in Japan

3. Revised regulation for manufacturers and importers of HFCs

<40% Reduction of HFCs use in 2020>  
 43 CO2 equivalent million tons  
 <52% Reduction of HFCs use in 2025>  
 36 CO2 equivalent million tons  
 (BAU: Business As Usual)



“the Act on Rational Use and Proper Management of Fluorocarbons” in Japan  
 4. Revised regulation for manufacturers and importers of equipment  
**Specified Equipment**

Specified equipment category	Currently used refrigerant and its GWP	Target index of environmental impact	Target year
Residential air conditioners (excluding floor-standing type)	R410A(2090) R32(675)	750	2018
Air conditioners for shops & offices (excluding floor-standing type)<<small size only>>	R410A(2090)	750	2020
Automotive air conditioners (only for passenger car)	R134a(1430)	150	2023
Condensing units & Stationary refrigeration units (excluding units less than rated output 1.6kw)	R404A(3920) R410A(2090) R407C(1774), CO2(1)	1500	2025
Central refrigeration equipment (only for new refrigeration warehouses more than 50 thousands m <sup>3</sup> )	R404A(3920) Ammonia	100	2019
Hard urethane foam	HFC-245fa(1030), HFC-365mfc(795)	100	2020
Dust blower	HFC-134a(1430), HFC-152a(124) CO2(1), DME(1)	10	2019

※Manufacturers and importers shall ensure that the weighted average of GWP of domestic shipments does not exceed the target index to reduce environmental impact of the specified equipment.

“the Act on Rational Use and Proper Management of Fluorocarbons” in Japan  
 5. Revised regulation for equipment owners( users of products).  
**Details of equipment check which are required for equipment owners**

	Check points	Frequency of check	Operator of check
<b>Simplified periodical check</b>  All Class-1 specified equipment	(Air conditioners) • Abnormal noise from air conditioner, apparent condition check and so on to judge leakage of HFCs (Refrigeration equipment) • Temperature inside the cabinet • Abnormal noise from equipment, apparent condition check and so on to judge leakage of HFCs	More than once a 3 months (voluntary)	No limitation on the qualification
<b>Periodical check</b>	Visual check by an operator having professional knowledge In the case that rough location of leakage can be found	More than once a period determined for each equipment	Authorized certification related to equipment management is needed.
	Other cases		

MANY VOICES

Risk assessment of mildly flammable refrigerants Industry Research – Japan

1. Abstract

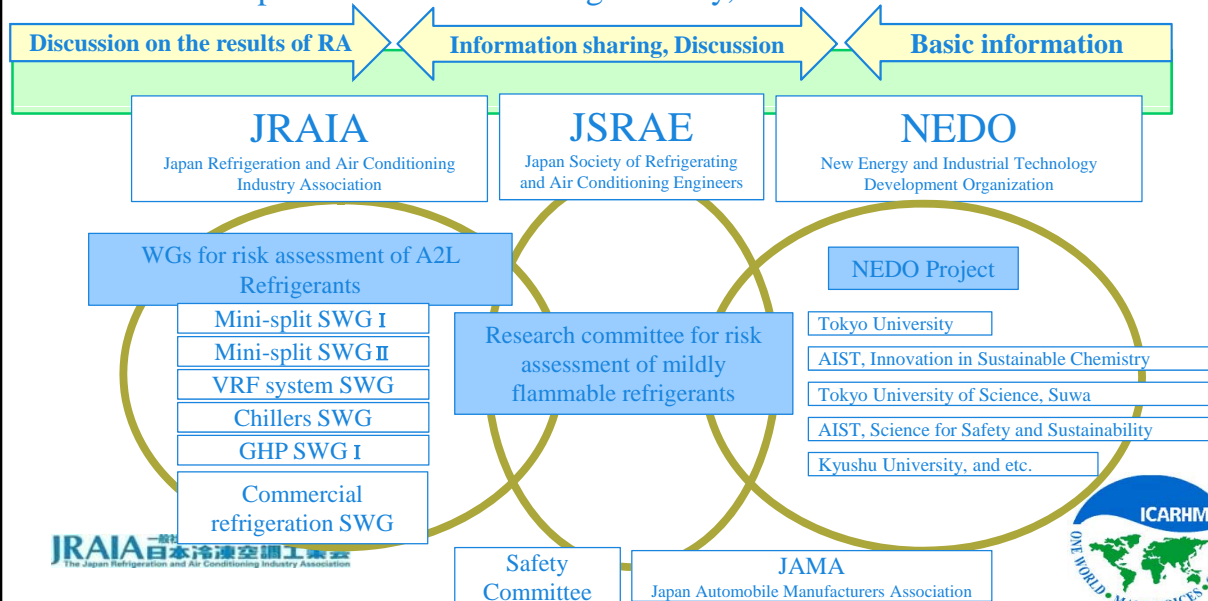
- **Objective:** Risk and Performance Assessment
- **Scope:** A2L Refrigerants
- **Timeframe:** 2011 to 2015
- **Research being conducted by:** Japan Society of Refrigerating and Air Conditioning Engineers (JSRAE).
- **Funded by:** New Energy and Industrial Technology Development Organization and Ministry of Economy, Trade and Industry (NEDO/METI)
- **Results Public:** 2013 progress report is available on [http://www.jsrae.or.jp/committee/binensei/2013PR\\_e.pdf](http://www.jsrae.or.jp/committee/binensei/2013PR_e.pdf)
- **Related reports** will be presented in Kobe Symposium 2014.

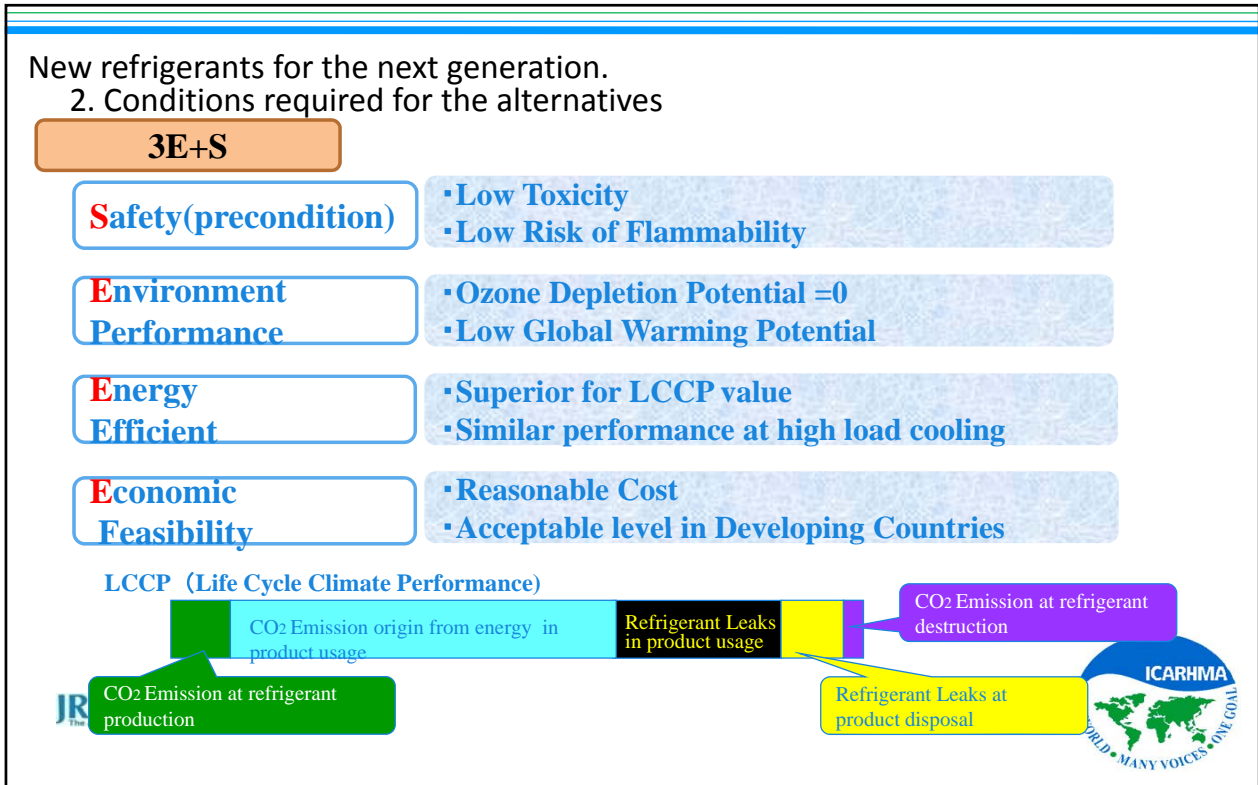
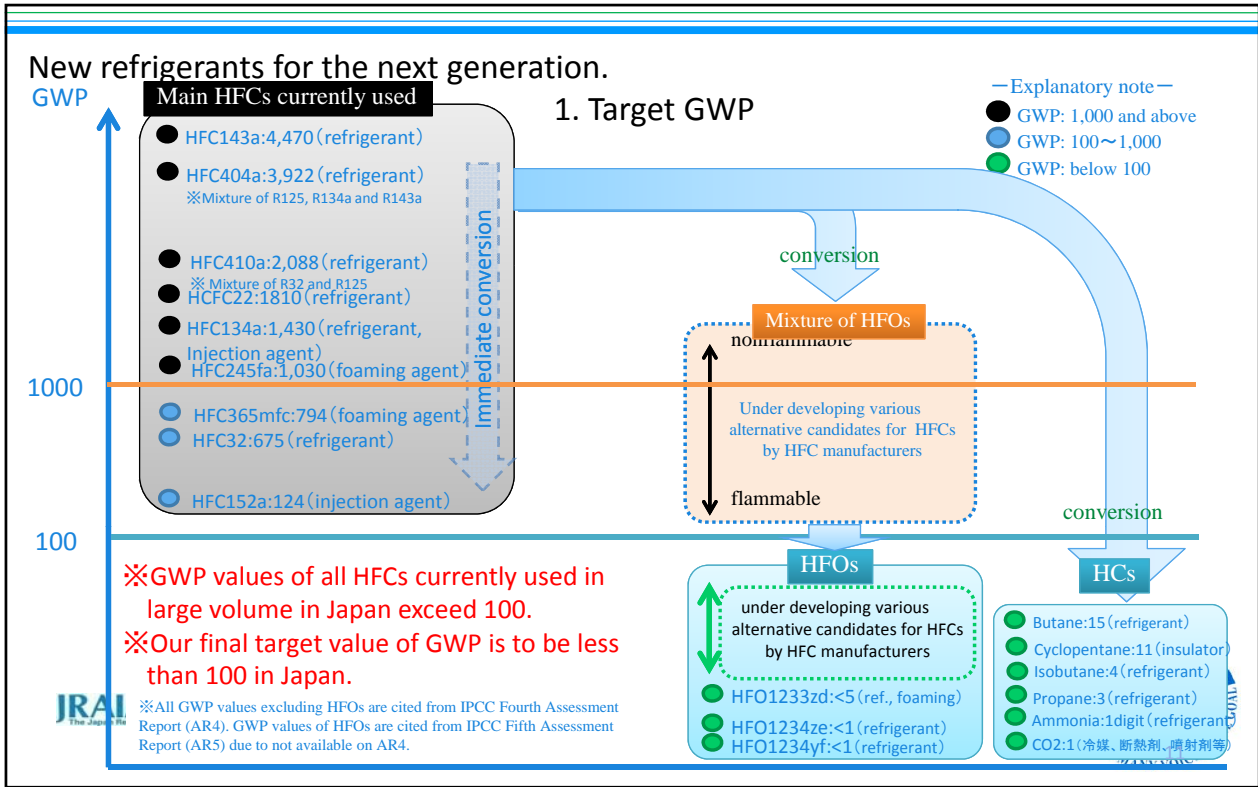


Risk assessment of mildly flammable refrigerants Industry Research – Japan

2 Framework for Risk Assessment of Mildly Flammable Refrigerants

Cooperative structure among Industry, JSRAE and NEDO





New refrigerants for the next generation.

3. Summary

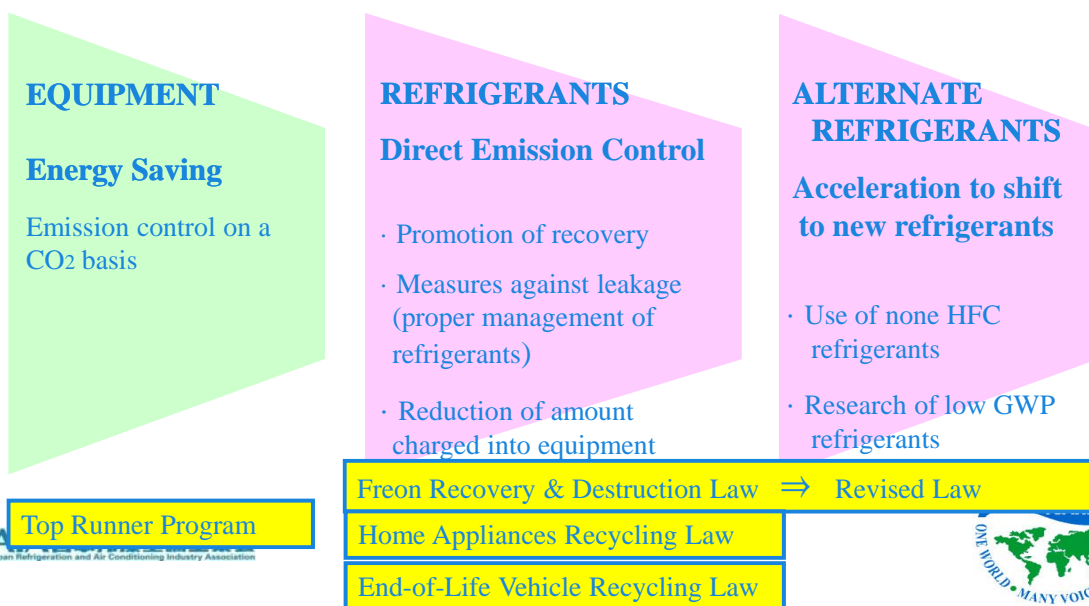
**HVAC&R industry has been proceeding with the development of next generation low GWP refrigerants to mitigate the impact of HFCs on global warming.**

However ;

- **Ideal refrigerants have not been found yet.**
- **Every candidate of next generation refrigerants bears some sort of faults.**
- **Usable candidates, in particular, are mildly flammable.**
- **We are forced to make full use of those candidates for prevention of global warming caused by refrigerants.**



JRAIA's Vision and Activities on Environmental Conservation





## Overview of Kobe Symposium 2014:

THE JAPAN REFRIGERATION AND AIR CONDITIONING INDUSTRY ASSOCIATION (JRAIA)

**JRAIA**  
INTERNATIONAL SYMPOSIUM  
KOBE 2014

THE INTERNATIONAL SYMPOSIUM  
**NEW REFRIGERANTS and  
ENVIRONMENTAL TECHNOLOGY 2014**

**Nov. 20** (Thu) ~ **21** (Fri) **2014** International Conference Center Kobe, Main Hall, Kobe, Japan

**JRAIA** 一般社団法人  
日本冷凍空調工業会  
The Japan Refrigeration and Air Conditioning Industry Association

- Technical Session 1 : Environment issue
- Technical Session 3,7 : Safety of 2L Refrigerants
- Technical Session 8 : New Refrigerants and Their System



Thank you for your kind attention.

Vielen Dank für Ihre Aufmerksamkeit.

**JRAIA** 一般社団法人  
日本冷凍空調工業会  
The Japan Refrigeration and Air Conditioning Industry Association

