Member Briefing – JAPAN

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

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Top 3 issues Oct. 2015

1. Activity for revising the safety law.

   Mitigation of “High Pressure Safety Act”

2. International Activities.

   -Harmonization of the regulation

   -Increasing demand in the developing countries.

3. Implementation of “the Act on Rational Use and Proper Management of Fluorocarbons”.

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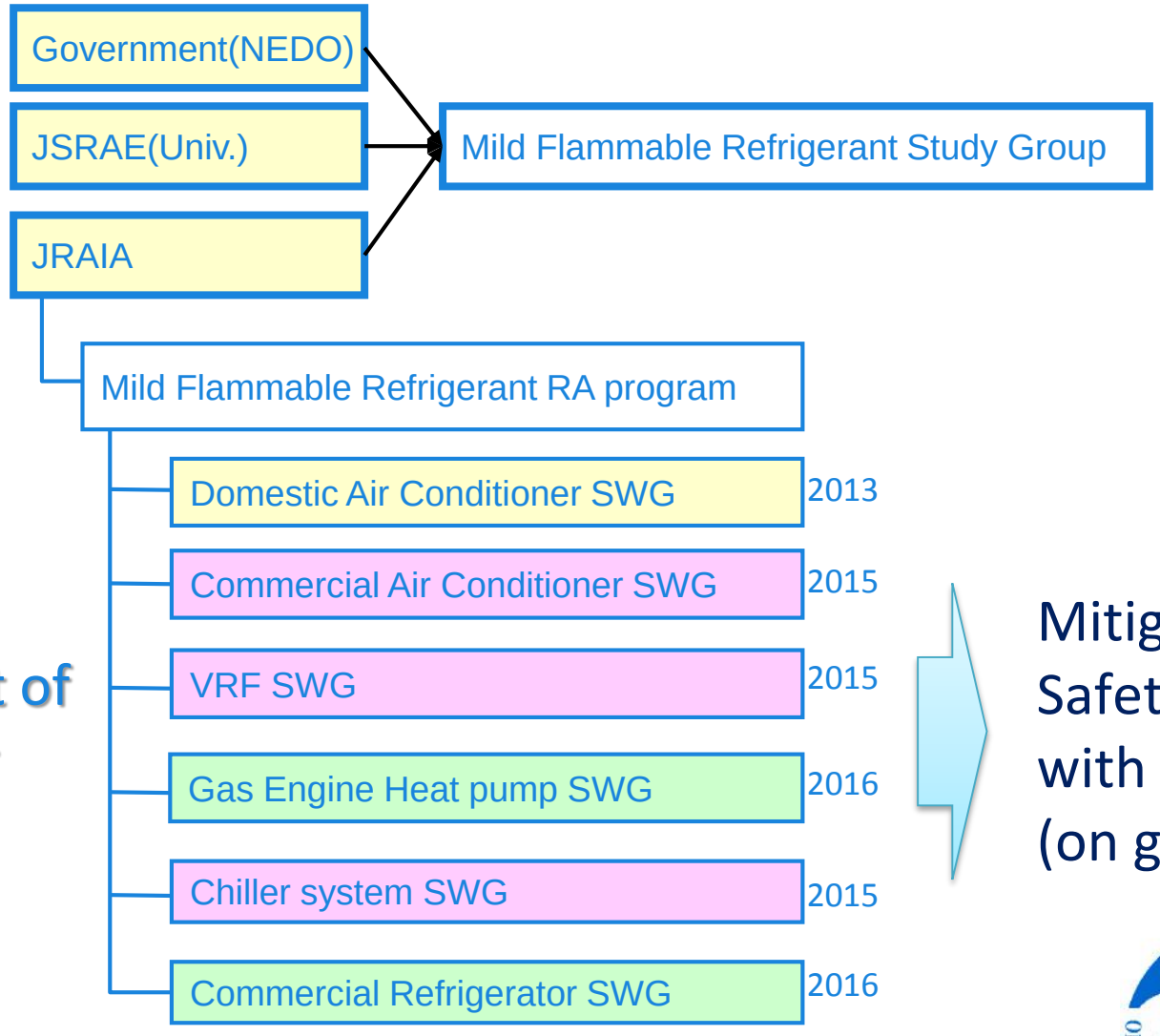
Mitigation of Safety Act in Japan



Risk Assessment of each sector

Mitigation Safety Act with METI (on going)

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Top priority: Revolution Regulation

Safety in Japan：Ignition Probability should be less than around1e-10
(Stock in Market =100Munits, 1 serious accident per 100yr.)

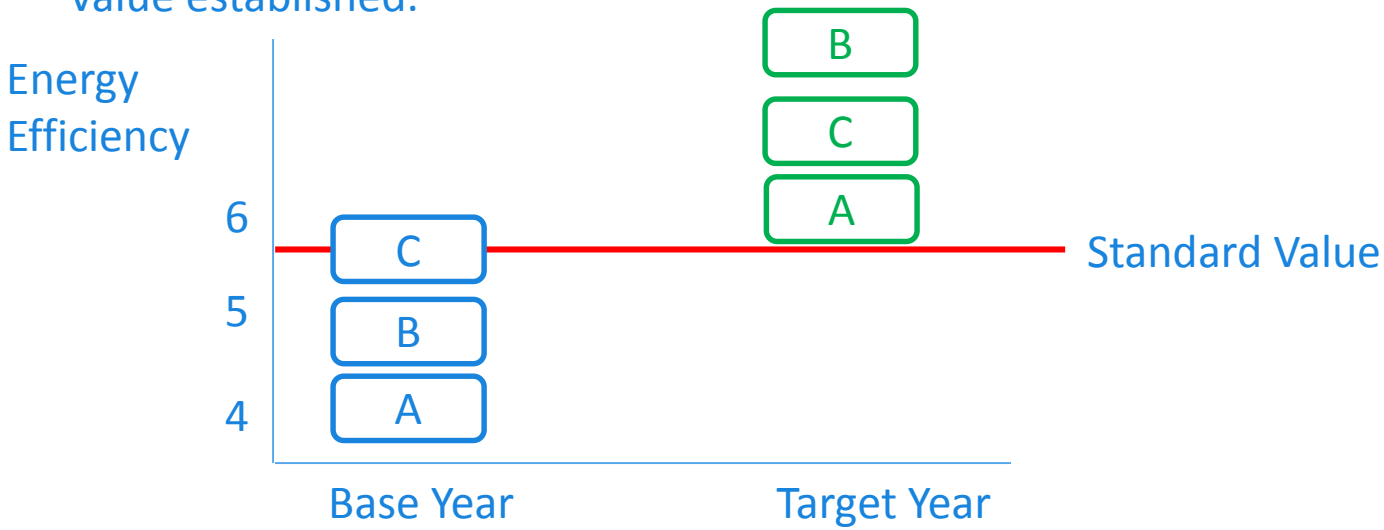
Life Cycle	Leakage	Space-time Product	Ignition Source	Ignition Probability（R32)
Logistics		Space in Warehouse	Spark Naked flame (Lighter, Matches） Burning Appliance Blazing Burner Smoking	4.1×10e-17
Install	Human Error			2.7×10e-10
Use(Indoor)	Occurrence Probability	Space-time products In Room Leakage Speed		3.9×10e-15
Use(Outdoor)	Occurrence Probability	Space-time products In Basement Leakage Speed		1.5×10e-10
Service				3.2×10e-10
Disposal				3.6×10e-11

Measurements(example) ：Fan control added(Floor-type unit), Ventilation, Sensor

“Top runner program under the Energy Saving Act” in Japan(MEPS)

1. What is the top runner program?

- Energy Efficiency of the appliances under this program should exceed standard value in the target year.
- The standard value is the highest energy efficiency at the time of standard value established.



2. Which product is target?

- The number of the specific appliances is 31 now.
  Domestic and Commercial AC, Heat Pump Hot Water System, Car, Printer…

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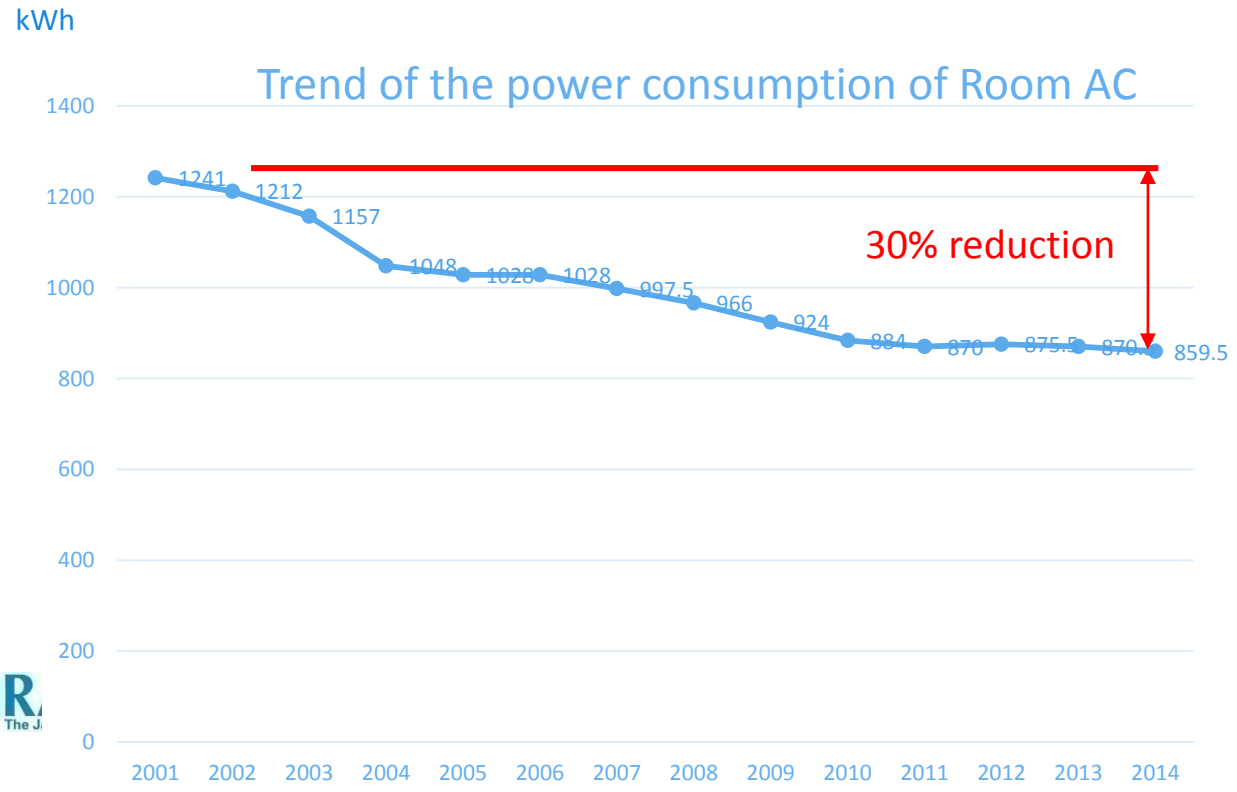
Trend of Energy Efficiency in Japan

Example of the standard APF Room AC

Category			Standard energy consumption efficiency (APF)
Unit form	Cooling capacity	Category name	
Non-ducted wall-hung type (except multi-type controlling operation of indoor units individually)	Over 4.0kW up to 5.0kW	E	5.5
	Over 5.0kW up to 6.3kW	F	5.0
	Over 6.3kW up to 28.0kW	G	4.5
Other non-ducted type (except multi-type controlling operation of indoor units individually)	Up to 3.2 kW	H	5.2
	Over 3.2 kW up to 4.0 kW	I	4.8
	Over 4.0 kW up to 28.0 kW	J	4.3
Multi-type controlling operation of indoor units individually	Up to 4.0 kW	K	5.4
	Over 4.0 kW up to 7.1 kW	L	5.4
	Over 7.1 kW up to 28.0 kW	M	5.4



Measures to prevent global warming in Japan

- **The efforts in Japan**

  -Switch to Lower GWP refrigerants

  ①Clarify the safety for A2L refrigerants (Risk assessment)

  ② the mitigation of regulations for “High Pressure Gas Safety Act”

  -Training for installers, refrigerant recyclers, service engineers and so on.

  ①Training workshops all over the country

  ②Certification system for the qualified persons

  -The new Law should be widely known thorough to users

- **International**

  -Participate to High ambient temperature testing program (U. S. ; DoE)

  -Carry out a analytical simulation for High ambient temperature

  - Support to standardize energy-saving measures of AC in ASEAN countries

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Thank you for your kind attention.

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