

Introduction of JRAIA

The Japan Refrigeration and Air Conditioning Industry Association

Koji Hatano

8, July, 2025



Contents

1. Who is JRAIA?
2. JRAIA's Basic Policy
3. Focus of the Key Actions of JRAIA
4. Industry's commitment to environmental issue
 - 1) JRAIA's position on Carbon Neutrality
 - 2) Important Issues to be considered in refrigerant conversion
 - 3) Cooperation with Government and Academia
5. JRAIA's activities on Carbon Neutrality

1. Who is JRAIA?

JRAIA (Japan Refrigeration and Air Conditioning Industries Association)

- **Established in Feb. 1949**
- Minato city, Tokyo (located in front of Tokyo Tower)
- Chairman: Katsuyuki Sawai (from DAIKIN Industries, Ltd.)
- The number of the members: **174 companies** incl. associate members as of June. 2025
- **Business Fields:**
 - Air conditioning (residential, commercial, automotive)
 - Refrigeration (commercial, industrial, transport)
 - Ventilation
 - Heat pump system (HP water heaters)
 - Refrigerants
 - Parts



2. JRAIA's Basic Policy

JRAIA's Basic Policy to accomplish Sustainable Future with Carbon Neutrality

JRAIA, with its extensive technical expertise cultivated through years of experience, remains committed to achieving carbon neutrality.

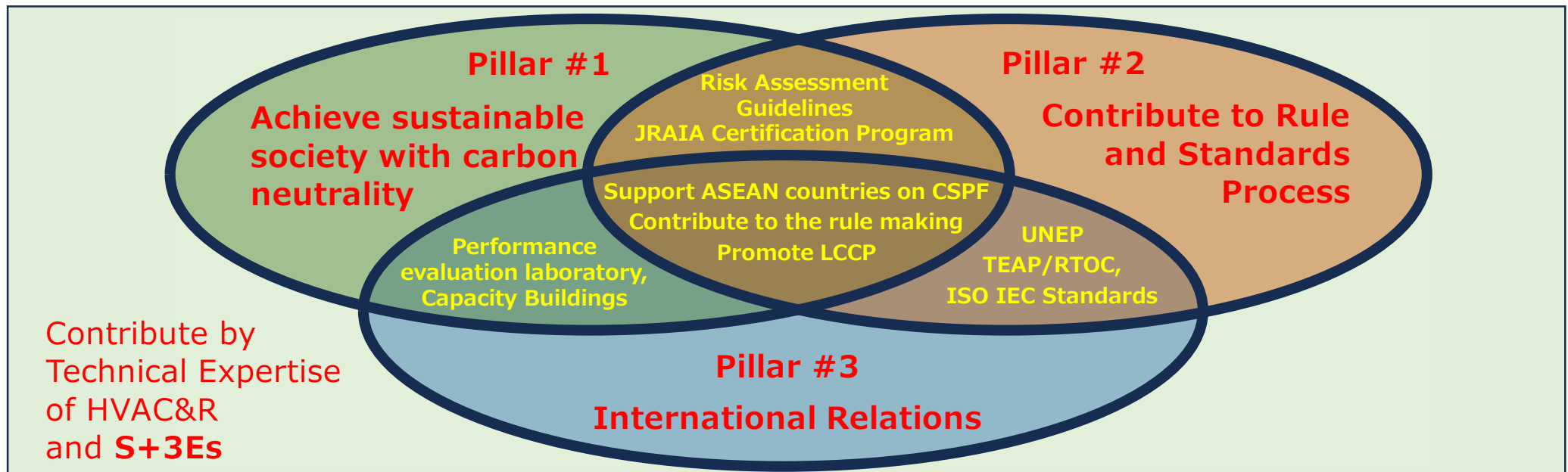
Our efforts will extend beyond Japan, implementing various initiatives globally to harmonize environmental sustainability with people's quality of life.

- We strive to reduce all environmental impacts while promoting sound management in collaboration with all related stakeholders throughout the entire product lifecycle. Through these efforts, we aim to mitigate the effects of climate change and facilitate a smooth transition to a carbon-neutral society.
- We continue to provide HVAC&R equipment which is essential product for people's lives, and promote improvement of socio-economic living standard.

3. Focus of the Key Actions of JRAIA

Three Pillars of Key Activities

JRAIA, as an expert group in refrigeration and air conditioning technology, upholds the principle of harmony and balance among safety, environment performance, energy efficiency, and economic feasibility (S+3Es) as its basic principle, will carry out activities focused on the three pillars below:



4. Industry's commitment to environmental issue

1) JRAIA's position on Japanese Government Environment Policy

JRAIA will work towards the realization of Carbon Neutrality while considering S+3Es.

① HVAC&R industry's basic stance towards Carbon Neutrality :

- Aim to expand the use of heat pump technology and products that are also highly efficient from the perspective of utilizing renewable energy.
- Use the designated products to reduce HFCs as much as possible and explore the possibility of safe use of lower GWP, e.g. "Green refrigerants" such as natural refrigerants and ultra low-GWP refrigerants.

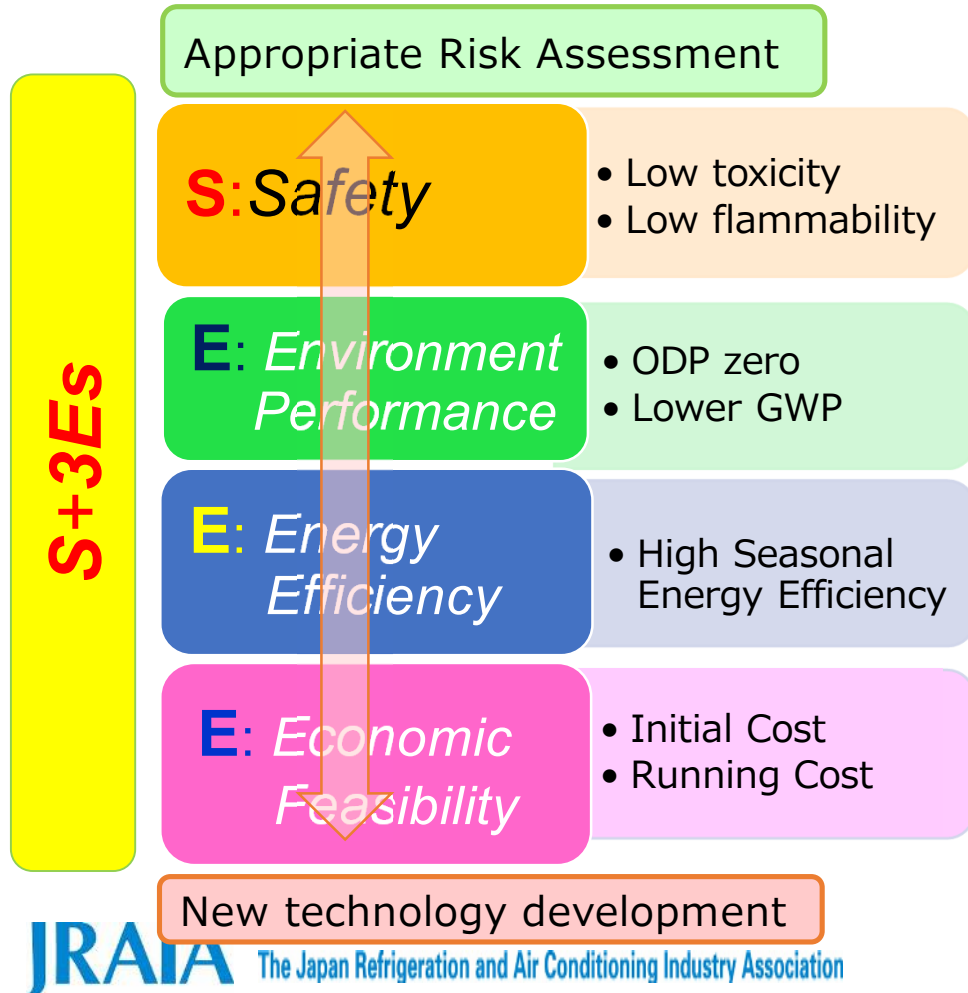
② Direction of response to Carbon Neutrality in HVAC&R sector : **Basic principle : S+3Es**

Balanced target setting and target-driven activities on Safety plus Environment performance, Energy efficiency and Economic feasibility are important.

- **Safety(S)** : Ensure safety together with users(consumers), installers and other relevant stakeholders
- **Environment performance(E)** : Convert to lower GWP refrigerants from an environmental point of view.
- **Energy efficiency(E)** : Improve the efficiency of equipment systems from the perspective of improving energy efficiency (directly linked to the reduction of CO₂ emissions).
- **Economic feasibility(E)** : A reasonable price (cost) that balances the above three items is essential to promote market diffusion.

4. Industry's commitment to environmental issue

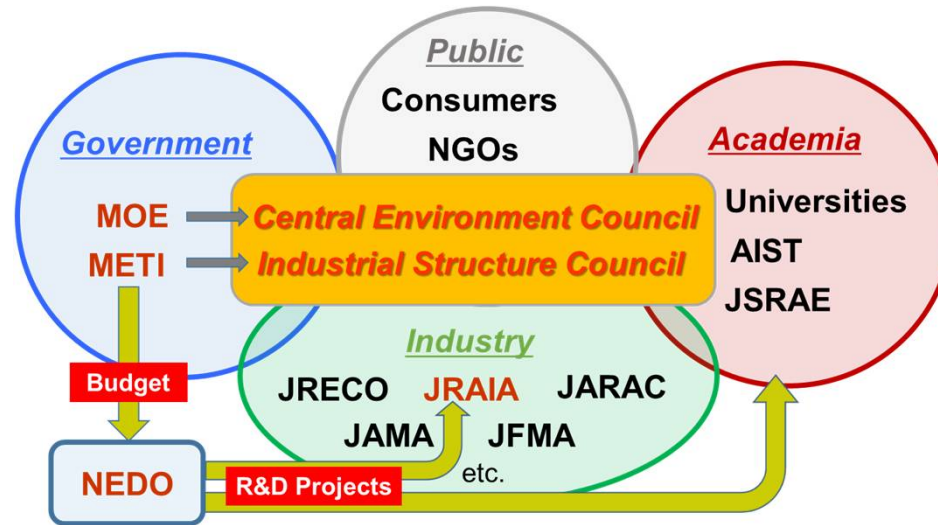
2) Important Issues to be considered in refrigerant conversion



Achieving a truly sustainable future requires refrigerant choices guided by a well-balanced perspective — one that integrates **S+3Es**: Safety, Environmental responsibility, Economic feasibility, and Energy efficiency. A holistic approach fosters innovation, while overly restrictive regulations risk undermining progress and narrowing the path to viable solutions

4. Industry's commitment to environmental issue

3) Cooperation with Government and Academia



Government

MOE : Ministry of the Environment

METI : Ministry of Economy, Trade and Industry

NEDO : New Energy and Industrial Technology
Development Organization

Academia

AIST : National Institute of Advanced Industrial
Science and Technology

JSRAE : Japan Society of Refrigerating
and Air Conditioning Engineers

Industry

JRAIA : The Japan Refrigeration and Air Conditioning Industry Association

JARAC : Japan Association of Refrigeration and Air-conditioning Contractors

JRECO : Japan Refrigerants and Environment Conservation Organization

JFMA : Japan Fluorocarbon Manufactures Association

JAMA : Japan Automotive Manufactures Association

5. JRAIA's activities on Carbon Neutrality

We believe it vital to promote **holistic approach** as premised of providing **all people's quality of life** under socio-economic feasibility

- We have contributed through our activities in view of whole life cycle and will do further
- We'd like to inform you of **part of our activities**, specifically

JRAIA Activities

To be explained at latter presentation

(Premise) To harmonize environmental sustainability with people's quality of life

Product lifecycle

Production

Transport & Storage

Install

Use

Repair

Dismantle

Transport & Storage

Disposal

To handle refrigerant properly

New refrigerant development*

Tools for joint: Leak detection/suppress

Recovery

Reclamation

Co-operation with related stakeholders

* JRAIA supporting NEDO project with consideration of whole life cycle and S+3Es

To enhance evaluation for GHG emission

Activities for Life Cycle Climate Performance (LCCP)

Standardization for seasonal efficiency of AC/HP*

*To refine simulating "real life use" further

For quality

Certification program for RAC/PAC in JPN

JRAIA The Japan Refrigeration and Air Conditioning Industry Association