# THE COMMITMENT TO A LOW CARBON SOCIETY

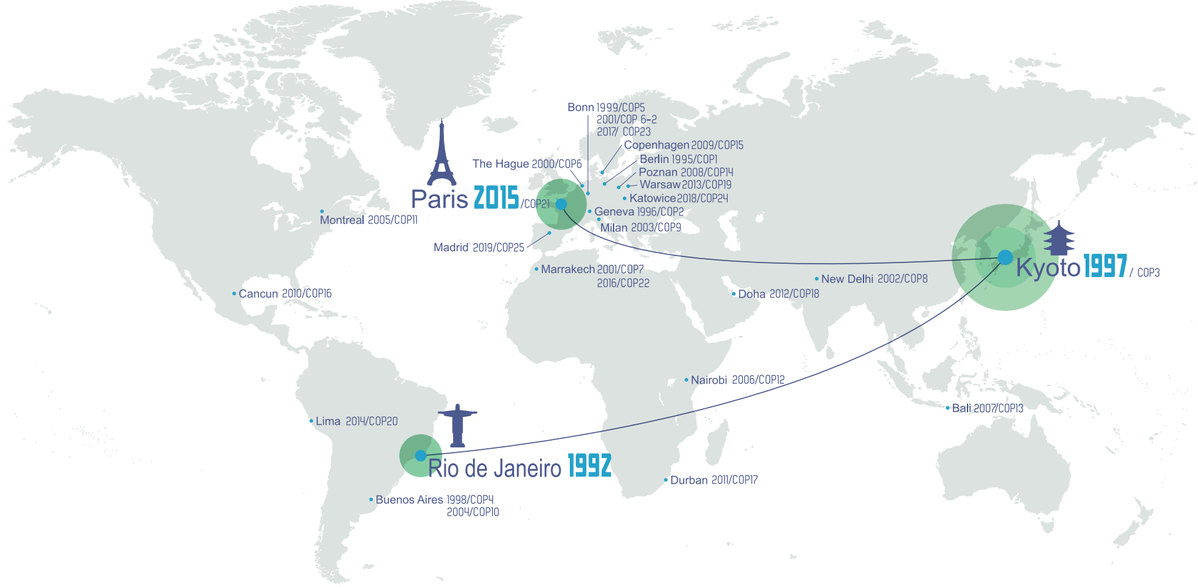
SINCE 1997

Keidanren
Policy & Action

Keidanren's Progress on Global Warming Countermeasures

# KEIDANREN TOOK THE FIRST PIONEERING STEPS ON GLOBAL WARMING COUNTERMEASURES WELL AHEAD OF GOVERNMENTAL POLICY DECISIONS

| | | |
|---|---|---|
| ► 1991 | *April* | **Presentation on Keidanren Global Environment Charter** |
| 1992 | *June* | Adoption of the Framework Convention on Climate Change (UN Conference on Environment and Development) |
| 1996 | *July* | Presented the Keidanren Appeal on Environment (Declaration on Voluntary Action Plan on the Environment) |
| ► 1997 | *June* | **Presentation on the Keidanren Voluntary Action Plan on the Environment** |
| | *December* | Adoption of Kyoto Protocol (COP3) |
| ► 1998 | *December* | **1st Keidanren Environmental Voluntary Action Plan Follow-up (yearly follow-up established)** |
| 2002 | *July* | Establishment of the Evaluation Committee for the Voluntary Action Plan on the Environment |
| 2005 | *April* | Kyoto Protocol Target Achievement Plan (cabinet decision) |
| 2009 | *December* | Presentation of the plan for Keidanren's Commitment to a Low-carbon Society (concept and overview) |
| ► 2013 | *January* | **Announcement of the first phase of the plan for Keidanren's Commitment to a Low-carbon Society (FY 2020 targets)** |
| | *March* | Policy on current global warming countermeasures (Global Warming Prevention Headquarters) |
| | *April* | Starting the plan for Keidanren's Commitment to a Low-carbon Society |
| ► 2015 | *April* | **Announcement of the second phase of the plan for Keidanren's Commitment to a Low-carbon Society (FY 2030 targets)** |
| | *July* | Submission of Japan's Intended Nationally Determined Contribution (INDC) to the UN |
| | *December* | Adoption of the Paris Agreement (COP 21) |
| 2016 | *May* | Global Warming Countermeasures (cabinet decision) |
| | *November* | Entry into force of the Paris Agreement |




## Industry's voluntary action plans play a crucial role in Japanese government policies to address global warming

**Kyoto Protocol Target Achievement Plan (revision)**

*(Cabinet decision, March 28, 2008)*

**Policy on current global warming countermeasures**

*(Decision by the Global Warming Prevention Headquarters on March 15, 2013)*

**Japan's Intended Nationally Determined Contribution(INDC)**

*(Decided by the Global Warming Prevention Headquarters and registered with the UN, July 17, 2015)*

**Global Warming Countermeasures**

*(Cabinet decision, May 13, 2016)*

Framework of Keidanren's Commitment to a Low-carbon Society

# THE 4 PILLARS FOR REDUCTION OF GLOBAL GREENHOUSE GAS EMISSIONS

Industries participating in Keidanren's Commitment to a Low-carbon Society move towards 2020 and 2030 targets guided by the 4 pillars: (1) Emissions reduction from domestic business operations (2) Strengthening cooperation with other interested groups (3) Promoting contribution at the international level (4) Development of innovative technologies

## 1ST PILLAR

Emissions reduction from domestic business operations

>P4-5

## 2ND PILLAR

Strengthening cooperation with other interested groups

>P6-7

## 3RD PILLAR

Promoting contribution at the international level

>P8-9

## 4TH PILLAR

Development of innovative technologies

>P10-11

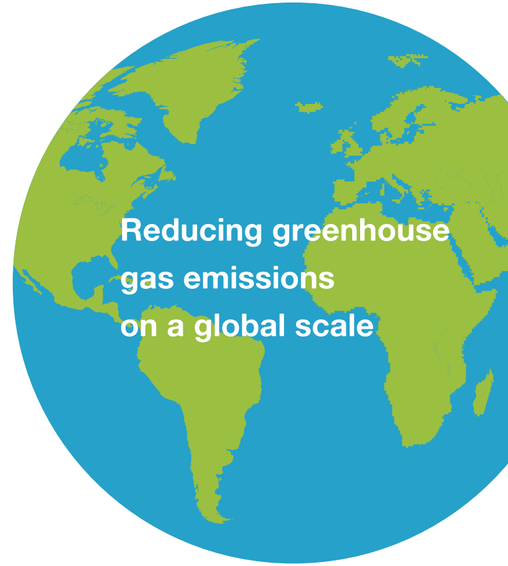
FY 2020 TARGETS

PHASE I

FY 2030 TARGETS

PHASE II


Enhancement of PDCA



1ST PILLAR

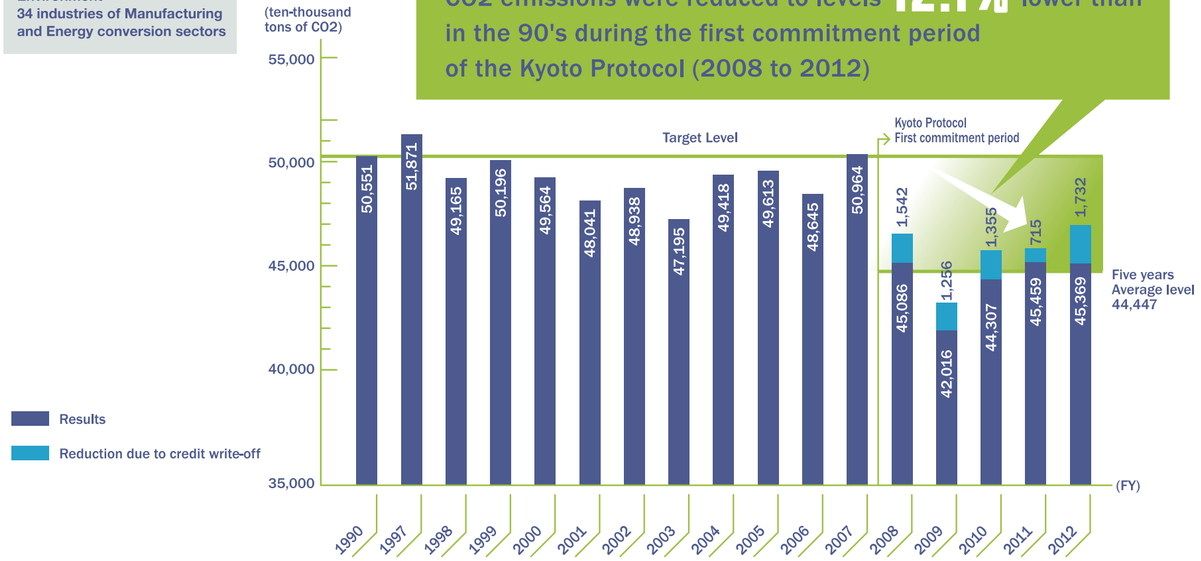
## Emissions reduction from domestic business operations

# INDUSTRIES USE PDCA CYCLES TO SET AND IMPROVE OWN TARGETS AND REDUCE CO2 EMISSIONS INSIDE JAPAN

**Industries work towards achievement of targets formed on the premise of the maximum introduction of the best available technology (BAT) that can be economically utilized, aggressive energy conservation and other efforts.**

**Voluntary Action Plan on the Environment**
**34 industries of Manufacturing and Energy conversion sectors**

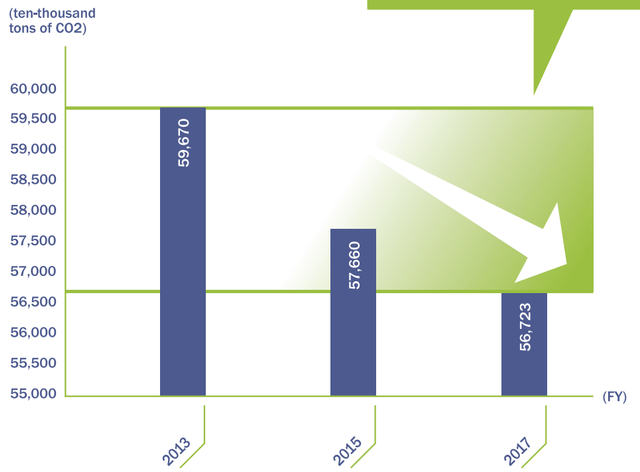
**CO2 emissions were reduced to levels 12.1% lower than in the 90's during the first commitment period of the Kyoto Protocol (2008 to 2012)**




*1. Figures from 2008 and later are post-credit write-off. *2. Five-year average post credit write-off decreased 9.5% from that of FY 1990.

**Commitment to a Low Carbon Society**
**62 industries of Manufacturing, Energy conversion, Service and Transportation sectors**

**CO2 emissions were reduced in all sectors between FY 2013 and 2017**
**4.9%**




*Source: Commitment to a Low-carbon Society 2018 Follow-up Results, Summary*

### Actions to achieve targets

- Introduction of energy-saving facilities, processes, equipment, etc.
- Energy recovery and effective utilization.
- Fuel conversion, Utilization of renewable energy, etc.
- Operation improvement of facilities, equipment.

Z NO PILLAR

Strengthening cooperation with other interested groups

# CONTRIBUTING TO THE CARBON EMISSION REDUCTIONS THROUGH CROSS-SECTOR COOPERATION ACROSS THE VALUE CHAIN

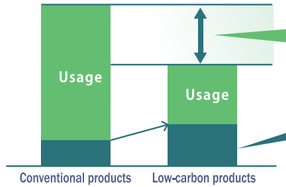
**Industries not only reduce emissions from thier domestic operations, but also procure and supply low carbon products and services, and engage in national campaign to contribute to emission reduction across the value chain.**

Next generation vehicles


- Chemistry
- Steel
- Aluminum
- Rubber
- Electronics
- Car
- Finance
- Government
- Petroleum, gas, electricity
- Logistics
- National Campaign
- Mining
- Steel
- Aluminum

*Source: References and Examples from Commitment to a Low-carbon Society 2016 Follow-up Results, Summary*

Reduction of CO2 emission across the entire life cycle of a product

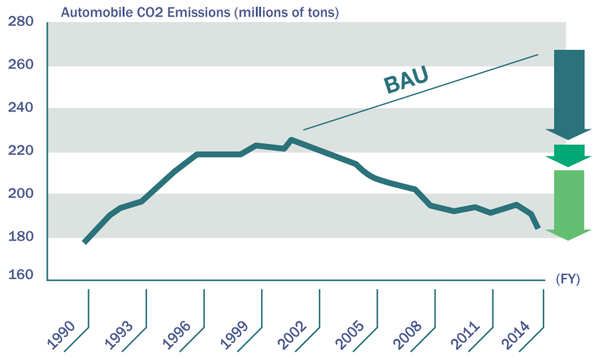



**Contribution to reduction of CO2 emissions**

**Procurement of raw materials, manufacturing, distribution, disposal**

*Source: Prepared based on charts by the Japan Chemical Industry Association*

CO2 emission reduction through cross-industry collaboration




**Improve fuel efficiency of passenger vehicles**

- Improve fuel efficiency such as engine
- Introduce next generation vehicles (HEV, clean diesel, etc.)
- Improve traffic by ITS etc.

**Improve fuel efficiency of freight vehicles**

- Improve fuel efficiency such as engine
- Introduce next generation vehicles (HEV etc.)
- Improve traffic by ITS, Eco-drive etc.

**Improve freight transportation efficiency**

- Outsource shipping
- Promote joint deliveries
- Modal shifts

*Source: Japan Automobile Manufacturers Association, Inc.*

3RD PILLAR

Promoting contribution at the international level

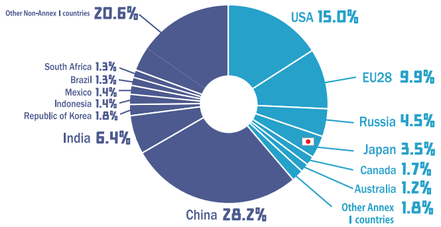
# CONTRIBUTING TO CARBON EMISSIONS REDUCTION OVERSEAS THROUGH LOW CARBON/ENERGY EFFICIENT TECHNOLOGIES

**Industries contribute to global carbon reduction by proactively offering their low carbon/energy efficient technologies and Know-how. They also offer support at international conferences by working cooperatively towards the creation of international standards and sharing the wide variety of global warming countermeasures used in Japan.**

## Importance of emissions reduction on a global scale

Japan accounts for approximately 3.5% of the world's CO2 emissions, while emerging and developing countries (Non-annex I countries) make up 62%, with China being the highest emitter (28.2%).
Since emissions from emerging and developing countries are expected to continue to increase in the future, it is essential to reduce GHG emissions globally.

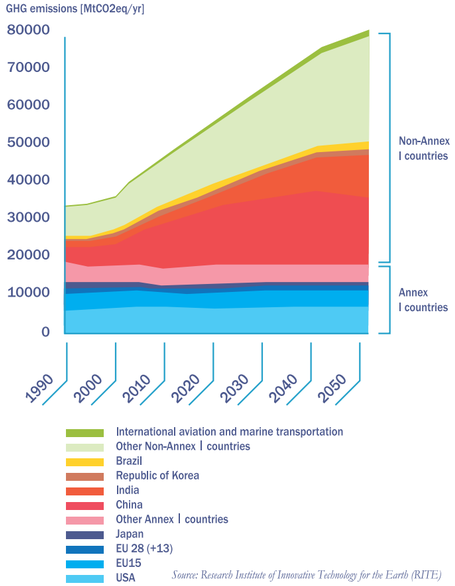
### Share of CO2 Emissions in Energy Source by Country



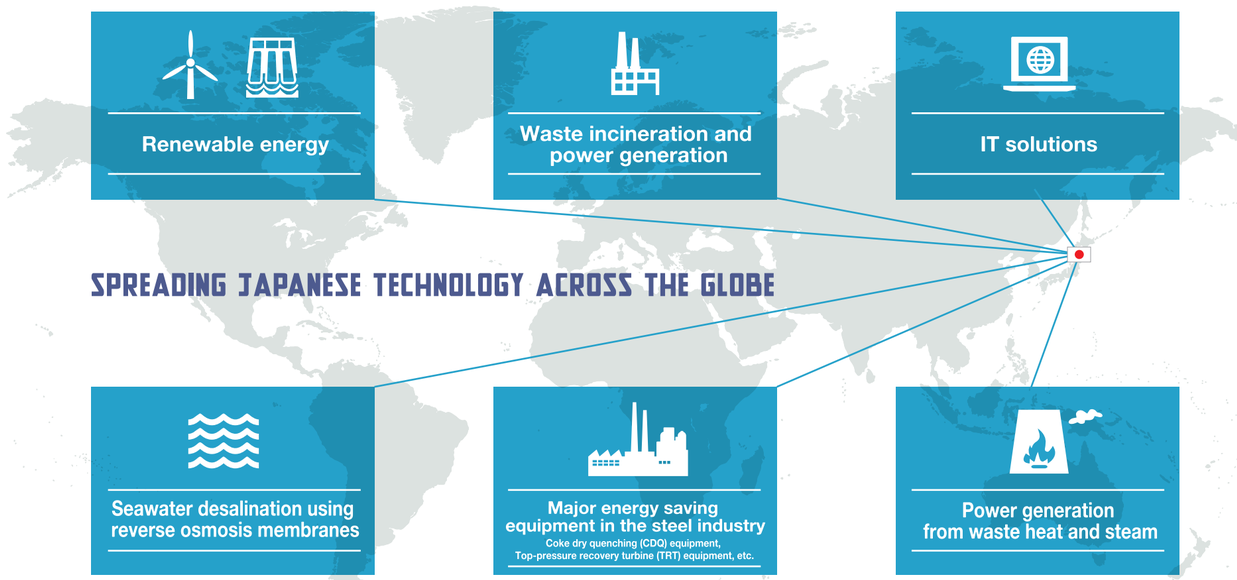

| | |
|---|---|
| ANNEX I COUNTRIES | 38% |
| NON-ANNEX I COUNTRIES | 62% |

*Source: Prepared based on the IEA CO2 Emissions from Fuel Combustion, 2018 Edition*

### Forecast Greenhouse Gas Emissions by Country (2050)




*Source: Research Institute of Innovative Technology for the Earth (RITE)*




*Source: Commitment to a Low-carbon Society 2016 Follow-up Results, Summary*

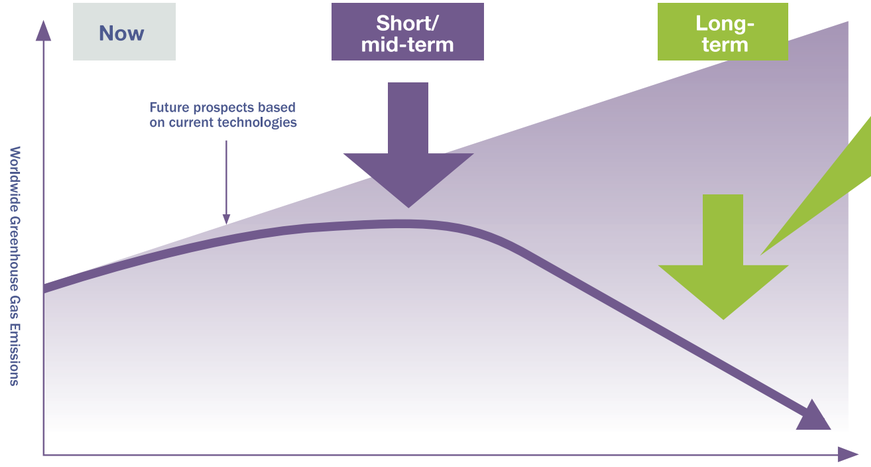
4TH PILLAR

Development of innovative technologies

# PURSUING THE INNOVATION AS THE KEY TO DRASTICALLY REDUCE GLOBAL GHG EMISSIONS IN THE LONG TERM

Industries work towards the development and utilization of innovative technologies through cooperation across industries, government and academia. Collaborations with various sectors will lead to further development and dissemination of innovative services and social systems.

Employing technology for long-term greenhouse gas reduction on a global scale (image)




## Development and Dissemination of Innovative Technologies

In addition to the existing technologies, breakthrough core technologies are essential in efforts to drastically reduce GHG emissions in the long term.

**Dissemination Phase**

**FY2020~**

- Cellulose nanofibers
- Hydrogen stations
- ZEB (Zero-energy buildings)
- ZEH (Zero-energy housing)

**FY2030~**

- Next generation power electronics
- Next generation mobile communication systems (5G)
- Alternative aviation fuel
- Fuel cell railway trains
- Technology for CO2 control and effective utilization
- Innovative production processes
- Next generation solar power
- Next generation batteries
- Superconductor applications

*Source: Commitment to a Low-carbon Society 2017 Follow-up Results, Summary*

3 main points for implementing the Commitment to a Low-carbon Society

# THE COMMITMENT TO A LOW-CARBON SOCIETY IS AN EFFECTIVE, AUTONOMOUS AND CONTINUOUS ACTION BEFITTING THE SPIRIT OF THE PARIS AGREEMENT

## Point 1 Effectiveness

Industries that are in the best position to understand industry outlook and the best available technologies set their own targets and implement their plans in the four pillars. This framework is highly effective and efficient to address challenges to global warming.

## Point 2 Autonomy

Regardless of governmental policy decisions and regulations, industries set and improve their targets with the support of third party reviews. This framework, known as the pledge and review system, is the same method adopted in the Paris Agreement which enables participation across a wide range of entities and countries.

## Point 3 Continuity

PDCA cycle has been playing a key role to the continuous achievements of targets for the last decades. It enables industries to increase their ambition of targets through checking their progress.

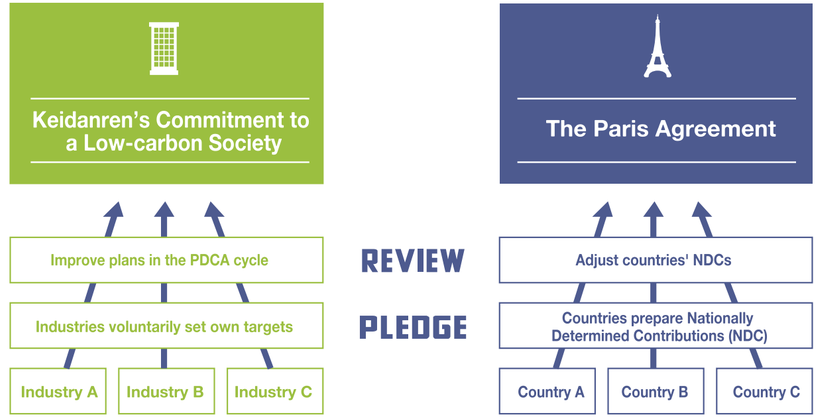
The four pillars

Pledge and review

PDCA cycle

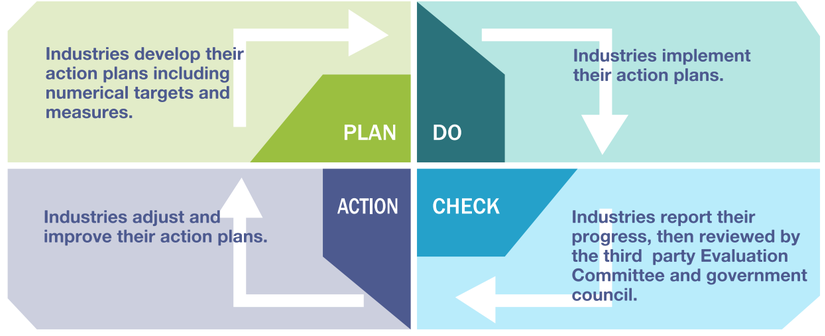
## PLEDGE & REVIEW

A system where the participant promises to engage in global warming countermeasures (pledge) then receives evaluations at regular intervals (review).




## PDCA

The Plan-Do-Check-Action Cycle enables industries to determine, execute review and implement the plan accordingly.



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