

Environmental Cooperation in East Asia: from Japanese experiences

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Outline

- ① Experience and evaluation of Japanese Air Pollution Control Measures
- ② Challenging Climate Change
- ③ Proposals

Evaluation of Japanese Air Pollution Control Measures

Air Pollution in Yokkaichi petrochemical complex

四日市石油化学コンビナートとぜんそく



出典：四日市公害資料館、四日市市環境部

<http://www.city.yokkaichi.mie.jp/kankyo/kogai.htm>

Automobile pollution in Tokyo, Source: White Paper on the Environment, GOJ, 1973

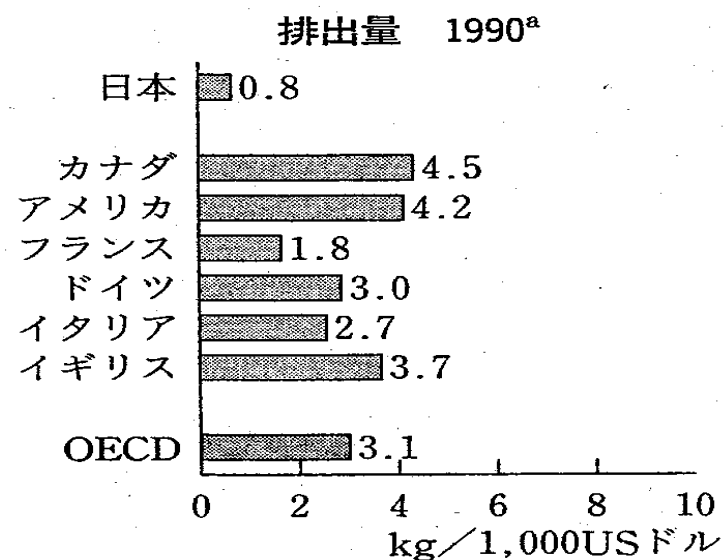
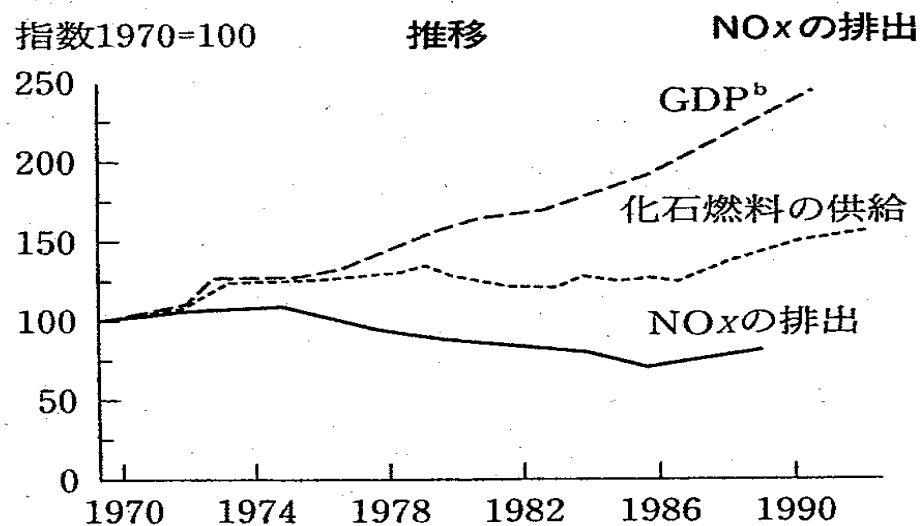
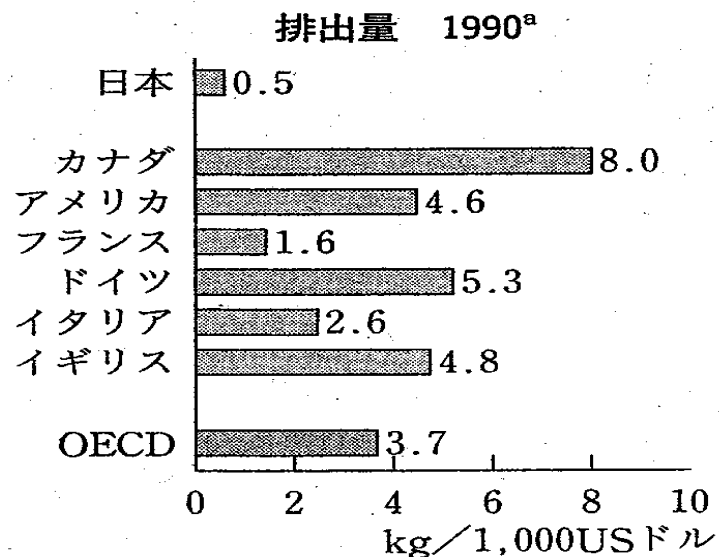
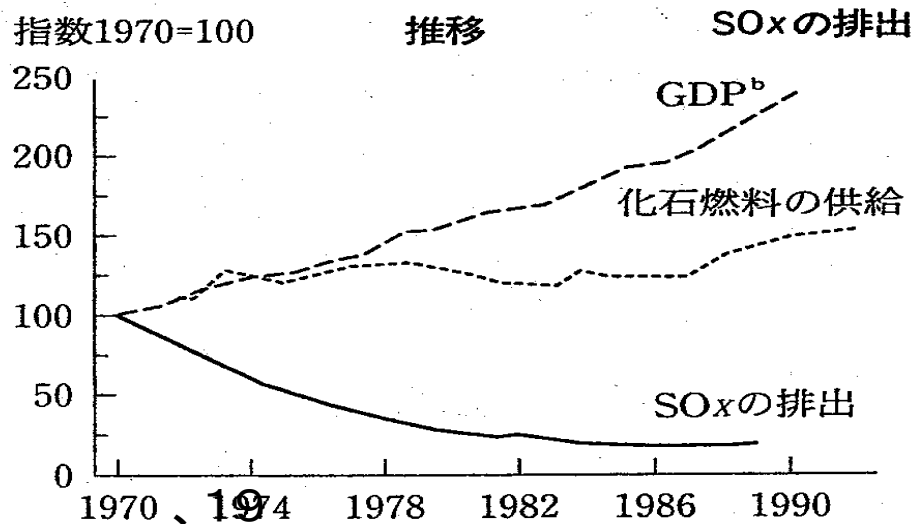


Kitakyushu City: Serious environmental pollution → Modern-day appearance



Source: Kitakyushu City

図 2.1 大気汚染物質の排出状況

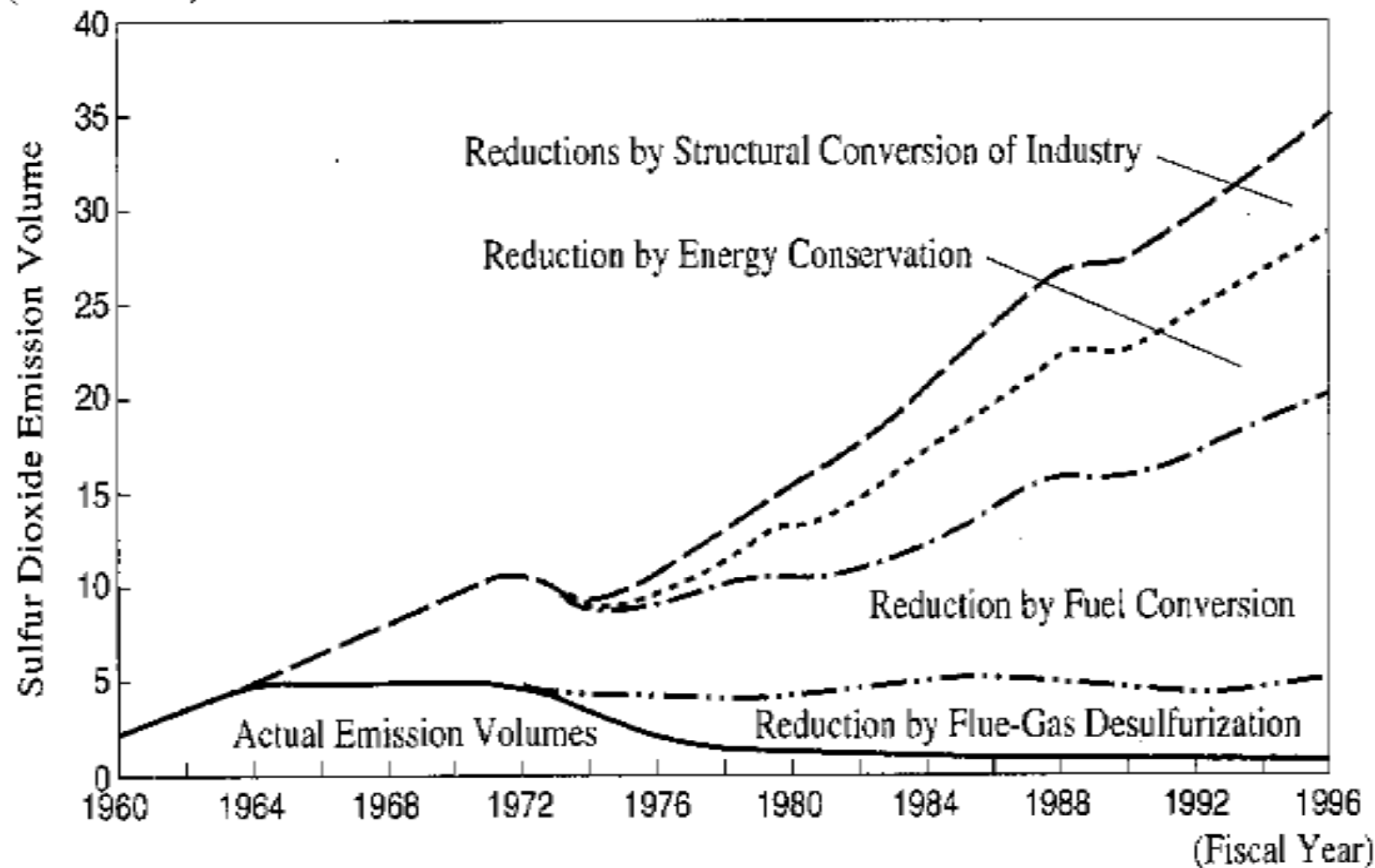


OECD's Environmental Performance Reviews: Japan, 1994

- GDP in Japan has more than doubled in the two decades, whereas emissions of conventional air pollutants have decreased and ambient levels have fallen or remained relatively stable. Over the same period, fossil fuel supply increased by 41%. This represents a decoupling of the level of economic activity from emissions of conventional air pollutants.
- This remarkable achievement was largely accomplished through: i) air pollution abatement and control policies, which prompted the development and use of pollution prevention and control equipment relating to improved combustion technology, fuel quality and exhaust gas treatment; ii) changes in the structure of the national economy, away from heavy and polluting industries (e.g. iron and steel); and iii) changes in the energy supply, with improvements in energy efficiency and some diversification of supply away from fossil fuels

Figure 5-5 Factor Analysis for Sulfur Dioxide Emission Volume Reductions in Japan

(Million tons)



Japanese Pollution Control System and its Policy Package

- ① **Direct control of polluters** based on “Basic Law for Pollution Control (currently, “Basic Law for Environment”)
- ② **Enforcement of PPP (Polluter Pays Principle)** which requires polluters to pay for pollution prevention, environmental restoration, and compensation for pollution victims
- ③ Industries expected regulations and **invested in pollution research and technological development**
- ④ Government provided **fiscal and monetary incentives**
- ⑤ **Law for the compensation of pollution victims**
- ⑥ Responsible public authorities which conducted policy planning and enforcement integrally

Measures tailored to pollution sources

1. **Strengthening regulations step by step** based on air pollution control law
2. Changes in awareness of companies after experiencing severe pollution cases, law suits and compensation schemes → **polluting companies can no longer survive**
3. Air pollution control measures actually contributed to **better plant management, energy savings, and competitiveness**
4. Stringent automobile exhaust gas control contributed to the **int'l competitiveness** of Japanese auto makers
5. For **SMEs and households**, efforts were made by central and local governments to provide low interest rate loans, land planning, fuel switching, regional heating and cooling
6. Proactive measures by **local governments** through tighter/wider regulations, pollution agreements, and monitoring networks

Challenging Climate Change

2 ton/capita society

G7 Summit 2015 in Schloss Elmau, Germany, June 2015

“we support sharing with all parties to the UNFCCC the upper end of the latest IPCC recommendation of 40 to 70 % reductions by 2050 compared to 2010”

2010 GHG		2050
43.9 bton	⇒	13.2 ~ 19.8 bton
		(55 ~ 70% reduction)

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⇒ 1.4 ~ 2.1 ton/capita

World population

6.9 b	⇒	9.6 b
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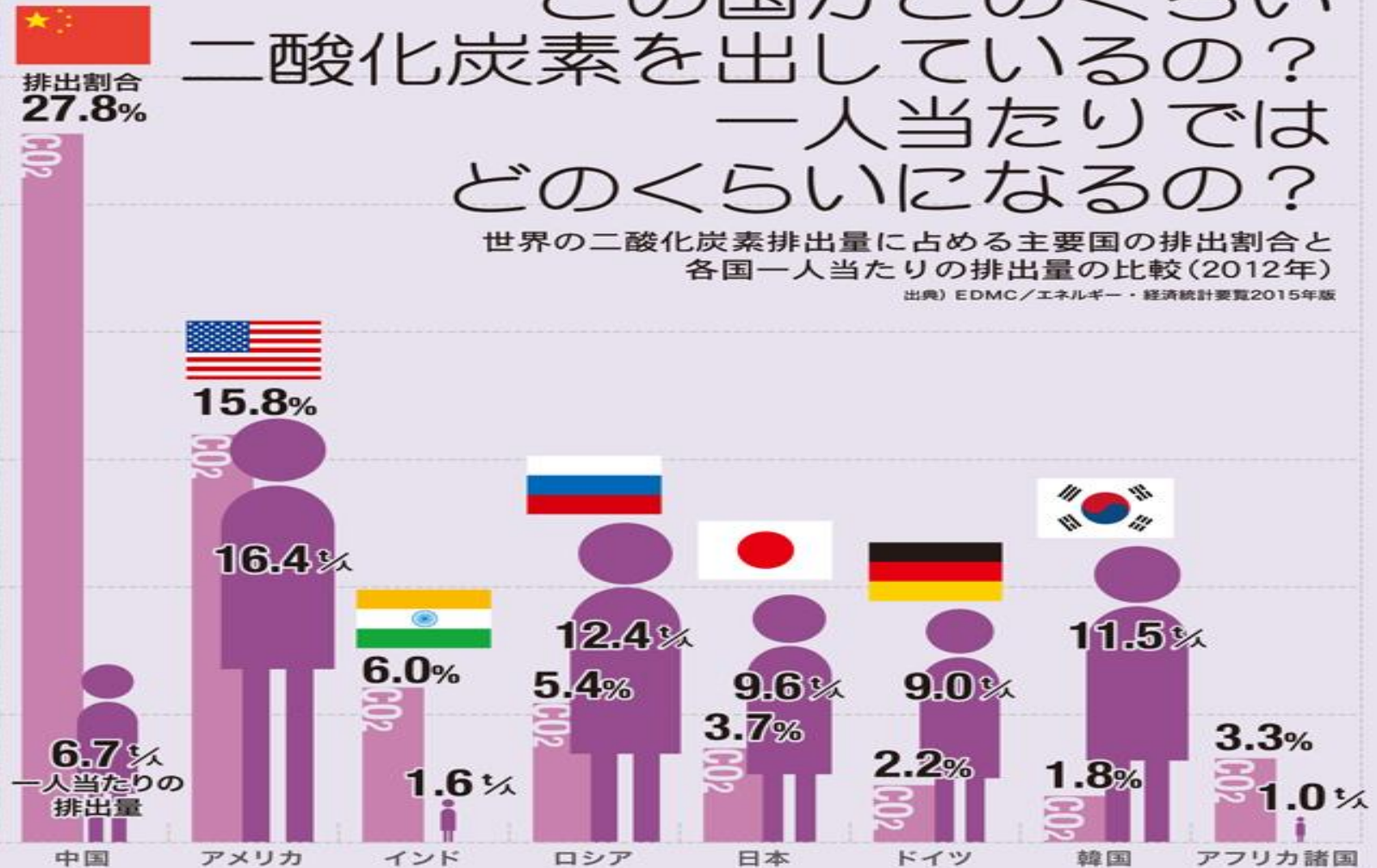
Source: IEA & UN

How much GHGs are emitted by each country and by per capita (2012)

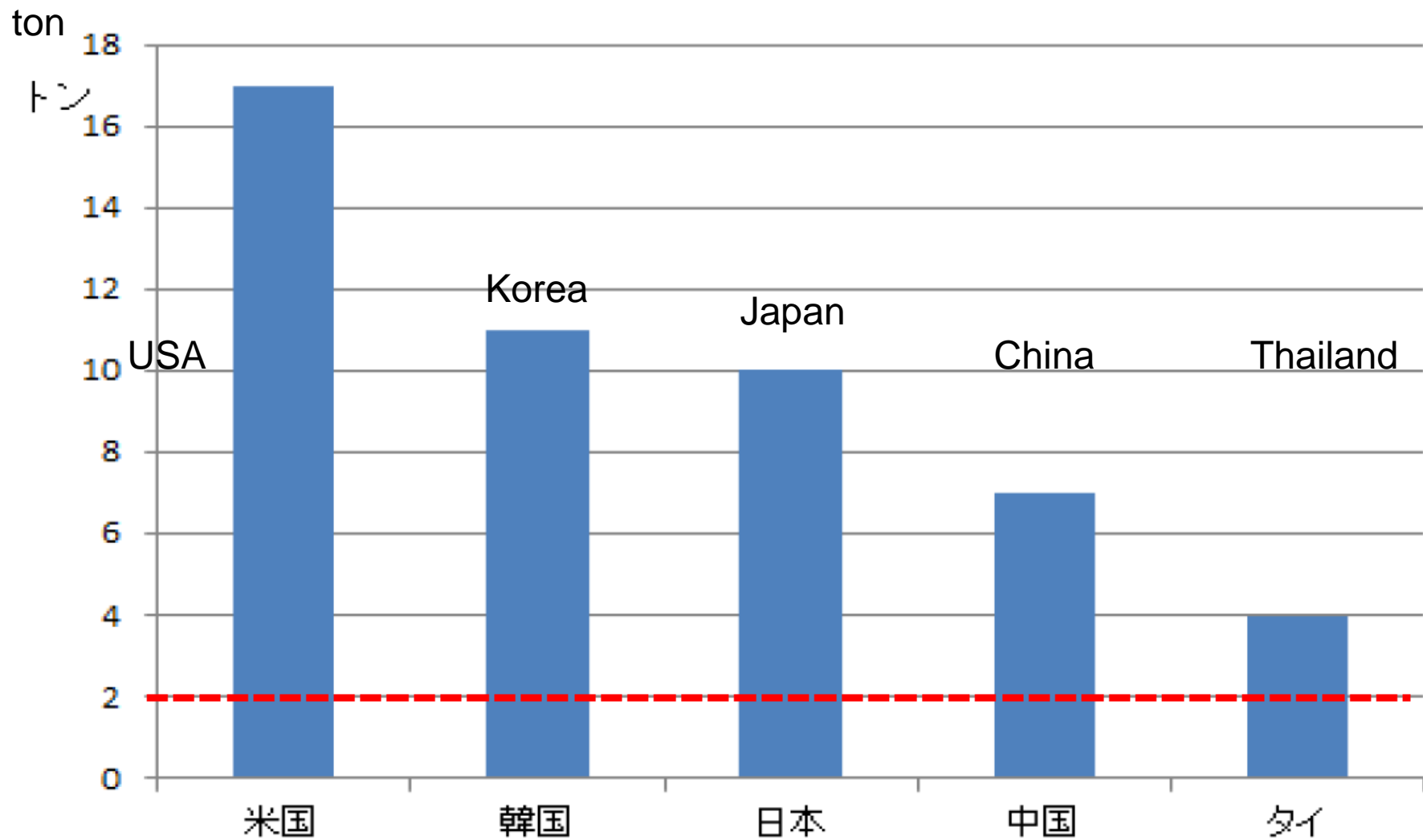
どの国がどのくらい
二酸化炭素を出しているの？
一人当たりでは
どのくらいになるの？

世界の二酸化炭素排出量に占める主要国の排出割合と
各国一人当たりの排出量の比較(2012年)

出典) EDMC/エネルギー・経済統計要覧2015年版



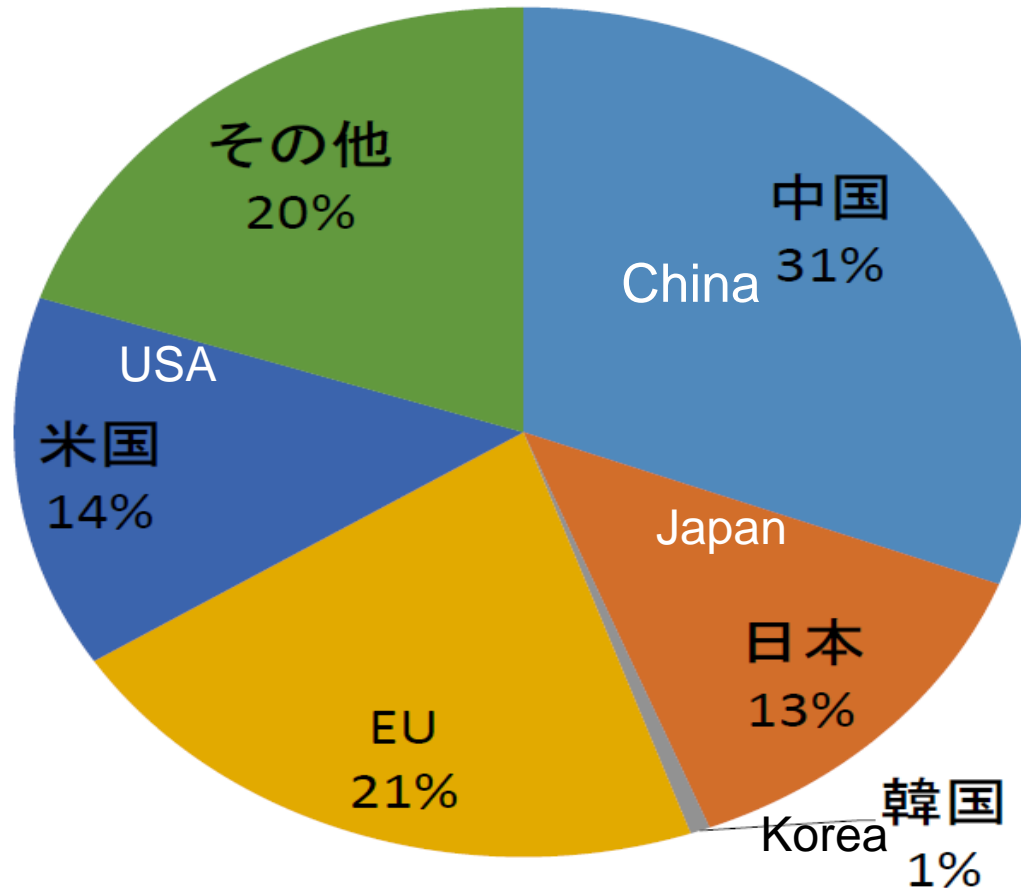
Per Capita CO2 Emissions 一人当たりのCO₂排出量 [2010]



New Investment for Renewable Energy

270.2USB\$(2014)

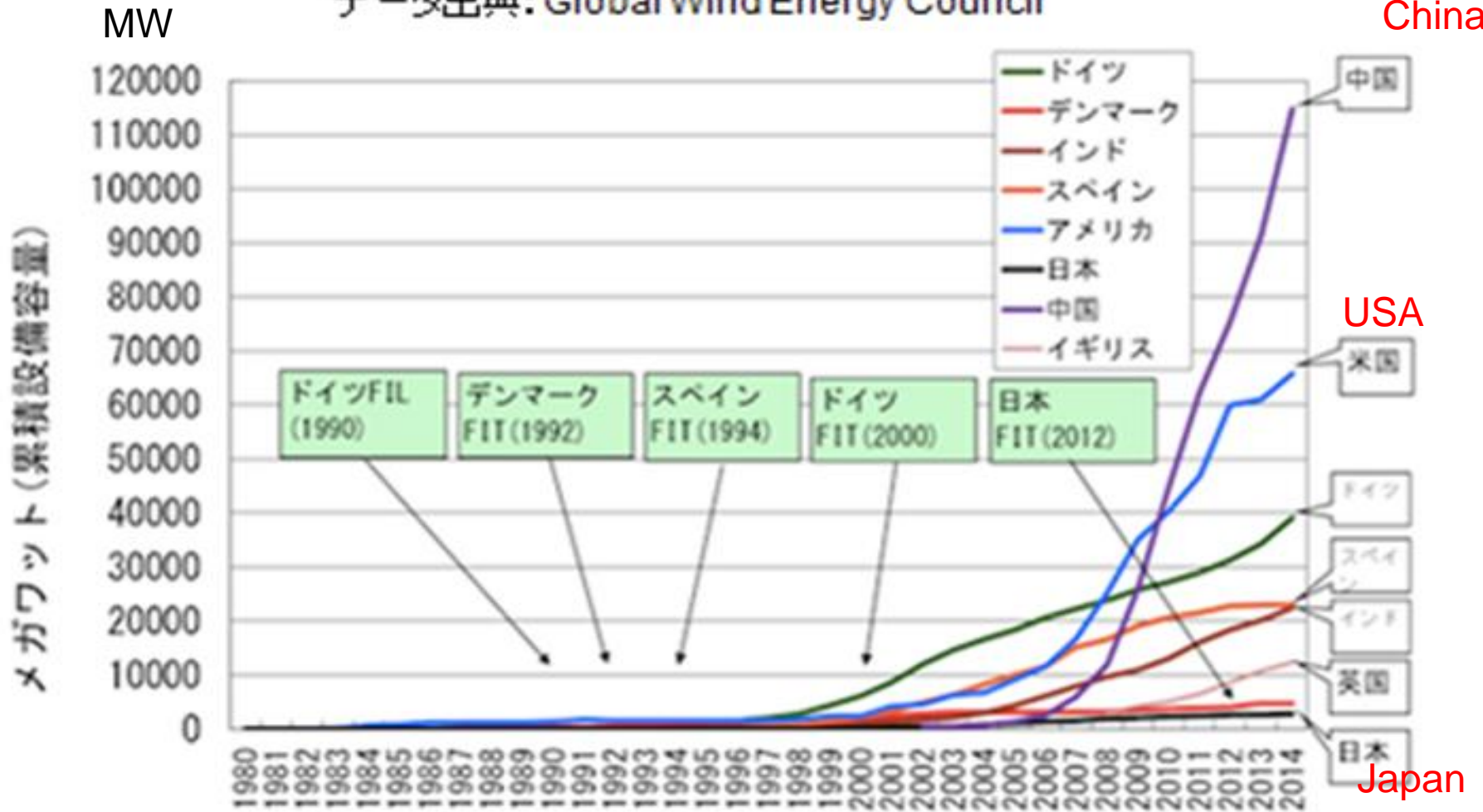
再生可能エネルギーへの新規投資 2014年
(総額2702億ドル)



出典: UNEP (2015) Global Trends in Renewable Energy Investment 2015

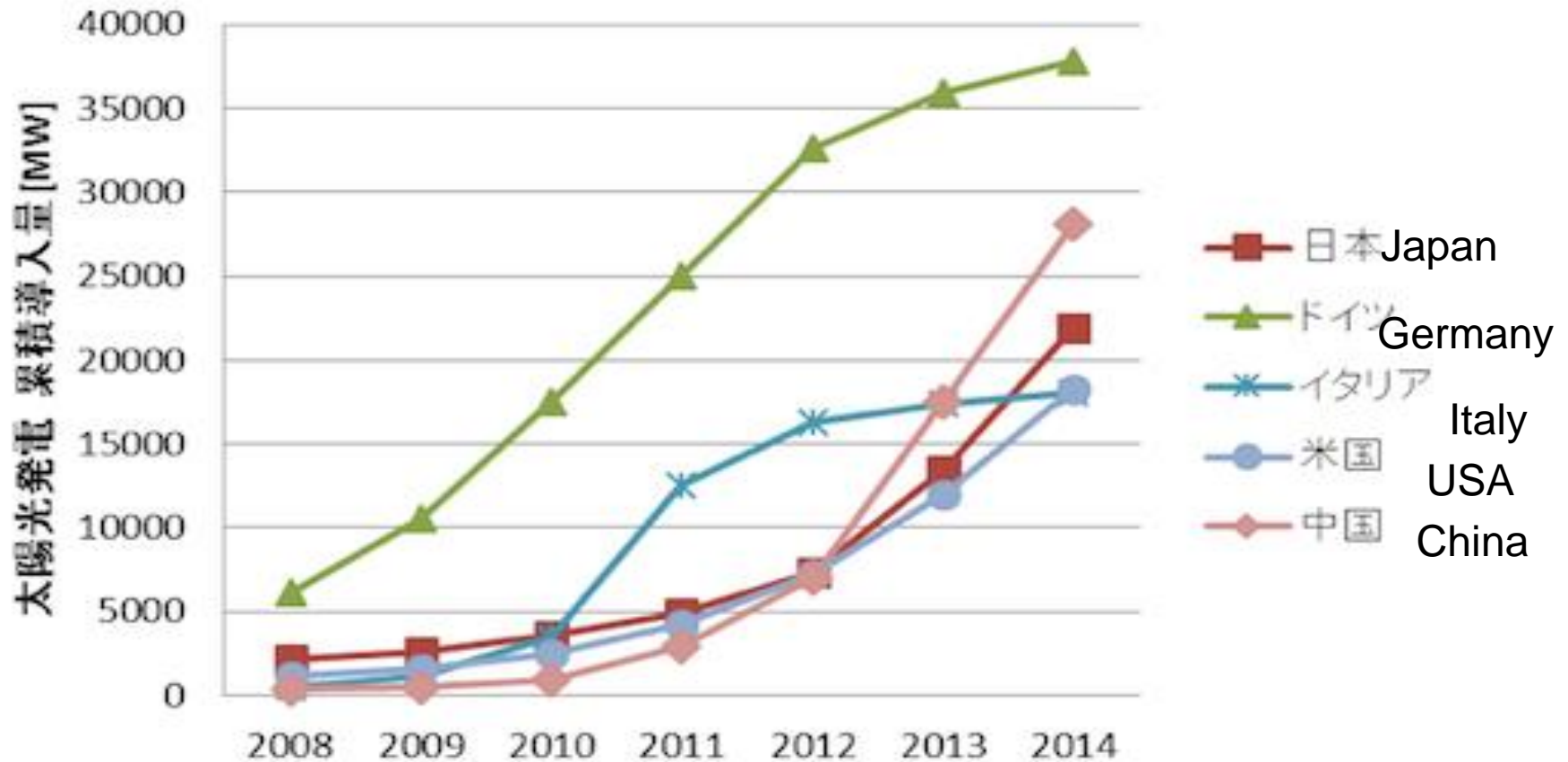
Accumulated capacity of wind power generation

世界各国の風力発電の累積導入量の推移＝
データ出典: Global Wind Energy Council



Accumulated capacity of photovoltaic generation by country

source: European Photovoltaic Industry Association, PV-Magazine



Share of PV production by region

- 日本 Japan
- 米国 USA
- 欧州 Europe
- 中国/台湾 China/Taiwan
- その他 others

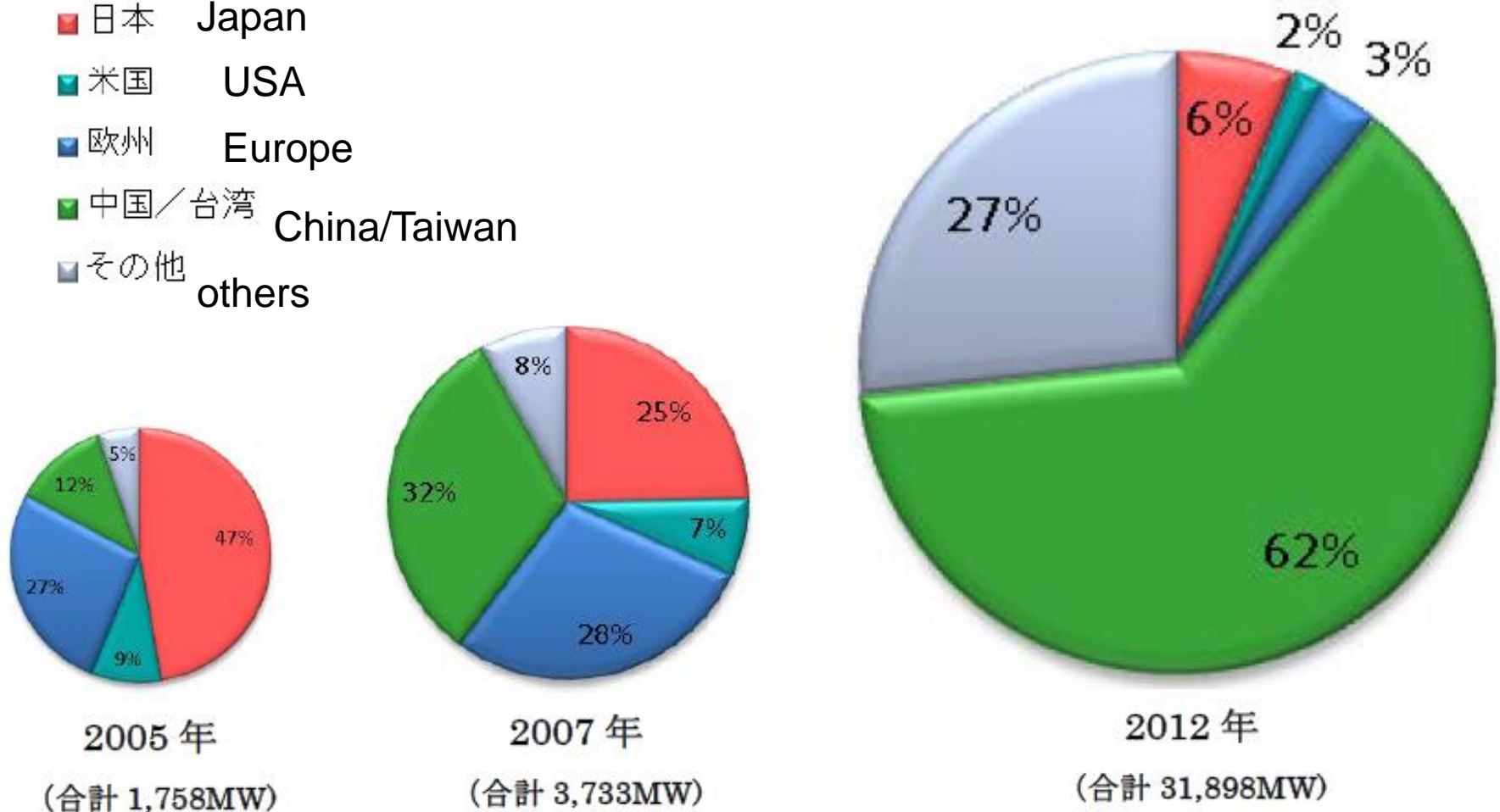


図 2-3 太陽電池セル生産量地域別シェアの推移

出典： PV News Volume 25, Number 4, April 2006、Volume 29, Number 5, May 2010、
Volume 30, Number 5, May 2011 をもとに NEDO 作成

Proposals

1. Strengthen and harmonize/ coordinate domestic air pollution standards and regulations, and strengthen implementation of existing ones.
2. Competitiveness concerns are not well founded. Well designed air pollution measures contribute to better environment and health, innovation, and competitiveness.
3. Promote a co-benefits approach such as GHGs reduction.
4. Strengthen capacity building and promote technical cooperation in air pollution measures and monitoring.
5. Strengthen regional cooperation framework for air pollution, including EANET and TEMM(Tripartite Environment Ministers Meeting among China, Japan, and the Republic of Korea).
6. Conduct sustainability impact assessment of international negotiations on regional economic integration.
7. Facilitate trade in goods and services with high sustainability performance, for example by introducing preferential tariffs for environmental goods and services(EGS).

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