

Towards Zero Carbon Society in East Asia: Paris Agreement & its implications

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- **Paris Agreement**
- **Sustainable Development Goals (SDGs)**

⇒ 2015 was a landmark year

The Paris Agreement

Nations Unies

Conférence sur les Changements Climatiques 2015

COP21/CMP11

Paris France



Bildquelle: <https://www.wmo.int/media/>

Limiting global warming “**well below**”
2 degrees Celsius

Net-zero emissions
of greenhouse gases by
mid-21st century

National emission targets
regularly reviewed and
tightened

Developed
countries provide
100 billion USD
per year between
2020-2025

Sustainable Development Goals(SDGs)

Adopted as a core part of 2030 Development Agenda at UN/GA(2015.9.25)

Leave no one behind.



The Paris Agreement set Huge Ambition

- **Global goal of keeping warming between 2° and 1.5° C (Art. 2)**
- **Global peaking “as soon as possible” (Art. 4.1)**
- **Achieve balance of emissions and sinks by second half of century (Art. 4.1)**
 - **Excludes solar radiation management**
- **Global stocktake on progress towards these goals every 5 years from 2023 (Art. 14.1 and 2)**

Implications of Paris Agreement

- **Massive transformation** by 2050 –
- Advanced nations reduce 80 – 90 %, emerging economies reduce growth significantly
- **Net zero goal** (sources = sinks) by 2nd half of century
- Action largely reflected in Nationally Determined Contributions (NDCs)
- Current targets closer to 3°C than 2°C
⇒ expect targets to strengthen over time
- Need to both **scale-up investment** in infrastructure **and shift it to low-carbon**
- Enables business to be a partner – agent for change

17 SDGs



1. End **poverty** in all its forms everywhere.
2. End **hunger**, achieve **food security** and improved nutrition, and promote sustainable agriculture.
3. Ensure **healthy lives** and promote well-being for all ages.
4. Ensure inclusive and equitable **quality education** and promote life-long learning opportunities for all.
5. Achieve **gender equality** and empower all women and girls.
6. Ensure availability and sustainable management of **water and sanitation** for all.
7. Ensure access to affordable, reliable, sustainable and modern **energy** for all.
8. Promote sustained, inclusive and sustainable **economic growth**, full and productive **employment** and decent work for all.
9. Build resilient **infrastructure**, promote inclusive and sustainable **industrialization** and foster **innovation**.
10. Reduce **inequality** within and among countries.
11. Make **cities** and human settlements inclusive, safe, resilient and sustainable.
12. Ensure **sustainable consumption and production** patterns.
13. Take urgent action to combat **climate change** and its impacts.
14. Conserve and sustainably use the **oceans**, seas, and marine resources for sustainable development.
15. Protect, restore and promote sustainable use of **terrestrial ecosystems**, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
16. Promote **peaceful and inclusive societies** for sustainable development, provide access to **justice for all** and build effective, accountable and inclusive **institutions** at all levels.
17. Strengthen the **means of implementation** and revitalize the **global partnership** for sustainable development

From MDGs to SDGs



MDGs 2000-2015

- 8 “half-way” goals
- Aid focused – from rich to poor countries
- Created through a top-down process
- Addressing symptoms of poverty...
- Narrow and incomplete

SDGs 2015-2030

- 17 interconnected “zero-based” goals
- Universal goals for all countries
- An inclusive participatory processes
- ...plus issues of peace, stability, human rights and good governance
- More comprehensive and multi-faceted

What do SDGs & Paris Agreement signify?

- Zero poverty/hunger by 2030
 - Net zero GHG emissions by the latter half of the 21st century
- ⇒ How do we attain these goals in a mutually reinforcing and equitable way?

Robust Climate Policies

+

Integration with other policies

(Financial, Development,
Industrial, Technological)

Stable and predictable climate policies are important

- A strong **price on carbon**, so that low carbon investments are competitive
 - Strong **regulatory support** in areas where price signals are not efficient, e.g. energy efficiency.
 - **Targeted support for the uptake of low- carbon technologies**
- ...but climate policies alone are not sufficient to achieve the low-carbon transition

Investment & Finance: Need for both **scaling-up and shifting investment**

- Paris Agreement: (Art 2.c) “Making **finance flows consistent with** a pathway towards **low greenhouse gas emissions and climate-resilient development**”
1. Scale-up: \$53 trillion needed by 2035 in RE and EE (IEA)
 2. Shift : Two-third of global investment in energy supply still goes to fossil fuels.

Role of private investment to realize Paris Agreement

Strengthen investment consistent with sustainable development

- **Reflect investment risk** arising from climate policy
 - **stranded asset**
 - introduction of climate risk premium
- Meeting climate change risk such as climate disasters
 - additional investment for de-carbonization options
- Strengthen investment for **mitigation & adaptation in developing countries** ⇒ need to make these investment more attractive
 - Direct investment
 - Contribution to climate fund mechanism such as GCF

IPCC Chair Hoesung Lee

- **Carbon pricing** stimulate technological innovation, low-carbon technologies will gain market competitiveness, which will result in **economic development**.
- The **6th assessment report of IPCC** will present research results which demonstrate CO2 reduction activities would open up **new economic opportunities** rather than economic burdens.

(Source: Interview by Joseon Ilbo(朝鮮日報) dated 21/12/2015, provided by Prof. Soochaeol Lee of Meijo Univ.)

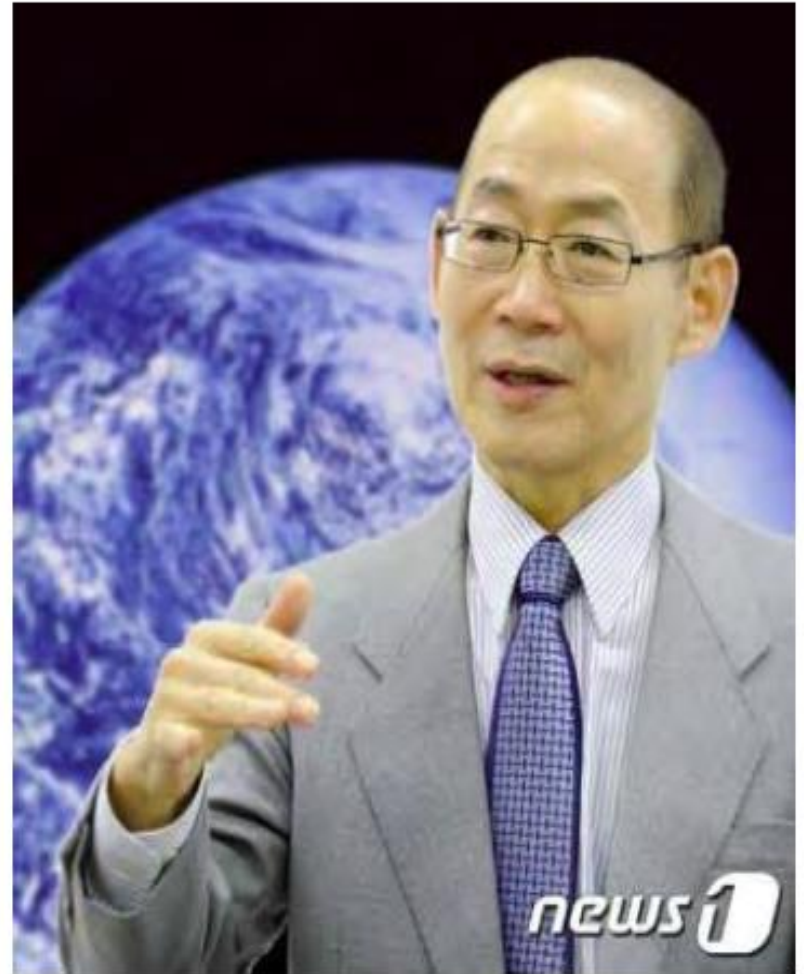
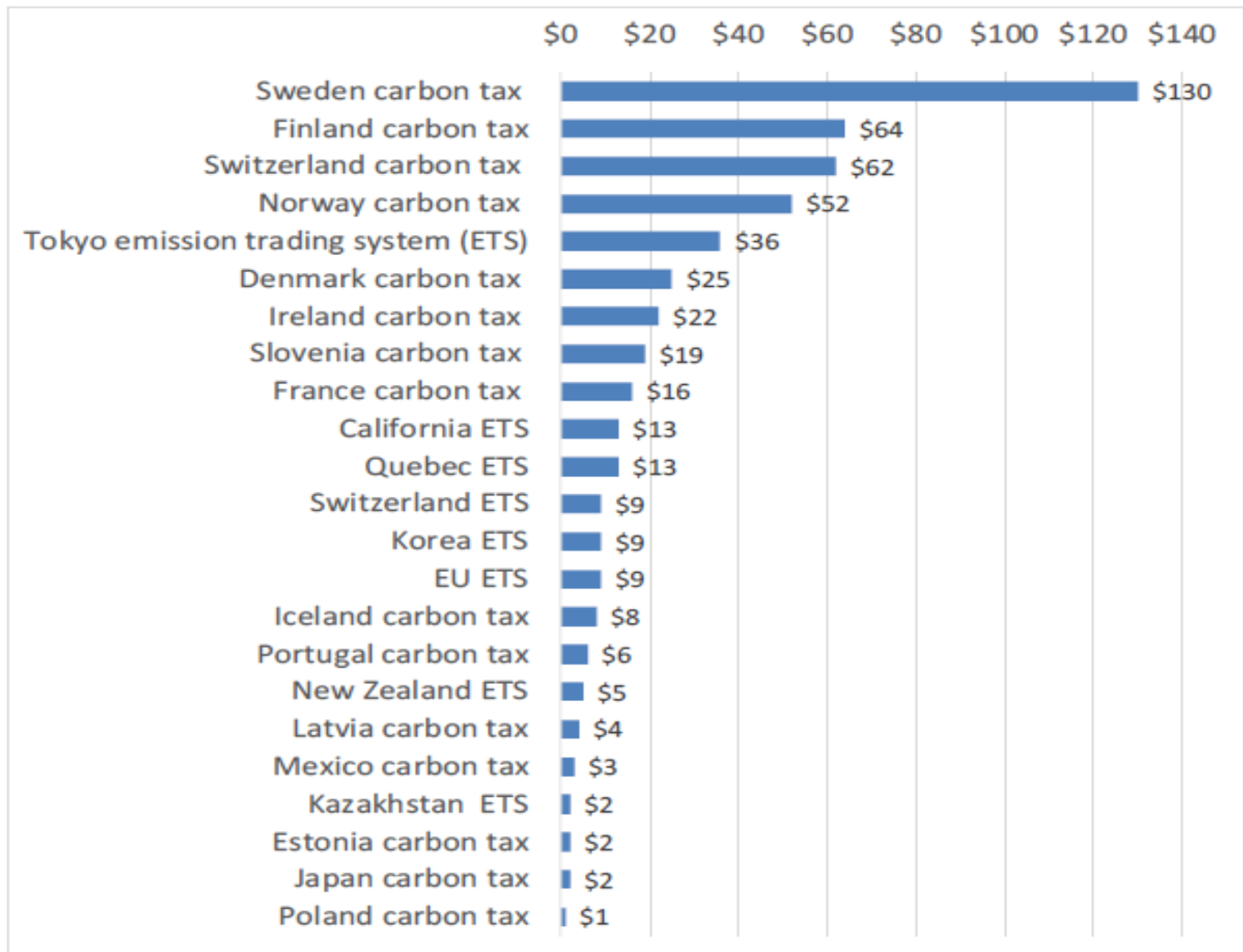
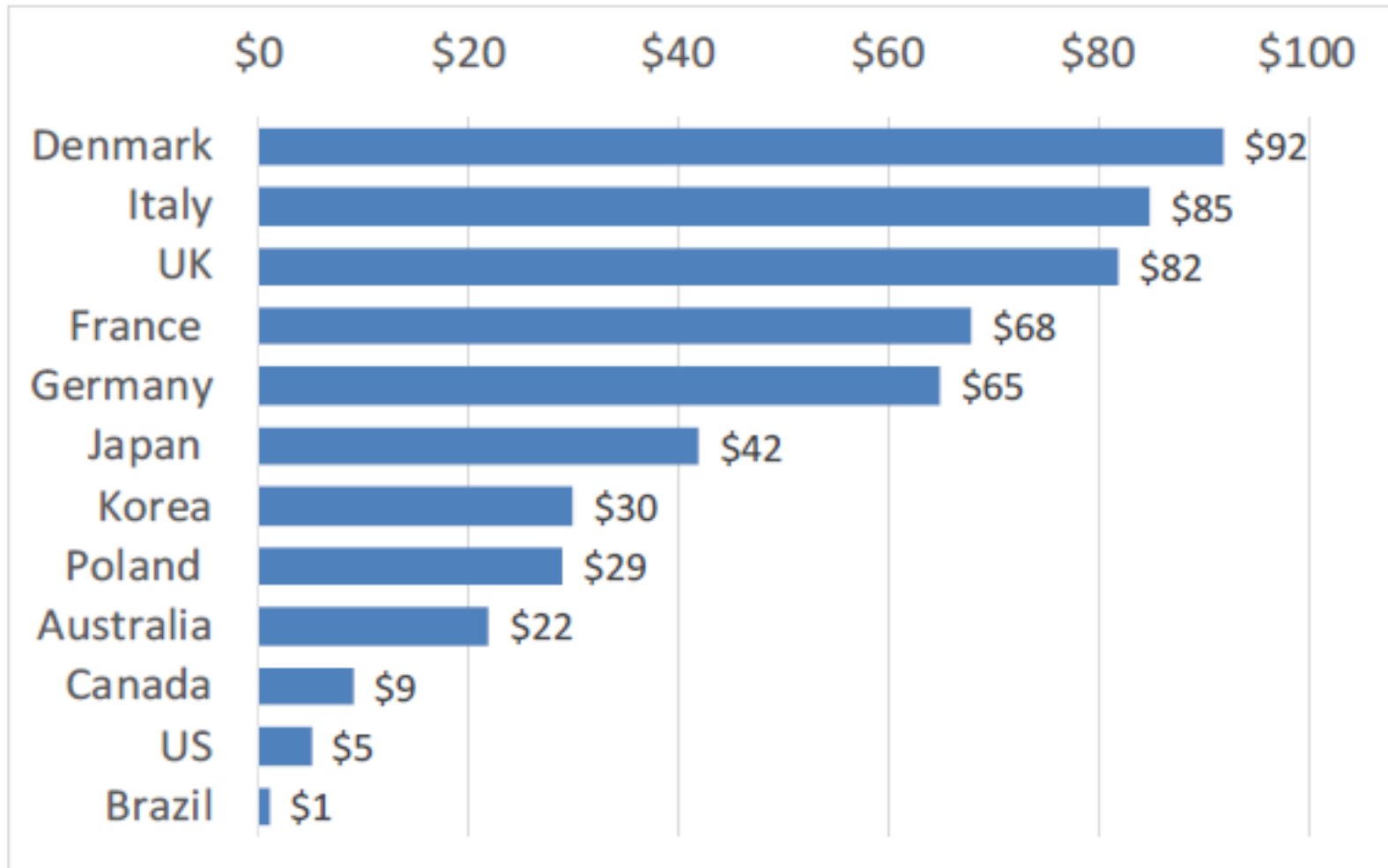


Figure 1: Prices of existing carbon pricing schemes (USD/t-CO₂)

Carbon pricing: a key instrument to facilitate
low carbon transition (Satoshi Kojima, Kenji Asakawa IGES)

Figure 2: Effective Carbon Prices (USD/t-CO₂)

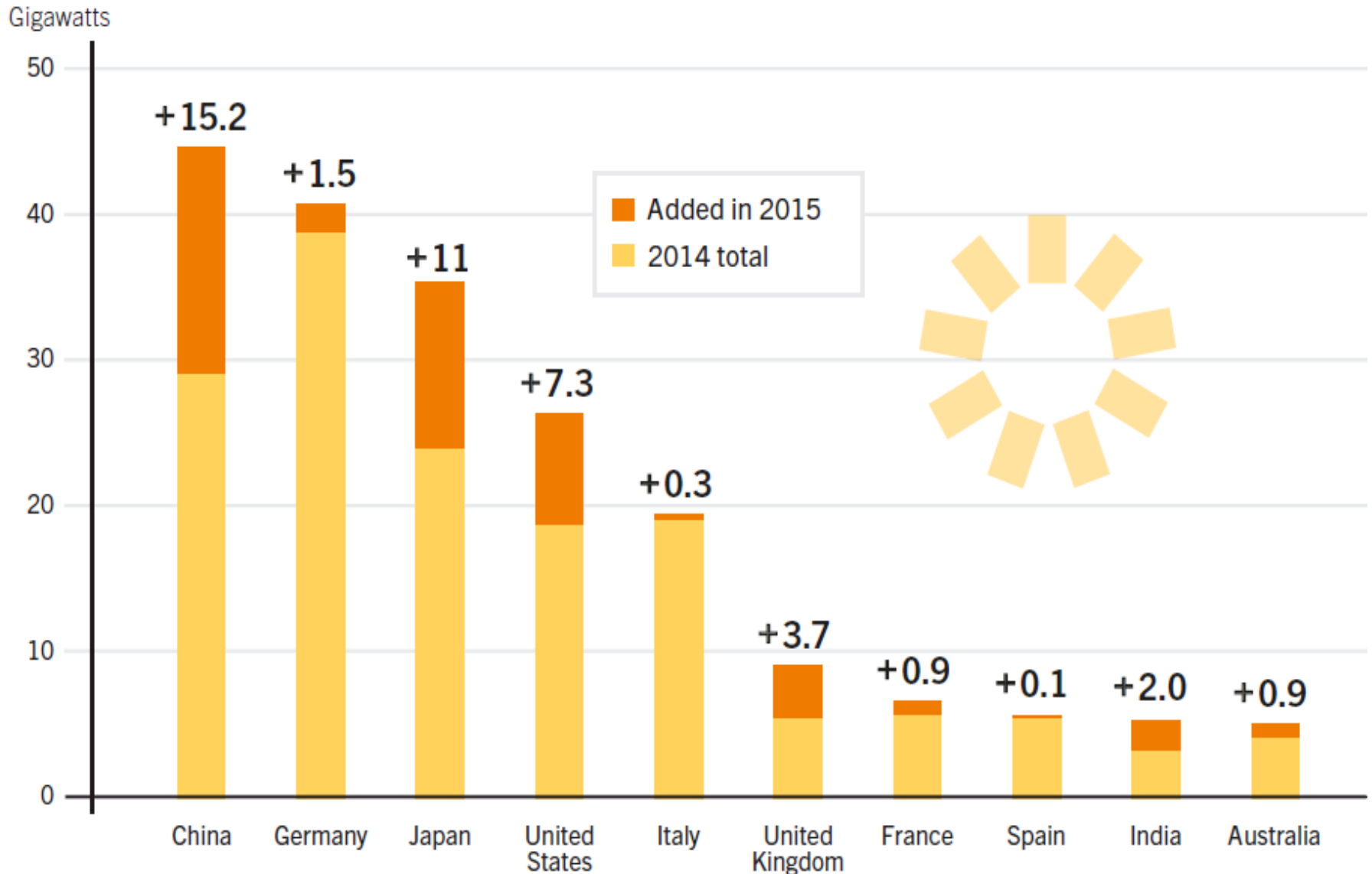


Source: OECD Data compiled by Alter (2015) Reframing the Response to Climate Change

**Climate mitigation and adaptation
measures are engines for new
development**

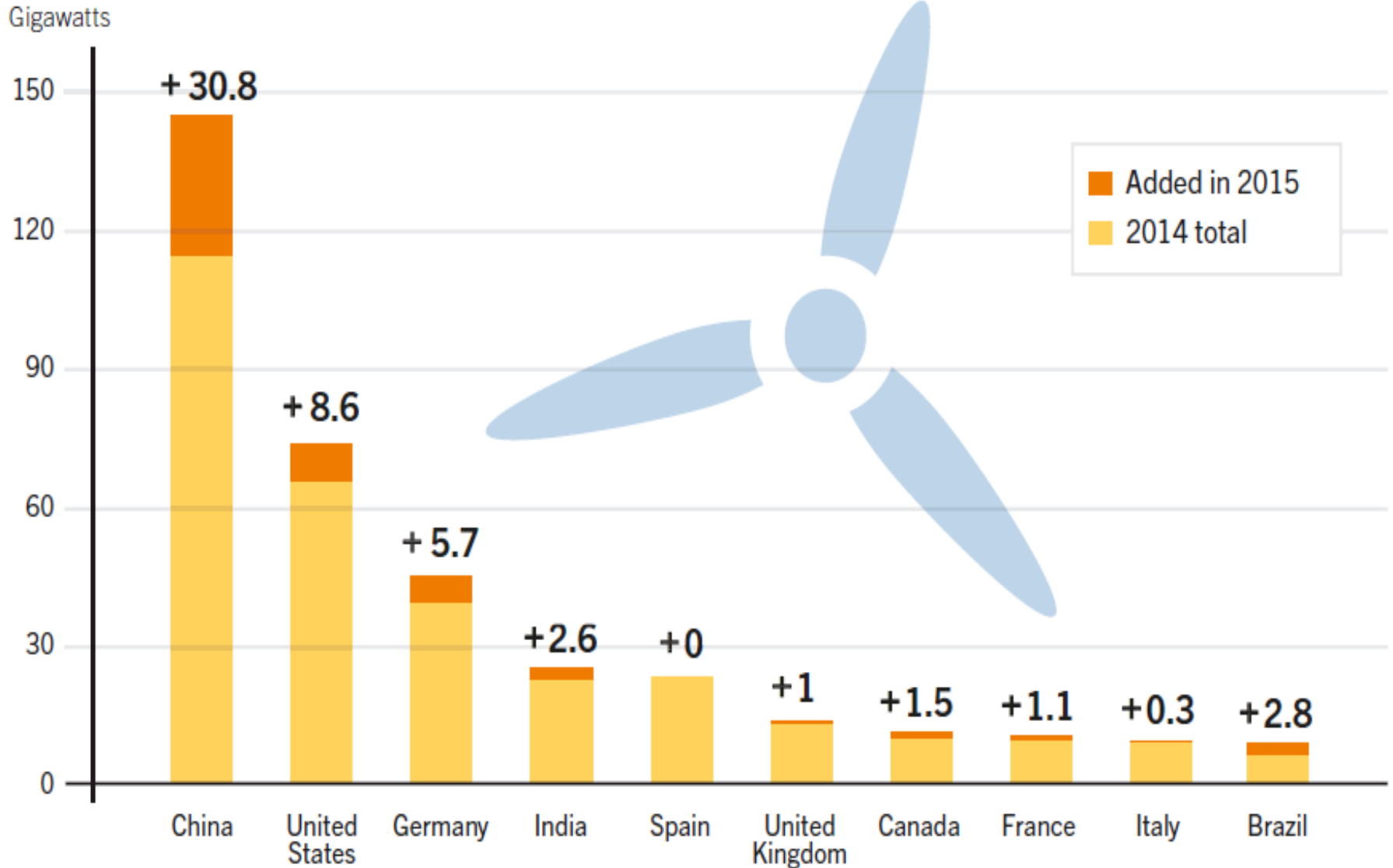
Solar PV Capacity and Additions, Top 10 Countries, 2015

Source: Renewables 2016 Global Status Report



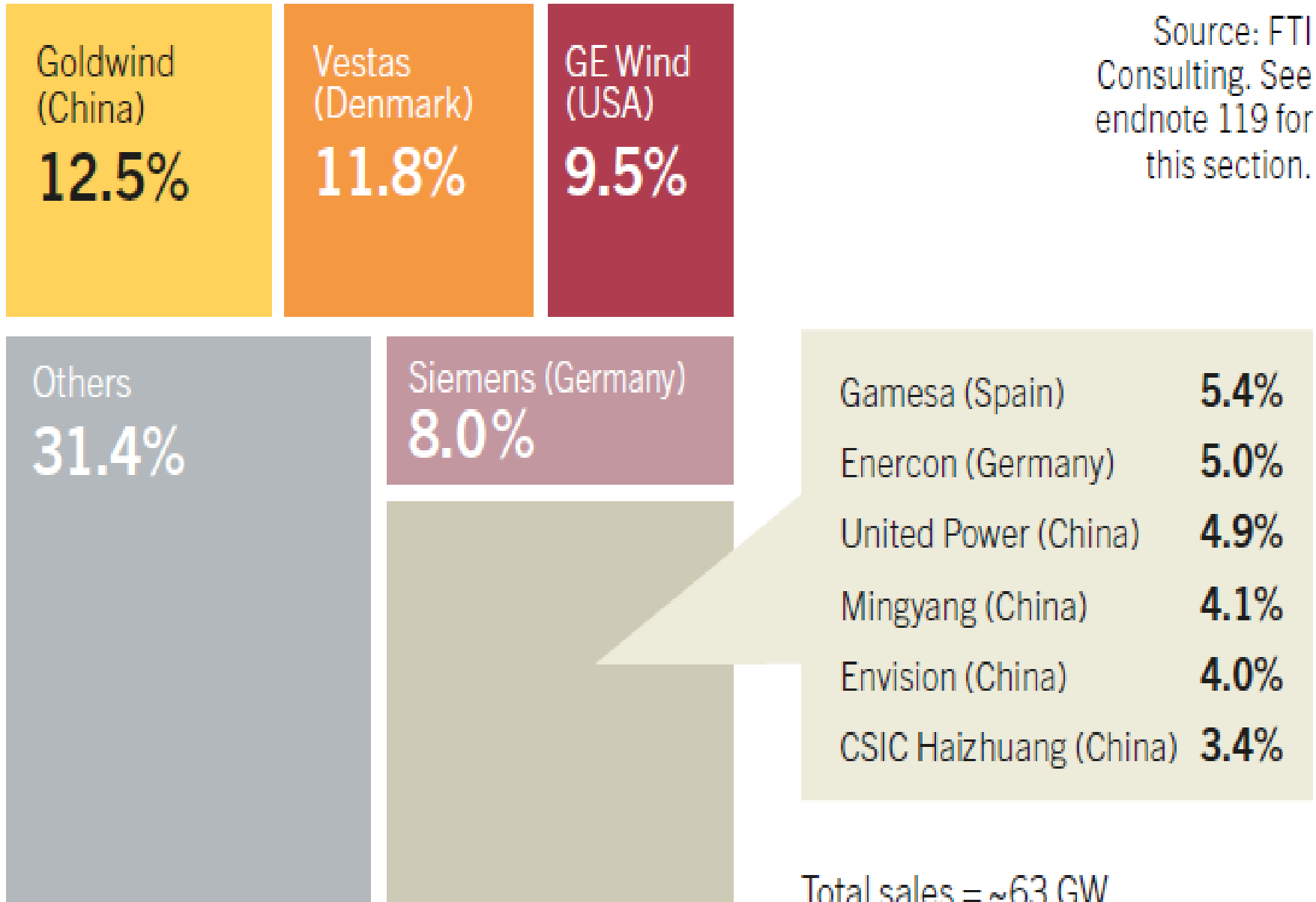
Wind Power Capacity and Additions, Top 10 Countries, 2015

Source: Renewables 2016 Global Status Report



Market Shares of Top 10 Wind Turbine Manufacturers, 2015

Source: Renewables 2016 Global Status Report



Source: FTI Consulting. See endnote 119 for this section.

East Asia Low-Carbon Community

- shaping a sustainable and dynamic East Asia regional society that features harmonization of economies, environment and communities, in addition to global warming countermeasures.
- innovative **low-carbon technology** and transfer of existing technology,
- **low-carbon-oriented economic and industrial systems** as well as reformation of material and product life cycles,
- **Co-benefit effects** of CO2 countermeasures
- **international cooperation** for energy and materials cycles,
- **feasibility study** of low carbon society through pilot/model projects.

東アジア低炭素成長パートナーシップ構想のイメージ

東アジア首脳会議(EAS)・東アジア関係閣僚会議

報告

東アジア低炭素成長パートナーシップ対話

低炭素成長の重要性を
高い政治レベルで確認

域内各国の
知見・経験を共有

低炭素成長の
「ASIAN・モデル」を構築

第1の柱

低炭素成長戦略策定・実施
のための協力

途上国の低炭素成長戦略策定や
インフラ整備、キャピタル等を支援

第2の柱

市場・技術の活用

東アジア地域において効率的な排
出削減・技術移転を促進するた
めの柔軟かつ実効的な新たな
市場メカニズムを構築

第3の柱

ネットワーク構築

・域内の研究機関間のネットワークを更
に充実させ、研究内容を政策担当
者・実施機関にインプット
・域内の政府・地方自治体・研究機
関・民間の知見を共有

資金

技術

人材育成

東アジア地域における低炭素成長を実現

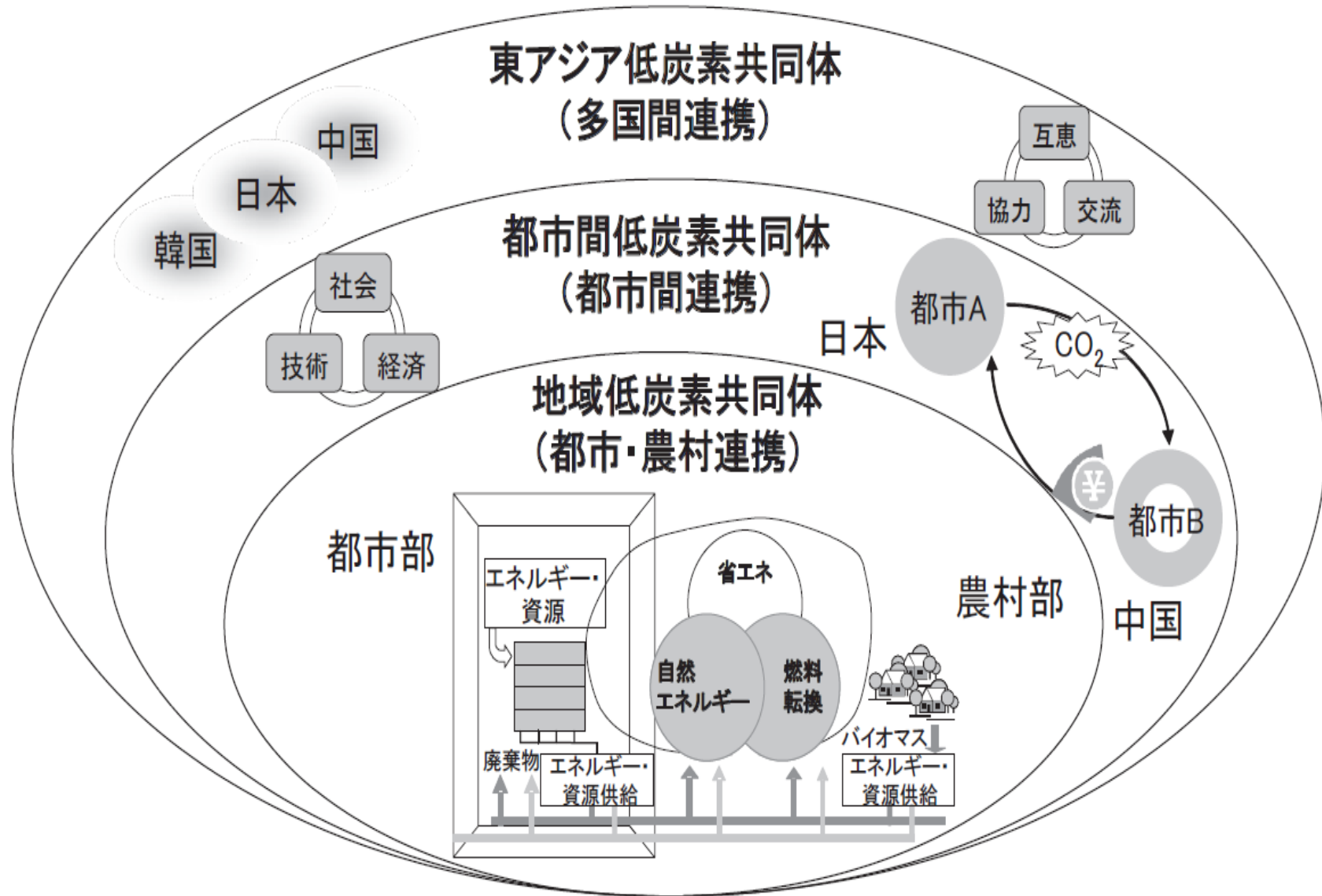


図 11 多重広域低炭素社会—東アジア低炭素共同体の構想図

Importance of Co-benefits

Ministry of the Environment
Government of Japan



- Various co-benefits can be generated from Low Carbon Development
- Asian countries face many problems
 - Air pollution, Water pollution and Waste
 - Flooding (future risks due to CC)
 - Super-aging, poverty eradication
- Quantification of co-benefits is challenge
 - Transport co-benefits
 - ✓ Carbon emissions, air pollution, safety
- Link of Low Carbon to Adaptation
 - Asia Pacific Adaptation Network



Concluding remarks

- **Paris Agreement**: demonstrated the need for zero carbon society, implies massive economic & social transformation.
- **Enabling policies for low-carbon investment** – including a robust and credible carbon price, fossil fuel subsidy reform, well-designed renewable energy incentive policies and clear, long-term climate policy goals – are essential.
- Robust climate policies are necessary but not sufficient to achieve low carbon transition – **policy integration** is crucial, notably for mobilizing investment, taking into account **of co-benefits, alliance with SDG finance**.
- **Roles of private investment** is crucial to meet investment demand to attain Paris Agreement & SDGs.
- There are moves to reflect climate risk in private investment as well as introduction of carbon pricing, resulting in **divestment from fossil fuels and record increase of investment in RE**.
- **Make climate change counter measures** in response to Paris Agreement **new economic development opportunities**.
- A proposal for an East Asia Low-Carbon Community.