

ISAP2012

24-25 July 2012, Yokohama,

A Low Carbon Development of Asia and MRV

アジア低炭素成長 とMRV



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ESCAP

Low Carbon Development

低炭素成長

- Many misperceptions to be cleared.
- Sacrificing **economic growth/poverty** for climate change? No, Harnessing climate action to drive **economic growth** necessary to reduce **poverty**
- Why only for DCs? No, LC is for all countries
- Just a matter of **money and technology**?
No, Money & Technology necessary but not sufficient. **Enabling policy framework is more critical.** Carbon Pricing, Regulation, Political leadership,
- Mainstreaming climate action into the national development planning process.



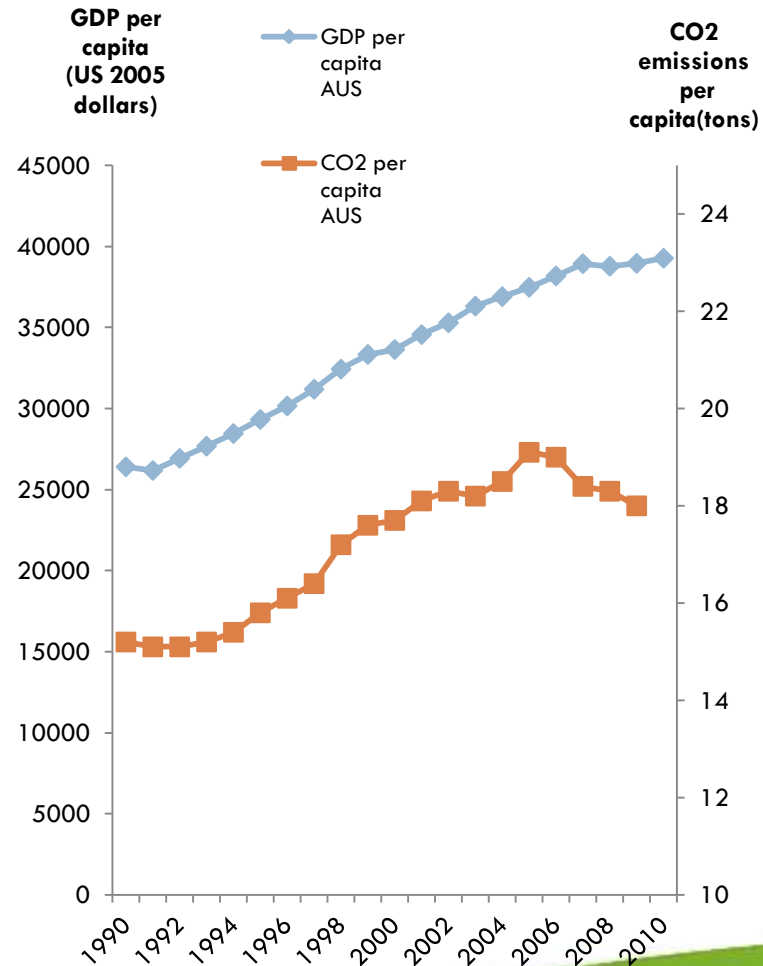
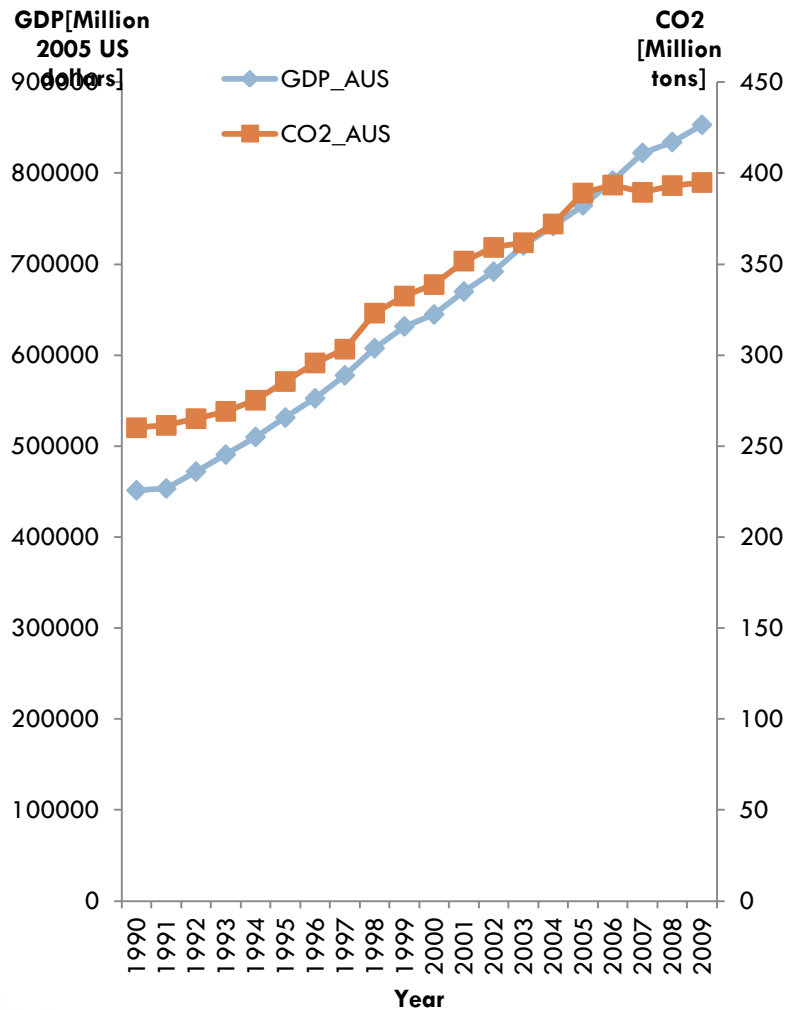
Low Carbon Development Strategies

低炭素成長戦略

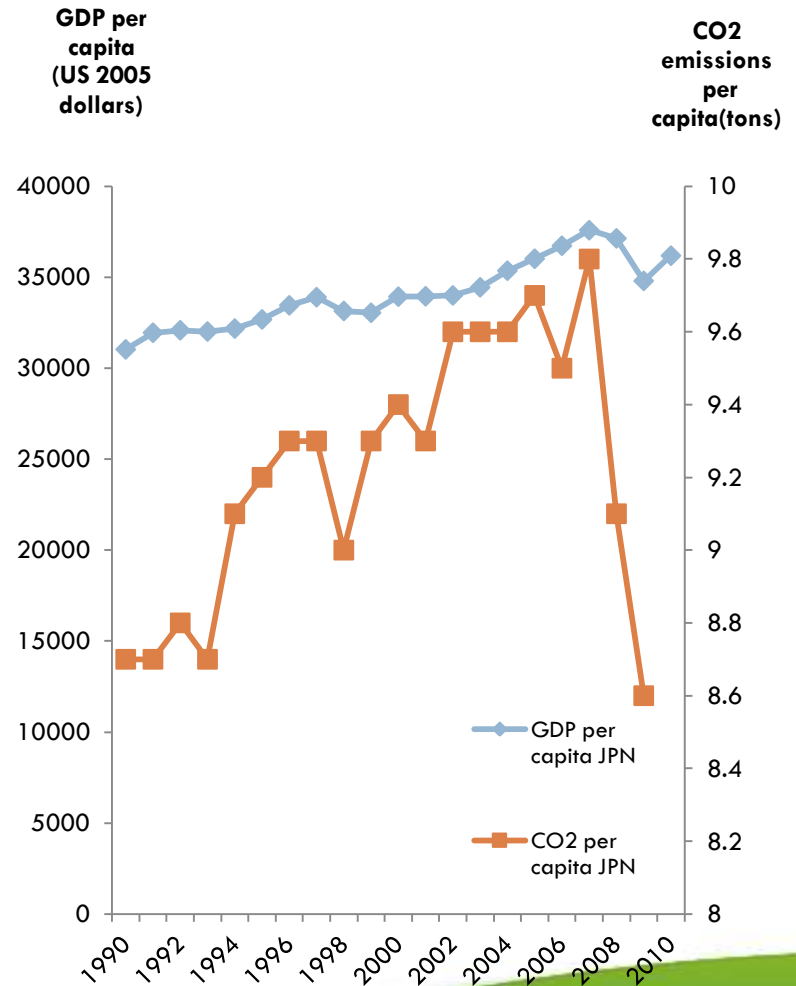
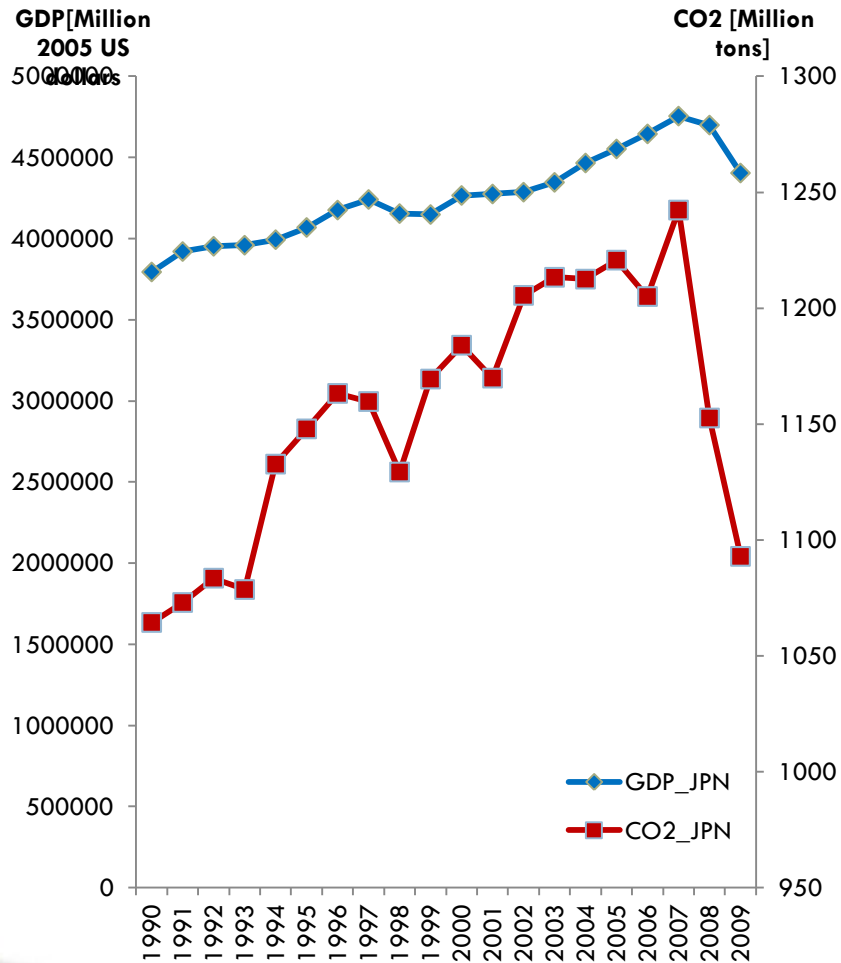
- To materialize **Double Dividend (DD)** : reducing Climate impact while stimulating Growth
- To **turn climate crisis into economic growth opportunities**
- To improve **energy, water and food security, resilience and support MDGs**

Australia

オーストラリア



Japan 日本

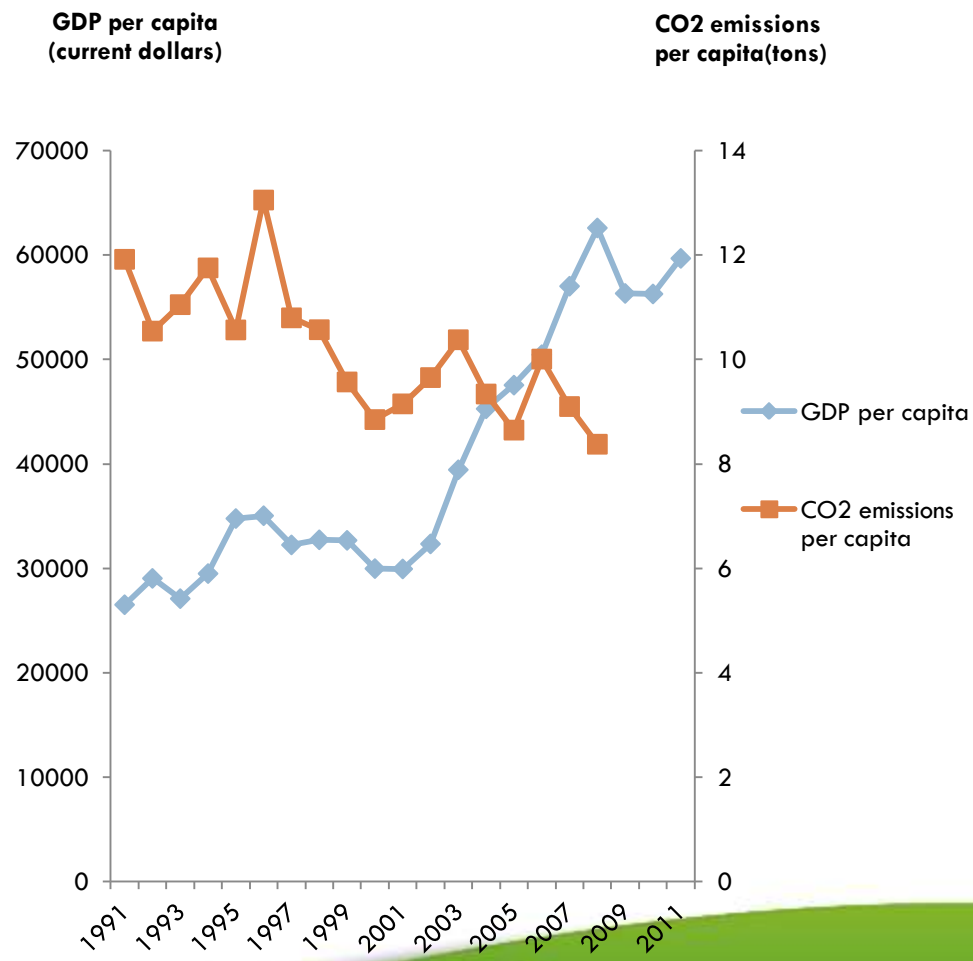
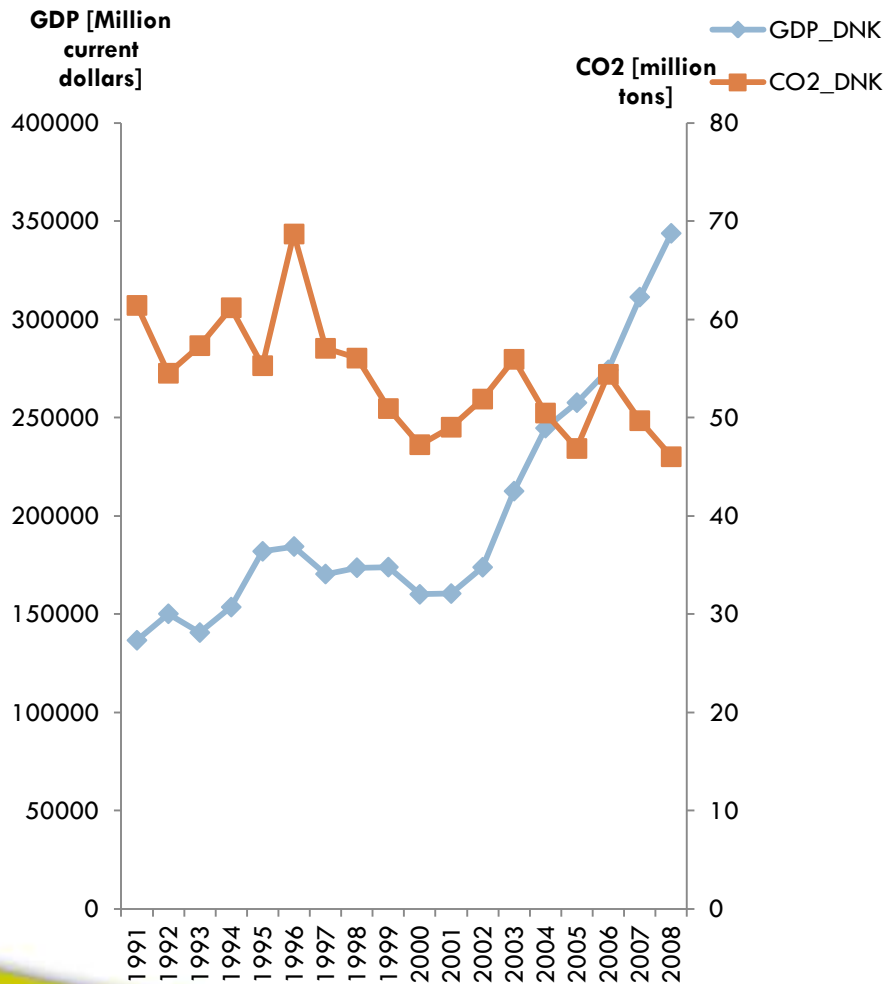


ESCAP Statistic DB

(<http://www.unescap.org/stat/data/statdb/DataExplorer.aspx#C2CRYJ4gAABYAJBWAYADYAagBrAHMAeA>)

Denmark

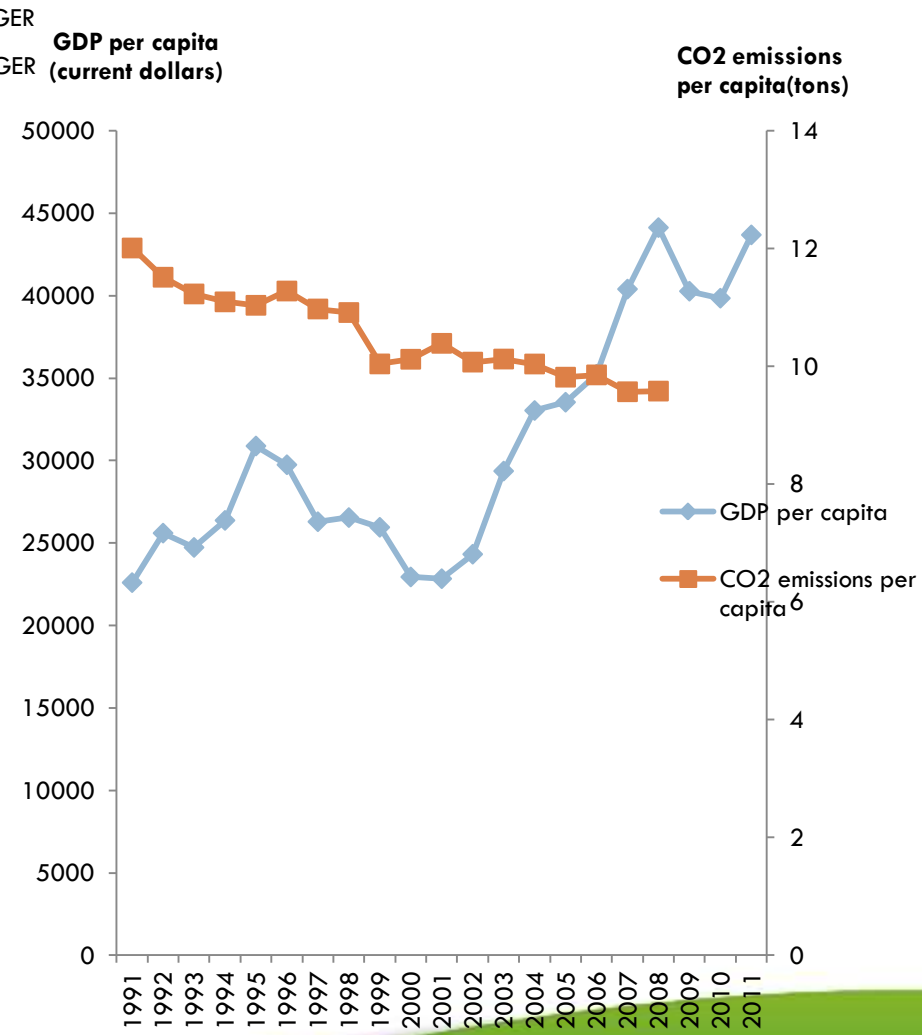
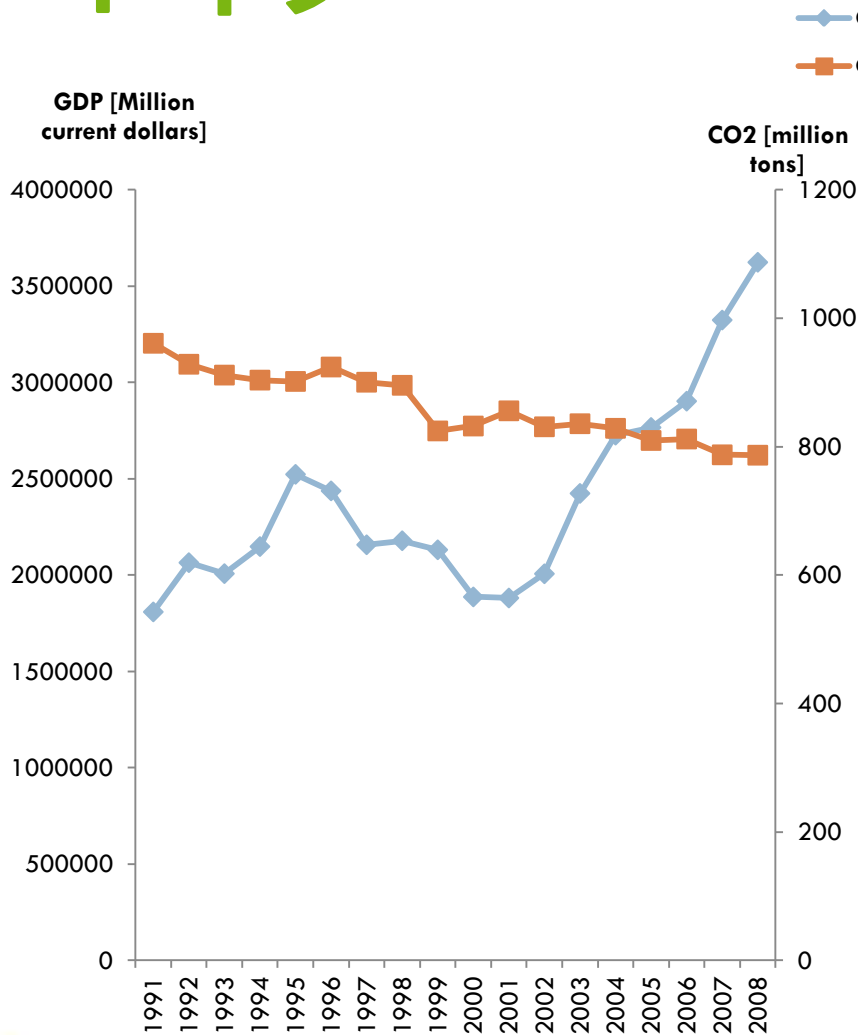
デンマーク



Source: World Bank DB(<http://data.worldbank.org/>)

Germany

ドイツ

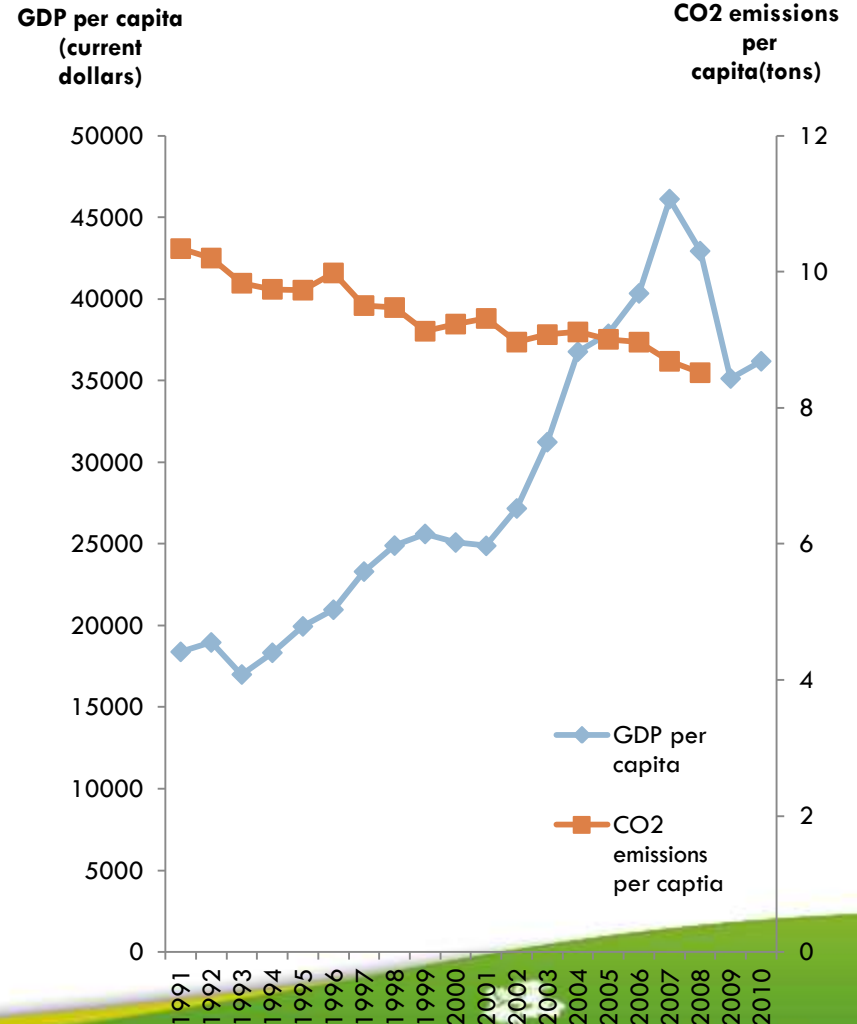
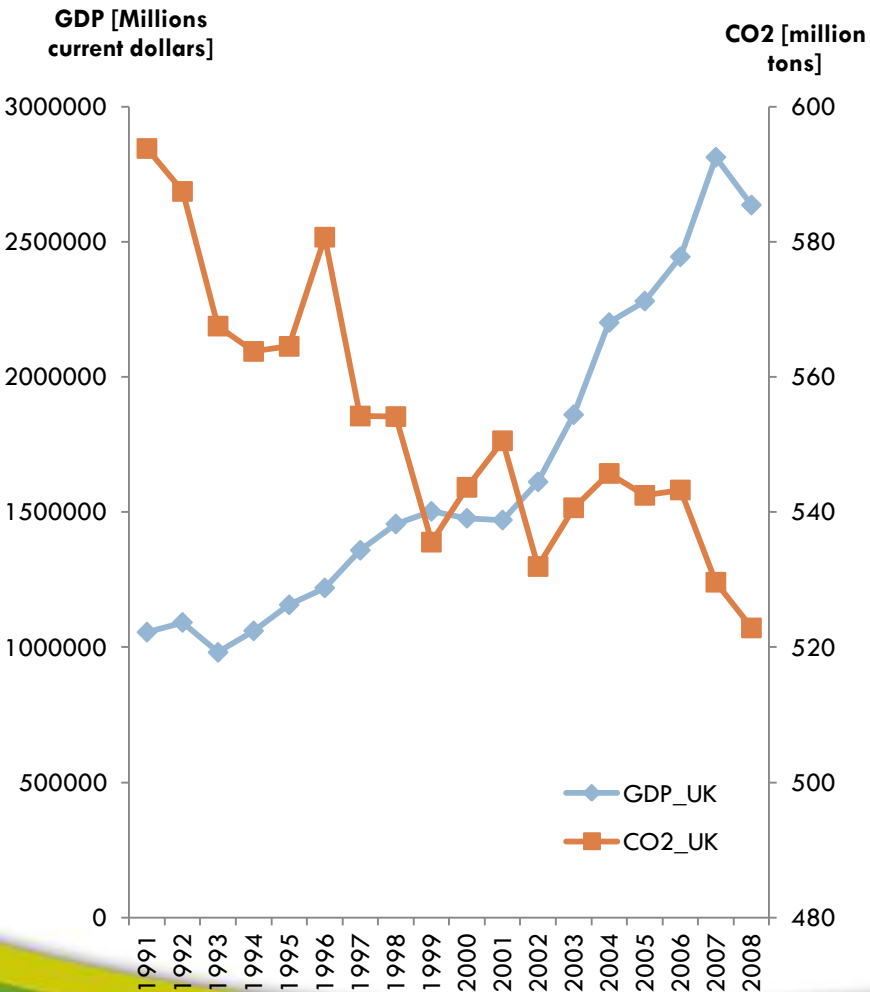


Source: World Bank DB(<http://data.worldbank.org/>)



United Kingdom

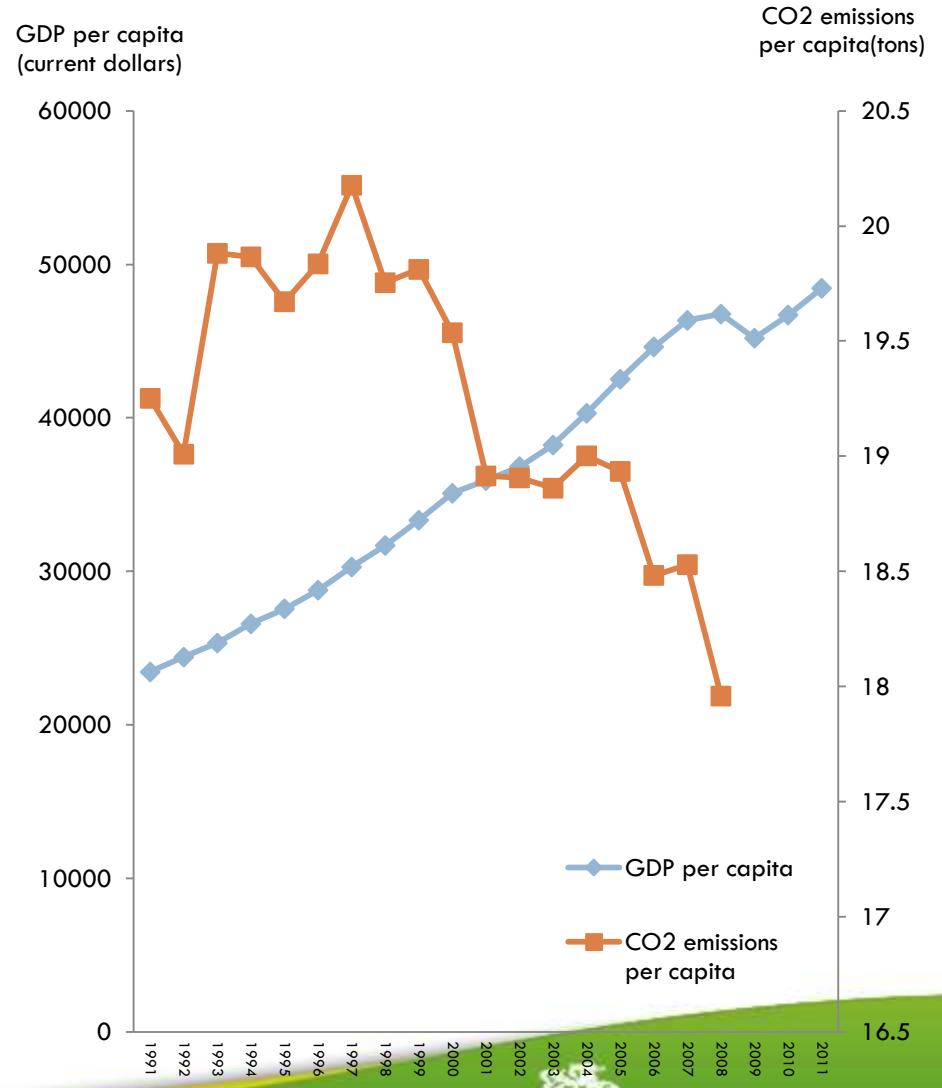
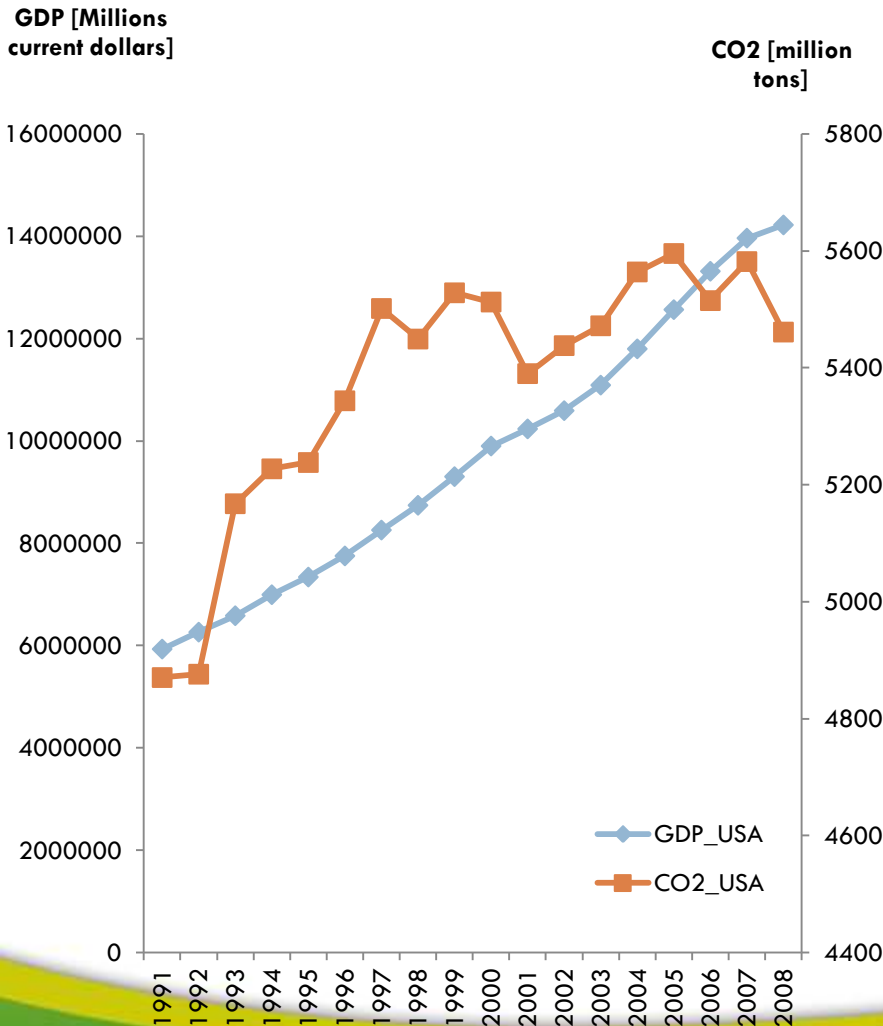
英国



Source: World Bank DB(<http://data.worldbank.org/>)

United States

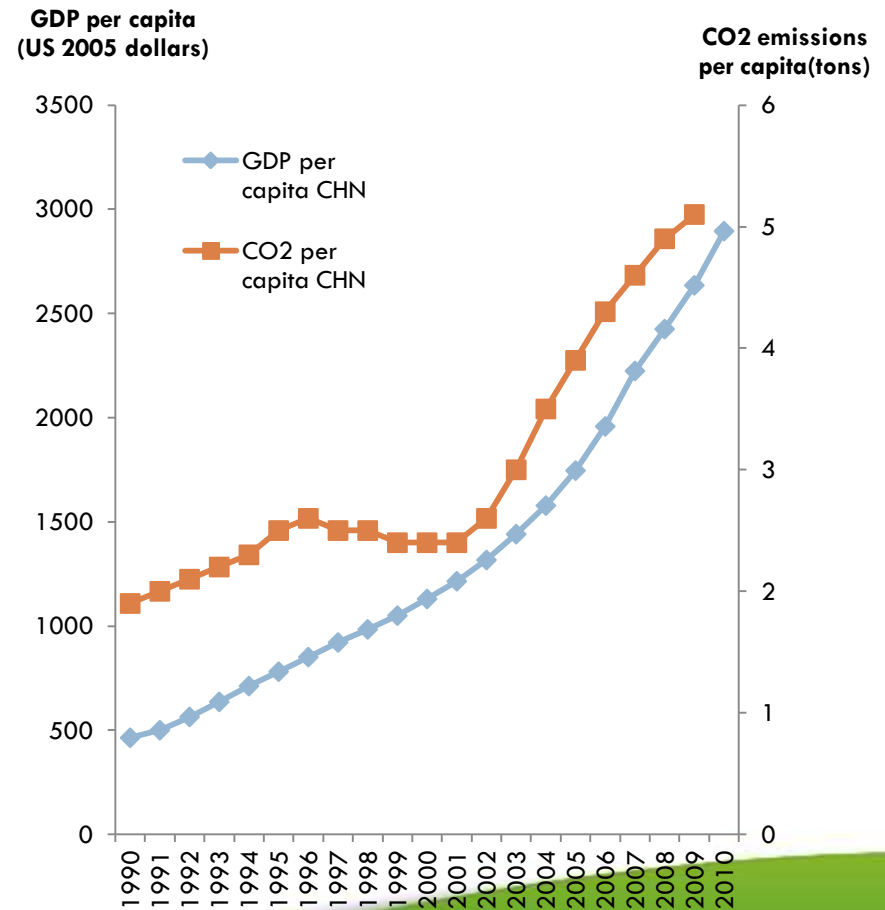
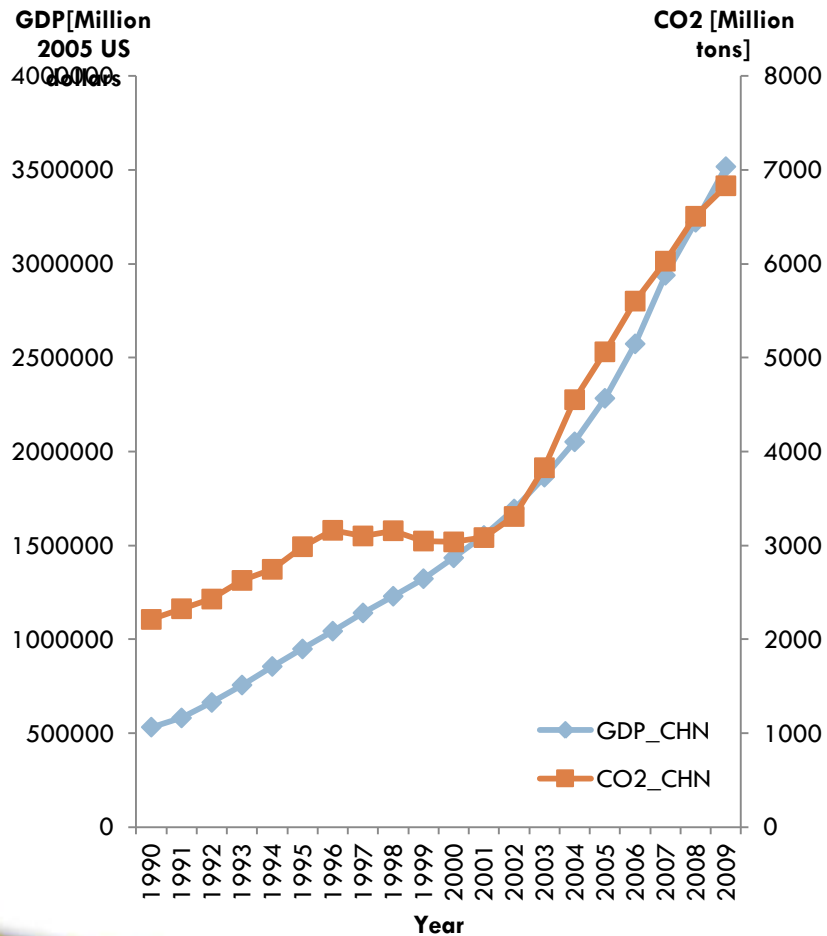
米国



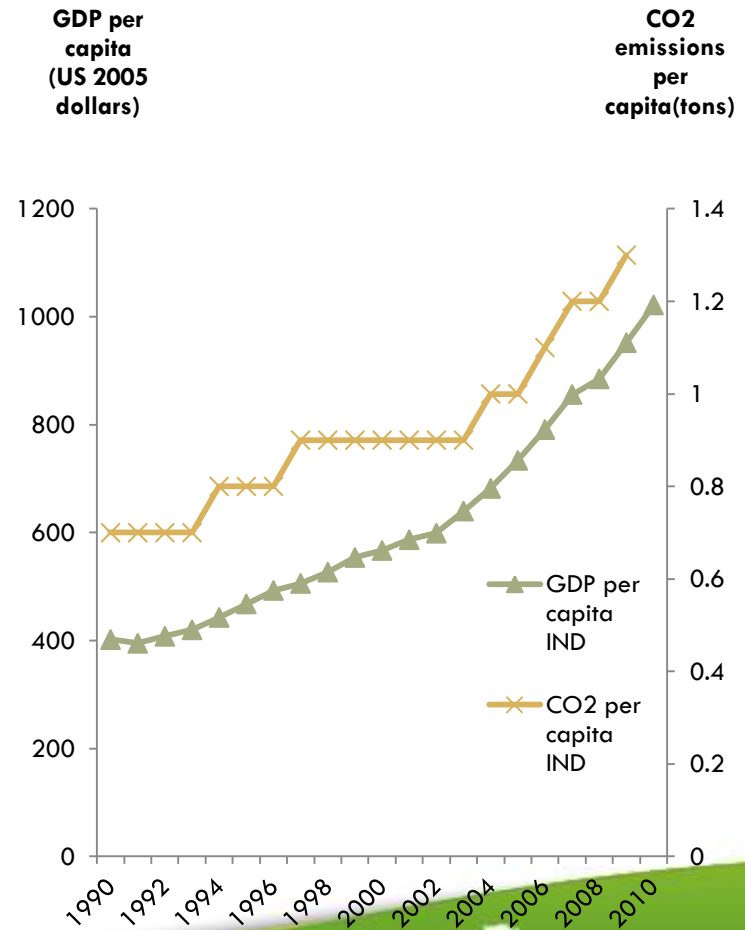
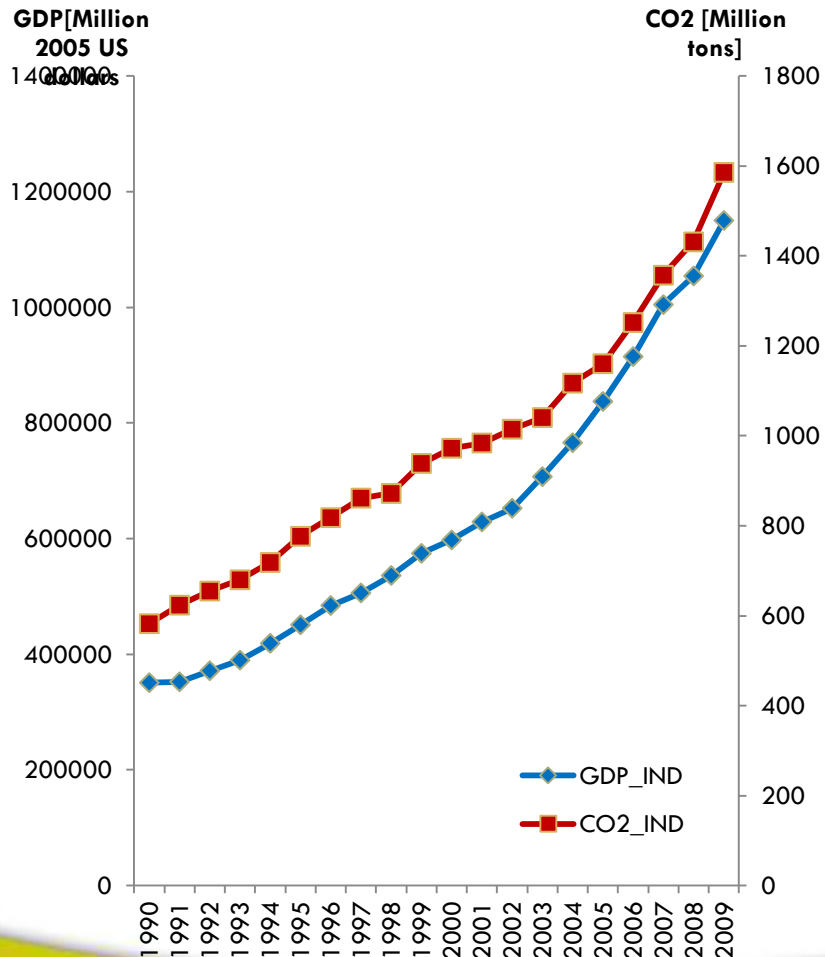
Source: World Bank DB(<http://data.worldbank.org/>)

China

中国



India インド



ESCAP Statistic DB

(<http://www.unescap.org/stat/data/statdb/DataExplorer.aspx#C2CRYJ4gAABYAJBWAYADYAagBrAHMAeA>)

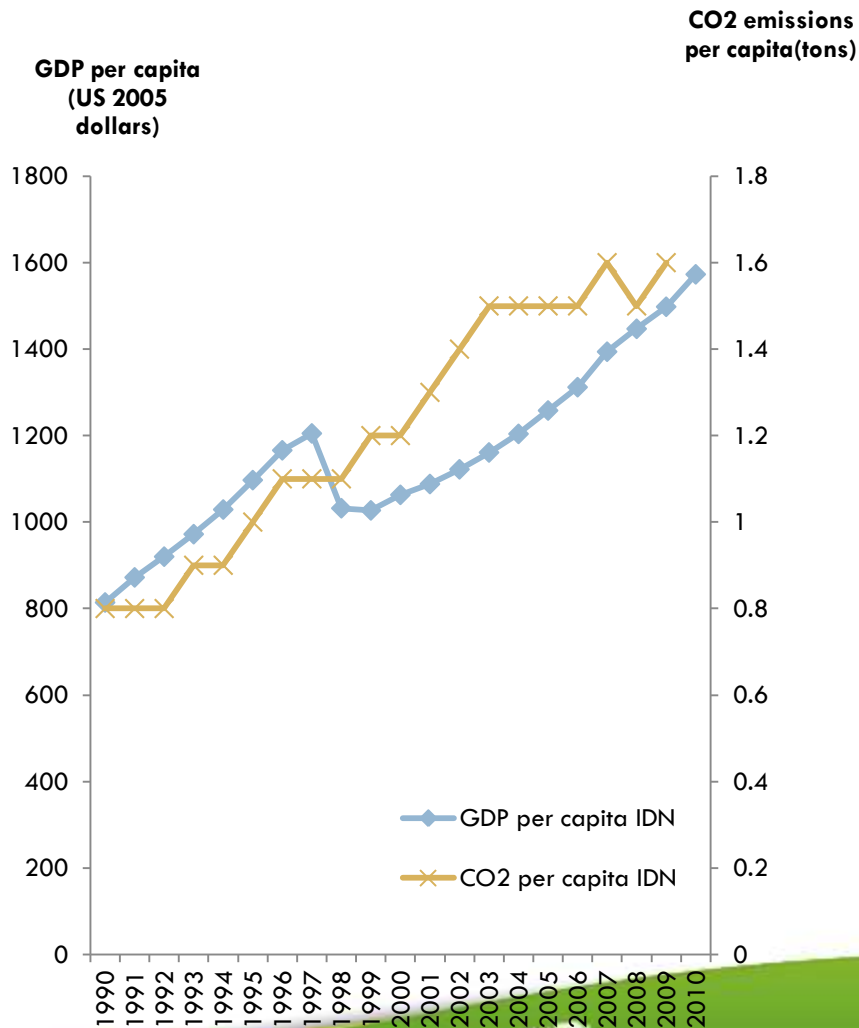
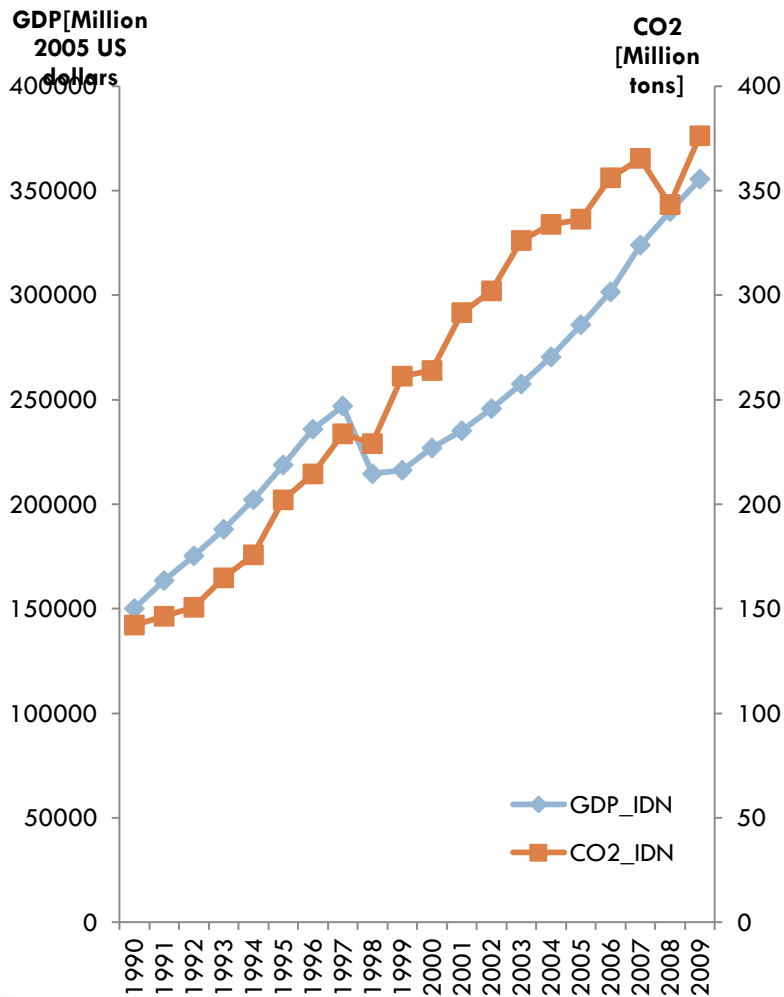
Green
Growth



UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific

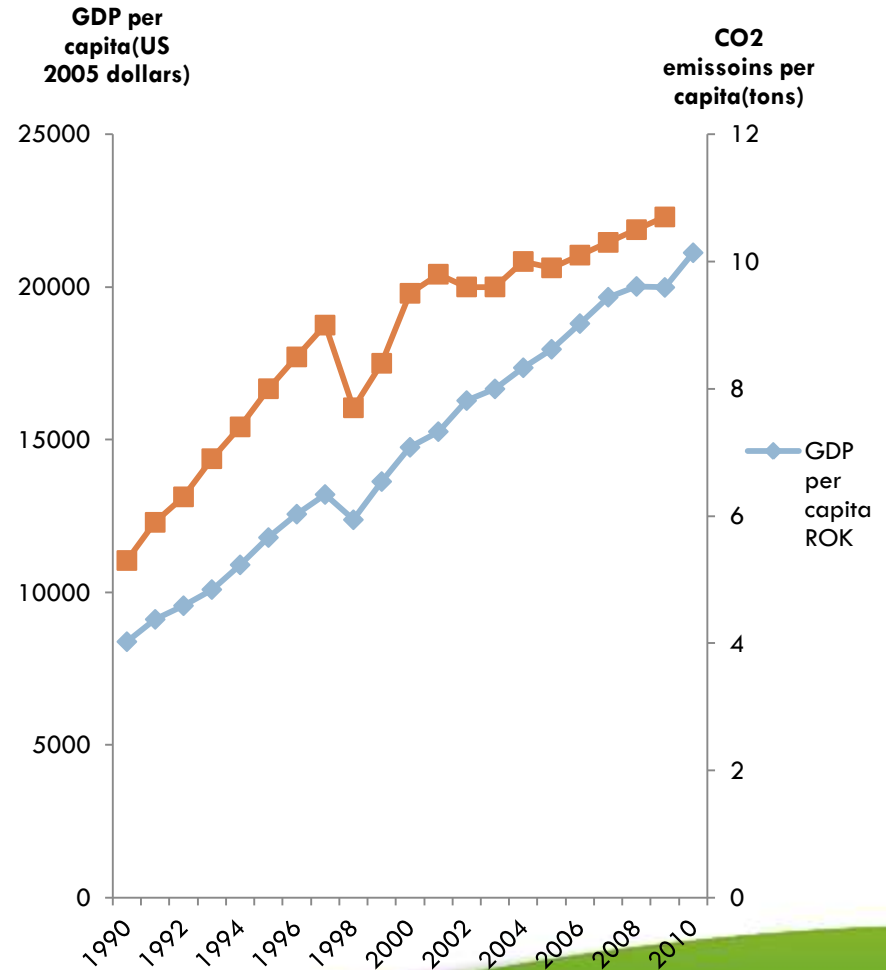
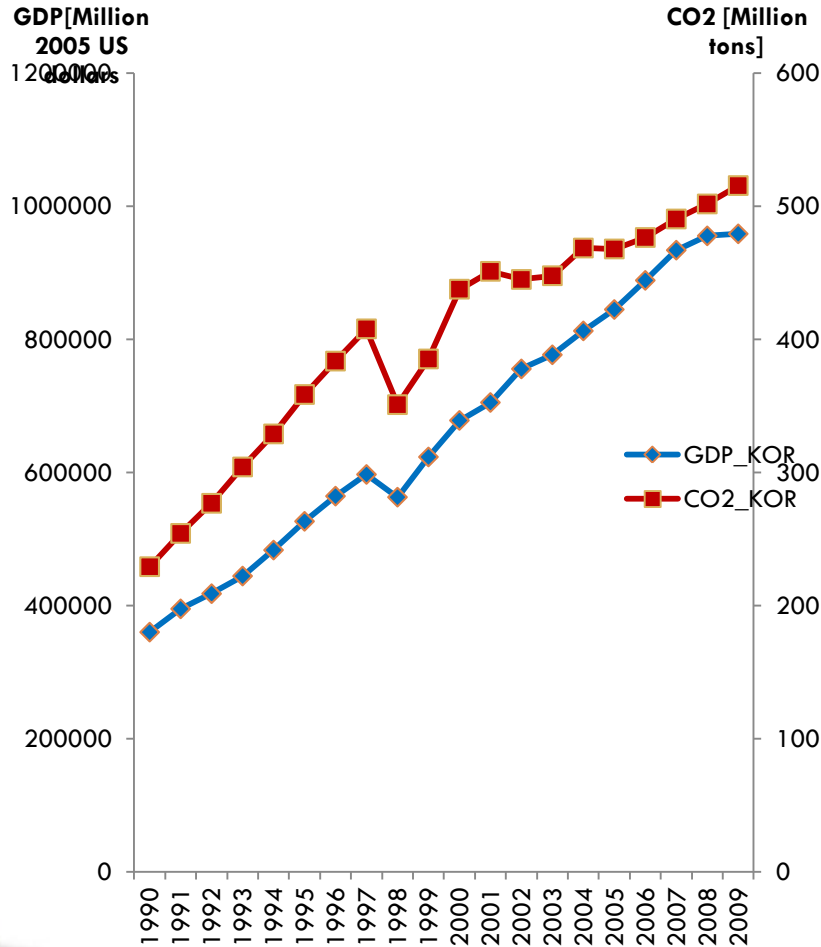
Indonesia

インドネシア



Republic of Korea

韓国



ESCAP Statistic DB

(<http://www.unescap.org/stat/data/statdb/DataExplorer.aspx#C2CRYJ4gAABYAJBWAYADYAagBrAHMAeA>)

LC, is it feasible?

低炭素は実行可能か？

- **Decoupling** of Growth and CO2 emission,
- **Absolute** Decoupling vs **Relative** Decoupling
- Relative decoupling happened only above or around 30,000 USD per capita
- Can LC really drive Economic Growth?
- **Double Dividend** feasible?
- Do we have a tool/policy option for decoupling and double dividend?
- YES, ETR can generate DD/Decoupling

Low-carbon development strategy

低炭素成長戦略

- A forward-looking national development strategy for oil & climate crisis
- Enables countries to align climate and development priorities in the planning process.
- Many developing countries in the Asia-Pacific region have prepared or are preparing such strategies.
 - ▣ Example: Republic of Korea, China, Japan, Indonesia, Maldives etc.

In fact many AP countries are already taking actions 実際に多くのアジア太平洋諸国が行動を起こしている



Components of a Low-carbon strategy

低炭素戦略の構成要素

- Vision
- Assessments – GHG inventories and projections, vulnerability assessments etc.
- Short- to long-term targets and goals (economy-wide or sector-specific)
- Policy measures
- Specific programs and projects
- Implementing plans
- Funding mechanisms
- Investment plans
- Institutional capacity and coordinating mechanisms
- Monitoring and evaluation plans



Institutional Arrangements

組織体制

- Low carbon development strategies will require engagement across ministries and sectors, backed by political commitment at the highest level.
 - ▣ Planning, finance, environment, industry, trade, agriculture, forestry, transport and construction ministries etc.
- Examples from the region:
 - ▣ Presidential Committee on Green Growth of the Republic of Korea
 - ▣ Bappanas, the planning ministry of Indonesia
 - ▣ National Development and Reform Commission of China
 - ▣ Green Technology Council and a Cabinet Committee on Green Technology chaired by the Prime Minister in Malaysia

Nationally Appropriate Mitigation Action (NAMA)

国内における適切な緩和行動(NAMA)

- NAMAs are voluntary mitigation actions that developing country governments propose through the UNFCCC secretariat.
- Allows DCs to be recognized for their mitigation actions based on their country context.
- Offers opportunities for attracting finance and technology transfer.
- Low-carbon development strategies can provide the basis for planning, developing and implementing NAMAs.
- Many countries of this region have submitted their NAMAs to the UNFCCC.



Measurement, reporting and verification (MRV) 測定、報告、検証(MRV)

- A system for measurement, reporting and verification needs to be introduced
 - ▣ to monitor emissions and reductions
 - ▣ promote transparency of financial flows and the deployment of technological support that are provided to a specific NAMA.
- Needs to be supported by national greenhouse inventory.



Greenhouse Gas Inventories

温室効果ガスインベントリ

- Establishment of a GHG inventory is an essential component of mitigation action of any country.
 - ▣ Collect and analyze data to keep track of progress of mitigation actions.
 - ▣ Understanding emissions and emission removal trends.
 - ▣ Basis for target and goal setting for GHG reductions.
 - ▣ Central tool to support the MRV process for NAMAs.

Case of Korea

韓国のケース

- June 2010 established GIR (Greenhouse Gas Inventory and Research Center of Korea)
 - build inventory, target management, modeling for decoupling,
- VA → Target Management System → ETS 2015
- Inventory/MRV requires substantial capacity/institution building

Setting Targets

目標設定

- Goals and targets are instrumental for aligning sector-specific and climate change policies and decreasing uncertainty for business and encouraging investments.
- Many countries have already set targets:
 - ▣ China: 40-45 per cent reduction in emission intensity 2005 levels by 2020.
 - ▣ Indonesia: Voluntary target of emissions reduction by 26 per cent by 2020 (up to 41 per cent),
 - ▣ Maldives: Carbon neutral by 2020.
 - ▣ RoK: 30 per cent carbon emissions reduction by 30 per cent from BAU by 2020.



Developing Low-Carbon Infrastructure

低炭素インフラの整備



- One of the main determinants of carbon intensity of economic growth patterns.
- Focus on less carbon intensive infrastructure: on low-carbon cities, green buildings, shift from road to rail, solid waste management and design of energy efficient systems.
- In addition, technological innovation and the introduction of better technology and next generation tech. to reduce the carbon intensity of growth.
- For example: renewable energy and decentralized systems; smart grids; CCS; and hydrogen and fuel cells.
 - ▣ Republic of Korea: Jeju Island Smart Grid Test bed
 - ▣ Indonesia's renewable energy policy
 - ▣ India's Solar Mission

Carbon Pricing

炭素価格設定



- Key tool for stimulating technology innovation and reducing costs for the deployment of low-carbon technologies.
- Eco-Tax Reform: Revenue Neutrality/Double Dividend
- Carbon tax and/or cap-and-trade scheme
- Many countries have acted on this already:
 - ▣ Australia's carbon pricing scheme
 - ▣ China's domestic emissions trading scheme (planned)
 - ▣ Korea Emissions Trading Scheme 2015
 - ▣ Tokyo Metropolitan Government's emissions trading scheme at the city level (energy related CO₂).

Promoting Low-Carbon Lifestyles

低炭素ライフスタイルの推進

- Pricing policies, standards, incentives, education, communication campaigns and labeling to impact people's behavior and decisions to promote sustainable consumption.
- Financial incentives for engaging consumers and households:
 - ▣ RoK: Green credits cards
 - ▣ Japan: Eco-point programme (energy-efficient electrical appliances and environmentally friendly housing).

ESCAP Roadmap: Factsheets and case studies

ESCAPの工程表：ファクトシート、ケース・スタディ

Fact sheet:

- Cap-and-trade scheme
- Carbon capture and storage
- Carbon pricing
- Low-carbon development plan
- Nationally appropriate mitigation action
- Smart grid

Case study:

- Australia's carbon pricing scheme
- Brazil's National Plan on Climate Change and Law
- China's carbon trade
- China's mitigation targets

- European Union's emissions trading system
- India's solar mission
- Indonesia's renewable energy policy
- RoK's Emissions Target Management Scheme
- Rok's National Strategy on Green Growth and 5 Year Plan
- RoK's Framework Act on Low Carbon, Green Growth
- RoK's investment plan for green growth
- RoK's smart grid development
- UK carbon budget
- US's hydrogen economy