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ENERGY, CLIMATE  
AND SUSTAINABLE  
DEVELOPMENT

# Potential for Low Emissions Development Strategies: Opportunities and Mechanisms in Asia-Pacific

Engaging with Asia-Pacific on Climate Change  
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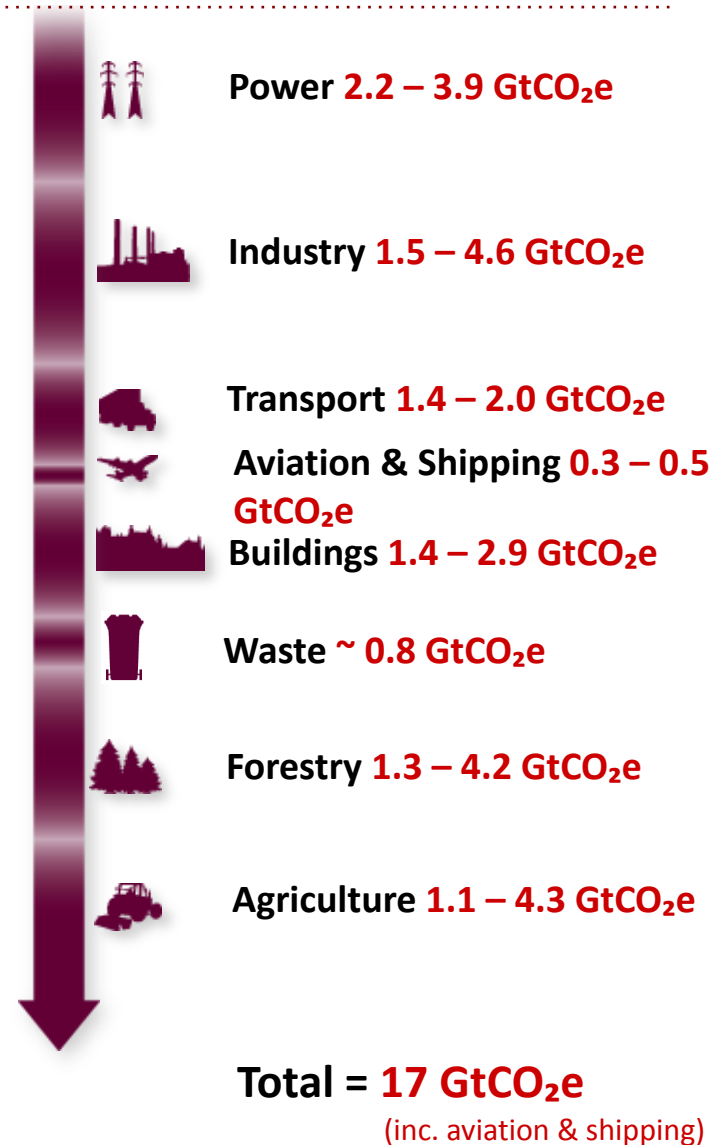
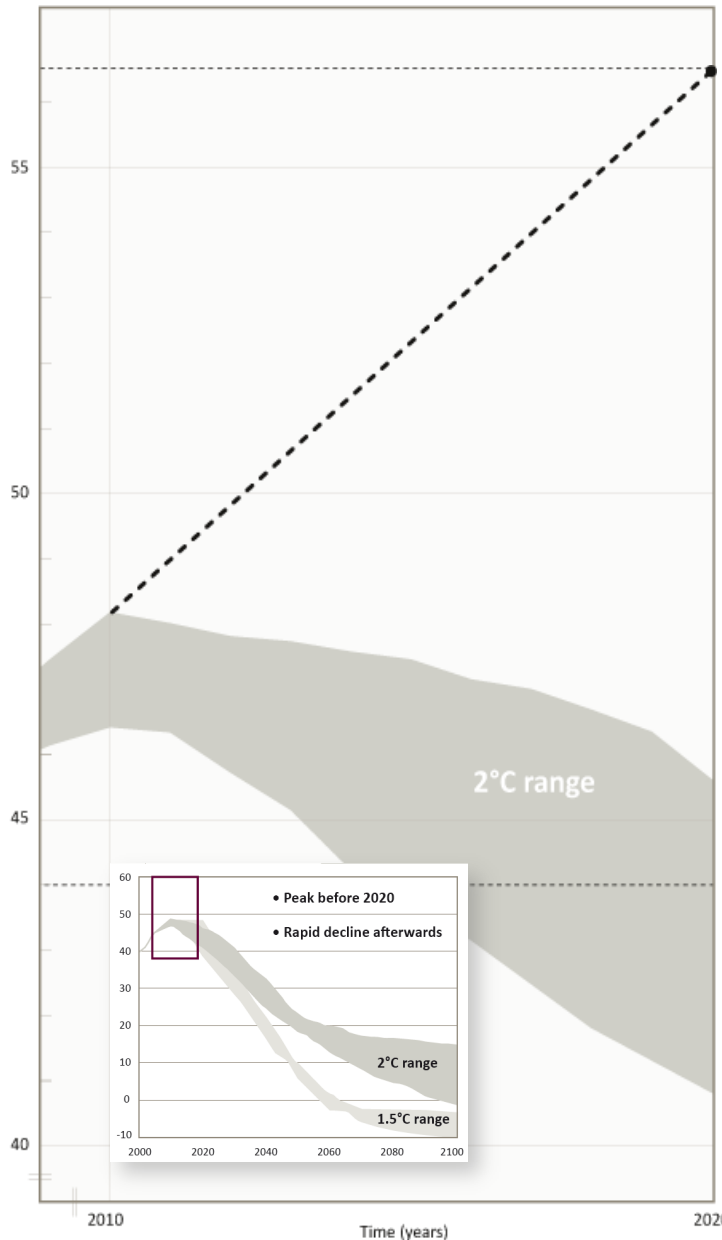


# Bridging the gap through low emission development

Gap to keep on track for 2 deg path in 2020 = 6-11 GtCO<sub>2</sub>e

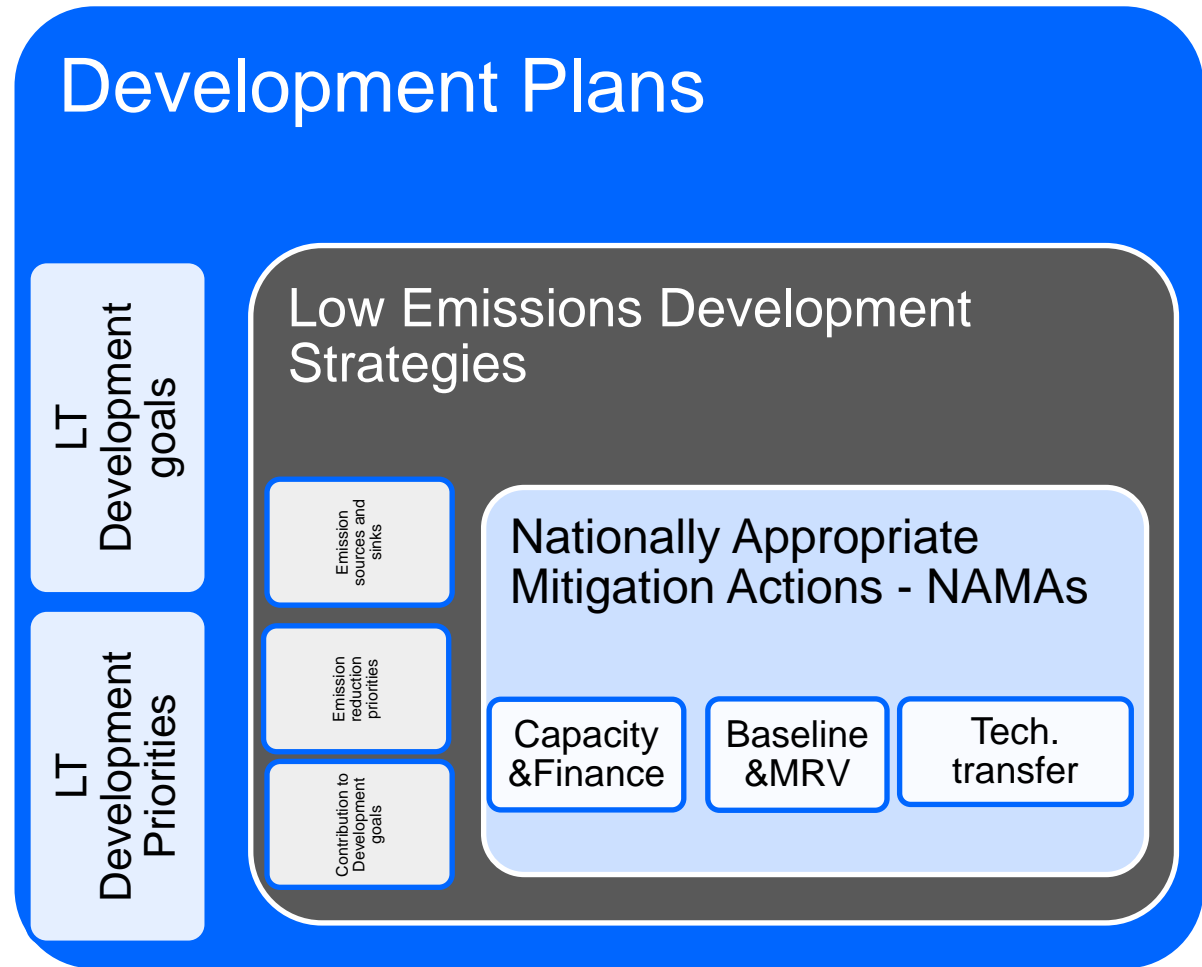
Still possible to bridge the gap in 2020 and stay on a pathway to long-term climate protection.

No major technological breakthrough needed to substantially reduce emissions by 2020.



# Low Emission and Development

- Defining a strategy in context of medium to long term sustainable development plans:
  - **Decouple** economic growth from GHG emission growth
  - **Reduce the carbon intensity** of the economy
  - **Leapfrog the high-carbon development** path of today's business-as-usual trajectory



all in the context of...

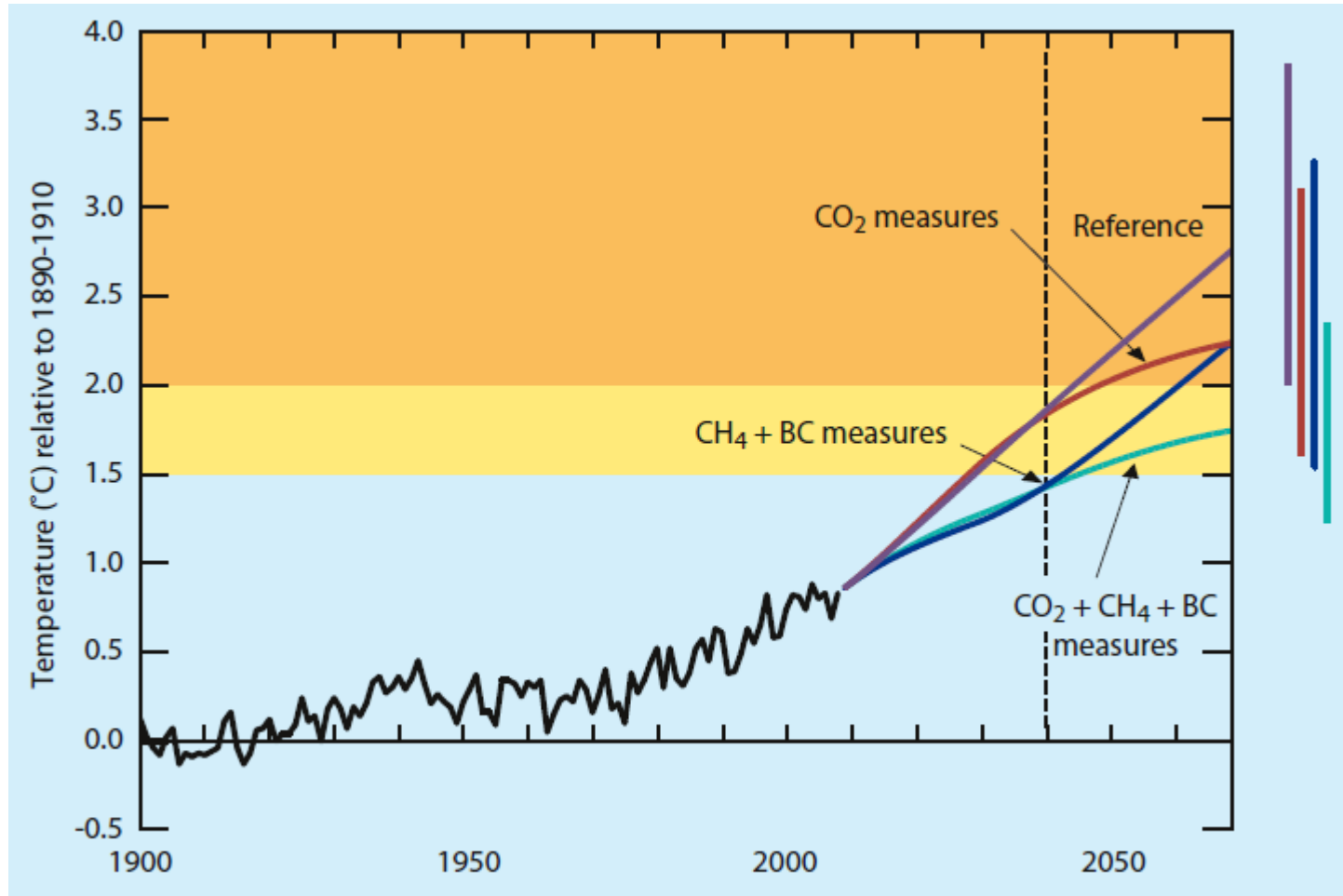
Sustainable Development goals

# CO<sub>2</sub> and other opportunities

SLCPs: methane, black carbon, HFCs

There are multiple benefits of reducing these SLCPs:

- **Reduce air pollution** - protect health and crops
- **Reduce regional impacts** of climate change
- **Slow down near-term global warming**



# Identifying Low Emission Development Opportunities: Technology

**Technology Needs Assessments and Action Plans** identify and prioritize technologies that can contribute to national mitigation and adaptation goals while meeting development priorities.

**Key identified areas of priority in Asia-Pacific** matched with potential identified by Bridging the Gap report are:

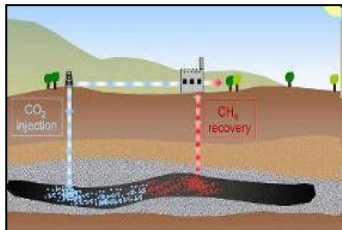
- Renewable energy (wind, solar, waste to energy, biofuels)
- Energy efficiency in housing (lighting and appliances)
- Energy efficiency in industry sector (cogeneration, waste energy recovery, energy intensive industry)
- Shifting to public transport in fast growing urban areas

**12 countries in Asia-Pacific undertaking TNAs and TAP supported by UNEP:** Including Cambodia, Indonesia, Sri Lanka, Thailand, and Vietnam.

**2 countries in Asia-Pacific** countries (Vietnam and Indonesia) supported to strengthen low carbon development strategies and prepare NAMAs through the FIRM project.



# Identifying Low Emission Development Opportunities: Short Lived Climate Pollutants



Methane

- Degasification, recovery and use
- Recovery from municipal waste & wastewater treatment
- Reduce emissions from agriculture



Black carbon

- Improve stoves (biomass to LPG/biogas, wood to pellet)
- Upgrade brick kilns
- Use particle filters for diesel vehicles



HFCs

- Non-HFC technologies for refrigeration
- Low-GWP, high energy-efficient foam blowing technologies
- Efficacy for cooling technologies

16 measures:

- ~- 40% methane, ~- 80% BC in 2030 (rel. to BAU)
- No technical breakthroughs
- Already implemented in many countries
- Half reductions at low cost or cost-neutral

- No 'one-size-fits-all' solution
- Further R&D for effective and affordable alternatives and relevant infrastructure

# Identifying Low Emission Development Opportunities: Green Economy

**Green Economy Advisory Services:** policy advice, technical assistance and capacity building to governments in support of their national and regional initiatives to transition to a green economy

## Asia-Pacific Examples:

**INDONESIA - REDD and Green Economy:** A major initiative on REDD+ aims to leverage the potential of the forest sector to drive a green economy transformation in Indonesia.

**CHINA - Greening the Development Plan:** The UNEP-China partnership produced “China’s Green Economy Development” and is now focusing on supporting sectoral investments and policies in clean energy, cement, and the environmental industry which are central to China’s 12<sup>th</sup> 5-year Development Plan.

**REPUBLIC OF KOREA - Support Developing Countries:** UNEP produced an Overview Report on the Republic of Korea’s National Strategy for Green Growth. UNEP and the Republic of Korea are also collaborating to support initiatives on green economy in developing countries.



# Selected Resources

## GuidebooksTechnology

<http://tech-action.org//resources.htm>

## Guidebooks for formulation of Low Carbon Development Strategies, Plans and NAMAs

<http://namapipeline.org/>

## Green Economy Advisory Services

<http://www.unep.org/greeneconomy/AdvisoryServices/tabid/4603/Default.aspx>

## Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants

<http://www.unep.org/ccac/>

## For further information:

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