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Project leaders: Detlef van Vuuren and Heleen van Soest,
Organization: PBL Netherlands Environmental Assessment Agency
URL: <https://themasites.pbl.nl/commit/>
Funding: European Commission's Directorate-General for Climate Action (DG CLIMA)

Partners



Modelling meets policy

Paris Agreement

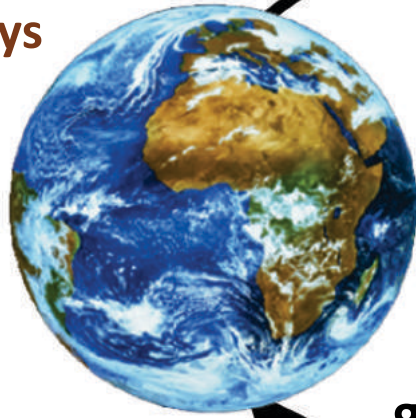
Art. 2. Holding the increase in the global average temperature to **well below 2 °C** above pre-industrial levels and to pursue efforts to limit the temperature increase to **1.5 °C** above pre-industrial levels,



Global stocktake

Countries need to formulate **NDCs and long-term strategies** (and accompanying policies). The **Talanoa Dialogue and global stocktake** process aim to compare these national policies to the overall goal

Global transformation pathways



global stocktake



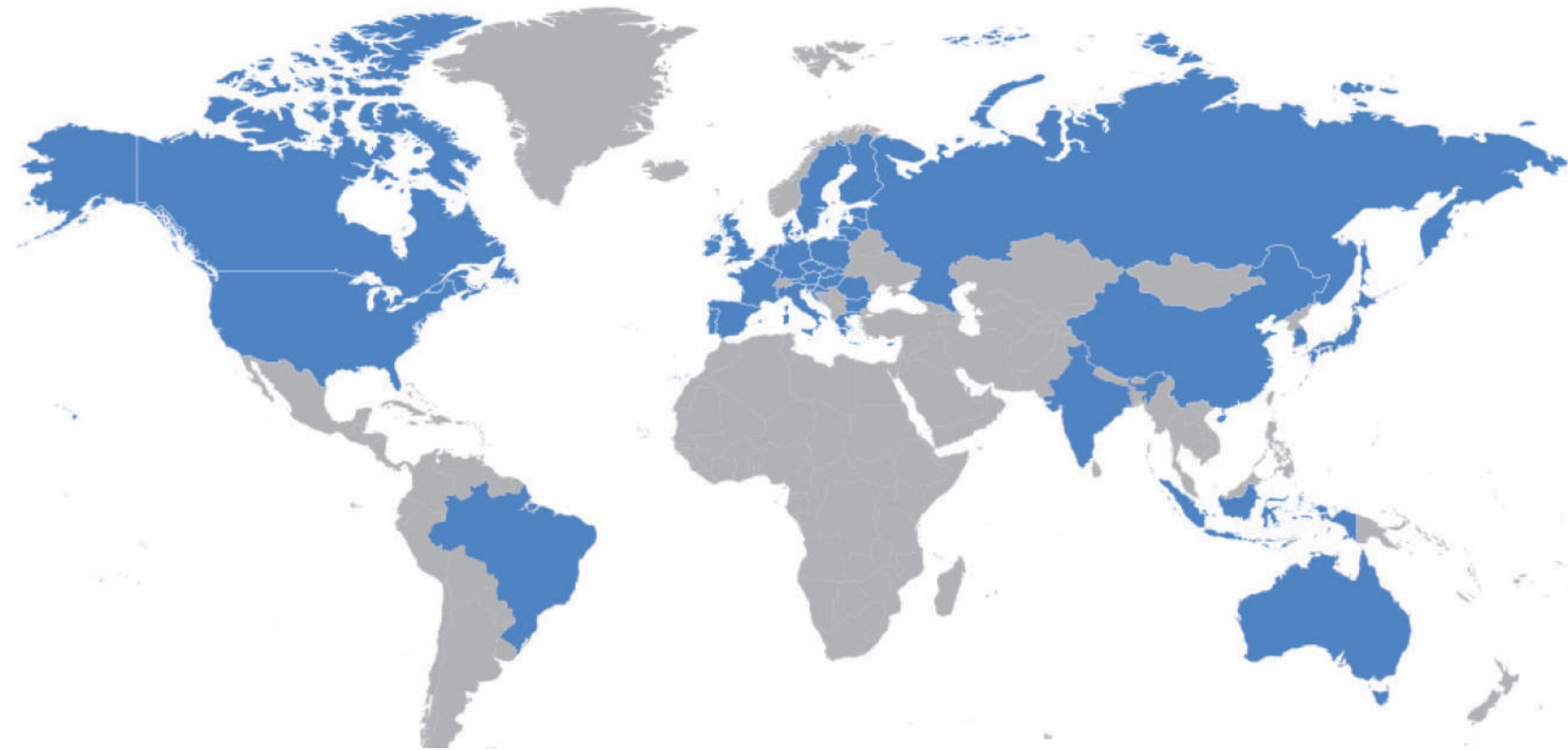
National low-carbon development pathways



Global transformation pathways



- Global stock-taking process requires sufficient analytical capacity to ensure fair evaluation of country policies
- Requires good understanding of different outcomes and assumptions between the analytical teams that provide input into the negotiations





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Global transformation pathways



Opportunities for Enhanced Action to Keep Paris Goals within Reach

Contribution to the Talanoa Dialogue by the COMMIT and CD-UNIS projects
November, 2018



Policy brief on Talanoa Dialogue Platform:
<https://unfccc.int/documents/184187>

National fact sheets and
policy brief:
<https://themasites.pbl.nl/commit/products>

Republic of Korea: low-carbon economy pathway and climate proof society

Where are we?

Korea is actively participating in international efforts to tackle climate change. Korea adopted an ambitious Green Growth Strategy in 2009, which aims to achieve a low-carbon, green growth by 2020. The strategy is based on the four pillars: green growth, green economy, green society, and green culture. Korea has been actively participating in international efforts to tackle climate change, such as the Green Growth Commission (GGC) and the Green Growth Partnership (GGP). The GGC is a high-level advisory body that provides recommendations to the government on green growth. The GGP is a partnership between the government and the private sector to promote green growth. Korea has also been actively participating in international efforts to tackle climate change, such as the Green Growth Commission (GGC) and the Green Growth Partnership (GGP). The GGC is a high-level advisory body that provides recommendations to the government on green growth. The GGP is a partnership between the government and the private sector to promote green growth.

Brazil: Opportunities from AFOLU and non-CO₂ mitigation reduce pressure on productive sectors

Where are we?

Brazil is a bio-economy country, with several challenges regarding poverty eradication, infrastructure development and, even, to some extent, energy access. Driven by reduced deforestation rates, greenhouse gas (GHG) emissions in 2014 had been reduced by almost half (from their peak in 2004) (MCTIC, 2016). According to forest land-use carbon sinks, net emissions in 2014 were 1,284 or 0.06 GtCO₂e, slightly below the 2012 target but still above the mid-2050 to 2080 target (MCTIC, 2016). However, emissions have been generally rising since 2009–2011, and reaching a slight peak in 2014 (MCTIC, 2016). The 2014 target of 0.06 GtCO₂e was set as a short-term target for 2014–2015, and a long-term target for 2016–2020 (MCTIC, 2016), and is projected to continue going on in the short- to medium-term. Brazil has ratified the Paris Agreement, turning its NDC into law, pledging to reduce total GHG emissions by 39.4% GHG CIPeq by 2020, with the aspiration to reduce it to 2.0 GtCO₂e by 2030, corresponding to about 37% and 43% GHG CIPeq.

Agriculture is central to Brazil's economy, and its uses and emissions. The agricultural production chain (including food processing and animal husbandry) is responsible for about 32% of the economic output (GDP). Brazil is one of the largest exporters of agricultural products in the world, with a 10% share in global exports. Brazil's agricultural sector is the country's export (CEPR, 2017). Brazil's beef cattle production is one of the most productive in the world, but about half of the 200 million hectares of pastures are considered degraded, and their reclamation is a cornerstone of the agricultural sector's mitigation potential. The NDC pledges to recuperate 25 million hectares of degraded pasture, and to implement 5 million hectares of integrated cropland-forest-forestry systems by 2030. These are projected to reduce emissions relative to current levels by some 10–18 Mt CO₂ eq (see 10.2.3.1). In addition, the NDC states that, under a business-as-usual scenario, 10 million hectares of pasture should meet its targets by 2030 (Isabelle et al., 2017). The NDC also pledges to "restore and reforest 12 million hectares of forests by 2030, for multiple purposes."

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operation applies to major this activity, the Korean center. The GHG emission volume is then submitted to as Inventory & Research key role in green R&D, y resources.

2 MtCO₂e in 2015 due to
Nationally Determined
greenhouse gas (GHG)
it is equivalent to limiting
emissions from the land-

long-term renewable energy
the Korean government

Global transformation
pathways



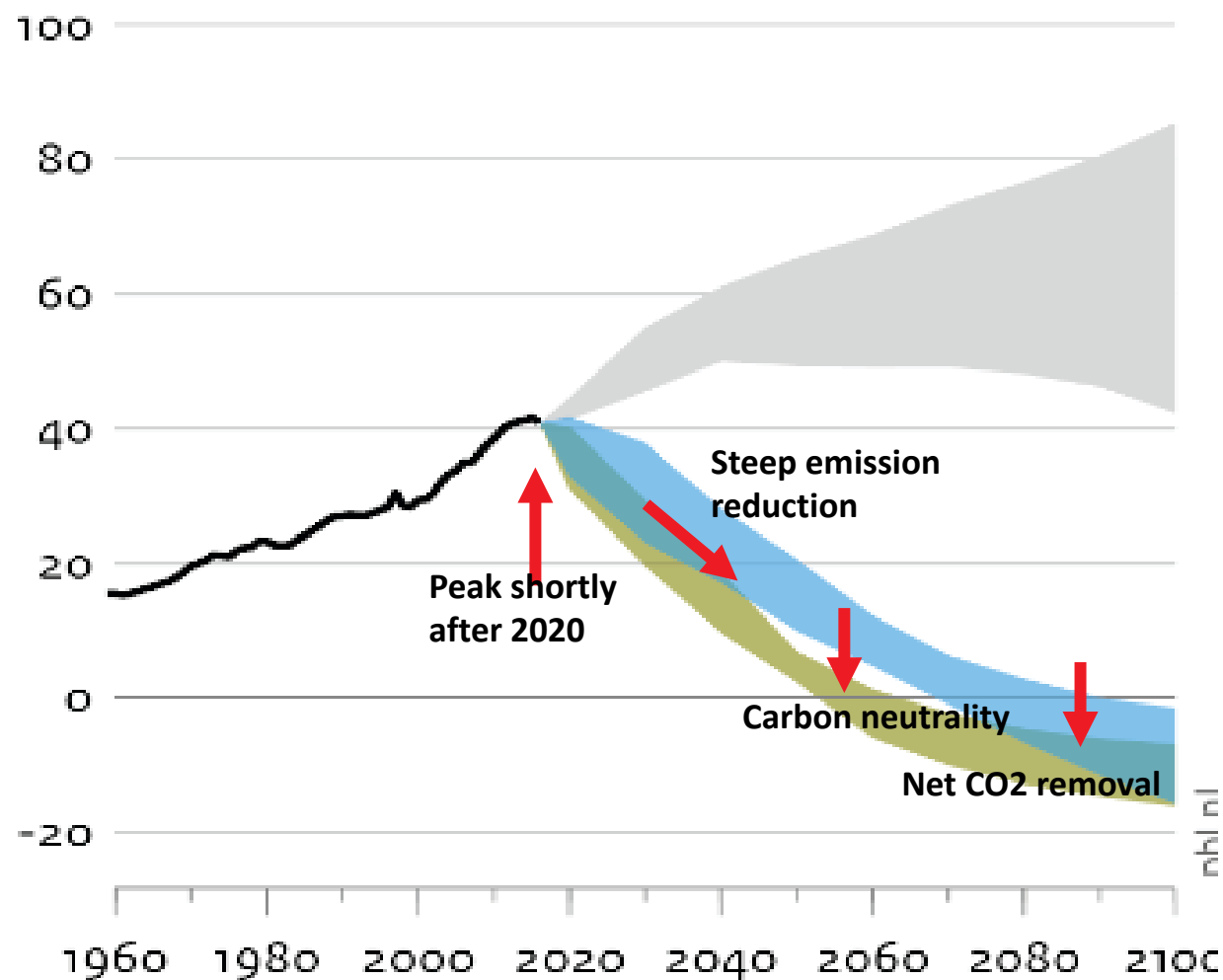
National low-carbon development
pathways

Where do we want to go?

Where are we?

How do we get there?

Where do we want to go?



Global transformation
pathways



Where do we want to go?

Where are we?

How do we get there?

Where are we?

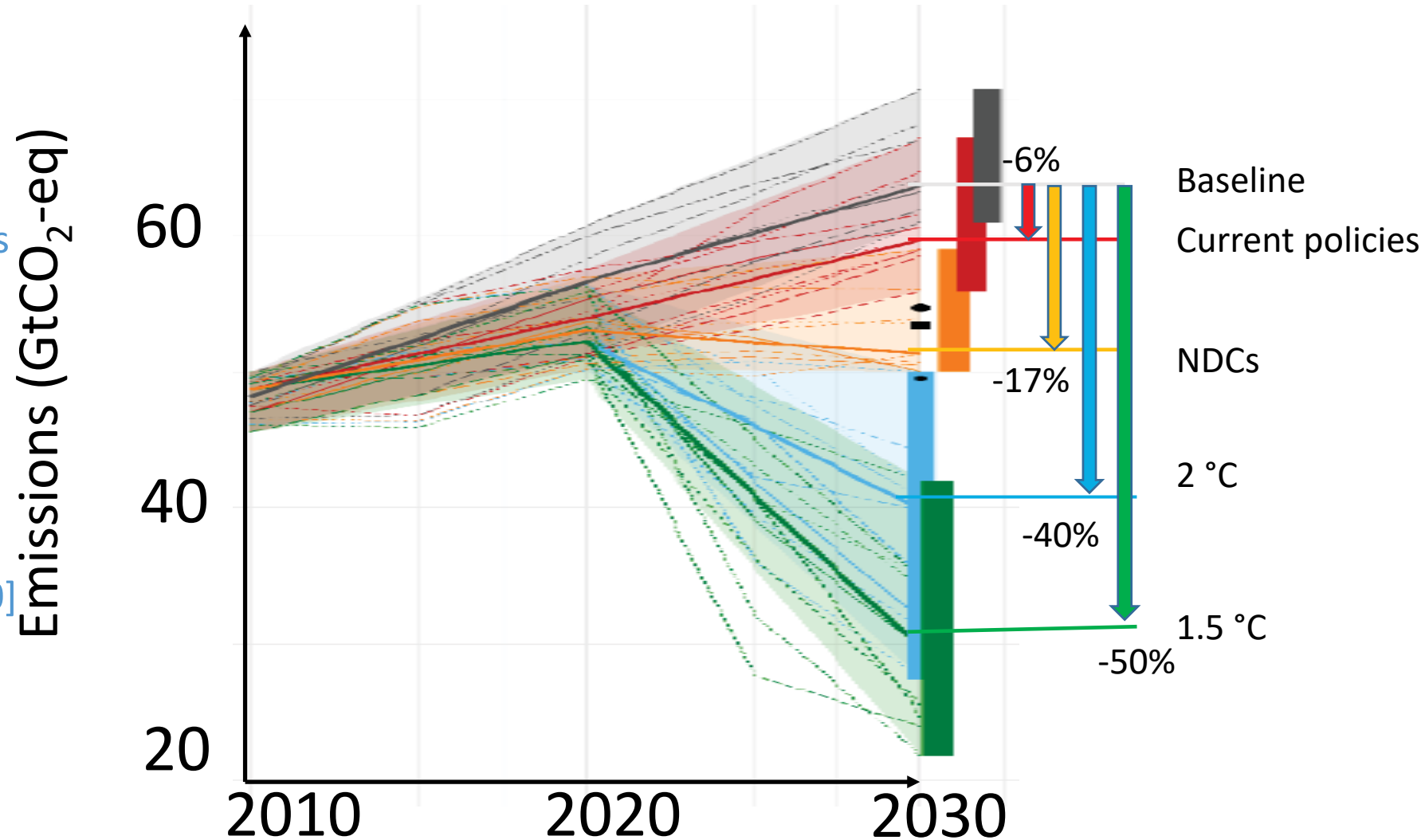
Climate Policy Database

- www.climatepolicydatabase.org
- **Aim:** open, collaborative platform to gather all climate-related policies, with full geographical and sectoral coverage.
- **Platform:** Semantic Media Wiki, an open-source, database driven extension of MediaWiki
- Niklas Höhne:
niklas.hoehne@wur.nl
n.hoehne@newclimate.org

The screenshot shows the homepage of the Climate Policy Database. At the top is a navigation bar with links: NewClimate Policy Database, Search policies, Analysis, Browse countries, This page, Tools, and User. A search bar is on the right. The main heading is "Climate Policy Database". Below it is a description: "The Climate Policy Database collects information on currently implemented policies related to climate change mitigation from countries worldwide. The objective of the portal is to provide an open, collaborative platform for quick information access, policy analysis and good-practice sharing." There are three bullet points: "Good practice menu and coverage by 30 major emitting economies", "Initial report based on the good practice menu prepared using this database (external link)", and "About". Below these is a link "Data structure and categorisation". A text prompt says "Start your search by clicking a country from the map below, or using the search tabs in the menu." A world map is displayed with green shading. On the right side, there are two summary boxes: "Number of Policies" with the value "2925" and "Number of Countries" with the value "113". Below these are logos for "NEW CLIMATE INSTITUTE", "CDlinks", "WAGENINGEN UR", and "PBL Netherlands Environmental Assessment Agency". At the bottom, a footer note states: "This database is developed by NewClimate Institute with support from the Dutch Ministry of Infrastructure and Environment. It is also used for the EU-funded CD-LINKS project with contribution from Wageningen University and PBL Netherlands Environmental Assessment Agency."

Where are we?

- Current policies reduce GHGs by 3.5 GtCO₂-eq [2.0 to 5.5]
- Policies fall short of NDCs: 11.2 [7.0-17.0] GtCO₂eq.
- Gap with :
 - 2°C : 23.7 [9.0-37.4] GtCO₂eq.
 - 1.5°C : 30.3 [17.1 to 43.0] GtCO₂eq.



Where are we?

EMISSIONS

BUDGET

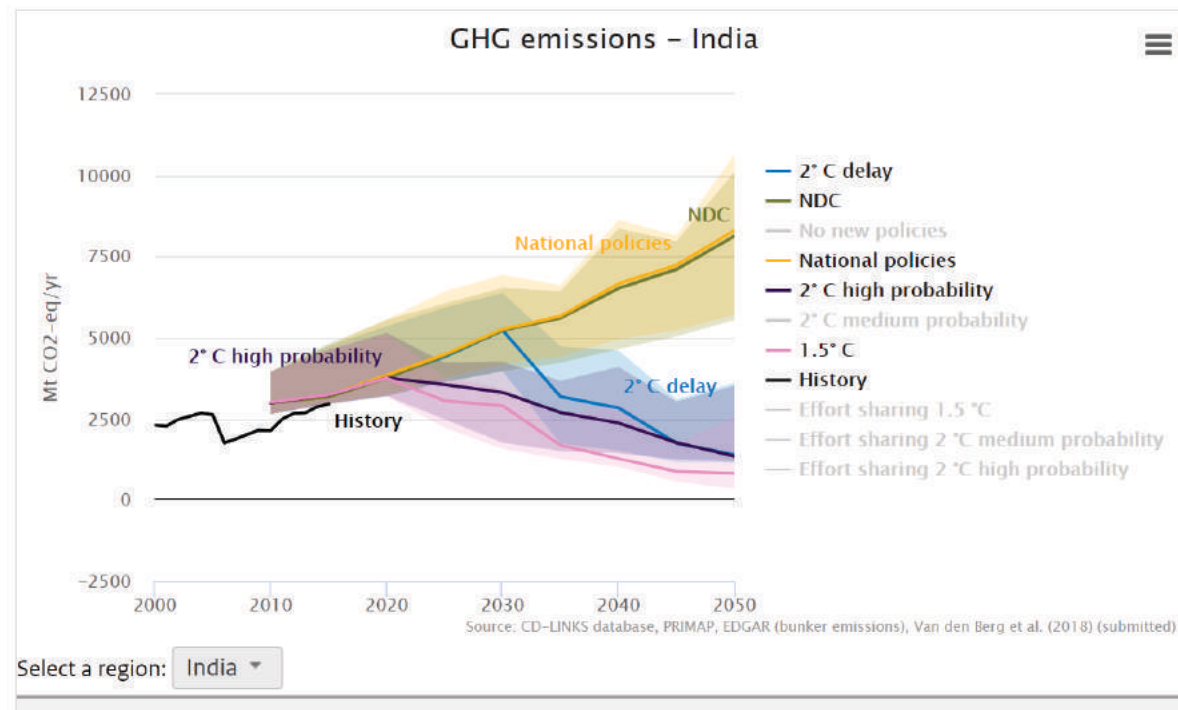
DECARBONISATION

POLICY

INNOVATION

INVESTMENT

SCENARIOS



New interactive tool to analyse stocktake at scale of world and 7 countries

Global transformation
pathways



National low-carbon development
pathways

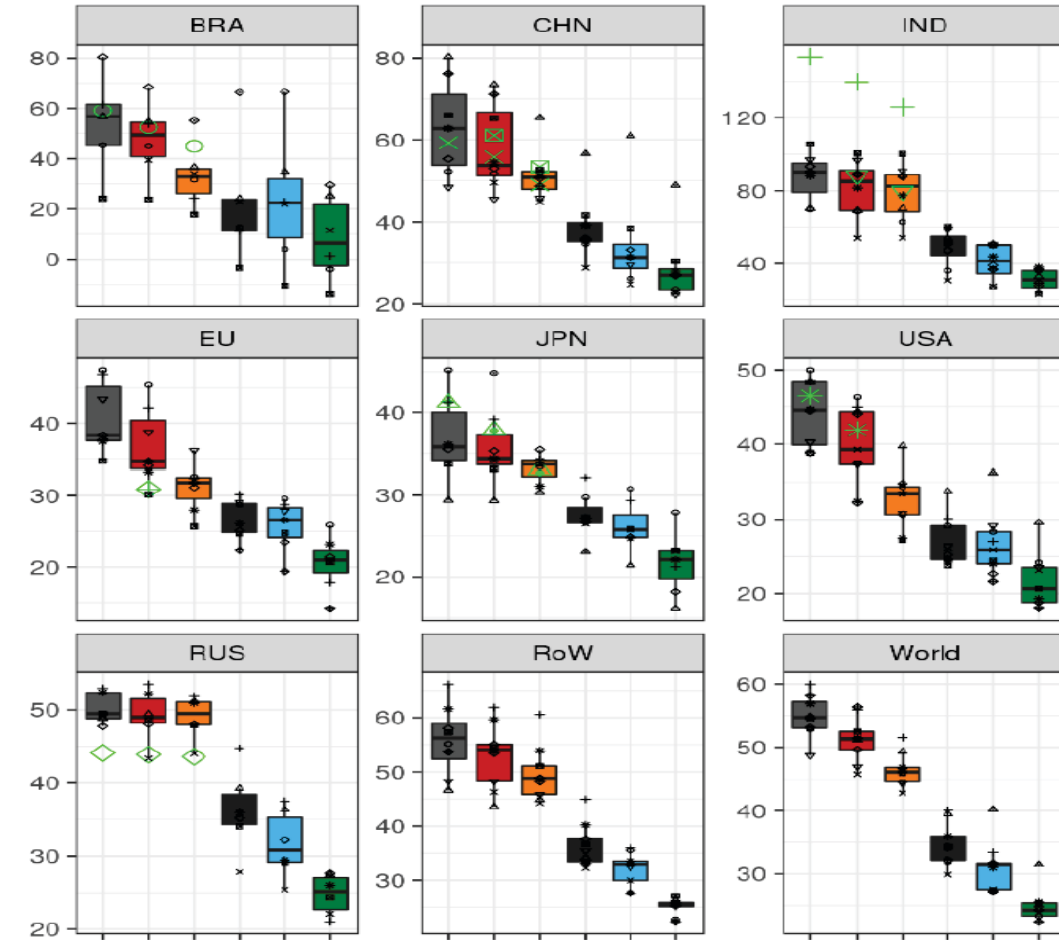
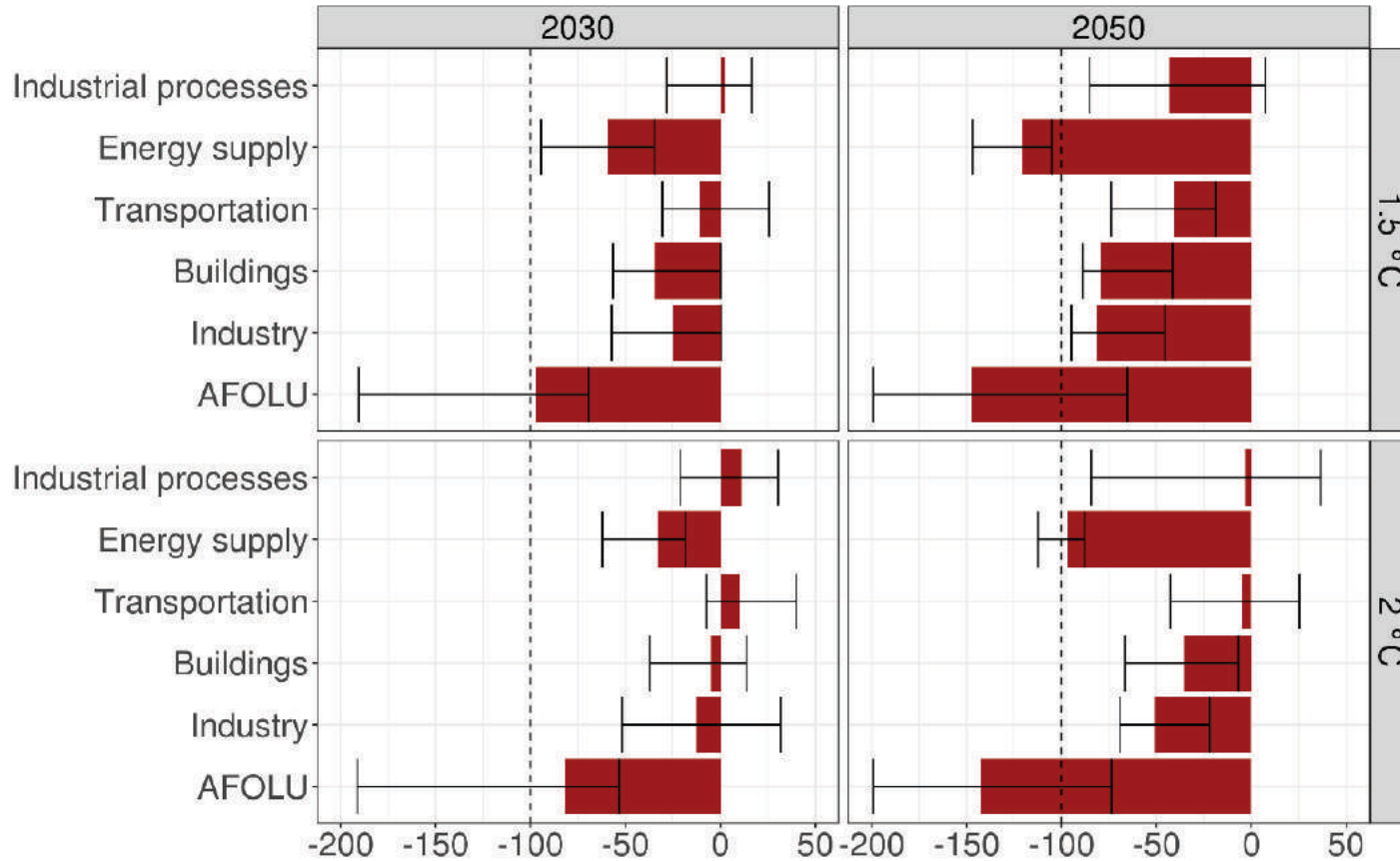
Where do we want to go?

Where are we?

How do we get there?

How do we get there?

c) Sectoral CO₂ emissions by 2030 and 2050, relative to 2010 (%)



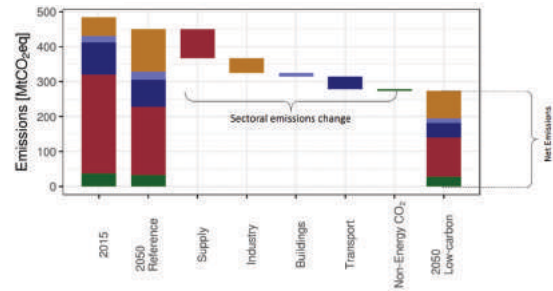
National fact sheets: Participating teams and energy-economy models

Country	Institution	Models
Australia	CSIRO	ESM, VURM, LUTO, TIMES
Brazil	COPPETEC	COFFEE, BLUES, TEA
Canada	ECCC	GCAM-Canada, EC-MSMR
China	ERI, NCSC	IPAC-AIM, IAMC, PECE
EU	E3Modelling	PRIMES, GEM-E3, PROMETHEUS
India	TERI	MARKAL-Answers
Indonesia	BAU, CREP-ITB	AIM/CGE
Japan	IGES, NIES	AIM/CGE
Russia	HSE	TIMES/RUSSIA
South Korea	UOS	AIM/CGE, AIM
USA	PNNL	GCAM-USA

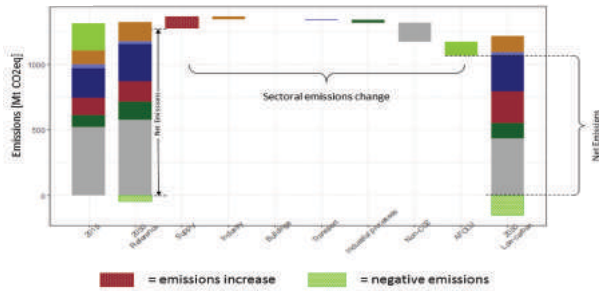
National Fact Sheet outline

- Three Talanoa dialogue related sections:
 - Where are we?
 - Where do we want to go?
 - How do we get there?
- One section focusing on a specific key issue for each country
- Scenario results do not define where a country ought to be, but where models expect them to be – informing national low-carbon strategies

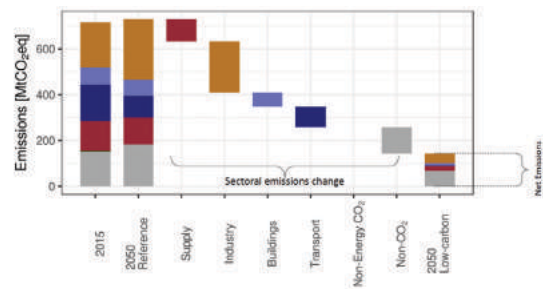
Australia



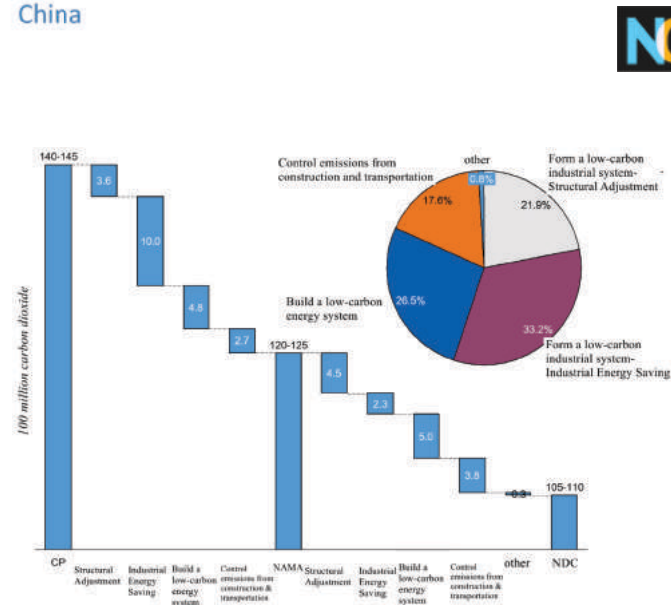
Brazil



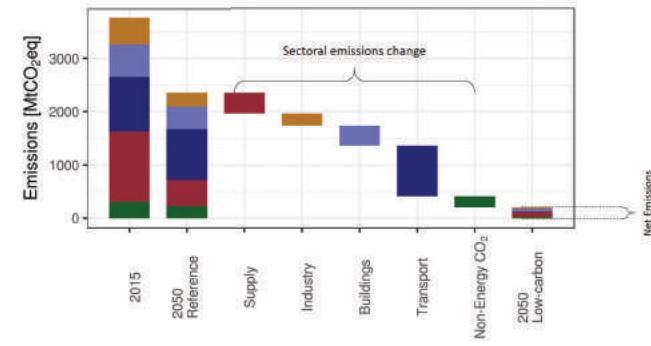
Canada



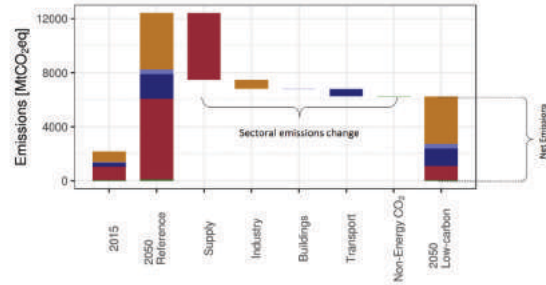
China



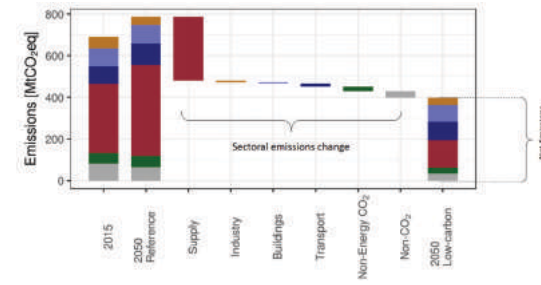
European Union



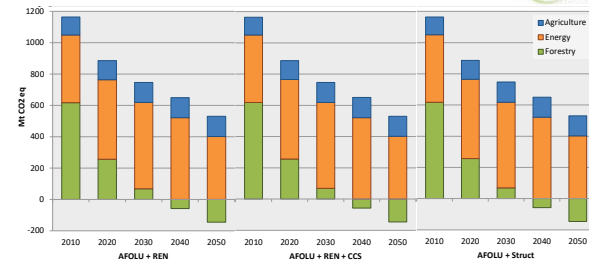
India



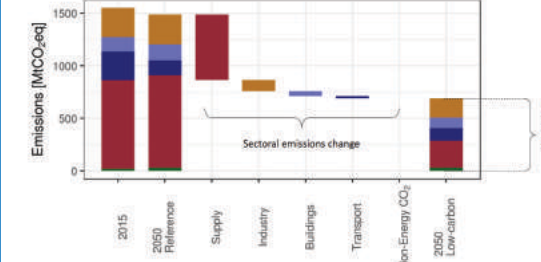
Republic of Korea



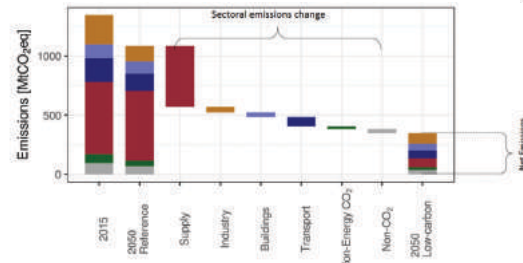
Indonesia



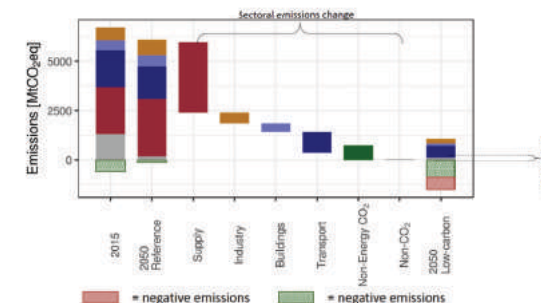
Russian Federation



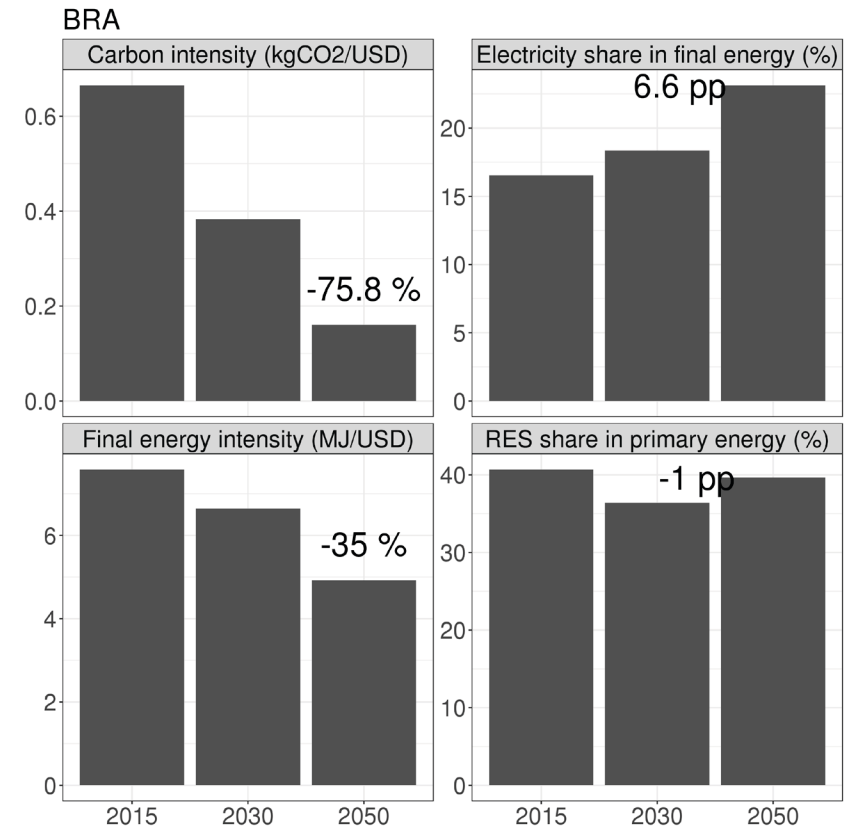
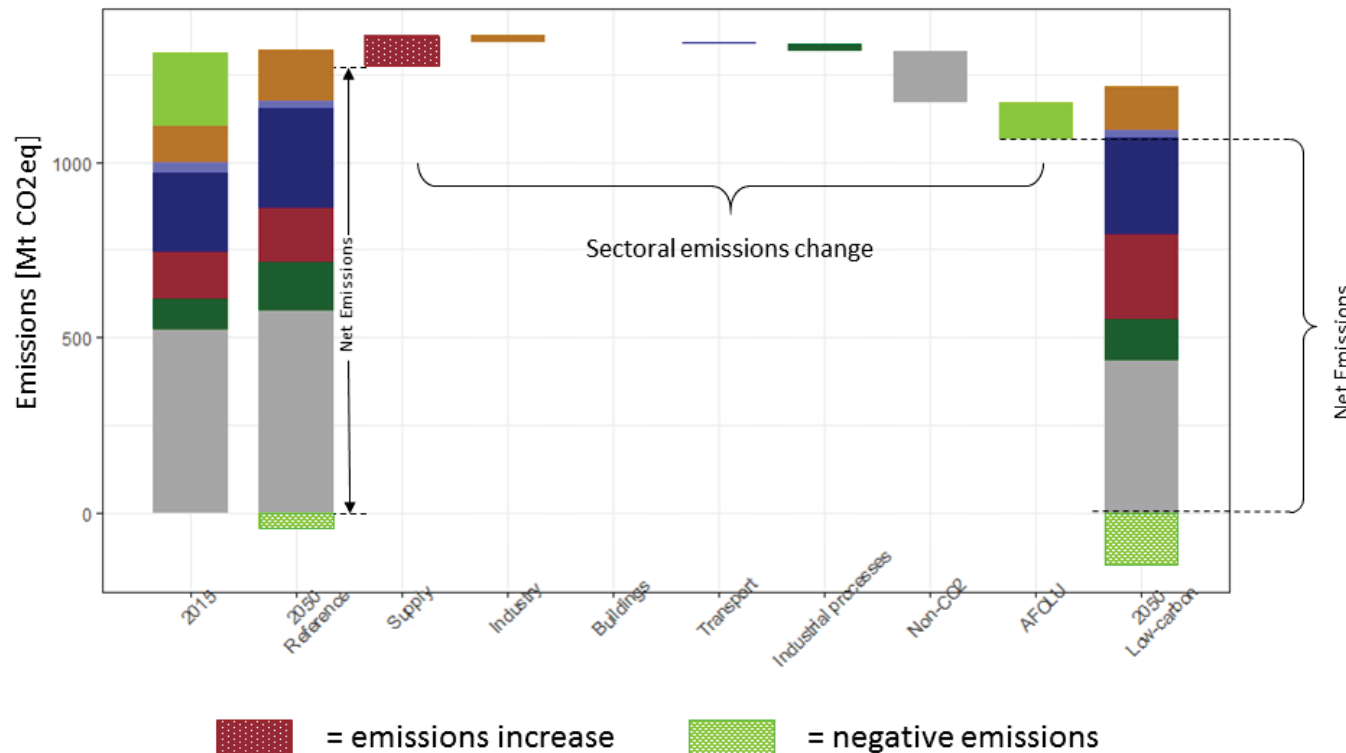
Japan



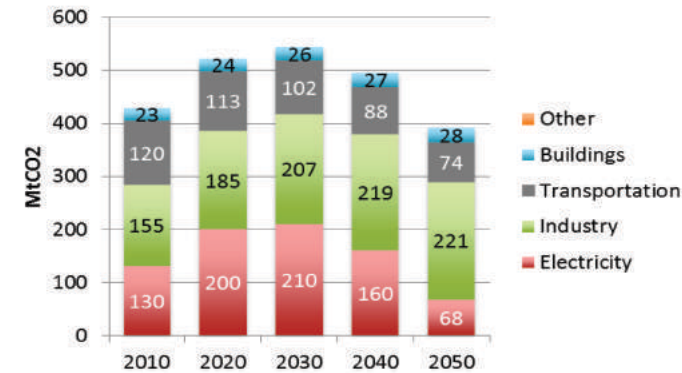
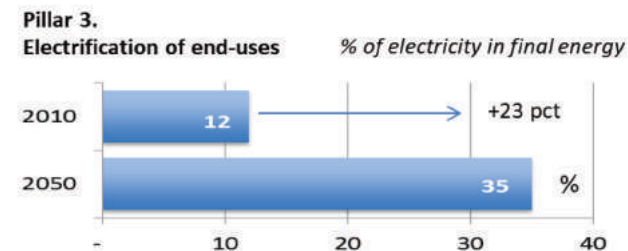
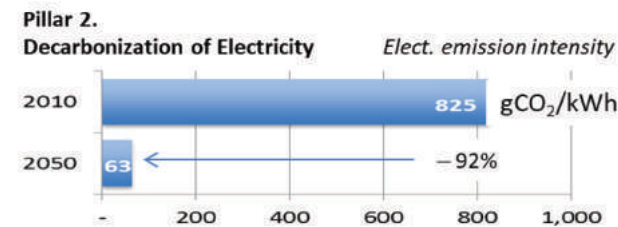
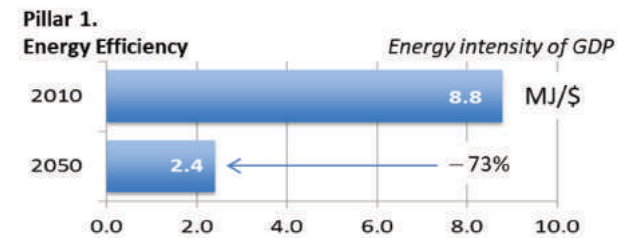
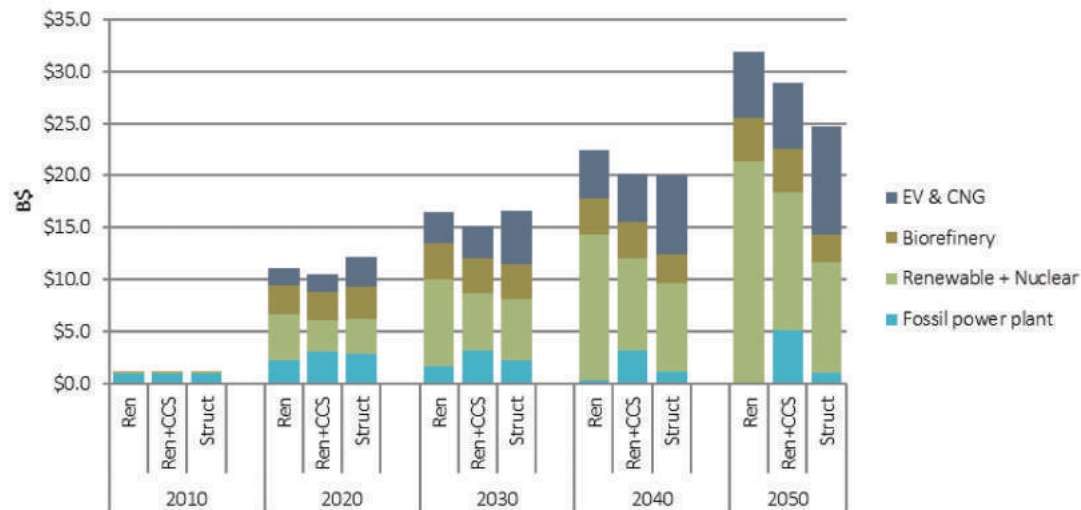
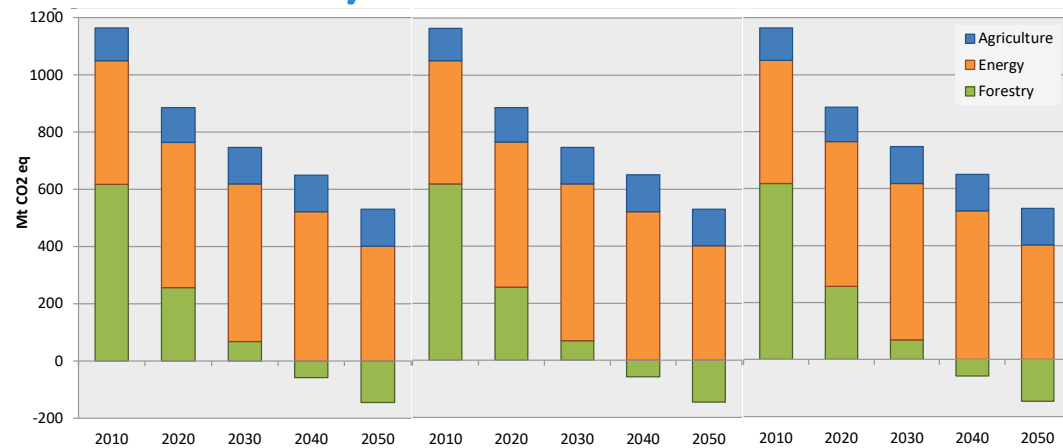
United States of America



Brazil: opportunities from AFOLU and non-CO₂ mitigation could reduce pressure on productive sectors



Indonesia: would need to study the link between a low-carbon economy and SDGs such as clean energy, poverty eradication



Key findings national fact sheets

- Opportunities exist to strengthen existing climate policies
- Implementing these opportunities will require a massive **redirection of current investments** and using the possible **synergies between climate policies and national development** objectives
- All countries rely on **renewable energy** (mainly wind and solar) and **energy efficiency** to reduce emissions, albeit to different extents
- The deployment of other low-carbon options highly depends on **national specificities**, policy considerations and priorities (e.g. CCS, bioenergy, nuclear power, carbon dioxide removal technologies)
- Role of **innovative systems** has to be examined for longer-term MCS (ICT, demand management, storage, electric vehicles, H₂)
- **National specificities play a key role in developing low-carbon pathways**

Thank you!

- <https://themasites.pbl.nl/commit/>
- @COMMIT_MCS