Mitigation in the Context of the Paris Agreement

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Government questionnaire for AR6 scoping: Priority topics for WG III

Policy relevant information on the Paris Agreement goals (well below 2°C, efforts to achieve 1.5°C, climate neutrality); anticipate the global stocktake; transformation pathways to meet 2°C and 1.5°C; social + financial + technological + sectoral + regional implications of pathways	19
Geo-engineering, including limits, negative emissions	7
The role of short-lived climate pollutants and other benefits	6
Options for decarbonization pathways, including solutions from business	6
Links between climate change and SDGs	5
Technological, economic, social, and institutional barriers to realizing mitigation targets and benefits from carbon offset mechanisms	4
Opportunities, challenges, barriers and co-benefits of climate change mitigation policies and measures	3
Impacts on land-use change, including ecosystem restoration, biodiversity and ecosystem functions and services	3

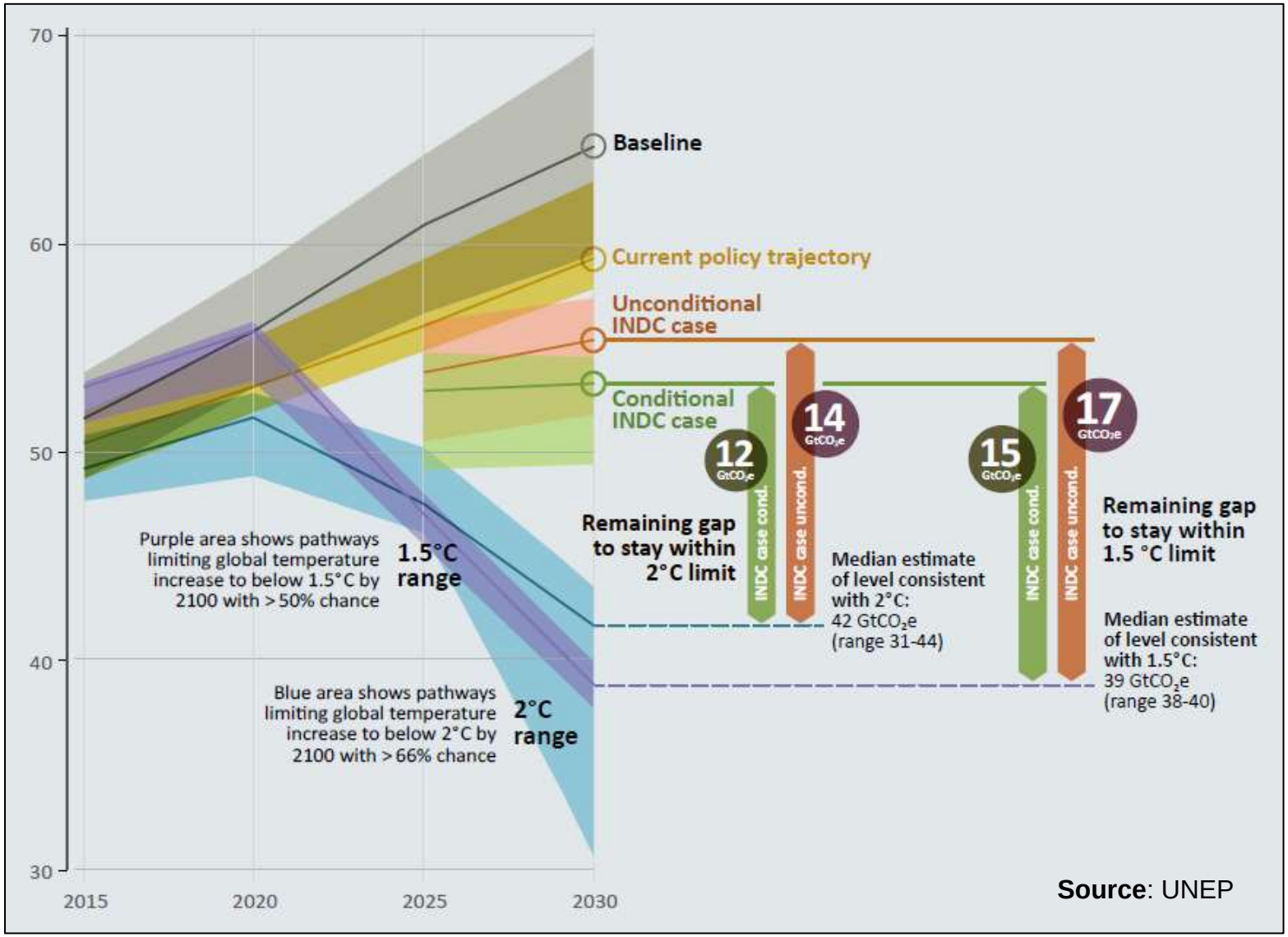
Mitigation in the Paris Agreement: Temperature, emissions and sinks

- "This Agreement aims to strengthen the global response to the threat of climate change…. including ***by 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, recognizing that this would significantly reduce the risks and impacts of climate change"
- "Each Party shall prepare, communicate and maintain successive ***nationally determined contributions*** that it intends to achieve"
- The CoP….shall periodically take stock of the implementation of the Agreement to assess collective progress towards achieving the purpose of the Agreement and its long-term goals (the "***global stocktake***")
- Parties aim to reach **global peaking of greenhouse gas emissions** as soon as possible….. so as to **achieve *a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases*** in the second half of this century,

Mitigation in the Paris Agreement: Enabling elements

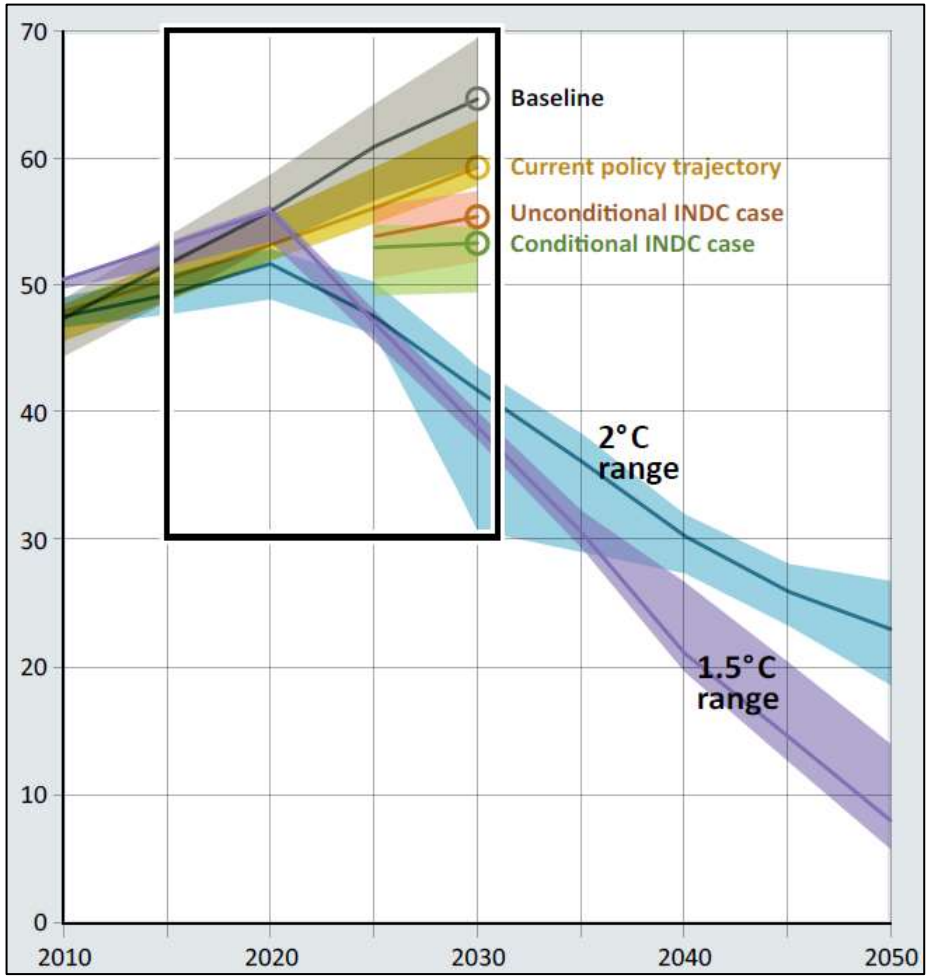
- *In the context of sustainable development*
- Developed country Parties should continue to take the lead in *mobilizing climate finance* from a wider variety of sources, instruments and channels
- Parties share a long-term vision on the importance of fully realizing *technology development and transfer* in order to improve resilience to climate change and to reduce greenhouse gas emissions
- Parties….shall *strengthen cooperative action* on technology development and transfer
- A *technology framework* is hereby established to provide overarching guidance to the work of the *Technology Mechanism* in promoting and facilitating enhanced and transfer……

Progress in restricting global warming to 1.5 - 2°C above pre-industrial levels by the end of this century

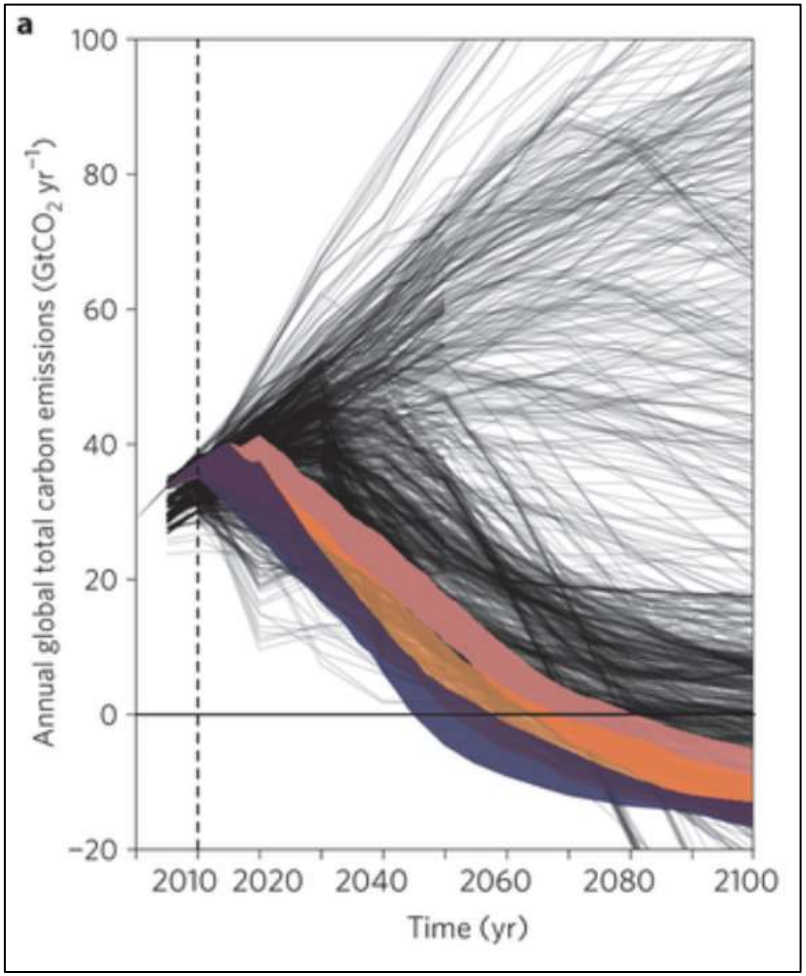


Source: UNEP

The view to 2050 and beyond

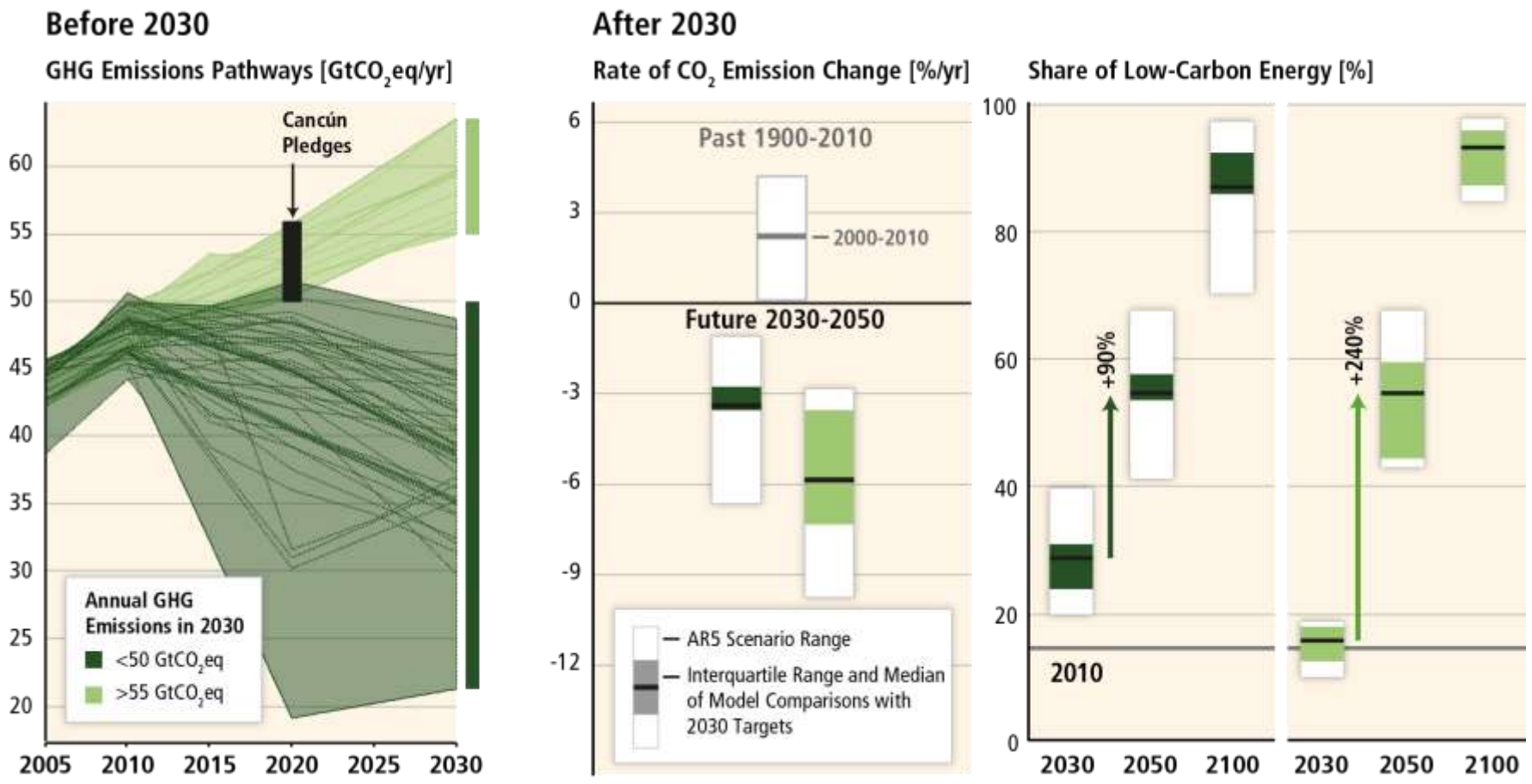


Source: UNEP



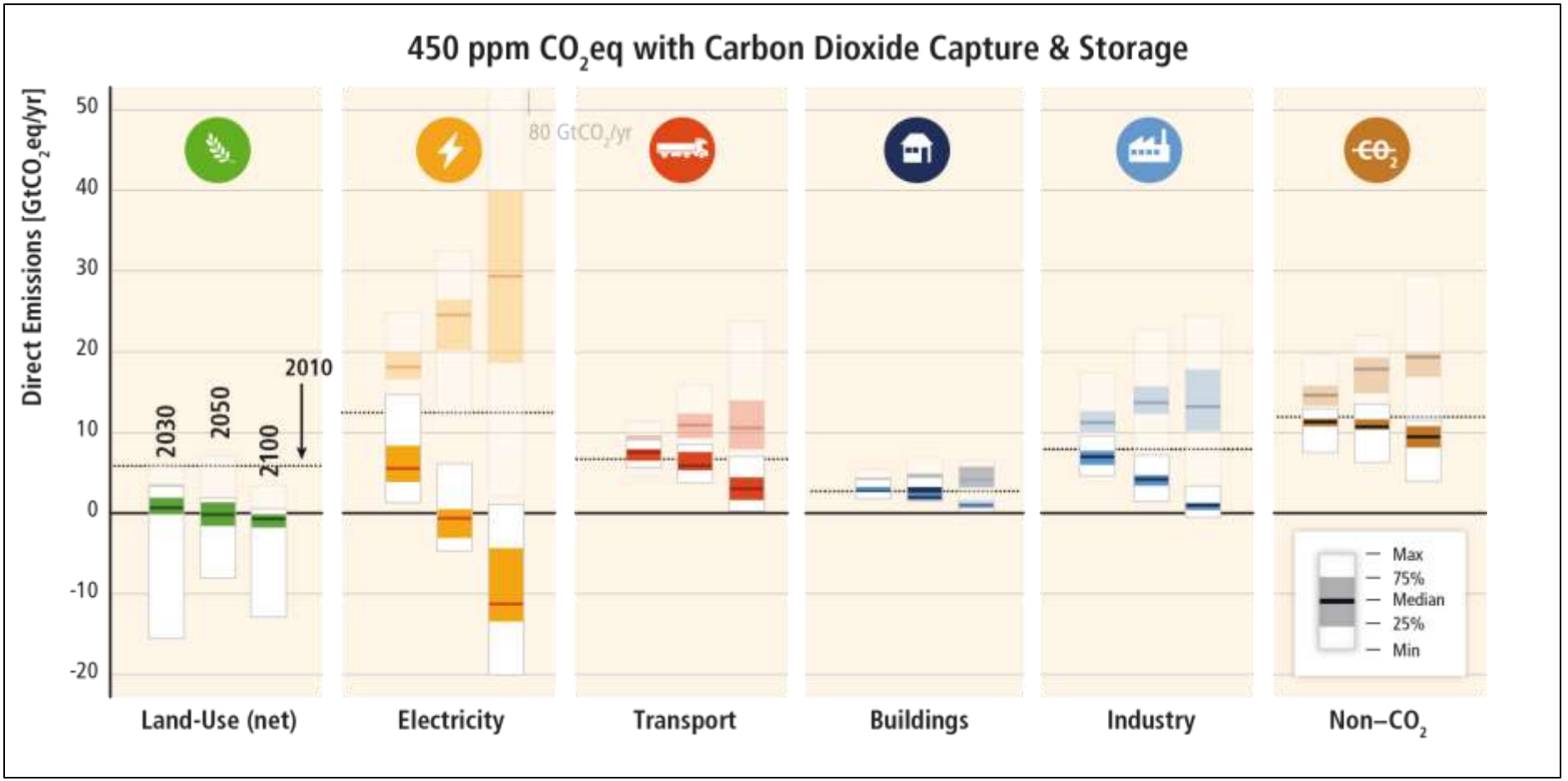
Source: Rogelj et al, 2015

The sooner we act, the easier and the cheaper it will be to reach a given temperature goal



Source: AR5 WGIII SPM

Emission patterns would need to change throughout the economy



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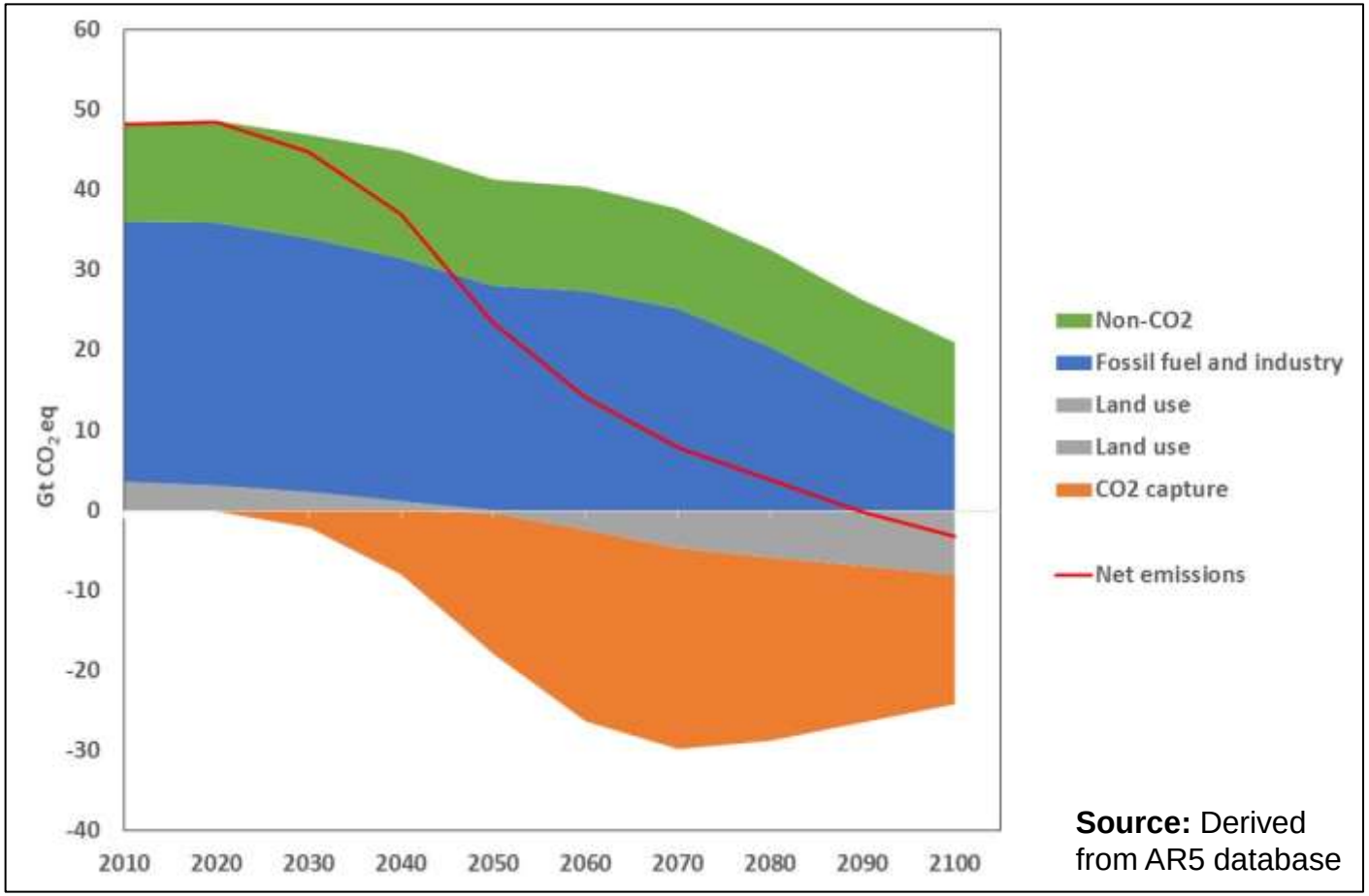
Balancing sinks and sources and long-term low greenhouse gas emission development strategies (Article 4)



Source: Derived from AR5 database

Note: One illustrative scenario with a 65% probability of getting below 2°C warming

Limiting Temperature Increase to 2˚C

Measures exist to achieve the substantial emissions reductions required to limit likely warming to 2˚ C

A combination of adaptation and substantial, sustained reductions in greenhouse gas emissions can limit climate change risks

Implementing reductions in greenhouse gas emissions poses substantial technological, economic, social, and institutional challenges

But delaying mitigation will substantially increase the challenges associated with limiting warming to 2˚ C

Source: AR5 WGI, WGII and WGIII SPMs

Mitigation Measures

More efficient use of energy

Greater use of low-carbon and no-carbon energy

- Many of these technologies exist today

Improved carbon sinks

- Reduced deforestation and improved forest management and planting of new forests
- Bio-energy with carbon capture and storage

Lifestyle and behavioural changes

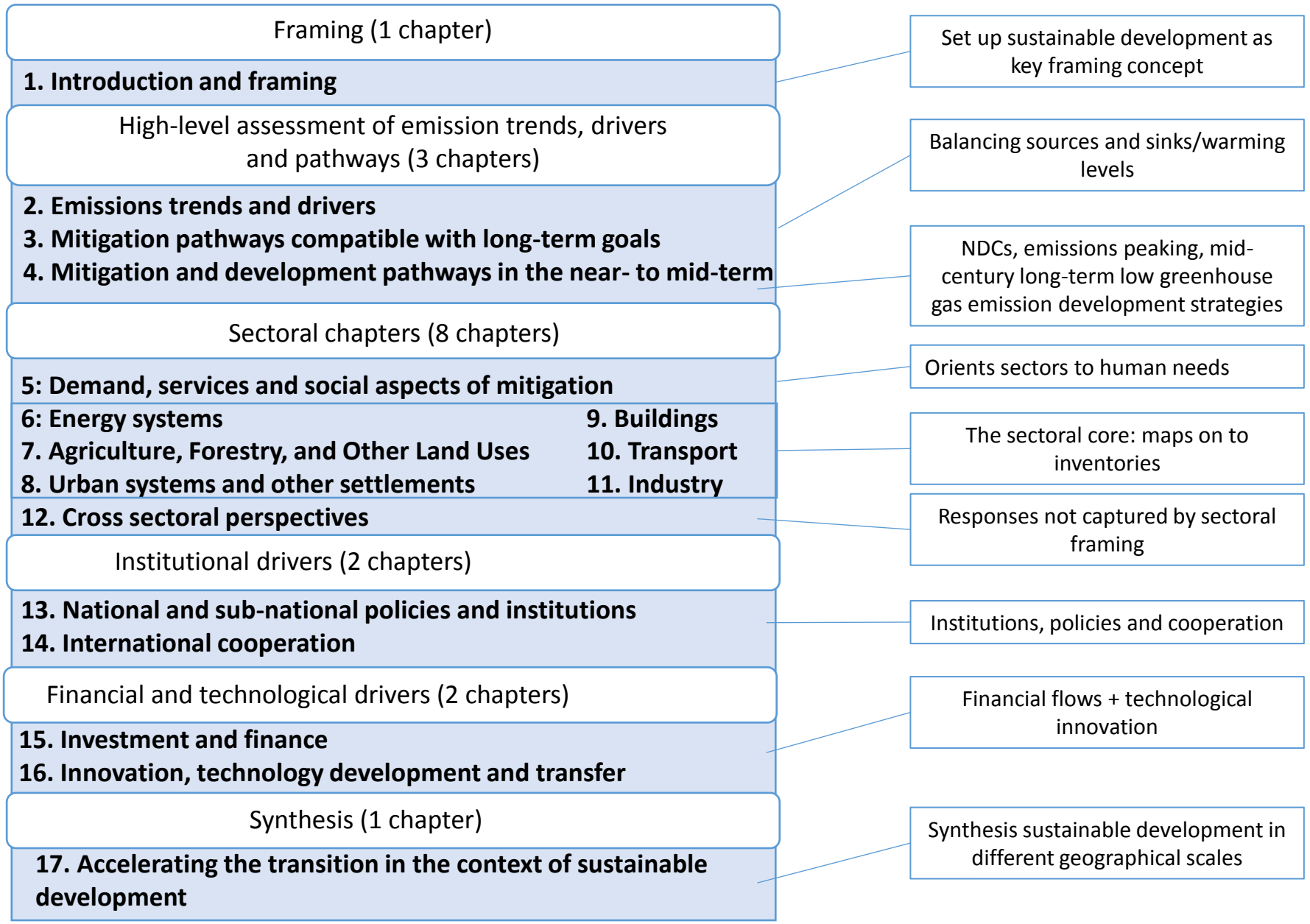
Source: AR5 WGIII SPM

Ambitious Mitigation Is Affordable

- ➜ Economic growth reduced by ~ 0.06% (BAU growth 1.6 - 3%)
- ➜ This translates into delayed and not forgone growth
- ➜ Estimated cost does not account for the benefits of reduced climate change
- ➜ Unmitigated climate change would create increasing risks to economic growth
- ➜ Opportunities for economic diversification

Source: AR5 WGI and WGII SPMs

What next? Outline of WG III AR6 on mitigation



Thank you for your attention

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