
The Emissions Gap Report 2015

What contributions do the INDCs make towards the 2°C target?
How can the 2030 emissions gap be bridged ?

Paris ♦ 4 December, 2015



UNEP

United Nations Environment Programme

Key questions - Emissions Gap Report 2015

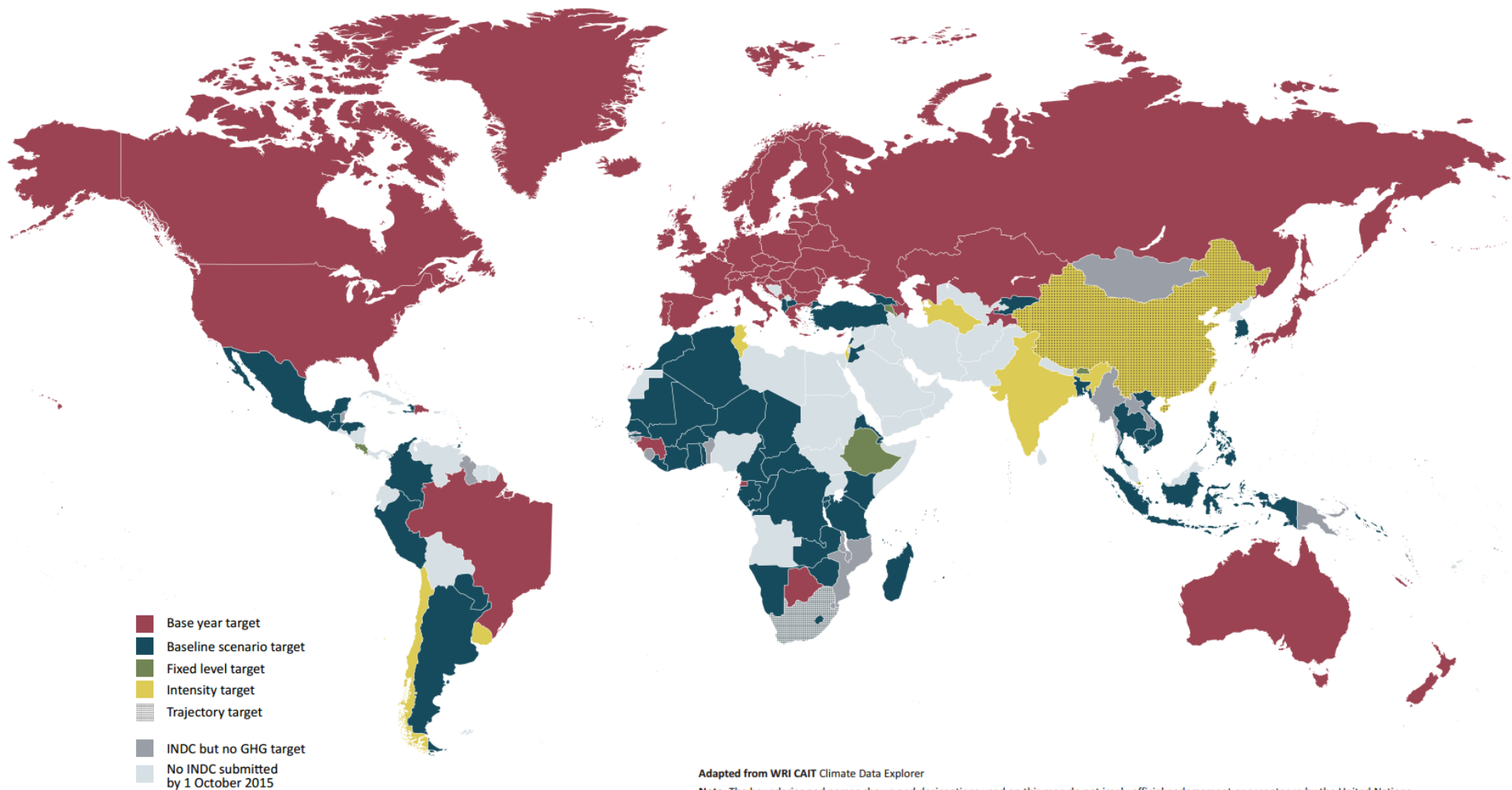
- **What are we aiming for?** Keeping temperature increase below 2°C or 1.5°C by 2100
- **What is the pre-2020 contribution?** Cancun pledges and current policies
- **What do INDCs contribute and is it sufficient to stay below 2°C?** Assessment of the aggregate effect on emission levels and global warming resulting from INDCs submitted by 1 October 2015
- **How can the 2030 Gap be bridged?** This year with a special focus on International Cooperative Initiatives and forest mitigation actions

INDCs assessed



- 119 INDCs assessed
- 146 countries represented
- 85-88% of 2012 global emissions

INDC submissions by type of mitigation target by 1st October 2015



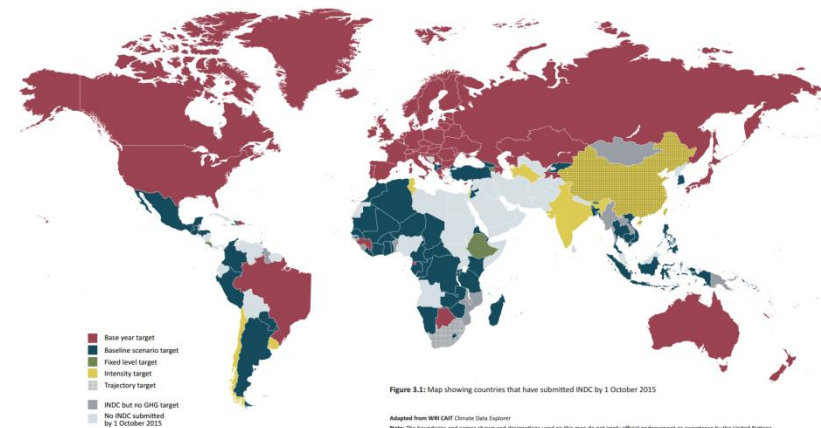
INDC characteristics



- Coverage – sectors and gases
- Global warming potential
- Agriculture, forests, and other land use
- Adaptation
- Support needs and conditions
- Descriptions of equity and ambition

Approach to INDC assessment

- Assessment of literature on INDCs from global & national studies
 - Official estimates (documents submitted by countries to the UNFCCC)
 - Estimates from many country-specific studies (WRI, ERI, NCSC, etc.)
 - Eight global studies:
 1. Climate Action Tracker (CAT) (www.climateactiontracker.org)
 2. PBL Netherlands Environmental Assessment Agency (www.pbl.nl/indc)
 3. IEA WEO (adjusted) (CO₂ from energy, augmented with USEPA, NatComs, IIASA)
 4. London School of Economics and Political Science (LSE), UK
 5. University of Melbourne
 6. NIES, Japan
 7. Climate Interactive, US
 8. Danish Energy Agency

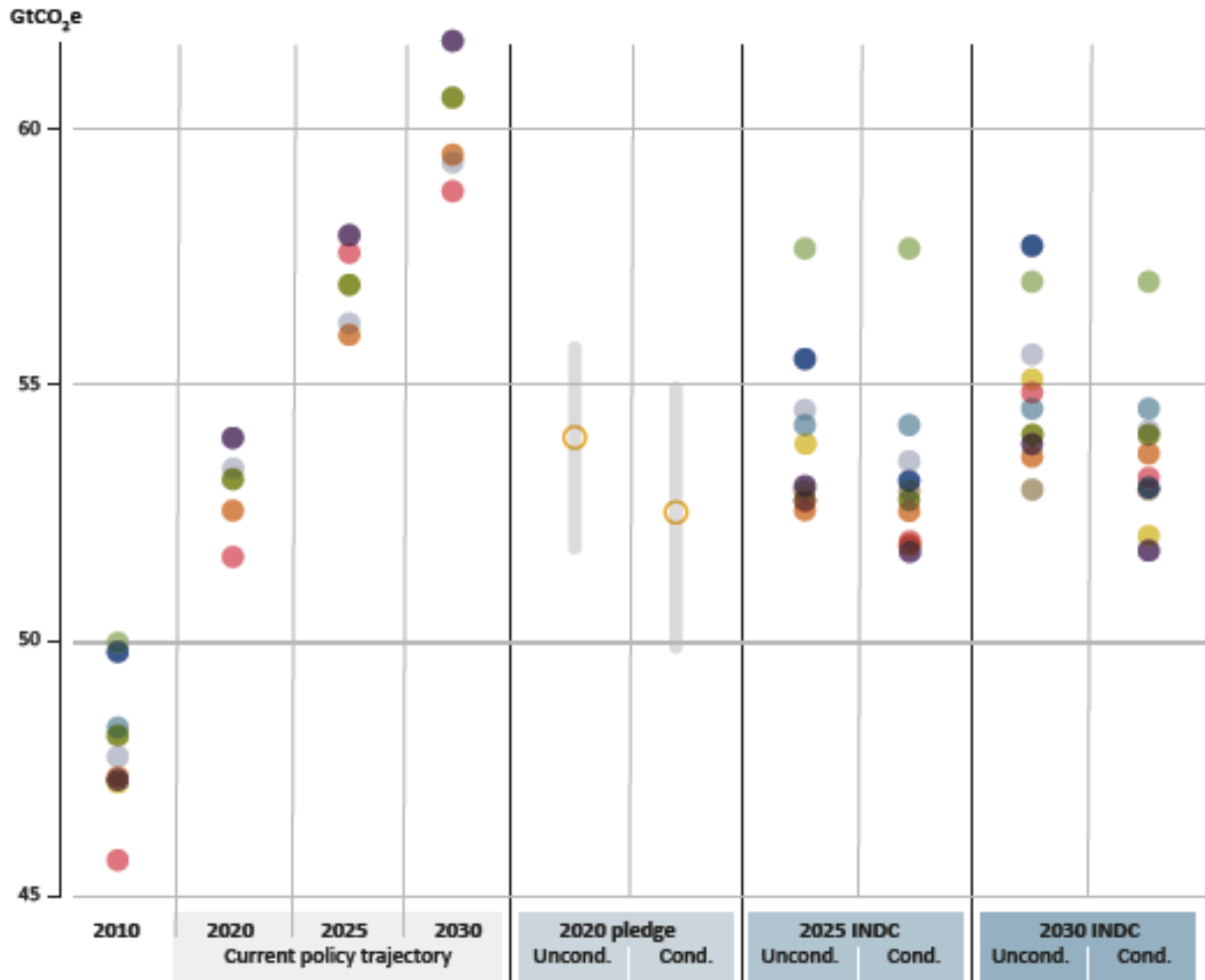


Methodological challenges

- **Differences in reporting:** Reported historical data differs slightly between inventory and projections
- **Forestry:** Estimates for LULUCF and exact accounting rules are not always known
- **Missing estimates:** Inter- and extrapolation is necessary where 2025 and 2030 were not provided, timing but not level of peak provided
- **GWPs:** Emissions are reported in GWP from SAR and AR4, historical emissions and projections may not match
- **Missing information on countries/sectors:** For global aggregation, information on all countries and sectors and greenhouse gases is necessary

Results of the model groups

Figure 3.4 Global greenhouse gas emissions as implied by submitted INDCs (original data from different modelling groups, including LULUCF)

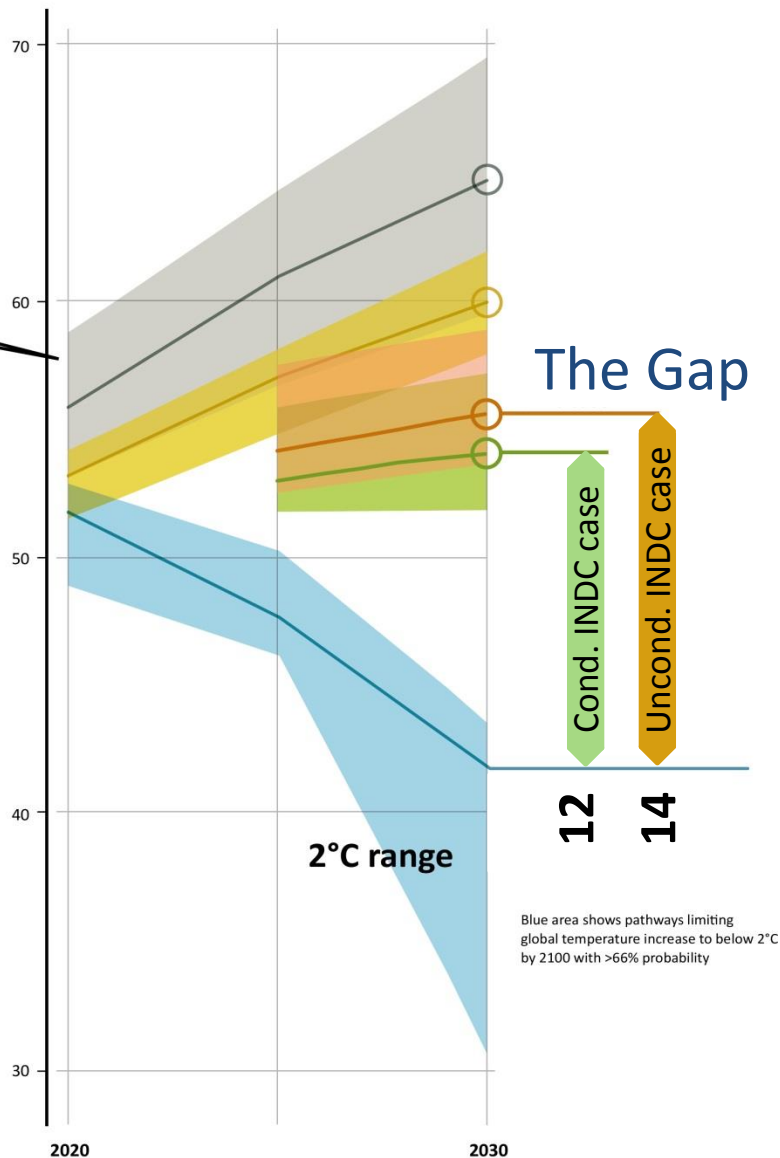
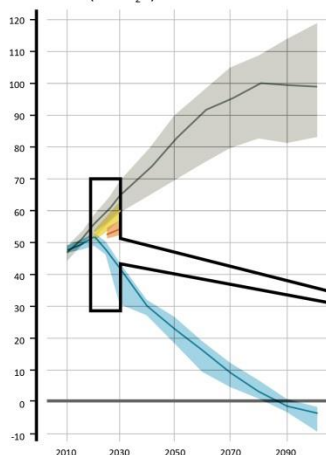


- Country-specific (official)
- CAT
- LSE
- CROADS
- Median 2020 pledges
- Country-specific (independent)
- PBL
- U.Melbourne
- DEA
- 10th and 90th percentiles for pledges
- IEA (adjusted)
- NIES

INDC contributions and the emissions gap



Annual Global Total Greenhouse Gas Emissions (GtCO₂e)

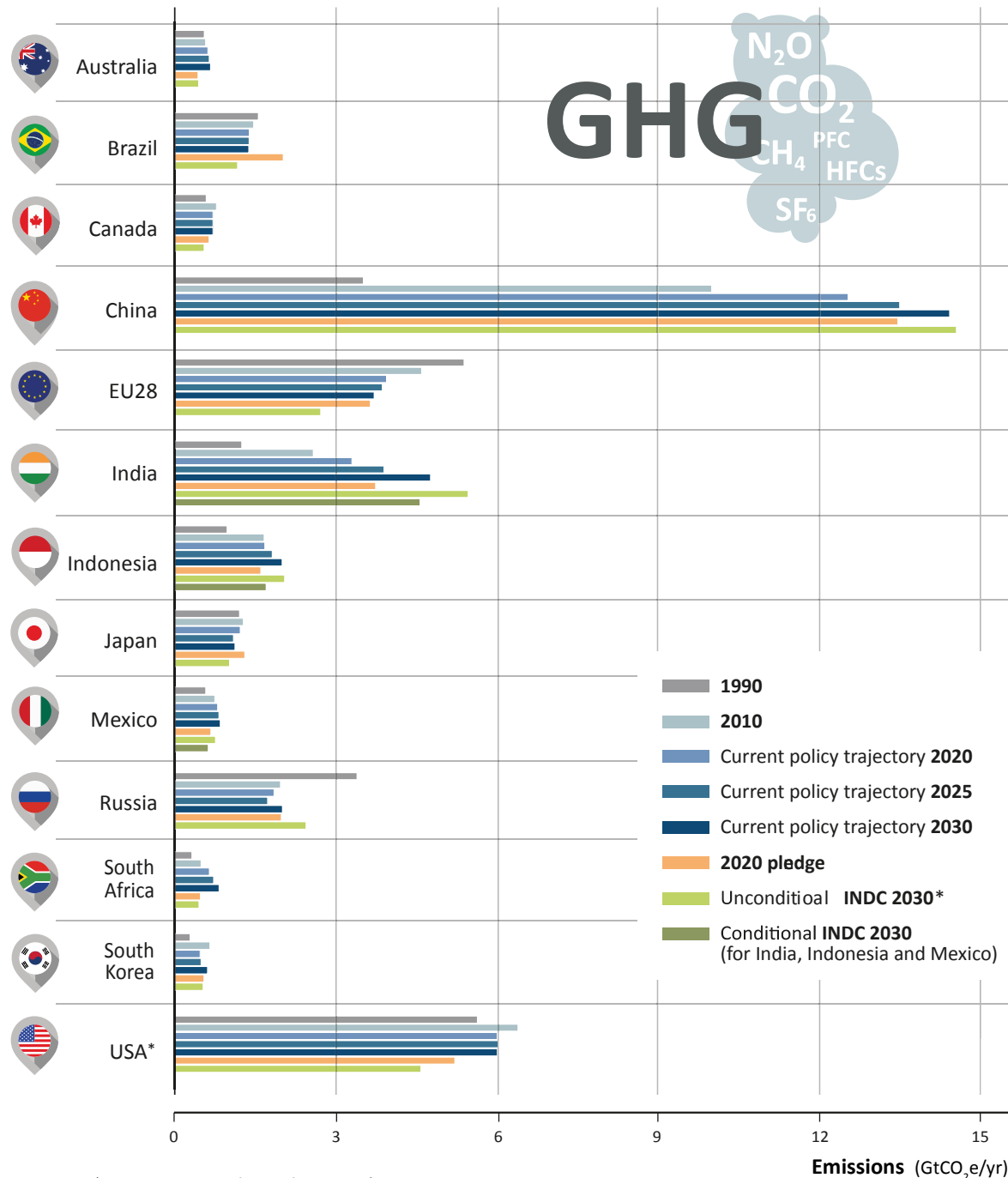


Unconditional INDC case
Gap= 14 GtCO₂e

Conditional INDC case
Gap= 12 GtCO₂e

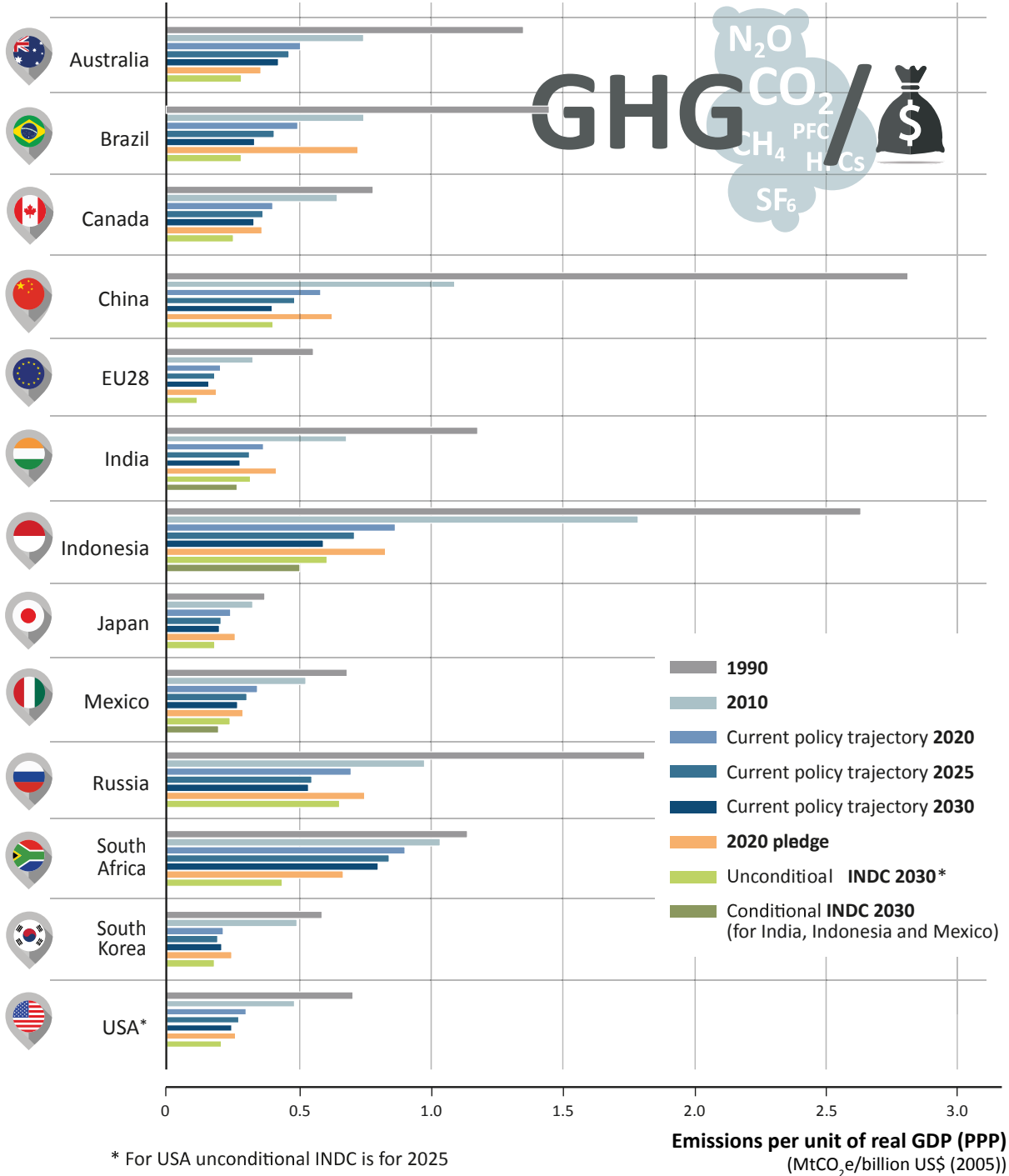
The INDCs present a real increase in the ambition level compared to a projection of current policies.

The emissions gap in both 2025 and 2030 will be very significant and ambitions will need to be enhanced urgently.

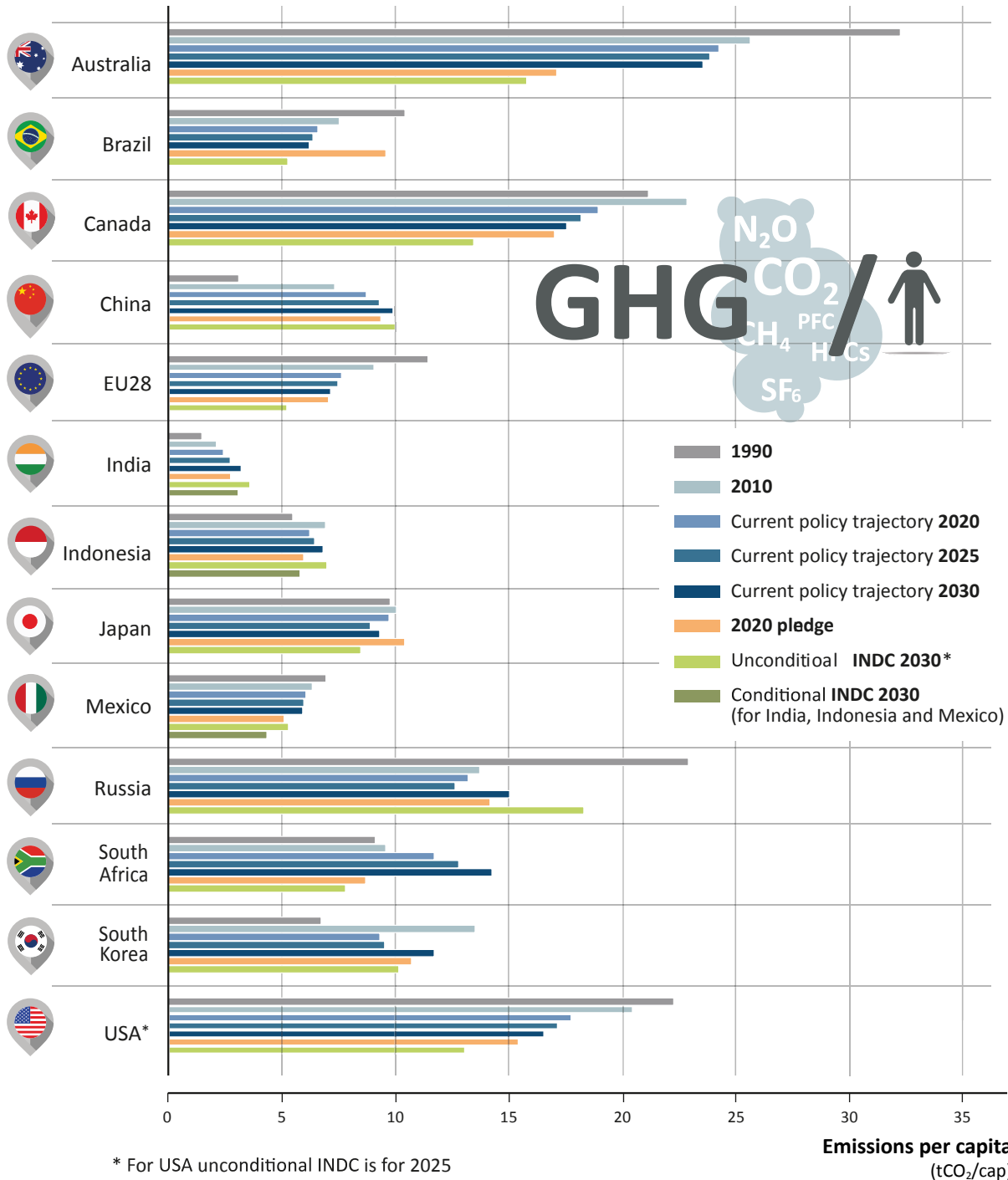


Results of the model groups

* For USA unconditional INDC is for 2025



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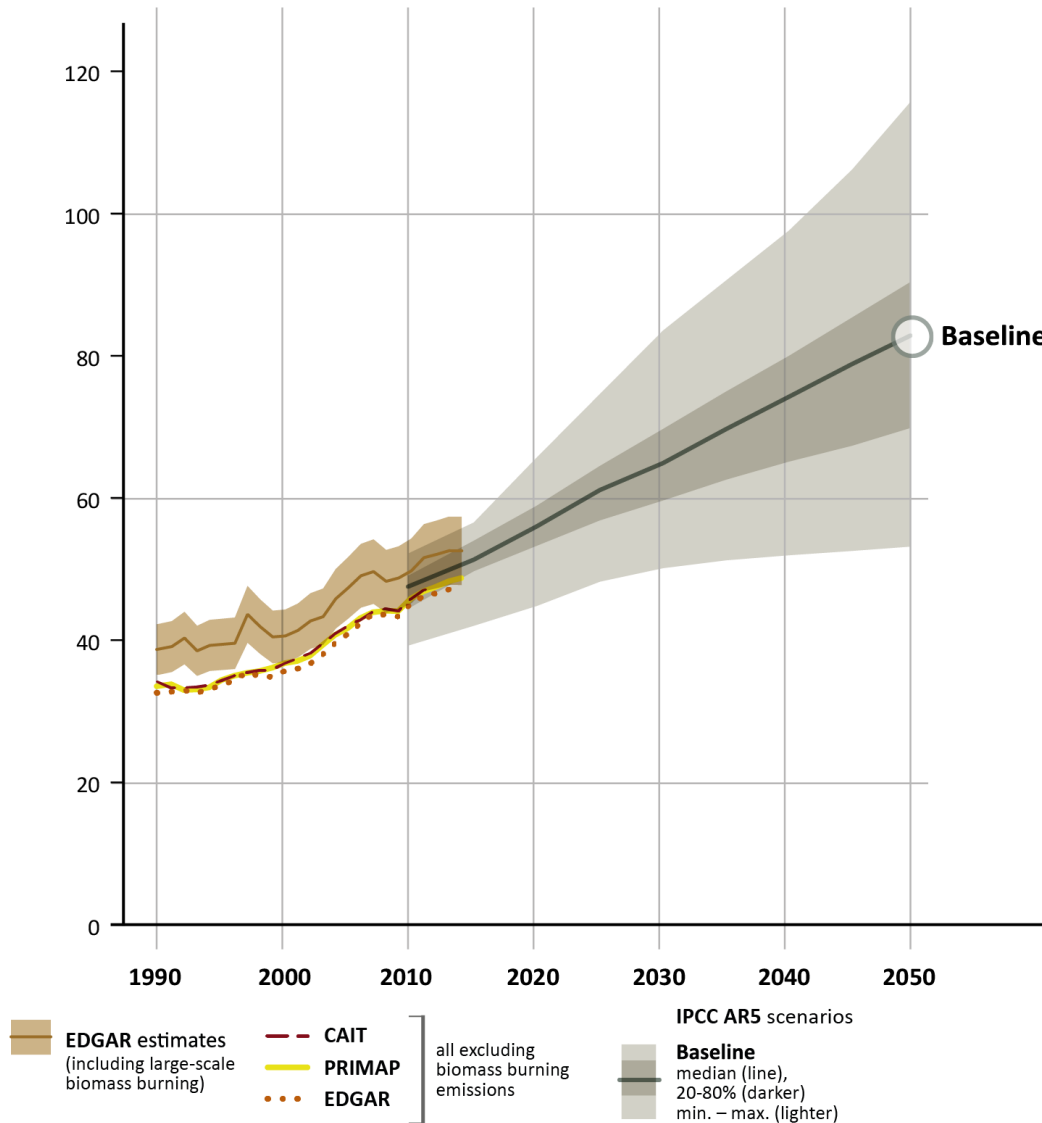
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Emissions per capita (tCO₂/cap)

What are we aiming for?



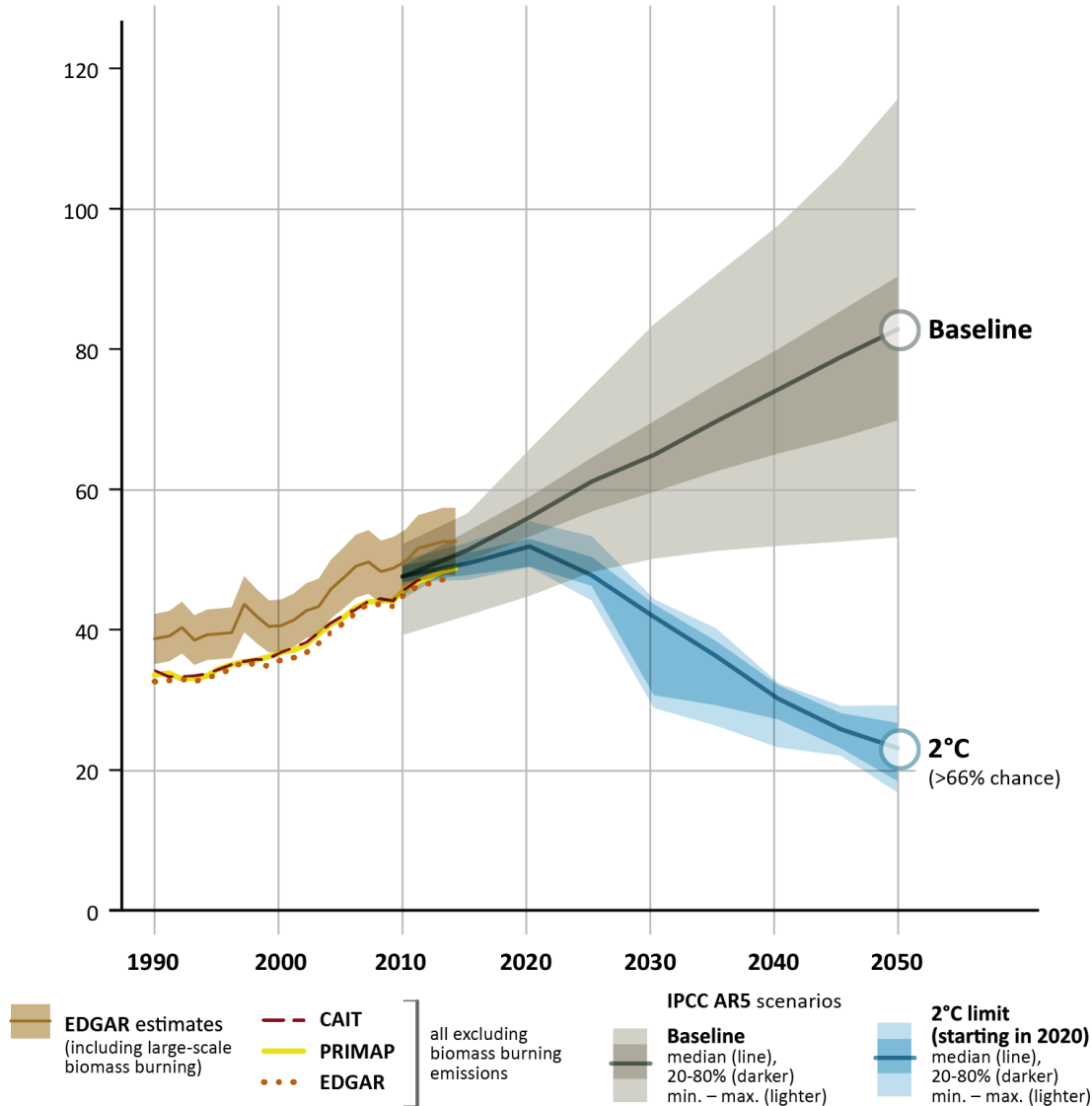
Kyoto-GHG emissions
(GtCO₂e/yr)



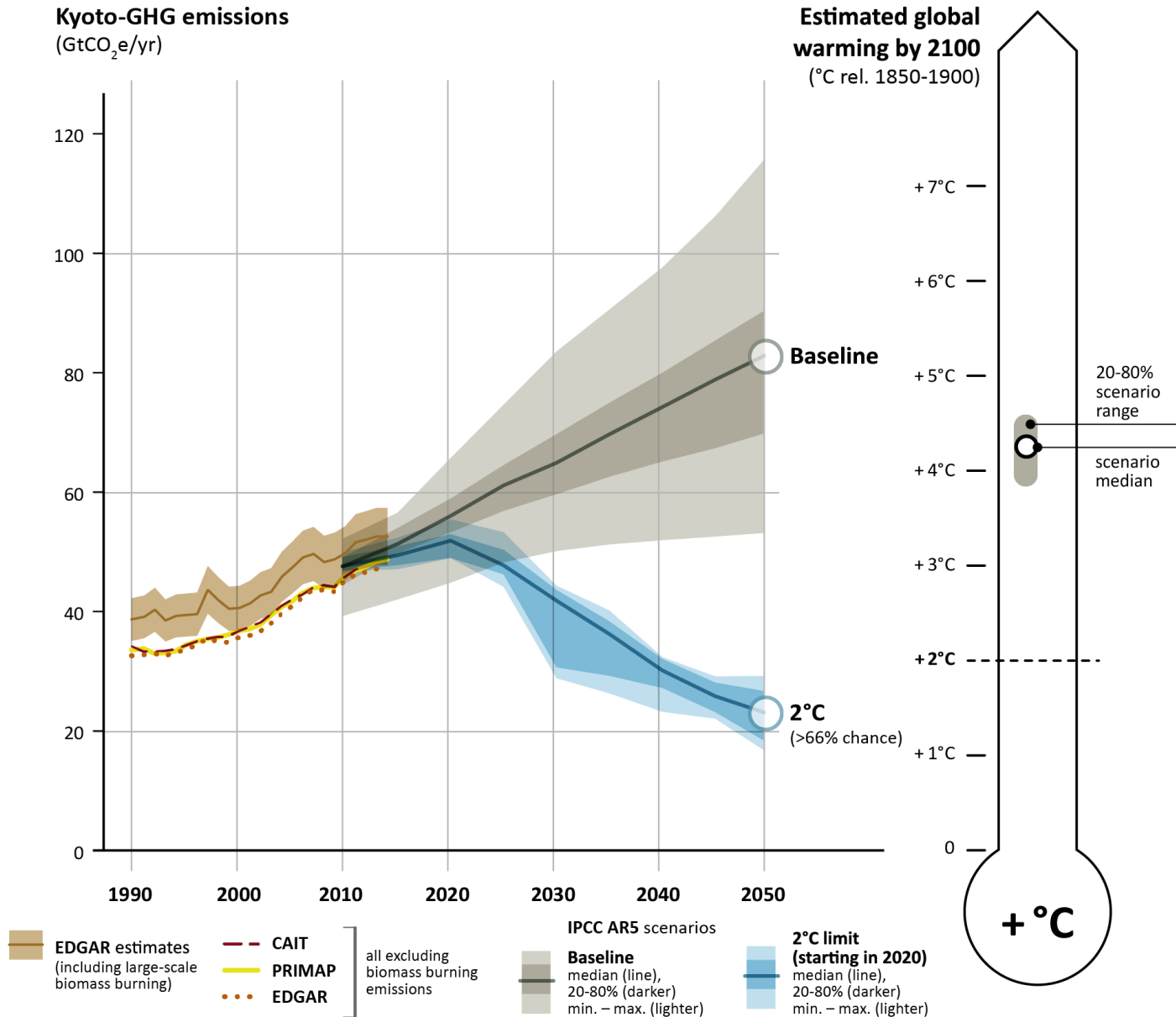
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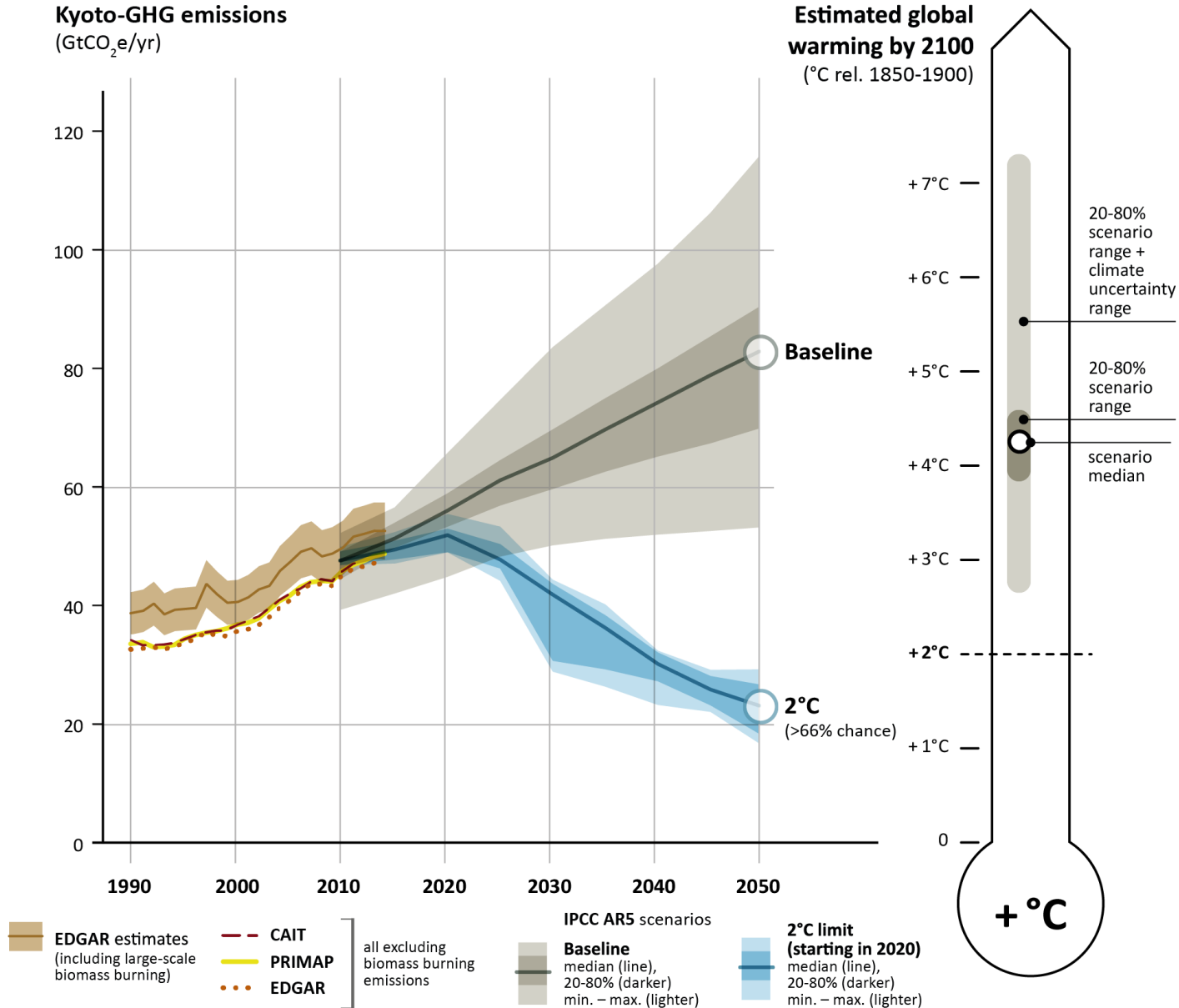
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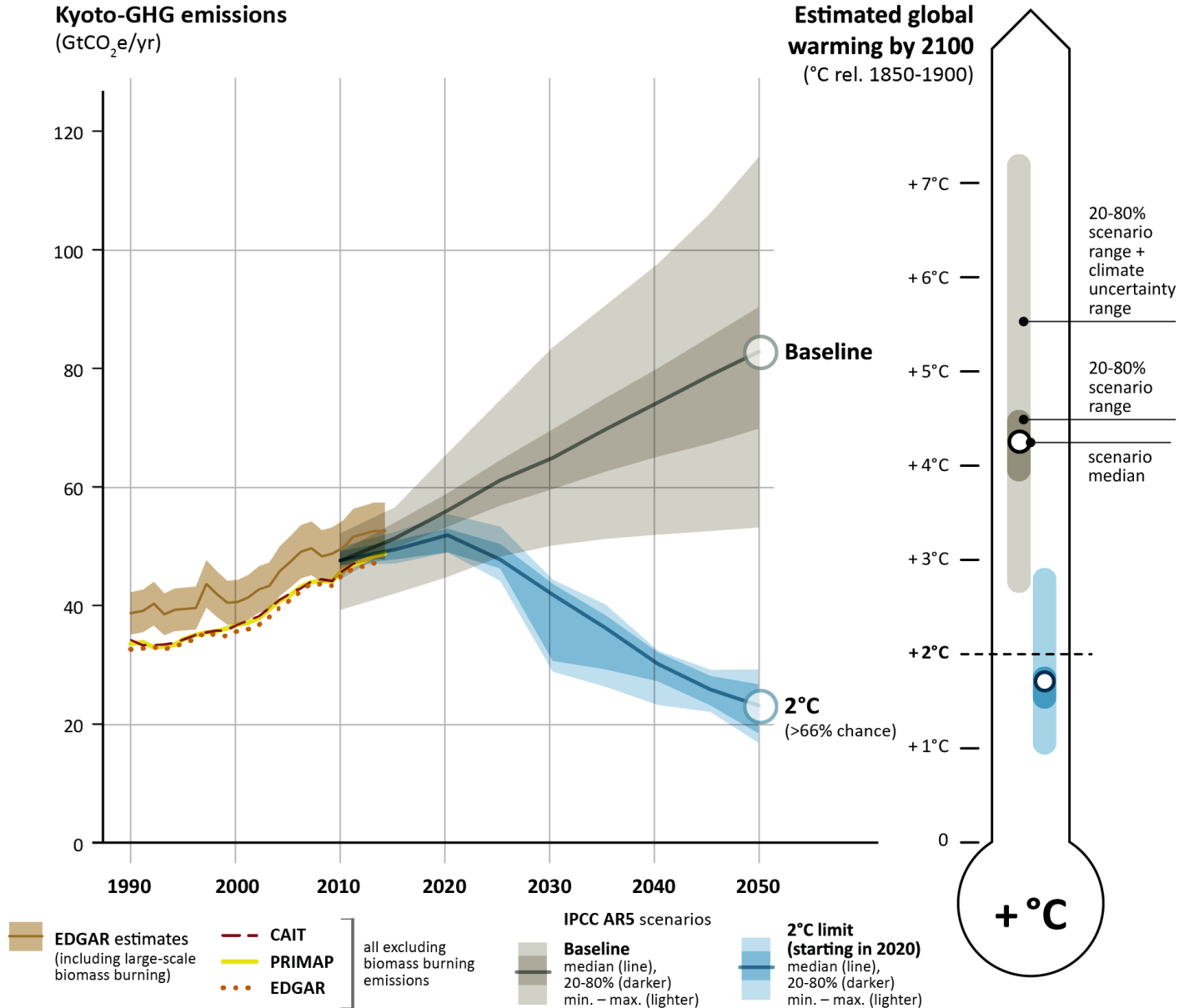


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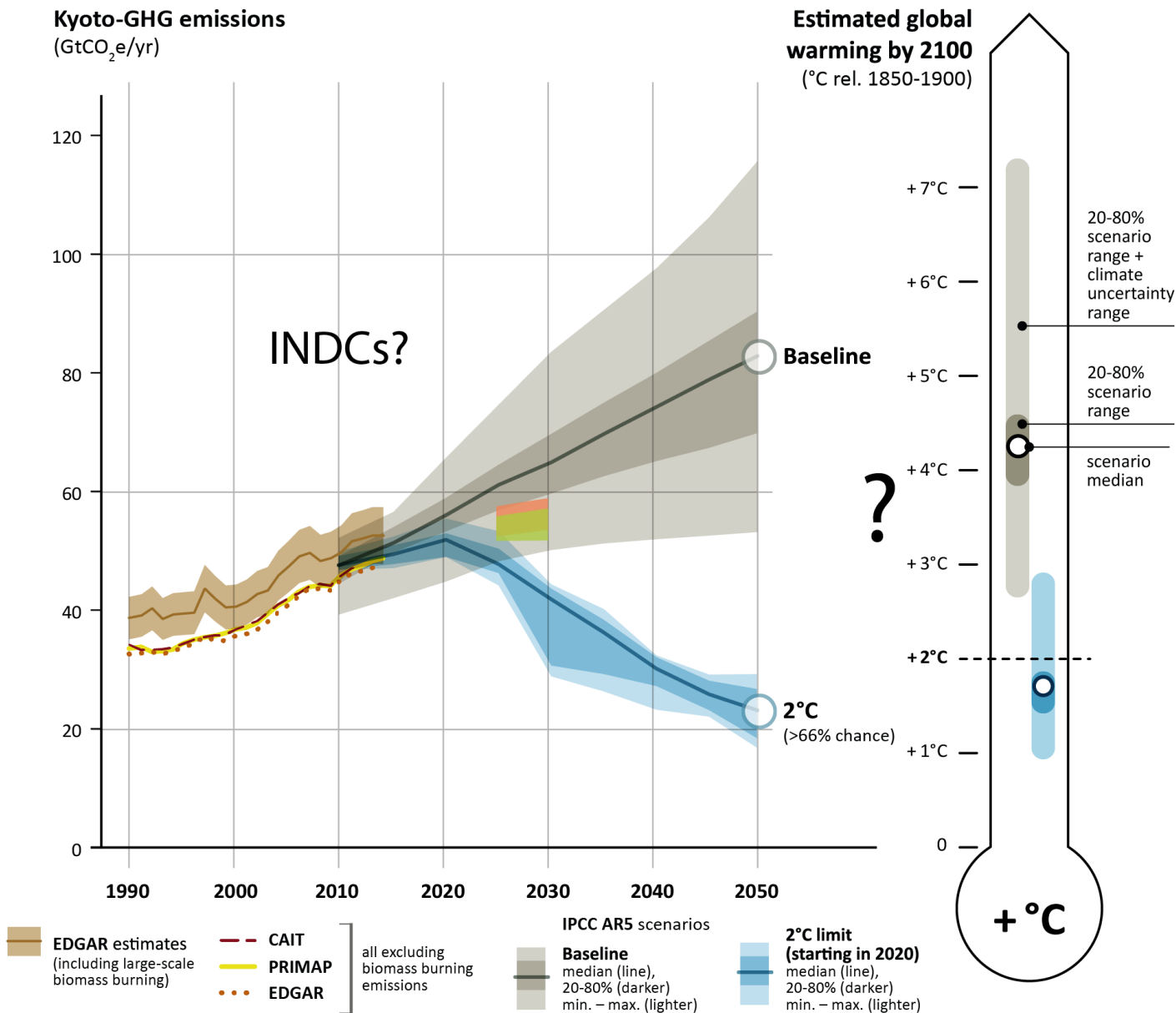


What are we aiming for?

Staying within the 2°C target



Where are INDCs bringing us?

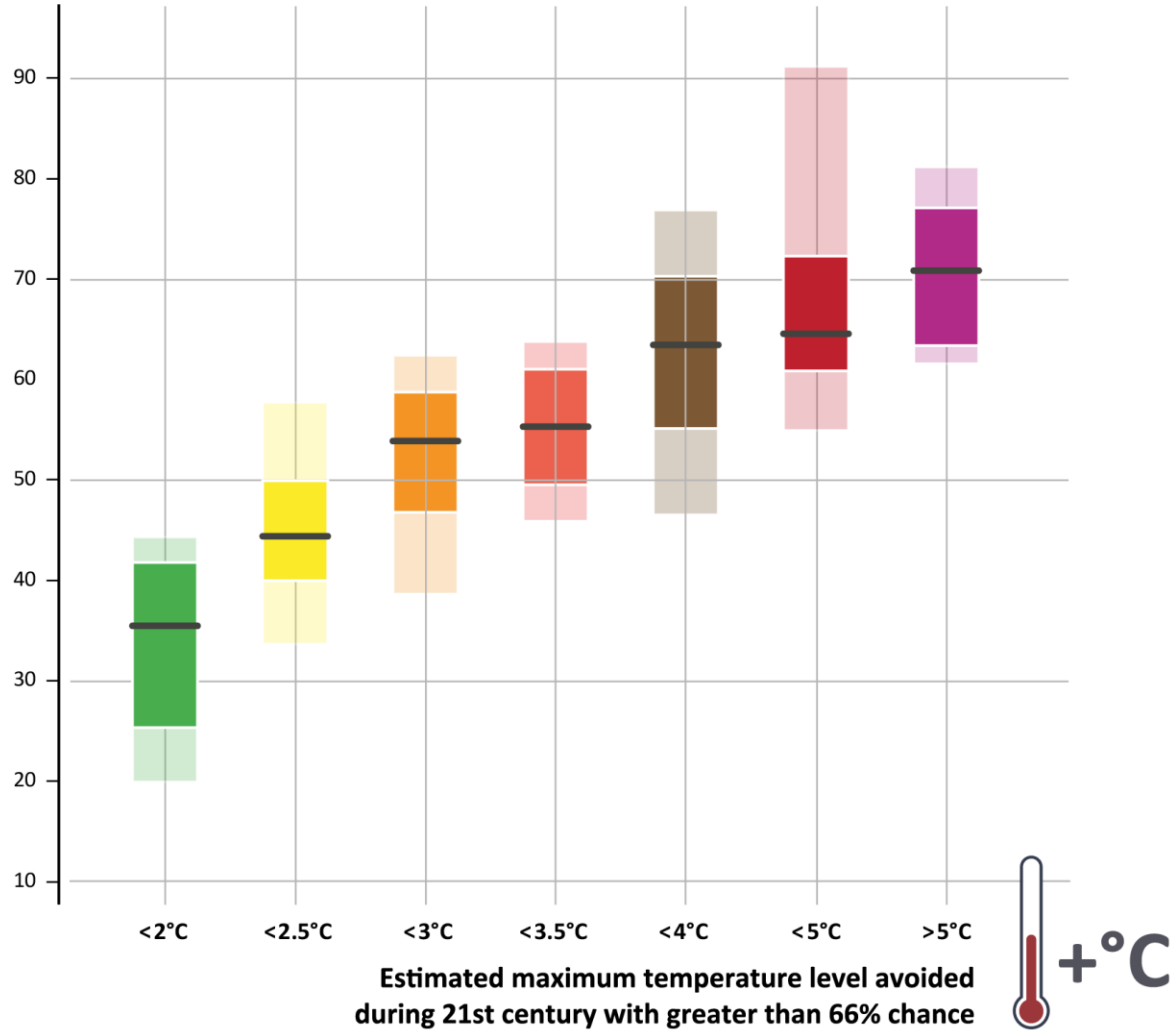


What will be the contribution of INDCs to the temperature target?

- Post-2030 assumptions determine much of the 2100 temperature outcome
- Transparent assumptions critical
- UNEP assesses a wide range assumptions from the scenario literature linking 2030 emission levels to 2100 temperature
- Core assumption: effort until 2030 is continued over time

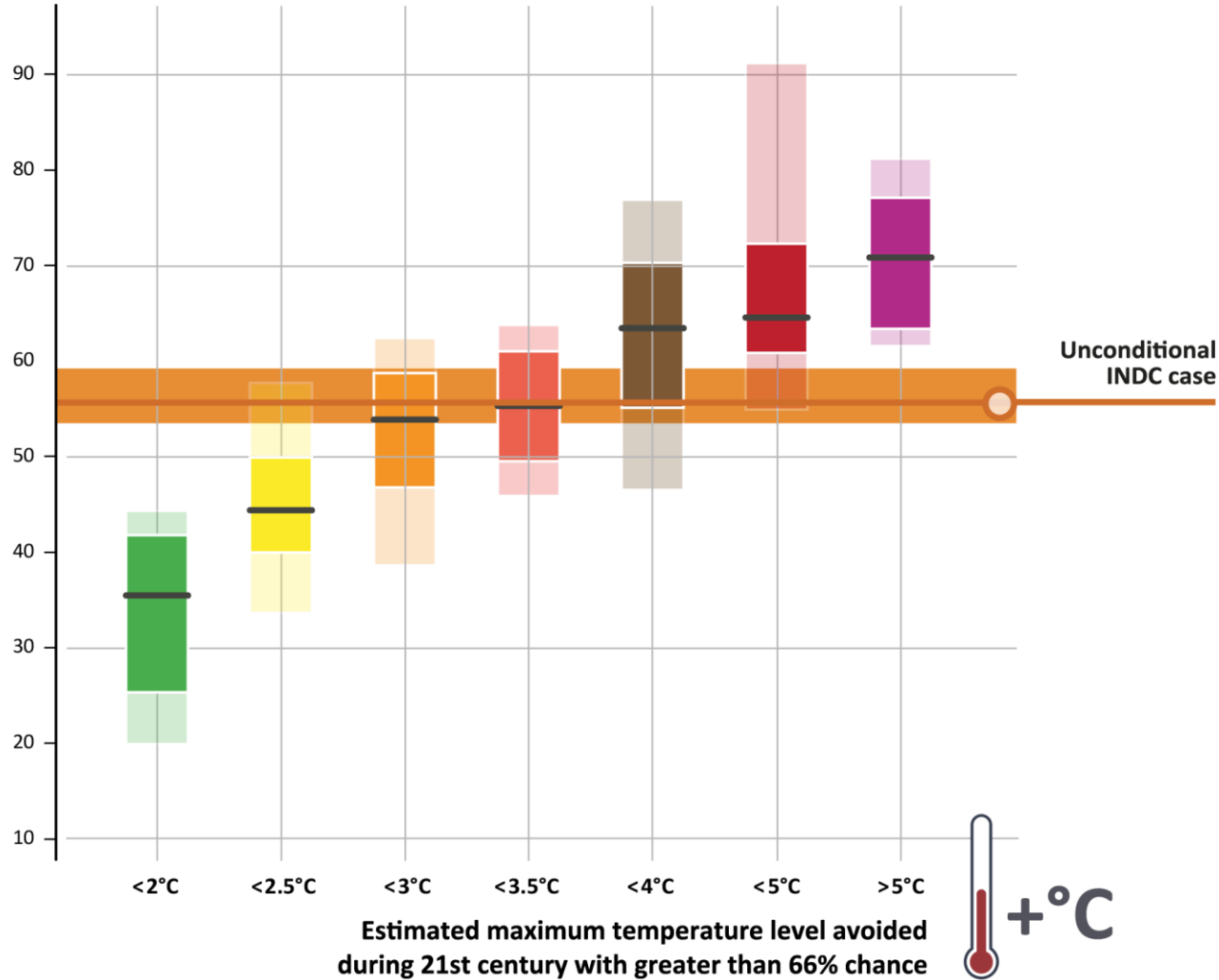
Where are INDCs bringing us?

Kyoto-GHG emission levels in 2030
(GtCO₂e/yr)



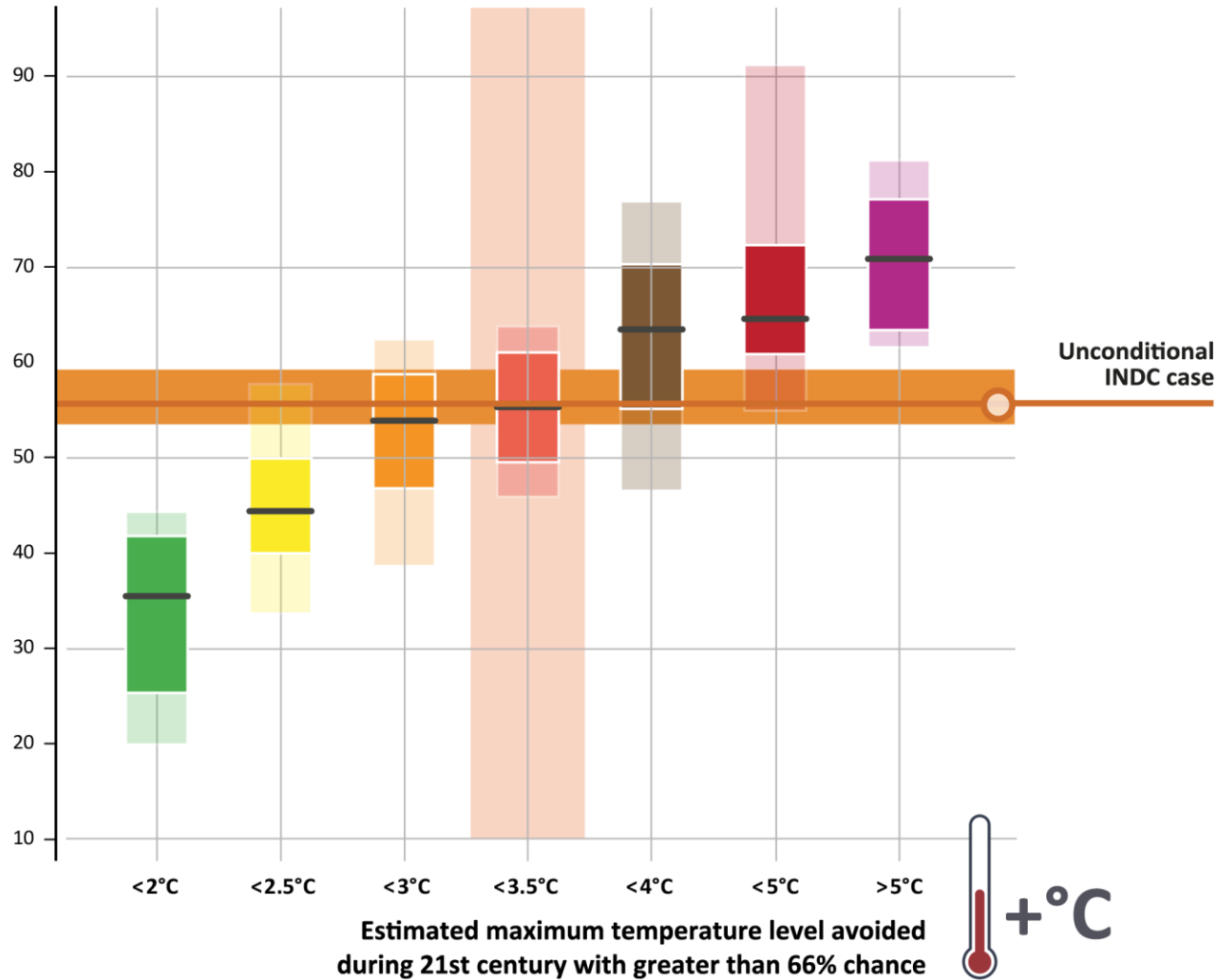
Where are INDCs bringing us?

Kyoto-GHG emission levels in 2030
(GtCO₂e/yr)



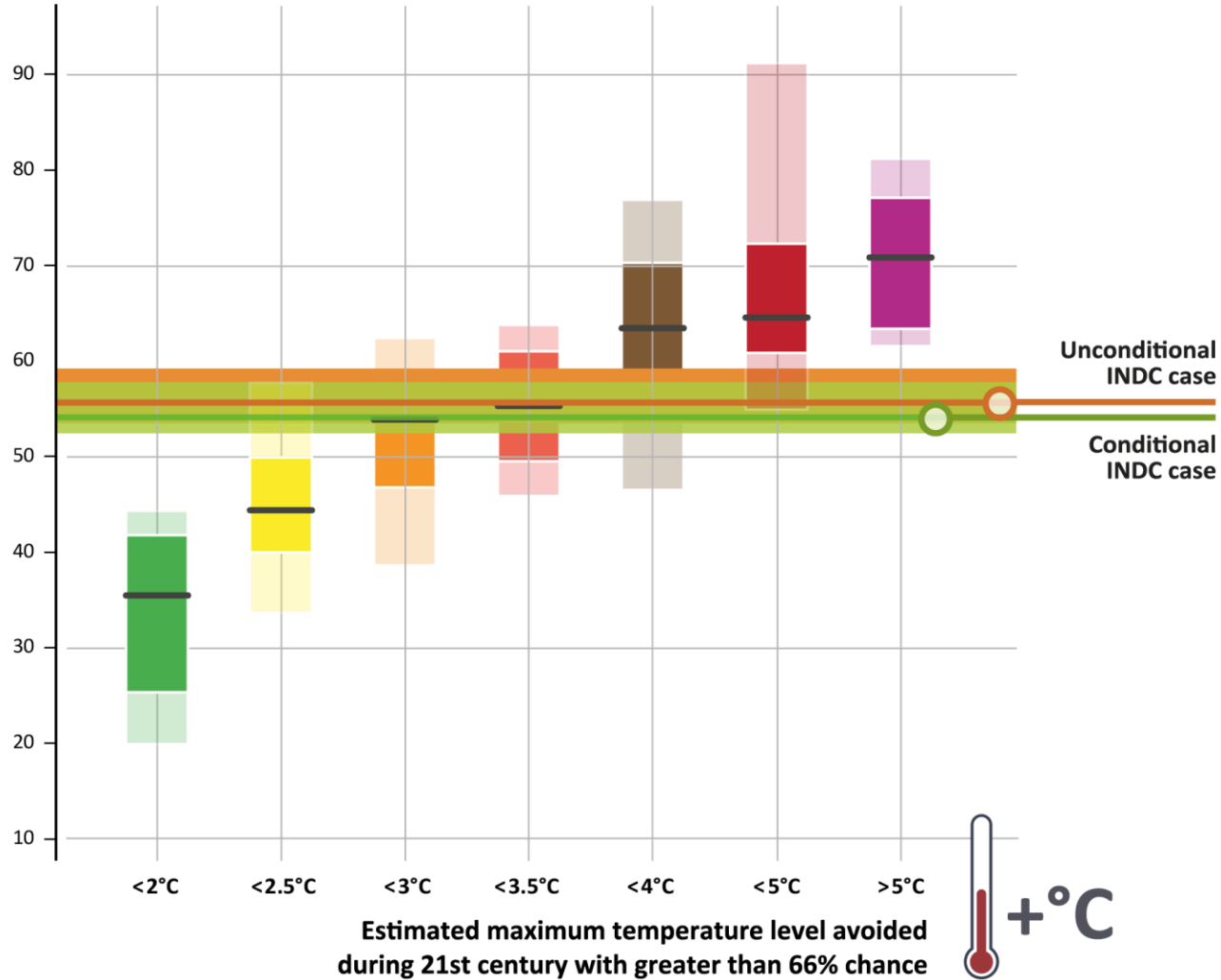
Where are INDCs bringing us?

Kyoto-GHG emission levels in 2030
(GtCO₂e/yr)



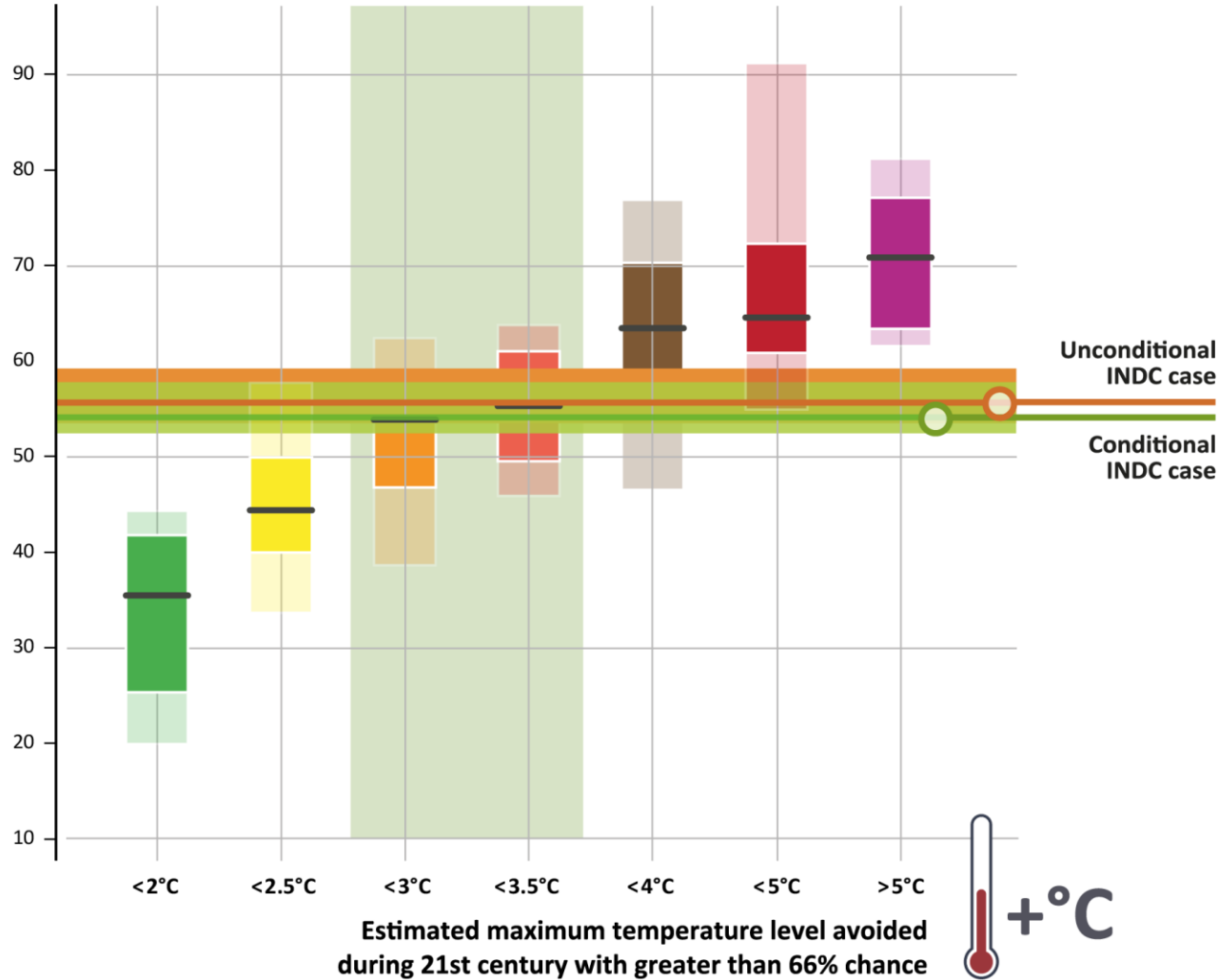
Where are INDCs bringing us?

Kyoto-GHG emission levels in 2030
(GtCO₂e/yr)



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Kyoto-GHG emission levels in 2030
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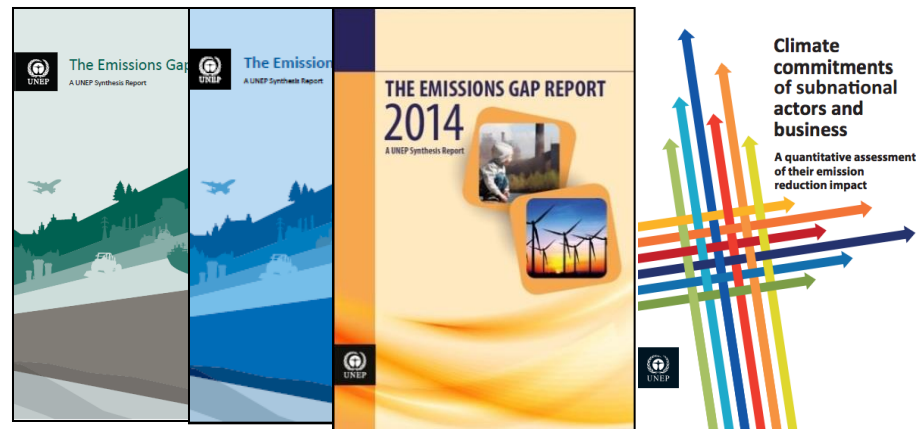


What will be the contribution of INDCs to the temperature target?

- Full implementation of unconditional INDCs results in emission level estimates in 2030 that are most consistent with scenarios that limit global average temperature increase to below 3.5 °C (range: 3 - 4 °C) by 2100 with a greater than 66 % chance
- Full implementation of conditional INDCs results in emission level estimates most consistent with scenarios that limit temperature increase to <3-3.5 °C by 2100
- INDC estimates have uncertainty ranges associated with them

Further actions and initiatives for closing the gap - ICIs

- Enhanced energy efficiency with a particular emphasis on industry, buildings and transport
- Expanded use of renewable energy technologies
- International Cooperative Initiatives such as the C40 Cities Climate Leadership Group, the Compact of Mayors, and the Cement Sustainability Initiative. Emission reductions from 0.75 to 2 GtCO₂e in 2020



The Emissions Gap Report 2015:

The potential for enhanced action on forests including REDD+

Assessing adaptation and emissions gaps: How far are we from 2°C and from meeting adaptation finance needs?

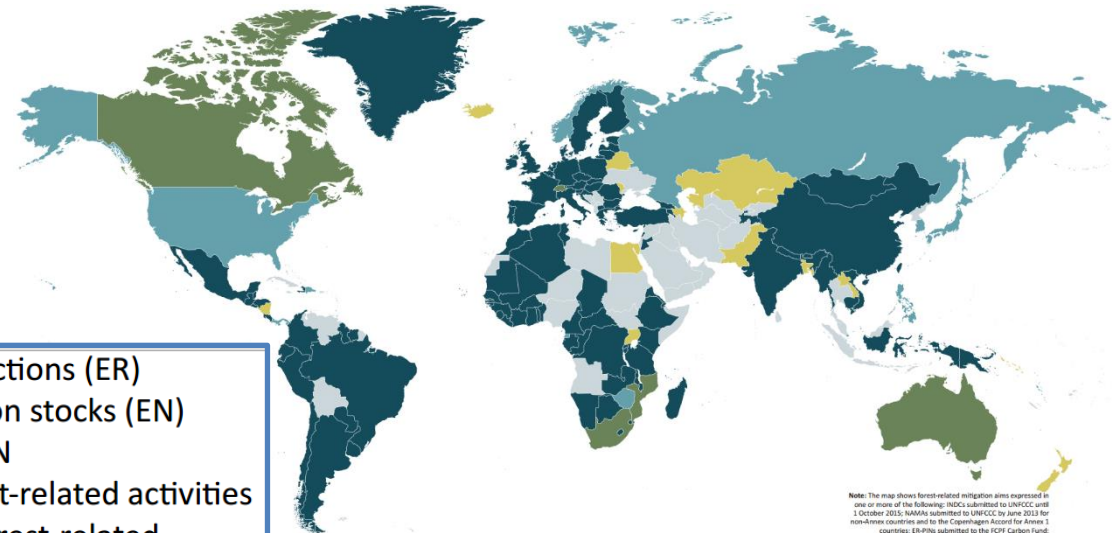
EU Pavilion Side Event organised by UNEP DTU Partnership and UNEP, 4 December 2015

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National statements on forest-related mitigation – we reviewed:

- Intended Nationally Determined Contributions (INDCs)
- Nationally Appropriate Mitigation Actions (NAMAs)
- Bilateral arrangements for REDD+
- Carbon Fund proposals
- Bonn Challenge and Initiative 20x20 commitments on forest landscape restoration
- The New York Declaration on Forests (NYDF) (national signatories)



- Specifies activities for forest-related emission reductions (ER)
- Specifies activities for enhancement of forest carbon stocks (EN)
- Specifies activities for both forest-related ER and EN
- Includes forests in scope but does not specify forest-related activities
- No national statement of intention to undertake forest-related mitigation activities in the sources consulted

Note: The map shows forest-related mitigation aims expressed in one or more of the following: INDCs submitted to UNFCCC until 1 October 2015; NAMAs submitted to UNFCCC by June 2013 for non-Annex 1 countries and to the Copenhagen Accord for Annex 1 countries; ER/PAs submitted to the FCPF Carbon Fund; Bilateral agreements for results-based payments; Bonn Challenge commitments; Initiative 20x20 commitments; endorsement of the New York Declaration on Forests.
The boundaries and names shown and designations used on this map do not imply official endorsement or acceptance by the United Nations.

Forest-related mitigation opportunities

Addressing drivers:

- Reduced deforestation
- Reduced forest degradation

Removing barriers to:

- Restoration / reforestation
- Sustainable forest management (enhanced C stocks)

- **economic instruments (taxes / incentives)**
- **command and control policies**
- **cross-sectoral action on drivers (e.g. agriculture subsidies)**
- **new & better managed protected areas**

REDD+

= Reducing Emissions from Deforestation
and forest Degradation

+

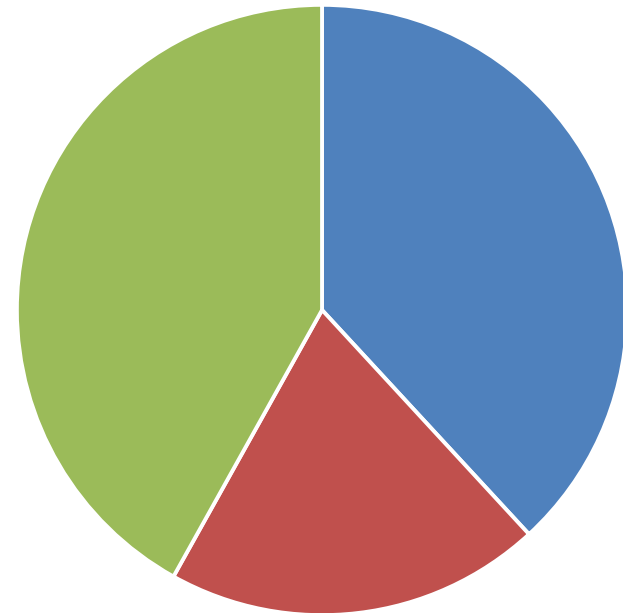
Conservation of forest carbon stocks
Sustainable management of forest
Enhancement of forest carbon stocks

Technical potential for forest-related activities

9 GtCO₂ / year at 2030
across developing countries

BUT

constrained by economic
factors and land-use
competition



- Reduced deforestation
- Reduced degradation
- Restoration

Conclusion: Forest-related actions for closing the gap



- Co-benefits of REDD+: restoration of degraded forest landscapes, improved food production and enhanced climate resilience
- Technical potential up to 9 GtCO₂/yr in Africa, Asia and the Pacific and Latin America and the Caribbean
- Likely to be constrained by economic and land use factors
- INDCs often emphasise the need for international financial support to enable forest-related mitigation – conditional commitments
- A significant opportunity to help narrow the emissions gap