

Parallel session 1.1

How to deal with non-linear and disruptive developments
long-term scenarios, modeling, innovation, structural change

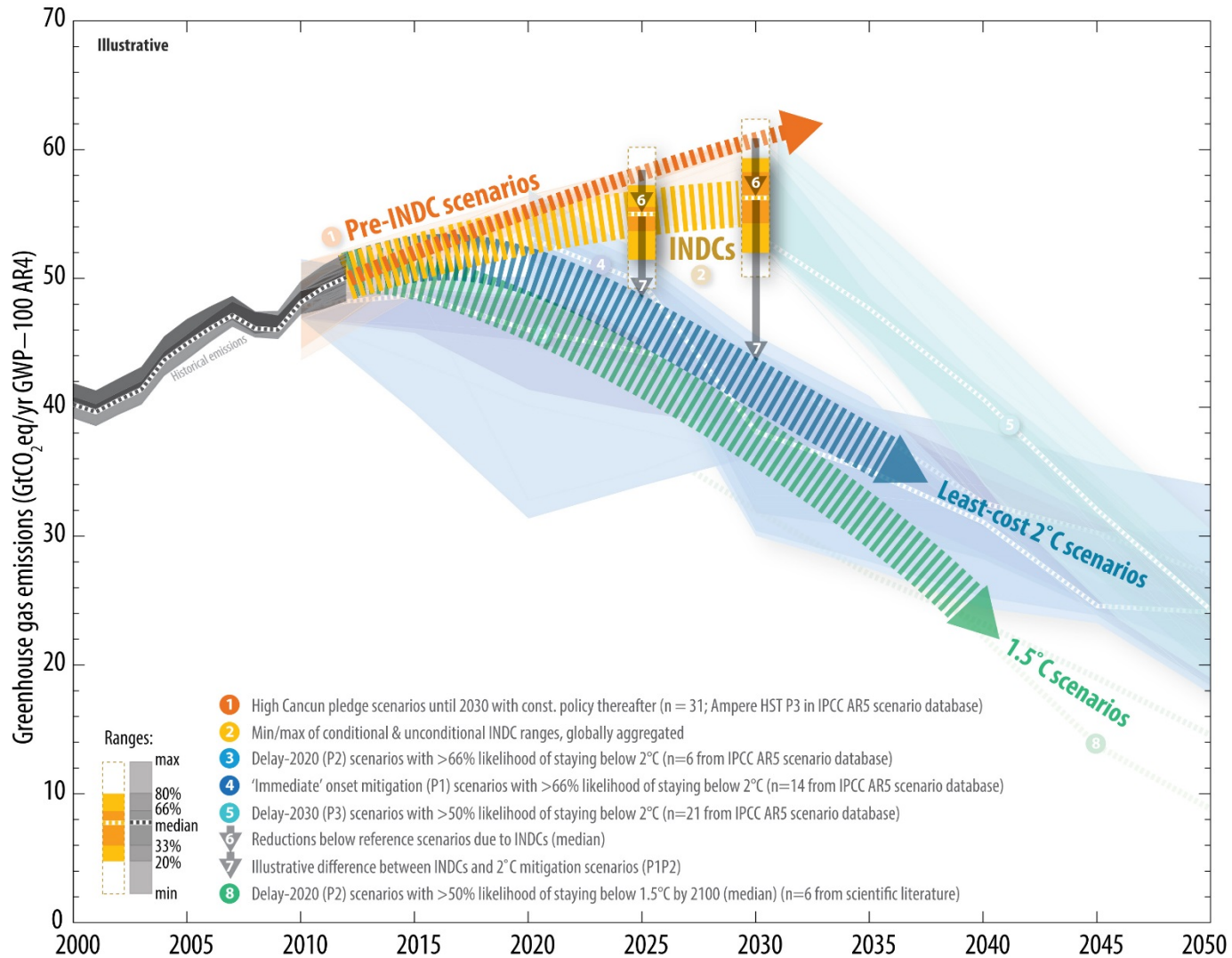
Chair: Toshihiko Masui (NIES, Japan)

- Detlef van Vuuren (PBL and Univ. Utrecht, Netherlands)
Recent development in scenario analysis
- Patrick Criqui (University of Grenoble Alpes and CNRS, France)
Governance levels, scientific paradigms and policy instruments for
Deep Decarbonization Pathways
- Martin Weiß (BMUB, Germany)
On the use of scenarios and modelling with respect to disruptive
challenges - A policymaker perspective

Purpose of this parallel session 1.1

- How to deal with non-linear and disruptive developments long-term scenarios, modeling, innovation, structural change
- From Paris Agreement
 - Holding the increase in the global average temperature to well below **2° C** above pre-industrial levels and pursuing 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; (Article 2)
 - In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, 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**, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty. (Article 4)
 - All Parties should strive to formulate and communicate **long-term low greenhouse gas emission development strategies**, (Article 4)

Assessment of INDC



Source: UNFCCC(2016)

There are huge gap between emissions in INDC and 2/1.5 degree taregt.

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Through presentations and discussions, we will share necessary things for achieving the zero-emission society;

- Scales: global, national, local, ...
- Timing: short-term, middle-term, long-term
- Circumstance: developed/developing country, resource endowment, capacity building, ...
- Stakeholders: policymaker, academic, industry, NPO, citizen
- Innovation: technology, lifestyle, institution, society,
- Methods: vision, scenario, roadmap
integrated assessment/integrated assessment model
quantitative and narrative storyline

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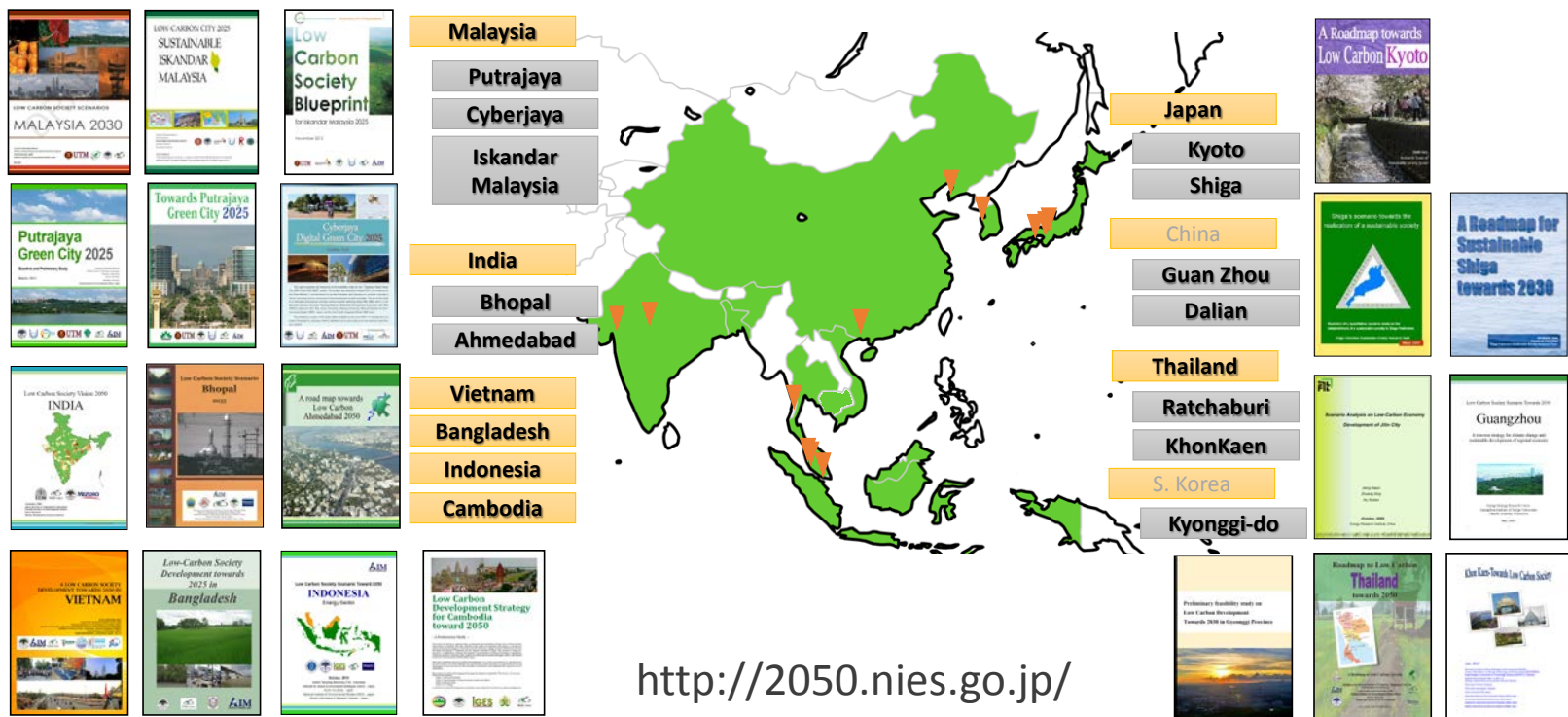
In the case of Japan: (1) research

- FY2004-2008, Prof. S. Nishioka led "low carbon society scenarios in Japan in 2050" project (the Environment Research and Technology Development Fund, the Ministry of the Environment Japan, S-3).
 - Target in 2050: 80% reduction of GHG compared to 1990 level.
 - 2 pictures; "A: Technology based society" and "B: Contented life society"



In the case of Japan: (1) research

- FY2009-2013, Dr. M. Kainuma led "Asia low carbon society scenarios" project (the Environment Research and Technology Development Fund, the Ministry of the Environment Japan, S-6).
 - To achieve the 2 degree target
 - Top-down approach and bottom-up approach



In the case of Japan; (2) decision making

- At the discussion on mitigation target in Japan, some integrated assessment models including AIM provided the quantitative results such as GHG reduction potential, cost, etc.
 - 2008-2009: Cabinet secretary played a coordinating role to decide the mitigation target in 2020
 - 2009-2011: Council of Ministry of the Environment (MOE) showed the roadmap of 25% GHG emissions reduction in Japan.
 - 2011-2012: Energy and Environment Council conducted by Cabinet secretary revised the 2020 target in Japan after the earthquake and the nuclear power accident.
 - 2014-: Joint Council of MOE and Ministry of Economy, Trade and Industry (METI) discussed the 2030 target (INDC) in Japan. In parallel, Council of METI discussed the energy basic plan.
 - 2016: Council of MOE is discussing the long-term low carbon development vision.
- Existing long-term target of the GHG emissions in 2050: 80% reduction
 - Environmental basic plan in 2012
 - National Plan for Global Warming Countermeasures in 2016