Climeate and Technology: Closing the Gap

Fenhann, Jørgen Villy

Publication date:
2013





Climate and Technology: Closing the Emissions Gap

An Open World
New Global Threats and Possibilities
University of Copenhagen
4 December 2013

Joergen Fenhann
Senior Scientist, UNEP Risoe Centre

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

What does science say?

Post-2020 goals for staying on 2°C target

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

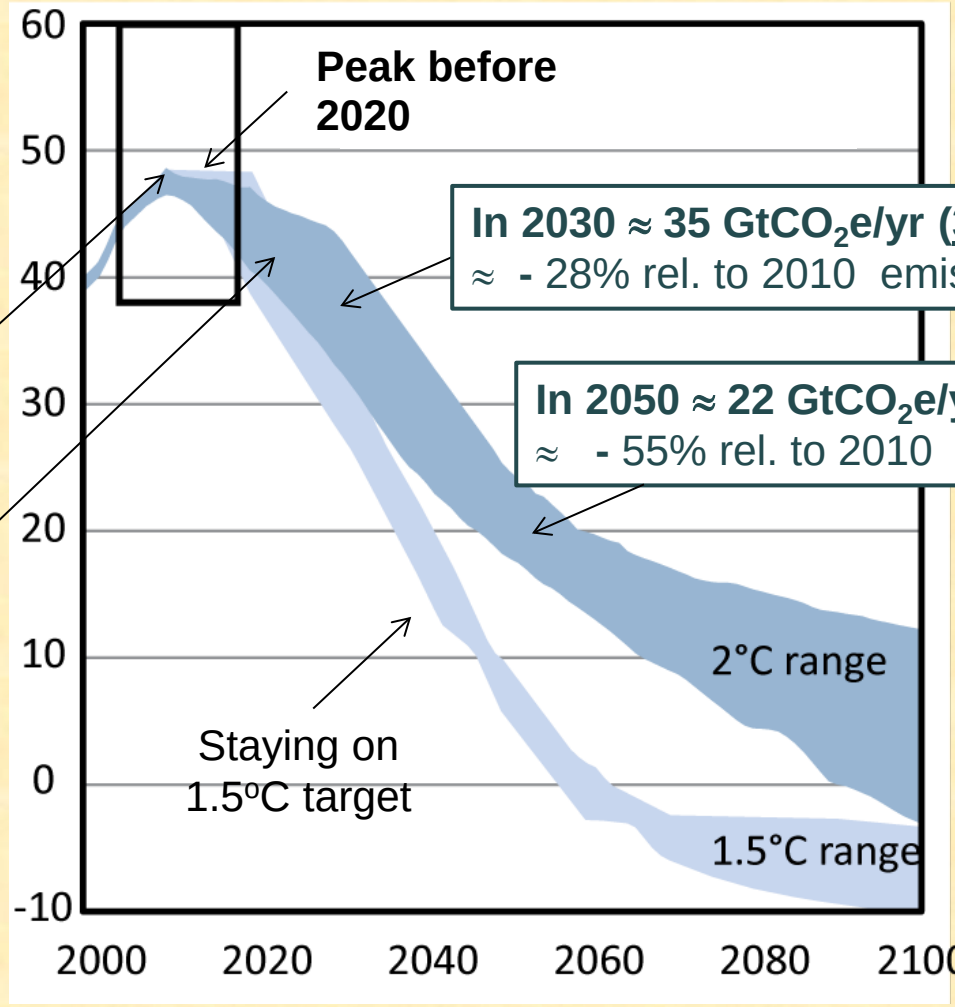
Global Greenhouse Gas Emissions

$GtCO_2e$/year

CO_2-equivalents covers (CO_2, CH_4, HFCs, PFCs, SF_6)

Now (2010) ≈ 49 $GtCO_2e$/yr

> 100 "least cost" emission pathways with likely chance of complying with 2°C target:



What is the emissions gap in UNEPs 2013 Gap Report

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

$GtCO_2e/yr$ in 2020

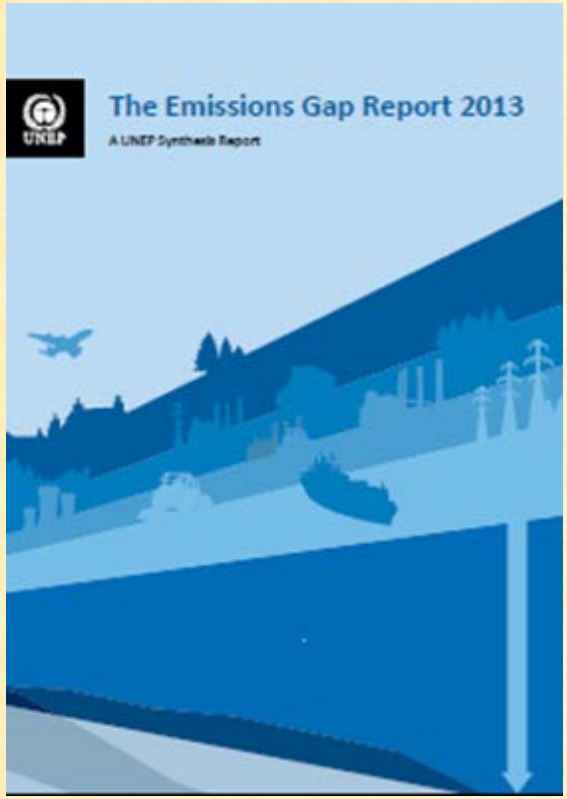
Business as usual — 59

3

Pledges – weakest case — 56

12 — The Gap

Level consistent with likely chance of staying within 2°C target — 44



What if we don't close the gap?

One possible outcome

Countries do not increase their pledges and do not act later

Consequences:

Trajectory to ≈ + 3 to 4^{o} C → greater climate impacts

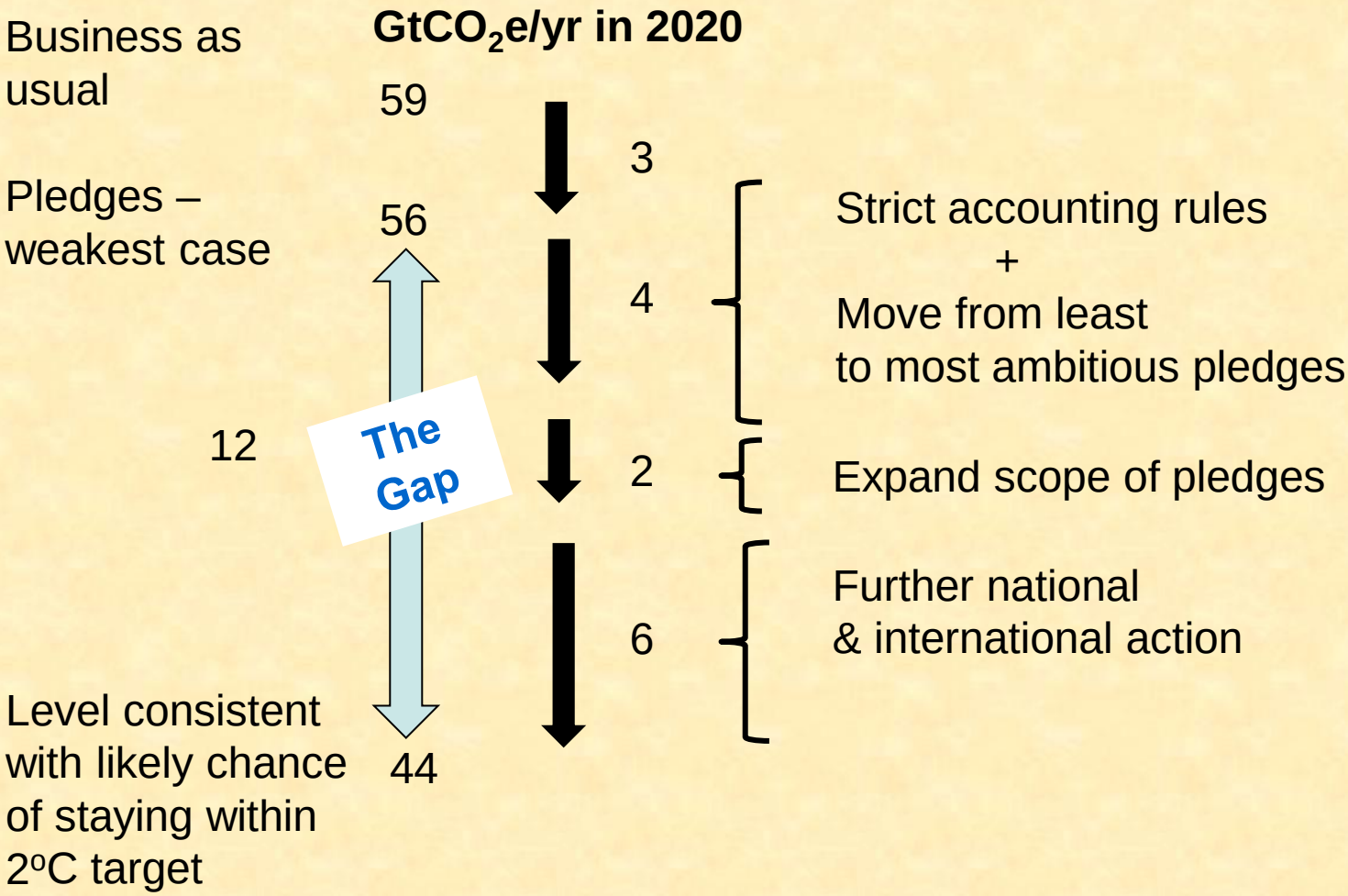
Another possible outcome

Countries start late (after 2020) & try to catch up to 2^{o}C target

Consequences:

- Much faster required rates of emission reductions
- Greater dependence on unproven technologies
- Greater lock-in of high-emissions infrastructure
- Higher costs
- Higher near-term climate change → greater impacts

How to bridge the emissions gap ?



Further national/local action can help bridge the gap & fulfill many national interests. Examples:

Transportation

Potential: - 1.7 to - 2.5 Gt CO_2e in 2020

- **Bus rapid transit systems**
- **Vehicle performance standards**

Buildings

Potential: -1.4 to - 2.9 Gt CO_2e in 2020

- **Appliance standards and labels**
- **Building codes**

Agriculture

Potential: - 1.1 to - 4.3 Gt CO_2e in 2020

- **Conservation tillage**
- **Nutrient & water management of rice**
- **Agroforestry**

Further international action can help bridge the gap – *International cooperative initiatives*

Increasing number of international cooperative initiatives

- Some overlap with pledges → *reinforce pledges*
- Some do not overlap → *help close remaining Gap*

Areas of initiatives with highest potential by 2020

- Energy efficiency (up to 2 $GtCO_2e$)
- Fossil fuel subsidy reform (0.4–2 $GtCO_2e$)
- Methane and other short-lived climate pollutants (0.6–1.1 $GtCO_2e$)
- Renewable energy (1–3 $GtCO_2e$)

Summing up on the Emission Gap

→ Urgent to bridge emissions gap of 8-12 $GtCO_2e$ in 2020 to stay on least-cost pathway to meet the two degree target

→ Consequences of not closing the gap – higher costs & higher risks

→ Tough, but still possible to close the gap in 2020 with decisive action to …

… strengthen current country pledges

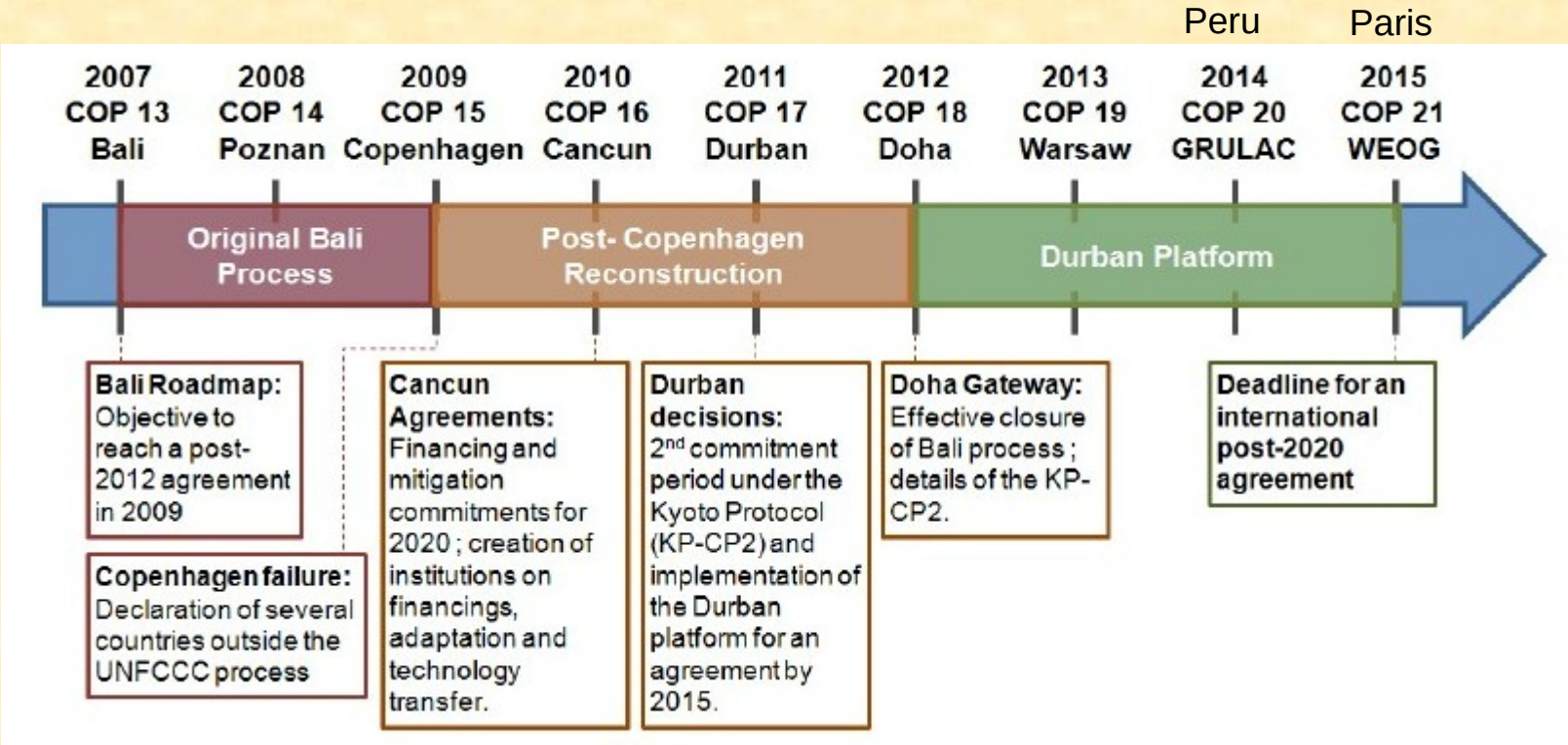
+ **In Warsaw it was decided that all Parties must submit their contribution to close the Gap in 2015.**

Link to Emissions Gap 2013

http://www.unep.org/emissionsgapreport2013/

Involving 44 scientific groups in 17 countries and coordinated by the UN Environment Programme (UNEP).

The best strategy is to use the institutions set up under the United Nation Framework Convention on Climate Change (UNFCCC)



Institutions have been created for:

Climate Finance: The Green Climate Fund (GCF) in South Korea will transfer the 100 Billion US$/year in 2020 for climate adaptation and mitigation.

Technology Transfer, (TEC and CTCN).

Carbon Markets: Executive Board for CDM (>400 billion US$ invested in projects)

CTCN = Climate Technology Centre & Network

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

CTCN is located in the new UN-city in the harbour of Copenhagen

UNEP Risoe won the UNFCCC tender for CTCN with the following team: UNEP, AIT (Thailand), Bariloche Foundation (Argentina), CSIR (South Africa), Energy and Research Institute (India), Environment and Development Action in the Third World (Senegal), Tropical Agricultural Research and Higher Education Centre (Costa Rica), World Agroforestry Centre, DGIZ (Germany), ERC (Netherlands), NREL (US) and the UNEP Risoe Centre.

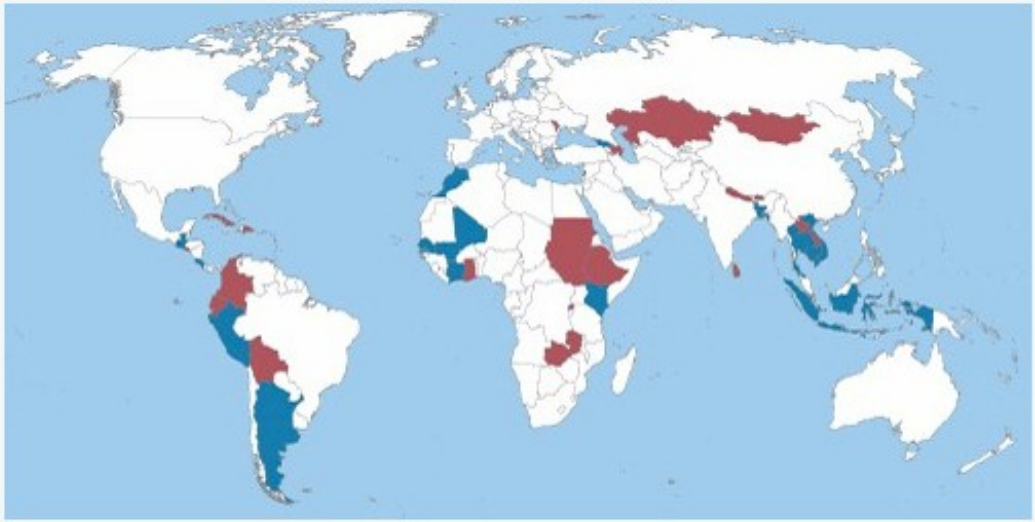
National Designated Entities can submit request for assistance already end of this year.

CTCN can build on Technology Need Assessments (TNA), which has been done in 36 countries

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

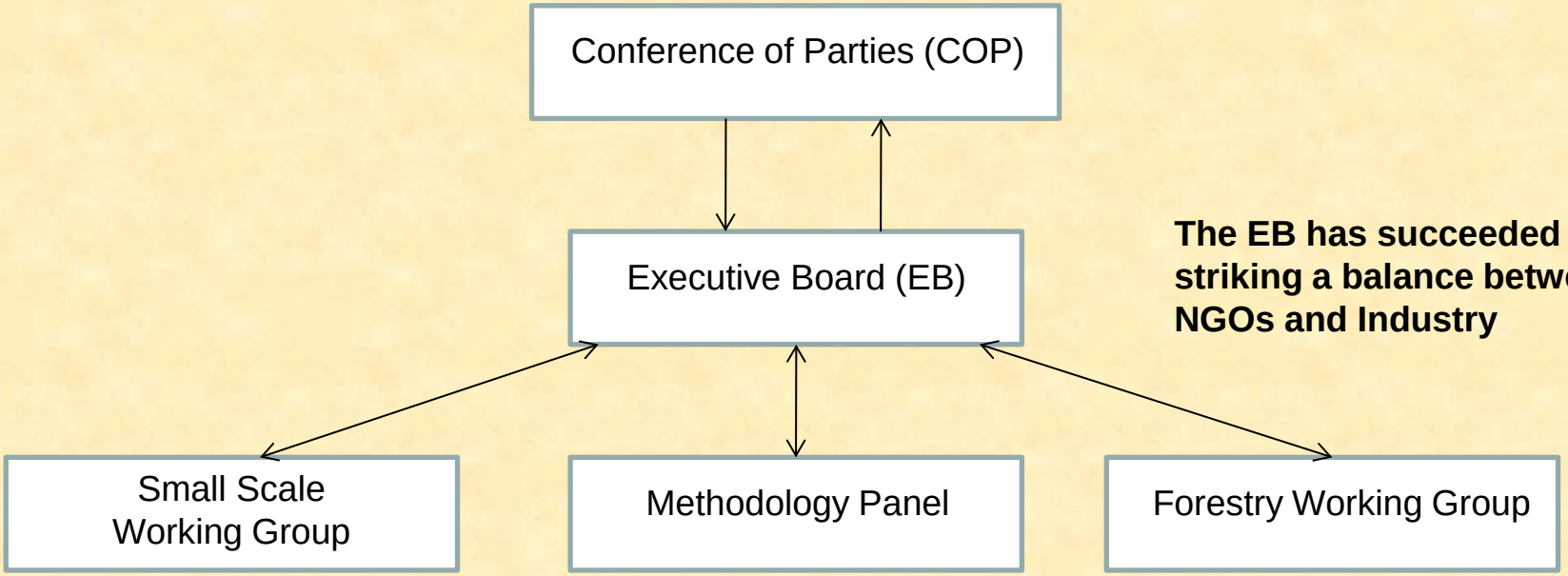
Participating countries

Africa	Asia & Eastern Europe	Latin America & Caribbean
Cote d'Ivoire	Azerbaijan	Argentina
Ethiopia	Bangladesh	Bolivia
Kenya	Bhutan	Colombia
Ghana	Cambodia	Costa Rica
Mali	Georgia	Cuba
Morocco	Indonesia	Dominican Republic
Mauritius	Kazakhstan	Ecuador
Rwanda	Laos	El Salvador
Senegal	Lebanon	Guatemala
Sudan	Moldova	Peru
Zambia	Mongolia	
	Nepal	
	Sri Lanka	
	Thailand	
	Vietnam	



UNEP RISØ CENTRE

Institutions for CDM
the Clean Development Mechanism



The EB has succeeded in striking a balance between NGOs and Industry

CDM is an open global democratic process:
All EB meetings can be followed on web-cast
All major decisions are first made after a open public call for input
All CDM projects are put on the internet in 30 day for public comment
A local meeting for stakeholders must be made for each CDM project

CDM has created a lot of knowledge

UNEP RISØ CENTRE
ENERGY, CLIMATE AND SUSTAINABLE DEVELOPMENT

- The 11000 CDM projects created have made the developing countries ready to contribute to the coming International Climate Agreement.

- The 3 Working Groups shown above have developed >200 methodologies for GHG reductions, which now also are being used in China and California.

- >2000 consultants have been established to make project documents.
- >600 CDM credit buyers have been registered.
- About 50 Designated Operational Entities have been designated to approve CDM projects and issuance of CDM credits.