



Institute for Governance & Sustainable Development

Fast regulatory action on non-CO₂ forcers to complement cuts in CO₂ emissions

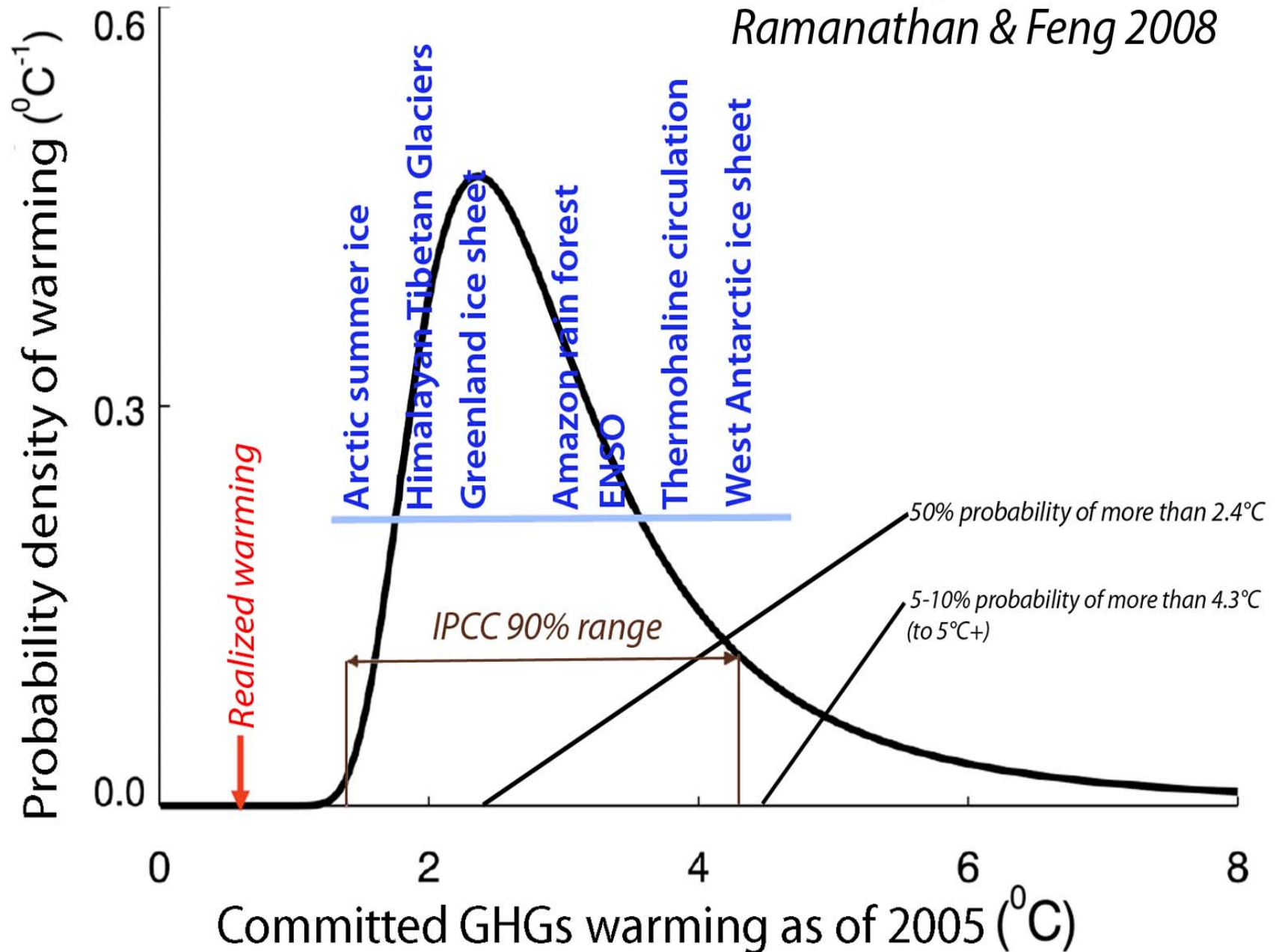
Durwood Zaelke

President, IGSD

Director, INECE

Committed Warming as of 2005

Ramanathan & Feng 2008



CO₂ Cuts Alone Not Sufficient

Ramanathan & Feng (PNAS 2008):

*“Even the most aggressive CO₂ mitigation steps ... can only limit further additions to the committed warming, **but not reduce the already committed GHGs warming of 2.4°C.**”*

Solomon, et al. (PNAS 2009):

*“Climate change that takes place due to increases in carbon dioxide concentrations is **largely irreversible for 1,000 years after emissions stop.**”*

Bad News Summary

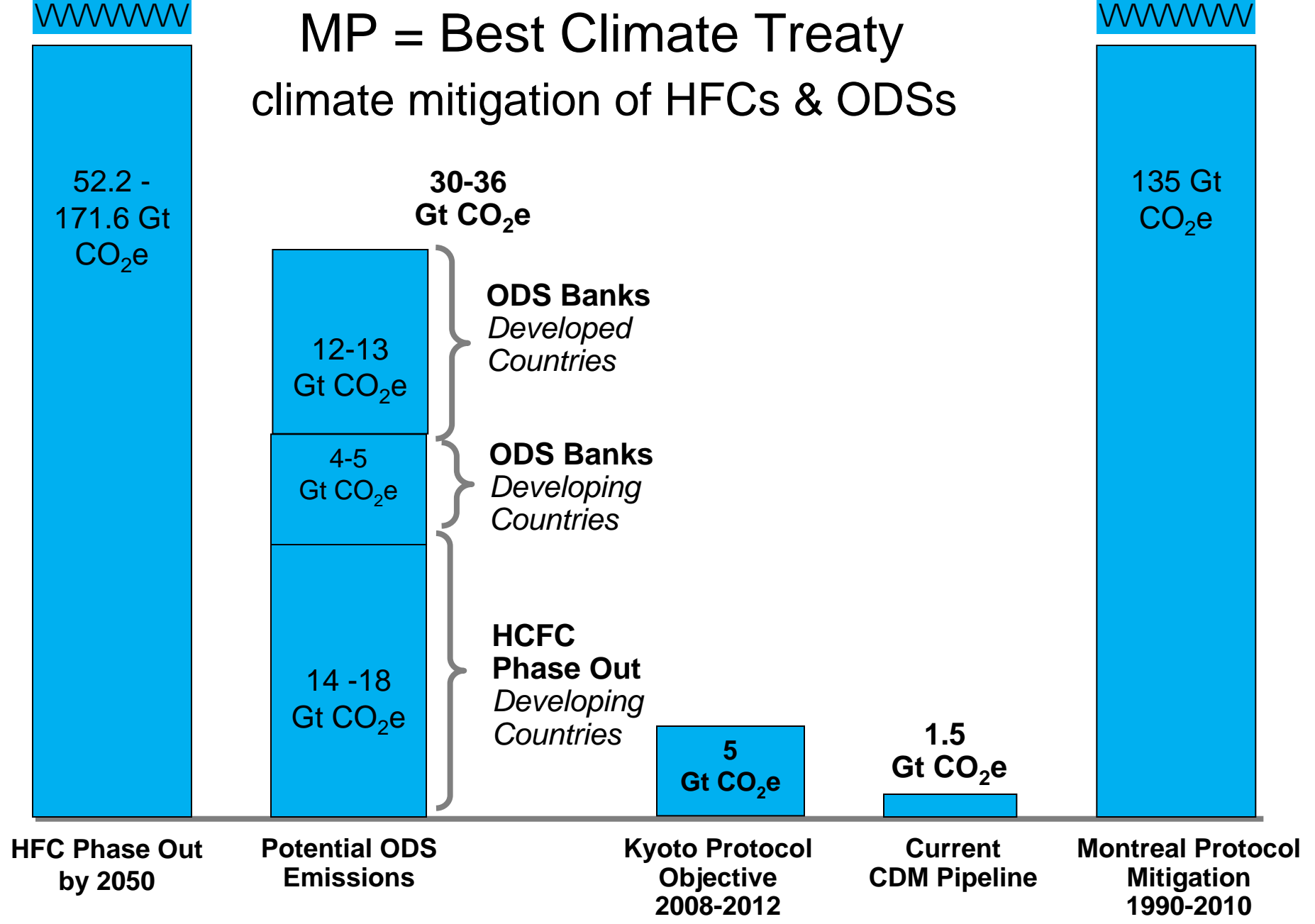
- Committed warming likely surpasses tipping points for Abrupt Climate Changes
- 90% chance of 2.4°C warming within 50 yr
- 5-10% chance will exceed 4.3 to 5°C this century, &
- CO₂ cuts can't cool for at least 1,000 years

Good News: Fast Cooling from Non-CO₂

- Big: non-CO₂ = 50% of warming
- Fast: many are short-term forcers
 - black carbon
 - Tropospheric ozone
 - methane
 - HFCs

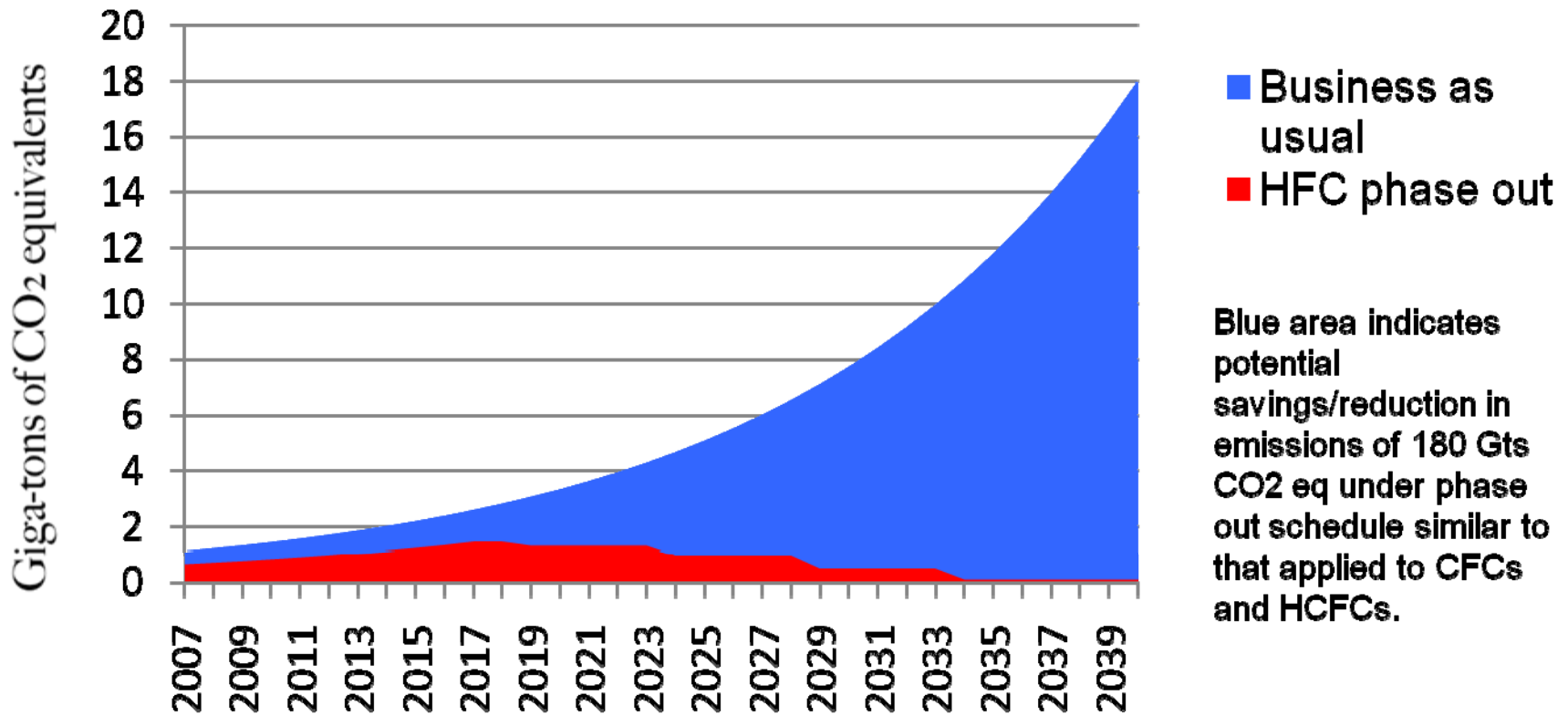
MP = Best Climate Treaty

climate mitigation of HFCs & ODSs



Sources. ODS estimates: TEAP report to decision XVIII-12 ; Kyoto: UNDP estimates; CDM: UNEP Riso March 2009; Mack McFarland, Environmental Fellow, DuPont Fluoroproducts, Presentation at the 20th Meeting of the Parties to the Montreal Protocol in Doha, Qatar: Potential Climate Benefits of a Global Cap and Reduction Agreement for HFCs (Nov. 18, 2008).

HFC Emissions: 20 year GWP



Growth rate based on 8.8% annual growth cited in TEAP/IPPC 2005. 20 year GWP based on weighted averages for different HFCs expected. Contact EIA for more information.

Good News Summary

- BC: 3+ Gt CO₂-eq./yr
- HFC: up to 10+/yr
- ODS in old products: 6 by 2015
- Biochar: 3+/yr

- Current: 49/yr
- 2030 stabilization scenario at 2°C: 23/yr

BC Policies

- CoP 15 decision on fast action work plan
- Space in Copenhagen to add BC later
- Borrow existing regulatory structures
 - international (IMO, ICAO, etc.)
 - regional (ASEAN haze treaty, etc.)
- Ensure eligibility in all climate funds
- Strengthen domestic and focus on health

HFC Policies

- Montreal Protocol amendments in 2009
- Copenhagen (and "borrow" MP in 2010)
- Domestic (e.g., Waxman-Markey)