

# ***The Future of Climate Policy and The Montreal Climate Conference***

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# What is it all about?

- **Article 2 UNFCCC: Preventing dangerous levels of climate change**

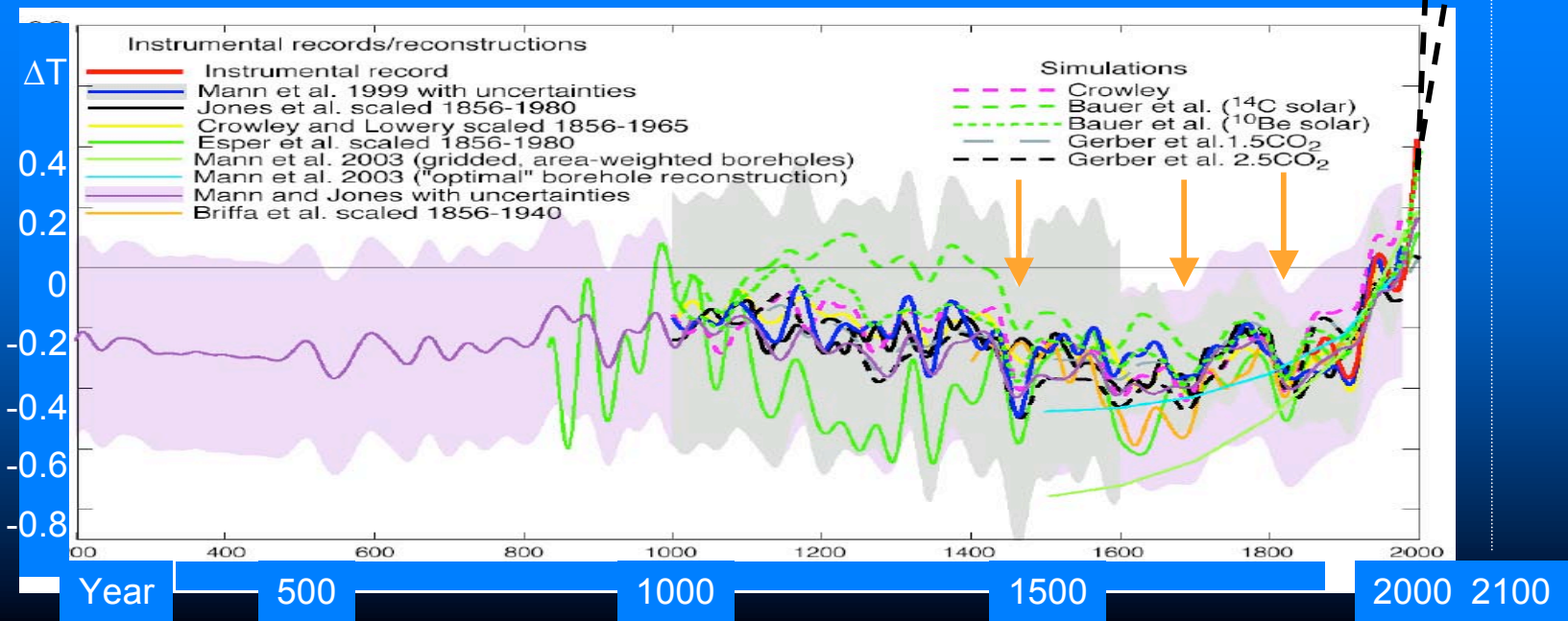
“The ultimate objective of this Convention .. is to achieve...stabilization of greenhouse gas concentrations in the atmosphere at a level that would **prevent dangerous anthropogenic interference** with the climate system. Such a level should be achieved within a time frame sufficient to allow **ecosystems to adapt naturally** to climate change, to **ensure that food production is not threatened** and to **enable economic development to proceed in a sustainable manner.**”

# Recent and Projected warming vs Last Two Millennium

- ▲ Instrumental Data
- ▲ Proxy Reconstructions
- ▲ Model Simulations

IPCC high and low projection

Spörer minimum    Maunder minimum    Dalton minimum



# No country alone...

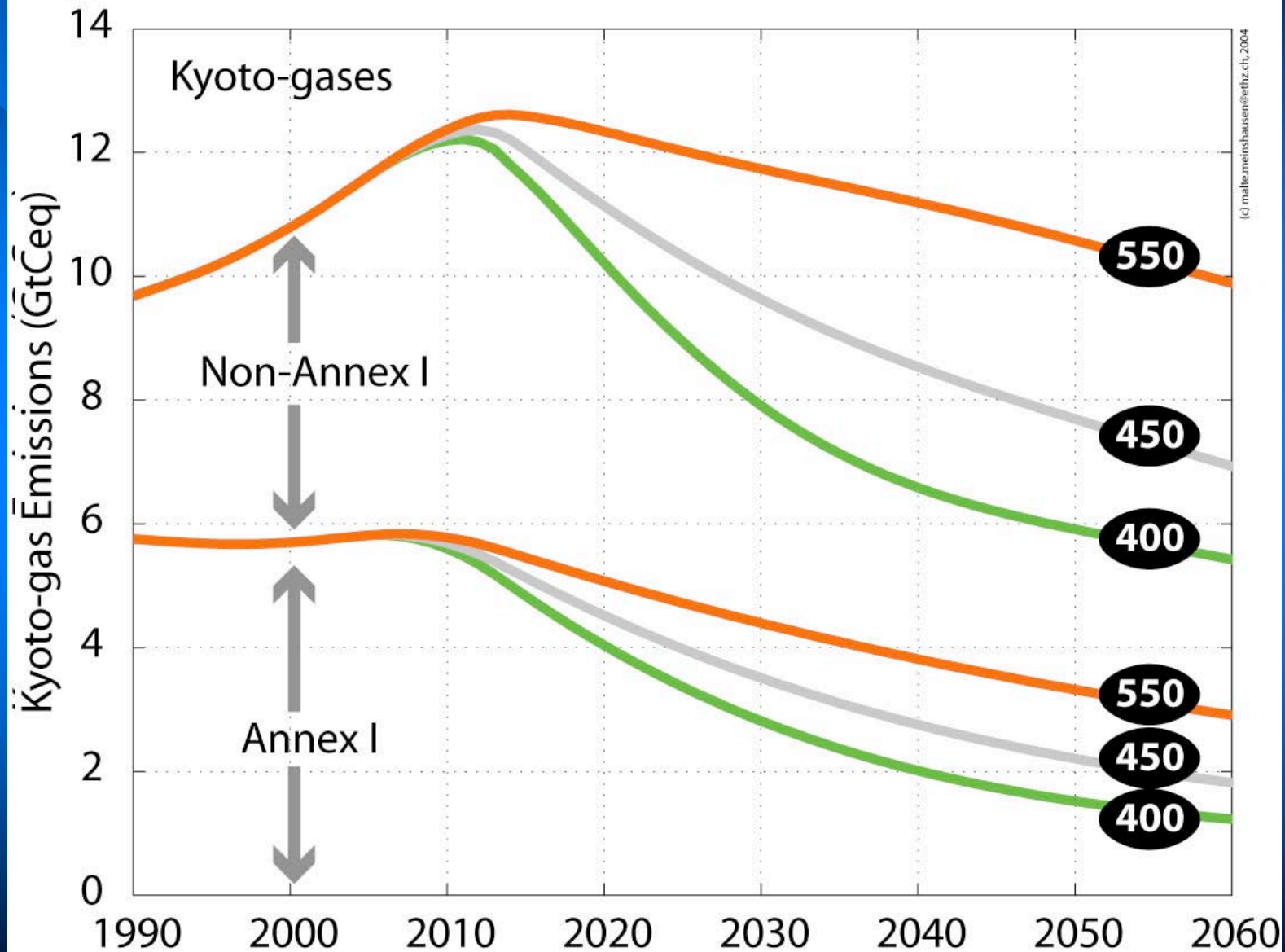
- No country alone can take sufficient action to stabilize CO2 concentration.
- One country can prevent nearly all others from meeting strong climate targets



# European Union 2°C limit

- “[...] the Council believes that global average temperatures **should not exceed 2 degrees above pre-industrial level** and that therefore concentration levels lower than 550 ppm CO<sub>2</sub> should guide global limitation and reduction efforts. [...]”  
(1939<sup>th</sup> Council meeting, Luxembourg, 25 June 1996)
- “the Council [...] **ACKNOWLEDGES** that to meet the ultimate objective of the UNFCCC to prevent dangerous anthropogenic interference with the climate system, overall global temperature increase **should not exceed 2°C above pre-industrial levels;**  
[...]” (Spring European Council 2004, 25-26 March 2004)  
(Doc 7631/04 (ANNEX), page 29)

# Emission pathways to 20C target



Note: The Annex I and Non-Annex shares of global emissions (here GWP weighted emissions of fossil CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, SF<sub>6</sub>, excluding landuse CO<sub>2</sub>) are based on the respective shares within 54 SRES and Post-SRES scenarios. For details, see background paper on the applied EQW method (Meinshausen et al. submitted). Consequently, the presented shares will differ, if emission allocation schemes are applied for differentiated emission reduction commitments in the future.

# Geopolitical framework for development of global climate regime

Legally binding regime needed with phased development

## Phase 1: Developed countries act first

- Industrialised countries implementing legally binding emission obligations.
- Developing countries wait and see, and prepare for next phase

## Phase 2: Expansion and Deepening

- Expansion of the group of countries with binding emission commitments,
- Broadening of cleaner technology in developing countries.
- Policies governing technology transfer decarbonize developing countries.

## Phase 3: Globalisation phase.

- Large developing country emitters (China, India, and Brazil) reach an appropriate level of economic development and take on binding emission obligations.

# Development of the Climate Issue

*1960s-1970s Science Ground work laid*



*1980s Science Alerts Policy World*



*1990-2001 UNFCCC and Kyoto Protocol with its implementing agreements negotiated*



*2002-2005 Kyoto enters into force and most Parties start to implement. Kyoto second stage start at COP/MOP1*

*US rejects protocol and questions science*

?

# State of Phase 1: UNFCCC/Kyoto Protocol System

- Kyoto in force and in process of being implemented.
  - EU trading scheme first stage in place
  - Canada working at it
- USA repudiated protocol
  - Floating different ideas but lacking content
  - Continues to question science at high level.
- Major uncertainty now over initiation of Phase 2

# Role of COP/MOP1

- Initiation of Phase 2 negotiations
  - Expansion and Deepening of action
    - Expansion of the group of countries with binding emission commitments,
    - Broadening of cleaner technology transfer to developing countries.
    - Development of Policies governing technology transfer to decarbonize developing countries.
- Boils down to whether or not Kyoto 2 negotiations are begun

# What of the USA?

- When the USA decides to act substantively it will use a domestic cap and trade system and it will seek to connect to international system:
  - If this is correct then one implication is that keeping Kyoto alive is one of the best ways to prepare the way for US re-entry.
  - There is little evidence that if the US decides to act substantively it will choose anything other than a cap and trade system that is a binding on it as it is on others.

# Implications of 2oC target for international climate policy

- Legally binding targets and trading system are essential (necessary but not sufficient)
- Need for early and rapid decarbonization in the large emitters of the developing world.
- Need for complex regime architecture
  - Mixture of legally binding targets for growing group of richer and more able countries and policies for decarbonization in other developing countries
- Need for very rapid technological change

# Framework Principles for Climate Policy: Deciding who does what and when...

- Equity – equal access to the atmospheric commons
  - Increasing weight to per capita emissions convergence over the 21<sup>st</sup> century
  - Intergenerational equity
- Historical responsibility
- Ability to pay and the capacity to act
- Not harm ability of countries to achieve sustainable development objectives

# CAN Three Track Approach

Track One: **Kyoto Track** with legally binding emission reduction in subsequent commitment periods

Track Two: **Greening (decarbonisation) Track** for the developing countries not in the Kyoto Track

Track Three: **Adaptation Track** for the most vulnerable regions

# The Kyoto Track

- Legally binding, tradable emission limitations and reduction obligations
- Deep cuts by industrialized countries
- Expanding beyond Annex I according to a set of criteria
  - Relative per capita emissions
  - Per capita income
  - Historical responsibility

# How to decide level of action?

## Must be fair

- Three mitigation stages for countries

Stage One: All but Least Developed Countries involved in decarbonization activities

Stage Two: Countries move from Decarbonization to Kyoto Track and switch from limited growth of emissions to reductions of emissions (binding obligation to stabilize)

Stage Three: Main Reduction stage for developing countries. All Annex B should already be in this stage

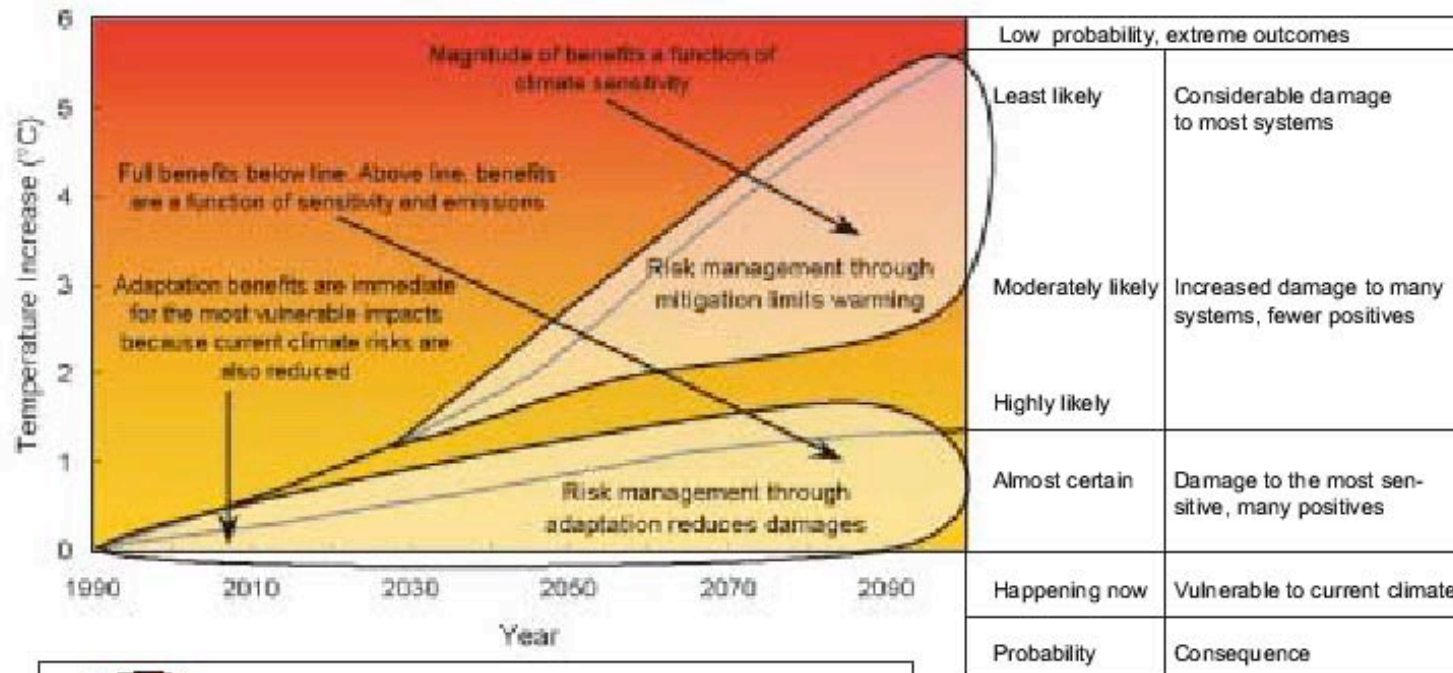
# Greening (Decarbonisation) Track


- Majority of developing countries
- Designed to enable developing countries to follow a low carbon path to sustainable development
- Actions and policies should rapidly accelerate the introduction of new, sustainable technologies (often already tested in Track One countries)

# Adaptation Track

- Meet the needs of key vulnerable regions to assist with adaptation measures
- Funded by industrialised countries
- Compensation for the unavoidable impacts
- Current Kyoto and UNFCCC elements as base
  - Adaptation Fund
  - Special Climate Change Fund
  - LDC Fund
- Decarb track countries also receive adaptation support

# Mitigation and Adaptation: Linked



 Core benefits of adaptation and mitigation  
 Probability — the likelihood of reaching or exceeding a given level of global warming  
 Consequence — the effect of reaching or exceeding a given level of global warming  
 $Risk = Probability \times Consequence$

# There are limits to adaptation



# Building blocks are there

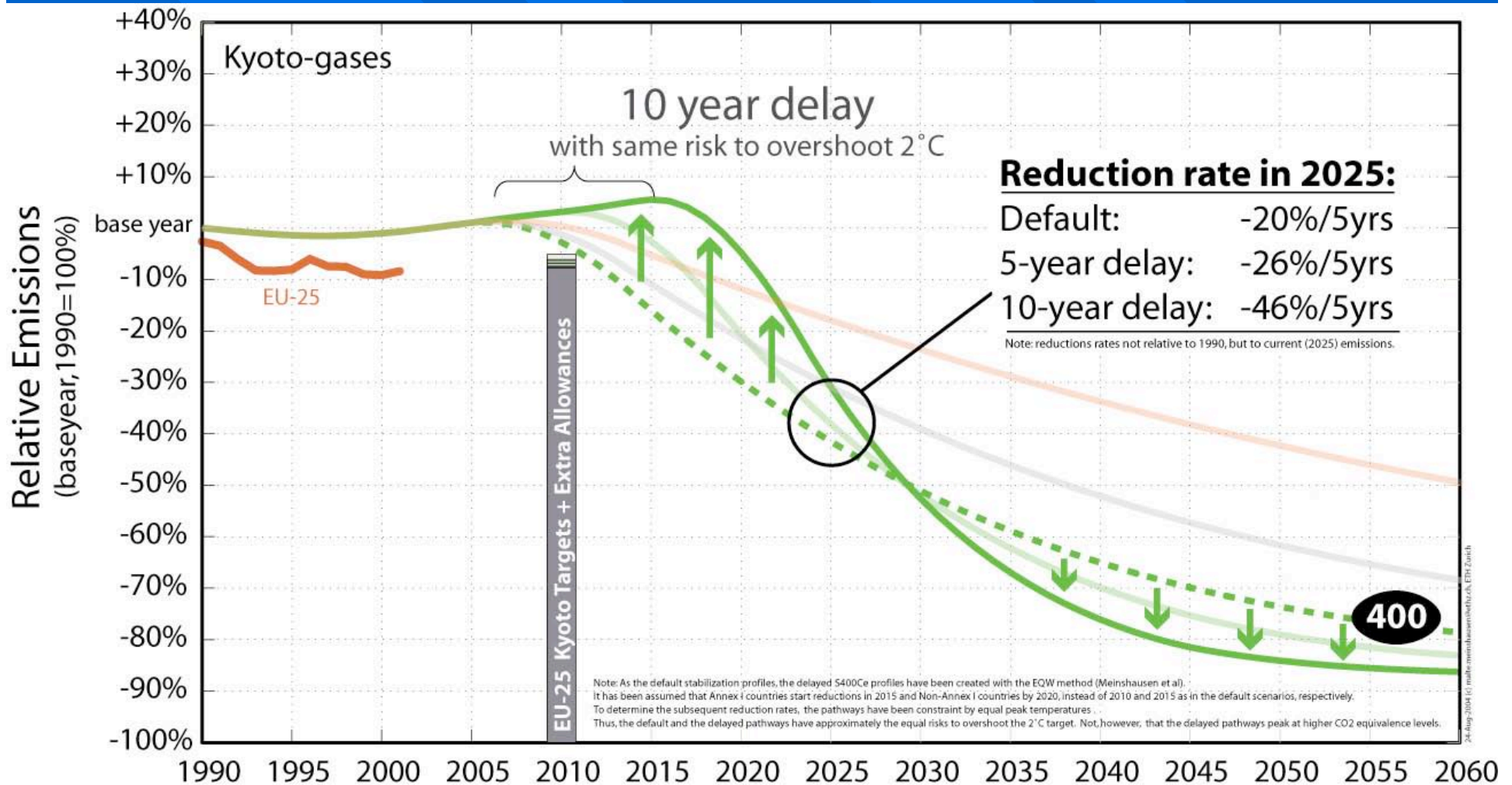
- Adaptation – tools exist, funds are lacking, need is extreme
- Decarbonisation – links in with bringing climate into development pathways and ensuring a multi-beneficial approach
- Kyoto – builds on previous knowledge and proof that if want to reduce emissions, binding, absolute caps are the only way forward

# A Fourth Track: Tropical deforestation

- Stopping tropical deforestation is critical to meeting objective of Article 2 of UNFCCC
- Tropical deforestation can itself cause regional climate changes with global implications
- Climate change could cause collapse of substantial areas of the Amazon forests
  - Basic causative processes not limited to Amazon

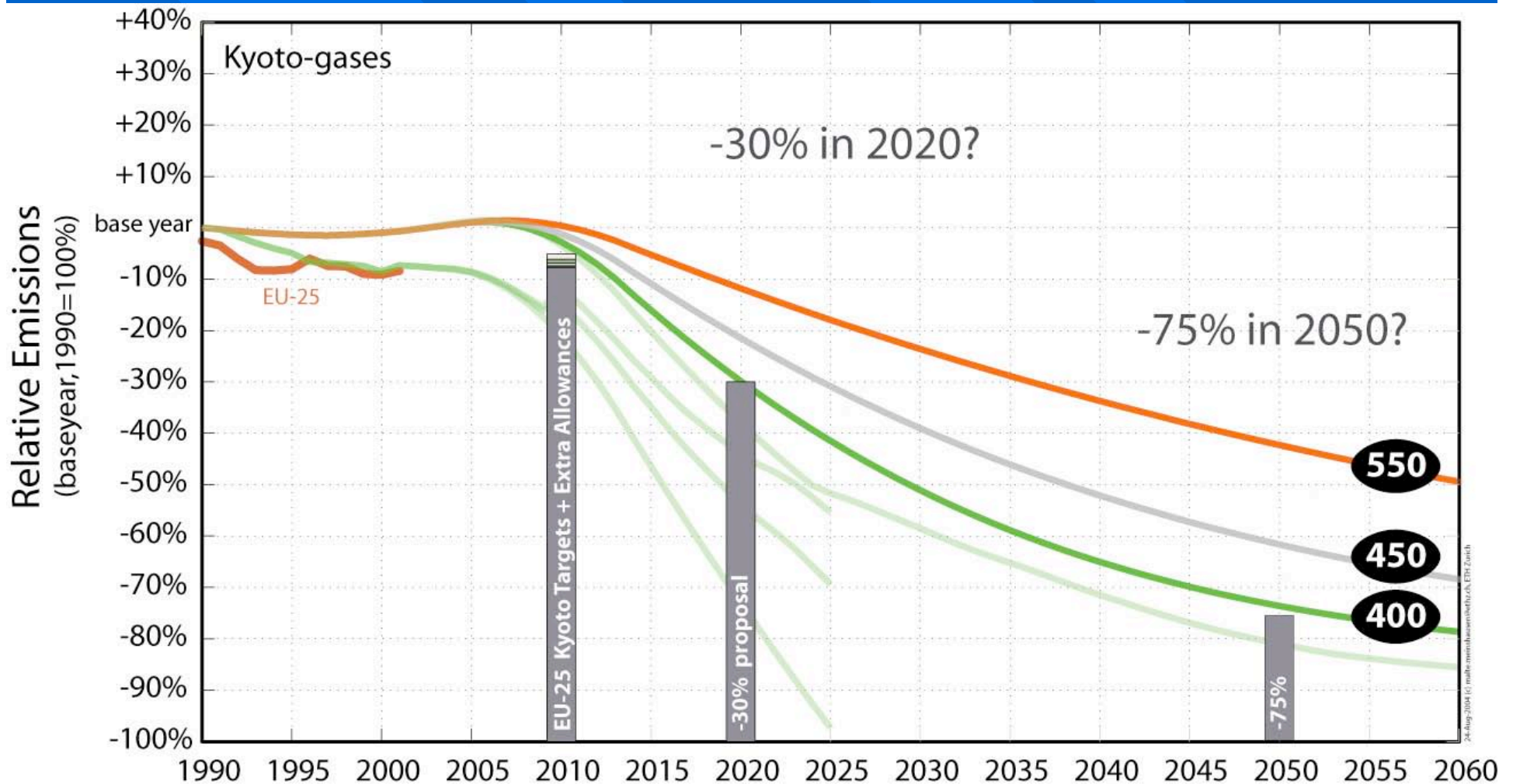
# Why is the need for further emission commitments so urgent?

“Delaying action for a decade, or even just years, is not a serious option” *Sir David King (Science, 9 January 2004)*



Inventory data (red, solid) and projections (orange; dashed /dotted) for Annex A gases and sources from 'Common Reporting Format Tables 2003:ghg.unfccc.int', if available. Allocation scheme results for 2025 and 2050 were derived in collaboration with Michel den Elzen using the FAIR 2.0 model. Kyoto targets and potential additional (sink) emission allowances according to Marrakech Rules (see Yamin & Depledge "The International Climate Change Regime: A Guide to Rules, Institutions and Procedures" Cambridge University Press, forthcomin g).

# Annex I Pathways



Inventory data (red, solid) and projections (orange; dashed /dotted) for Annex A gases and sources from 'Common Reporting Format Tables 2003:ghg.unfccc.int', if available. Allocation scheme results for 2025 and 2050 were derived in collaboration with Michel den Elzen using the FAIR 2.0 model.  
 Kyoto targets and potential additional (sink) emission allowances according to Marrakech Rules (see Yamin & Depledge "The International Climate Change Regime: A Guide to Rules, Institutions and Procedures" Cambridge University Press, forthcoming).

# Global emissions

- If global emission reduction rates are to be below 6%/yr in the 2020s then the peak needs to occur no later than 2020.
- If global emission reduction rates are to be below 4%/yr in the 2020s then global peak needs to occur around 2015.
- Little timing flexibility remains

# Challenges for COP/MOP1

- Start Second Commitment Period (2013-2017) negotiations for Kyoto Protocol to conclude no later than end of 2008.
- Greening (Decarbonization) track discussions should begin on same time frame and under Kyoto.
- Adaptation track should be pulled together from disparate elements into unified adaptation track within the climate regime
- Develop track to stop tropical deforestation.

# And what about the USA?

- Unlikely even a willing Administration could have US system connected to Kyoto or any other international trading scheme before 2011 or 2012.
- Most likely once Bush leaves office there will be a main move to establish a domestic trading scheme that can be connected to the international system.
- If the US Administration wins its battle against Kyoto at COP/MOP1 (eg no initiation of second commitment period) international action will most likely stall or reverse. Trading markets could weaken or collapse.

# And what about Canada?

- COP/MOP1 is the most difficult climate meeting so far: A hard challenge for any country at any time.
- A failure at COP/MOP1 to initiate the Kyoto Second Commitment Period negotiations would be a disaster.
- Canadian political leadership needs to decide how much warming is too much for itself: is it 1.5oC, 2oC, 3oC or what? Amazing that there has been no serious discussion or analysis about this.