CLIMATE ACTION TRACKER

DETAILED INFORMATION ON INDIVIDUAL COUNTRY PLEDGES FOR GREENHOUSE GAS EMISSION REDUCTIONS

DEVELOPED BY ECOFYS AND CLIMATE ANALYTICS / SUPPORTED BY THE EUROPEAN CLIMATE FOUNDATION

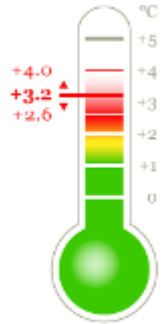
CLIMATE ANALYTICS

ECOFYS

PIK

7 June 2011

Tracking climate pledges



Agenda

- Tracking climate pledges – *Niklas Höhne, Ecofys*
- News from and after Bangkok – *Bill Hare, Climate Analytics*
- Options to close the gap – *Michiel Schaeffer, Climate Analytics*
- From pledges to actions: tracking implemented policies – *Sara Moltmann, Ecofys*

- Respondents

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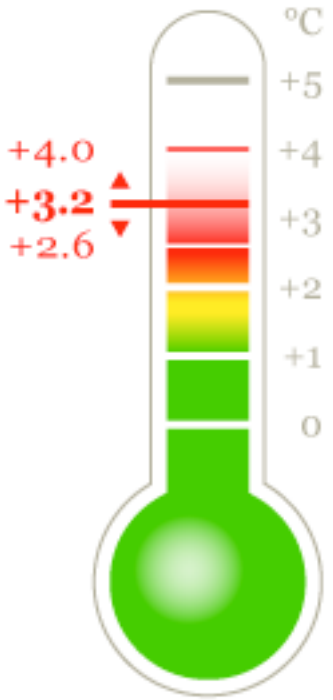
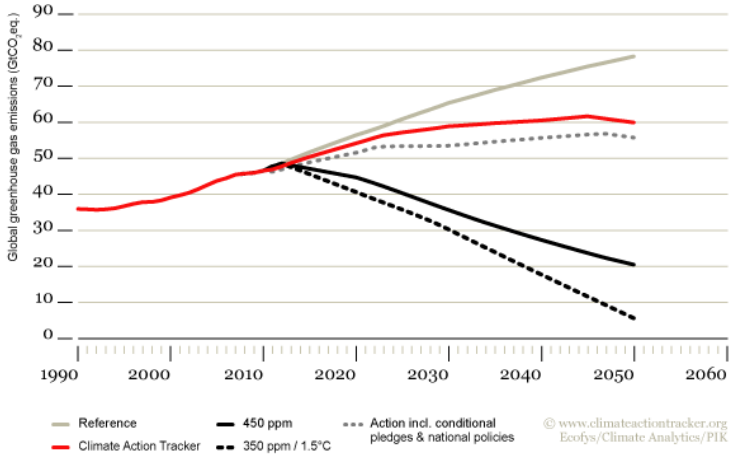
The Climate Action Tracker

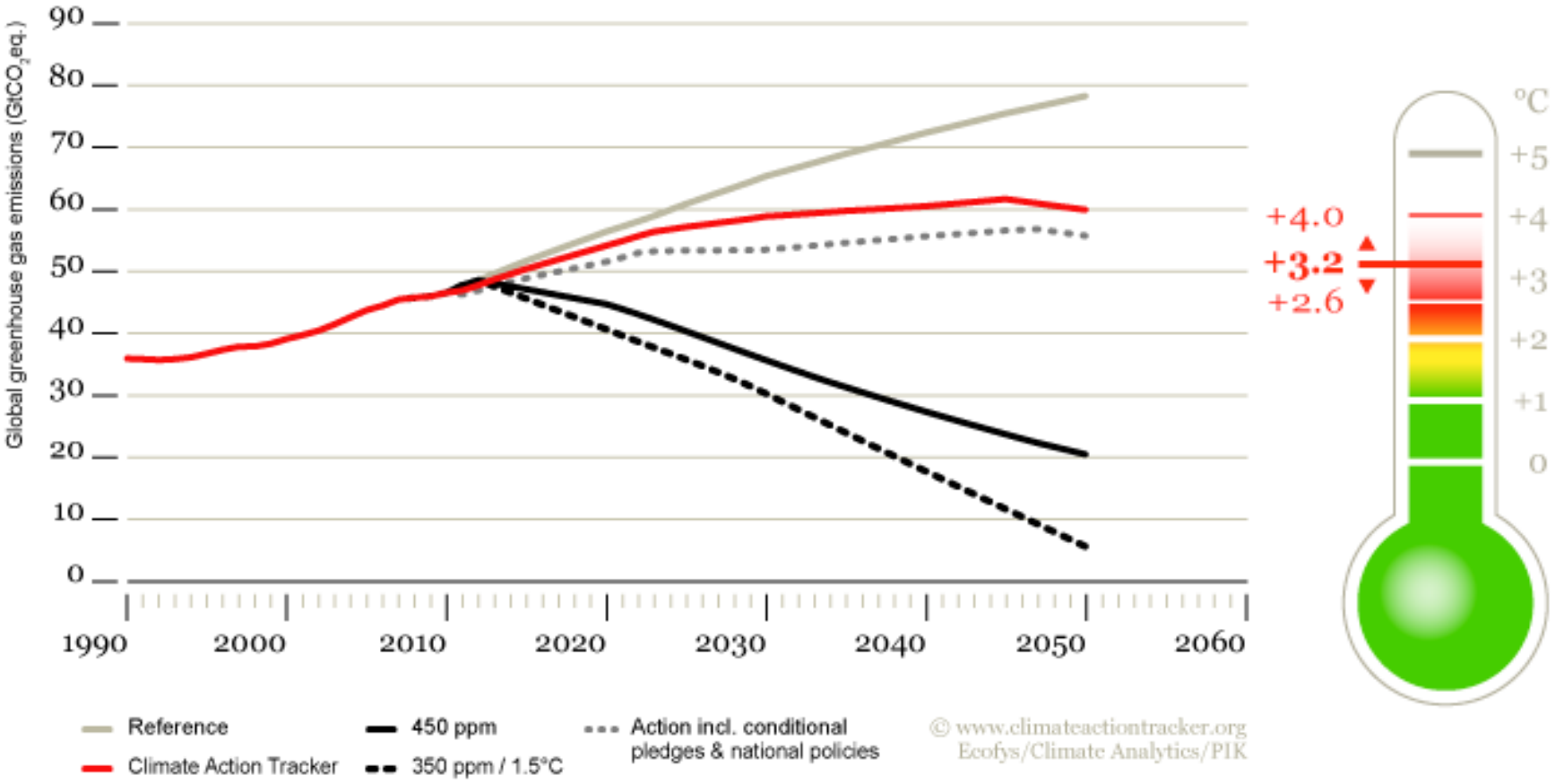
Independent science-based assessment:

- Up-to-date assessment of individual national pledges
- Comparability of pledges
- Translation into emissions pathways and impact on temperature

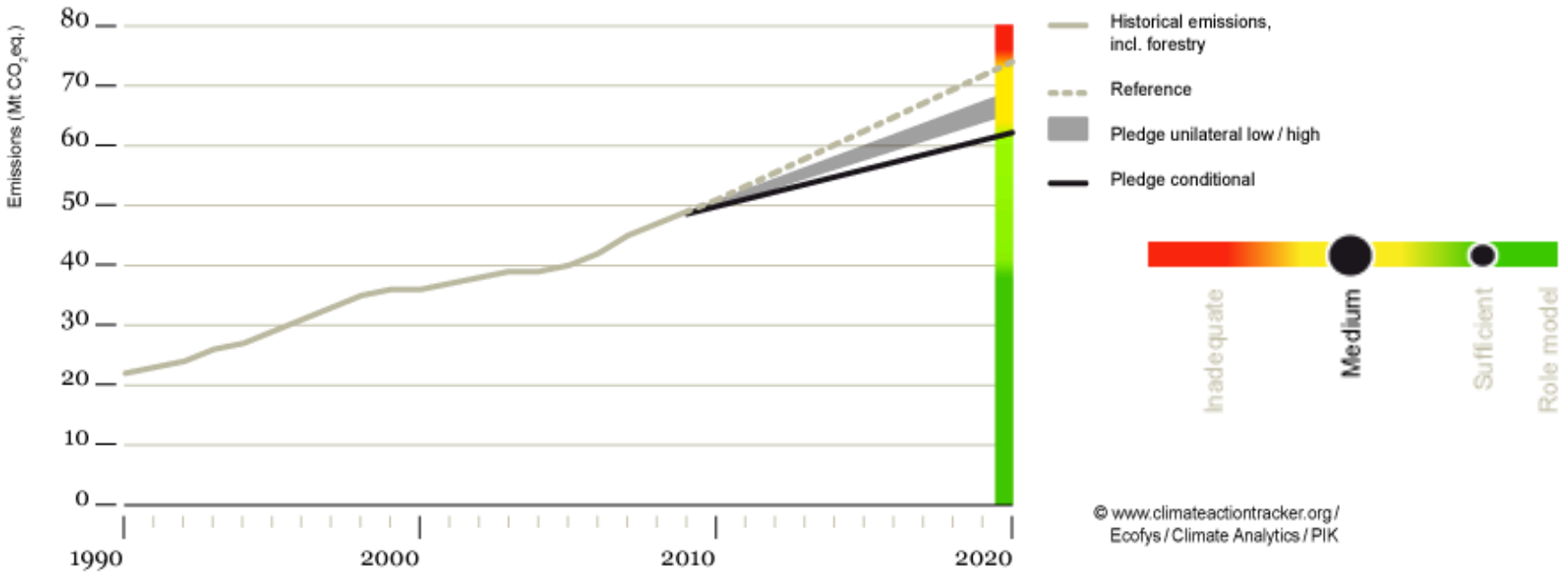




The Climate Action Tracker

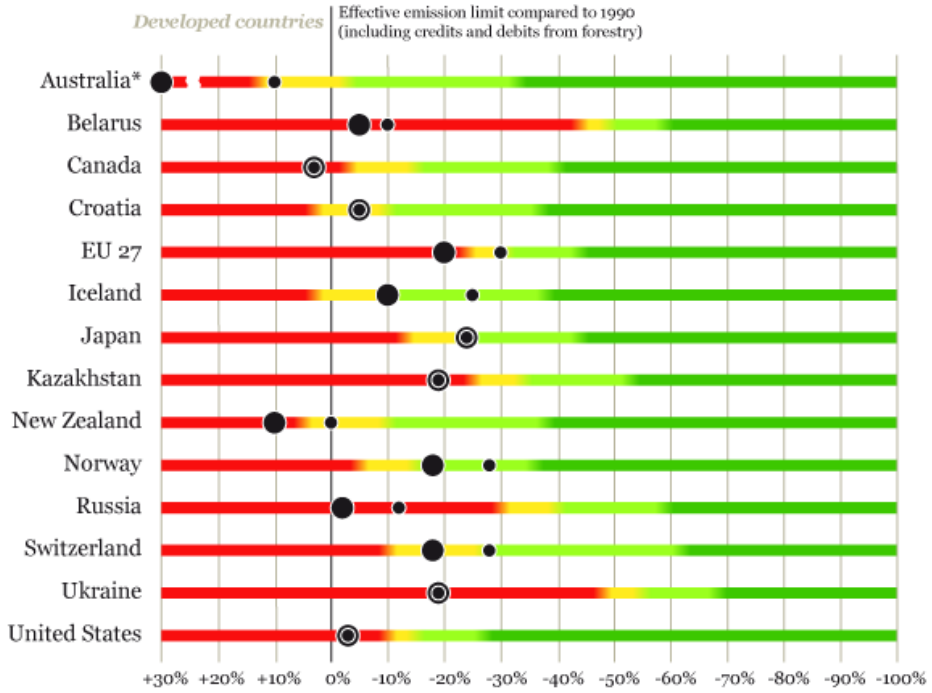


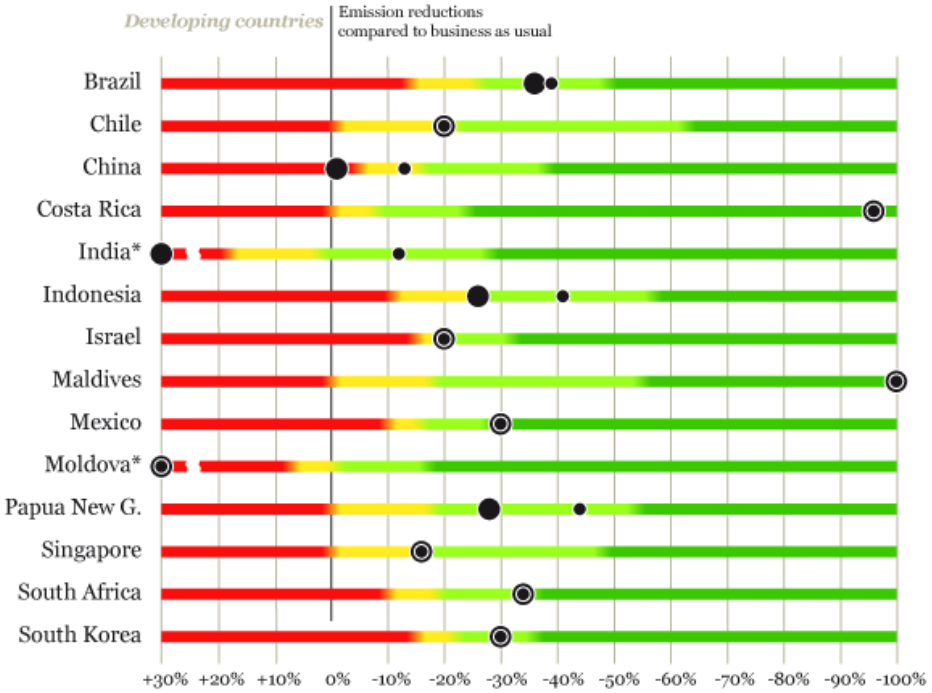
Example Country



- Historic emissions
- Future reference emissions scenario
- Reduction pledges unilateral and conditional
- Comparison to effort sharing studies

- Overall rating based on effort sharing studies per country





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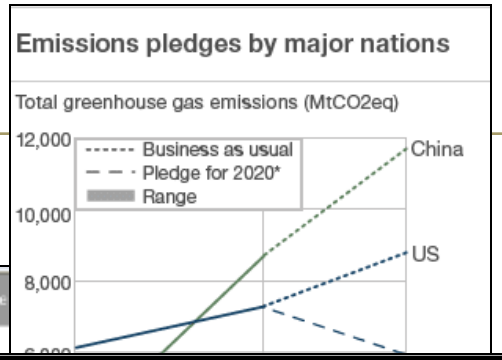
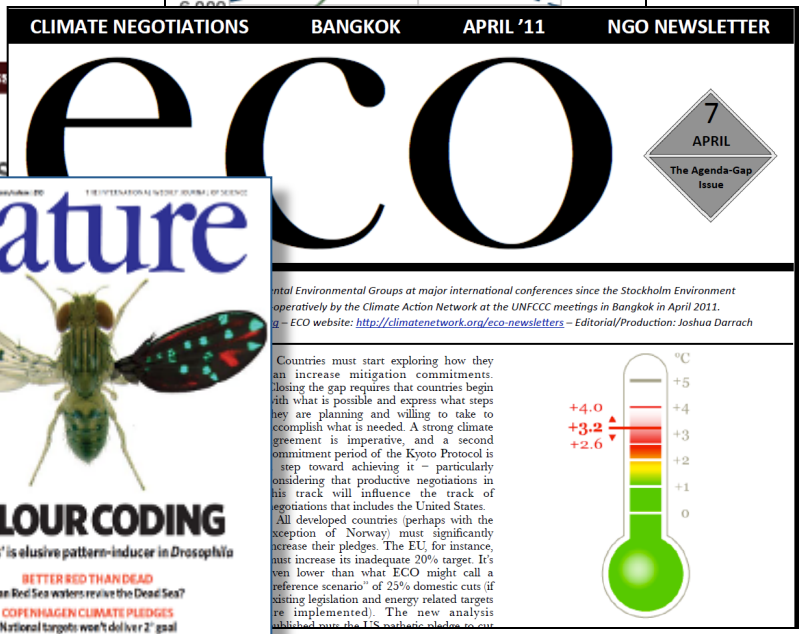
Impact of CAT





Artur Runge-Metzger, Director International and Climate Strategy, European Commission: *"The Climate Action Tracker provides a useful basis for constructive discussions in the international climate negotiations. We even encourage more in-depth country analysis including on a sector by sector basis."*

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CO_2 emissions at record level

International Energy Agency

- Energy security
- Environmental protection
- Economic growth
- Engagement worldwide

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Latest Information

Prospect of limiting the global increase in temperature to 2ºC is getting bleaker

30 May 2011

CO2 emissions reach a record high in 2010; 80% of projected 2020 emissions from the power sector are already locked in

Energy-related carbon-dioxide (CO2) emissions in 2010 were the highest in history, according to the latest estimates by the International Energy Agency (IEA).

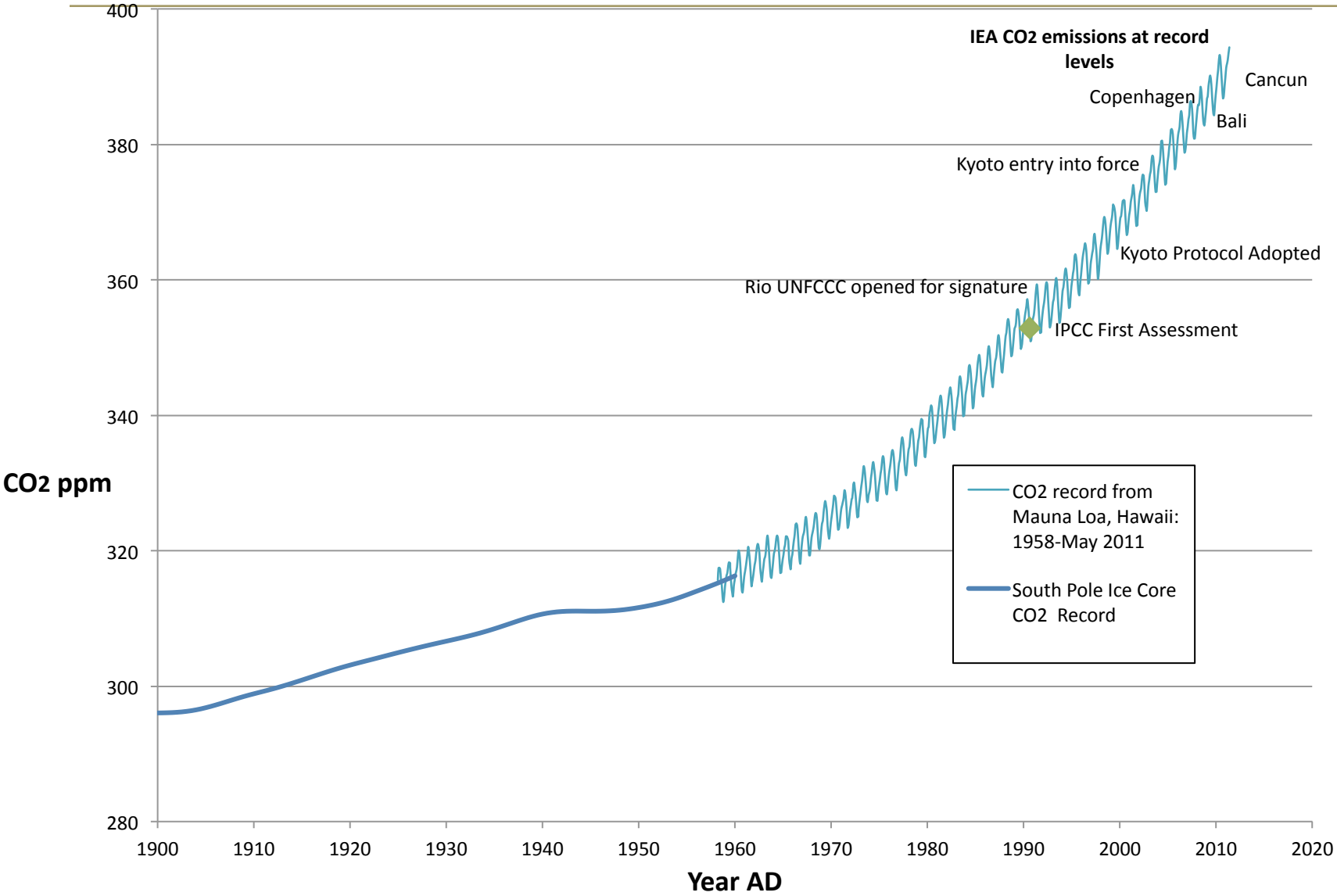
After a dip in 2009 caused by the global financial crisis, emissions are estimated to have climbed to a record 30.6 Gigatonnes (Gt), a 5% jump from the previous record year in 2008, when levels reached 29.3 Gt.

In addition, the IEA has estimated that 80% of projected emissions from the power sector in 2020 are already locked in, as they will come from power plants that are currently in place or under construction today.

"This significant increase in CO2 emissions and the locking in of future emissions due to infrastructure investments represent a serious setback to our hopes of limiting the global rise in temperature to no more than 2ºC," said Dr Fatih Birol, Chief Economist at the IEA who oversees the annual *World Energy Outlook*, the Agency's flagship publication.

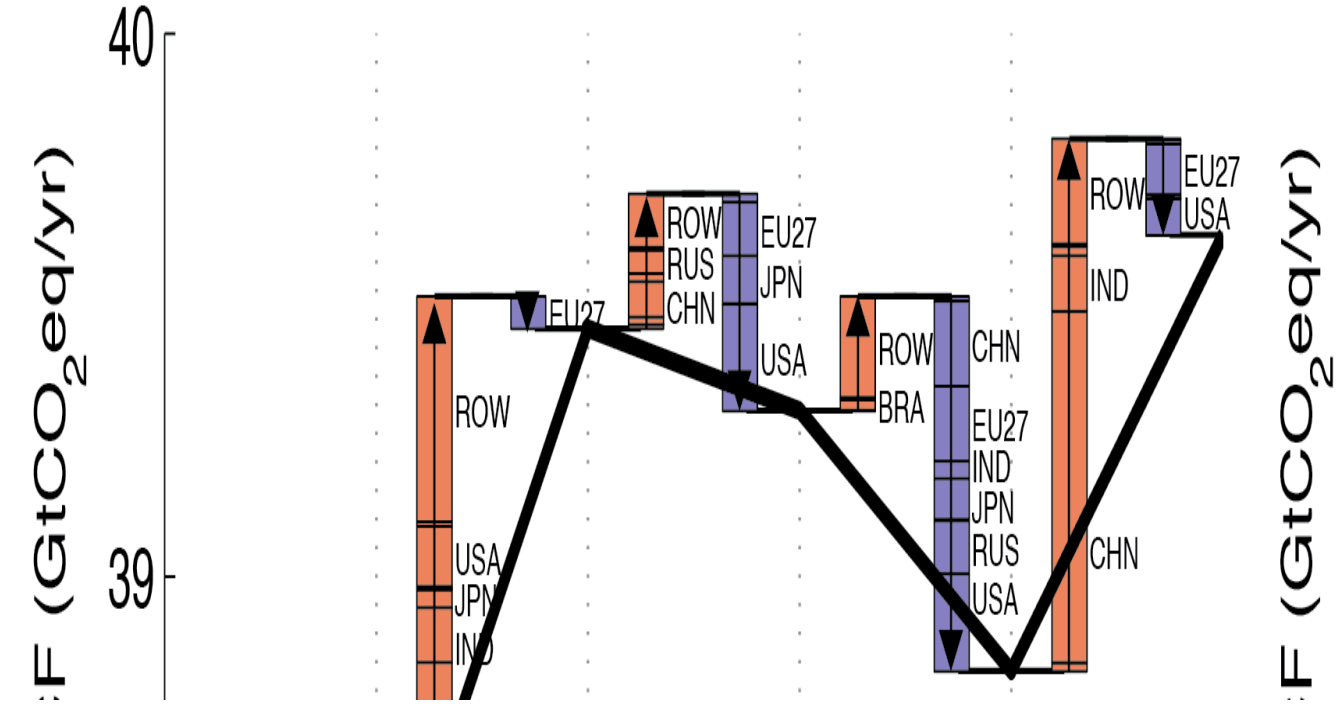
Electric v

…and so is CO_2 concentration



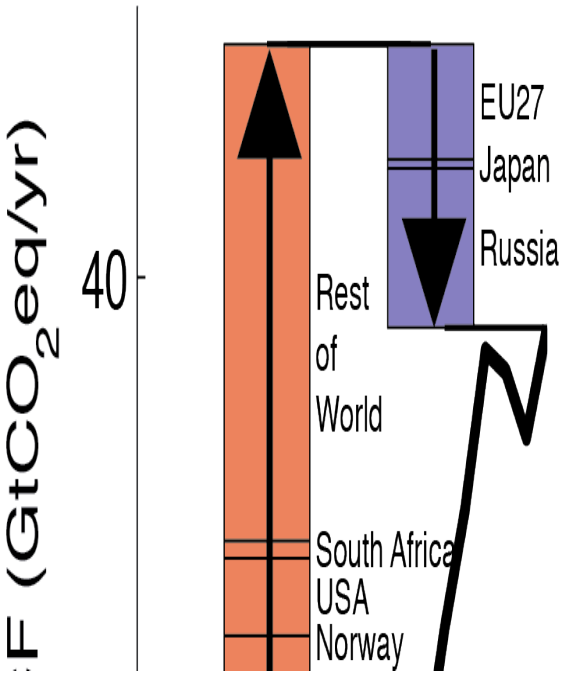
Where does this come from?

Annual contributions of individual Parties to Global total GHG emissions increase or decrease over the past 5 years



Total contributions of individual Parties to global GHG emissions increase or decrease over historical period 1990-2010

(note the different scale of both axes)



CO_2 emissions rising

- After global recession CO_2 emissions have begun rising and are now at record levels.
- Will make it harder to peak emissions by 2020
- Impact of nuclear phase-out in Germany should not be long lasting and ultimately may be beneficial
- Impact of Japanese nuclear problem unclear at present.
- CO_2 concentration has exceeded now (April 2011) at over 390 ppm

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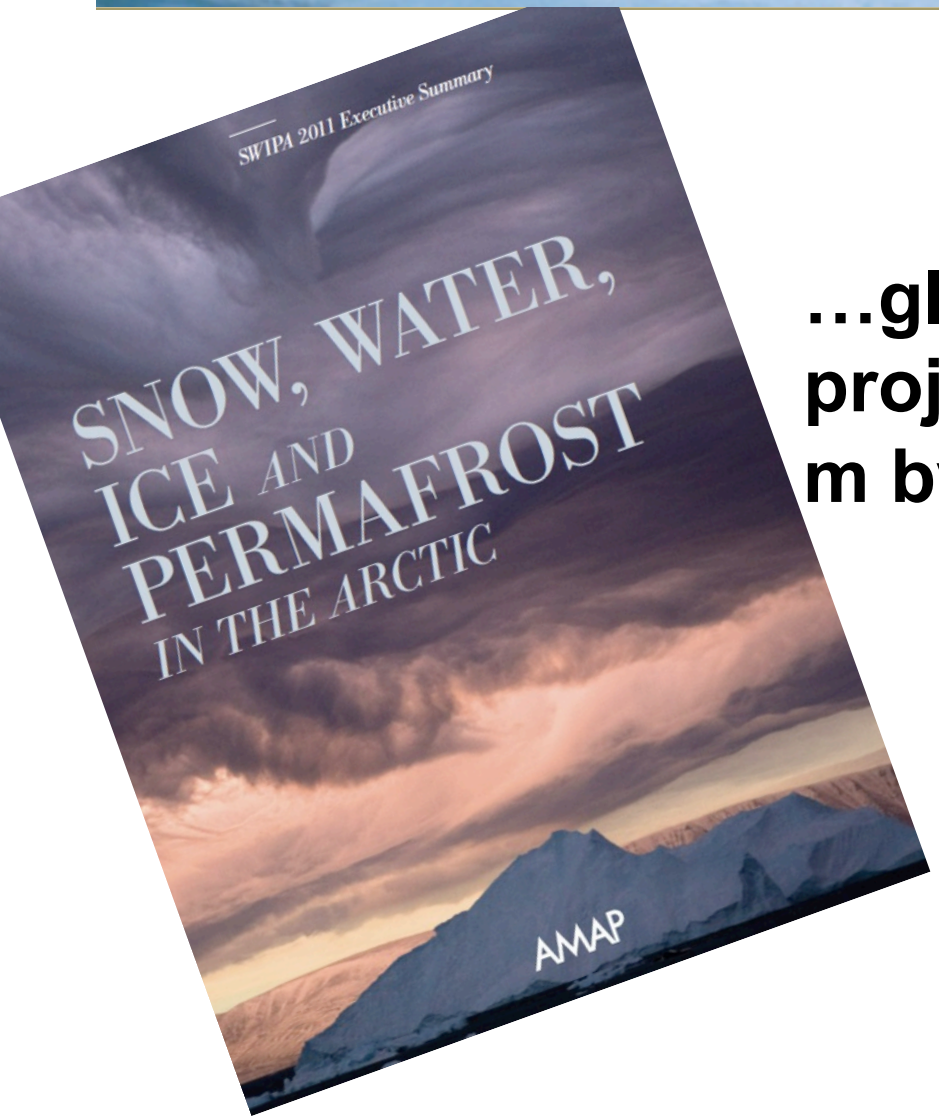
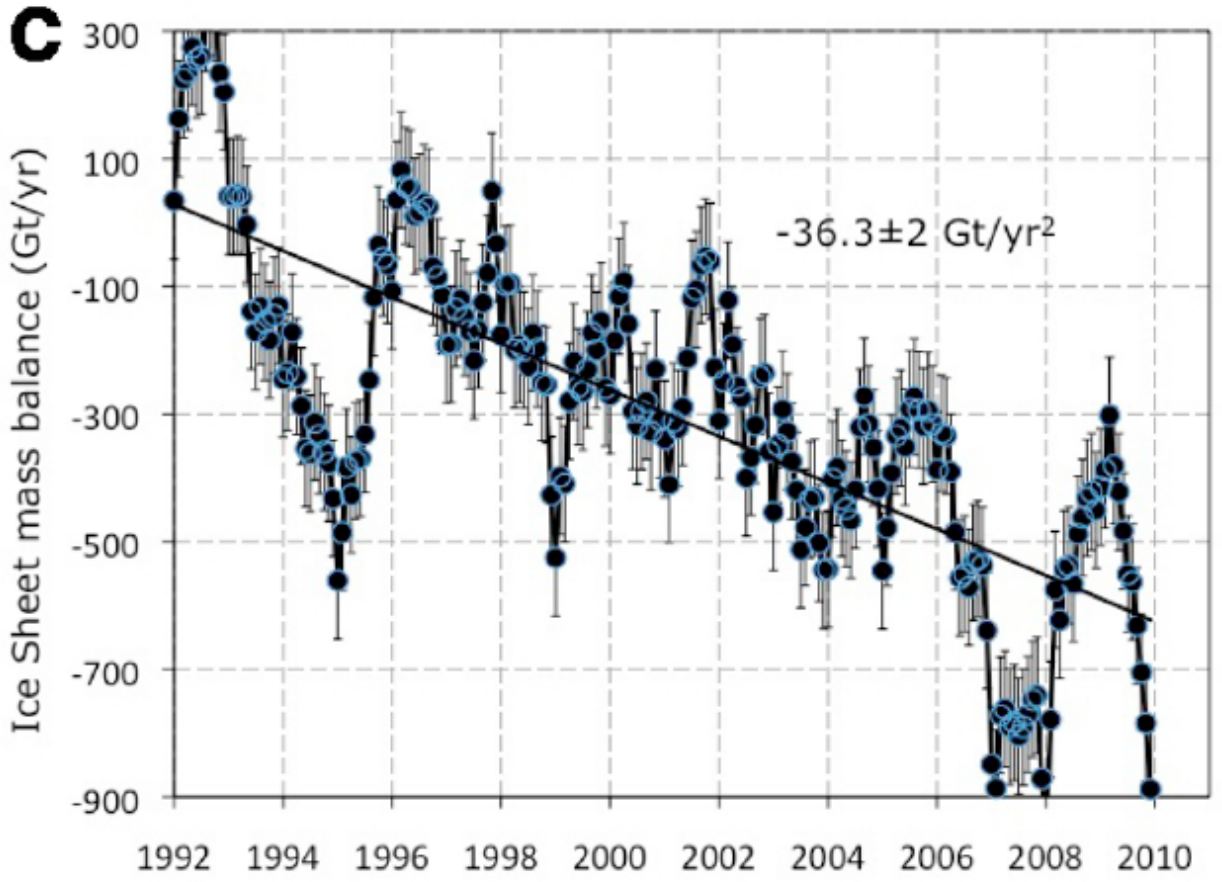
AMAP

Arctic Monitoring and Assessment Programme



…global sea level is projected to rise by 0.9-1.6 m by 2100

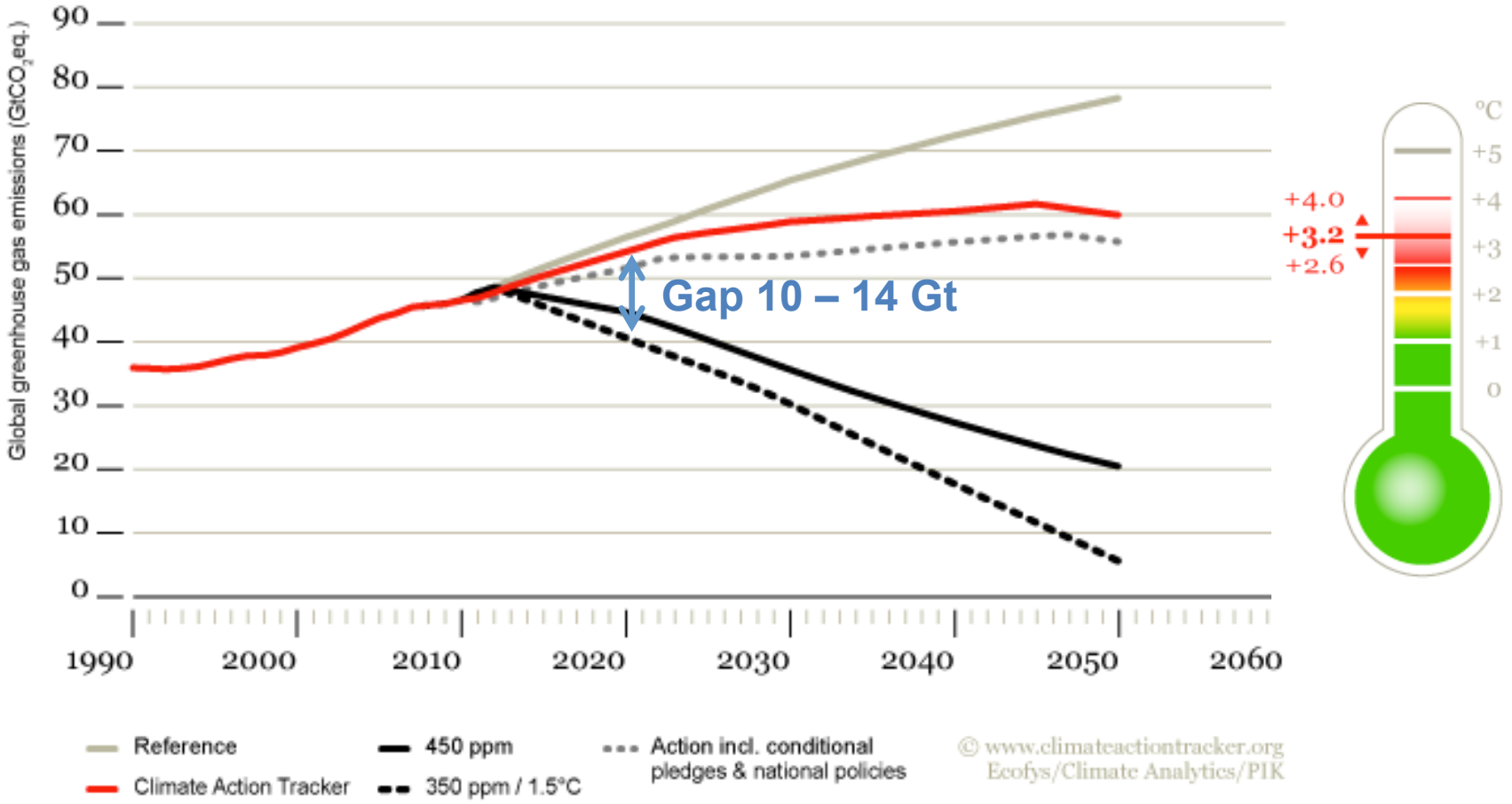
Acceleration of ice loss from Greenland and Antarctica



Sea level rise

- Sea level rise accelerating from Greenland and Antarctica ice melt
- Sea level rise by 2100 likely higher than IPCC AR4 estimate
- Current best-guess: roughly 1 m of sea level rise by 2100

Projections of pledges to 2050



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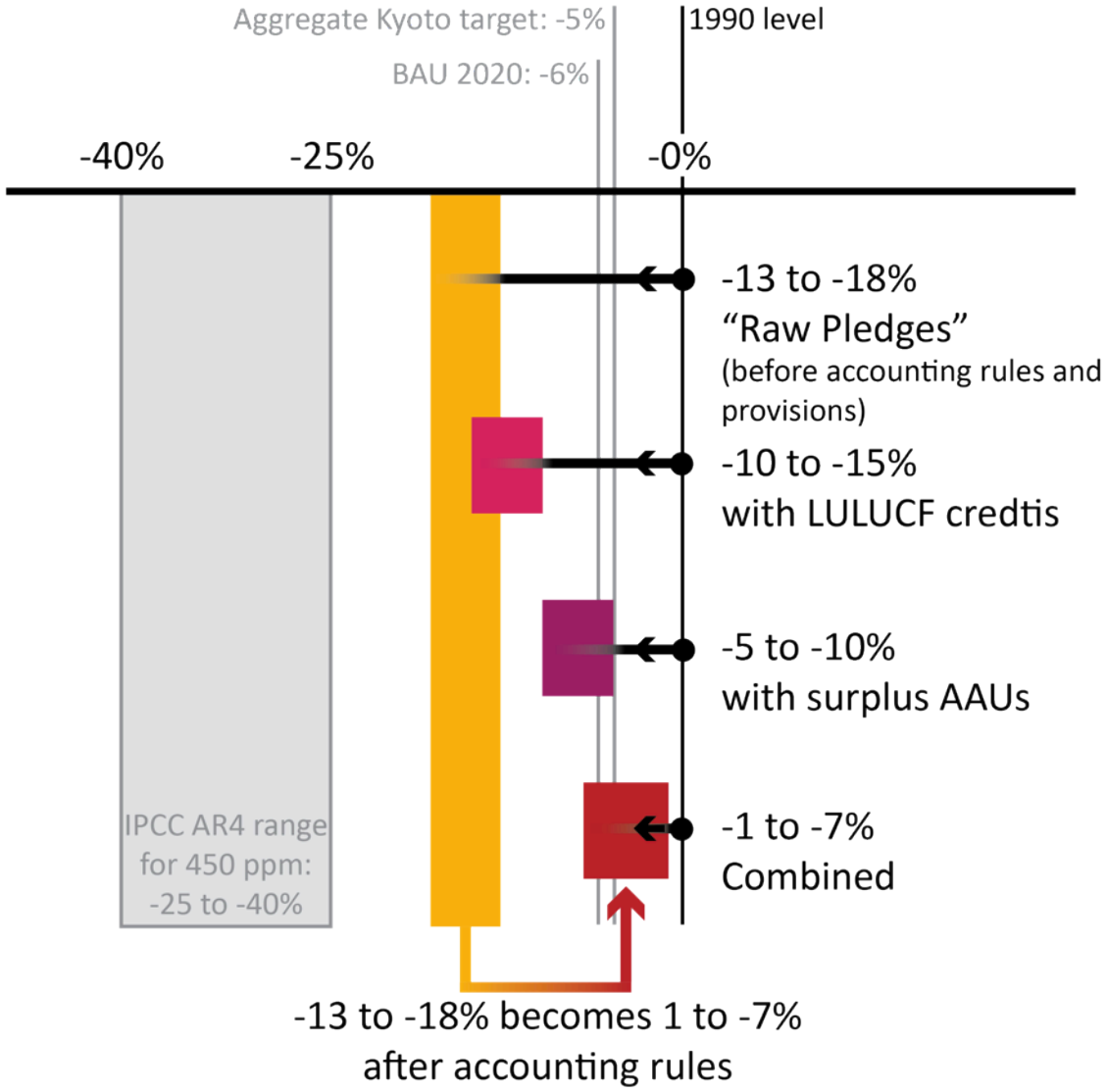
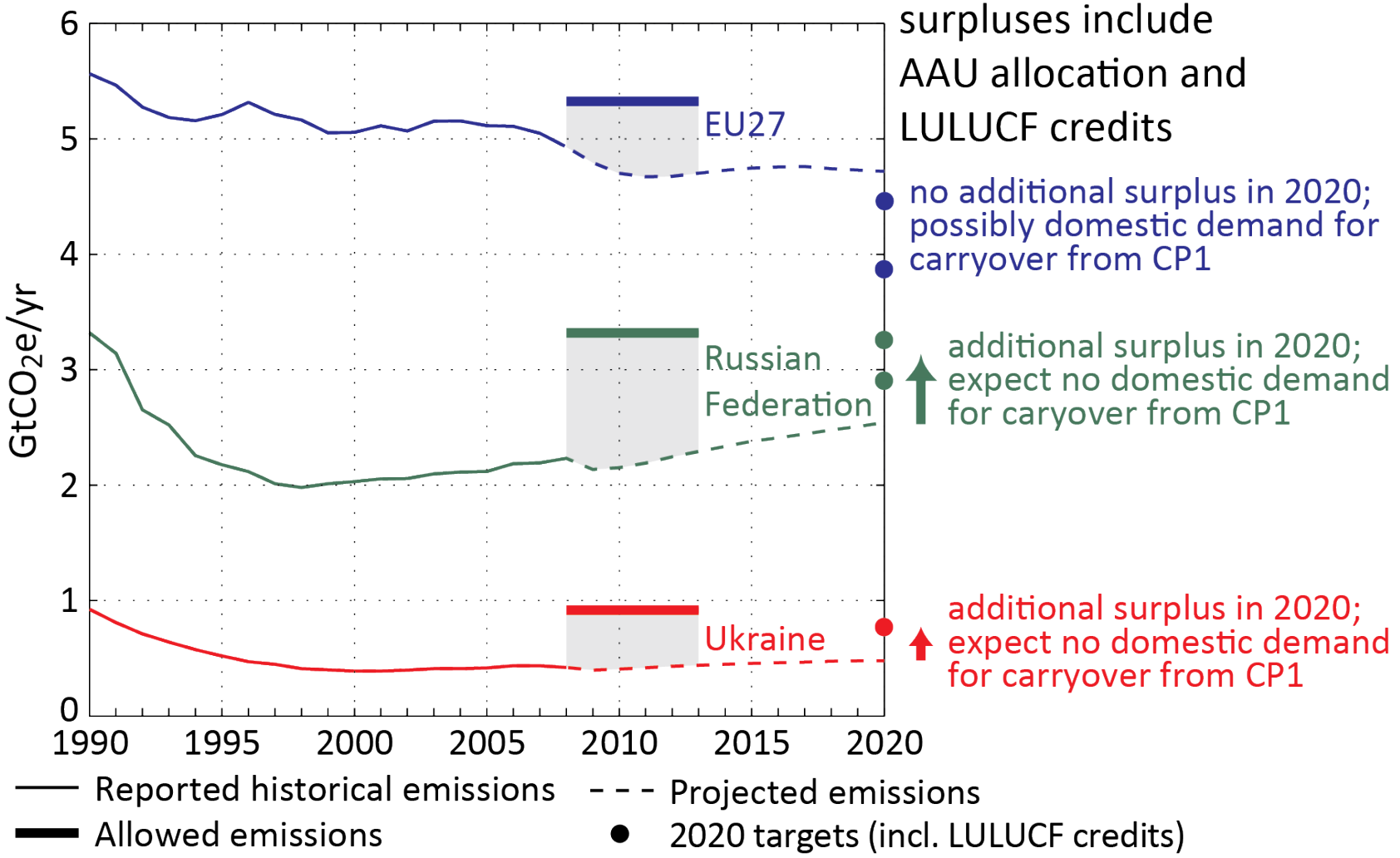
Effect of accounting rules on aggregate Annex-I emission reductions in 2020 (in % from 1990)



LULUCF – effects on the gap

- Land use, land-use change and forestry (LULUCF) accounting generates credits and debits which raise and lower allowed industrial emissions
- **Current rules proposed** in the negotiation text **result overall in credits**, and thus an increase of allowed industrial emissions
- If all countries would apply the accounting method that they prefer, it would **add emissions equivalent to about 3% of 1990 Annex I industrial emissions in 2020**
- Options limiting this net credit are:
  - Applying an **overall limit to LULUCF credits**.
  - Amending Article 3.7, to **eliminate exceptions** for countries with high emissions from land use change and forestry in 1990.

Examples of estimated surplus AAUs CP1 and potential domestic demand around 2020

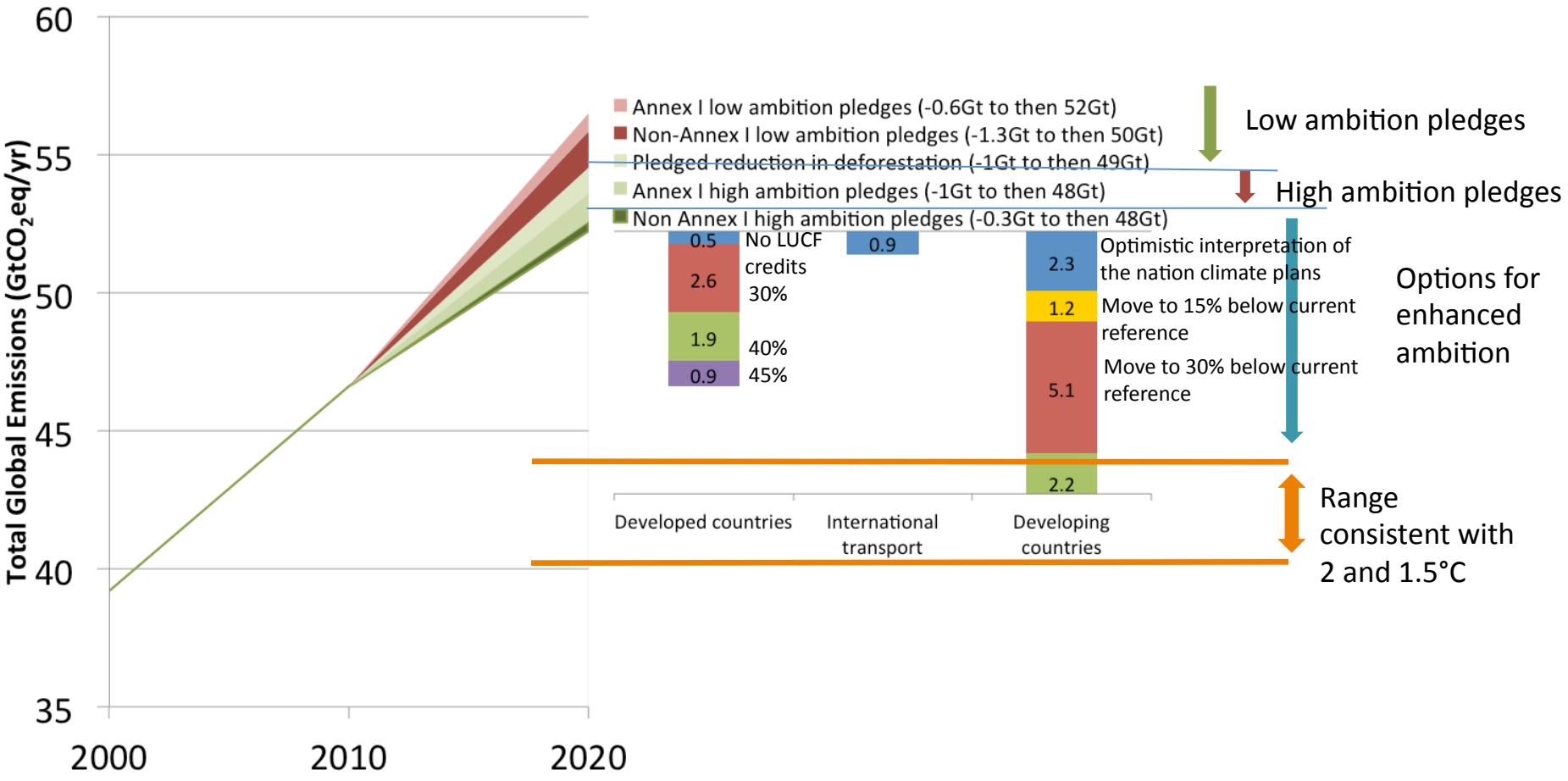


Surplus AAUs from 1st CP

- **Assigned Amount Units (AAUs)** not used by Parties during the 1st commitment period of the KP (2008-2012) can be **carried-over to the 2nd commitment period**.
- These carried-over **AAUs can be traded** with other Parties, effectively **raising** the **allowances of the buying Party without** requiring any additional **reductions by the selling Party**.
- An **estimated cumulative total of about 11 billion tonnes of CO_2-equivalent** (GtCO2e) surplus AAUs will be generated by developed countries **Main contributors are Russia, the Ukraine, Belarus, and some member states of the European Union.**
- **Surplus AAUs from the first commitment period deteriorate effective 2020 emission limits by roughly 8% of 1990 Annex I industrial emissions.**

- No carryover: no deterioration

Options for closing the gap



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  - Policy evaluation
  - Book keeping model

Why CAT 2.0

- **Actions vs pledges**

  Evaluate how a country's actions compare with its own nationally and internationally declared levels of ambition

- **Actions vs objectives**

  Evaluate how a country's actions compare with the 2°C objective agreed bythe international community and other discussed objectives (e.g. 1.5°C)

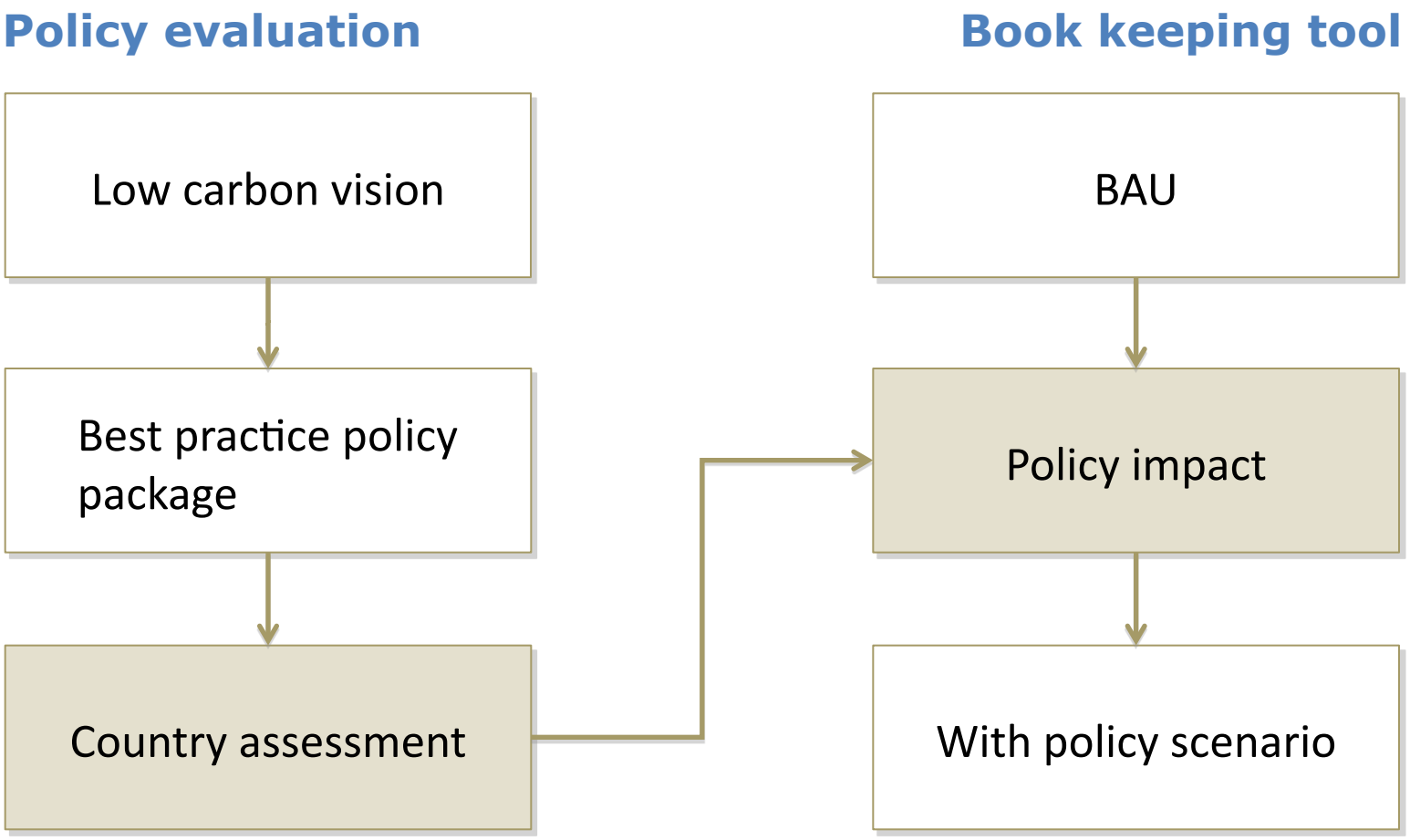
- **Actions vs actions**

  Ensure comparability of actions between countries

- **Identify best practice**

  Provide examples and information for other countries willing to take action

Steps of the analysis



Fundamental equation

Energy related greenhouse gas emissions:

	Activity	**X**	**Energy efficiency**	**X**	**Carbon intensity of energy**	**=**	**Greenhouse gas emissions**
Example:	m^2 heated floor space	x	kWh / m^2	x	gCO_2/kWh	=	gCO_2

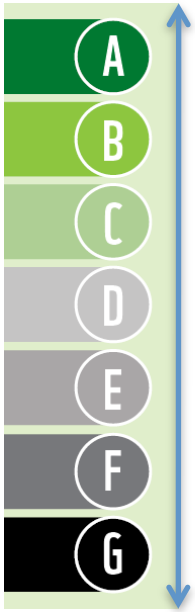
Methodology – Policy evaluation

	Changing activity	Energy efficiency	Low carbon		Other
			Renewables	Nuclear / CCS / fuel switch	
General					- General climate strategy with longterm targets
Electricity (heat) production	(Electricity production is driven by the demand of the other sectors)	- Efficiency of fossil fuel power plants - CHP - Distribution losses - General incentives (energy taxes and subsidies, ETS)	- Renewables in electricity generation - Support for adapted electricity grids - General incentives (energy taxes and subsidies, ETS) - Sustainablility standards for biomass use (national and imported)	- Support for nuclear and CCS	
Industry[1]	- Restructuring industry towards high material efficiency	- Efficiency in industry - General incentives (energy taxes and subsidies, ETS)	- Renewables in industry - General incentives (energy taxes and subsidies, ETS) - Sustainablility standards for biomass use (national and imported)	- Support for CCS - Support for fossil fuel switch (to gas or electricty)	- N2O process emissions - Fugitive CH4 from oil and gas production - CH4 from waste - F-gases
Buildings	- Urbanisation policy[2]	- Efficiency standards for new and old buildings - Support to increase energy efficient retrofit rate - Incentives for efficient electrical appliances - General incentives (energy taxes and subsidies)	- Support for renewables in new and existing buildings - General incentives (energy taxes and subsidies) - Sustainablility standards for biomass use (national and imported)	- Support for fossil fuel switching (to gas)	
Transport	- Modal shift - Incentives for reduced or increased transport - General incentives (energy taxes and subsidies) - Urbanisation policy	- Incentives for efficiency in passenger cars - Incentives for efficiency in freight transport - General incentives (energy taxes and subsidies)	- Incentives for renewables in passenger cars - Incentives for renewables in freight transport - General incentives (energy taxes and subsidies) - Sustainablility standards for biomass use (national and imported)	- Support for fossil fuel switching (to gas) - Support for electromobility (cars and infrastructure)	
AFLOU	- Consistent land use strategy[3] - Incentives for sustainable consumption practices				- Incentives for sustainable farming practices with positive impact on GHG emissions - incentives to stabilize or increase forest cover - Incentives to decrease nitrogen load of soils - Incentives to decrease CH_4 emissions from animals

- Final result is a score of 0 to 4 for 19 **segments** (combination of sector and policy area)
  (e.g. score of 3.1 for renewables in electricity generation)
- 60 **indicators** for policy stringency
  (e.g. level of support for renewables in electricity generation)
- Best practice policy package defines a **benchmark** per indicator for reaching full marks (4 out of 0-4)
  (E.g. upper half of the cost range)
- Indicators are aggregated using **weighting factors** for long term policy assessment and (slightly different) for impact on 2030 emissions
  (e.g. 50%)

Policy evaluation – example output

Rating per segment:



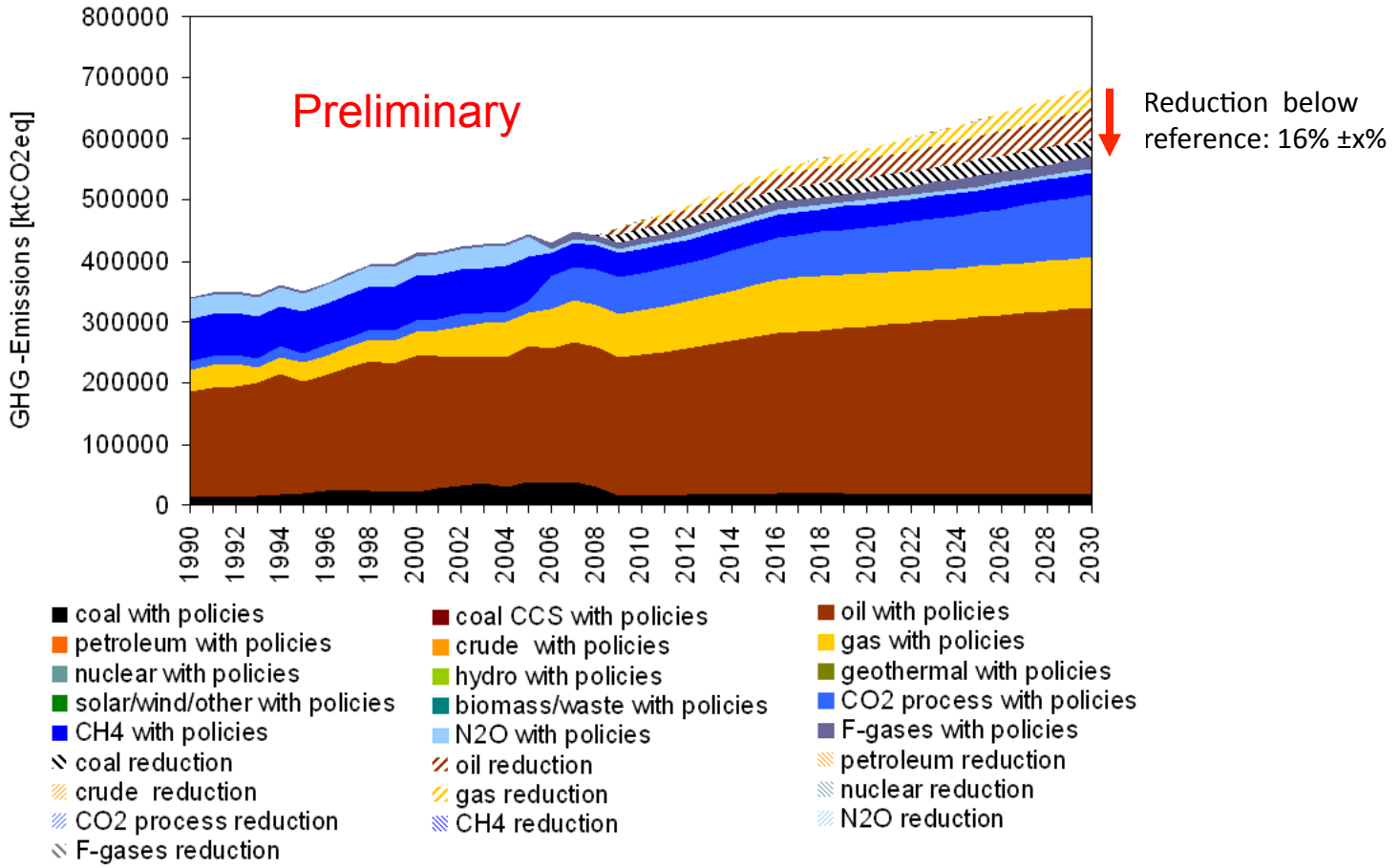
Excellent

Insufficient

	Changing activity	Energy efficiency	Low carbon		Other
			Renewables	Nuclear / CCS / fuel switch	
General					B
Electricity (heat) production		F	E	G	
Industry[1]	E	E	G	E	G
Buildings	G	B	G	G	
Transport	F	G	E	G	
AFLOU					

Size indicates (illustrative) importance/mitigation potential

Book keeping tool – example output



How? - Combining approaches

Policy evaluation

- Qualitative analysis per sector and policy area
- Normative rating of policies per sector and policy area based on objective criteria

Book keeping tool

- Quantification of national emissions pathways until 2030
- Standardised, simple and transparent modelling tool

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