UNEP 'emissions gap' report

"To implement individually or jointly the quantified economy-wide emissions targets for 2020"

"To hold the increase in global average temperature below 2°C above pre-industrial levels"

COP15 COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009

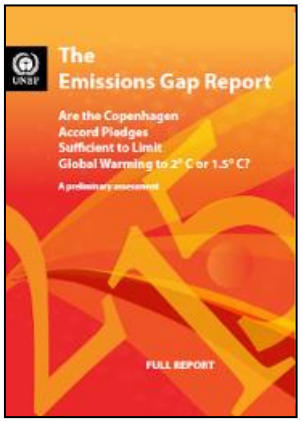
COP16 CMP6 México2010

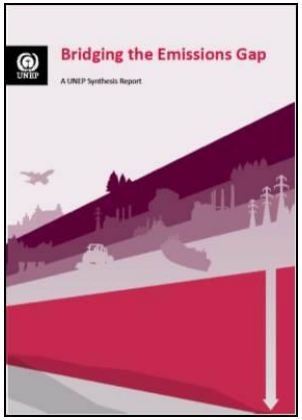
COP17/CMP7
UNITED NATIONS
CLIMATE CHANGE CONFERENCE 2011
DURBAN, SOUTH AFRICA

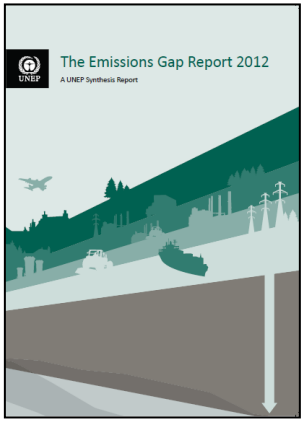
DOHA 2012
UN CLIMATE CHANGE CONFERENCE
COP18·CMP8

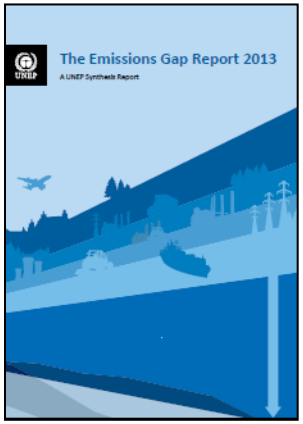
COP19/CMP9
UNITED NATIONS
CLIMATE CHANGE CONFERENCE
WARSAW 2013

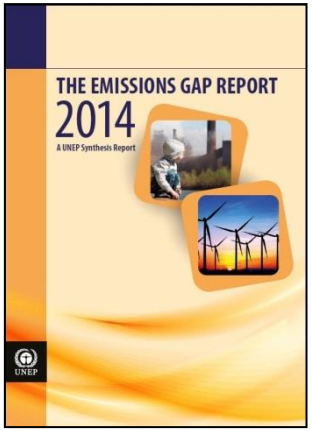
LIMA COP20 | CMP10
UN CLIMATE CHANGE CONFERENCE 2014



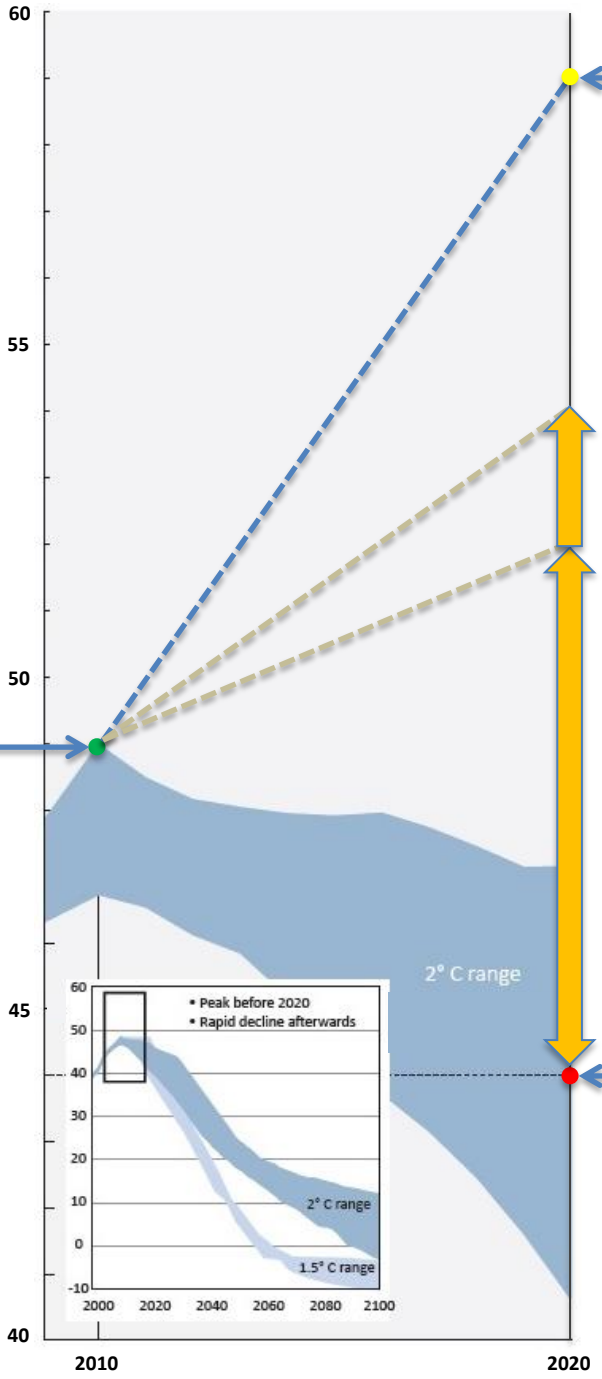








UNEP DTU PARTNERSHIP



Where we may be in 2020:
59 $GtCO_2e$ per year

Where the pledges may take us in 2020:
52-54 $GtCO_2e$ per year

The emissions gap in 2020:
8-10 $GtCO_2e$ per year

Where we were in 2010:
49 $GtCO_2e$ per year

Where we should be in 2020:
44 $GtCO_2e$ per year

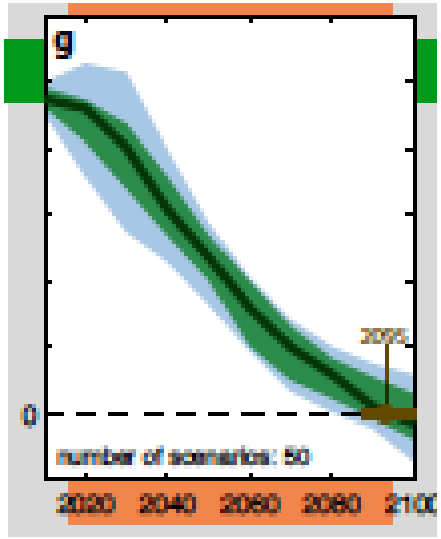
New scenarios

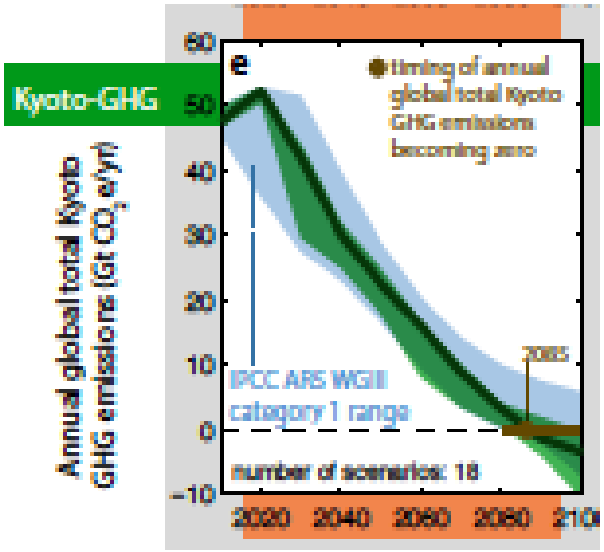
Concerted action from 2010

- Can be done without negative emissions

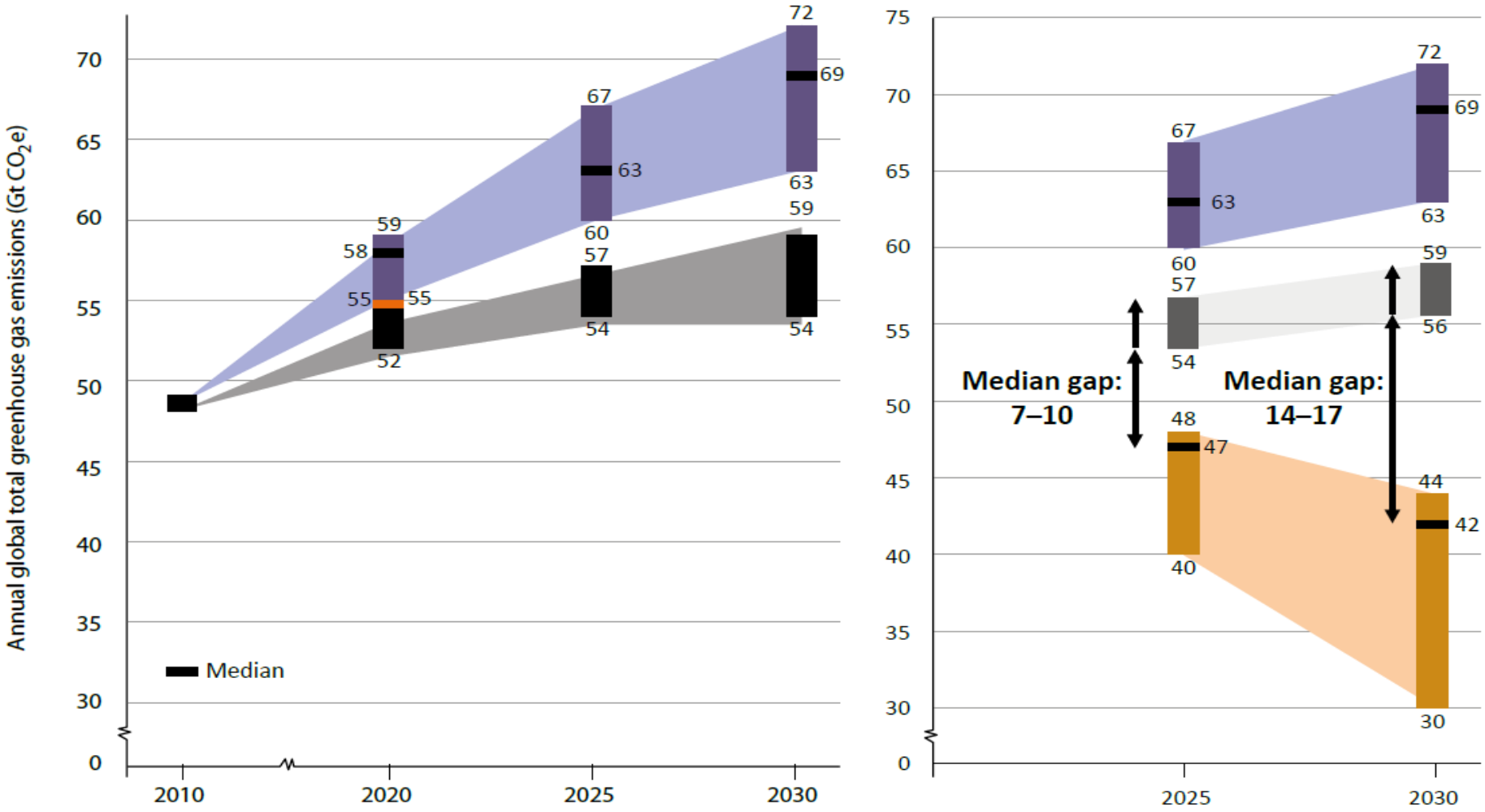
Concerted action from 2020

- Higher cost
- Negative emissions needed
- Higher risks

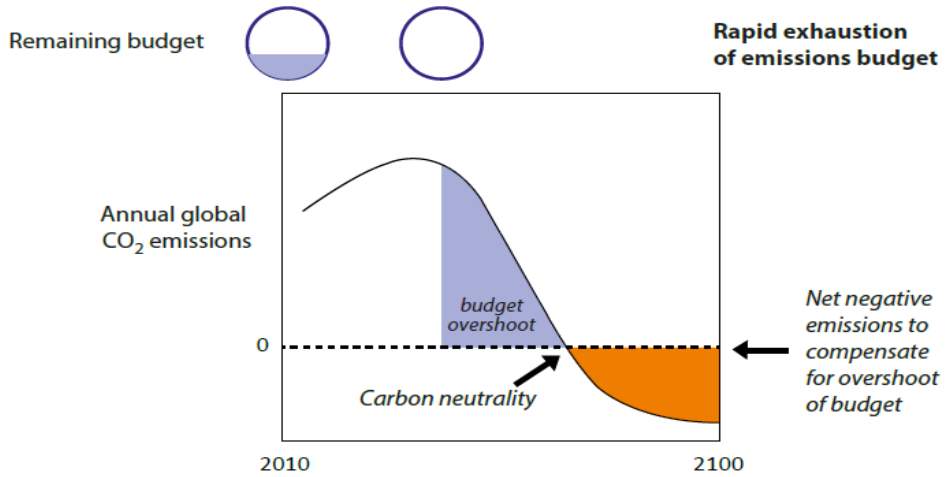




The emission gaps in 2025 and 2030

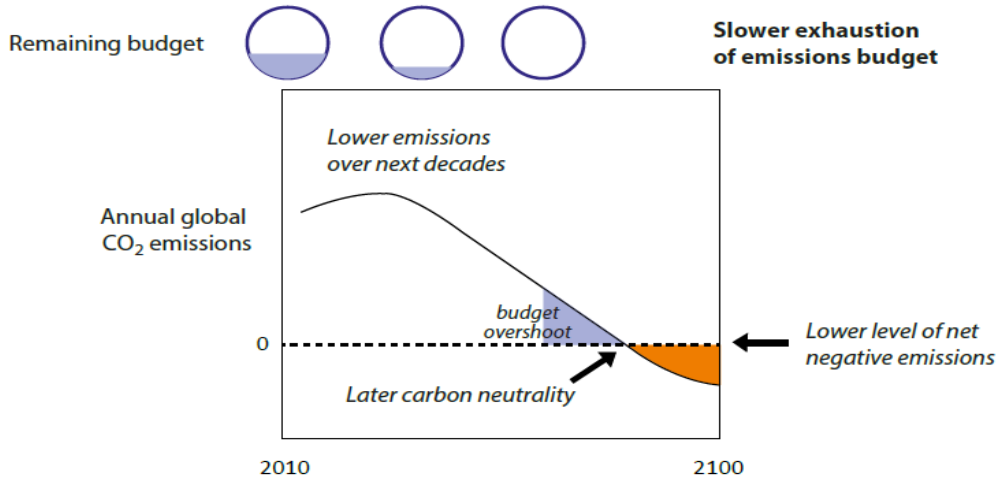


The remaining carbon budget



2 900 Gt

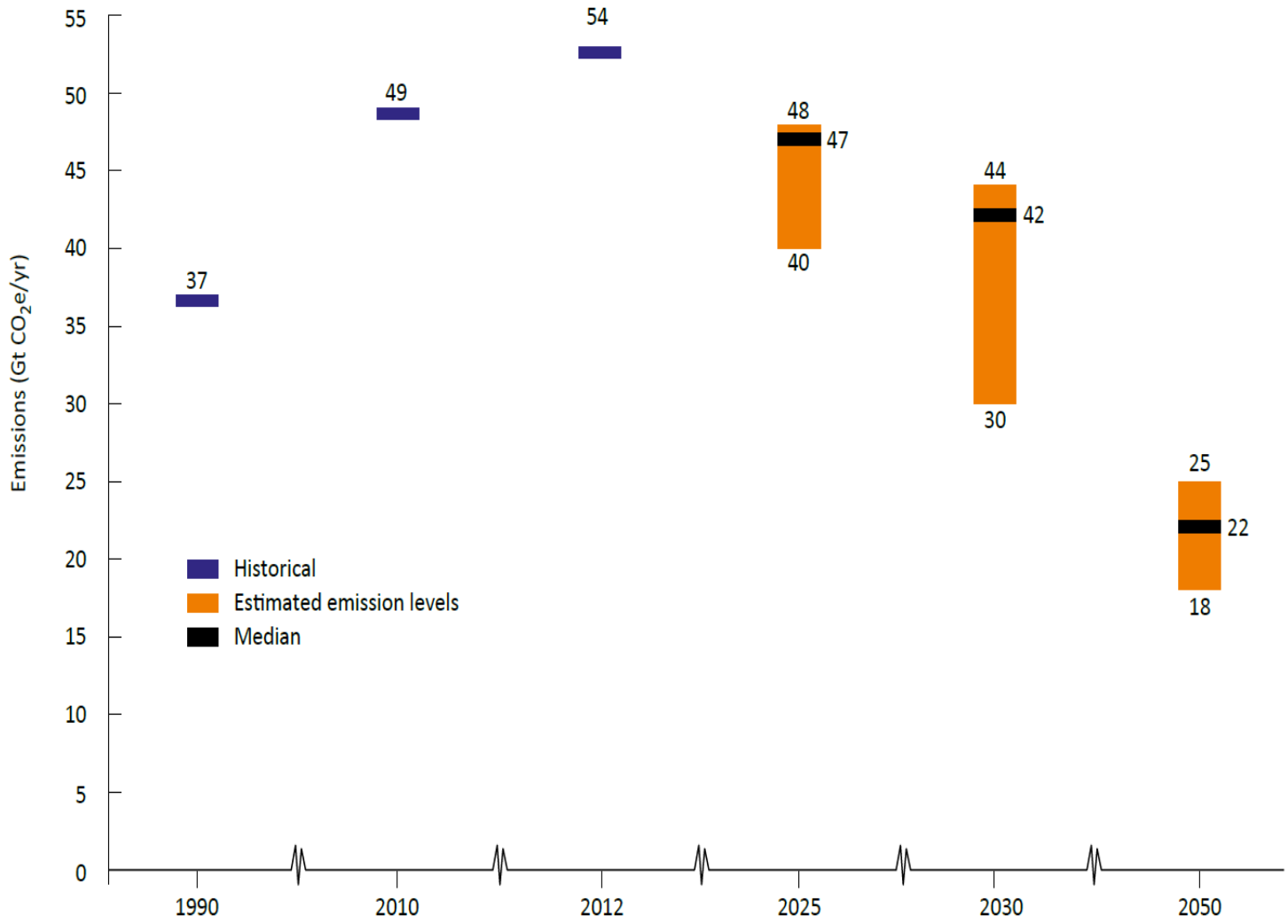
Available CO_2 emissions budget from the 19th century onward



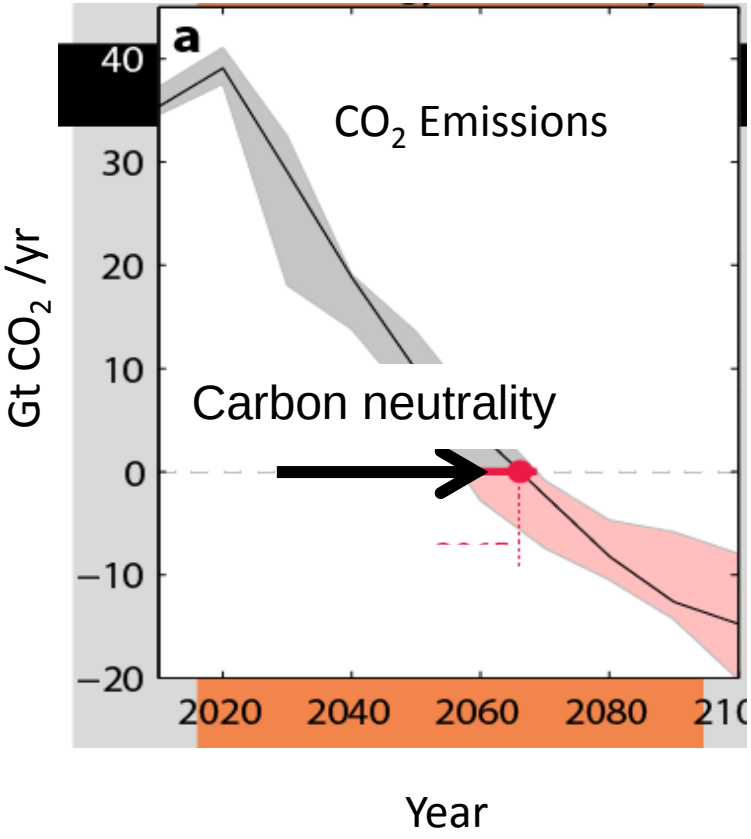
1 000 Gt

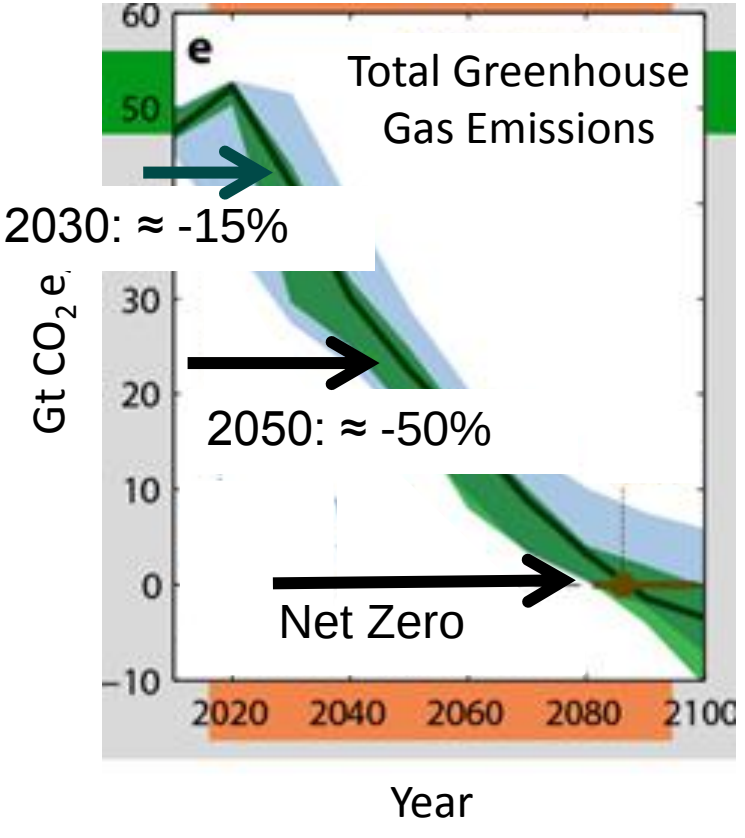
Available CO_2 emissions budget from 2012 onward

Pathways for staying within 2°C



How to spend the emissions budget for 2° C?
Global emission milestones





Net Zero CO_2 Emissions ≈ 2055-2070

Net Zero Total Greenhouse Gas Emissions ≈ 2080-2100

Table 4.1: Overview of emissions reduction potential, co-benefits, barriers, and coverage by national actions and international cooperative initiatives

Selected thematic areas	Approximate emission reductions potential (Gt CO_2e)		Level of co-benefits [a]	Level of barriers [a]	Level of coverage by:	
					National pledges and policies [b] (per cent)	International cooperative initiatives [c] (high/medium/low)
Energy supply – renewable energy, including increased energy access	5	*	High	Medium	50	High
Energy supply – fuel switch, combined heat-and-power, nuclear, carbon capture and storage	3	*	Low	High	10	Low
Energy supply: energy industry	2	**	Medium	Low	10	Low
Manufacturing industry – energy efficiency	3	*	High	High	30	Medium
Manufacturing industry – renewable energy			Medium	Medium	30	Medium
Manufacturing industry – process emissions	1.5	**	Medium	Low	10	Low
Buildings – energy efficient heating and cooling	2	*	High	High	50	High
Buildings – renewable energy heating			High	Medium	30	Medium
Buildings – appliances and lighting			High	Medium	50	High
Transport – energy efficiency, incl. electrification	3	*	High	Medium	20	High
Transport – renewable energy			Medium	Medium	50	Medium
Transport – demand reduction and modal shift			High	Medium	10	Medium
Sustainable waste management	2	**	Low	Low	30	Medium
Sustainable and efficient agriculture	3	**	Medium	Medium	10	High
Sustainable forestry	4	***	Medium	Medium	30	High

* "Manufacturing industry" includes also carbon capture and storage and fuel and feedstock switching (IEA, 2014a).

** Non-energy emissions are not covered by the Energy Technology Perspectives 2014 (IEA, 2014a). Therefore we used the IPCC RCP scenarios to derive the order of magnitude of the potential. We used the difference between a reference scenario (RCP 8.5) and a 2 °C compatible scenario (RCP 2.6) as a measure of potential. The analysis in the IPCC AR5 on the full IPCC scenario dataset does not include the sectoral split that was chosen in this report.

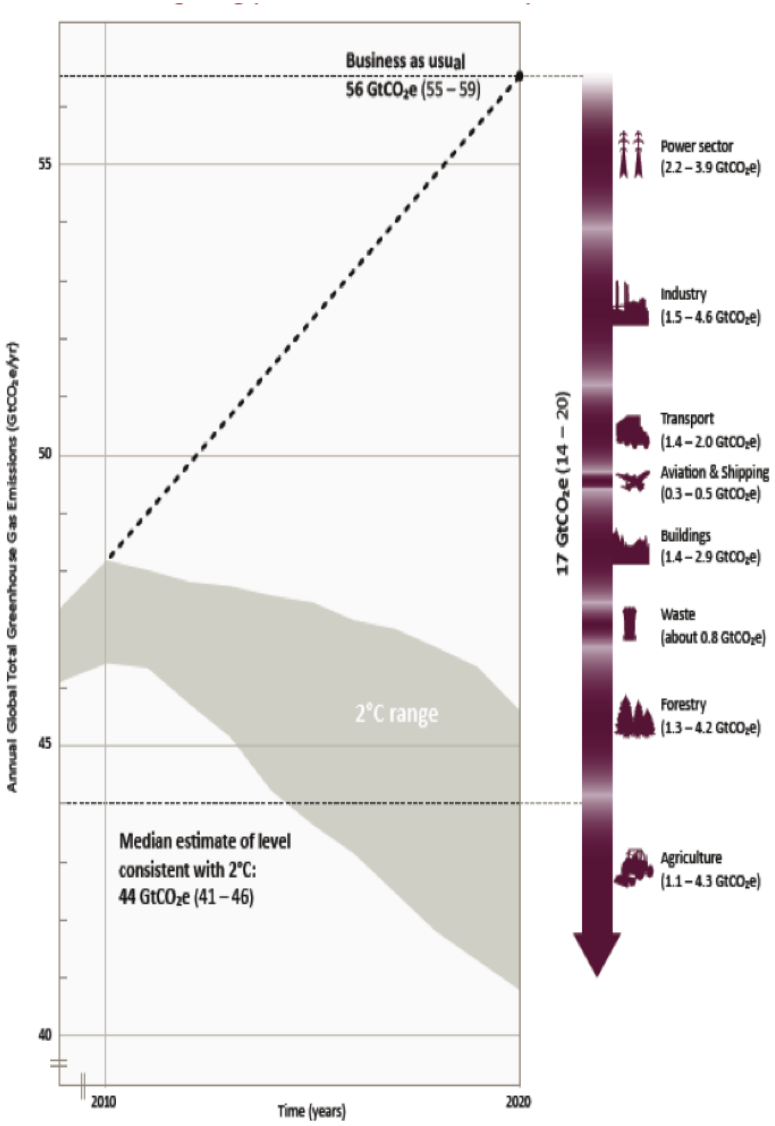
*** Estimates of mitigation potential from forestry are very diverse. For a simple estimate of potential we assumed that total current net emissions from forests (as in RCP 2.6) can be reduced to zero by 2030. The resulting emissions reduction potential estimate is in line with the range from the full IPCC scenario analysis of about 1 to 8 Gt CO_2 (Figure 6.35).

[a] Summary rating based on IPCC AR5, WGIII Table 6.7.

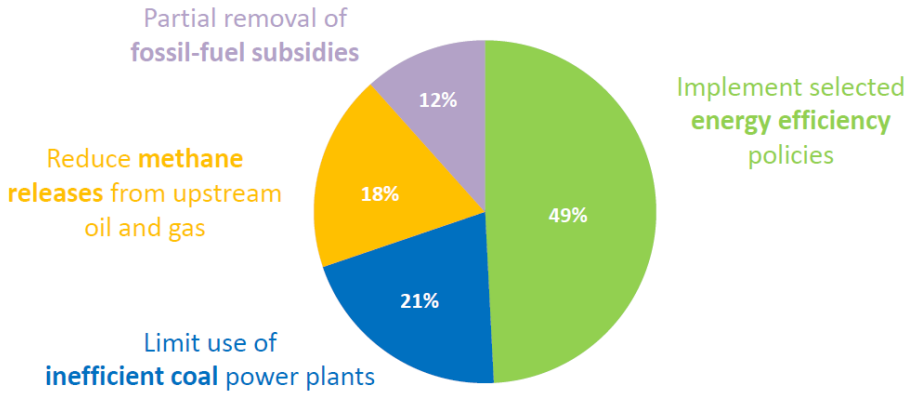
[b] Coverage adapted from Braun *et al.*, 2014. Includes the 38 largest emitters, rounded to 10 per cent (100 per cent represent coverage of all sub-areas in one thematic area – for example, fuel economy standards in passenger and freight transport).

[c] Number of initiatives: counted from 197 initiatives included in: www.climateinitiativesdatabase.org.

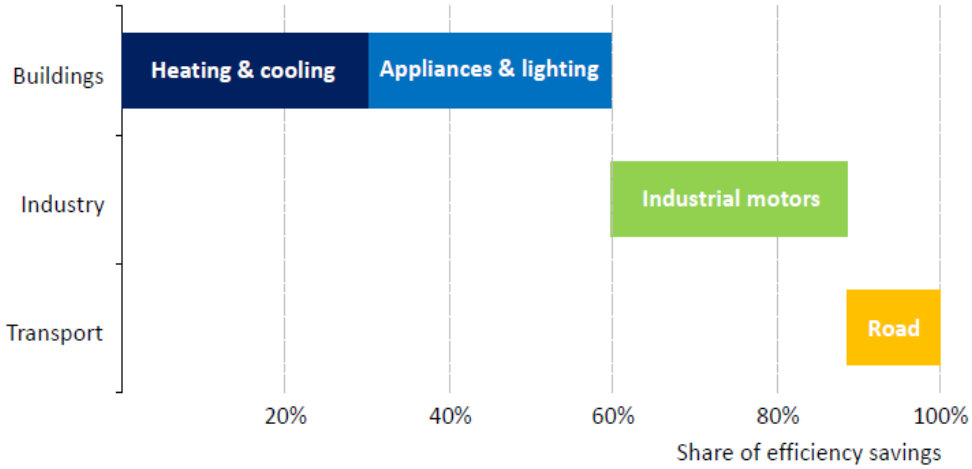
Energy Efficiency – the short term option



Emissions savings in the 4-for-2 °C Scenario, 2020



Four measures can stop the growth in emissions by 2020 at no net economic cost, reducing emissions by 3.1 Gt, 80% of the savings required for a 2 °C path



Adoption of Energy Efficiency technologies drives development

SUSTAINABLE ENERGY FOR ALL

Investments in Energy Efficiency…

- Reduce energy imports
- Create jobs
- Reduce company costs
- Improve livelihoods

Investment in Energy Efficiency drives growth and development while enhancing energy security

UNEP DTU PARTNERSHIP

Thank You!

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