



Australian Government
Climate Change Authority

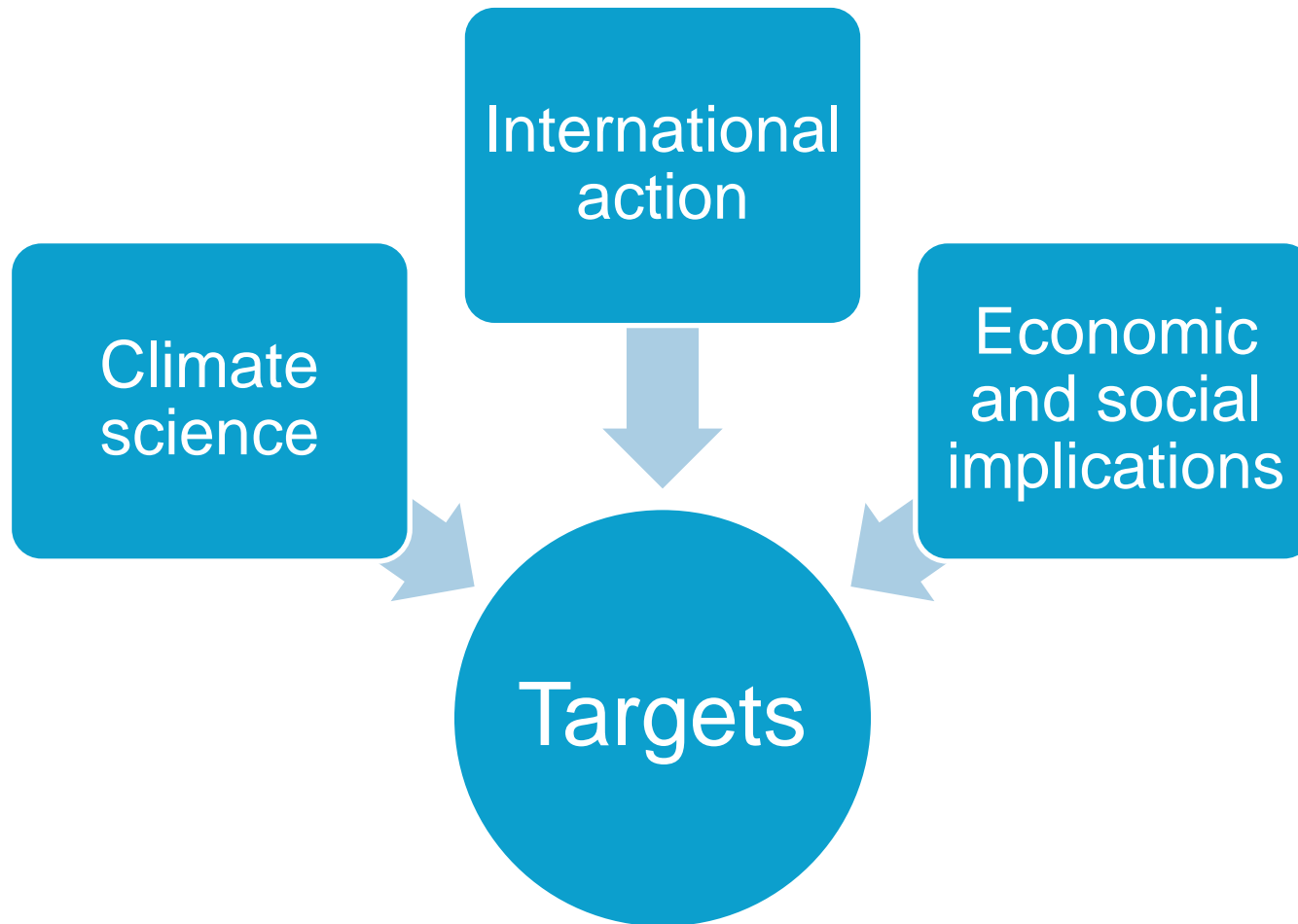


How would you set Australia's emission target?

Kath Rowley, General Manager

19 May 2015

Authority's approach to targets



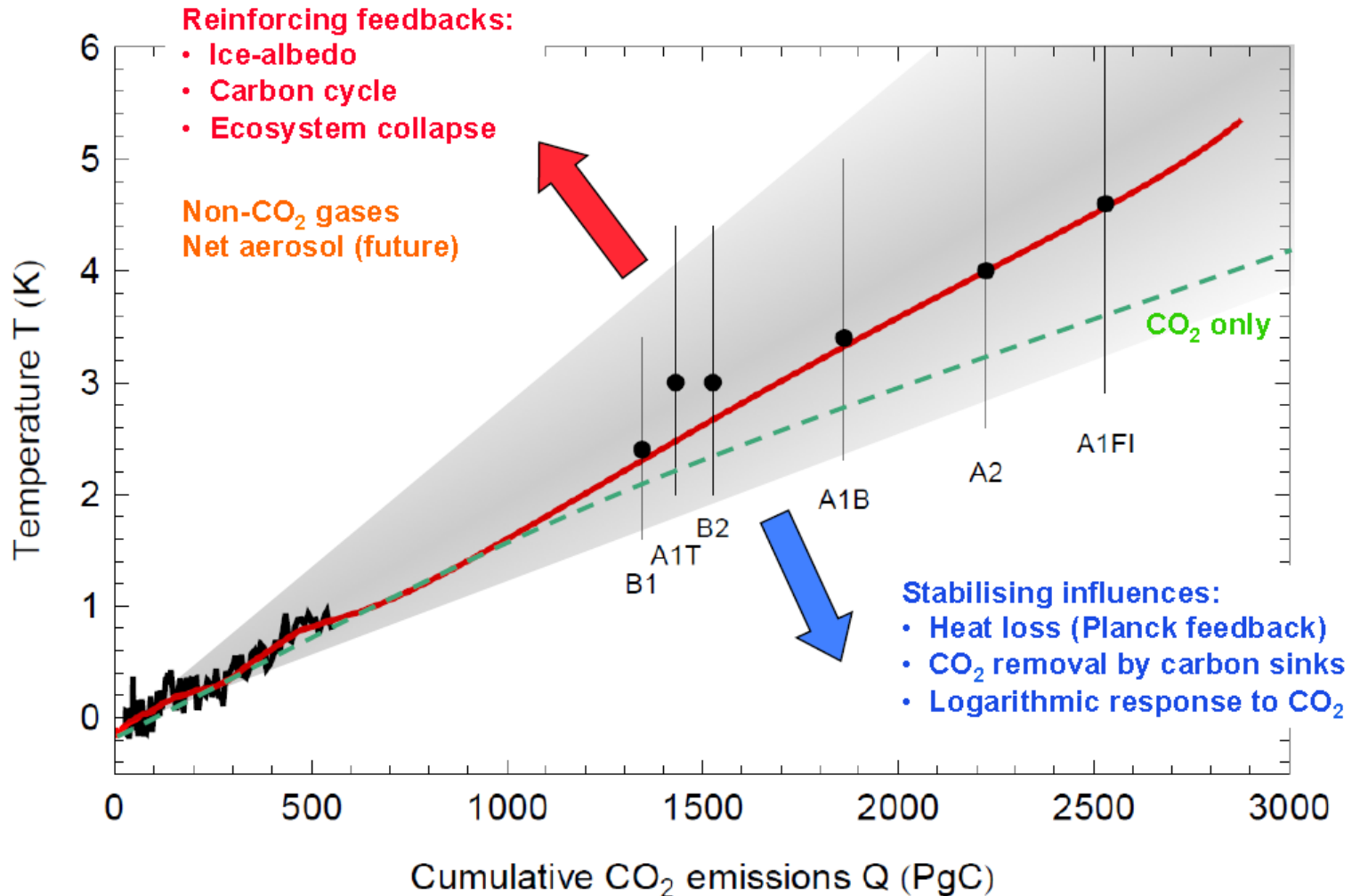
Target recommendations

- 2020 target: 19% below 2000 levels
- 2025 target: 30% below 2000 levels
- 2030 range: 40-60% below 2000 levels
 - retains flexibility to respond to new information
- Long term budget: 10.1 Gt CO₂-e for period 2013-2050
 - as part of global action to keep warming below 2 degrees.

Climate science to emissions budgets

- Climate science tells us:
 - The impacts and risks at different levels of warming
 - Global emissions budgets consistent with the global goal to keep warming below 2 degrees.
- Equity principles help us derive a fair share of the global budget for Australia
 - Many different approaches; Authority used modified contraction and convergence.

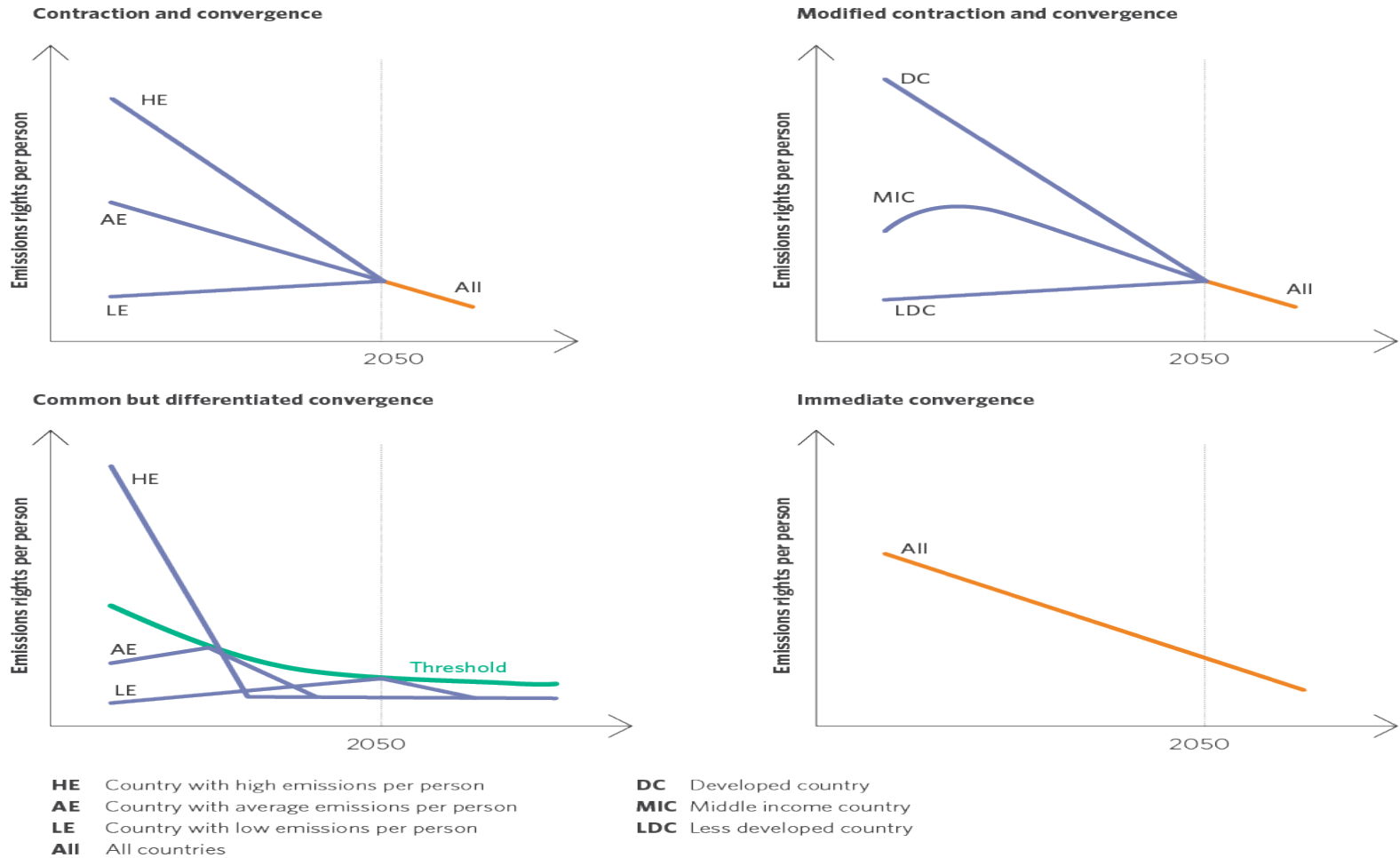
Selecting a global emissions budget



Raupach et al. (2011), revised in Raupach (2013)



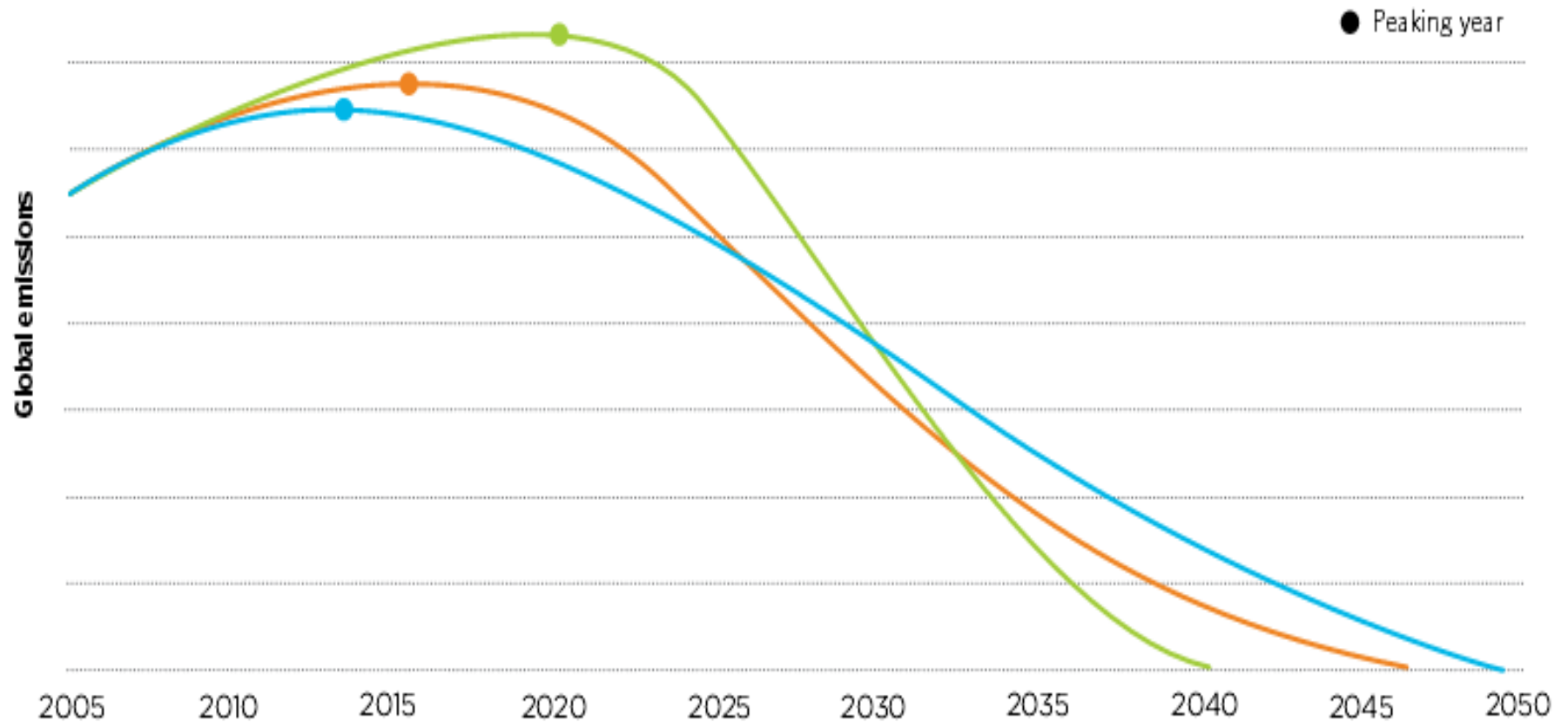
Deriving a national budget



Targets and Progress Review Figure C.2



Budgets to trajectories and targets

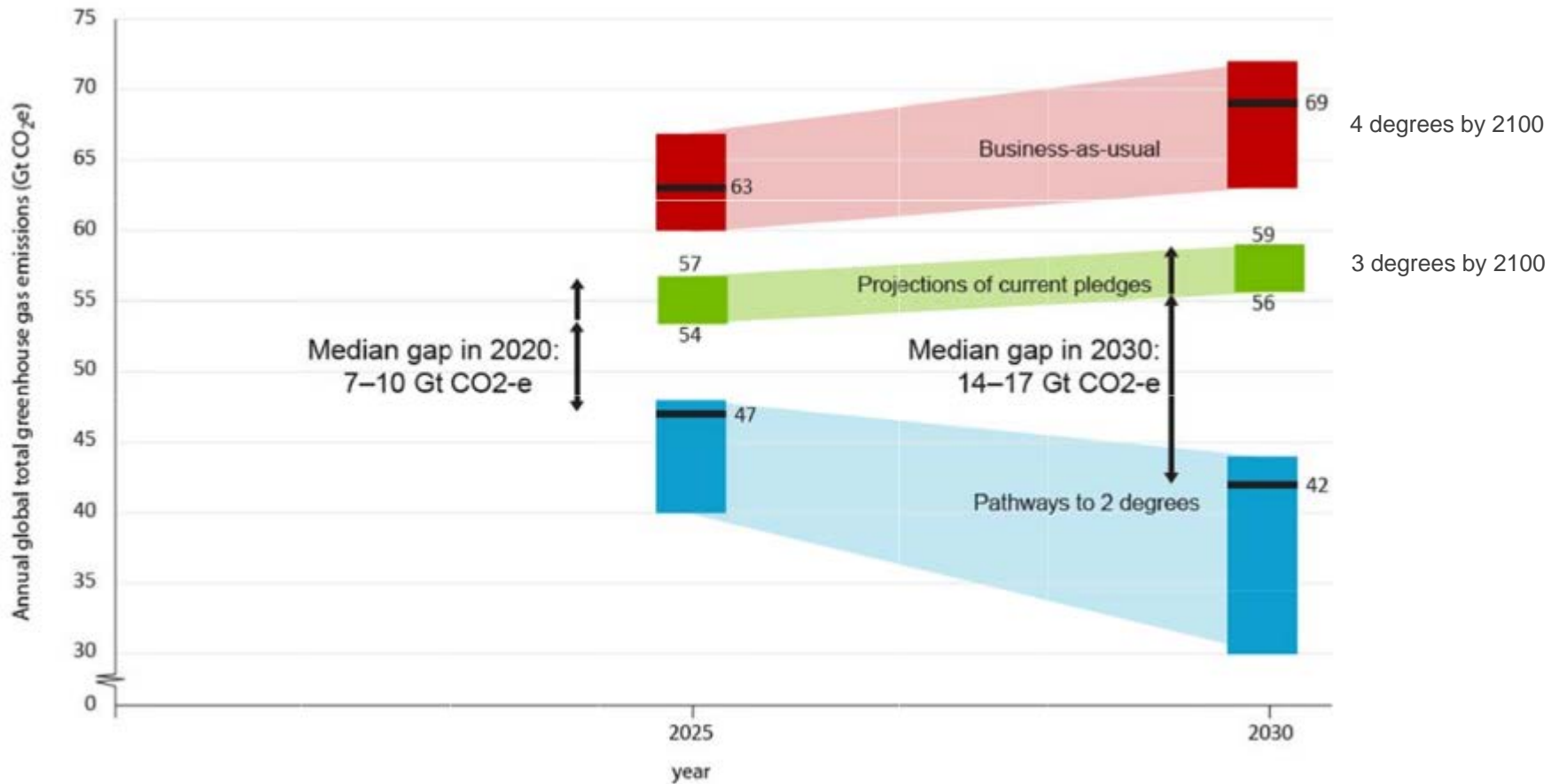


Targets and Progress Review Figure 3.1



International action

Impact of global action – analysis from the UNEP Gap Report



Draft report on targets Figure 9



International Action cont.

Country	Target
China	Peak CO ₂ emissions around 2030
United States	26 to 28% below 2005 by 2025
European Union	At least 40% below 1990 by 2030
Germany	55% below 1990 by 2030
Norway	At least 40% below 1990 by 2030
Switzerland	50% below 1990 by 2030
United Kingdom	50% below 1990 over 2023-27
Mexico	25% below business-as-usual by 2030
Russia	25% below 1990 by 2030
Canada	30% below 2005 by 2030



Comparability

C

CAPACITY

The *country's* capability to reduce emissions

A

ADEQUACY

The environmental effectiveness of the *target*; its consistency with global climate goals

R

RESPONSIBILITY

The *country's* emissions; its contribution to climate change

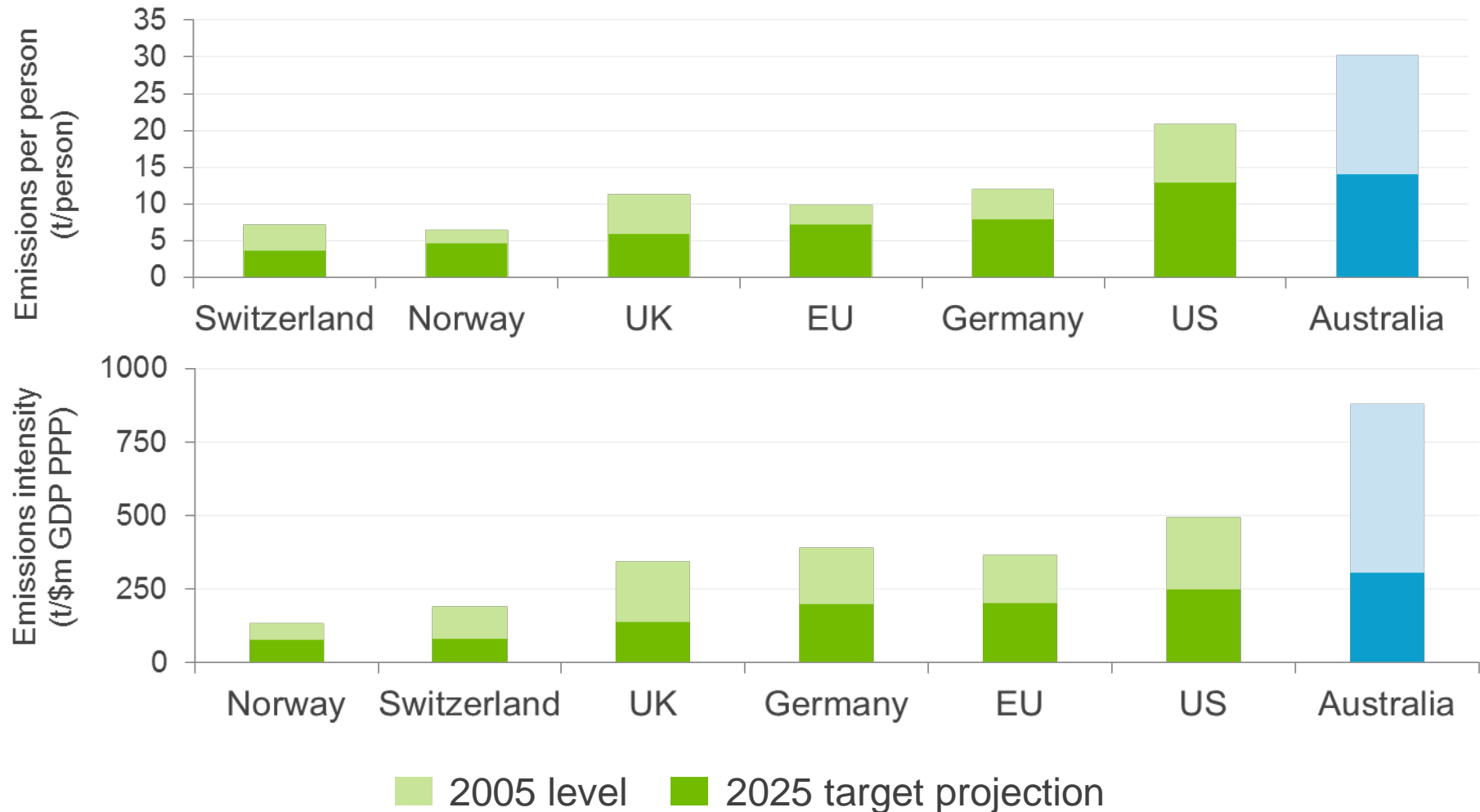
E

EFFORT

The scale of change implied by the *target*; the emissions reduced and the cost of doing so

Each country should contribute an equitable level of **effort** that will provide an **adequate** response to the problem, in light of its respective **capacity** and **responsibility**.

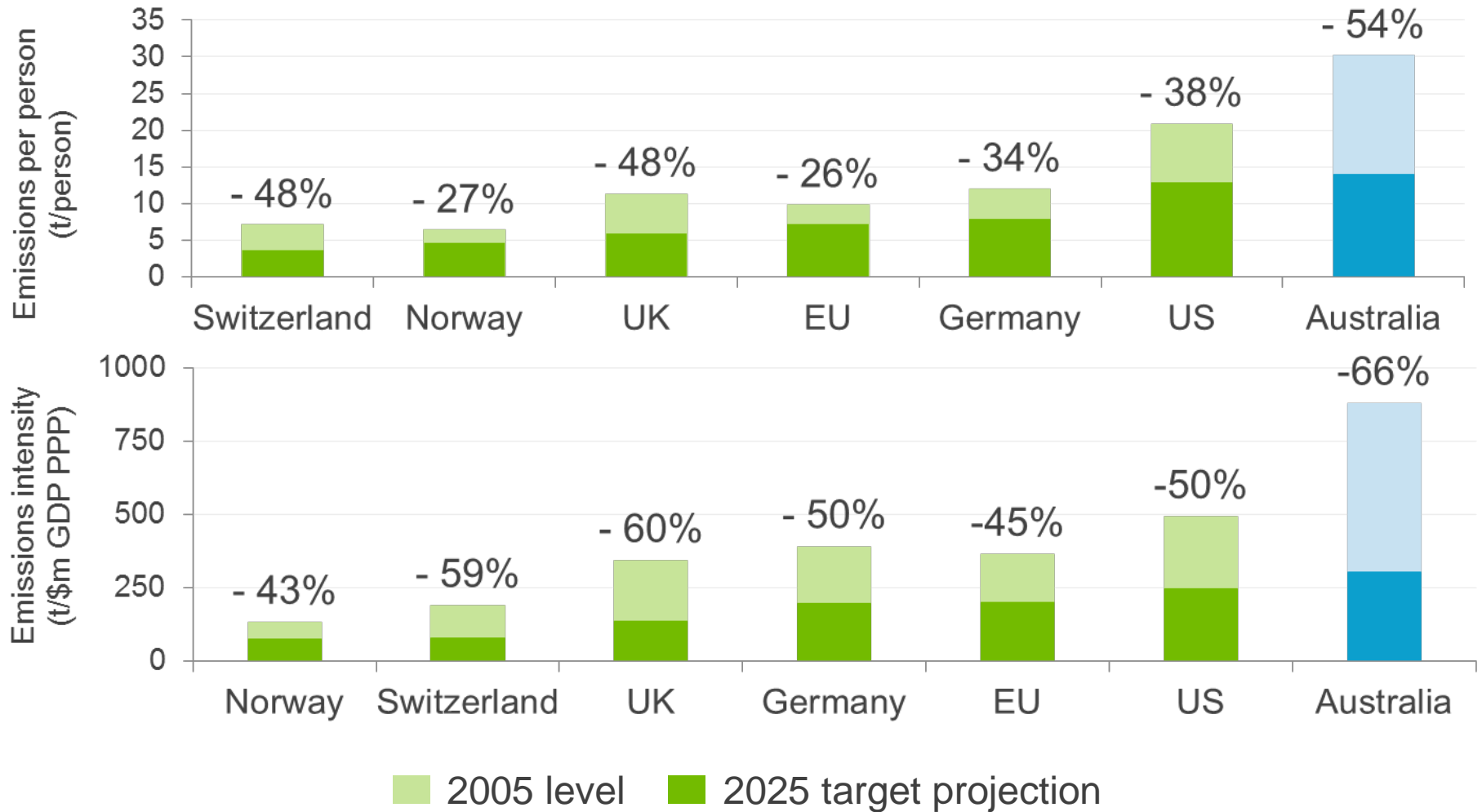
Comparing responsibility



Draft report on targets Figure 3



Comparing effort



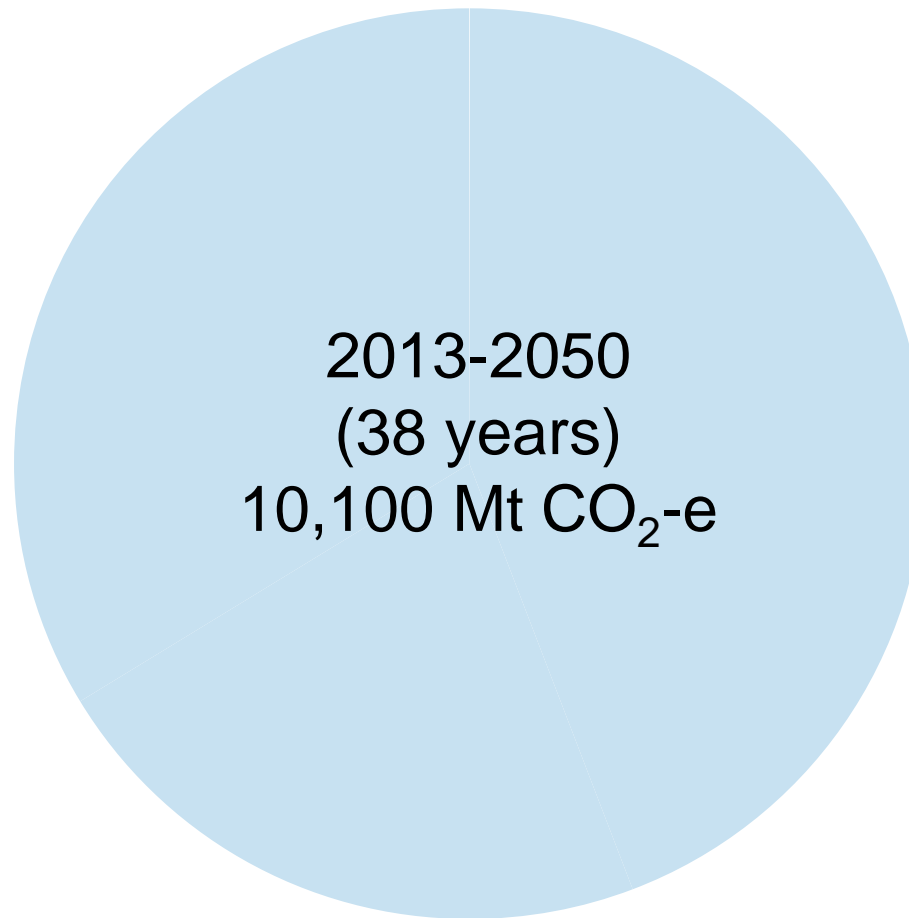
Draft report on targets Figure 3



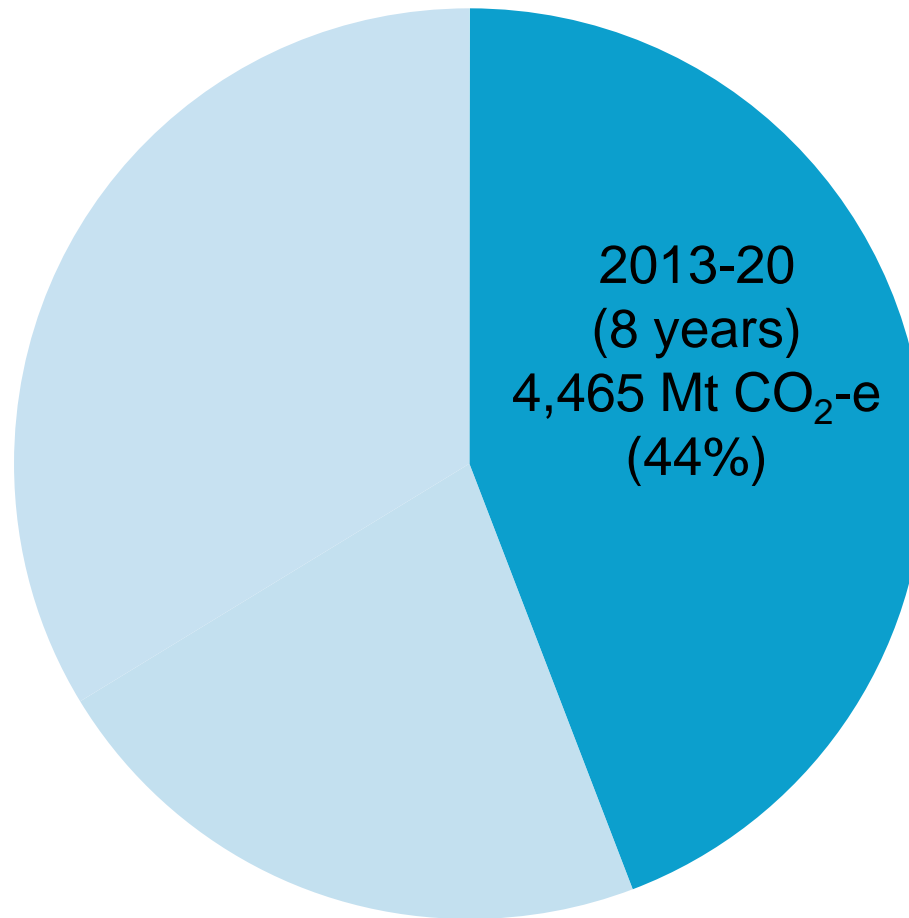
Economic and social implications

- Globally, costs of action outweighed by benefits of avoided climate change
- Nationally, cost is a function of target and policy choice
 - Policy most important for the distribution of costs and effects on competitiveness
- Delay increases costs, and leaves low emission opportunities untapped.

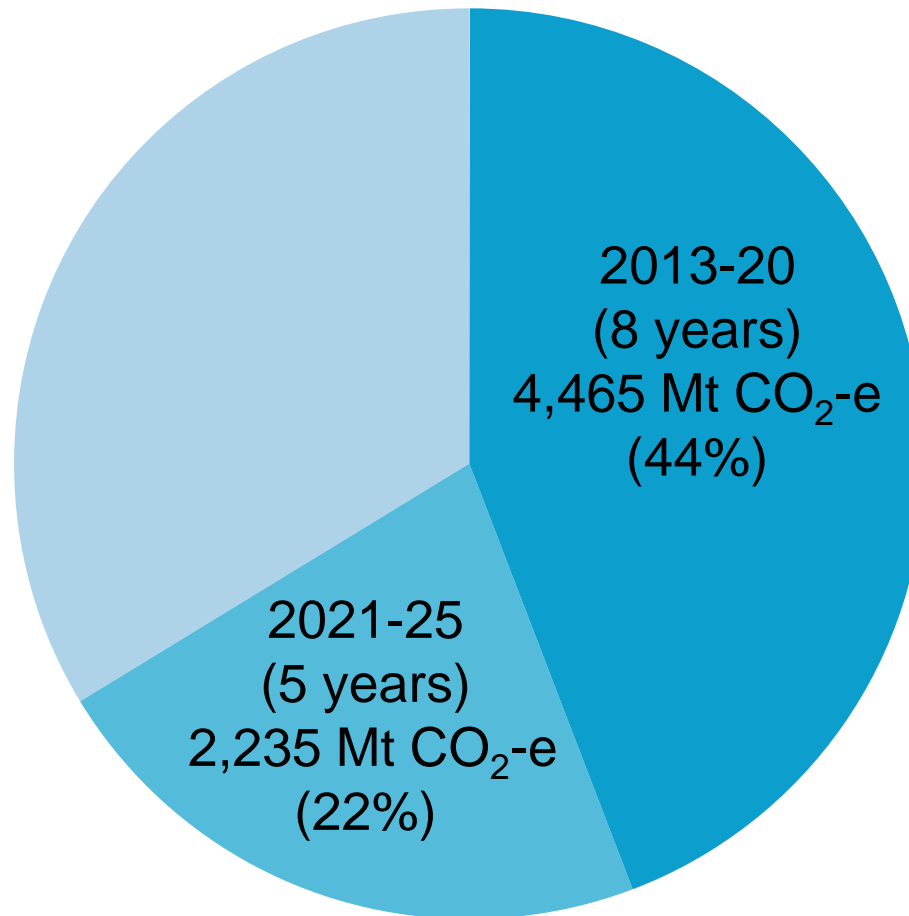
Budget usage



Budget usage



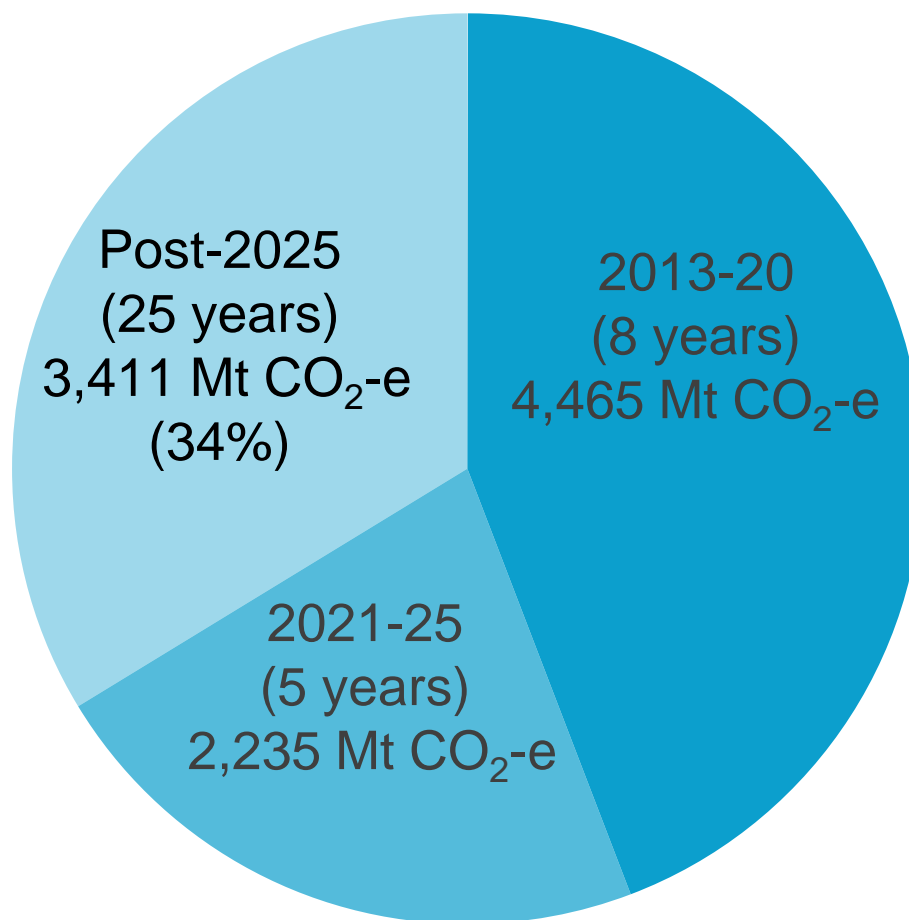
Budget usage



Draft report on targets Figure 8



Budget usage



Draft report on targets Figure 8



Questions and responses?

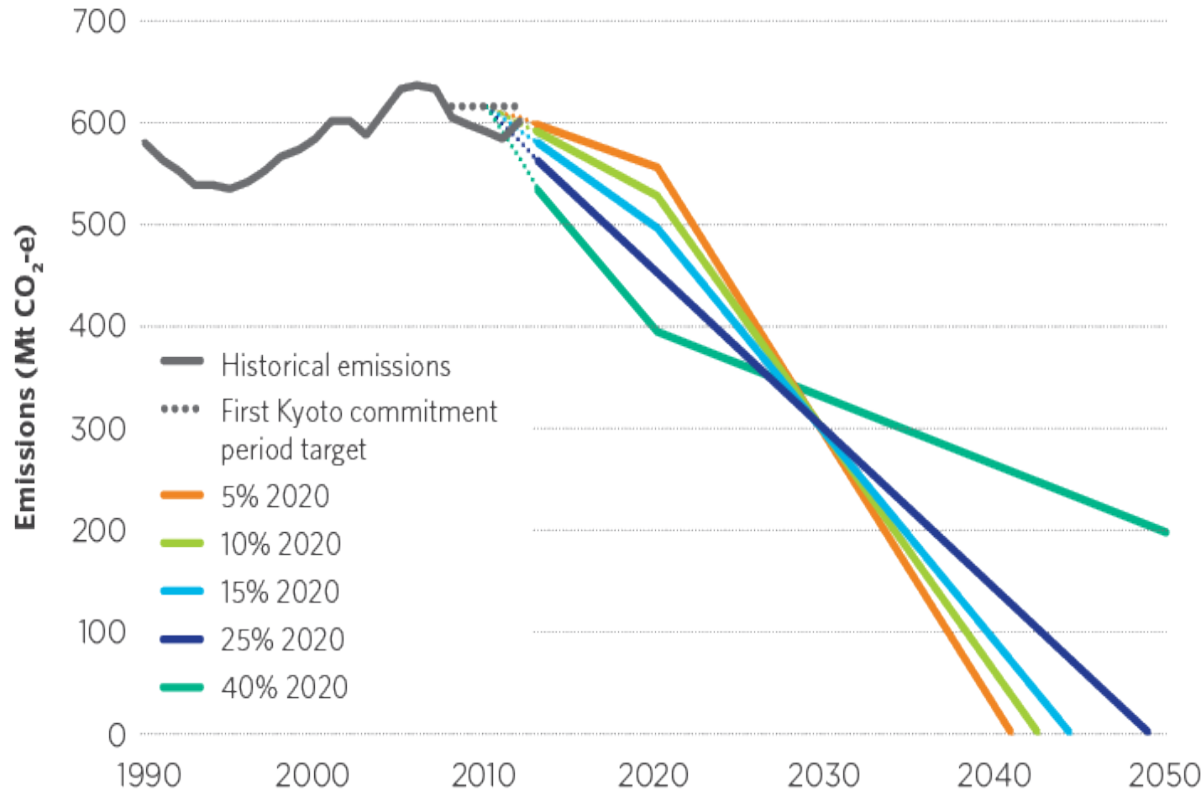
Global budget estimates (2000-2050)

Carbon dioxide (Gt CO ₂)	Kyoto Gases (Gt CO ₂ -e)	Probability of remaining within 2 degree limit
900	1 370	80 per cent
1 010	1 520	75 per cent (74 for Kyoto gases)
1 170	1 700	67 per cent
1 450	2 020	50 per cent

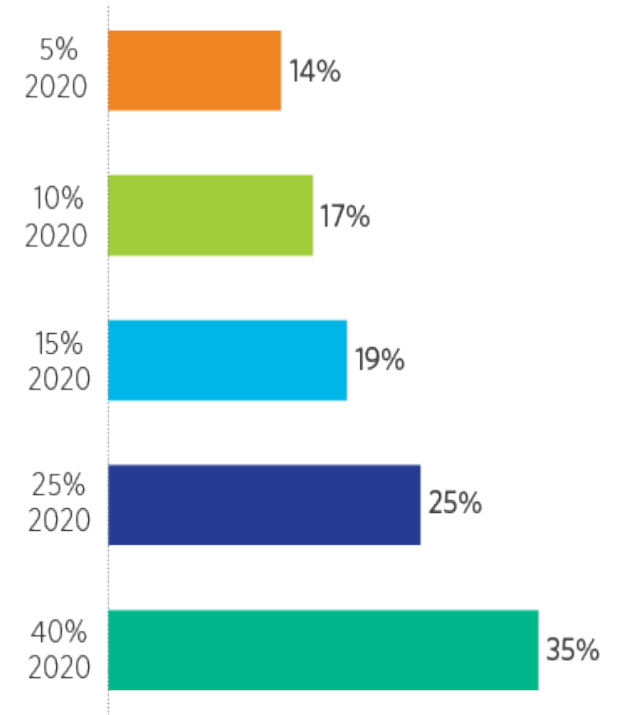
Targets and Progress Review Table 3.1



Trade-offs over time



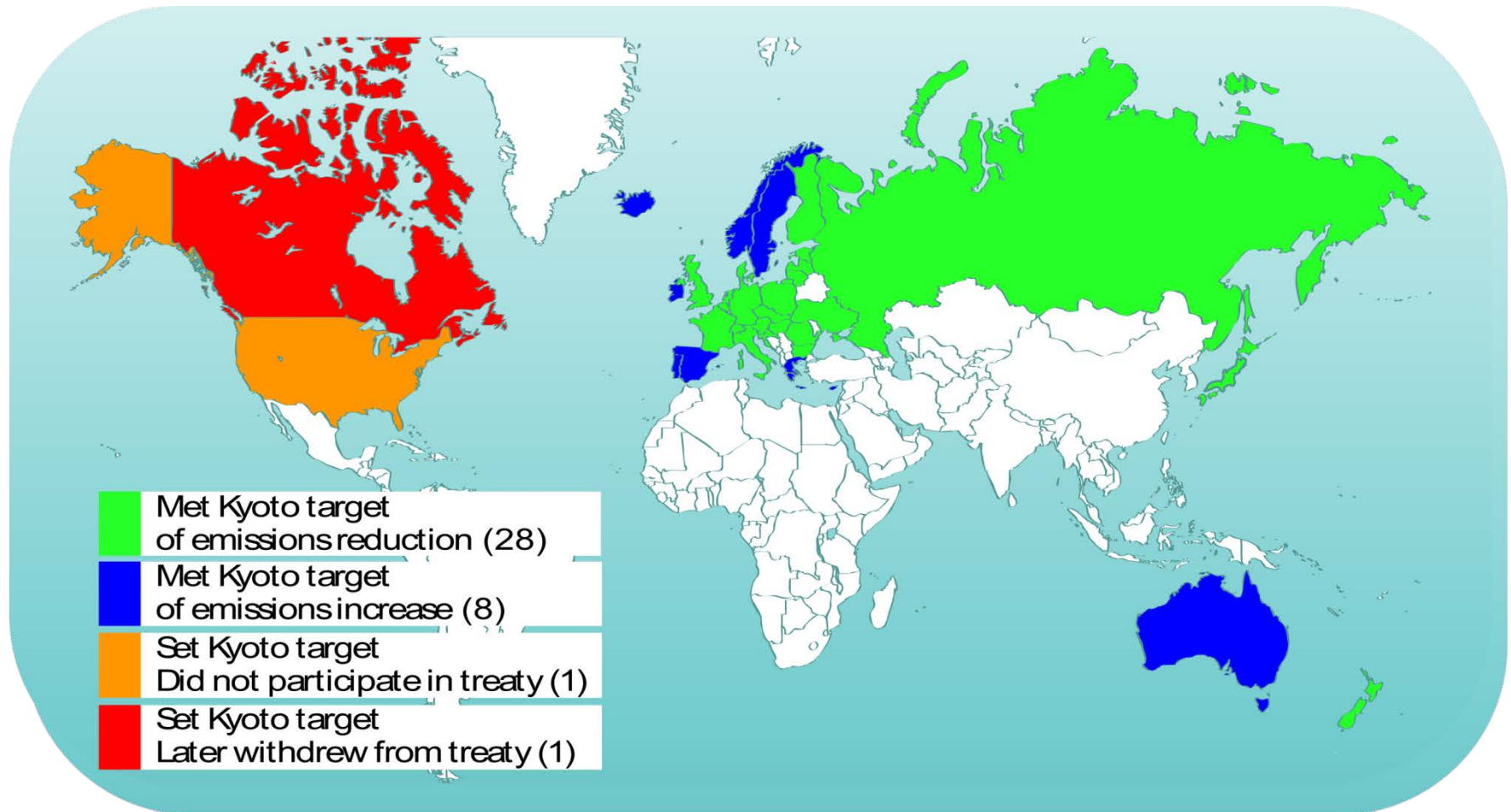
% of long term national emissions budget remaining for 2031-2050



Targets and Progress Review draft report Figure 9.4

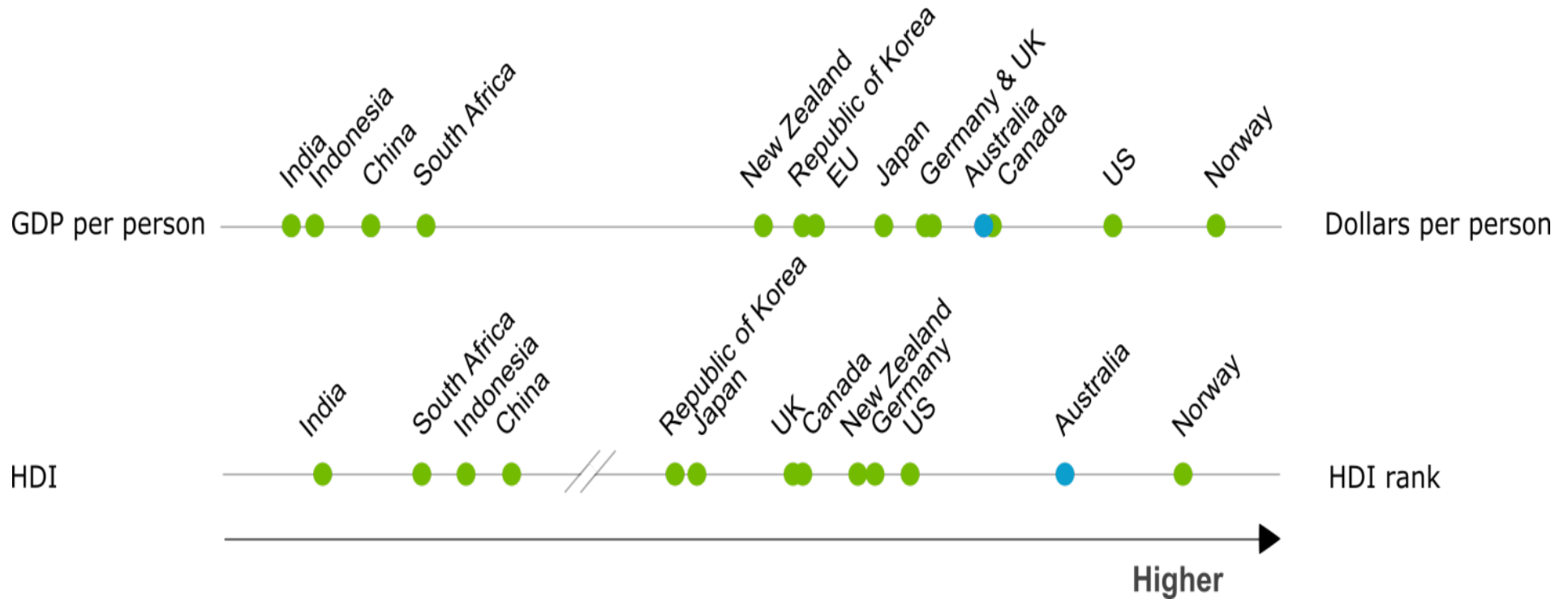


Countries have met their targets



Draft report on targets Figure 1

Capacity to reduce emissions



HDI = Human Development Index
 Source: Draft report Figure 2



Renewable energy resources

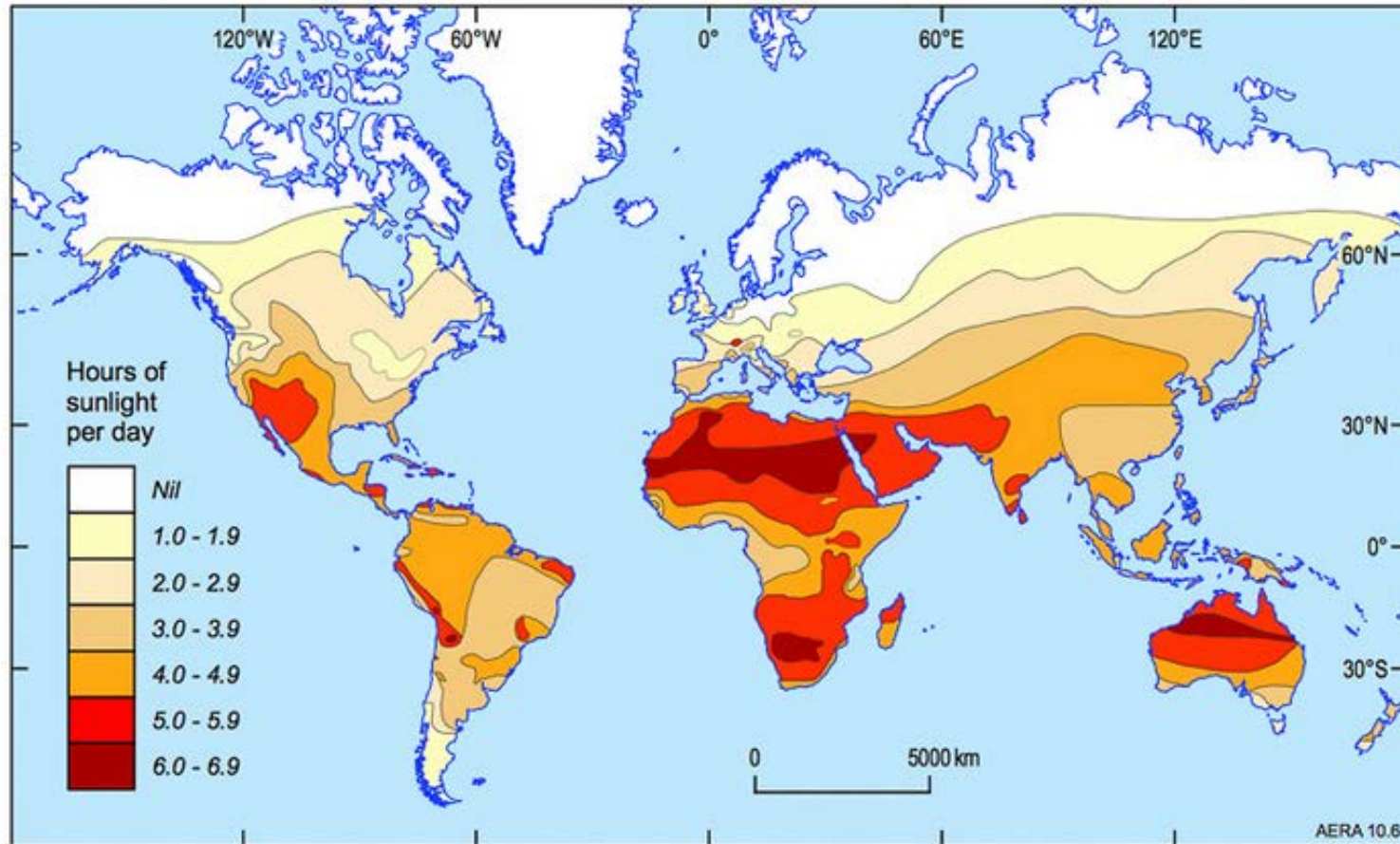
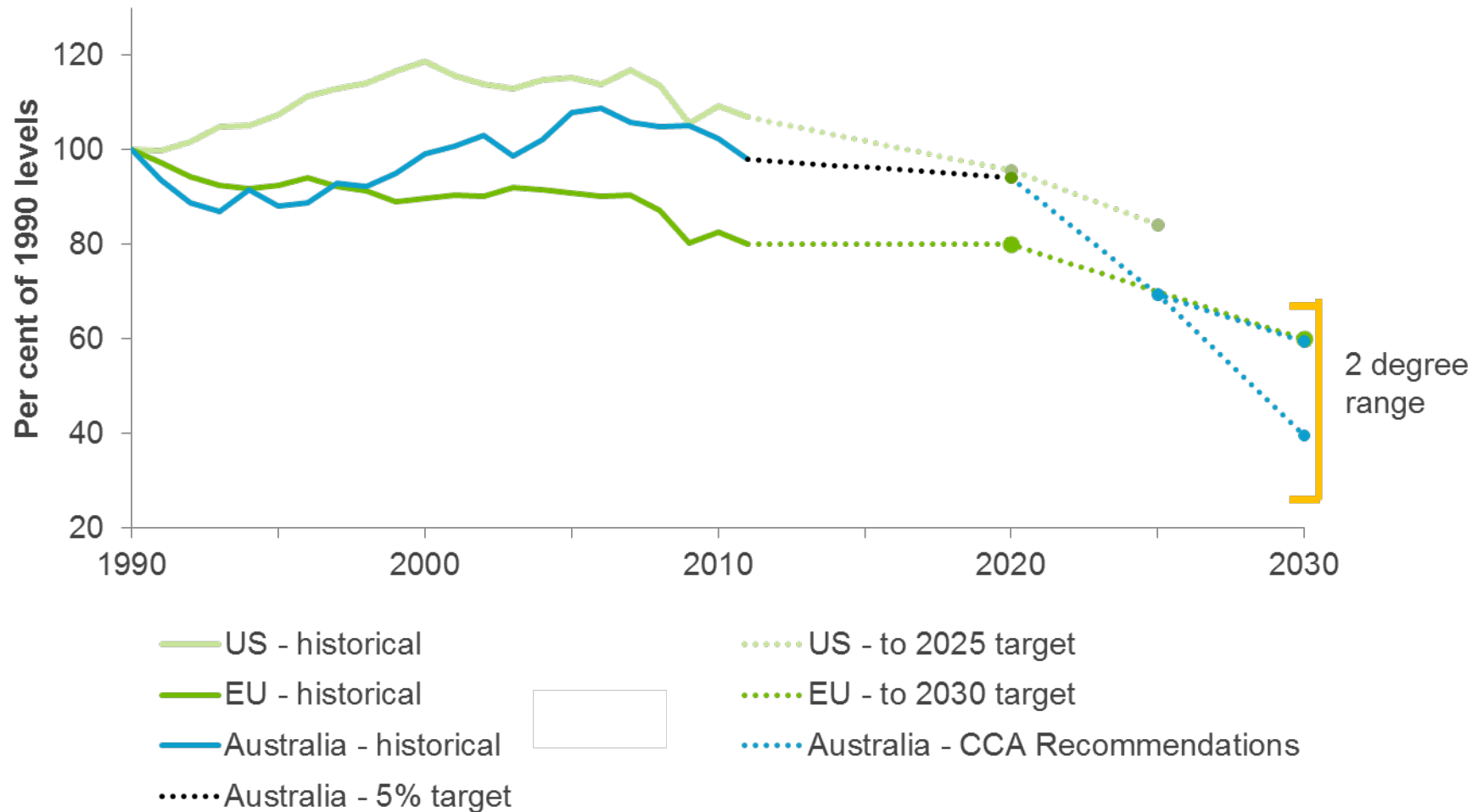


Figure 10.6 Hours of sunlight per day, during the worst month of the year on an optimally tilted surface

Source: Sunwize Technologies 2008

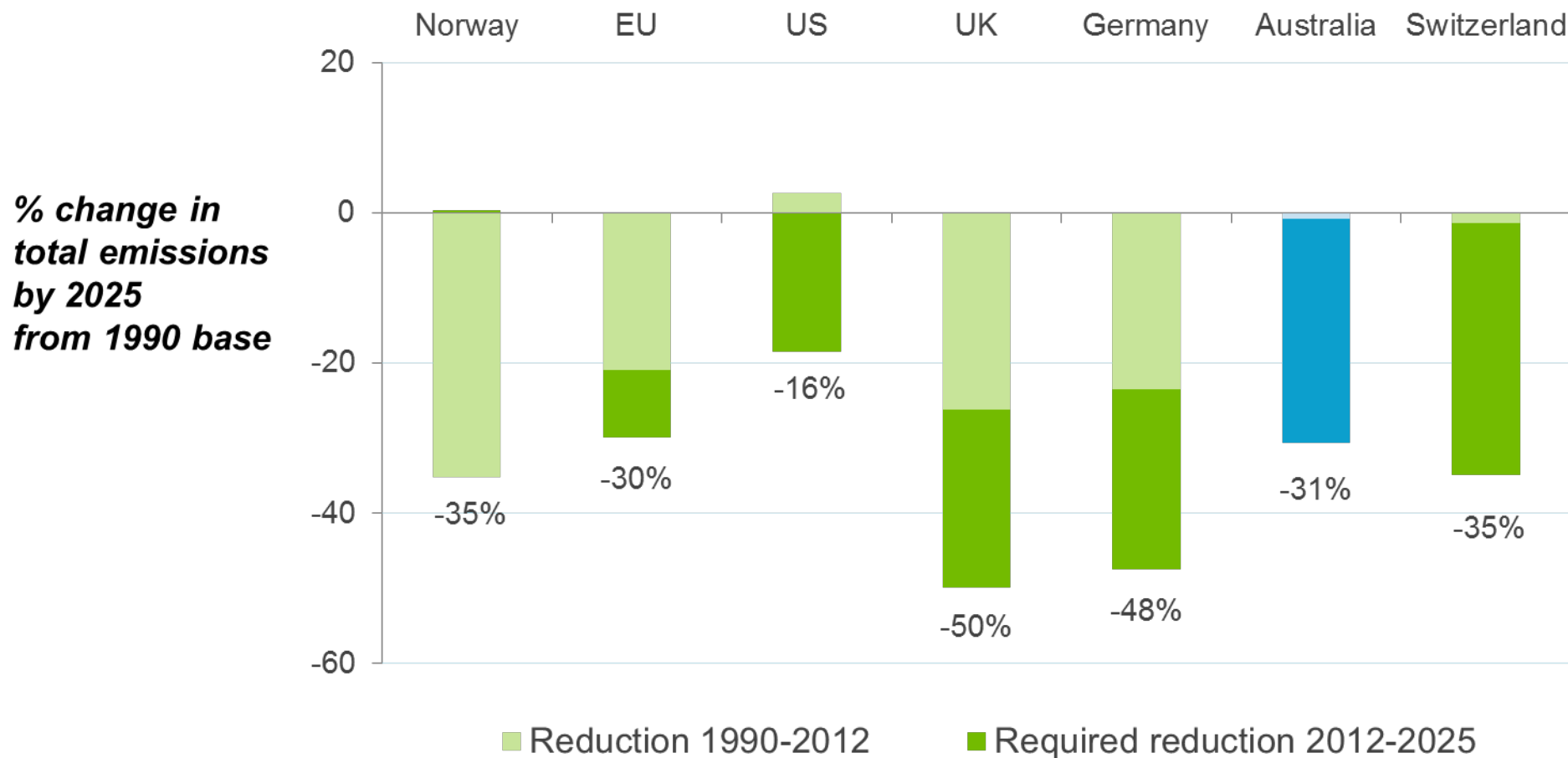
Emissions trajectories to 2 degrees goal



Source: Draft report Figure 7



Comparing reductions over time



Source: Draft report Figure 6

