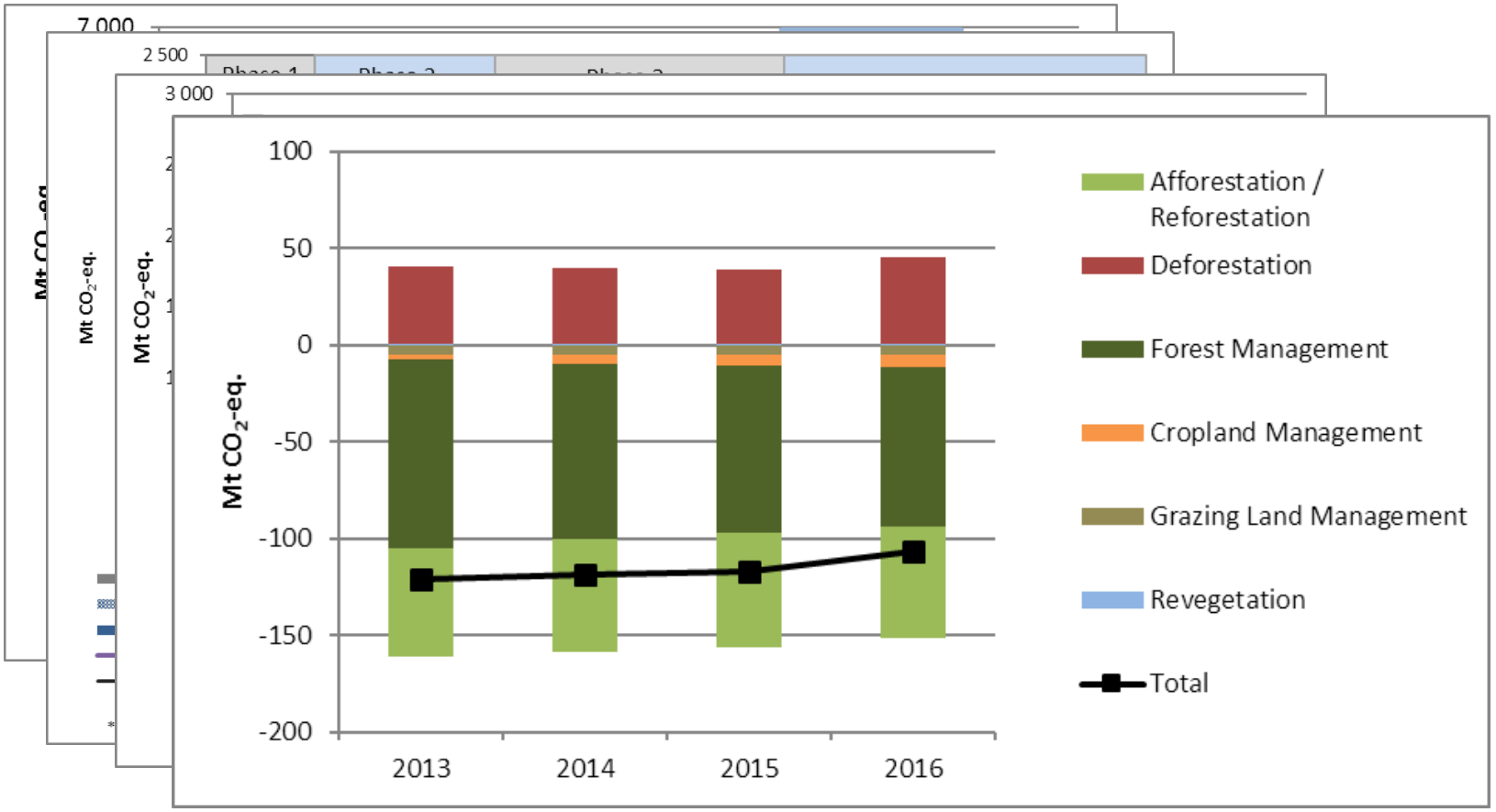
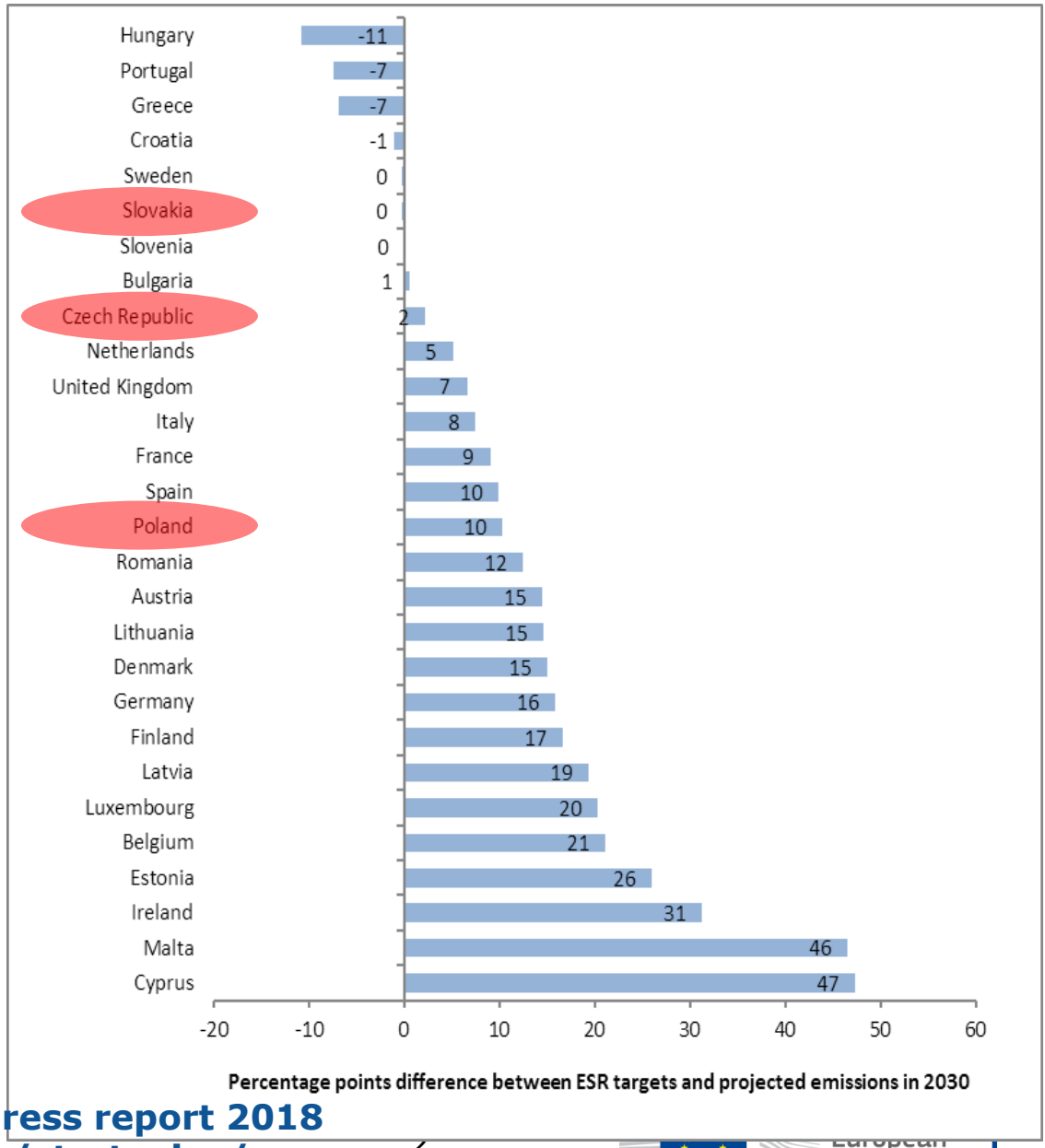
National Energy and Climate Plans 2030 (1): Key sectoral challenges



Source: European Commission, Progress report 2018
https://ec.europa.eu/clima/policies/strategies/progress_en

European Commission

National Energy & Climate Plans 2030 (2): Key national challenges

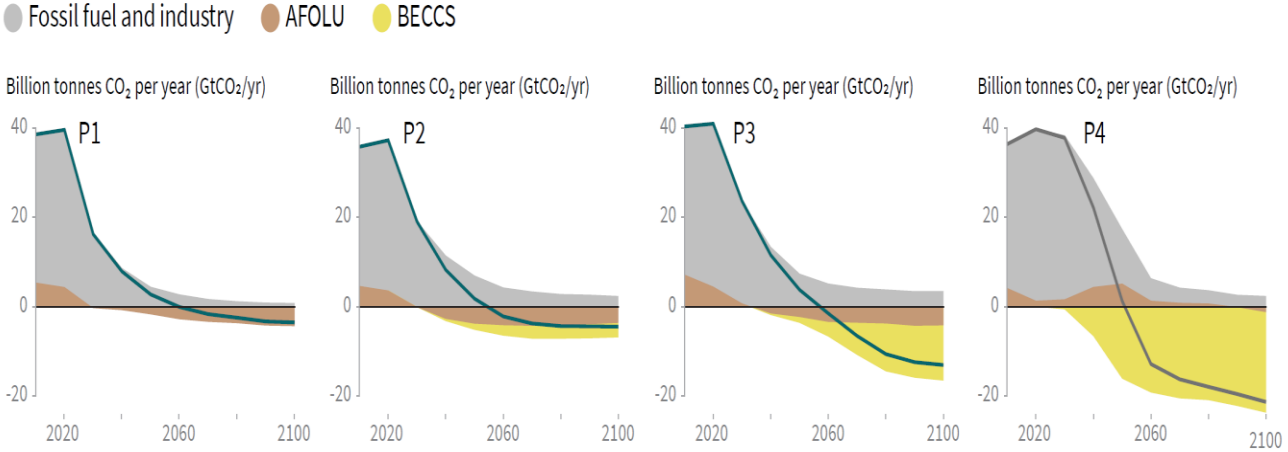


Source: European Commission, Progress report 2018
https://ec.europa.eu/clima/policies/strategies/progress_en

European Commission

Looking to 2050: IPCC Global model pathways for CO_2 emissions

Breakdown of contributions to global net CO_2 emissions in four illustrative model pathways



P1: A scenario in which social, business, and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A down-sized energy system enables rapid decarbonisation of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

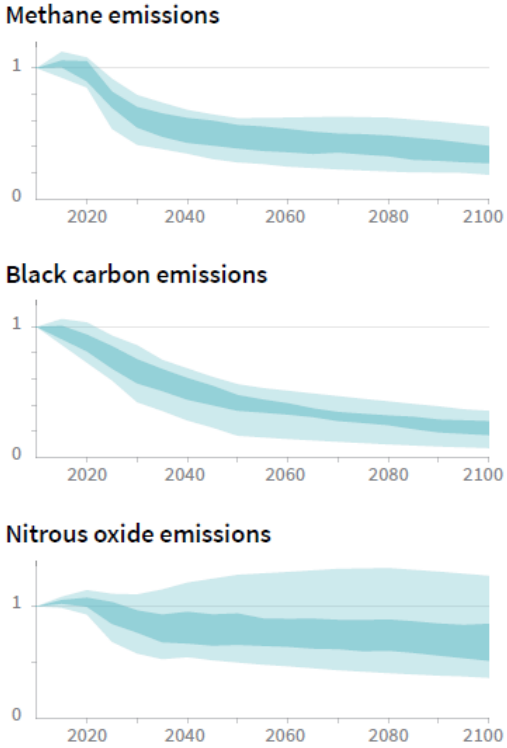
P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

P4: A resource and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.

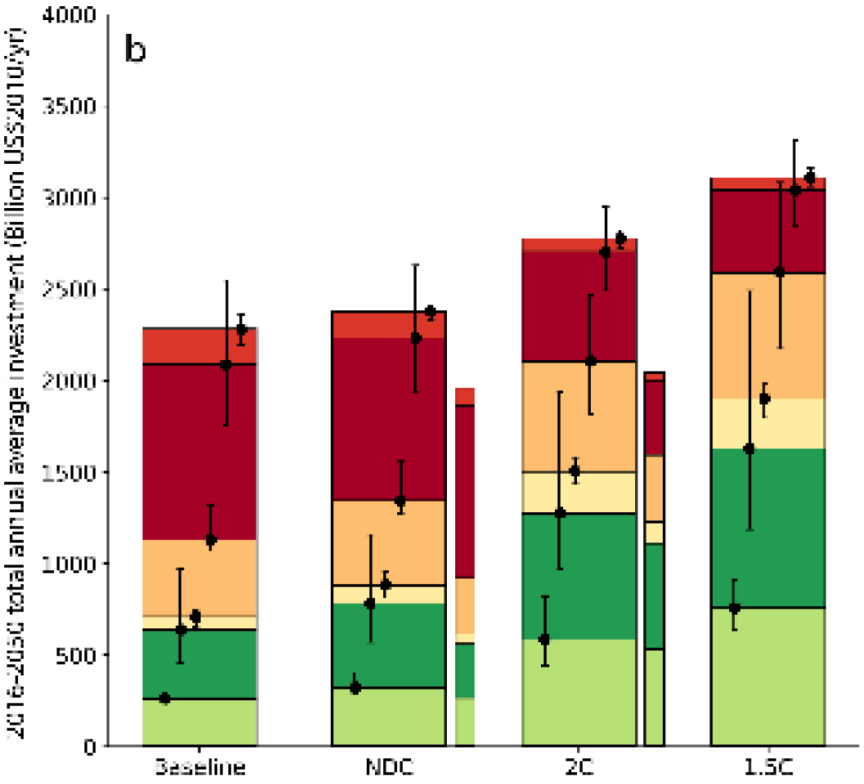
Non-CO_2 emissions relative to 2010

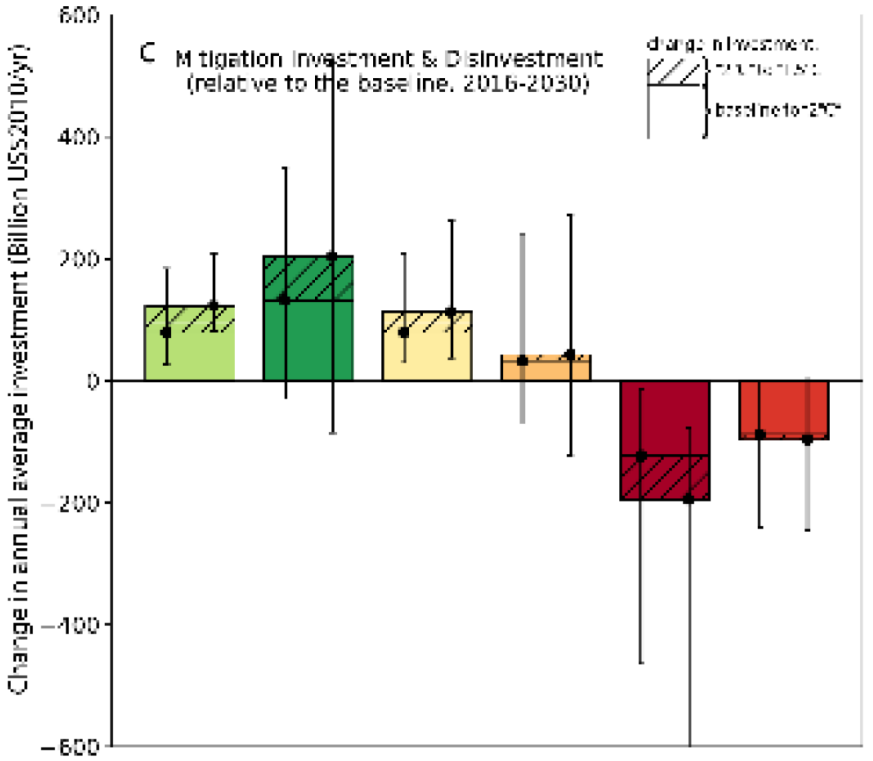
Emissions of non-CO_2 forcers are also reduced or limited in pathways limiting global warming to 1.5°C with **no or limited overshoot**, but they do not reach zero globally.



Source: IPCC Special Report on 1.5 degrees, 2018

Looking to 2050:
Estimated annual global energy investments, 2016 - 2050





Source: IPCC Special Report on 1.5 degrees, Technical Summary, 2018