

Cairngorms Climate Conference

– Net Zero with Nature

Chris Stark

CEO, Committee on Climate Change

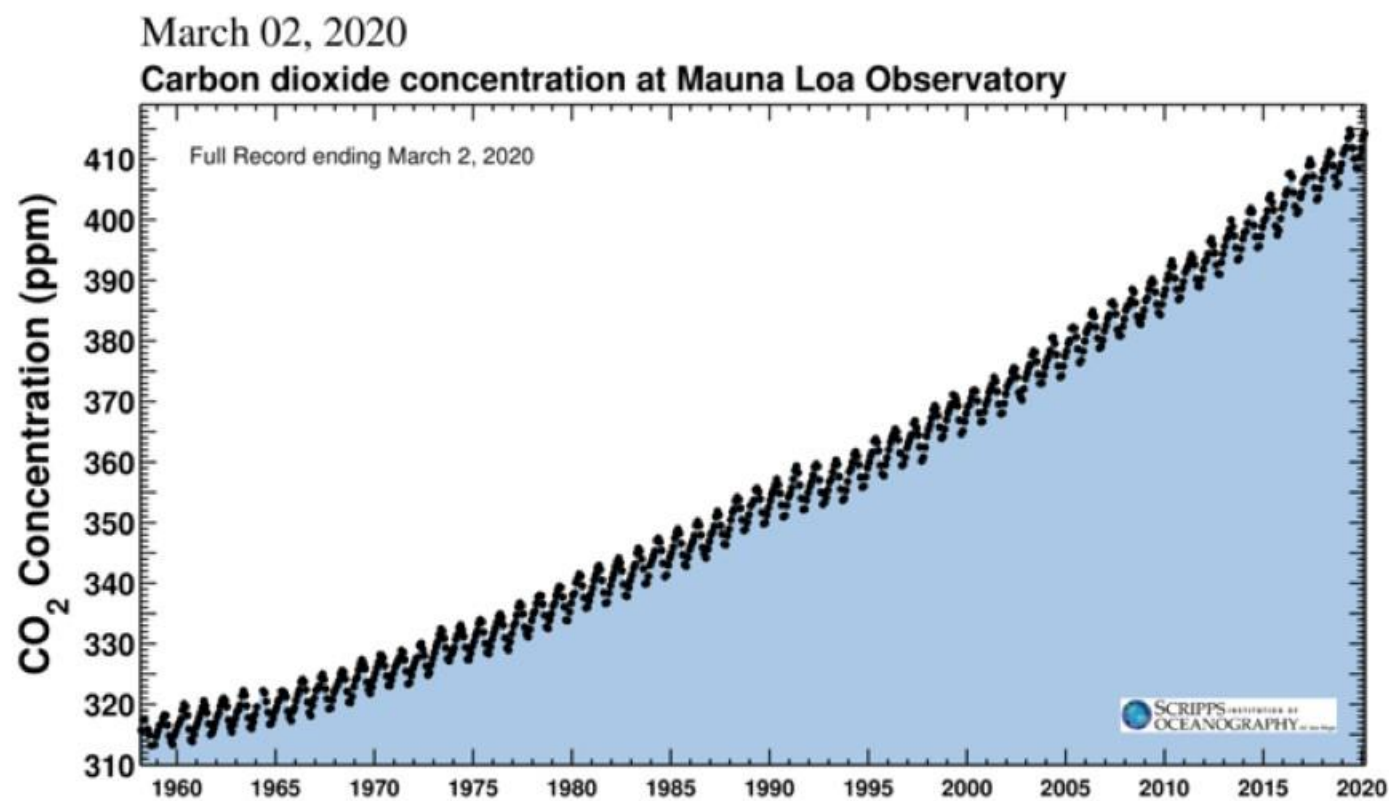
06 March 2020

Net Zero with Nature

Chris Stark

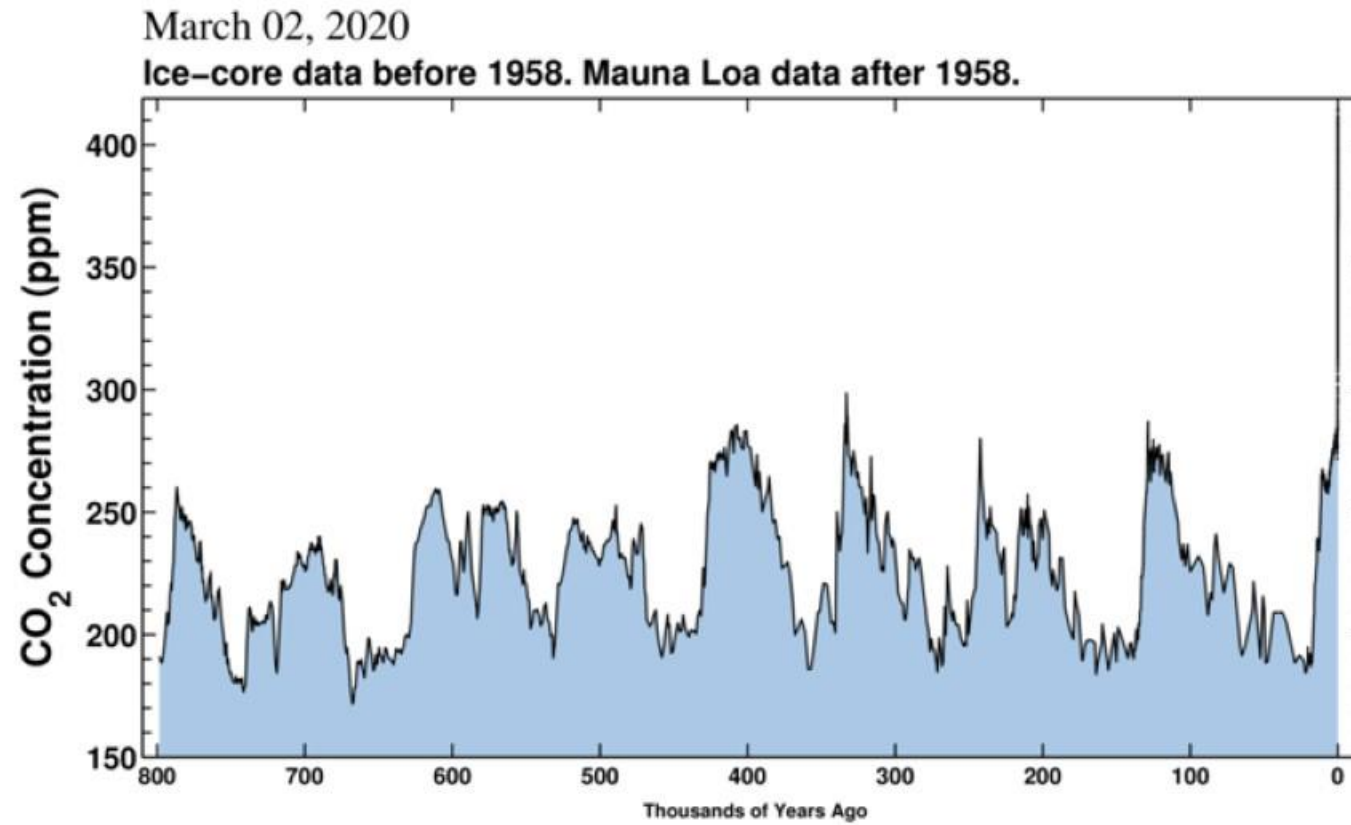
Committee on Climate Change

CO₂ Concentration – 1958 to 2020



Source: Scripps Institution of Oceanography

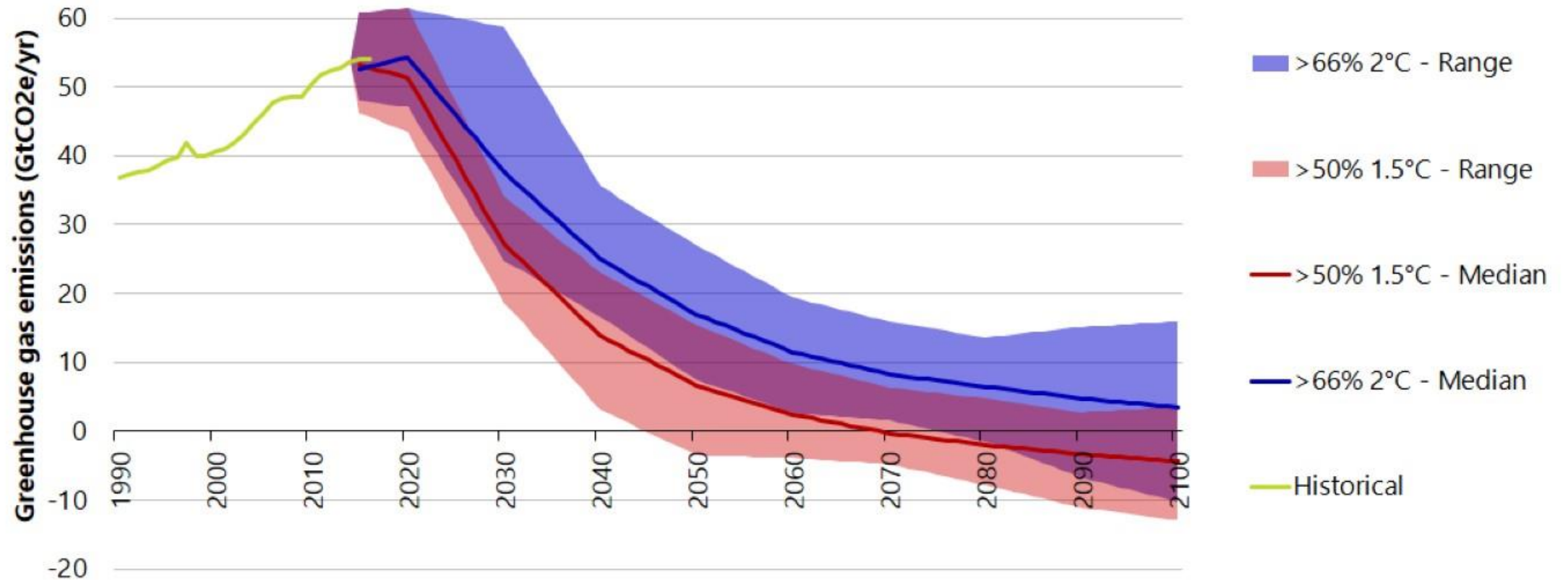
CO₂ Concentration – 800,000 years



Source: Scripps Institution of Oceanography

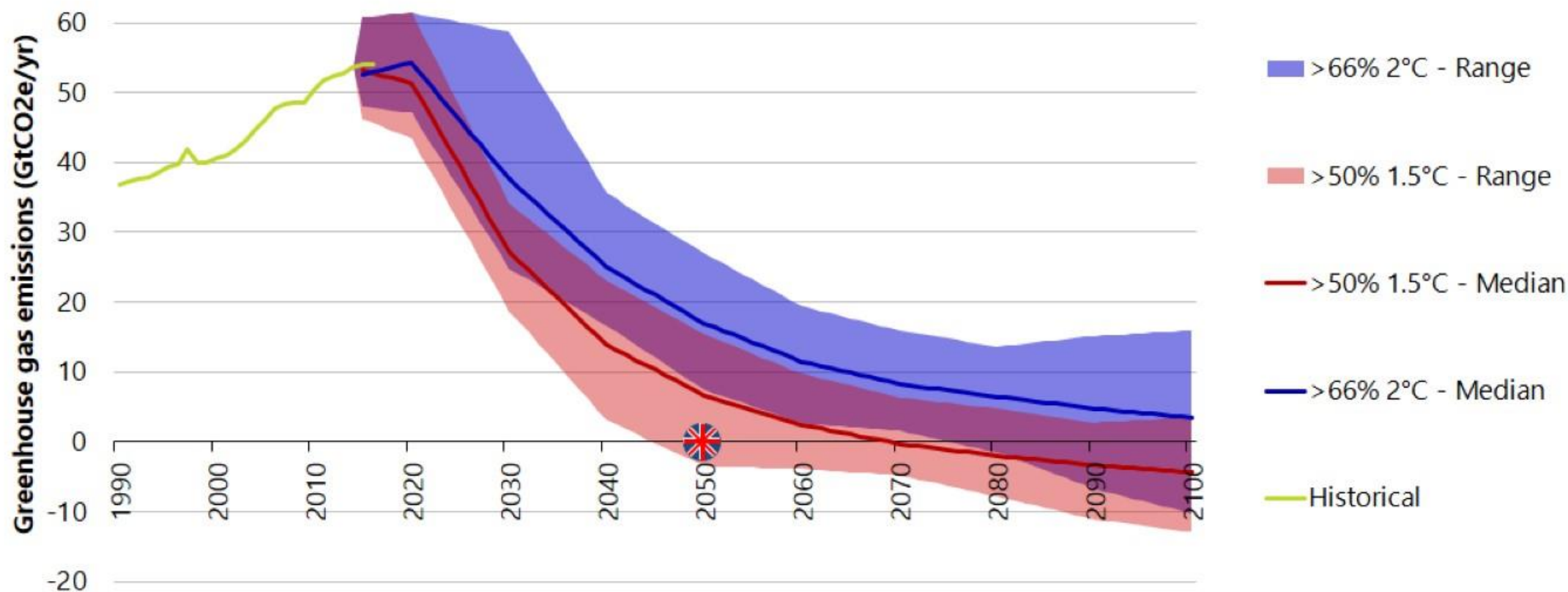
What do we do about this?

Global emissions pathways – the need for net zero



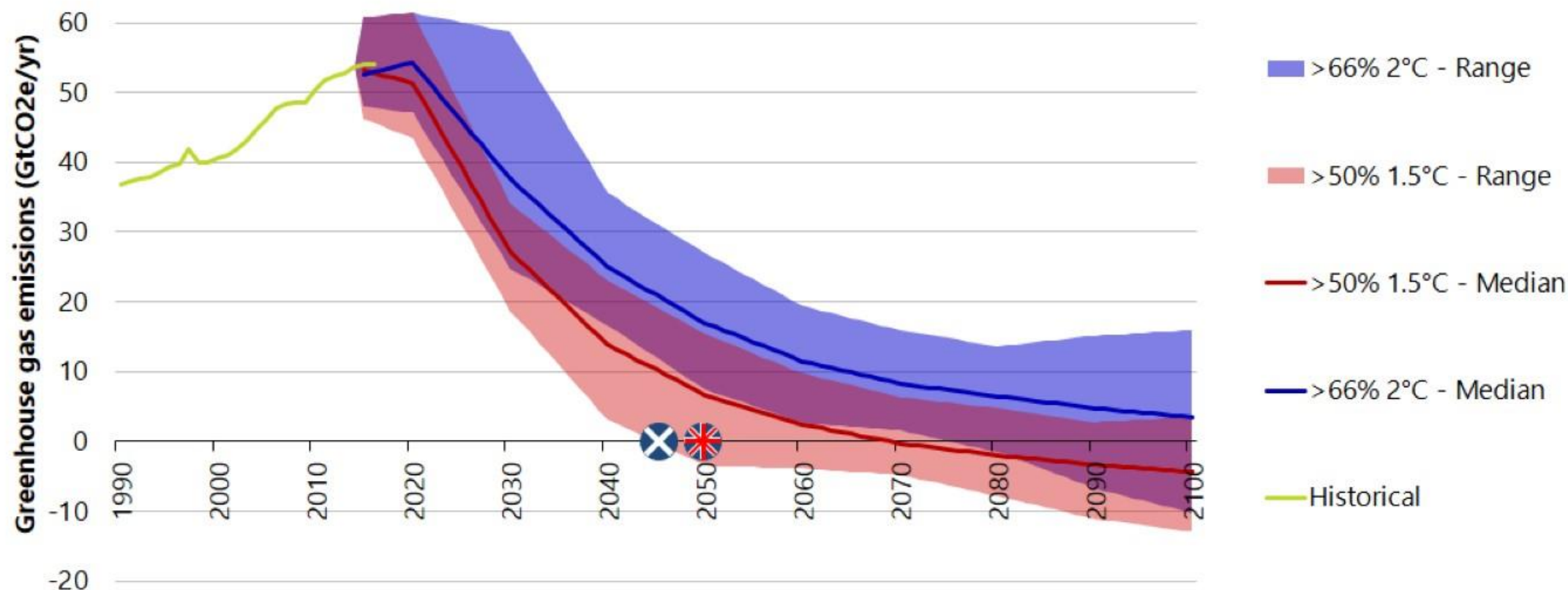
Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

Global emissions pathways – the need for net zero



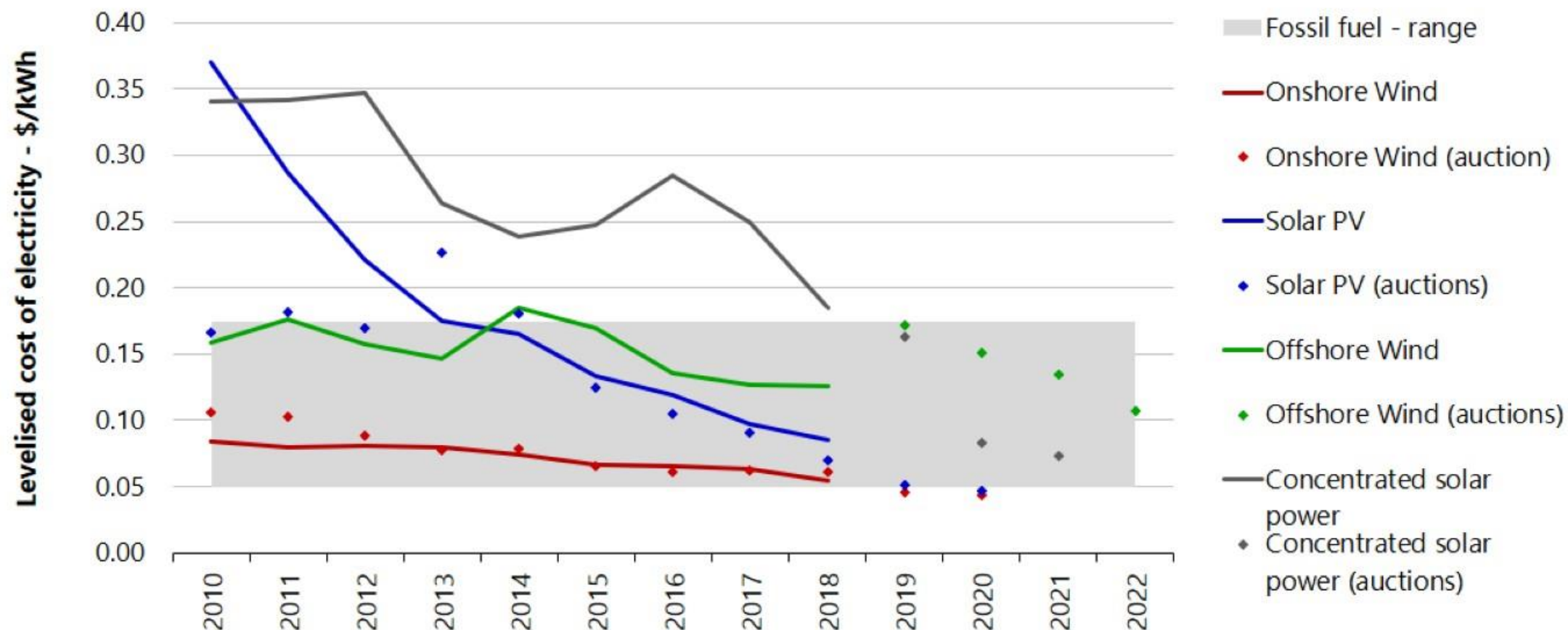
Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

Global emissions pathways – the need for net zero



Source: Huppmann, D. et al. (2018) A new scenario resource for integrated 1.5°C research.

Global power generation costs

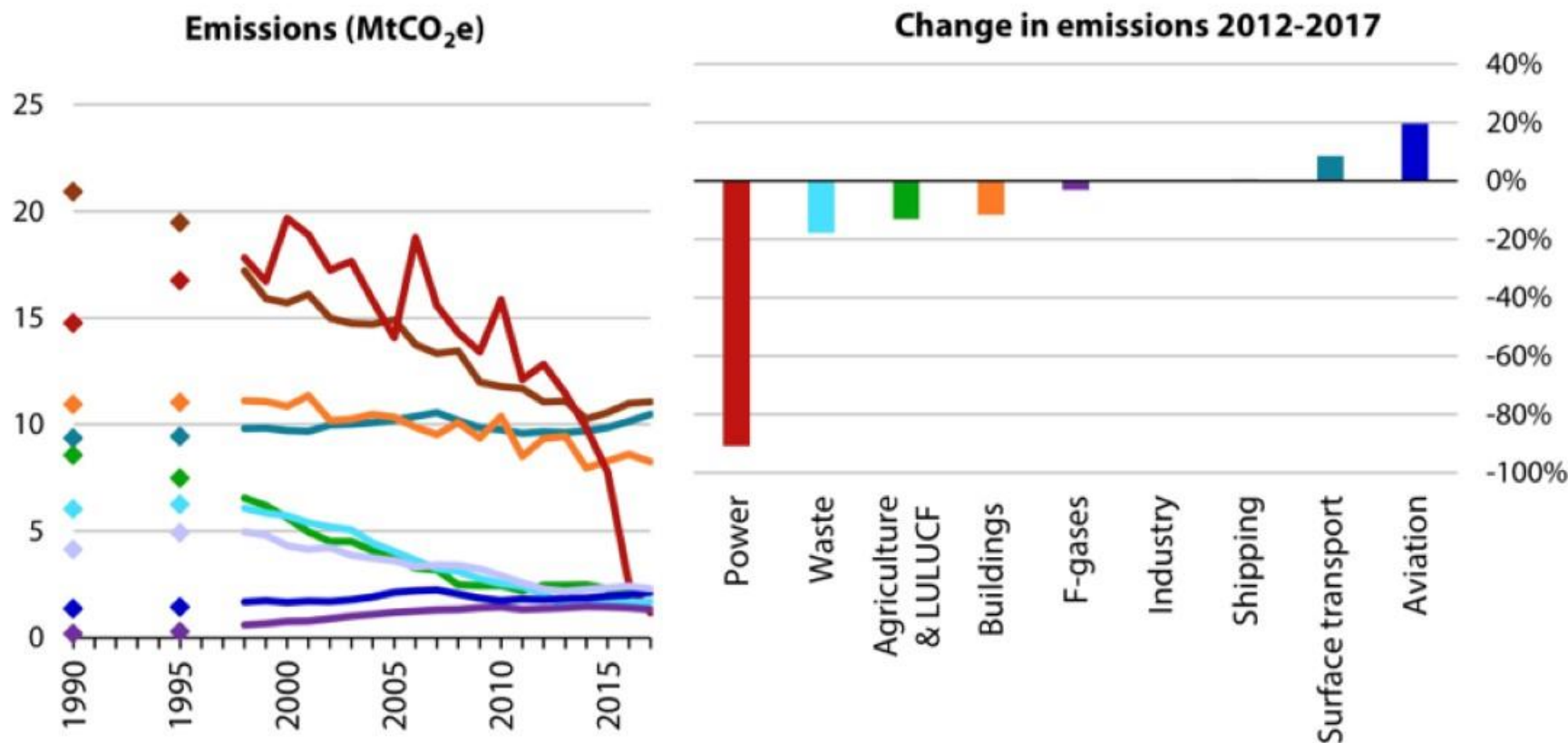


Source: International Renewable Energy Agency (2019) Renewable Power Generation Costs in 2018

Reducing emissions in Scotland

Net-zero-compatible scenario for land use

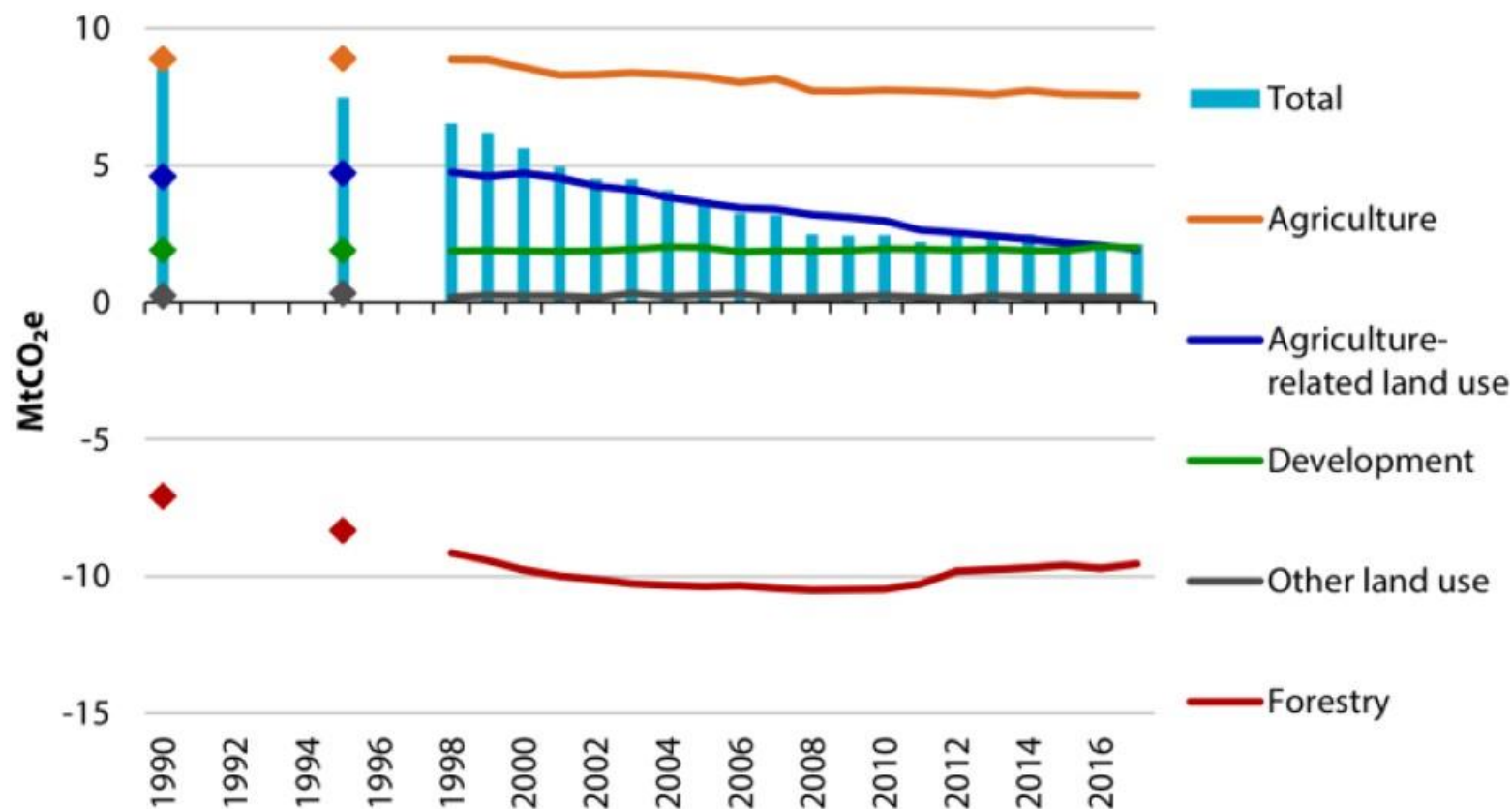
Change in Scottish emissions



Source: NAEI (2019) Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2017

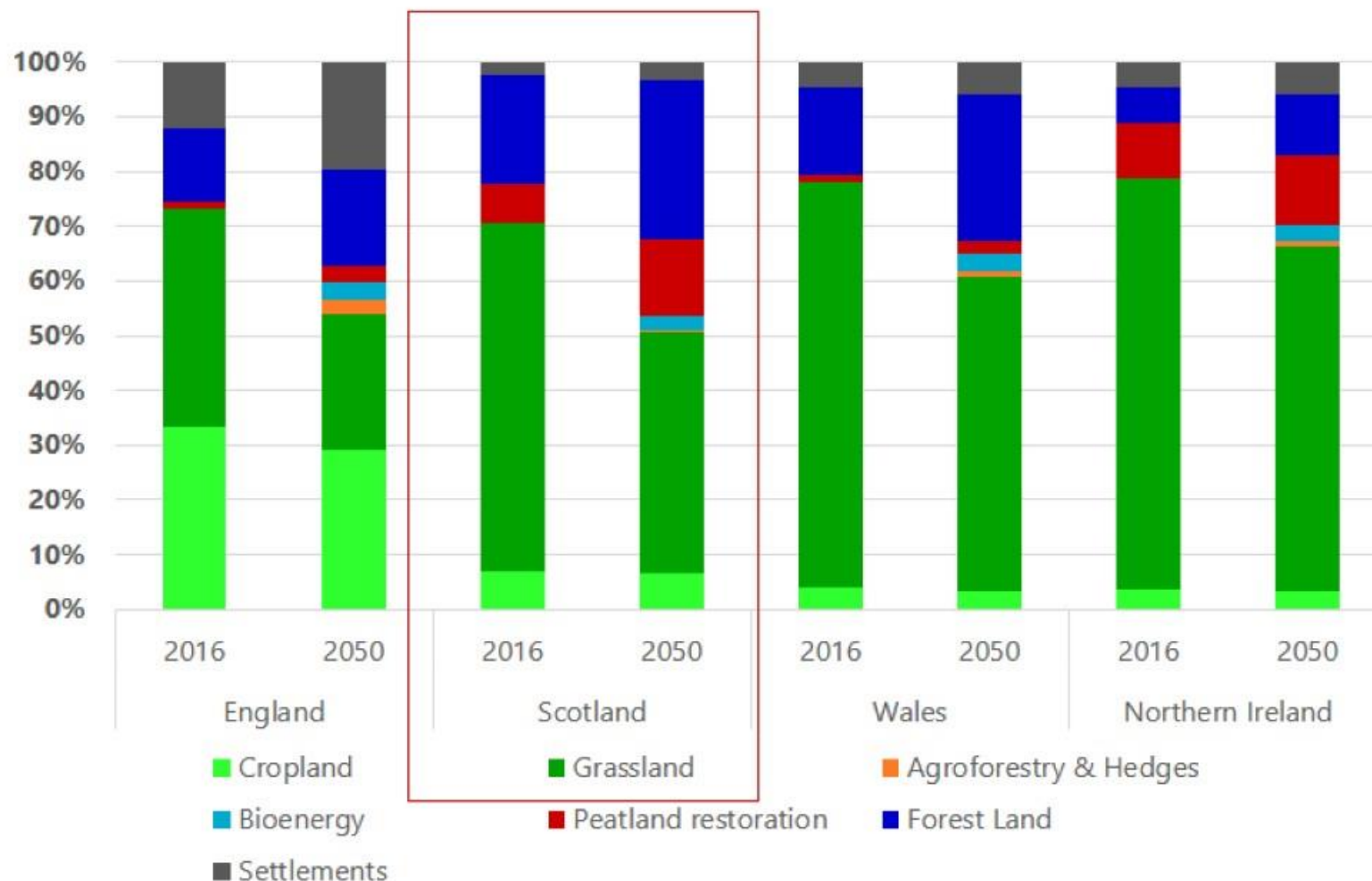
Net-zero-compatible scenario for land use

Emissions from agriculture & Land Use in Scotland (1990-2017)



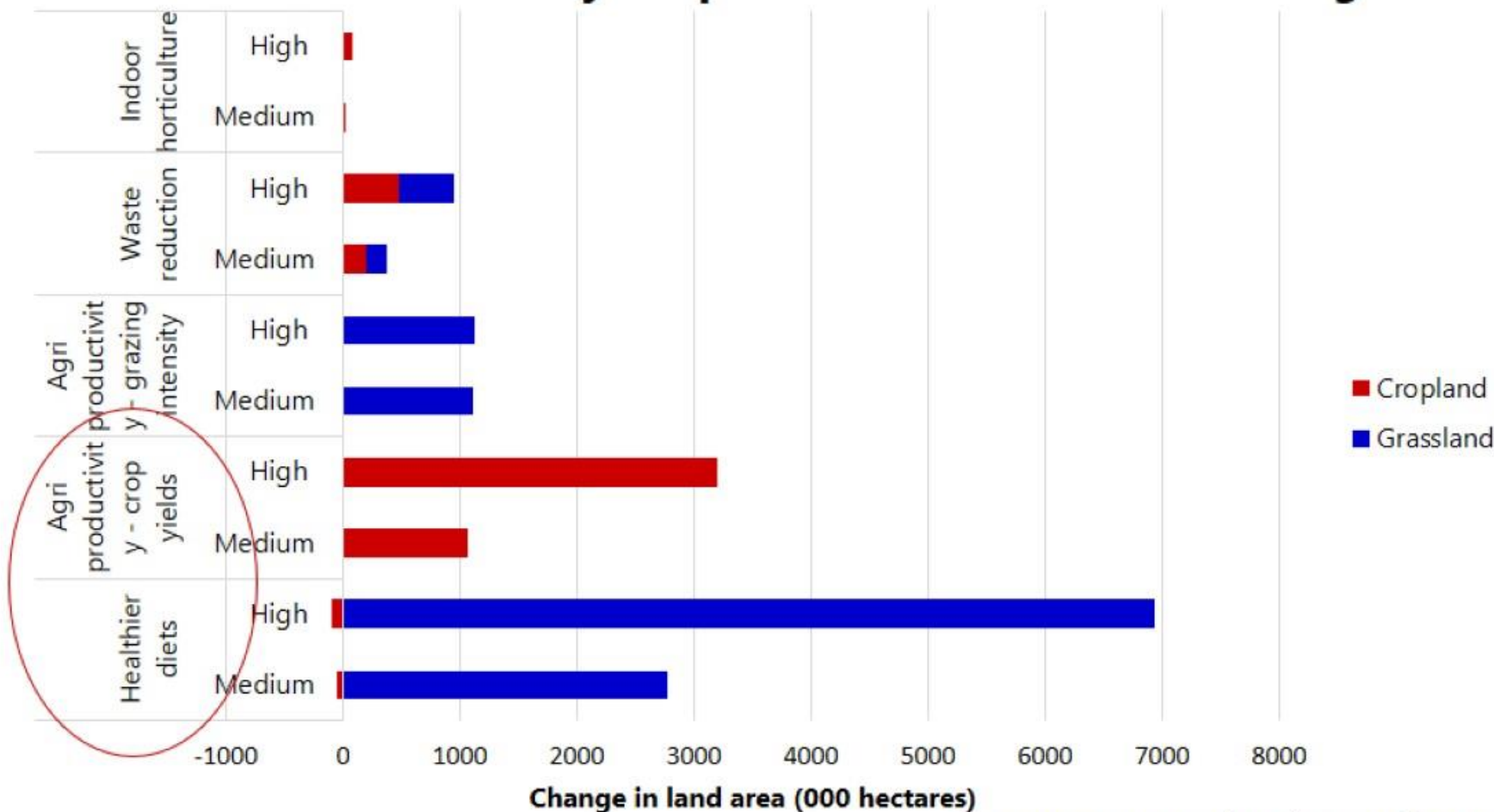
Source: NAEI (2019) Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2017

Net Zero scenario: land use in England, Scotland, Wales and Northern Ireland



Source: CCC analysis

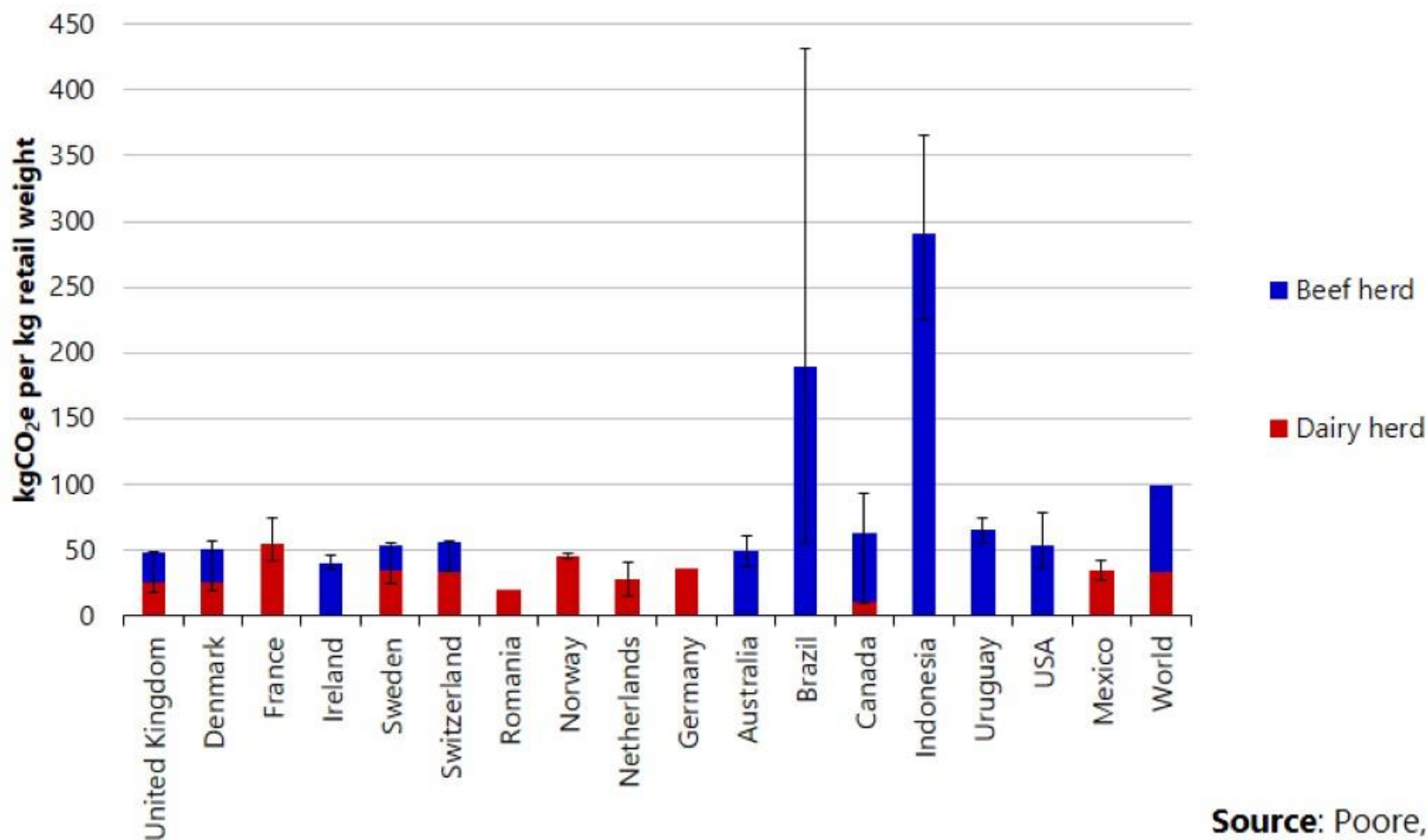
Scenarios for very deep emissions reduction from Agriculture and Land use



Source: CEH and Rothamsted Research (2018), CCC analysis

Greenhouse gas intensity of beef around the world

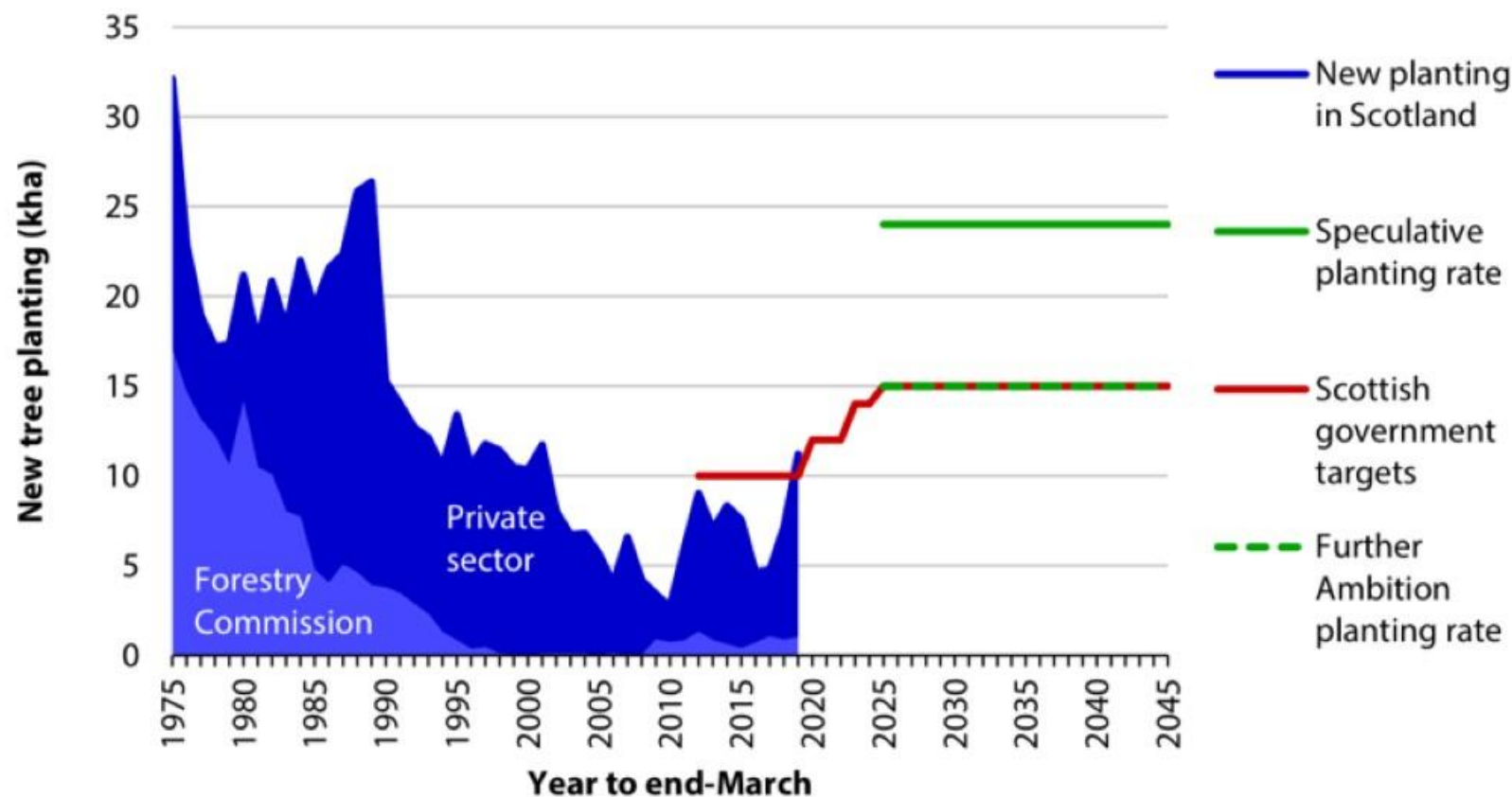
Lifecycle assessment of the GHG intensity of beef producers



Source: Poore, J. & Nemecek, T. (2018)

The woodland cover challenge

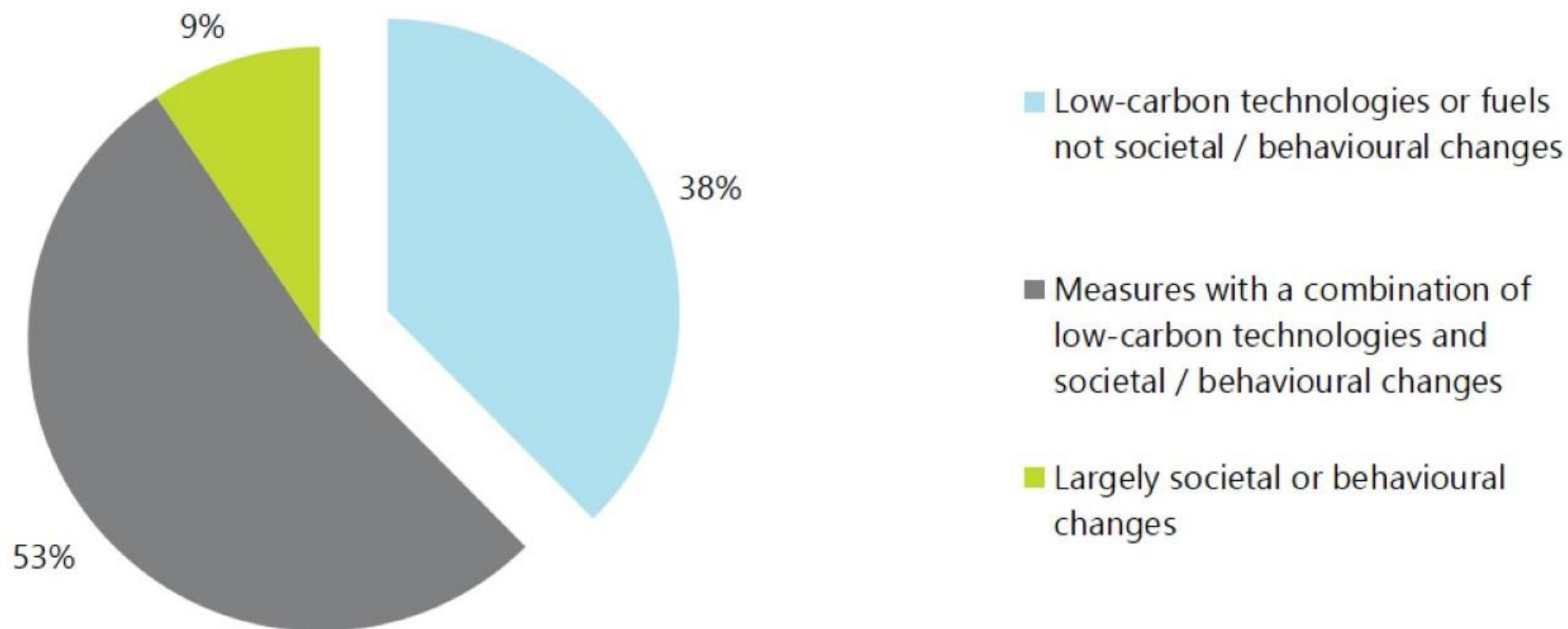
New tree planting in Scotland (1975-2019)



Source: Forest Research (2019) Forestry Statistics 2019, CCC analysis

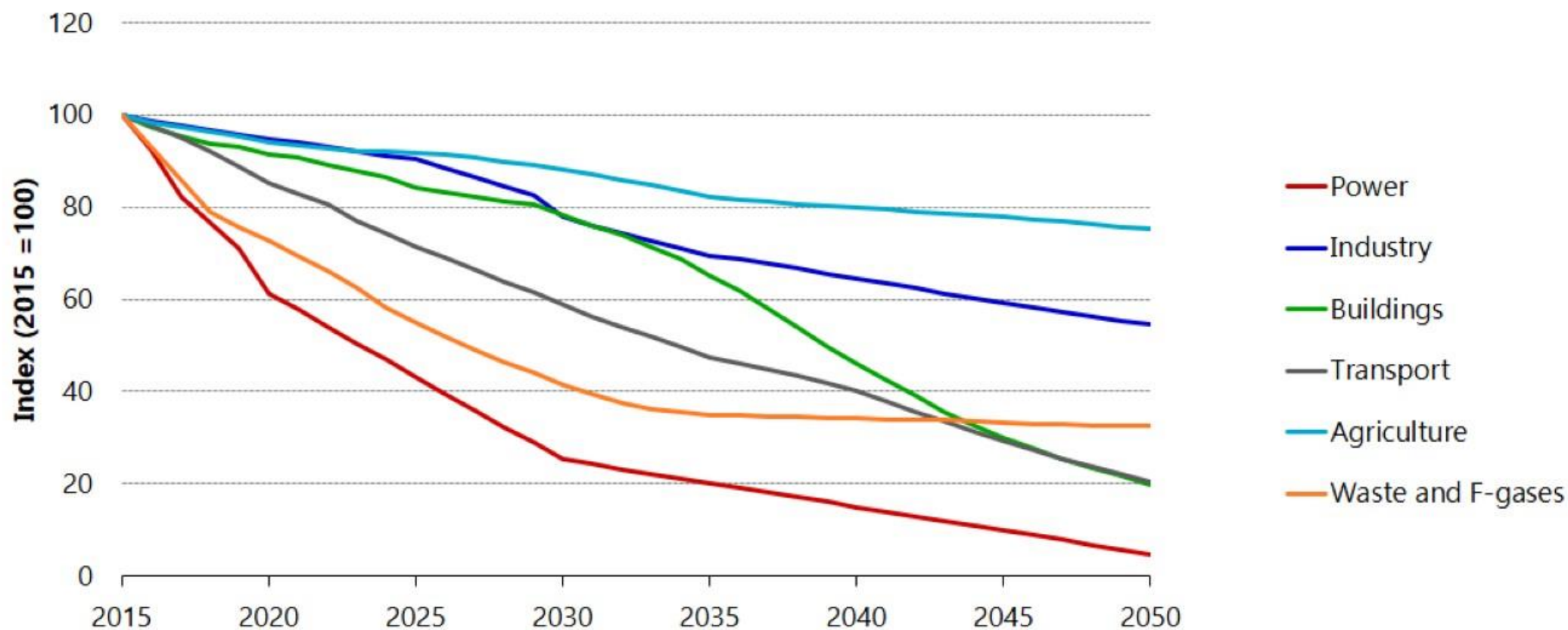
The path ahead

Role of societal and behavioural changes in achieving remaining emissions reductions



Source: CCC analysis

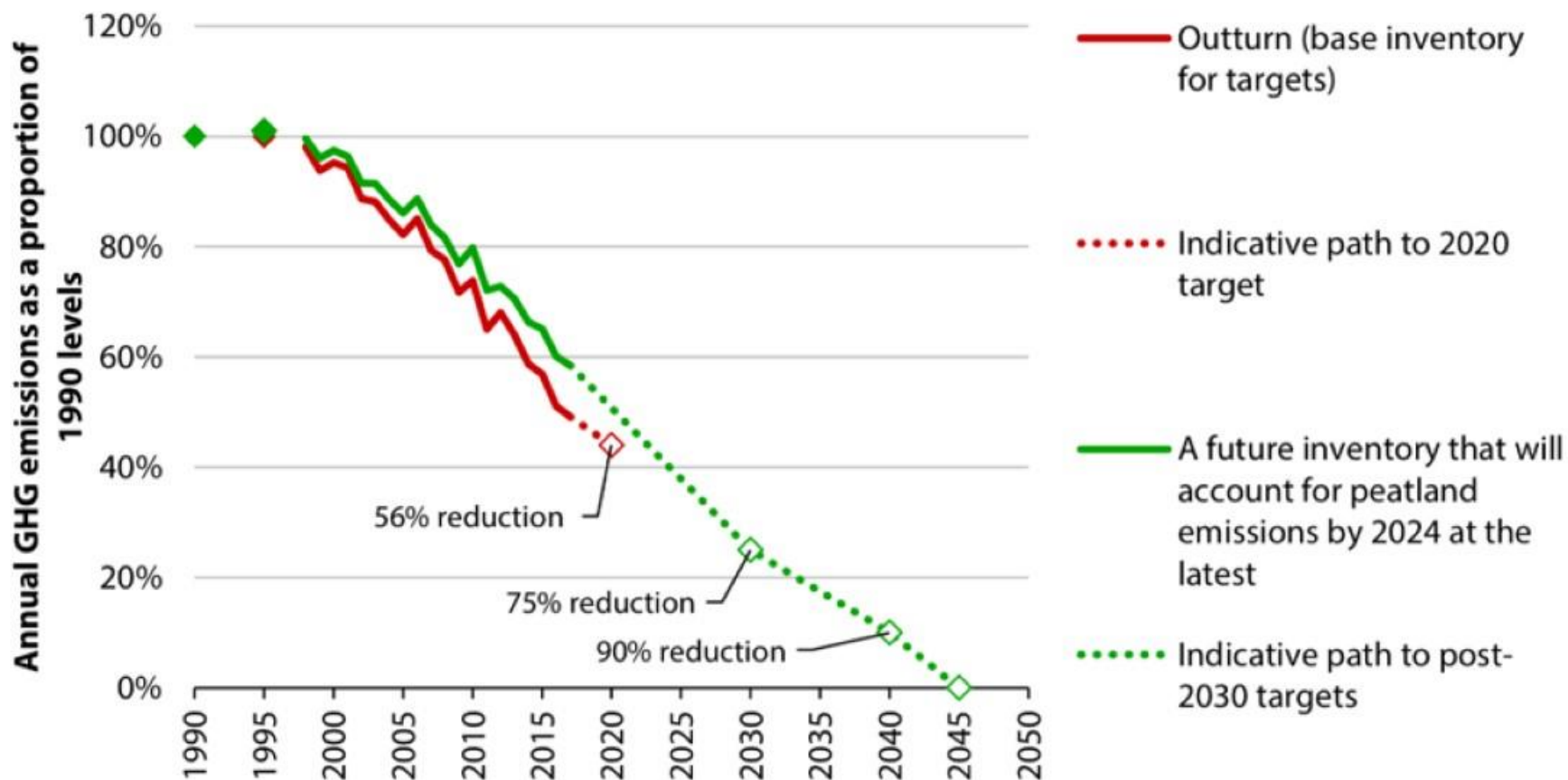
CCC (2015) UK-wide sectoral emissions trajectories



Source: CCC analysis

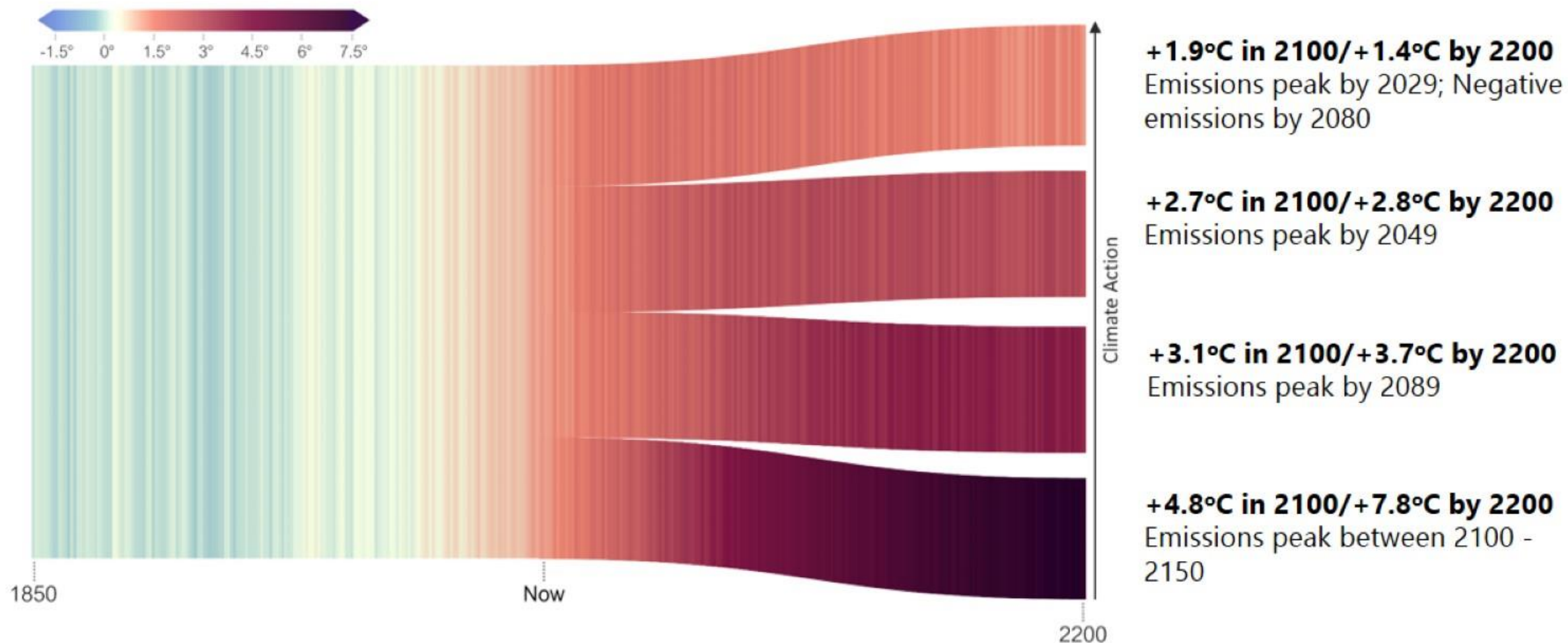
Scotland's Net Zero 2045 challenge

Indicative emissions trajectory to the new statutory targets



Source: CCC analysis

The climate choice



Source: Projections based on CMIP5 RCP scenarios, from warningstripes.com