

Part III

The Economics of Stabilisation

Part III of the Review considers the economic challenges of achieving stabilisation of greenhouse gases in the atmosphere.

'Business as usual' emissions will take greenhouse gas concentrations and global temperatures way beyond the range of human experience. In the absence of action, the stock of greenhouse gases in the atmosphere could more than treble by the end of the century.

Stabilisation of concentrations will require deep emissions cuts of at least 25% by 2050, and ultimately to less than one-fifth of today's levels. The costs of achieving this will depend on a number of factors, particularly progress in bringing down the costs of technologies. Overall costs are estimated at around 1% of GDP for stabilisation levels between 500-550ppm CO₂e.

The costs will not be evenly felt – some carbon-intensive sectors will suffer, while for others, climate change policy will create opportunities. Climate change policies may also have wider benefits where they can be designed in a way that also meets other goals.

Comparing the costs and benefits of action clearly shows that the benefits of strong, early action on climate change outweigh the costs. The current evidence suggests aiming for stabilisation somewhere within the range 450-550ppm CO₂e. Ignoring climate change will eventually damage economic growth; tackling climate change is the pro-growth strategy.

Part III is structured as follows:

- **Chapter 7** discusses the past drivers of global emissions growth, and how these are likely to evolve in the future.
- **Chapter 8** explains what needs to happen to emissions in order to stabilise greenhouse-gas concentrations in the atmosphere, and the range of trajectories available to achieve this.
- **Chapter 9** discusses how to identify the costs of mitigation, and looks at a resource-based approach to calculating global costs.
- **Chapter 10** compares modelling approaches to calculating costs, and looks at how policy choices may influence cost.
- **Chapter 11** considers how climate change policies may affect competitiveness if they are not applied evenly worldwide.
- **Chapter 12** looks at how to take advantage of the opportunities and wider benefits arising from action on climate change.
- **Chapter 13** brings together the analysis of costs and benefits, and looks at how a global long-term goal for climate change policy can be defined.