

Achieving the Paris Agreement long-term temperature goal

The UN Paris Climate Agreement aims to limit global warming to well below 2°C and pursue efforts to limit it to 1.5°C compared to pre-industrial global temperature.

Current country pledges are insufficient. Our analysis shows that achieving the Paris goal has these characteristics:

Decarbonisation beyond zero emissions...

- Emissions peak urgently, decline rapidly and reach zero CO₂ by mid century
- Zero emissions are unforeseen for aviation, shipping, and some heavy industry
- To compensate for hard to decarbonise sectors, CO₂ is captured and stored underground
- Biomass Energy Carbon Capture and Storage could become a worldwide industry
- Public is incentivised to embrace sustainability through participation and engagement
- Consumer energy demand is reduced through efficiency measures
- Disruptive technologies could support the public in embracing, low carbon lifestyles

Ambitious policies...

- Targeted taxes, subsidies, efficiency incentives and direct regulation
- Coordinated global implementation of existing and proposed policies

Leading to reduced impacts and risks...

- Risks different by region, with 2°C risk bigger than 1.5°C
- Species in Southern Africa, Southern Europe and Australia benefit the most by avoiding declines in diversity
- Economic losses are \$54 trillion at 1.5°C & \$69 trillion at 2°C
- Sea level is 20-30cm lower in 2100 & 2-3m lower in 2300 at 1.5°C & 2°C compared to 4°C