The scientific evidence is now overwhelming that the climate is warming and that human activity is largely responsible for this change through emissions of greenhouse gases.

Governments will meet in Paris in November and December this year to negotiate a legally binding and universal agreement on tackling climate change. Any international policy response to climate change must be rooted in the latest scientific evidence. This indicates that if we are to have a reasonable chance of limiting global warming in this century to 2°C relative to the pre-industrial period, we must transition to a zero-carbon world\(^1\) by early in the second half of the century.

To achieve this transition, governments should demonstrate leadership by recognising the risks climate change poses, embracing appropriate policy and technological responses, and seizing the opportunities of low-carbon and climate-resilient growth.

Risks. Climate change poses risks to people and ecosystems by exacerbating existing economic, environmental, geopolitical, health and societal threats, and generating new ones. These risks increase disproportionately as the temperature increases. Many systems are already at risk from climate change. A rise of 2°C above pre-industrial levels would lead to further increased risk from extreme weather and would place more ecosystems and cultures in significant danger. At or above 4°C, the risks include substantial species extinction, global and regional food insecurity, and fundamental changes to human activities that today are taken for granted.

Responses. Responding to the challenge will require deploying the full breadth of human talent and invention. Creative policy interventions and novel technological solutions need to be fostered and applied. This will require a sustained commitment to research, development, entrepreneurship, education, public engagement, training and skills.

Opportunities. While the threats posed by climate change are far-reaching, the ways in which we tackle them can be a source of great opportunity. There exists vast potential for innovation, for example in low-carbon technologies. Capturing this potential quickly and effectively will drive economic progress. There are also significant additional benefits available from climate mitigation and adaptation actions, including food, energy and water security, air quality, health improvements, and safeguarding the services that ecosystems provide.

Actions need to be taken now, by governments, individuals, businesses, local communities and public institutions, if we are to tackle this global challenge, deliver the required cuts in emissions, and take maximum advantage of the available opportunities and additional benefits.

\(^1\)Net zero global carbon dioxide emissions