



IPCC Special Report: IASS Recommendations for Climate Protection and the Energy Transition

Potsdam, 1 October 2018. The Intergovernmental Panel on Climate Change (IPCC) is to publish a special report on the impacts of global warming of 1.5°C above pre-industrial levels on 8 October. Under the Paris Agreement, States have agreed to pursue efforts to limit global temperature increase to this level. The key message of this special report: More far-reaching measures will be necessary in order to limit global warming to 1.5°C.

Scientists at the IASS conduct research across a range of climate-related issues: climate governance, climate geoengineering, air quality, mitigation of climate-forcing pollutants, the international energy transition, the coal phase-out, and structural transformation. Which measures can slow global warming and help us to achieve the 1.5°C target?

Carbon dioxide is not the sole driver of climate change

"If we are to achieve the goals of the Paris Agreement, then emissions of other climate drivers such as methane, soot, aerosols, ground-level ozone and hydro-fluorocarbons must be reduced alongside carbon dioxide", notes Tim Butler, Project Leader at the IASS. "These reductions would benefit the climate and foster sustainable development by delivering better health outcomes through improved air quality, preventing crop losses and ensuring that we avoid climate tipping points that would exacerbate long-term impacts and impede efforts to adapt to climate change."

Find out more about our research on air pollution [here](#).

Swift, fair, and ambitious action to protect the climate

Limiting global warming to 1.5°C above pre-industrial levels will require ambitious policies to reduce emissions of greenhouse gases. The current commitments made by States under the Paris Agreement will not deliver reductions on a scale necessary to achieve this goal. "The good news coming out of the report is that there are still ways to limit warming to 1.5°C – and they don't have to involve hi-tech miracle cures with unpredictable consequences. We must now select and effectively implement solutions in a manner that is both socially responsible and democratic", says Kathleen Mar, Project Leader at the IASS.

Find out more about our research on climate governance [here](#).

Climate geoengineering cannot be counted on

A team of authors led by Mark Lawrence, Scientific Director at the IASS, recently published a study in *Nature Communications* that examines the role of climate geoengineering in efforts to achieve the goals of the Paris Agreement. "The IPCC scenarios designed to meet the 1.5 degree temperature objective do so using a mix of approaches, including transforming the energy, mobility, agriculture and other sectors to provide substantial cuts in emissions. The scenarios also frequently include widespread application of carbon capture and storage to reduce CO₂ emissions from power plants and other industrial sources. Furthermore, the vast majority include large scale implementation of carbon dioxide removal, a type of climate geoengineering aimed at removing large amounts of CO₂ that are



already in the atmosphere, for example via global-scale reforestation and afforestation, or via the combination of bioenergy with carbon capture and storage. Our paper concludes that due to the scientific uncertainties and the long times that would be needed to develop the associated infrastructures, social acceptance and appropriate governance, none of the proposed carbon dioxide removal techniques can be relied on to significantly contribute to meeting the Paris Agreement 1.5 degree temperature goal."

Find out more about the study [here](#).

The transformation of the energy sector – A major challenge for efforts to achieve the 1.5°C target

Our research places a particular emphasis on the social dimension of the energy transition. "In a democratic society proper consideration must be given to goals such as justice, public participation, and social sustainability if we hope to make progress towards achieving the necessary emissions reductions within the near term. However, the political debate is still largely concerned with the technical implementation and economic efficiency of the energy transition. And while there is a growing recognition that the energy transition cannot succeed without broad acceptance and public participation, far greater consideration must be given to this fact within political decision-making processes", explains Daniela Setton, lead author of the annual *Social Sustainability Barometer for the German Energiewende*, which is published by the IASS in cooperation with several partners. The study captures the attitudes, sense of justice, experiences and expectations of different population groups in Germany in relation to the energy transition. IASS researchers identify opportunities for action and develop policy recommendations on the basis of this work.

Find out more about our research on energy transitions [here](#).

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Funded by the ministries of research of the Federal Republic of Germany and the State of Brandenburg, the **Institute for Advanced Sustainability Studies (IASS)** aims to identify and promote development pathways for a global transformation towards a sustainable society. The IASS employs a transdisciplinary approach that encourages dialogue to understand sustainability issues and generate potential solutions in cooperation with partners from academia, civil society, policymaking, and the business sector. A strong network of national and international partners supports the work of the institute. Its central research topics include the energy transition, emerging technologies, climate change, air quality, systemic risks, governance and participation, and cultures of transformation.