

Abstract

IPCC's Mitigation Assessment: Conclusions from AR6 and Future Challenges

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This lecture will cover the findings of the Working Group III contribution to the IPCC Sixth Assessment Report. It will broadly follow the narrative of the approved Summary for Policymakers. It will start by noting that the world is not on track to meeting the long-term temperature goal in the Paris Agreement, and that substantial and rapid reductions in global emissions would be needed. It will also note that there has been progress since the Fifth Assessment in terms of the reduced cost and increased take-up of some low-emission technologies and the more widespread use of targeted climate legislation and economic instruments. Regulatory approaches have been successful and have measurably reduced emissions below the levels they would otherwise have been. Options available across all sectors could reduce global emissions by half by 20203, with half of that potential costing less than \$20/tCO₂eq. For the first time for IPCC, the report has specifically addressed demand-side options and has focused much more attention on carbon dioxide removal techniques. Policy instruments are available to promote the take-up of these options. Policy packages are more effective than individual policy instruments on their own, and mainstreaming climate action across policy domains can achieve greater ambition. Financial flows consistent with the Paris Agreement goals would need to be three – six times higher than today. The challenge is less the availability of finance than making projects investable. Many mitigation actions have synergies with adaptation and the Sustainable Development Goals, but outcomes are context specific. The lecture will conclude with some personal observations on future research needs and priorities.