

Renewable Energy Sources and Climate Change Mitigation

Special Report of the Intergovernmental Panel on Climate Change

Climate change is one of the great challenges of the 21st century. Its most severe impacts may still be avoided if efforts are made to transform current energy systems. Renewable energy sources have a large potential to displace emissions of greenhouse gases from the combustion of fossil fuels and thereby to mitigate climate change. If implemented properly, renewable energy sources can contribute to social and economic development, to energy access, to a secure and sustainable energy supply, and to a reduction of negative impacts of energy provision on the environment and human health.

This Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN) impartially assesses the scientific literature on the potential role of renewable energy in the mitigation of climate change for policymakers, the private sector, academic researchers and civil society. It covers six renewable energy sources – bioenergy, direct solar energy, geothermal energy, hydropower, ocean energy and wind energy – as well as their integration into present and future energy systems. It considers the environmental and social consequences associated with the deployment of these technologies, and presents strategies to overcome technical as well as non-technical obstacles to their application and diffusion. The authors also compare the levelized cost of energy from renewable energy sources to recent non-renewable energy costs.

The Intergovernmental Panel on Climate Change (IPCC) is the leading international body for the assessment of climate change. It was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to provide the world with a clear scientific view on the current state of knowledge on climate change and its potential environmental and socio-economic impacts.

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