

IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN)

Why is the IPCC working on a Special Report on Renewable Energy Sources and Climate Change Mitigation?

As shown in the Fourth Assessment Report (AR4) in 2007, renewable energy sources can make a substantial contribution to climate change mitigation as early as 2030.

Many governments, as well as important actors in civil society and the private sector, have therefore asked for more substantial information and broader coverage of all questions pertaining to the use of renewable energy sources. Also, due to the dynamic development of markets and investment, as well as the experience gained from enabling policy frameworks, significant additional evidence and information has emerged since the AR4.

Abbreviated Outline

1. Renewable Energy and Climate Change
2. Bioenergy
3. Direct Solar Energy
4. Geothermal Energy
5. Hydropower
6. Ocean Energy
7. Wind Energy
8. Integration of Renewable Energy into Present and Future Energy Systems
9. Renewable Energy in the Context of Sustainable Development
10. Mitigation Potential and Costs
11. Policy, Financing and Implementation

Breakdown of SRREN Chapters

Chapter 1 (Renewable Energy and Climate Change) serves as an introduction to the report and provides an overview of renewable energies including resources, current status, and barriers. In addition, the chapter provides an explanation on the role of renewable energies in climate change mitigation and the methodology for the subsequent chapters.

The technology chapters of the SRREN (Chapters 2-7) focus on in-depth discussions of their respective resource and technologies while following a similar structure covering resource potential, market and industry development status, environmental and social impacts, cost trends, and potential deployment. A presentation of the technology specifics (bioenergy, direct solar energy, geothermal energy, hydropower, ocean energy and wind energy) is also an integral part of the chapters.

The final four chapters of the SRREN are integrative. Chapter 8 (Integration of Renewable Energy into Present and Future Energy Systems) covers the integration of renewable energies into electric power systems, heating and cooling networks and gas grids, and discusses the aspects of integration within the framework of relevant sectors. Chapter 9 (Renewable Energy in the Context of Sustainable Development) discusses the relationship between sustainable development and renewable energies. It includes a summary and discussion of environmental and socio-economic impacts of renewable energies from across chapters. Chapter 10 (Mitigation Potential and Costs) integrates the information presented in the technology chapters to identify the overall mitigation potential and associated costs in the context of different climate protection goals. Finally, Chapter 11 (Policy, Financing and Implementation) presents an assessment of policy options based on the literature and discusses current trends in policy, financing and investment.

The SRREN will provide a better understanding of:

- renewable energy resources by region and impacts of climate change on these resources;
- the mitigation potential of renewable energy sources;
- the linkages between renewable energy growth, co-benefits and co-costs, in achieving sustainable development by region;
- the impacts on global, regional and national energy security;
- the technology and market status, future developments and projected rates of deployment;
- the options and constraints for integration into the energy supply system and other markets, including energy storage options;
- the economic and environmental costs, benefits, risks and impacts of deployment;
- capacity building, technology transfer and financing in different regions;
- policy options, outcomes and conditions for effectiveness; and
- how accelerated deployment could be achieved in a sustainable manner.

Preparation of the SRREN

The report is being prepared under the leadership of Working Group III of the IPCC, which deals with the “Mitigation of Climate Change”.

Four Lead Author Meetings are planned in the SRREN preparation process (two of which took place in 2009) as well as various expert meetings. Two of the expert meetings are focused on the interaction and exchange among mitigation scenario community technology experts - a successful process that will be carried into the Fifth Assessment Report of the IPCC.

The report will be finalised in early 2011.

Goal

The goal of the Special Report on Renewable Energy Sources and Climate Change Mitigation is to assess existing literature on the potential of renewable energy for the mitigation of climate change.

The report will address the information needs of policy makers, the private sector and civil society, providing a comprehensive assessment of renewable energy technologies and related policy and financial instruments.

The report will be available in early 2011.



Photo Credit: © Yann Arthus-Bertrand/ Earth From Above - Middelgrunden offshore wind farm, off the coast of Copenhagen, Denmark (55°41'N - 12°40'E)

Special reports of the IPCC follow the same procedures as the Assessment Reports, taking into consideration all the latest relevant scientific literature produced worldwide, with a multistage peer review process by experts and a multistage review by governments.

The IPCC

The Intergovernmental Panel on Climate Change is the leading body for the assessment of climate change, established by the World Meteorological Organization and the United Nations Environment Programme. Its main activity is to prepare comprehensive assessment reports about climate change at regular intervals, typically of about five to seven years. IPCC reports should be neutral with respect to policy, although they may need to deal objectively with scientific, technical and socio-economic factors relevant to the application of particular policies.

The IPCC is currently starting the preparation of its Fifth Assessment Report (AR5), which will be finalised in 2014. The Fourth Assessment Report was published in 2007, when the Panel was honoured by the receipt of the Nobel Peace Prize.

In addition to this Special Report, the IPCC is also preparing a Special Report entitled "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation" that will be released in late 2011.

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For general information on the IPCC, please see:
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