

## SPECIAL REPORT ON RENEWABLE ENERGY SOURCES AND CLIMATE CHANGE MITIGATION (SRREN) - AMENDED TABLE OF CONTENTS

### 1. Background

This document contains the latest table of contents (TOC) of the IPCC WG III Special Report on Renewable Energy Sources and Climate Change (SRREN) with amendments as approved at the 31<sup>st</sup> session of the IPCC Plenary in Bali, 26-29 October 2009.

### 2. Current Version of the SRREN Table of Contents

Summary for Policy Makers

Technical Summary

#### 1. Renewable Energy and Climate Change (3-5%)

- 1.1. Background
- 1.2. Summary of renewable energy resources
- 1.3. Meeting energy service needs and current status (*energy need, energy deficits, energy efficiency trends and renewable energy potential*)
- 1.4. Barriers and issues (*in using renewable energy for climate change mitigation, adaptation and sustainable development*)
- 1.5. Role of policy, R&D, deployment, scaling up and implementation strategies
- 1.6. Methodology (*resource assessment, life-cycle assessment, setting boundaries for analysis, measures of sustainability, definitions, units qualitative and quantitative, integration methods*)

#### 2. Bioenergy (15%)

- 2.1. Introduction (*traditional and modern use*)
- 2.2. Resource potential (*within limits of sustainable forestry and agriculture, different feedstocks and impact of climate change on resource potential*)
- 2.3. Technology (*e.g. biological and thermo-chemical conversion*) and applications (*electricity, heat, transport and cooking*)
- 2.4. Global and regional status of market and industry development
- 2.5. Environmental and social impacts (*food security, biodiversity, competition with water, fodder, fiber, and land use, role of sustainable forestry and agriculture, health impacts from air pollution, GHG emissions*)

- 2.6. Prospects for technology improvement, innovation and integration
- 2.7. Cost trends
- 2.8. Potential deployment
3. Direct Solar Energy (10%)
  - 3.1. Introduction
  - 3.2. Resource potential (*impact of climate change on resource potential*)
  - 3.3. Technology (*solar thermal, photovoltaics, concentrating solar power*) and applications (*heating and cooling, lighting, cooking, electricity, fuel*)
  - 3.4. Global and regional status of market and industry development
  - 3.5. Integration into broader energy system
  - 3.6. Environmental and social impacts
  - 3.7. Prospects for technology improvement and innovation
  - 3.8. Cost trends
  - 3.9. Potential deployment
4. Geothermal Energy (3-5%)
  - 4.1. Introduction
  - 4.2. Resource potential
  - 4.3. Technology and applications (*electricity, heating, cooling*)
  - 4.4. Global and regional status of market and industry development
  - 4.5. Environmental and social impacts
  - 4.6. Prospects for technology improvement, innovation and integration
  - 4.7. Cost trends
  - 4.8. Potential deployment
5. Hydropower (5-10%)
  - 5.1. Introduction (*large and small hydro*)
  - 5.2. Resource potential (*impact of climate change on resource potential*)
  - 5.3. Technology and applications (*run-of-river, storage, multi-purpose*)
  - 5.4. Global and regional status of market and industry development
  - 5.5. Integration into broader energy system
  - 5.6. Environmental and social impacts (*displacement of people, GHG emissions*)
  - 5.7. Prospects for technology improvement and innovation, and multi-purpose use of reservoirs  
Cost trends
  - 5.8. Potential deployment
  - 5.9. Integration into water management systems
6. Ocean Energy (3-5%)
  - 6.1. Introduction

- 6.2. Resource potential (*impact of climate change on resource potential*)
- 6.3. Technology (*wave, tidal, ocean thermal, osmotic*) and applications
- 6.4. Global and regional status of market and industry development
- 6.5. Environmental and social impacts
- 6.6. Prospects for technology improvement, innovation and integration
- 6.7. Cost trends
- 6.8. Potential deployment
7. Wind Energy (5-10%)
  - 7.1. Introduction
  - 7.2. Resource potential (*impact of climate change on resource potential*)
  - 7.3. Technology and applications (*onshore, offshore, distributed*)
  - 7.4. Global and regional status of market and industry development
  - 7.5. Near-term grid integration issues
  - 7.6. Environmental and social impacts
  - 7.7. Prospects for technology improvement and innovation
  - 7.8. Cost trends
  - 7.9. Potential deployment
8. Integration of Renewable Energy into Present and Future Energy Systems (15%)
  - 8.1. Introduction (*potential role of renewable energy in future energy systems and climate change mitigation*)
  - 8.2. Integration of renewable energy into supply systems (*electricity grids, heat distribution networks, gas distribution networks, liquid fuels; load management, grid management, energy transport, interactions with conventional systems, necessary back-up and storage for intermittent sources, distributed versus centralized deployment of renewables, relation to energy efficiency*) (*to be differentiated regionally*)
  - 8.3. Strategic elements for transition pathways (*transportation, buildings and households, industry, agriculture, interactions among demand sectors, urban and regional development, interregional connections*) (*to be regionally differentiated*)
9. Renewable Energy in the Context of Sustainable Development (10%)
  - 9.1. Introduction
  - 9.2. Interactions between sustainable development and renewable energies
  - 9.3. Environmental impacts: global and regional assessment
  - 9.4. Socio-economic impacts: global and regional assessment (*energy supply security*)
  - 9.5. Implications of (sustainable) development pathways for renewable energy
  - 9.6. Synthesis (*consequences of including environmental and socio-economic considerations on the potential for renewable energy, sustainability criteria*)
  - 9.7. Gaps in knowledge and future research needs

## 10. Mitigation Potential and Costs (10%)

- 10.1. Introduction
- 10.2. Methodological issues
- 10.3. Assessment and synthesis of scenarios for different renewable energy strategies (*top down and bottom up*)
- 10.4. Cost curves for mitigation with renewable energies (*regional, sectoral, temporal; impacts of climate change on mitigation potential*)
- 10.5. Costs of commercialization and deployment (*investments, variable costs, market support, RDD&D*)
- 10.6. Social, environmental costs and benefits (*synthesis and discussion on total costs, and impacts of renewable energy in relation to sustainable development*)
- 10.7. Gaps in knowledge and uncertainties

## 11. Policy, Financing and Implementation (10-15%)

- 11.1. Introduction
- 11.2. Current trends: Policies, financing and investment
- 11.3. Key drivers, opportunities and benefits
- 11.4. Barriers to renewable energy implementation
- 11.5. Experience with and assessment of policy options (*local, national, regional; innovation and deployment*)
- 11.6. Enabling environment and regional issues (*technology transfer, transition management, capacity building, finance & investment, quality standards, international trade regulations*)
- 11.7. A structural shift (*policy assessment of the realisation of the scenarios in 10.3*)

Annex I Glossary

Annex II Methodology

Annex III Acronyms

Annex IV Contributors to the Special Report

Annex V Reviewers of the Special Report

Annex VI Index