

# ipcc

INTERGOVERNMENTAL PANEL ON climate change

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## **PROPOSED CHAPTER OUTLINES OF THE WORKING GROUP III CONTRIBUTION TO THE IPCC FIFTH ASSESSMENT REPORT (AR5)**

(Submitted by the Co-Chairs of Working Group III)

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## Working Group III

### Table of Contents Summary for Policy Makers Technical Summary

#### I. INTRODUCTION

##### 1. Introductory Chapter

- Lessons learned from AR4
- New challenges for the AR5
- Historical, current and future trends
- The mitigation challenges

#### II. FRAMING ISSUES

##### 2. Sustainable Development – Common and Specific Regional Aspects<sup>1</sup>

- Determinants, drivers, and barriers
- Mitigative capacity and mitigation
- Links to Adaptive capacity and adaptation
- Development pathways
- Implications for subsequent chapters

##### 3. Ethics & Equity & Climate Policy

- Introduction to ethical reasoning
- Economics, rights, and duties
- Justice and responsibility – Concepts & application to climate change
- Consumption patterns
- Quality of living and carbon accounting
- Implications for subsequent chapters

##### 4. Integrated Risk and Uncertainty Assessment of Climate Change Response Policies

- Risk perception
- Risk and uncertainty in climate change
- Metrics of uncertainty & risk
- Managing uncertainty, risk and learning
- Tools for analyzing uncertainty & risk
- Implications for subsequent chapters

##### 5. Economic Analyses of Climate Policy

- Metrics of costs and benefits
- Assessing methods of policy choice
- Behavioral economics
- Regulation
- Technological change
- Implications for subsequent chapters

#### III. PATHWAYS FOR MITIGATING CLIMATE CHANGE

##### 6. Mitigation Options and Pathways In Context

- Global trends in stocks and flows of greenhouse gases and short-lived species
- Consumption patterns across countries

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<sup>1</sup> Assessment under this chapter refers to all countries and regions including as appropriate developed countries, developing countries and economies in transition

- Human settlements and infrastructure
- Food systems
- Related issues in terms of co-benefits and co-costs
- Trends in technologies
- Carbon and radiation management and other geoengineering options
- The system perspective: linking sectors, technologies and consumptions patterns

## **7. Energy Systems**

[Note: All sections should consider regional specificities including as appropriate to developed and developing countries and economies in transition.]

- Energy production, conversion, transmission and distribution
  - New developments in emission trends and drivers
  - Resources and resource depletion
  - Mitigation technologies and practices
  - Infrastructure and systemic perspectives
  - Climate change feedback and interaction with adaptation
  - Technological, environmental and other risks and uncertainties, and social acceptability
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- Co-benefits, co-costs, spillover effects
  - Barriers and opportunities (technological, financial, institutional, cultural, legal, etc)
  - Sustainable development aspects
  - Costs and potentials
  - Gaps in knowledge

## **8. Transport**

[Note: All sections should consider regional specificities including as appropriate to developed and developing countries and economies in transition.]

- Freight and passenger transport (land, air, sea)
- New developments in emission trends and drivers
- Mitigation technologies and practices
- Infrastructure and systemic perspectives
- Climate change feedback and interaction with adaptation
- Technological, environmental and other risks and uncertainties, social acceptability
- Co-benefits, co-costs, spillover effects
- Barriers and opportunities (technological, financial, institutional, cultural, legal, etc)
- Sustainable development aspects
- Costs and potentials
- Gaps in knowledge

## **9. Buildings**

[Note: All sections should consider regional specificities including as appropriate to developed and developing countries and economies in transition.]

- Commercial, residential and public buildings
- New developments in emission trends and drivers
- Mitigation technologies and practices
- Infrastructure and systemic perspectives
- Climate change feedback and interaction with adaptation
- Technological, environmental and other risks and uncertainties, social acceptability
- Co-benefits, co-costs, spillover effects
- Barriers and opportunities (technological, financial, institutional, cultural, legal, etc)
- Sustainable development aspects
- Costs and potentials
- Gaps in knowledge

## **10. Industry**

[Note: All sections should consider regional specificities including as appropriate to developed and developing countries and economies in transition.]

- New developments in emission trends and drivers
- Material Reuse and Waste
- Mitigation technologies and practices (including efficiency improvements, household and industry waste)
- Infrastructure and systemic perspectives
- Climate change feedback and interaction with adaptation
- Technological, environmental and other risks and uncertainties, social acceptability
- Co-benefits, co-costs, spillover effects
- Barriers and opportunities (technological, financial, institutional, cultural, legal, etc)
- Sustainable development aspects
- Costs and potentials
- Gaps in knowledge

### **11. Agriculture, Forestry and Other Land Use (AFOLU)**

[Note: All sections should consider regional specificities including as appropriate to developed and developing countries and economies in transition.]

- Challenge: need for an integrated view of land-use sector mitigation
- Emission trends and drivers, agricultural productivity patterns
- Mitigation technologies and practices in forestry, agriculture, other land-uses (including afforestation, reducing deforestation and forest degradation rates)
- Mitigation effectiveness (short and long term, non-permanence, leakage, saturation)
- Systemic perspectives (including integrated land-use assessment)
- Competition of energy, food, livelihood, infrastructure, other land-uses
- Synergies / tradeoffs / interactions with adaptation and other mitigation options
- Climate change feedback and natural disturbance
- Environmental and other risks and uncertainties, social acceptability (including impacts on biodiversity).
- Co-benefits, co-costs, spillover effects
- Barriers and opportunities (technological, financial, institutional, cultural, legal, etc)
- Sustainable development aspects
- Costs and potentials
- Gaps in knowledge

### **12. Human Settlements, Infrastructure and Spatial Planning**

- Settlement structures, and lifecycle assessments
- Lifestyle changes and efficiency
- Waste
- Water/energy nexus
- Urban and rural development and climate: common experiences across countries
- Urban and rural development and climate: aspects specific to developed countries
- Urban and rural development and climate: aspects specific to developing countries

### **13. Assessing Transformation Pathways**

- Tools of analysis
- Climate stabilization: concepts, costs and implications for sectors and technology portfolios, taking into account differences across regions
- Integrating long- and short-term perspectives
- Integrating technological and societal change
- Sustainable development and transformation pathways, taking into account differences across regions
- Risks of transformation pathways
- Integrating sector analyses and transformation scenarios

## IV. ASSESSMENT OF POLICIES, INSTITUTIONS AND FINANCE

### 14. International Cooperation: Agreements & Instruments

- Introduction
- Framing Issues: Potential principles for international cooperation
- International agreements: Examples and lessons for climate policy
- Multilateral and bilateral agreements across different scales
- Climate policy architectures
- Mechanisms for technology transfer
- Key design elements for climate policy
- Linkages between international and national policies
- International agreements on trade and capital markets affecting climate policy

### 15. Regional Development and Cooperation

- Introduction
- Opportunities and barriers of regional cooperation
- Current development patterns and goals
- Energy and Development
- Urbanization and development
- Consumption and development
- Low carbon development: opportunities and barriers
- Links between mitigation, adaptation and development

### 16. National and Sub-national Policies

- Introduction
- Taxonomy of policy instruments
- Criteria for evaluating policy instruments
- Evidence on policy implementation and performance: Common experiences across countries
- Evidence on policy implementation and performance: Aspects specific to developed countries
- Evidence on policy implementation and performance: Aspects specific to developing countries
- Framework: role of institutions and governance
- National / state / local linkages
- Links to Adaptation
- Synergies and Conflicts among policies
- Assessing Policy Design Options

### 17. Investment and Finance

- Financing low-carbon investments
- Financing mitigation activities in developing countries including technology transfer
- Financing infrastructure & institutional arrangements
- Synergies and Tradeoffs between financing mitigation and adaptation

## Glossary

## List of Authors and Reviewers

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