

Chapter Outline of WK III Contribution to IPCC AR6

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Innovation, Technology Development and Transfer

Outline of AR6 by WK III

- Chapter 1: Introduction and Framing:
 - Key findings, Recent developments, Sustainable developments, Technology and other development (multiple entry points to climate mitigation). Solution orientation and accelerating progress.
 - Policy (Multiple goal setting)
 - Regional breakdown, sector, services and systems
 - Methods and framings including models, analysis,
- Chapter 2: Emissions trends and drivers
 - Past and present trends of territorial emissions and sinks on an annual and cumulative basis. Past and present trends of consumption-based emissions on an annual and cumulative basis.
 - Socio-economic and demographic drivers and their trends.
 - Overview of sectoral emission drivers and their trends. Climate and non-climate policies and measures at different scales and their impacts on emissions. Technological choices and changes. Emissions associated with existing and planned long-lived infrastructure. Behavioural choices and lifestyles of individuals and societal levels.
- Chapter 3: Mitigation pathways compatible with long-term goals
 - Methods of assessment, Socio-cultural-techno-economic assumptions and projections, modelled emission pathways compatible with the Paris Agreement, Role of changing climate on emissions, System transition and transformations with mitigation pathways, Economics of mitigation and development pathways.
 - Technological and behavioural aspects of mitigation pathways.

- Chapter 4: Mitigation and development pathways in the near to mid term
 - Accelerating mitigation, Projections of socio-economic and demographic drivers, aggregate effects of climate actions, mitigation efforts, national, regional and global modelling of mitigation pathways, implications of mitigations, enabling conditions for mitigation, uncertainties and risks.
 - Links to sustainable development, and adaptations. Benefits of mitigation
- Chapter 5: Demand, services and social aspects of mitigation
 - Mitigation, sustainable development, patterns of development, sustainable consumption and production, linking services with demands, culture, social norms and practices for lower resources, sharing economy.
 - Implications of information and communication technologies, Circular economy, Social acceptability of supply and demand.
- Chapter 6: Energy Systems
 - Energy services, Energy resources, Global and regional trends, Policies and measures, Global and regional new trends of electricity.
 - Smart energy systems, energy efficiency technologies, mitigation options, interconnection, storage and infrastructure.

- Chapter 7: Agriculture, Forestry and Other Land Uses
 - Mitigation Measures, Mitigation Potentials, Emerging Technologies, Constraints and Opportunities.
 - Provision of food, feed and others for energy, Assessment of social and policy responses.
 - Mitigation approaches and Anthropogenic emissions and removals
- Chapter 8: Urban systems and other settlements
 - Demographic Perspectives, Consumption, lifestyles of rural and urban, urbanisation wedge in future emissions, city emissions, urban emissions, low-carbon city scenarios, options and costs, Urban Technologies, Innovative Strategies.
- Chapter 9: Buildings
 - Access to sector specific services, Services, Components, Mitigation options, Systematic Interactions, Scenarios and links with targets.

- Chapter 10: Transport

- Access to mobility services, Components and system boundaries, Aviation and Shipping
- Mitigation options, Mobility trends and drivers, Systematic interactions

- Chapter 11: Industry

- Industrial development, Maximising materials and industrial production.
- Evolving Demands for Industrial Products,
- Mitigation Technologies and Efficient System Options
- Implications of Ambitious Climate Targets.

- Chapter 12: Cross sectoral perspectives

- Comparison of sector costs and potentials
- Aspects of GHG Removal Techniques
- Impacts, Risks and Opportunities from Large-Scale Land-Based Mitigation.
- Emissions Intensity of Food Systems.
- Policies related to Food Systems and Food Security.

- Chapter 13: National and Sub-National Policies and Institutions
 - Cross-country insights, Trends in national climate legislation, Building agreement, Governance systems, Assessment of policy instrument,
 - Integrated analysis of sectoral policies, Institutions for climate governance,
 - Subnational climate action, partnership for climate governance.
- Chapter 14: International Cooperation
 - International cooperation and institutions, International sectoral agreements, Implementing mitigation pathways, Enabling institutions and International Partnership.
 - Transparency and accountability frameworks.
 - Lessons of implementation from relevant international environment agreements
- Chapter 15: Investment and Finance
 - Definition of climate finance.
 - Scenarios of and needs for investment and financial flows related to mitigation pathways.
 - Scenarios and needs for investments and financial flows.
 - Investment patterns and financing for climate resilient development.
 - Enabling conditions for changing finance and investment patterns.

- Chapter 16: Innovation, Technology Development and Transfer
 - Roles of innovation, technology development, diffusion and transfer in contributing to sustainable developments. Aims of the Paris Agreements.
 - Innovation and Technology as Systematic Issues.
 - Assessment of international institutions partnerships and cooperative approaches relevant to technology and R&D.
 - Capacity for transformative change
 - Assessment of experiences with accelerating technological change through innovation.
 - Specific challenges in emerging economies and least developed countries.
 - Acceptability and social inclusion in decision making
 - Characterisation and implications of new disruptive technologies.
 - Links to adaptation and sustainable development.
- Chapter 17: Accelerating the transition in the context of sustainable development
 - Learning from integrative perspectives on sustainable development.
 - Pathways for joint responses to climate changes.
 - Climate change mitigation responses and mitigation-adaptations interlinkages.
 - Regional perspectives on climate change mitigations.
 - Other emerging issues