



# Institute for Capacity Development (ICD)

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## Energy and Climate Change

### Course Objectives

Upon completion, participants should be able to:

- Analyze the science and economics of climate change
- Examine the role of energy in climate change policy and decision-making
- Evaluate the effectiveness of different policy tools for reducing greenhouse gas emissions
- Assess the economic and social impacts of transitions to low-carbon energy systems
- Develop policy recommendations for promoting energy sustainability and mitigating climate change
- Understand the interconnections between energy, climate, and economic systems

### Target Group

- Development Planners
- Climate Officials
- Disaster Management Officers
- Environmental Technicians
- Environmental and Climate Change Adaptation Consultants
- Planners and Policy Makers

### Course Contents

- General Management Skills and Principles
- Introduction to Energy and Climate Change
- Climate change and its causes
- Energy and its role in human societies
- Climate change: evidence and projections
- Global and regional impacts of climate change
- Economic costs of climate change: damage and adaptation costs
- Greenhouse gas emissions: sources, sinks, and budgets
- Energy Systems and Climate Change
- Fossil fuel energy systems: sources, conversion, and consumption
- Renewable energy systems: solar, wind, hydro, and bioenergy
- Energy efficiency measures and technologies
- Carbon capture and storage: technologies and prospects
- Energy Policy and Climate Change
- Climate change policies: international agreements, national frameworks, and regulations
- Energy policy instruments: taxes, subsidies, and regulations

- Economic instruments: carbon pricing, trading, and cap-and-trade
- Policy effectiveness: case studies and evaluations
- Low-Carbon Energy Transitions
- Strategies for transitioning to low-carbon energy systems
- Technological innovation and diffusion
- Public engagement and participation in transition processes
- Addressing energy access and equity concerns
- Energy-Intensive Industry Transitions
- Sectoral approaches to low-carbon transition
- Case studies: steel, cement, and chemicals industries
- Technological innovation and carbon capture
- Policy interventions and support mechanisms
- Climate Change and Sustainable Development
- Integrating climate change into sustainable development frameworks
- SDGs and the Paris Agreement
- Climate-resilient development: approaches and lessons
- Energy poverty and access
- Energy system futures: scenarios and scenarios development
- Long-term energy strategies and scenarios
- Low-carbon energy pathways: analysis and evaluation
- Emerging energy technologies and innovations
- Climate Change Adaptation and Resilience
- Climate change impacts on human settlements and infrastructure
- Adaptation strategies: risk management, vulnerability reduction
- Resilience and coping capacity
- Adaptation planning and implementation
- Climate Change Mitigation Policy and Politics
- International climate governance: frameworks and institutions
- National climate governance: policies, laws, and regulations
- Public engagement and participation in climate governance
- Climate politics and international cooperation
- Action Planning

Dates: 14<sup>th</sup> – 25<sup>th</sup> July 2025

Duration: 2 weeks

Course Costs: US\$2850/delegate

Venue: Kigali, Rwanda