



Development of an Integrated Assessment Tool for Response Measures in Indonesia's Electricity Sector: Energy Transition, Economic, Social, and Fiscal Impacts

1. Name of proposing Party or organization.

Government of Indonesia

2. Brief description of the proposed study:

Indonesia's electricity sector is undergoing a significant transformation as the country pursues a transition towards a lower-emission, reliable, and sustainable energy system. This transformation is taking place alongside Indonesia's ambition to achieve 8% economic growth by 2029, which is expected to substantially increase electricity demand and change its characteristics. Electricity demand is projected to increase from approximately 411 TWh in 2024 to 525–600 TWh by 2030, with electricity consumption targeted at around 2,000 kWh per capita by 2030. The expansion of manufacturing and industry, smelters and industrial estates, data centres, digitalization, transport electrification, and household electrification will further drive electricity demand. At the same time, Indonesia is strengthening its energy resilience and independence. The Energy Resilience Index increased from 6.74 in 2024 to 7.13 in 2025, while the Energy Independence Index reached 6.72 in 2025. Indonesia is also pursuing a major transformation of its electricity supply system, with the share of renewable energy in electricity supply projected to reach 74% by 2060, consistent with the country's Net Zero Emissions target for 2060. This transformation involves various response measures, including accelerated renewable energy development, reduced fossil-fuel dependence, energy efficiency improvements, development of electricity storage and transmission infrastructure, system flexibility, and other measures supporting electricity-sector decarbonization. While these measures are essential to achieving climate and energy objectives, they may also generate broader economic, social, employment, investment, and electricity-system impacts that need to be assessed and anticipated. Against this background, the proposed case study aims to support Indonesia in developing an integrated assessment tool to analyse the potential impacts of response measures in the electricity sector. The tool will provide an evidence-based framework to assess the interactions between energy transition



policies, increasing electricity demand, economic growth, and key economic and socioeconomic indicators. The assessment may cover impacts on electricity supply and demand, generation mix, investment requirements, generation costs, system reliability and flexibility, employment, economic growth, industrial activities, household welfare, fiscal requirements for electricity subsidies and compensation, and other relevant indicators. Different policy scenarios and transition pathways will be considered to identify potential trade-offs, distributional impacts, including the implications for government subsidies and compensation mechanisms, and opportunities. The study will also strengthen Indonesia's institutional capacity for policy impact assessment and evidence-based policymaking. The resulting tool and methodology are expected to support future policy analysis and scenario development, enabling policymakers to design transition pathways that balance emission reduction targets with economic growth, energy security, energy independence, and reliable and affordable electricity supply.

3. United Nations region to be covered by the case study:

Asia-Pacific;

4. Country or countries to be covered by the case study

Indonesia

5. Area of the case study:

Policy planning to implementation pathways ;The experience of countries on the use of impact assessment tools ;

6. Expected duration for completion of the case study (in months):

12 months

7. Contribution of the submitting organization

Technical inputs;Data;

8. Can the study be developed without financial support from the UNFCCC?

No



9. If no, please provide the estimated range of required financial support in USD (Please note that the UNFCCC is not a donor organization and has limited funding):

10000

10. Please provide the status of any preliminary work undertaken that could serve as a basis for the study, including a link to any available reports, if available.

Not Available



Framework Convention on
Climate Change