Request for Proposal (RFP)

Review of Regional Energy General Plan (RUED) & Regional Electricity Master Plan (RUKD) Province of Bali

Institute for Essential Services Reform

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Indonesia

28 Maret 2025

1. BACKGROUND

Institute for Essential Services Reform (IESR), a think tank based in Jakarta, Indonesia, has been working intensively to promote the acceleration of low carbon energy transition in Indonesia, through evidence-based policy advocacy. For the past 10 years, IESR also has been contributing significantly to promote energy transition discourse in Indonesia and has been working with national and local governments, associations, and civil society organizations to strengthen clean energy deployment in Indonesia.

The energy transition in Bali Province has become increasingly pressing due to escalating demands for climate change mitigation and the region's need for energy independence. Historically, Bali has heavily relied on fossil fuel-based power generation to fulfill nearly all its energy requirements, with low renewable energy sources constituting 1.48% of Bali's electricity supply in 2023. This significant dependence on fossil fuels positions the energy sector as the largest contributor to greenhouse gas emissions in Bali, accounting for approximately 43% of total regional emissions[1]. Concurrently, the province continues to experience rising energy demands driven by economic growth and expanding tourism, thereby intensifying the urgency to shift Bali's energy system toward sustainability to ensure long-term energy security and reduce carbon emissions.

To address this challenge, Bali Province developed the Regional Energy General Plan (RUED) for 2020–2050, formally enacted through Regional Regulation No. 9 of 2020, as a localized implementation of the National Energy General Plan (RUEN), this regional regulation aims to increase the share of renewable energy to 11.15% however, the COVID-19 pandemic has significantly impacted various sectors, including the energy sector. Furthermore, Bali has established the Regional Electricity Master Plan (RUKD) for the period of 2022–2030. The province of Bali emphasizes the development of clean and renewable energy to achieve energy independence and support sustainable tourism. RUKD intended to guide regional electricity system development in alignment with national goals outlined in the National Electricity Master Plan (RUKN) and the Electricity Supply Business Plan (RUPTL). Bali is among the pioneering provinces that have officially adopted a RUKD document, being one of only seven provinces to do so by 2021. These policies and planning frameworks reflect Bali's strong commitment to achieving clean energy and carbon neutrality.

Moreover, the Bali Provincial Government has launched the Bali Net Zero Emission 2045 initiative (Bali NZE 2045), aiming to reach carbon neutrality by 2045, which is 15 years ahead of Indonesia's national target. Despite the comprehensive policies and strategic

[1] Dinas Kehutanan Dan Lingkungan Hidup Provinsi Bali. 2024. Inventarisasi Gas Rumah Kaca Provinsi Bali. Denpasar. DKLH Provinsi Bali.

planning in place, significant challenges persist in realizing these ambitious targets, primarily due to the substantial gap between the current conditions and the envisioned 2045 goals. Consequently, a critical evaluation of Bali's RUED and RUKD is essential, aligning with directives from the Ministry of Energy and Mineral Resources (ESDM) that emphasize the periodic review and updating of regional electricity plans when initial assumptions and targets no longer reflect the latest developments.

2. OBJECTIVES

1. Evaluating the achievements and progress of both Regional Energy General Plan (RUED) & Regional Electricity Master Plan (RUKD) in driving energy transition.
2. Providing recommendations and modelling results for a more optimal regional energy planning model, utilizing the latest data and considering recent policy developments within the energy sector.

3. PROJECT SUMMARY

To contribute to Bali NZE 2045 targets, significant emission reduction in the energy sector and particularly electricity sector is paramount. Based on RUED, Bali aims to achieve 20.10% renewable energy by 2050, reducing emission of 21.27 million ton CO2e. This project will look at progress of planned yearly and 5-yearly RUED targets and assess current landscape aligned with NZE 2045 target to provide energy sector planning recommendations and modelling results.

The revision of the Regional Energy General Plan (RUED) & Regional Electricity Master Plan (RUKD) will be based on the outcomes of reviewing existing RUED/RUKD conditions and current sector dynamics. Both RUED and RUKD will be developed in accordance with the prevailing regulations governing their revision and will utilize energy planning software.

The assessment is divided into two phases:

Phase 1:

- Conduct review of existing achievements in the energy and power sector in Bali, covering but not limited to developments in regulations, updated renewable energy potential (considering latest technological advancements), cumulative renewable energy installation compared to RUED and RUKD target (yearly)
- Collect and preliminary analyze necessary data and information needed to perform modeling in Phase 2.

Phase 2:

- Design and provide a LEAP model capable of producing similar results to the current RUED & RUKD model for the years 2025-2050 with the addition of achieving NZE by 2045. The model should have all the key assumptions in the main tree of LEAP (key assumptions, demand, transformation, and resources) as described in RUED & RUKD. The model shall also consider the existing and upcoming technology and policy development in the energy sector. The scenarios used in the model are subjects to discuss with the IESR team. IESR team would provide input to the scenario development (especially the second and third scenarios). All the model and data (tree, branch, data, and assumptions) collected within the project timeframe would be handed over to the IESR team.
- Write a narrative report summarizing the findings and analysis comparing the scenarios in the LEAP and Energy System model. The model, and report results will be used to support IESR's advocacy work with relevant energy sector stakeholders, including the national government, local government, and private sector. The minimum information to be included in the narrative report are: model structure and methodology, including key assumptions data and its sources, demand, transformation, and resources data; summary of data sources and assumptions used; and an analysis comparing the scenarios in the LEAP/other models.
- Hand over model LEAP and Energy System model to IESR team through workshop sessions to further enable the IESR team to do its advocacy work. The chosen partner would also provide capacity building sessions. The sessions would be designed with the purpose of transferring the knowledge about the built provincial energy model and allowing the participating IESR team to do further analysis and development with the model.

If using other optimization methods: similar scopes on assumption and technologies, report and hand-over.

With this RFP, IESR is soliciting proposals from experts, or institutions with extensive experience and portfolios in energy system modeling. IESR will evaluate all the proposals submitted. Following review of all proposals, IESR will select the experts/institutions that bring suitable expertise, most closely aligns with project objectives, and articulates a clear, achievable research plan to meet those objectives within the required timeframe.

1. PROPOSAL GUIDELINES

Proposals will be accepted until 12:00 p.m. Indonesian Western Standard Time (WIB, GMT+07) on 12 April 2025. Any proposals received after this date and time will be regarded as inadmissible. All proposals must be signed by an official agent or representative of the company submitting the proposal.

Main proposals should not be more than 10 pages in length. The annex of the proposal should include the following item:

1. Brief company/institution/experts profile.
2. the latest Curriculum Vitae (CV) of the team leader. CV of other team members with relevant experience is optional.

If the individual/organization submitting a proposal must outsource or contract any work to meet the requirements, this must be clearly stated in the proposal. Additionally, costs included in proposals must include any outsourced or contracted work. Any outsourcing or contracting organization must be named and described in the proposal. Please itemize all costs and include a description of associated services. Contract terms and conditions will be negotiated upon the selection of the winning bidder for this RFP.

2. PROJECT TIMELINE

Project kick-off will be conducted on 15 April 2025 and the results of the project must be finalized no later than 30 September 2025.

A draft timeline is presented below. Internal changes may be made if mutually agreed.

Activity	Expected Timeline
Project kick-off	15 April 2025
Phase 1 delivery	20 May 2025
Discussion with IESR team on scenarios	26 - 27 May 2025
Building the LEAP/other models	30 May – 22 August 2025
Series of discussion with relevant stakeholders	May - August 2025
Preliminary report & presentation	Early September 2025
Revision	2 weeks in September
Results presentation, report & model handover to IESR team	30 September 2025

Unless otherwise noted, work will be completed by the end of month identified above.

3. BUDGET

All proposals must include proposed costs (in Indonesian Rupiah/IDR) to complete the tasks described in the project scope and detailed activities including focus group discussions, cost and travel, when necessary. Costs should be stated as one-time or non-recurring costs (NRC).
NOTE: All costs and fees must be clearly described in each proposal.

4. BIDDER QUALIFICATIONS

Bidders should provide the following items as part of their proposal:

- Description of experience in LEAP, Power system modelling tools, and Reference Energy System (RES) (Experience in national and subnational energy system modelling would be beneficial).
- Examples of three or more similar projects conducted by you/your organization
- Anticipated resources you will assign to this project (total number, role, title, experience)
- Confirmation of timeframe for completion of the project
- Brief description on methodology and assumptions used

Bidders must submit a digital copy of their proposal via email to Program Manager Sustainable Energy Access IESR at citra@iesr.or.id and cc to Muhamad Yudistira at yudistira@iesr.or.id and Laili Asdiyan at laili@iesr.or.id by 12:00 p.m. Indonesian Western Standard Time (WIB, GMT +07) on Saturday, 12 April 2025. Please include **"RFP Response – Review of Regional Energy General Plan (RUED) & Regional Electricity Master Plan (RUKD) Province of Bali"** in the subject line.