

Request for Proposal Study Productive Use of Electricity (PUE)

Institute for Essential Services Reform

Tebet Timur Raya No.48B, Tebet Jakarta Selatan Indonesia

30 May 2025



I. Background and Objectives

I.1. Background

Sustainable economic development is one of the key pillars of Indonesia's Vision 2045 to become a high-income developed nation. Within this vision, energy resilience plays a critical role, supported by the accelerated deployment of New and Renewable Energy (NRE). As outlined in the National Long-term National Development Plan (Rencana Pembangunan Jangka Panjang Nasional/RPJPN) 2025-2045, the share of NRE in the primary energy mix is targeted to reach 70% by 2045.

Provincial governments have developed Regional Long-term Development Plan (Rencana Pembangunan Jangka Panjang Daerah/RPJPD) as a long-term development planning document that contains the vision, mission and direction of regional direction of development in the region for the next 20 years. In its development, this RPJPD should refer to and align with the RPJPN, from the period, contents, and targets.

Electricity consumption per capita and shares of NRE are two targets that need to be aligned between national and regional. Meeting these targets will require substantial growth in electricity consumption – on average, more than 1.5 times increase from 2025 to 2045 and renewable energy development – on average, more than 2 times increase from 2025 to 2045. However, for some provinces, particularly those with limited industrial and commercial activities, reaching the consumption targets presents significant challenges. Additionally, a higher share of renewable energy, particularly solar, wind, and other variable sources, requires a corresponding increase in electricity demand to absorb this new capacity.

One of the strategic opportunities to address this challenge is through the Productive Use of Electricity (PUE), the use of electricity to generate economic value by enhancing existing activities, enabling new enterprises, or improving productivity and income. A targeted assessment to map electricity consumption growth potential, especially in sectors that offer direct economic benefits, can help not only to increase electricity demand but also stimulate local and regional economic development and facilitate renewable energy integration.

Currently, electricity use outside Java Island remains dominated by household consumption, while the industrial and commercial sectors still account for a smaller share. This is largely due to insufficient electricity service quality and availability, which limits productive use in those regions. Furthermore, the electricity supply has not yet fully accommodated the development needs of new industrial and business zones. Electricity is a critical energy source for Special Economic Zones (KEK), Industrial Zones (KI), and other large-scale consumers, yet its availability and reliability often remain inadequate.

In this context, a targeted assessment to map sectoral and regional potential for productive electricity use can inform more effective policies and investment decisions. By focusing on activities that generate direct economic value, the study can help provinces achieve their electricity consumption targets while aligning with Indonesia's broader goals for renewable energy adoption, regional development, and sustainable growth.

In short, Project CASE for SEA Indonesia is opening a **Request for Proposal for Study Productive Use of Electricity (PUE)** to look for consultant/contractor to support CASE Indonesia in identifying opportunities to increase electricity consumption through economically productive sectors in alignment with national and provincial development targets.

I.2. Objectives

The overall objective of this study is to identify and assess opportunities for increasing electricity consumption through productive use of electricity and shares of NRE across provinces in Indonesia, in alignment with both national and regional development goals, particularly the targets set in RPJPD.

Specifically, the study aims to:

- 1. Assess existing electricity consumption patterns and sectoral distribution across all provinces.
- 2. Estimate the potential increase in electricity demand due to productive use of electricity across all provinces, focusing on sectors that can contribute to increased electricity demand while generating economic value (e.g. agriculture, fisheries, manufactures, tourism, digital economies).
- 3. Analyze the implications of PUE for renewable energy integration and shares, particularly in supporting the absorption of variable renewable energy (e.g., solar and wind) in provincial electricity systems.
- 4. Analyze the implications of PUE in terms of additional economic benefit, particularly in supporting the achievement of economic growth targets.
- 5. **Propose a prioritization framework or roadmap** for implementing PUE interventions in selected provinces and/or selected sectors, including criteria for sectoral focus, institutional readiness, and alignment with existing industrial and economic development plans (e.g., KEK, KI).
- 6. **Develop recommendations for provincial and national stakeholders** (including governments, utilities, and development partners) to formulate policies, programs, and investment strategies that accelerate productive electricity use aligned with RPJPN and RPJPD targets.

II. Task to be performed by Contractor

The consultant/contractor will be required to deliver the following work packages:

Work package 1: Inception, Methodology Design, and Stakeholder Mapping

Under this work package we expect the contractor/consultant to:

- 1. Conduct an inception meeting to align on scope, objectives, timeline, and deliverables.
- 2. Develop and submit an inception report including:
 - Detailed methodology and analytical framework.

- Data sources and collection methods (secondary data, stakeholder interviews, etc.).
- Sectoral and provincial coverage.
- Workplan and timeline.
- 3. Map key stakeholders at the national and provincial levels (e.g., government agencies, PLN, private sector, KEK/KI authorities).

Work package 2: Assessment of Current Electricity Consumption, Future Consumption, and Estimation of PUE Potential in Alignment with Development Planning Documents

Under this work package, the contractor/consultant should:

- 1. Analyze historical and current electricity consumption patterns across all provinces, disaggregated by sector.
- 2. Identify provinces and sectors where electricity is underutilized in productive activities.
- 3. Identify options of electricity use in productive activities in key economic sectors, such as agriculture, fisheries, manufacturing, tourism, and digital economy.
- 4. Estimate potential electricity demand increase from productive use in key economic sectors.
- 5. Ensure alignment of PUE opportunities with RPJPN 2025-2045, RPJPD 2025-2045, RPJMN 2025-2029, RUPTL 2025-2034, and sectoral development priorities.

Work package 3: Assessment of Renewable Energy Integration

Under this work package, the contractor/consultant should:

- 1. Analyze the potential of supplying the electricity demand through renewable energy integration, focusing on the role of variable renewable energy (e.g., solar, wind).
- 2. Analyze the potential of NRE shares' increase to the province total NRE shares due to NRE utilization.

Work package 4: Assessment of Economic Benefit Potential

Under this work package, the contractor/consultant should:

- 1. Analyze the economic benefit potential generated by the productive activities that are made possible with the use of electricity.
- 2. Analyze the potential of the province's economic growth target achievement that is resulted from the increased productive activities.

Work package 5: Case Study and Policy Recommendation

Under this work package, the contractor/consultant should:

- 1. Select at least two (2) provinces as case study with the highest potential for scalable PUE interventions.
- 2. Propose a roadmap for implementation, including short-, medium-, and long-term actions.

3. Develop recommendations for national and provincial stakeholders (e.g., Bappenas, MEMR, PLN, local governments, development partners) to design policies, programs, and investment strategies that promote productive electricity use.

III. Project Scope

This project shall be carried out for a period of six (6) months and will commence upon receipt of written approval from IESR.

The agency should submit proposed costs with tax (in Indonesian Rupiah/IDR) to complete the tasks described in the project scope. Costs should be stated as one-time or non-recurring costs (NRC).

IV. Bidder Qualifications

The contractor/consultant must meet the following qualifications:

1. Organizational Experience

- Proven track record in conducting research and analysis in one or more of the following areas: energy access and planning, electricity demand analysis, productive use of electricity (PUE), renewable energy integration, or sustainable economic development.
- Demonstrated experience working with or supporting government agencies, utilities (e.g., PLN), or international development organizations in Indonesia.
- Experience in designing or supporting policies, programs, or investment strategies related to energy or regional development.

2. Technical Expertise

Strong technical expertise in:

- Electricity consumption analysis.
- Sectoral economic analysis, particularly in productive sectors such as agriculture, fisheries, manufactures, digital economy, or tourism.
- Renewable energy integration, especially variable renewable energy (solar, wind).
- Regional and provincial energy planning or infrastructure development.
- Development models and economic development

3. Knowledge of the Indonesian Context

- Demonstrated understanding of Indonesia's national and subnational development frameworks (RPJPN, RPJPD, RPJMN), energy policies, renewable energy targets, and industrial development strategies (e.g., KEK, KI).
- Fluency in Bahasa Indonesia is required; strong English writing and communication skills for reporting and presentations are also essential.

4. Team Composition

The proposed team should include at least the following key experts:

• Team Leader: With at least 10 years of relevant experience in energy planning,

electricity markets, or sustainable development; strong leadership and project management skills.

- <u>Energy Analyst</u>: With experience in electricity demand estimation, modeling, and energy systems analysis.
- <u>Sectoral Economist or Development Specialist</u>: With expertise in economic impact assessment, regional development, development models, and sectoral productivity analysis.
- <u>Policy/Institutional Expert</u>: With knowledge of Indonesia's national and provincial development planning (RPJPN/RPJPD, RPJMN/RPJMD), energy regulation, and stakeholder engagement.

5. Previous Work

• At least two (2) examples of similar assignments successfully completed in the last five (5) years, preferably with links to published outputs or client testimonials.

V. Proposal Submission

V.1. Proposal Timeline

Proposal submissions will be accepted until **June 27**, **2025**, **at 22:00 WIB** and should be addressed to <u>salkha@iesr.or.id</u> (Project Officer of CASE, IESR) with a cc to: <u>agus@iesr.or.id</u> (Program Manager of Clean, Affordable and Secure Energy (CASE) for Southeast Asia IESR) and <u>fadhil@iesr.or.id</u> (Project Officer of CASE, IESR). Please include "**RFP Study Productive Use of Electricity**" in the email subject line. All proposals must be submitted by an official organization or a designated representative of the organization.

For any additional inquiries, bidders may contact the emails listed above.

We will conduct **Aanwijzing on Tuesday**, **17 June 2025 at 13.30 WIB** to facilitate discussions regarding the proposal. Please send an email with the subject "Aanwijzing Study PUE - CASE ID" to the above emails to inform us if you want to join the meeting and we will send you the meeting invitation.

The **result will be published on Friday, 11 July 2025**. After the announcement, contract negotiations with the winning bidder will start in a timely manner to keep on track of the timeline.

Following the announcement, contract negotiations with the selected agency will begin promptly to ensure alignment with the project timeline.

If bidders plan to **outsource any tasks**, they must clearly state this in their proposal. The total cost mentioned should cover all roles and responsibilities, including any outsourced services. All outsourced organizations must be listed and explained within the proposal.

Proposals should provide a **detailed cost breakdown** for all related services. The **terms and conditions of the contract** will be finalized after the winning bidder is announced.

V.2. Cost and Services

All proposals **must include** proposed **costs with tax** (in Indonesian Rupiah/IDR) to complete the tasks described in the project scope. Costs should be stated as one-time or non-recurring costs (NRC).

Pricing should be grouped to show these items:

- **Study Design**, covering but not limited to study methodology and workplan development, stakeholder engagement strategy, etc.
- **Execution**, covering but not limited to PUE assessment, NRE assessment, etc.
- **Reporting**, covering but not limited to project reporting and documentation, case study, etc.
- Project Management

VI. About CASE for Southeast Asia

The programme "Clean, Affordable and Secure Energy for Southeast Asia " (CASE) aims to drive change in the power sector in Southeast Asia (SEA) towards increased ambitions about climate change. It focuses on the four main SEA countries Thailand, Indonesia, Philippines and Vietnam and includes both national and regional activities. It is funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK).

Anchored in Indonesia with the political partner "Ministry of National Development Planning" (Bappenas) at the Directorate of Electricity, Telecommunications and Informatics, and implemented by GIZ Indonesia and Institute for Essential Services Reform (IESR) with further support from international partners Agora Energiewende and New Climate Institute, CASE will propose evidence-based solutions to the challenges met by decision-makers in the design and implementation of the energy system of the future and build societal support around those solutions. However, CASE Indonesia also has close coordination with the other CASE countries in SEA (Thailand, Philippines, and Vietnam).

The outcome of the CASE programme is to shift substantially narrative of the direction of the energy sector in SEA towards an evidence-based energy transition (ET), aiming to increase political ambition to comply with the Paris Agreement through the following outputs:

- 1. Output I: Research and Evidence: The evidence base for an energy transition in SEA is improved.
- 2. Output II: Transparency and Mapping: Transparency and coordination of activities related to energy transition is strengthened to maximize synergies.
- 3. Output III: Dialogue (non-energy sector): The dialogue on energy transition within government (and public) bodies is improved.
- 4. Output IV: Technical Assistance (energy sector): Capacities of key energy sector stakeholders in energy transition are strengthened.
- 5. Output V: Promoting public discourse: A public discourse on energy transition is established.

