

## TERMS OF REFERENCE AND TECHNICAL SPECIFICATIONS

### I. General information

Assignment name	Benchmark study on policy, legal frameworks, and strategic plan on sustainable biomass project development aligned with the target of RUKN and RUPTL
Beneficiary	Directorate of Bioenergy, Ministry of Energy and Mineral Resources (MEMR)
Country	Indonesia
Total estimated level of effort	14 person-months

### II. Background, Context and Rationale of Activities

#### Context of Biomass Project Development in Indonesia

The development of on-grid biomass power project in Indonesia remains underutilized despite its potential to drive sustainable development and a just transition. The sector is crucial for electricity generation industry but faces investment risks, technical barriers, and regulatory gaps. To expand the capacity of biomass power plant requires a robust legal and economic framework to ensure sustainability, biodiversity protection, and increased electricity contributions.

MEMR released new National Electricity Development Plan 2025 (RUKN 2025) and projected PLTBio (bioenergy power plant) will contribute to 4.5 GW capacity. PLTBio consist of PLTBm (biomass), PLTBg (biogas), PLT BBN (liquid biofuel) and PLTSa (municipal solid waste). If RUKN 2025 projection include the captive power then the gap of PLTBio would only 1.4 GW need to be developed by 2060.

MEMR also released new RUPTL 2025-2034 and plan to develop biomass power plant with total capacity quota of 450.7 MW. The capacity quota consists of Sumatera with total quota of 47.2 MW, Kalimantan 63 MW, Sulawesi 200 MW, Maluku 100 MW, Nusa Tenggara 15.5 MW, and Papua 20 MW.

RUPTL allocated capacity quota for PLTBm in each grid of PLN base on demand and information on feedstock availability, but there is no detail information on the specific type of biomass feedstock, sources, quantity, price, etc. There is no specific biomass supply roadmap or strategy that could guide to reach the target of RUEN 2025 toward the NZE by 2060, or in short/mid-term to reach the new RUPTL target to develop PLTBm with total of 450.7 MW.

Since the release of Perpres 112/2022 and previous RUPTL 2021-2030, there is no new power purchase agreement (PPA) of PLTBm as the outcome of these regulations. There were several PPA signed but from the previous era of regulations. PLN in 2022 released two PLTBm procurements, but failed since there were no responses from the IPP on the selected area. The feedstock availability and PLTBm tariff were the main issues.

The current biomass utilization and market in Indonesia consists of as traditional firewood for rural household, existing captive cogeneration plants in agro-industries (pulp & paper, palm oil, sugarcane, wood processing), export products (palm oil shell, coconut shell, wood-pellet), PLN's co-firing program, on-grid biomass power plant, small-medium industries, and big-industries for decarbonization program.

Some of biomass have high economic value (palm oil shell, wood-pellet) and as export product that can reach beyond 100 USD/ton, especially during low-crop season or higher demand. Some of biomass still as a waste, do not have value, and remain as a cost for the owner (paddy straw, palm oil empty fruit bunches, etc). The result of several studies concludes that biomass from dedicated energy plantation compare to biomass residues tends to have higher cost of production, and depend on the scale of the energy plantation.

Perpres 112/2022 still treat biomass feedstock for PLTBm as a single tariff despite the fact of different kind of biomass as explained above. The current PLTBm tariff set as a fixed tariff for the entire project lifetime with staging price scheme, while the biomass market and price in the future can be increasing. There is no specific governance in the biomass product sector, and biomass prices base on supply and demand, and the market competition.

There are several IPPs of PLTBm operating in Indonesia with long term PPA. These PLTBm has range capacity of 15 MW gross (using direct combustion boiler-steam turbine generator), and small size of 1.5 MW gross (using gasification system with gas engine generator). Some of these IPPs do not have long term biomass fuel supply agreement, instead of relying short contracts or regular volume contract. There is remaining issues on the sustainability of project lifetime and verification the sources of biomass specially the woody-based. There is no specific institution yet that supervising and verifying the source of biomass (especially for woody-based) and making sure the long-term sustainability of the project and the environment.

### **Rationale of Activity**

Since there were a lack of significant progress during the last five years on the biomass project development based on the Perpres 112/2022 and RUPTL 2021-2030, there is a need to evaluate the implementation of the policy and regulation especially to accelerate the development of biomass project in Indonesia, including conduct benchmarking study of legal frameworks and policies.

The benchmark study aim to identify and learn from successful countries on the specific regulations, incentives, project scheme and tariff mechanism that could trigger small-medium biomass project development, especially biomass from agricultural residues. The lesson learned from other countries (Asia and Europe) on the condition of biomass market and project development will highlight the

potential regulations, incentives, set of tariff, biomass management and supervision that could be deployed in Indonesia, including the initiative to adapt the biomass sustainable criteria.

This output of activity would be use as inputs on policies and regulation for MEMR on the biomass project development and maintaining the sustainability of the project to reach and aligned with the target on RUKN 2025 and RUPTL 2025-2034.

AFD group supports bioelectricity projects that deliver strong local economic and social benefits, particularly in rural areas, while maximizing energy efficiency through cogeneration when feasible. Projects must prioritize biodiversity protection, climate resilience, and the sustainable use of biomass, ensuring minimal negative impacts on soil, water, and ecosystems. A territorial approach is emphasized, favoring local biomass supply chains (within ~100 km) and sustainable harvesting practices. The guidelines require robust carbon accounting, avoiding carbon debt and ensuring net GHG reductions. Pre-existing biomass uses (e.g. for food, forage) must be preserved, and supply chain traceability and sustainability especially for forest or imported biomass—must be ensured through certification and best practices.

### **Cooperation Context and Call for Consultant**

AFD and MEMR Directorate of Bioenergy signed the Term of Reference on Policies for Sustainable Bioenergy. The main objective of the TOR is to support MEMR and Indonesian stakeholders on the sustainable biomass development to preserve the biodiversity, environment, and maximize social benefits. The main activities on 2025 are provide inputs on policy and regulations to fill the gaps based on benchmark approach on legal frameworks for bioenergy and inventory of bioenergy policies.

To address these challenges, AFD's established the Indonesia Energy Transition Facility (IETF), a program that includes targeted support for bioenergy – particularly through bioenergy policy alignment, capacity building, and stakeholder engagement. This effort aims to enhance bioenergy's role in Indonesia's renewable energy goals while creating economic opportunities through biomass feedstock collection.

The IETF (€14.7M, EU-French funded) is a technical assistance program designed in partnership with Indonesian stakeholders to support the country's clean energy transition. It builds on the Just Energy Transition Partnership momentum to help advance fair and inclusive policies, while facilitating the preparation of renewable energy and transmission projects.

To carry out this study, the program calls for qualified Consultant with expertise in policy, legal frameworks, and strategic plan on biomass project development especially from agriculture residues and dedicated energy plantation. The Consultant will be responsible for conducting the benchmarking study as written on this Technical TOR, and the work would be in close coordination with EBTKE Bioenergy, and related stakeholders.

## **III. Objectives, Scope of Work, Methodology, and Expected Results**

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## 1) Objective

The study aims to benchmark the policy, legal frameworks, and strategic plan on sustainable biomass project development in Indonesia with the best practice in other countries, and providing strategies, recommendation, and specific guidance on sustainable biomass project development. The result of study would provide guidance that could trigger biomass project development, especially biomass residues from agricultural to preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection.

Lesson learned from other countries (Asia and Europe) on the condition of biomass market and project development will highlight the potential regulations, incentives (fiscal and non-fiscal), biomass project procurement, set of tariffs, lesson learned of successful biomass projects, biomass management and supervision, biomass carbon market, local social-economic benefits on the biomass collection, including the initiative to adapt the biomass sustainable criteria that could be adopted in Indonesia.

## 2) Specific Scope of Works

**Scope of biomass considered:** agricultural residues, agro-industrial residues, forestry biomass and wood-based industry. Excludes: all urban or industrial wastes such as RDF, MSW.

**Scope of energy target:** electricity from biomass for auto consumption or for export to the electricity grid, heat production for biomass for industrial purpose, biogas, co-firing biomass and coal, plant conversion from coal to biomass. Excludes: biofuels of any kind.

**Scope of regulations considered** (but not limited to): biomass growing, biomass collection, development of energy project, construction and operation of projects, employment, industrial facilitation, environmental emissions, biomass governance and utilization, fiscal and non-fiscal incentives, biomass tariff as a product and electricity, biomass project procurement, carbon market mechanism, export of biomass, etc.

- a. Baseline analysis on policy and regulations (in the field of energy, industry, environment, agriculture, forestry) concerning production of biomass-based electricity, transport and the impact of implementation on biomass project development in Indonesia. Activity includes baseline description on biomass development in Indonesia based on existing study, and scoping activities description of other Donors/Institutions/Agencies related to biomass project development in Indonesia based on existing analysis.
- b. Benchmark study to relevant countries successful in deploying biomass standalone plants on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.
- c. Prepare white paper or policy paper on strategies and recommendation, and develop specific guidance on sustainable biomass project development.
- d. Prepare final report on benchmarking study and output dissemination.

## 3) Methodologies

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The methodologies and specific activities would include conducting comprehensive desk study, series of meeting with related stakeholders (kick-off, data collection, deep interview with regulators, biomass industries, biomass suppliers, project developers/IPP, utility/PLN, technology providers, etc), focus group discussions, and dissemination of the results.

#### **4) Expected results**

The output of activity would propose specific recommendation as inputs on policies and regulation under the form of white paper or policy paper to fill the gaps on sustainable biomass project development in Indonesia.

### **IV. Scope of Works and Description of Assignment**

#### **1) Pricing Instructions for Candidates**

The contract consists of two elements:

##### **1. Fixed-Price Element**

This includes preparation of baseline studies, benchmarking analysis, reports, presentations, questionnaires, meetings organization as described in the paragraph “scope of works - fixed-price element” below. Candidates are invited to submit their best fixed-price offer for this part of the contract, to be detailed in the fixed-price element tab of the financial annex to the contract.

##### **2. Order-Based Element**

An order-based element is included for meetings, focus group discussions (FGDs), and dissemination event, as it is not yet confirmed whether these events can take place at MEMR premises. This provides flexibility to hold them at alternative venues, such as hotels.

It covers costs related to organizing kick-off meeting, FGDs, and dissemination event, including: room rental, catering, translation, audiovisual equipment, event materials printing, moderation, logistics coordination. The maximum amount for the order-based element is fixed at €20,000 (excl. VAT). No minimum order is guaranteed.

The number of participants and final choice of venue will be validated by the contracting authority before the meeting.

The cost of each event will be calculated using the unit prices provided by the candidates in the financial annex of the contract.

#### **2) Scope of Works – Fixed-price element**

The specific scope of works and description of the assignments for the Consultant includes the following critical tasks:

**Task 1. Baseline analysis on policy and regulations and the impact of implementation on biomass project development.**

The expected output of Task 1 is to understand and analyze the impact of the policy and regulations to the industries on biomass project development, based on fact-finding approach. After a short baseline description on biomass development in Indonesia based on existing study, the activities will list and map all key regulations related to biomass project development, including from other ministries (forestry, environment, finance, industry, trading, etc.), and highlight the key points on those regulations. Resume the status, the direct or indirect impact of implementation to the development of biomass but not limited to as follow: biomass growing, biomass collection, development of energy project, construction and operation of projects, employment, industrial facilitation, environmental emissions, biomass governance and utilization, fiscal and non-fiscal incentives, biomass tariff as a product and electricity, biomass project procurement, carbon market mechanism, export of biomass, etc.

The scope of work will include:

1. Prepare baseline description on biomass development in Indonesia based on existing study, and scoping activities description of other Donors/Institutions/Agencies related to biomass project development in Indonesia based on existing analysis.

The following documents and existing related analysis will be shared and can be used as a base for this work:

- Policy Paper on Pathways to Achieve Sustainable Biomass for Supporting the Decarbonization of Industrial Process Heat in Indonesia. Draft finalization, January 2025. Climate Solutions Partnership supported by WRI, WWF and HSBC.
  - Policy Brief on Sustainable Biomass Governance as a Solution to Reduce Greenhouse Gas Emissions in Thermal Energy Utilization in the Industrial Sector, April 2025. Climate Solutions Partnership supported by WRI, WWF and HSBC.
  - Sustainability Indicator for Biomass Feedstock in Indonesia. Draft finalization, March 2025. GIZ and International Climate Initiative.
  - Other existing report studies will be provided base on the coordination with EBTKE Bioenergy.
2. Carry out kick-off meeting with EBTKE Bioenergy and related stakeholders with the objectives and target as follow:
    - To present the objectives of the study, workplan and expected outputs of activities with EBTKE Bioenergy and related stakeholders.

- To get inputs from the workplan and expected outputs, engagement and contact person from each related stakeholders for the deep interview on the Task 2. The related stakeholder are but not limited to: Bappenas, Ministry of Finance, Ministry of Forestry, Ministry of Environment, Ministry of Industry, Ministry of Trading, PLN, biomass association, biomass industries (biomass owner/supplier, biomass IPP, other biomass project developers, etc.).
  - Prepare, organize and manage overall of kick-off meeting, including invitation with close coordination with EBTKE Bioenergy, agenda, kick-off materials (PPT presentation, minutes of meetings, list of attendees, photo documentation, etc), presentation and moderation, and prepare the event reports.
3. List and map all key regulations related to biomass project development in Indonesia and highlight the key points of each regulation. The policy and regulations under Ministry of Energy and including from other ministries, such as Bappenas, Finance, Forestry, Environment, Industry, Trading, etc (including by not limited to biomass growing and collection, biomass governance and utilization, development of project, construction and operation of projects, employment, industrial facilitation, fiscal and non-fiscal incentives, biomass tariff as a product and electricity, biomass project procurement, carbon market mechanism, export of biomass, environmental emissions, biomass residues burning bans, emission limits of flue gas, biomass transportation, etc.).
  4. Identify and describe any plan from MEMR or other ministries related to biomass project development, especially on biomass governance, utilization and supervision.
  5. Prepare the questionnaires and perform interviews with the regulators and related ministries and industries on biomass project development to identify the status, market responses especially from the biomass industries, impact of implementations, and fact-findings on the gaps analysis. To collect data and information, and to gather insight from relevant stakeholders will be on series of meeting with related stakeholders (deep interview with regulators, biomass industries, biomass suppliers, project developers/IPP, utility/PLN, technology providers, etc.). Consultant will manage the meetings to each stakeholders for the deep interview and inform EBTKE Bioenergy.
  6. Analyses the status of each regulation, the direct impact of the implementation to the industries, and collect fact-findings on the gaps analysis on the biomass project development.
  7. Prepare the progress report and PPT material on baseline analysis on policy and regulations and the impact of implementation to the industries on biomass project development.

**Task 2. Benchmark study to relevant countries on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.**

The expected output of Task 2 is to have lesson learned from successful other countries on the implementation of policy, legal frameworks, and strategic plan on biomass project development, and provide guidance that could trigger small-medium biomass project development in Indonesia, especially biomass from agricultural residues that preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection. The scope of work will include:

1. Identify and learn from the selected countries on the policy, legal frameworks, and strategic plan on biomass project development.
2. The selection of countries for the lesson learned base on the following criteria:
  - ✓ Countries that have successful implementation of biomass project development base on agricultural residues especially on the biomass collection scheme that preserve the biodiversity, environment, and maximize the local social-economic benefits. The preferred countries selection (at least two countries) in Southeast Asia or Greater Asia but not limited to that have similar condition with Indonesia (type of biomass from agricultural residues, and biomass from dedicated energy plantation). While selecting the countries, the Consultant shall highlight the development pathway of biomass and the impact of the most successful policies in this development.
  - ✓ Countries that have successful implementation of biomass project development that could be adopted in Indonesia on the aspects of biomass management and supervision, carbon market mechanism on biomass projects, local social-economic benefits on the biomass collection, and initiative to adapt the biomass sustainable criteria. The preferred countries selection can in Europe but not limited to (at least two countries) that have long-term record and mature market on the biomass market development. While selecting the countries, the Consultant shall highlight the development pathway of biomass and the impact of the most successful policies in this development.
  - ✓ The Asia and EU regulations and best practices that provide a common ground of sustainability of biomass and land use changes across Asia and Europe shall be described thoroughly.
3. **Gap analysis:** develop matrix comparison and analyses of benchmark study of the legislation packages for all related ministries. The scope of area of benchmark study include on the aspect of condition of biomass market, biomass project development plan/roadmap, project business scheme, specific biomass regulations, biomass project procurement, incentives (fiscal and non-fiscal), set of biomass tariff, fuel supply agreement, biomass management and supervision, biomass carbon market, local social-economic benefits on the biomass collection, including the initiative to adapt the biomass sustainable criteria that could be adopted in Indonesia.
4. Identify and profile the examples of successful long-term operation of on-grid biomass power plant projects as follow:
  - ✓ Based on agriculture residues (at least two projects in Southeast Asia or Asia, and two projects in Europe). The project profile include: name of project and location; installed capacity; type of biomass; quantity of biomass/year; PPA lifetime, tariff and structure; fuel supply agreement condition; biomass price reference; biomass collection scheme; biomass storage management; and social-economic benefit, set of any legislation that benefited the project.
  - ✓ Based on dedicated energy plantation (at least two projects in Southeast Asia or Asia, and two projects in Europe). The project profile include: name of project and location; installed



capacity; type of biomass; size of plantation, quantity of biomass/year; pre-treatment process and collection; PPA lifetime, tariff and structure; fuel supply agreement condition; biomass price reference; biomass storage management; and social-economic benefit.

5. Hold a FGD group with relevant ministries and stakeholders to discuss the findings, with the objectives and target as follow:
  - To present the result of Task 1 and Task 2, especially on the result of gaps analysis and to get inputs from EBTKE Bioenergy and related stakeholders.
  - Prepare, organize and manage overall focus group discussion event, including invitation with close coordination with EBTKE Bioenergy, agenda, FGD's materials (PPT presentation, minutes of meetings, list of attendees, photo documentation, etc), presentation and moderation, and prepare the event reports.
6. Prepare the progress report and PPT material on Benchmark study to relevant countries on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.

**Task 3. Prepare white paper or policy paper on strategies and recommendation, and develop specific guidance on sustainable biomass project development.**

The expected output of Task 3 is to prepare the white paper document or policy paper on strategies and recommendation on sustainable biomass project development, and provide specific guidance that could trigger small-medium biomass project development in Indonesia, especially biomass from agricultural residues and biomass from dedicated energy plantation that preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection. The outcome of white paper or policy paper and specific guidance on sustainable biomass project development will be use as main inputs for the policy and regulation on biomass business and utilization that currently are not yet regulated in Indonesia. The scope of work will include:

1. Based on the result of Task 1-2, prepare draft strategies on sustainable biomass project development in Indonesia aligned with the target of RKN 2025 and RUPTL 2025-2030. The material in form of report and PPT presentations.
2. Based on the result of Task 1-2, develop specific guidance that could trigger small-medium biomass project development in Indonesia, especially biomass from agricultural residues and biomass from dedicated energy plantation that preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection. The material in form of report and PPT presentations.
3. Held FGD (focus group discussion) that will present the draft strategies on biomass project development in Indonesia and collect inputs, comments or responses from EBTKE Bioenergy and related stakeholders. Prepare, organize and manage overall focus group discussion event, including invitation with close coordination with EBTKE Bioenergy, agenda, FGD's materials

(PPT presentation, minutes of meetings, list of attendees, photo documentation, etc), presentation and moderation, and prepare the event reports.

4. After collect inputs and response from FGD, prepare the white paper document or policy paper on strategies and recommendation on sustainable biomass project development. The outcome of this document will be using as main inputs for the policy and regulation on biomass business and utilization that currently are not yet regulated in Indonesia. The material in form of report and PPT presentations.

#### **Task 4. Prepare final report on benchmarking study and output dissemination.**

The expected output of Task 4 is to prepare the final result of benchmarking study and disseminate the result to public to raise the public awareness on developing sustainable biomass project. The scope of work will include:

1. Prepare the draft final report and PPT material on benchmarking study base on the results of Task 1 – 3.
2. Present, collect inputs and comments/responses from stakeholders, and finally to get approval from EBTKE Bioenergy.
3. Prepare the final report and PPT material of benchmarking study.
4. Disseminate to the public on the results of benchmarking study. The forum of dissemination will be arranged later on with close coordination with EBTKE Bioenergy team. It is expected to organize one external dissemination meeting. For the dissemination forum, the Consultant is also expected to prepare, organize and manage overall dissemination event, including invitation with close coordination with EBTKE Bioenergy, agenda, FGD's materials (PPT presentation, minutes of meetings, list of attendees, photo documentation, etc), presentation and moderation, and prepare the event reports.
5. Prepare the dissemination activity report.

As part of the expected deliverables for this study, the consultant shall comply with AFD's visibility and reporting guidelines. This includes:

- Using the official PowerPoint and Word templates featuring the logos of AFD, Expertise France, IETF and the European Union for all deliverables;
- Providing an executive summary of 2–5 pages, suitable for internal use and communication with the European Union at the end of the assignment;
- Preparing a 2-pager communication note using AFD's official format, to be submitted for joint validation by MEMR and AFD prior to publication or external dissemination.

### **3) Scope of Works – Order-based element**

If the kick-off, FGD, or dissemination forum is held in a hotel, the service provider shall be responsible for managing all meeting logistics, including booking the meeting room, arranging catering, providing technical services (audiovisual equipment, translation), and printing communication materials, if any.

The service provider shall provide unit prices for all services under the order-based element in the financial annex. Expertise France will issue purchase orders for these services as needed, based on the prices provided.

#### 4) Anticipated deliverables

The table below outlines the anticipated deliverables for the Consultant, for the fixed-price element. The consultant will be responsible for producing a set of deliverables aligned with the key tasks outlined in the Scope of Works and Assignment Description.

Please note:

- The timeline of target dates are indicative and may be adjusted depending on the consultant proposed methodology and workplan. The timeline starts after the signed or specifically mentioned on the designated contract.
- The timeline is subject to the validations and approvals by the main counterpart of EBTKE Bioenergy. Consultant should be aware of the potential for delay and the need for more time and requested of certain time flexibility without additional cost.

Deliverables – Fixed-price element	Timeline	Percent
Task 1: Progress report, kick-off meeting report, and PPT material on baseline analysis on policy and regulations and the impact of implementation to the industries on biomass project development.	T + 12 weeks	25%
Task 2: Progress report, FGD report, and PPT material on Benchmark study to relevant countries on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.	T + 16 weeks	20%
Task 3a: White paper document or policy brief on strategies and recommendation on sustainable biomass project development. The material in form of report and PPT presentations, including FGD report.	T + 24 weeks	35%
Task 3b: Specific guidance that could trigger small-medium biomass project development in Indonesia, especially biomass from agricultural residues and biomass from dedicated energy plantation that preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection. The material in form of report and PPT presentations.	T + 24 weeks	
Task 4a: Final report and PPT material of benchmarking study.	T + 28 weeks	20%
Task 4b: The forum of dissemination and activity report (including 2-pager and executive summary).	T + 32 weeks	

The deliverables for the order-based element will be defined in each purchase order.

## **5) Work Coordination**

Mrs. Richita FAVOR of the Sustainable Development Department will be the Technical Assistance Lead for Expertise France. E-mail: richita.favor@expertisefrance.fr

Mr. Bayuaji KENCANA, as the Bioenergy Strategy and Quality Supervisor (Supervisor) will act as the technical liaison between the appointed Consultants, Expertise France (EF), and EBTKE Bioenergy.

Supervisor will support Technical Assistance Lead on supervise and monitor the progress of work of consultant, and ensuring that all activities are effectively implemented, reviewed, and aligned with objective, output and specific scope of work as described on this Technical TOR.

A launch meeting shall be held 1-week maximum after the contract award has been notified.

The interaction between these parties (EF, Supervisor, Consultant, and EBTKE Bioenergy) will be structured through regular meetings, technical reviews, and reporting mechanisms to ensure efficient communication, progress tracking, and quality assurance.

The dedicated team of consultant will have responsibility to carry out the whole process and submitted deliverables as scheduled under Task 1 – 3, including manage daily communication and all coordination with EF, Supervisor, EBTKE Bioenergy, and related stakeholders.

The consultant will also be responsible to carry out series of meeting with related stakeholders (kick-off, data collection, deep interview with regulators, biomass industries, biomass suppliers, project developers/IPP, utility/PLN, technology providers, etc), focus group discussions, and dissemination of the results, including minutes of meetings, activity reports on FGD and dissemination forum.

## **V. Place, duration and terms of performance**

Duration of the activity on the contract: 8 (eight) months

Beginning of the contract: October 2025

Contract Type: public contract for services at fixed and total prices

Location: Jakarta.

## **VI. Required expertise and profile**

The Consulting firm will carry out the scope of work on the proposed Tasks and provide the specialists. The estimated level of efforts (person-months or can be number of days) on table below is as references and Consultant could propose a competitive bid.

Specialist/Expert	Person-months
Legal and Policy Specialist (International)	4
Sustainable Biomass Technical and Economical Project Specialist (National)	4
Policy and Legal Framework Specialist (National)	6
Total	14

The term of references and qualification for the consultant firm and individual specialists are as follow:

The assignment requires a consultant firm with proven experiences in developing policy, legal framework and strategic plan on sustainable biomass project development, evaluating the implementation of specific regulation, institutional analysis, and stakeholder engagement within the energy or public sector. The firm must demonstrate both technical proficiency and contextual understanding relevant to the international practices and Indonesian regulatory and institutional environment, specifically on sustainable biomass project development.

#### 1) Qualification of Consultant

- The consultant or the consortium of consultants must be a legally registered entity with a minimum of 5 years of operational experience in the field of bioenergy, policy and legal framework, sustainability consulting, and public sector advisory.
- Strong law and regulation background
- Demonstrated experience of work on energy, industrial or agricultural laws outside of Indonesia, this is a plus if in Eastern or South-East Asia or Europe.
- Demonstrated experience working with Indonesian government agencies, international development organizations or public institutions, global and local network on renewable energy industry especially on sustainable biomass project development is a plus.
- Strong project management capacity and operation financial capacity, and ability to deliver high-quality outputs within agreed timelines.
- Availability of a dedicated team of qualified specialists/experts with backgrounds in sustainable energy policy and legal frameworks (international and national/Indonesian context), renewable energy-biomass (international and national/Indonesian context).
- Available to provide dedicated team that excellent spoken and written English is required; working knowledge of Bahasa Indonesia is a strong advantage.

#### 2) Qualification of Legal and Policy Specialist (International)

##### Professional Experience

- At least 10 years of professional and international experience in legal and regulatory framework for energy, preferably with a focus on renewable energy, ideally on sustainable biomass project development within public or private organizations.
- Demonstrated experience in conducting legal and regulatory benchmarking, drafting or advising on energy sector laws, or supporting policy reforms related to renewable energy (ideally including bioenergy).
- Direct international experience in the bioenergy sector, specifically on biomass power plant project from agriculture residues and biomass from dedicated energy plantations is a strong asset. Experiences in European and Asian countries are a strong advantage.
- Experience on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development is a strong asset. Experiences in the context of European and Asian countries are a strong advantage.

#### **Education, Knowledge, and Skill**

- Advanced degree (Master's or Ph.D.) in Law, Energy Regulation, or a related field. A specialization in energy law, environmental law, renewable energy regulation, energy public policies would be a strong asset. A law-focused profile is expected.
- Knowledge of international biomass market, country specific biomass project development plan/roadmap, project business scheme, incentives (fiscal and non-fiscal), set of biomass tariff, and fuel supply agreement is an advantage.
- Specific knowledge on the country specific biomass management and supervision, biomass carbon market, biomass collection related to socio-economic benefits, and biomass sustainable criteria is a strong asset. Familiarity with biomass sustainable certifications, and appraisal of bioenergy and food security is a strong advantage.
- Specific knowledge on successful long-term operation of on-grid biomass power plant projects based on agriculture residues and based on dedicated energy plantation. Project familiarity in European and Asian countries is a strong advantage.
- Ability to produce clear, concise, and actionable reports for both technical and non-technical audiences.

### **3) Qualification of Sustainable Biomass Technical and Economical Project Specialist (National)**

#### **Professional Experience**

- At least 10 years of professional experience in renewable energy especially on sustainable biomass project development within public or private organizations.
- Minimum of 5 years of direct experience in Indonesia on the bioenergy sector, specifically on biomass power plant project from agriculture residues and biomass from dedicated energy plantations.
- Experience on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.

- Experience in stakeholder engagement, including deep interviews, workshops, dissemination forum, or consultations with government, private sector, and civil society actors.

**Education, Knowledge, and Skill**

- Advanced degree (Master's or Ph.D.) in Energy Policy, Engineering, Environmental Science, or a related field. Education in the field of energy or specifically in bioenergy would be a strong asset.
- Strong knowledge of Indonesian biomass market, policy and regulation on biomass project development plan, project business scheme, incentives (fiscal and non-fiscal), set of biomass tariff, and fuel supply agreement.
- Knowledge on the biomass management and supervision, biomass carbon market, biomass collection related to socio-economic benefits, and biomass sustainable criteria. Familiarity with biomass sustainable certifications, and appraisal of bioenergy and food security is a strong advantage.
- Specific knowledge on Indonesian on-grid biomass power plant projects based on biomass residues and based on dedicated energy plantation.
- Ability to produce clear, concise, and actionable reports for both technical and non-technical audiences.

**4) Qualification of Policy and Legal Framework Specialist (National)****Professional Experience**

- At least 5 years of professional experience and proven track record in conducting policy and regulation reviews, or strategic advisory work related to renewable energy project development, or public sector reform.
- Familiarity with Indonesian development priorities and institutional structures, particularly in the Indonesian renewable energy sector, or similar contexts in Asian is a strong advantage.
- Experience on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.
- Experience in stakeholder engagement, including deep interviews, workshops, dissemination forum, or consultations with government, private sector, and civil society actors.

**Education, Knowledge, and Skill**

- Advanced degree (Master's or Ph.D.) in Energy Policy, Legal, Business Administration, or a related field.
- Knowledge of Indonesian renewable energy market, project development plan, energy transition development plan, project business scheme, and incentives (fiscal and non-fiscal).
- Experience conducting benchmarking studies, policy gap analyses, or diagnostic work related to environmental and social governance in complex institutional settings.
- Ability to produce clear, concise, and actionable reports for both technical and non-technical audiences.

## VII. Monitoring-evaluation

The monitoring and evaluation (M&E) of this consultancy will be based on the timely delivery and quality of outputs, as well as their contribution to provide deliverables within EBTKE Bioenergy. The consultant's performance will be assessed through a combination of deliverable-based verification, progress tracking, and feedback from EBTKE Bioenergy.

The table below outlines the key deliverables, verification, validation of the work.

Deliverables	Verification	Validation
Workplan, methodology, and deliverables.	Presented on kick-off meeting with EBTKE Bioenergy	Acceptance from EF and EBTKE Bioenergy
Task 1: Progress report and PPT material on baseline analysis on policy and regulations and the impact of implementation to the industries on biomass project development	Progress report and PPT material submitted and obtained inputs and comments from EF and EBTKE Bioenergy.	Acceptance from EF and EBTKE Bioenergy
Task 2: Progress report and PPT material on Benchmark study to relevant countries on policy, legal frameworks, strategic plan, and project case studies on sustainable biomass project development.	Progress report and PPT material submitted and obtained inputs and comments from EF and EBTKE Bioenergy.	Acceptance from EF and EBTKE Bioenergy
Task 3a: White paper document or policy paper on strategies and recommendation on sustainable biomass project development. The material in form of report and PPT presentations.	Draft white paper document or policy paper submitted, presented and obtained inputs and comments from EF, EBTKE Bioenergy, and related stakeholders.	Acceptance from EF and EBTKE Bioenergy
Task 3b: Specific guidance that could trigger small-medium biomass project development in Indonesia, especially biomass from agricultural residues and biomass from dedicated energy plantation that preserve the biodiversity, environment, and maximize the local social-economic benefits especially on the biomass collection. The material in form of report and PPT presentations.	Draft Specific guidance submitted and obtained inputs and comments from EF and EBTKE Bioenergy.	Acceptance from EF and EBTKE Bioenergy



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Deliverables	Verification	Validation
Task 4a: Final report and PPT material of benchmarking study	Draft final report submitted, presented and obtained inputs and comments from EF and EBTKE Bioenergy.	Acceptance from EF and EBTKE Bioenergy
Task 4b: The forum of dissemination and activity reports.	The dissemination forum has been held and submitted activity reports.	Acceptance from EF and EBTKE Bioenergy