



DEWAN PERWAKILAN RAKYAT REPUBLIK INDONESIA

INDONESIA'S COUNTRY REPORT ENCOURAGING CLEAN ENERGY INITIATIVE

As part of the international community, Indonesia shares its concern on the environment and development issues. Indonesia has been party to several international agreements on climate change such as the UNFCCC (United Nations Framework on Convention on Climate Change), signed on June 5th, 1992, and the Kyoto Protocol, signed in 1997, making Indonesia bound to their regulations.

Indonesia is a country with vast natural resources and significant reserves in oil, gas and coal. It is also abundant in reserves of renewable energy sources. It is one of the largest producers of liquefied natural gas and the eighth largest producer of coal world-wide, making Indonesia an important partner for several countries in the region. There is also an enormous potential to develop and use clean energy sources such as hydropower, geothermal and biomass.

Despite this fact, Indonesia is facing an energy crisis. The average rate of energy consumption is around 7% in the last decade, while the rate of energy supply is limited. Like most of the countries in the world, Indonesia is heavily dependent on fossil fuel, particularly on oil. Oil consists of 50% of the primary energy mix, followed by coal at 32%, gas at 19%, geothermal at 1.3% and hydro at 2.9%. These calls for immediate action by the government to decrease the heavy dependency on oil, to switch to alternative energy resources, and to increase energy efficiency.

The country has immense resources of renewable or cleaner energy sources, which have so far only been exploited to a minimum due to lack of awareness on cleaner energy sources and proper regulatory framework. The renewable energy potential consists of large hydro around 75 GW, geothermal 27 GW, mini/micro hydro 500 MW, biomass 50 GW, solar energy 4.8 kWh/m³/day and wind energy around 3-6 m/second. However, renewable energy potential is developed far below its potential with installed capacity of 4200 MW by large hydro, 1,189 MW geothermal, 210 MW of mini/micro hydro, 450 MW biomass, 14 MW solar energy and 2 MW wind energy. Although energy consumption is relatively high, the utilization is inefficient, with the

energy elasticity at more than 1 (1,63 in year 2008). It is estimated that energy efficiency potential is around 10-30% in the downstream sectors, such as transportation, industry, commercial and household sector.

Moreover, the high growth of fossil energy consumption will lead to environmental problems, particularly in high CO₂ emissions that cause global warming. The Government of Indonesia is committed to reduce greenhouse gasses emissions up to 26% in 2020 through domestic efforts and 41% with international assistance. Clean energy utilization, namely renewable energy utilization and energy efficiency is one of the priority activities in reducing GHG emission in the energy sector.

The total installed capacity of national electricity is 30,941 MW, with 83% electricity supplied by the national electricity company (PT. PLN), and the rest by the independent power producers (IPP) at 14% and private power utility at 3%. Up to now, it is estimated that only 66% of Indonesia's inhabitants have access to electricity. Several areas are facing electricity crisis, with electricity demand higher than the supply. The energy mix in power generation is dominated by coal at 39%, gas at 28%, oil at 23%, hydro at 7% and geothermal at 3%. To overcome the electricity crisis, Gol has set up the fast track electrification program with 8,133 MW of PLN's and 2,252 MW of IPP's power plant under construction.

To reduce dependency on oil and secure the energy supply for domestic use, the Government of Indonesia has released Presidential regulation No. 5 Year 2006 on National Energy Policy that set the target for national energy mix in 2025 as follow:

- Oil, maximum 20%
- Coal, at least 33%
- Gas, at least 30%
- Geothermal, at least 5%
- Biofuel, at least 5%
- Liquefied coal 2%
- Other new renewable energy (biomass, nuclear, hydro power, solar, and wind) at least 5%.

This policy also aims to reduce energy elasticity to be less than 1 and national electrification ratio reaching 93% in 2025. To reach such goals, price subsidy on fossil energy, particularly oil will become a direct subsidy for the people.

To encourage the development of renewable energy and energy conservation, the Government of Indonesia has set several programs, such as:

A. Renewable Energy Development

1. Rural Electrification

To fulfill electricity demand in rural and isolated areas, Government of Indonesia developed small and medium scale power plant since 2005 by utilizing locally available renewable energy sources.

2. Interconnection for Renewable Energy Power Plant

The community that generated small and medium scale renewable energy power plant can sell the electricity to state-owned company (PLN).

3. Biogas Development

National program supported by grant from the Netherlands Government to develop sustainable financing mechanism for biogas for domestic uses (household scale).

4. Energy Self-Sufficient Village

Established in 2007 to improve energy security in rural areas through locally available renewable energy, namely biofuel and non-biofuel. This self sufficient energy is utilized for domestic and productive uses.

5. Integrated Micro hydro Development Program (IMIDAP)

Grant from Global Environment Facility (GEF) managed by UNDP for year 2007-2010. The program aims to build capacity in developing, utilizing and sustainably managing microhydro build by the central and regional government, as well as the community.

6. Micro Hydro Power Program (MHPP)

Cooperation program between Government of Germany managed by GTZ to prepare experts in microhydro from design to fabrication in workshops, and also to prepare institutions in managing microhydro.

7. Socialization and Technical Training

Socialization : To increase understanding and awareness of renewable energy.

Technical Training : To equip the participants about the policy and implementation of renewable energy so that the participants are aptly able to implement renewable energy.

B. Energy Efficiency and Conservation Program

1. Raising Awareness

- Conduct seminar/workshop and advertisement on energy efficiency in newspaper and electronic media.
- Conduct National Energy Efficiency Competition and participate in *ASEAN Energy Award for building and energy management*

2. Education and Training

- Capacity building on energy efficiency and conservation organized by the Center of Education and Training – Ministry of Energy and Mineral Resources
- Participate in energy conservation training abroad organized by JICA, ECCJ/ACE, etc

3. Partnership on Energy Conservation

- Provide energy audit services for industries and building using government budget
- In 2003 - 2009, there are 292 industries and buildings given energy audit services

4. Energy Manager

Indonesia has developed standard competency for energy manager and energy auditor in building and industry

5. Labeling for Energy Efficiency

- Promote labeling for energy efficiency as part of information for the consumer
- Currently, there are energy efficiency testing procedure for compact fluorescence light, refrigerator and television.

6. Energy Conservation Clearing House

Developing Energy Conservation Clearing House as the center of information for energy conservation activities.

7. Energy Efficient Building

- Develop energy efficient building design with Danish International Development Agency (DANIDA) for offices.
- This design will be used as a pilot project for new buildings.

8. Energy Conservation Standard

Revised the Indonesia's National Standard (SNI) for Building

There are some barriers to develop new renewable energy and energy efficiency, among others:

- High upfront investment cost for renewable energy and energy efficiency technology which leads to high energy price per unit compared to subsidized conventional energy (fossil energy)
- Less private interest on renewable energy and energy efficiency business due to limited renewable energy and energy efficiency market
- Less renewable energy and energy efficiency technology capability by local service and industries
- Less operational policies and regulations on renewable energy and energy efficiency, particularly to promote renewable energy and energy efficiency market
- Less human resource capacity on renewable energy and energy efficiency technology

To overcome those barriers, Gol has set up some policies and regulations on renewable energy and energy efficiency:

1. Law No. 30 year 2007 on Energy

Law No. 30 year 2007 on Energy is issued in 10 July 2007 with special attention on new renewable energy development and energy conservation. This Law stipulates the provision and utilization of new renewable energy should be increased by government and local government within their authorities. Provision and utilization of new renewable energy can get incentives from government/local government for a certain period until it reaches economical development stage.

This Law also stipulates that energy conservation is the responsibility of the people and should be conducted from upstream to downstream. Central and local government will provide incentive and disincentive for the energy efficiency and conservation implementation by the energy consumer and producer of energy efficient equipments.

International cooperation will be conducted to ensure national energy security, domestic energy supply and improving national economy.

2. Law No. 30 year 2009 on Electricity

This Law is the update of previous Law No. 18 year 1985 on Electricity, which took into consideration the current energy situation; transformation of social condition, such as local government autonomy; and other regulatory and directive on good governance.

The main purpose of electricity development in Indonesia is the security of electricity supply in sufficient amount, good quality and affordable price for the people welfare toward sustainable development.

In supporting renewable energy, this Law prioritizes the utilization of locally available renewable energy resources for electricity generation. Procurement process to buy electricity generated from renewable energy from private entities can be done through direct selection or without tendering process.

3. Law No. 27 year 2003 on Geothermal

This law regulates the management and development of geothermal energy sources for direct (heat) and/or indirect utilization (electricity).

4. Government Regulation No. 70 year 2009 on Energy Conservation

Regulates the responsibility and the role of the central government, local government, private sector and communities on energy efficiency, standardization and labeling, and implementation of energy efficiency i.e. implementing energy management for buildings and industries that consume energy intensively. This regulation also mandates the development of General Plan of Energy Conservation (RIKEN) as the guideline for the stakeholders to implement energy efficiency and conservation in Indonesia.

This Government Regulation obliges the large energy consumer, namely with the minimum consumption of 6000 TOE per year to implement energy management through (1) appointing energy manager; (2) develop energy conservation program within the company; (3) conduct regular energy audit; (4) implement the energy audit recommendation; and (5) report the result of energy management program to the authorities.

This Regulation also stipulates the obligation for producers or importer of energy appliances to implement energy efficiency labeling.

Some operational regulations (Ministerial Regulation) will be formulated under this Government Regulation, such as:

- Draft of Ministerial Regulation on Efficient Technology, which will regulate the utilization of efficient technology in upstream and downstream areas (supply, transmission, distribution and utilization)
- Draft of Ministerial Regulation on Procedure on Program and Report Development for Energy Conservation Implementation
- Draft of Ministerial Regulation on Phasing and Procedure of Labeling Implementation and Type of Appliances to be labeled
- Draft of Ministerial Regulation on Successful Criteria of Energy Conservation Implementation by Energy User and Appliances Producer
- Draft of Ministerial Regulation on Requirement and Criteria of Energy User that are eligible for Free Energy Audit by the Government (Partnership Mechanism)

5. Presidential Instruction No. 2 year 2008 on Energy and Water Efficiency

Instructs the head of central and regional governments to: (1) implement energy and water efficiency measures in their respective institutions, which includes electrical appliances and fuel efficiency in official transportation; and (2) establish task force in each institution to monitor energy and water efficiency implementation

6. The Presidential Regulation No. 4 Year of 2010 concerning Assignment for PLN Company to Accelerate the Establishment of Power Plant by Utilizing Renewable Energy, Coal, and Gas

This was established on January 8th 2010 and valid until December 2014. This regulation gives an opportunity to the utility (PLN) to build power plants which are using renewable energy, coal and natural gas as fuel through joint cooperation with private sector. The technology of the power plants shall be environmental friendly and partly produced within Indonesia. During engineering, procurement and construction of the power plant and its transmission line, the Government will guarantee the feasibility of the business according to the existing regulation. Facilities such as free import tax of the equipment and others will be given under the Minister of Finance jurisdiction.

7. Presidential Regulation No. 5 Year of 2010 on National Mid-Term Development Plan.

National Mid-Term Development Plan (RPJMN), issued on January 20th, 2010, is a national development plan document for medium (5 years) period of 2010-2014, which consists of national development strategies; general policy; ministries/institutions program and cross-sector issues; regional and cross-regional issues; and macro economy framework.

The RPJMN functions as guidelines for ministries/government institutions in developing their 5-year Strategic Planning, input for developing and revising the Regional Mid-Term Development Plan according to national targets on RPJMN; and guidelines for the Government to develop Yearly Government Work Plan.

In RPJMN of year 2010-2014, the energy sector is described under Area "Natural Resources and the Environment." One of its priorities includes "energy security and independency" with the objectives of:

- diversification of energy mix that will secure the sustainability and quantity of energy supply for the whole nation and people in Indonesia on different level of income
- increase the utilization of new renewable energy and actively participate and harness the global carbon market
- increase energy efficiency and conservation in household, industry and transport sector;
- increase production and utilization of clean and economical energy

This document further explains the technical and financial yearly phase to achieve such objectives

8. The Presidential Regulation No. 6 Year of 2010 concerning Coordination Team of Acceleration Program

This regulation issued on January 22nd, 2010 is aimed to support the Presidential Regulation Number 4 year of 2010 by establishing the Coordination Team that will continuously work until 2014. This regulation has mandated the team to carry out the preliminary stage of the acceleration program phase II.

9. Ministerial regulation No. 31 year 2009 on Purchasing Price by PT PLN (Persero) of Generated Electricity from Small and Medium Scale Renewable Energy Power Plant or Excess Power

The aim of this ministerial regulation is to enhance the electricity generated by small and medium scale of renewable energy power plant or excess power to be purchased by state owned company, regional owned company, cooperative and the society. It has mandated PT. PLN to buy the renewable generated electricity until optimum 10 MW. This regulation does not provide feed-in tariff for specific type of renewable energy, but offers different prices for renewable energy generated in different regions. If it is interconnected to low-voltage grid it shall be purchased with price of Rp. 656 x incentive factor and Rp. 1004 x incentive factor if interconnected to medium-voltage grid.

The incentive factor for each region is different. The incentive factor of Java and Bali is 1; Sumatera and Sulawesi is 1,2; Kalimantan, East Nusa Tenggara and West Nusa Tenggara is 1,3; and lastly Papua is 1,5. PT. PLN may buy the electricity generated from renewable energy power plant with higher price from the “floor price” provided by this regulation. This higher price is calculated from Estimated Own-Price by the PT. PLN and approved by the Minister of Energy and Mineral Resource.

10. The Ministerial Regulation Number 32 Year of 2009 concerning Ceiling Price of Generated Electricity from Geothermal Power Plant to be Purchased by PT. PLN (Persero)

This Ministerial Regulation issued on December 4th, 2009 is aimed to reach optimal implementation of geothermal development according to the RUPTL (the Electricity Business Planning of PT. PLN Persero). It is mentioned in the regulation that the optimum price (ceiling price) of electricity generated by geothermal power plant is 9.70 cent US\$. This price will be bought by PT. PLN whereas the power line of geothermal power plant is interconnected to high-voltage grid.

11. The Ministerial Regulation Number 2 Year of 2010 concerning Projects List of Acceleration of the Establishment of Power Plant by Utilizing Renewable

Energy, Coal, and Gas and Others Which Interconnected to the Transmission Line

This was established on January 27th 2010 and valid until December 2014. According to this Ministerial Regulation, the total number of renewable energy power plant projects will be built are 5181 MW (52% out of the total are coming from renewable energy--geothermal and hydro). PLN will build around 11 projects of geothermal power plants with total installed capacity around 880 MW and 2 projects of hydro power plants with total installed capacity around 1174 MW. However around 33 projects of geothermal power plants with total installed capacity around 3097 MW and 1 project of hydro power plants around 30 MW are open to be offered for private sector participation in cooperation with PLN.

12. Minister of Finance Regulation No. 21/PMK.011/2010 on Tax and Customs Facilities for the Utilization of Renewable Energy

The aims of this Ministerial Regulation are to support the deployment of renewable energy and to secure energy supply, to attract investor and increase the renewable energy business sector by giving the tax and customs facilities for the entrepreneurs who deal with renewable energy utilization business. These facilities namely:

- Income Tax facilities, such as: reduction from investment; acceleration of depreciation; lower tax tariff for dividend ; and compensation of losses
- Free of Income Tax for Import machineries and equipment, not including spare part
- Free of Value Added Tax
- Free of Import Duty
- Tax paid by government

The implementation of these facilities will comply with applicable preceding tax and fiscal regulations.

13. Minister of Finance Regulation No. 24/PMK.011/2010 on Valued Added Tax Paid by the Government for Import Goods utilized for Oil, Gas and Geothermal Exploration Upstream Activities

This regulation provides incentives for exploration of geothermal resources and through valued added tax paid by the Government, including is conditions and procedures.

(A) ENCOURAGING CLEAN ENERGY INITIATIVES

COUNTRY: INDONESIA

National Initiatives to encourage Clean Energy	Views on Possible Common Legislation
1. Incentive and disincentive for renewable energy development and energy efficiency	Tax and customs facilities for renewable energy and energy efficiency, such as free income tax for imported machineries and equipment, free import duty, etc
2. Sustainable funding mechanism for renewable energy and energy efficiency projects developed by private and public entities	<ul style="list-style-type: none">• Create international or regional revolving fund to give soft-loan that can be access by private entities• Develop a common standard for Energy Services Companies (ESCOs) working in national, regional or international level
3. Standard for renewable energy and energy efficiency	Develop national, regional and/or international standard for renewable energy and energy efficiency practices
4. Labeling for energy efficiency	Develop labeling for energy efficiency appliances and equipment
5. Competency of energy manager and auditor	Develop national and/or regional standard competency for energy manager and auditor