USAID
FROM THE AMERICAN PEOPLE

INDONESIAN CLEAN ENERGY DEVELOPMENT (ICED) PROJECT

CLEAN ENERGY POLICY IN INDONESIA

December 21, 2011

This publication was produced for review by the United States Agency for International Development. It was prepared by the Indonesia Clean Energy Development Project (Tetra Tech ES, prime contractor)

Indonesian Clean Energy Development (ICED) Project

Clean Energy Policy in Indonesia

Prepared for:
Office of Environment
USAID/Indonesia

Indonesia Clean Energy Development Project
Tifa Building, Suite 504
Jl. Kuningan Barat 26
Jakarta Selatan 12710
Republic of Indonesia

Contents

1 Introduction

The Indonesia Clean Energy Development (ICED) project under the USAID aims to support the Government of Indonesia (GOI) in achieving its goal in National Energy Management, which is to guarantee the security of energy supply while also supporting GOI's emission reduction goals for the energy and transport sectors. Specifically, ICED will assist the Ministry of Energy and Mineral Resources (MEMR) in attaining its dual goal of expanding the domestic energy supply and meeting a 90% electrification coverage level by 2025, while assisting the GOI attain its commitment to reduce GHG emissions by 41% by 2020 through GHG emission reductions in the energy and transport sectors.
Under the ICED project framework, five main tasks were defined, with the final objective of increasing access to energy services to stimulate economic growth, and reducing the growth of GHG emissions from the energy sector through improving clean energy development and fostering clean transport options.

The first task of this framework is to improve energy sector policy and coordination. This Task 1 report provides the result of the first year of ICED implementation of Task 1 which to initiate the work through reviewing existing key policies and legislations related to national energy strategy, development of clean energy, and energy conservation. This will be used to help set the policy agenda for Phase 2 of ICED (October 2011-September 2012).

In line with the ICED Year 1 Work Plan, this report contains the following outputs:

- Annotated list of all key applicable policies, laws and regulations on Clean Energy
- Annotated list of key stakeholders that include a summary of stakeholders roles and responsibilities
- Analysis of energy policy/regulatory gaps and identification of approaches to bride them
- Review of existing incentive and disincentive policies affecting implementation of Clean Energy projects.

2 Summary of Policies, Laws and Regulations Governing Clean Energy

This chapter provides an overview of key applicable policies, laws and regulations on clean energy. Table 1 covers the policies/regulation that encourage the development and use of renewable energy and energy efficiency; policies/regulation on electricity tariff; environmental impact assessment; clean energy activities related to forest and land; activities specific on geothermal energy; activities specific on biofuel development; clean energy activities related to regional autonomy authorities and provision of electricity at national and regional level; clean energy activities related to electricity purchase price, energy efficiency and energy audit; and business /commercial aspects of clean energy activities/projects such as PPP and incentives. This list also provides brief description on each policy/regulation.

A review of existing policies, laws and regulations governing renewable energy and energy efficiency is given in Chapter 4.

Table 1 Annotated List of Laws and National Regulations Affecting Clean Energy Development and Use

Policy/Regulation No.	Summary of Content
Policies Encouraging the Development and Use of Renewable Energy and Energy Efficiency	
Presidential Regulation No. 5/ 2006 on National Energy Policy	The goal of the National Energy Policy is to direct efforts to the creation of sufficiency of domestic energy supply. It includes targets for the minimum contribution of total energy production by 2020 as follows: biofuel (5%); geothermal (5%); other new energy and renewable energy - biomass, nuclear, hydropower, solar power, and wind power (5%); liquified coal becomes (2%). The price of energy is to be adjusted gradually until it reaches its economic price with the intent of creating an optimal effect on energy diversification. Special provisions are to be made for the low-income consumers. Central and regional governments are to increase the production and use of new renewable energy resources within their authorities. Production and use of renewable energy can benefit from incentives from central/regional government for a certain period until it reaches economical development (commercialization) stage. Energy conservation is the responsibility of the people and should be conducted from upstream (production) to downstream (use). Central and regional governments are encouraged to provide incentives for energy

Policy/Regulation No.	Summary of Content
	efficiency and conservation implementation by energy consumers as well as producers of energy efficient equipment.
Law No. 30/2007 on Energy	New energy resources and renewable energy resources shall be managed by the state and utilized for the greatest welfare and prosperity of the people. Improve accessibility to energy for the people who are less wealthy and/or who live in remote areas by: 1. providing assistance to increase the availability of energy for less wealthy people; 2. building energy infrastructures in under-developed regions in order to reduce disparities among regions. Energy prices shall be determined on the basis of a fair economic value. The Government and regional government shall provide subsidy funds for less wealthy community groups. Establishes the National Energy Council shall be established by President with the following duties: designing and formulating national energy policies; determining a master plan on national energy; determining responses to energy crisis and emergency conditions; and monitoring the implementation of cross-sectoral policies on energy. Central Government shall develop a draft master plan on national energy on the basis of the national energy policies. Regional government shall develop a master plan on regional energy by referring the national energy master plan, and implemented by regional regulation. Communities can participate in developing the national and regional energy master plan and developing energy for public interests. Central and/or the regional government are to give priority to underdeveloped regions, remote areas, and village regions by using local energy sources, particularly renewable energy sources. The regions that produce energy sources shall be prioritized to obtain the energy from local energy sources. Central and government are to enhance the provision of new energy and renewable energy according to their respective authority. Any business entity, permanent business establishment or individual that provides energy from new or renewable energy sources may obtain facilities and/or incentives from the Government and/or the regional government according to their respective authority for a certain period. A business entity that engages in energy business activities as intended is obliged to: a) empower the local community; b) preserve and protect the

Policy/Regulation No.	Summary of Content
	environment; c) facilitate research and development on energy; and d) facilitate training and education in the energy sector. Central and/or regional governments are to create incentives for consumers of energy and producers of energy-saving equipment who conserve energy and disincentives to consumers of energy sources who do not conserve energy. Central government's authority in the energy sector includes: a) making laws and regulations; b) determining national policies; c) setting and enforcing standards; and d) determining procedures. Provincial government's authority in the energy sector includes: a) making provincial regional regulations; b) providing guidance and supervision on the cross-regent/city enterprise; and c) determining cross-regent/city management policies. Regency/city government's authority in the energy sector includes: a) making regency/city-level regional regulations; b) providing guidance and supervision on the enterprise conducted in a regency/city; and c) determining management policies in a regency/city.
Presidential Instruction No. 2/2008 on Energy and Water Efficiency	This instruction replaces Presidential Instruction No. 10 /2005. The new instruction is directed to encourage not only the implementation of energy efficiency but also water efficiency. Presidential Instruction No. 2/2008 instructs all Government Institutions to promote and implement energy and water efficiency efforts. This regulation also initiates the establishment of the National Committee for energy and water efficiency. This Implementing Committee is responsible for developing policies related to energy and water efficiency and evaluating the implementation of those policies; formulating strategies and programs; monitoring; conducting cooperation with stakeholders to create public awareness; organizing assessment and formulating financial support for implementing energy and water.
Minister of Energy and Mineral Resources Regulation No. 15/2010, on Project List of Acceleration of the Establishment of Power Plant by Utilizing Renewable Energy, Coal, and Gas and Associated Transmission.	This regulation replaces Permen 2/2010. This regulation identifies 3,967 MW of new geothermal power projects, 1,204 MW of new hydro and 4,351 MW of new thermal capacity. These new projects are assigned to PLN and non-PLN developers. This regulation is also well known as the "Fast Track II"

Policy/Regulation No.	Summary of Content
Presidential Regulation No. 4/2010 on the assignment to PT PLN (State Electricity Company) to Conduct Acceleration of Power Plant Development using 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. 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
Minister of Finance Regulation No. 77/PMK.01/2011 Regarding Guidance on the Guarantee of Commercial Feasibility of PT PLN for Development of Power Plants and/or Electricity Transmission by Utilizing Renewable Energy, Gas or Coal	This regulations sets out the details under which the Government (through the Ministry of Finance) will provide Viability Guarantees on a case-by-case basis to PLN in respect of power projects identified under Perpres 4/2010. The Government would guarantee PLN's ability to fulfill its payment obligations in case of a shortfall. "Shortfall" is defined narrowly to mean that PLN does not have sufficient funds to pay its obligations to these IPPs provided it is caused by an act or decision of the Government. The guarantee is therefore limited only to PLN payment risk, and only if caused by the Government. Moreover, these guarantees are extended to PLN, not directly to the IPP developers or sponsors, and would only be applicable after the plant is operating. This is separate guarantee mechanism from the broader infrastructure guarantees that can be provided under Perpres 67/2005, Perpres 13/2010 and PMK 260/2010.
Policies Related to Electricity Tariff	
Presidential Regulation No. 8/2011 on Basic Electricity Tariff Provided by PT. PLN	This regulation provides the first increase in retail tariffs since 2004. Tariffs are adjusted differently for each tariff class. Some classes, such as the smallest household consumers, receive no increase, whereas others are increased substantially.
Minister of Energy and Mineral Resources Decree No. 09/2011 on Terms and Conditions on the Implementation of Basic Electricity Tariff Provided by PLN	This regulation implements Presidential Regulation No 8/2011 on the basic electricity tariff provided by PLN. This regulation defines specific tariff terminologies, determines the fee due to excess reactive power consumption, determines connection and subscription fees, defines the additional fees related to delay in power utility payment, and defines the quality level of power utility services.

Policy/Regulation No.	Summary of Content
Policies Related to Environmental Impact Assessment	
Law No. 23 /1997 on Environmental Management	The purpose of this Law is to create environmentally sustainable development through means of an environmental planning policy, and the rational exploitation, development, maintenance, restoration, supervision and control of the environment. Environmental protection and management shall be planned through the following phases: environmental inventorying to obtain data and information on natural resources; stipulation of eco-regions; and the formulation of environmental protection and management plans. The Government is responsible for: controlling natural resources; controlling environmental pollution and damage; making strategic environmental assessments; providing quality standards of the environment; regulating legal actions and legal relations between persons and/or other legal subjects; controlling activities which have social impact; developing a funding system for efforts to preserve environmental functions; etc. Every business and/or activity having substantial impact on the environment is subject to an environmental impact analysis in order to obtain a license to conduct such business or activity as discussed in detail in the Law.
Government Regulation No. 27/1999 on Environmental Impact Assessment	This regulation on the Analysis of Environmental Impacts provides that, when required, the EIA is part of the licensing procedure for the conduct of the concerned activity.
Minister of Environment Regulation No. 8/2006 on Environmental Impact Assessment Implementation	This implements the Government Regulation No 27/1999 on the Environmental Impact Assessment (EIA) and provides the guidelines on how to develop the complete EIA, including the standardized document format on the EIA baseline study and EIA documents
Minister of Environment Regulation No 11/2006. List of activities requiring Environmental Impact Assessment	This implements the Government Regulation no 27/1999 on the Environmental Impact Assessment by providing list of activities which require Environmental Impact Assessments and the documents that need to be provided for activities not requiring a complete EIA. Construction of power generation utilizing alternative energy (biomass, wind, solar, Ocean Thermal Energy Conversion, etc) of more than 10 MW requires a complete EIA (*Analisa mengenai Dampak Lingkungan Hidup, AMDAL*).
Regulation/Policy for CE activities related to forest and land	
Law No. 41/1999 on Forestry	This law states that forest administration will ensure that forests are

Policy/Regulation No.	Summary of Content
	sufficient in area and evenly distributed, optimizing the variety of forest functions which cover conservation, protection and production functions in order to gain balance and sustainable benefits of environment, social, culture and economy. This includes improving the carrying capacity of watershed; improving the capacity to develop community potentials and empowerment through participatory, equal and environmental-friendly ways so as to establish assurance against the external change; and securing equal and sustainable distribution of benefits. The law provides the Government authority to: regulate and organize all aspects related to forest, forest area and forest products; assign the status of certain area as a forest area or a non-forest area; and regulate and determine legal relations between man and forest, and regulate legal actions concerning forestry.
Law No. 19/2004 on Amendment to Law 41/1999 on Forestry	This Law amends Law no 41/1999 to ensure the licenses and permits granted to exploration or exploitation activities located in the forest and/conservation area defined in Law 41/1999 before the issuance of Law 41/1999 will continue to be valid and the Law 41/1999 does not impede the activity that has been conducted before the issuance of the Law.
Government Regulation No. 24/2010 on the Use of Forest Area	This Regulation stipulates that utilization of forest area for non-forestry activities is now allowed in (i) Production Forest Areas; and (ii) Protected Forest Areas with a Rent-Use Permit from the Ministry of Forestry. The approval of Rent-Use permit for an applicant will be preceded by granting of an Approval-in-Principal License with a maximum validity period of 2 years, which is extendable, subject to evaluation.
Regulation/Policy for CE activities specific on Geothermal energy	
Law No. 27 /2003 on Geothermal	This law: (i) provides for the award of new geothermal working areas on the basis of competitive tendering for areas defined by the central government, (ii) treats state-owned and private companies the same with respect to participation in geothermal business activities, and (iii) establishes the respective roles of the central and regional governments for the tendering of new geothermal working areas and issuing of geothermal licenses. It provides an integrated view of geothermal development, governing five stages: Preliminary Survey, Exploration, Feasibility Study, Exploitation, and Utilization. Any data obtained under a geothermal license is owned by the State.
Government Regulation No. 59 of 2007 on Geothermal Business	This regulation describes the implementation of Law 27/2003. Relevant points include: (i) geothermal working areas are to be tendered on the basis

Policy/Regulation No.	Summary of Content
Activities	of price of electricity offered by the bidders, and (ii) the tender process, which precludes the participation of PLN on the tender committee and does not follow the process required for PPP projects under Perpres 67/2005.
Ministerial Regulation of Minister of Energy and Mineral Resource No. 2/2011 on Assignment of PLN to Purchase Electricity from Geothermal Power Plants and the Price of Electricity PLN Pays for Geothermal Electricity Purchases	This Ministerial Regulation replaces Permen 32/2009, and refers only to projects listed under Permen 15/2010. This regulation stipulates that: (i) if a geothermal tender results in a price less than or equal to 9.7 US cents/kWh, PLN must purchase the electricity at that price, which is final and non-negotiable, (iii) if the price is greater than that, PLN may purchase the power on the basis of negotiations with the winning bidder and approval of the MEMR, (iv) PLN must prepare a standard geothermal power purchase agreement (PPA), (v) the winning bidder bears all risks related to exploration and preparation of a feasibility study, and (vi) in the event a geothermal license is terminated, the associated PPA is also terminated.
Minister of Finance Regulation No. 24/PMK.011/2010 on Value Added Tax Paid by the Government for Imported 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.
Regulation/Policy for CE activities specific on Biofuel development	
Presidential Decree No. 1/2006 on Biofuel Development	The Objective of this decree is to accelerate biofuel utilization for fossil (especially oil) substitution; provide instructions to 13 Ministers, Governors and Mayors to take necessary initiatives and actions for biofuel development from supply (feedstock) side until biofuels reach commercialization state.
Presidential Decree No.10/2006 on Establishment of National Team for Biofuel Development	This decree establishes of National Team for Green Energy Development for: Blueprint, Roadmap, Action Plan on Biofuels (Land Mapping & Use, Policy Issues, On Farm & Production, Infrastructure, Distribution & Pricing Funding. The team proposed several recommendations, including: - the abolishment of VAT of 10% on pure ester ethyl acid as raw material for biofuel and - the reduction of Motorized Vehicle Fuel Tax from 5 percent to 2.5 percent - tax incentives for opening a bio diesel plant in certain areas - a decree appointing PT PLN and PT Pertamina (both are the state-owned companies) as stand-by biofuel buyers - the establishment of reliable and accurate data base of land use - mandatory use for biofuel to constitute 1-3 percent of the nation's total fuel consumption. For industry 2.5%, transportation and power generation 1% for

Policy/Regulation No.	Summary of Content
	biodiesel and 3% for bio-ethanol
Ministerial Regulation of Minister of Energy and Mineral Resources No. 32/2008 on Biofuel Supply, Utilization and Trading	This regulation emphasizes the prioritization of supply and utilization of biofuel by national companies and Energy Self-Sufficient Village through mandatory actions, regulating the type, standard and quality of biofuel as fossil fuel substitute, regulating the biofuel business and trade activities, and provide mandate for minimum biofuel usage from 2008 to 2025 in various sectors namely transportation, industrial and commercial as well as power generation sector.
Regulation/Policy for CE activities related to regional autonomy authorities and provision of electricity at national and regional level	
Article 33 of the Constitution	The Article mandates that energy is a resource that is to be controlled by the State with a view to ensuring the prosperity of the community; in essence energy is to be managed in such a way as the security and the benefits derived from Indonesia's energy resources are done so for the greatest benefit of the community as a whole. The previous electricity law (Law No. 20/2002) which would have introduced competition and diluted the State's role in "controlling" energy was overturned on this Article.
Law No. 32/2004 on Regional Autonomy	This law defines the authority of central and regional government. The regional authority as arranged in the law are include the drafting and execution of regional policies in providing service, roles, initiatives, and community development which aimed to improve public welfare, while the central government deals with foreign policy, defense, courts, religious and monetary affairs. The central government is also assumed the authority to plan development, and control and implements general policies and all sectors.
Law No. 30/ 2009 on Electricity	Replaces Law No.15/1985 on Electricity. The main purpose of electricity development in Indonesia is the security of electricity supply in sufficient

Policy/Regulation No.	Summary of Content
	amount, good quality, and affordable price for the people welfare toward sustainable development. State-owned enterprises have the first priority for electrification of unserved areas, but if they do not take it up then other private or regional government companies can. If regional government companies or private entities do not pursue electrification of unserved areas, then the central government must assign a state-owned enterprise to serve the area. Regional authorities can prepare an electricity plan consistent with the national electricity plan. Electricity business activities are conducted on the basis of licenses issued by the central or regional government. The licensing authority also approves tariffs with the agreement of the relevant legislature. The central government licenses electricity providers that (i) have a business area that crosses provinces, (ii) is a state-owned enterprise, or (iii) which sells power to an entity licensed by the central government. Regional governments license all others. Priority is given to the utilization of locally available renewable energy resources for electricity generation. Procurement of electricity generated from renewable energy from private entities can be done through direct selection or without tendering process.
Regulation/Policy for CE activities related to electricity purchase price from IPPs	
Ministerial Regulation of Minister of Energy and Mineral Resources No. 31 /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 increase the electricity generated by small and medium scale of renewable energy power plant or excess power by establishing terms upon which it must be purchased by PLN. PLN must buy the electricity generated by renewable energy power plants up to 10 MW of plant capacity. The regulation appears to cover all renewable energy sources. If the power plant is connected to medium-voltage (20 kV) grid of the tariff is Rp. 656 x incentive factor, and Rp. 1004 x incentive factor if interconnected to low-voltage grid (< 20 kV). 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 Maluku and Papua is “1.5”. PLN may buy the electricity generated from a renewable energy power plant at a price higher than that stipulated by this regulation based on PLN’s own price estimate subject to approval by the Minister of Energy and Mineral Resource.

Policy/Regulation No.	Summary of Content
	PLN is also required to create a standard PPA for purchase of this power.
Regulation/Policy on Energy Efficiency and Energy Audit	
Government Regulation No. 70/2009 on Energy Conservation	This regulates the responsibility and the role of the central government, regional government, private sector and communities on energy efficiency, standardization and labeling, and implementation of energy efficiency. This 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 regulation obliges the large energy consumer with minimum energy consumption of 6000 TOE/year to implement energy management through (a) appointment of energy manager; (b) develop energy conservation program within the company; (c) conduct regular energy audit; (d) implement energy audit recommendation (e) report the result of the energy management program to the authorities. It stipulates the obligation for procedures or importer of energy appliances to implement energy efficiency labeling.
Regulation/Policy related to business/commercial aspects of CE activities/projects besides electricity price (PPP, incentives, etc)	
Presidential Regulation No 13/2010 which revised the Presidential Regulation No. 67/2005, Regarding Partnership of Government with Business Entity for the Provision of Infrastructure	These regulations govern public-private partnerships for specified infrastructure projects, including power projects. Projects may be developed on a solicited or unsolicited basis but in all cases the selection of a Business Entity shall be conducted through an open tender process. A “solicited” project is identified and prepared by the Government, whereas an “unsolicited” project is identified and proposed to the Government by a Business Entity. The Government Contracting Agency may be at the regional or national level. A PPP project may be based on either a government license or a Cooperation Agreement (CA). The Government may provide fiscal and/or non-fiscal support to improve the feasibility of the infrastructure project, including guarantees. Projects shall be structured to allocate risk to the party best able to manage the risk.
Minister of Finance Regulation No. 260/2010 on Guidelines for the Implementation of Infrastructure Guarantees in PPP Projects	This regulation replaces PMK 38/2006. It lays out the conditions and processes by which the Government can provide contingent support, i.e. guarantees, to infrastructure projects. It defines the role of the Indonesia Infrastructure Guarantee Fund (IIGF). Coverage includes government actions, inactions, policies or breach of contract, as well as any other risks that are

Policy/Regulation No.	Summary of Content
	support by a risk analysis and principle of risk allocation to the party best able to manage it.
Law No. 19 of 2003 on State-Owned Enterprises	This law lays out the structure, management and governance of state-owned enterprises. A key provision is that the Government can assign state-owned enterprises to carry out public services. Since the law also stipulates that state-owned limited liability companies are established to be profitable, the Government is obliged to subsidize state enterprises for the public service obligations (PSO) they are assigned to ensure their profitability.
Ministry of Finance Regulation No. 111 of 2007 on Procedure for the Budgeting, Calculation and Responsibility for the Electricity Subsidy.	This regulation describes how the public service obligation for PLN is subsidized. The Government funds the difference between PLN's revenue and its allowable cost of production. The allowable cost of production includes the cost of all generation it purchases. This mechanism ensures that PLN is not financially disadvantaged if it purchases renewable energy, even if that energy is more expensive than conventional alternatives. However, since PLN is obliged to operate on commercial principals, it must have a justification for purchasing the more expensive power. The Government can provide such a justification by instructing PLN to off take power produced from renewable energy.
Bank Indonesia Regulation No. 7/3/PBI/2005 on The Legal Lending Limit for Commercial Banks	This regulation follows Law No. 3 of 2004 on Bank Indonesia. It limits a bank's provision of funds to 20% of the bank's capital to any single "Borrower" (the "legal lending limit"), 25% to a Borrower group, and 30% if the Borrower is a state-owned enterprise. If the bank has step-in rights as would be expected in under project finance lending, PLN, as the off taker of power produced, is considered a "Borrower" even though the bank lends to the project developer (or several different developers for different projects). Lenders are exempt from the legal lending limit if the project receives a guarantee from the Government of a multilateral development agency.
Minister of Finance Regulation No. 21/PMK.011/2010 on Tax and Customs Facilities for the Utilization of Renewable Energy	This regulation provides Income Tax facilities for development of Renewable Energy, such as: - reduction until 30% of investment (5% each year for 6 year) - acceleration of depreciation; - lower tax tariff for dividend; - and compensation of losses (5 to 10 years) depend on some condition - For Machineries and equipment, not including spare parts: - Free of income tax for import (Pph clause 22) - Free of value Added Tax (sales tax) - Free of Import Duty as per Finance Minister Decree No. 176/011/2009 and No. 154/PMK.011/2008

3 Summary of Key Government Institutions Involved in Clean Energy Development

This chapter provides an overview of key Government of Indonesia institutions as they relate to clean energy development. Table 2 provides a brief description of their roles and responsibility and identifies potential areas of cooperation with ICED as given in Table 2.1.

Table 2 Annotated List of Key Government of Indonesia Institutions, Information, Roles and Responsibilites

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
Ministry of Energy and Mineral Resources		
Directorate General of New and Renewable Energy and Energy Conservation (DGNREEC) ***Jalan Jenderal Gatot Subroto, Kav 49, Jakarta 12950*** ***Tel: +62-21-525-4508, 5250575*** ***Fax: +62-21-525-0575*** ***email:info@ebtke.esdm.go.id*** **http:// www.ebtke.esdm.go.id** **Director general: Kardaya Warnika** ***Directorate : Bioenergy: Maritje Hutapea, Director*** ***Directorate: Energy Conservation: Maryam Ayuni, Director***	To show the commitment of Government of Indonesia in developing Renewable Energy and promoting energy conservation, DGNREEC was setup under MEMR in 2010. There are four (4) directorates under DGNREEC: (i) directorate of Geothermal; (ii) Directorate of Bioenergy; (iii) directorate of Energy Conservation; (iv) Directorate of new and various Renewable Energy. DGNREEC main tasks in the field of new, renewable energy and energy conservation are: (i) formulate and implement policy; (ii) preparing norms, standards, procedures, and criteria; (iii) provide technical guidance and evaluation; (iv) submit evaluation report and provide advice/recommendation to the Minister; (v) promote clean energy utilization through internal organization, capacity building, networking and public outreach	DGNREEC is the key ICED government partner and the potential cooperation is highlighted below: - Regular reporting, under USAID guidance, to DGNREEC on the progress and achievement of ICED - Organization of a series of consultative meetings with key stakeholders and seek their input in shaping CE programs. All consultations will be done under the auspices of the DGNREEC. - Assist DG NREEC in developing clean energy initiatives into implementation guidelines, through convening a series of stakeholder policy meetings to reach consensus on recommendations for comprehensive policy and regulatory frameworks - address coordination issues at the national level and between national, provincial

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
		and district governments. ICED will help draft guidelines that delineate jurisdictional authority, and recommend inter-agency coordination mechanisms to resolve bottlenecks and conflicting authorities.
Directorate General of Electricity (DGE) **Jl. H.R. Rasuna Said Blok X 2,** **Kav. 07- 08** **Kuningan Jakarta 12950** **Tel: (021) 5225180,** **Fax: (021) 5256044** **http://www.djlpe.esdm.go.id/** **Directorate: Electricity programme development: Emmy Perdanahari, Director** **Directorate: Commercial Development of Electricity: Satya Zulfanitra, Director** **Directorate: Technical and environment: Agus Tribusono, Director**	DGE main activities are focused in: Formulation and implementation electricity policy; Development of norms, standard, procedures and criteria in electricity sector Provision of technical support/advice and monitoring/evaluation in electricity sector	The relevant support to DGE which could be contributed by ICED: - Support to collaborate in designing appropriate public awareness campaigns on increased electricity tariff - This needs to be conducted together with other stakeholders e.g Support to facilitate dialogue between PLN, DGNREEC and Ministry of Finance
National Energy Council (Dewan Energy Nasional) **Sekretariat Jenderal Dewan Energi Nasional** **Jalan Jenderal Gatot Subroto** **Kav. 49 Jakarta Selatan** **Telp: +622152921621** **Fax : +622152920190** **Email :** **sekretariat_den@esdm.go.id**	National Energy Council was established Law 30/2007 Council members include the ministers of agriculture, finance, national planning, industry, transportation, environment and research and technology. To balance the government officials, the council also has eight members from the private sector, including academics, environmentalists, consumer advocates and industry and technology representatives.	Chaired by the president, the chief executive is minister of energy. ICED could support the Council by providing analysis and "white papers" on strategic issues concerning policies and subsidies.
Ministry of Finance		
Fiscal Policy Office ***Komp. Kementerian Keuangan*** ***Gd. R.M. Notohamiprodjo*** ***Jl. Dr Wahidin Raya No.1*** ***10710*** ***Jakarta Pusat*** ***Tel: +62-21-34833486***	Fiscal Policy Office of the Ministry of Finance is responsible to: conduct assessment and analysis on the National Fiscal Policy Develop the technical guidelines, national planning and program on fiscal policy.	ICED's possible assistance: - Facilitate discussion with PLN, DGNREEC and DGEEU with regards to the impact of tariff subsidies on clean energy

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
Head of National Budget (APBN) Policy: Mr. Askolani	Monitoring, evaluation and reporting on national fiscal implementation http://fiskal.depkeu.go.id	- Currently incentives for CE such as reduction of taxable inclome exist but this has not yet utilized optimally. ICED could prepare an evaluation on current impact of this incentives and how to improve the incentive mechanism
Working Group on Fiscal Policy for Climate Change under Fiscal Policy Office ***Tel/Fax: +62 21 384 0059 (direct)*** ***email: k3fpi@depkeu.go.id, bkfdepkeu@gmail.com***	This working group has - taken the initiative to conduct activities related to Climate Change , under Fiscal Policy Office, Ministry of Finance: Examining fiscal and financial policy instruments that can be used to support climate change action and investment, especially in key sectors, such as renewable energy. Evaluating overall tax and spending policies to determine clear criteria and principles for how and when to support key actions or industrial sectors that should be developed as part of a low carbon economy Working with international donors and Indonesian Universities on a number of studies that will advance the understanding of the effects of climate change on the economy and the costs and benefi ts of different approaches and responses. Coordinating with other agencies on plans and priorities for attracting and managing climate finance opportunities in an effi cient, transparent and accountable manner. Working with other Ministries in analyzing the policies, practices and improvements needed to ensure that appropriate incentives are in place for encouraging emissions reductions, especially in the forestry and energy sectors Considering strategic climate investment approaches and funds that can be tapped as part of Indonesia's overall development strategy	
Pusat Investasi Pemerintah (PIP, Center of Government Investment) ***Graha Mandiri*** ***Lantai 5 Jl. Imam Bonjol No. 61*** ***Jakarta 10310*** ***Tel:+62-21--39832091-94***	PIP is a sovereign wealth fund managed by Indonesia Ministry of Finance. PIP can invest in a variety of asset classes such as equity, debt, infrastructure, and direct investments. Some of the PIP's goals	ICED's possible assistance: - Technical assistance in development of selection criteria for financing CE

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
Fax:+62-21-39832095 ***Email:pip@pip-indonesia.com*** **http://www.pip-indonesia.com/**	are to increase macroeconomic stability, economic growth, and government investment. PIP is in principle favours specific sectors including clean energy.	projects: PIP is currently setting up Indonesia Green Investment Fund, and they need to set-up criteria and procedure to evaluate CE projects. Cooperate with PIP in organizing training/capacity building for regional government at regency level
BAPPENAS		
The Deputy for Infrastructure Affairs ***Kementerian Perencanaan Pembangunan Nasional (Bappenas)*** ***Jl. Taman Suropati No. 2,Jakarta Pusat 10310,Indonesia*** ***Telepon: +62-21-319 36207 ext 1104*** ***Fax:+62-21-2533710*** ***Deputi: Dr. Ir. Dedy Supriadi Priatna, MSc*** ***Email deputi:*** ***dpriatna@bappenas.go.id*** **http://www.bappenas.go.id**	The Deputy for Infrastructure Affairs of Bappenas (The National Planning Agency) has the responsibility to formulate policy on, coordinate and synchronize, implement, monitor, evaluate, and analyze the national planning regarding energy, electricity, telecommunication and Information technology	ICED may provide assistance in providing inputs during formulation of national policy and recommendation on CE development and subsidy, and the impacts to the National Action Plan on Greenhouse Gas Emission Reduction (RAN-GRK).
Deputy of Environment and Natural Resources ***Pembangunan Nasional (Bappenas)*** ***Jl. Taman Suropati No. 2,Jakarta Pusat 10310,Indonesia*** ***Tel: +62-21-319 36207 ext 2102*** ***Fax:+62-21-2533709*** ***Deputy: Dr. Ir. Rr. Endah Murniningtyas, M.Sc.*** ***Email: endah@bappenas.go.id*** ***http://www.bappenas.go.id***	The Environment and Natural Resources Deputy' tasks cover: food and agriculture, marine and fisheries; forestry, conservation of water resources, energy resources, minerals and mining, and environment: Prepare the formulation of national development planning policies (NDP) Review, conduct consultation with the program director of the ministry/DG/Head of regions regarding their proposed institutional work plan and budget. This consultation is also in coordination with DG Budgeting at the ministry of Finance Coordinate and synchronize, and consolidate the NDP Implement the NDP	

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
	Monitoring and evaluation, analyze and reporting on assessment of implementation of NDP Appoint government project partners In relation with ICED, to prioritize RE projects on the NDP	
The Ministry of State-Owned Enterprises ***Kementerian BUMN, Jl. Medan Merdeka Selatan No . 13 Jakarta 10110 Indonesia*** ***http://www.bumn.go.id***	The task of Ministry of State-Owned Enterprises (SOE) is to support the President in formulating policy for state-owned enterprises operation, and to act as the coordinator of SOEs. This ministry aims at enhancing the transparency and accountability of SOEs, increasing role of SOEs in National Economy Development and in contributing to National income	The Ministry of SOEs set the Key Indicator performance for SOEs including PLN. ICED may need to assess this KPI to see whether these KPIs may ecourage or may impede the development of CE. Raising awareness to CE is a potential area that could be explored by ICED.
BPPT (The Agency of The Assessment and Application of Technology)		
The Agency for Assessment and Applied Technology (Badan Penerapan dan Pengkajian Technology) *Jalan MH.Thamrin 8,* *Jakarta 10340* *Tel. (021) 316 8200* *Fax. (021) 390 4573* *http://www.bppt.go.id/*	The Agency for Assessment and Applied Technology (BPPT) is a government institution under The Ministry of Research and Technology. Its main task is to implement national programs on technology application and assessment. This agency monitor and support activities in government agencies and private sectors related to technology application and assessment, particularly on technology innovation, diffusion and technology transfer.	- BPPT has conducted pilot projects and research in RE technologies, including wind power plant, development of small scale geothermal power plant (< 10 MW), research on development of bio-ethanol and bio oil. In addition, BPPT has identified some RE projects on biomass and mini-hydro small scale power generation.
PT. PLN (State Electricity Company)		
PLN Head Office, Jakarta ***PT PLN (Persero)*** ***Jl. Trunojoyo Blok M-I No.135*** ***Kebayoran Baru, Jakarta 12160, Indonesia*** ***Tel. +62 21 7251234, 7250550, 7261122*** ***Fax. +62 21 7221330*** *www.pln.co.id*	The PLN is the state-owned company that has the only authority to purchase and distribute power in the national electricity network. PLN also develops the General Electricity Planning (Rencana Umum Pembangkit Tenaga Listrik) which delineates the electricity system (network and power plants) in all provinces. After the issuance of Law no.30/2009, PLN is no longer the sole authorized agency of electricity business (PKUK – authorized agency	The potential cooperation with the PLN head office is listed below: - Discussion with Central PLN in identifying appropriate personnel for collaboration in the region (Riau, Aceh and North Sumatra) and in coordinating activities which will be conducted with the PLN Wilayah

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
	of electricity business). Others can be other state-owned/province-owned company, private IPP, Cooperatives that hold IUPTL (Ijin Usaha Penyediaan Tenaga Listrik – Electricity Provision Business License). However, PLN is officially authorized as a state owned enterprise to provide electricity to meet the public needs. http://www.pln.co.id	- Facilitation of dialogue with MEMR (DGNREEC and DGE) and Ministry of Finance with regards to subsidy issues and development of policy related to power generation and distribution through National electricity network - Assistance in in designing and organizing various campaigns for different electricity customer classes - Assistance related to Power Purchas Agreement process: technical Assistance to PLN on Power Purchasing Policies, PPA standardization, streamlining PPA process, - capacity building for multi supplier renewable energy distribution network
Under Planning and technology: New and Renewable Energy Division ***Director Planning and Technlogy: Mr. Nasri Sebayang*** ***Head of New and Renewable Energy Division: Moch Sofyan*** **http://www.pln.co.id**	The directorate planning and technology of PT PLN develop power generation installation planning including determining power plants to operate and evaluating power plant technologies to be implemented. The New and Renewable Energy dvision Implement renewable energy projects financed by multilateral agencies and support the MEMR's development of energy policy	
PLN Wilayah Sumatra Utara **http://www.pln.co.id/sumut/**	PLN Wilayah is responsible for electricity sales and distribution in its region. They are also involved in the development of new power plant in each region.	- Cooperation with PLN Wilayah in organization of capacity building, workshop and training for local government and local project developer regarding Clean Energy potential in the targeted areas (Aceh, North Sumatera, Riau) - Cooperation for data gathering and collection for network map and contacts with the PLN Dispatch Center in Sumatera
PLN Wilayah Aceh **http://www.pln.co.id/aceh/**		
PLN Wilayah Riau dan Kepulauan Riau *Jl. Setiabudhi 57 Pekan Baru* *Riau 28144* *Tel: (0761) 85373, 855309, 855840* **http://riau.pln.co.id/Default2.aspx**		
Government Provincial Office		
Office of energy and mining	Referring to Decentralisation Law No	Potential cooperation:

Institution Name/Contact	Description	Potential Areas of Cooperation with ICED
Environmental agency *Office of Agriculture and Office of Plantation*	32 of 2004 and its implementation regulations (peraturan pemerintah, PP), the provincial level task is mainly coordinating, facilitating and providing guidance (capacity building for regencies and cities) to the development at the regencies/cities level while the real implementation is executed at district/cities level. Activities at provincial level is delineated in the RKPD (*rencana Kerja pemerintah daerah/regional government activity plan*)	- ICED could organize training for regional government at the regional office to raise the awareness of Clean Energy - Support the provincial government in updating the information on existing CE potential in the region and the the existing CE production and utilisation (CE projects) - Improve capacity in energy planning, power system planning, and CE project assessment for permitting and approvals
Bappeda of provincial office	The task of the Bappeda (regional development planning board) at the provincial level are as follows: Coordinate and facilitate the program and project implementation at regencies/cities level (e.g., development the plan for capacity building and training to regencies/cities) Conduct monitoring, evaluation and reporting of the development taking place in the province Gather and centralise data on development progress in all regencies under the province	
Government Regional Office, Regency Level		
Office of energy and mining, industry and trade (regency level) *Office of Forestry and Environment (regency level)* *Office of agriculture, animal husbandry, fisheries, and plantation*	The task of offices and agencies at regency level is to implement program and planning in respective sector/discipline. The program and planning is incorporated in the RKPD at regency level.	Potential cooperation: - ICED could organize training for regional government at the regional office to raise the awareness of Clean Energy - Support the provincial government in updating the information on existing CE potential in the region and the existing CE production and utilisation (CE projects)

4 Analysis of Clean Energy Policy Environment in Indonesia

Clean energy development is a comprehensive effort that requires a robust policy framework for effective deployment. This section describes the approach taken to evaluating the Government of Indonesia's (GOI) policies for renewable energy and energy efficiency, and the incentives and disincentives they present.

4.1 Approach and Methodology

4.1.1 Renewable Energy Policy Evaluation

The success of a policy instrument can be measured by its contribution to overall renewable energy development. A special report of the Intergovernmental Panel on Climate Change (IPCC) lists four criteria that can be used to measure this contribution:[1]

- ***Effectiveness****:* The extent to which intended objectives are met, for instance, the actual increase in the amount of renewable energy-based electricity generated or share of renewable energy in total energy supply within a specified time period.

- ***Efficiency:*** The ratio of outcomes to inputs, or renewable energy targets realized on economic resources spent, mostly measured at one point in time (static efficiency); also called cost-effectiveness.

- ***Equity:*** The incidence and distributional consequences of a policy, including dimensions such as fairness, justice and respect for the rights of indigenous peoples.

- ***Institutional feasibility:*** The extent to which a policy instrument is likely to be viewed as legitimate, gain acceptance, and be adopted and implemented.

While a full assessment of these four dimensions would require efforts beyond the scope of this assignment, they were taken into consideration during the review of various renewable energy policies' comprehensiveness. This study develops a checklist of policy tools that have already been adopted by Indonesia's power sector. Possible policy instruments and their definitions as described in the IPCC's special report are listed in Annex A of this report.

[1] Intergovernmental Panel on Climate Change, *Special Report on Renewable Energy Sources and Climate Change Mitigation*, Chapter 11, "Policy, Financing and Implementation," 2011.

Furthermore, the study compares Indonesia and other relevant countries in terms of renewable energy policies adopted. A qualitative assessment was then conducted, examining the key issues relating to the policy framework's implementation process. The assessment began by examining whether the necessary elements were in place for a policy's successful implementation. Then, barriers to effective implementation were diagnosed, including such essential issues as the availability of financing, technical availability, human resources, and institutional capacity.[2]

4.1.2 Energy Efficiency

While it is possible to observe energy efficiency improvements at the micro level, identifying the contribution of a single policy to overall energy efficiency is far more difficult. From a methodological point of view, it is difficult to separate out the various causes behind observed energy efficiency improvements: more energy efficient socio-economic structures, price setting, results of sectoral policy measures, etc.[3] This also shows that energy efficiency is affected by many factors, and thus requires a comprehensive policy framework to generate effective results.

A literature review has shown that there is no single authoritative methodology for evaluating energy efficiency policies. Nevertheless, the IPCC special report's criteria for evaluating renewable energy policies are also relevant for evaluating energy efficiency policies. Thus, this study took a similar approach to the one used for renewable energy: energy efficiency policies were studied qualitatively by scanning existing and missing elements of Indonesia's current energy efficiency policy framework. Suggestions for addressing policy gaps are also presented, pointing out how the above mentioned indicators, together with other estimates, can be used to evaluate the contribution of improved policy instruments.

4.1.3 Incentives and Disincentives

In contrast to regulations, which are command-and-control instruments, incentives leave the decision about a certain behavior to the individual actor, while at the same time trying to steer actions into an intended direction. Incentives and disincentives can influence a decision by altering the level of its attractiveness. While incentive and disincentive policies that are set to foster clean energy development usually take a financial or fiscal approach, other alternatives remain available. Non-financial measures such as providing a comprehensive information system, qualified service providers, and establishing consolidated reporting procedures can also be regarded as incentive measures, since they increase the chances that clean energy development will be enacted.

On the other hand, policies that create barriers to clean energy development, intentionally or not, can be regarded as disincentives. As an example, tender policies that would only allow large players to

[2] This analysis follows the steps described in World Resources Institute, *Approach for Implementation Process Assessment & Plan for Pilot Testing*, draft, 2011.

[3] World Energy Council, *Energy Efficiency Policies around the World: Review and Evaluation.* London, 2008.

develop clean energy projects or levy import tax policies on high-end products can potentially be invisible disincentives to the development of the sector.

Due to the scope of this assignment, the incentive and disincentive policies discussed here are limited to existing policies that are directly related to renewable energy and energy efficiency. However, indirect incentive and disincentive policies remain and will require further assessment in order to more effectively foster clean energy development. This study reviews existing explicit incentive and disincentive policies within the GOI's current policy framework. They are also compared with policies from selected ASEAN and other countries, and the main differences are described.

4.2 Gap Analysis

4.2.1 Overview of Policy Framework

Renewable Energy. Indonesia's current renewable energy laws and regulations appear to lack systemized planning in their formulation. Table 3 lists the main policies related to renewable energy development and their main characteristics. Current policies already have sufficient coverage of the various aspects of renewable energy development. However, there is concern that these policies are not necessarily aligned with one another and thus may not address all underlying issues. For example, questions may arise on how the geothermal power plant development projects in Presidential Regulation 4/2010 are positioned to meet the long-term renewable energy target in Presidential Regulation 5/2006, which aims for geothermal resources to account for 5% of national energy production, or how the existing policy framework ensures this target will be achieved.

Table 3, Indonesia's Renewable Energy Policies and their Main Characteristics

Policy	Main Characteristics
General renewable energy policies	
Law No. 30/2007, 10 July 2007 on Energy	Directive
Presidential Regulation No. 5/ 2006 on National Energy Policy	Directive
Law No. 30/2009 on Electricity, replacing Law No. 15 /1985, 23 September 2009	Directive
Law No. 32/2004 on Regional Autonomy	Institutional
Presidential Regulation No. 13/2010 which revised Presidential Regulation No. 67/2005, Regarding Partnership of Government with Business Entities in the Provision of Infrastructure	Government support
Presidential Regulation No. 4 /2010 on the Assignment to PT PLN (State Electricity Company) to Conduct Acceleration of Power Plant Development using Renewable Energy, Coal and Gas	Generation capacity expansion plan (including geothermal and hydropower)
Minister of Energy and Mineral Resources Regulation No. 2/2010, on Project List of Acceleration of the Establishment of Power Plants by Utilizing Renewable Energy, Coal, and Gas and Others that are Interconnected to the Transmission Line	Generation capacity expansion plan (including geothermal and hydropower)
Minister of Finance Regulation No. 21/PMK.011/2010 on Tax and Customs Facilities for the Utilization of Renewable Energy	Tax discount

Table 3, Indonesia's Renewable Energy Policies and their Main Characteristics

Policy	Main Characteristics
Minister of Finance Regulation No. 77/PMK.01/2011 Regarding Guidance on the Guarantee of Commercial Feasibility of PT PLN for Development of Power Plants and/or Electricity Transmission by Utilizing Renewable Energy, Gas or Coal	Guarantee
Minister of Energy and Mineral Resources Regulation No. 31 /2009 on Purchasing Price by PT. PLN (Persero) of Generated Electricity from Small and Medium Scale Renewable Energy Power Plant or Excess Power	Feed-in tariff
Policies related to geothermal	
Law No. 27 /2003 on Geothermal	Directive
Minister of Energy and Mineral Resources Regulation No. 2/2011 on Assignment to PLN to Purchase Electricity from Geothermal Power Plants	Access to grid
Minister of Finance Regulation No. 24/PMK.011/2010 on Value Added Tax Paid by the Government for Imported Goods Utilized for Oil, Gas and Geothermal Exploration Upstream Activities	Fiscal incentives
Policies related to biofuel	
Presidential Decree No. 1/2006 on Biofuel Development	Directive
Presidential Decree No. 10/2006 on Establishment of National Team for Biofuel Development	Institutional
Minister of Energy and Mineral Resources Regulation No. 32/2008 on Biofuel Supply, Utilization and Trading	Market access

Financial barriers to the development of renewable energy have garnered considerable attention and are addressed in the GOI's current regulatory framework through fiscal policies. However, technology and technical capacity are also essential elements but are neglected in the current framework. One of the most effective long-term efforts in increasing the cost-effectiveness of renewable energy is the localization of renewable technologies. Nevertheless, policies encouraging technology transfer or the development of domestic capacity in localizing renewable energy technology (e.g., technology support, technical information centers, R&D programs, research grants, incentives, service-related industries) have not yet been developed.

Energy Efficiency. Compared to its renewable energy policy framework, Indonesia's energy efficiency laws and regulations are less mature and comprehensive. However, the national energy conservation agenda became more concrete after Government Regulation No. 70/2009 was released. This regulation is the main reference for energy conservation efforts across the nation and was released to address the requirements under Law No. 30/2007. Table 4 lists the existing energy efficiency policies.

Table 4. Indonesia's Energy Efficiency Policies and their Main Characteristics

Policy	Main Characteristics
General energy efficiency policies	
Law No. 30/2007, 10 July 2007 on Energy	Directive
Presidential Regulation No. 5/2006 on National Energy Policy	Directive

Table 4. Indonesia's Energy Efficiency Policies and their Main Characteristics

Policy	Main Characteristics
Government Regulation No. 70/2009 on Energy Conservation	Directive
Law No. 30/2009 on Electricity, replacing Law No. 15 /1985, 23 September 2009	Directive
Law No. 32/2004 on Regional Autonomy	Institutional
Presidential Instruction No. 13/2011 on Energy and Water Efficiency	Energy efficiency target for government institutions
Presidential Regulation No. 8/2011 on Basic Electricity Tariff provided by PT PLN	Pricing
Minister of Energy and Mineral Resources Regulation No. 09/2011, on Terms and Conditions for the Implementation of Basic Electricity Tariff Provided by PLN	Pricing
Minister of Energy and Mineral Resources Regulation No. 14/2010 on the Enforcement of Eligibility Standard for Building Energy Managers	Standard
Policies related to transport	
Minister of Energy and Mineral Resources Regulation No. 19/2010 on the Utilization of Natural Gas for Transport Gas Fuels	Fuel switching
Minister of Energy and Mineral Resources Decree No. 2932 K/12/MEM/2010 on CNG Prices for the Transport Sector in Jakarta	Fuel switching
DKI Jakarta Local Regulation No. 2/2005 on Air Pollution Control	Emission standard
DKI Jakarta Governor Decree No. 141/2007 on the Use of Natural Gas Fuel for Official Government Vehicles and Public Transport	Fuel switching

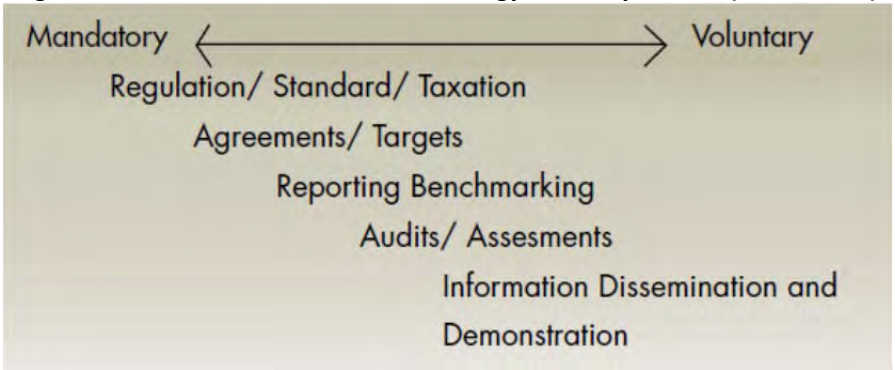
Government Regulation No. 70/2009 is a comprehensive national scheme on energy conservation. It provides a regulatory basis that broadly covers institutional arrangements for energy efficiency, energy audit requirements for major energy consumers, a standard and labeling scheme, incentive and disincentive mechanisms, and supervising procedures. However, nearly two years after the release of this regulation, the supplementary policies meant to address its implementation details have not been fully released. In addition, the policy instruments required to remove technical and financial barriers are still not available, while at the same time local capacity for providing energy-efficient technologies and services is still lacking. Moreover, prerequisites such as effective energy statistics and reporting mechanisms, and industry and building energy efficiency standards have not yet been addressed in the current policy framework. Electricity subsidies, which keep electricity tariffs artificially low, also impede adoption of energy efficiency measures.

Based on the experiences in many other countries, any successful energy efficiency policy approach must integrate a variety of programs (including regulation) to manage the diversity of industrial energy uses and stakeholders. While compulsory or mandatory programs have been enacted in Indonesia, a wide variety of voluntary approaches remains to be put forward.[4]

[4] United Nations Environment Programme, *UNEP Handbook for Drafting Laws on Energy Efficiency and Renewable Energy Resources.* Nairobi: UNEP, 2007.

Figure 1 illustrates various types of policies and their degree of compulsion.

Figure 1. Characterization of Industrial Energy Efficiency Policies (UNDP, 2007)



The mechanisms in force in Indonesia mainly satisfy the mandatory part of the policy framework, although it is not fully equipped with other supporting policies (energy efficiency standards and regulations). Moreover, other mandatory and voluntary elements are still not in place. Targets have not been broken down to the regional or industry level. Effective reporting and benchmarking mechanisms, which are a fundamental prerequisite in promoting energy efficiency, are still not in place.

Nevertheless, there has been progress in energy efficiency policy development. Presidential Instruction No. 13/2011 on Energy and Water Efficiency, which was released several months ago, is an update of a similar document released in 2008 (Presidential Instruction No. 2/2008). The major difference between the two policies is that the newer version contains concrete targets for energy and water savings. This represents significant progress, since the new instruction greatly increases the effectiveness of the policy.

4.2.2 Targets

Renewable energy. Table 5 shows the GOI's targets for the demand contribution of new and renewable energy. The way the targets are set shows that the main impetus behind the targets was to minimize oil in the total energy mix. It can also be seen that despite its current contribution and potential, biomass is heavily restricted, or has received little attention.

Furthermore, these targets are not broken down for the purposes of near-medium term planning or regional planning. The Government of Indonesia has recently released an action plan to realize the country's GHG emission reduction commitment. The action plan, *Rencana Aksi Nasional Penurunan Gas Rumah Kaca* (RAN GRK), released as Presidential Regulation No. 61/2011, serves as a list of actions that need to be tackled by various ministries, including developing renewable energy and energy conservation by the Ministry of Energy and Mineral Resources. While there is as yet no documentation to correlate RAN GRK and the current renewable energy and energy efficiency frameworks, the integration of ministrial policies and regulations into a national agenda like the RAN GRK is crucial, and thus requires further attention.

Table 5. National Energy Production, 2005-2009 and 2025 Targets (%)

Type of Energy	2005	2006	2007	2008	2009	2025 (Target)
Crude oil and fuel export/import	42.32	39.25	38.51	37.35	40.27	<20
Coal	14.89	17.51	20.97	16.69	18.80	<33
Natural gas and export/import (LPG & LNG)	16.39	16.72	14.92	15.71	17.95	<30
Geothermal	0.94	0.95	0.93	1.09	1.22	<5
Hydropower	2.32	2.06	2.31	2.36	2.33	<5*
Biomass	23.15	23.51	22.36	26.39	19.44	
Biofuel	n.a.	n.a.	n.a.	n.a.	n.a.	<5
Coal liquifaction	n.a.	n.a.	n.a.	n.a.	n.a.	>2

* Target for new and renewable energy, including biomass, nuclear, small hydro, solar, and wind power.
Sources: 2005-2009: Ministry of Energy and Renewable Resources, 2010, 2025: Presidential Regulation No. 5/2006.

Energy efficiency. Only very limited targets have been set for energy efficiency in Indonesia. Nationally, the target for energy efficiency is stated in Preseidential Regulation No. 5/2006 as an "energy elasticity" target. While the historical values of national energy elasticity have been both higher and lower than one, the regulation targets national energy elasticity at less than one in 2025. Other macroeconomic energy efficiency indicators such as energy intensity, sectoral energy intensity or international comparisons, were not found in existing policy documents.

Concrete targets for energy savings in government institutions can be found in Presidential Instruction No. 13/2011 on Energy and Water Efficiency. Overall, government entities are to decrease their electricity and subsidized fuel consumption by 20% and 10%, respectively, relative to a baseline that was set as the average consumption value in the six months before the policy was released.

4.2.3 Institutional Arrangement and Capacity

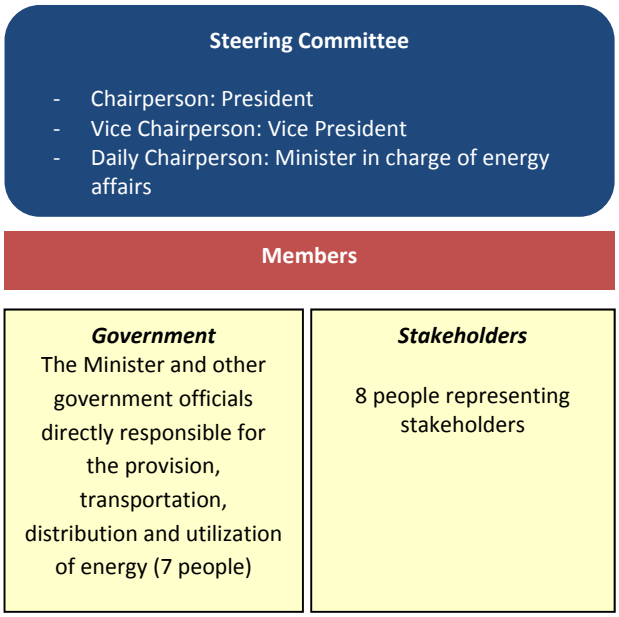
Institutional arrangements are key to the formulation and implementation of policies and cross-sectoral efforts toward the development of both renewable energy and energy efficiency.

Renewable energy. The National Energy Council (Dewan Energi Nasional) was established under Law No. 30/2007 on Energy. Its responsibilities include designing and formulating national energy policy, establishing general planning for national energy issues, devising responses in the event of an energy crisis, and overseeing the implementation of cross-sectoral energy policies. DEN functions at both the macro and strategic levels, but there is a lack of a more on-the-ground implementing body.

Renewable energy development often requires land and forest clearances, determinations of the legality of imported services and equipment, and financing, which requires multi-sectoral coordination, among others. At the implementation level, project developers are often faced with problems that require coordination among numerous sectors and agencies, which is very time consuming and

resource-intensive. In the end, these factors will affect the financial dimensions of a project and ultimately, government spending as well.

Figure 2. Organization Structure of National Energy Council (Law 30/2007)



This situation can be compounded by a decentralized government system that is not synchronized with national and regional policies. Although national law mandates central and regional government coordination, regulations that essentially result in double taxation, license and permit issuance, still provide major barriers for renewable energy project development.

The third major hindrance is the lack of institutional capacity. This poses barriers in two respects. The first is the capacity of institutions to address problems that require multi-sectoral efforts. This barrier can be partially addressed by establishing a coordinating implementation entity, while the original institution would still need some capacity building in terms of inter-sectoral coordination. The second is the lack of technical capacity in conducting resource assessments and management, information dissemination, project supervision, etc.

Energy efficiency. Other than the Ministry of Energy and Mineral Resources' Directorate General for Renewable Energy and Energy Conservation, there is a national committee for energy and water efficiency, which was established under Presidential Instruction No. 12/2011. Both entities focus more on the strategic and national aspects of energy conservation, while the aspects of implementation receive less attention. Further, such basic efforts as reporting and the compilation of statistics are not rigorous, and oversight is still not properly supported. Further, facilitating functions such as information centers and technical support are missing altogether.

The regulation of energy conservation is not yet supported by supplementary policies at the ministerial and regional levels. National targets and workplans have not been developed in a comprehensive way, making regional implementation difficult.

4.2.4 Project Finance and Fiscal Support

Renewables. Fiscal support is available for some imported equipment through tax exemptions. Moreover, the Government has mandated a higher feed-in tariff for renewable energy and power purchases. However, in actual implementation, there are still limitations related to signed power purchase agreements owing to the prolonged negotiations required between PLN and independent power producers over risk allocation, and for projects that are not eligible for feed-in tariffs, the issue of price.

The Government compensates PLN for the feed-in tariff for renewable energy through the existing compensation mechanism of the Public Service Obligation under Law 19/2003 and regulated under the Ministry of Finance Regulation no. 111/02.PMK/2007 which was updated by no. 162/02/PMK/2007. This mechanism ensures that the Government will cover the incremental cost between the feed-in-tariff and what PLN would pay if it developed less costly conventional fossil fuel-fired generation. The increased subsidy due to higher feed-in tariffs will then result in greater burden on the Government's budget. However, the Government has the authority to increase retail electricity tariffs to reduce this burden if it wishes.

In terms of financing, most renewable energy development is not eligible for government guarantees because it does not comply with the requirements of Indonesia's PPP framework under Perpres 67/2005, Perpres 13/2010 and PMK 260/2010. The guarantees available under Perpres 4/2010 and PMK 77/2011, on the other hand, cover only PLN financial viability as a result of Government actions, and hence do not cover other risks.

Biofuels. Biofuels currently receive government producer subsidies, but at a far more modest level than fossil fuels. In 2009, the total subsidy on biofuels amounted to IDR 380 billion, whereas the fossil fuel subsidy was IDR 37 trillion. Other financial and fiscal measures to support biofuels are absent.

Development programs. Financial support for other renewables occurs mostly in the form of support for small-scale projects that are combined with a development agenda.

The National Program on Community Empowerment (PNPM) has a branch that focuses on the decentralization of natural resource management practices and the use of renewable energy. PNPM is funded by a special block grant from the Governments of Austria, Canada, and Denmark, and is managed by the World Bank. In fiscal year 2008, an IDR 15.8 billion block grant was issued; 14.5% of this grant was earmarked for investment in micro hydropower development (5-250 kW), 1.5% to biogas production, and 0.4% for solar energy projects.

PT Sarana Multi Infrastructure is a national financial institution that aims to accelerate infrastructure development, facilitate business transactions, and provide loans for infrastructure projects including

renewable energy for power generation. It accommodates longer-term loans than regular commercial banks, and currently is funding several mini-hydro projects.

Energy efficiency. Fiscal policies supporting energy efficiency in Indonesia are still very limited. While Government Regulation No. 70/2009 has stipulated a tax discount for energy efficiency projects, the details on how this regulation will be implemented are not yet available.

4.2.5 Technology and Service Availability

Renewable energy. Like conventional energy generation technologies, key components of renewable technologies must be imported from outside Indonesia. However, whereas for conventional technologies there is either local engineering capability, or the projects are large enough to warrant foreign engineering services, many renewable projects suffer from a lack of adequate engineering for design, feasibility studies and due diligence. Because the projects are generally smaller scale, these projects cannot afford foreign engineering, and because the technologies have seen relatively limited deployment until now, local engineering capability has not yet been established.

Energy efficiency. Local capacity in providing energy audit and energy management services is still very limited in Indonesia. ESCOs have had limited success in Indonesia, as market demand has been minimal, perhaps due to lack of regulatory enforcement, relatively low energy prices until recent years, and unfamiliarity with or applicability of the types of commercial arrangements that have been used in other countries. Furthermore, the amount of locally available equipment and technology is limited, but there are now policies to encourage the transfer of technology.

4.2.6 Other Issues

A number of other issues remain that constrain the development of renewable energy in Indonesia. They include the lack of concerted spatial planning and a number of "invisible" barriers to clean energy development. The latter include, for example, the current tax policy that imposes a higher rate on "double engines," resulting in a 65% tax rate on hybrid vehicles.

4.3 Incentives and Disincentives

Generally, direct incentive and disincentive measures for renewable energy and energy efficiency are still quite limited in Indonesia. Table 6 lists the measures that are available.

Table 6. Indonesia's Energy Efficiency Policies and their Main Characteristics

Policy	Main Characteristics
General renewable energy policies	
Presidential Regulation No. 13/2010, which revised Presidential Regulation No. 67/2005, Regarding Partnership of the Government with Business Entities in the Provision of Infrastructure	Government support
Minister of Finance Regulation No. 21/PMK.011/2010 on Tax and Customs Facilities	Tax discount

Table 6. Indonesia's Energy Efficiency Policies and their Main Characteristics

Policy	Main Characteristics
for the Utilization of Renewable Energy	
Minister of Finance Regulation No. 77/PMK.01/2011 Regarding Guidance on the Guarantee of Commercial Feasibility of PT PLN for the Development of Power Plants and/or Electricity Transmission by Utilizing Renewable Energy, Gas or Coal	Guarantee
Minister of Energy and Mineral Resources Regulation No. 31/2009 on Purchase Price by PT PLN (Persero) of Generated Electricity from Small and Medium Scale Renewable Energy Power Plants or Excess Power	Feed-in tariff
Policies related to geothermal energy	
Minister of Energy and Mineral Resources Regulation No. 2/2011 on Alignment to PLN to Purchase Electricity from Geothermal Power Plants	Access to grid and pricing
Minister of Finance Regulation No. 24/PMK.011/2010 on Value Added Tax Paid by the Government for Imported Goods Utilized for Oil, Gas, and Geothermal Exploration Upstream Activities	Fiscal Incentives
Policies related to biofuels	
Minister of Energy and Mineral Resources Regulation No. 32/2008 on Biofuel Supply, Utilization, and Training	Market access
Policies related to energy efficiency	
Government Regulation No. 70/2009 on Energy Conservation	Lays the foundation for tax discount and disincentive measures

4.3.1 Incentives Measures

Renewable energy. Incentives for renewable energy are still limited to the operations phase of power provided by renewable energy or biofuel generation (e.g. feed-in tariffs), and not on the initial phases of project development (e.g. risk mitigation for developers and lenders).

Indonesia's existing policies are still unable to function properly due to the lack of implementation details and concrete financing support from the GOI.

Energy efficiency. The formation of incentive measures for energy efficiency, mainly in the form of tax discounts, is stipulated in Government Regulation No. 70/2009. However, the implementing details have not been released yet.

4.3.2 Disincentives Measures

To date, Indonesia's disincentive measures for clean energy development are limited to energy efficiency and the transport sector. Similar to incentive measures for energy efficiency, disincentive measures were mentioned in Government Regulation No. 70/2009, but the implementation details have not been released. For the transport sector, disincentive measures appear in the form of emission standards.

5 Conclusions and Recommendations

There are six principal areas where policies and regulations can influence the adoption of clean energy technologies. Measures that may be considered to strengthen the clean energy policy environment in Indonesia are noted below for each of these areas. A holistic approach is required, since each area is linked to the others. ICED may consider focusing policies efforts in these areas:

1. ***Clean energy industry development***. Like conventional technologies, many clean energy technologies must be imported. However, clean energy projects are often not large enough to warrant foreign engineering, and local engineering capability has not developed sufficiently to ensure good design. Clean energy related services such as energy auditing, feasibility studies and construction (particularly for hydropower). While this is something of a chicken and egg problem, policies and programs aimed at developing private sector capacity to provide clean energy products and services could help accelerate clean energy uptake.

2. ***Institutional capacity***. There are a number of areas that must be addressed under this topic, including:
    - There is a lack of ***coordination*** between relevant government agencies, for example between local and central governments, and between various agencies within the central government. Efforts are required to harmonize policy and regulatory efforts across agencies.
    - Policies should aim to achieve broader, structured ***stakeholder input***. There have been few systematic attempts at "market sounding" in the renewable energy sector.
    - ***Capacity at the local government*** level in particular is lacking. Central government policies and programs should aim at strengthening local government capacity.
    - Clean energy programs must be measurable to be manageable. Rigorous, well-supported ***targets*** are required by technology, area and timing (medium- or long-term) against which policy effectiveness can be measured, and changes made as appropriate. These targets must be established taking into account the trade-offs inherent in promotional programs.
    - In some cases, there is a ***lack of implementing regulations***, for example for the Energy and Electricity Laws, Law 30/2007 and Law 30/2009 respectively. There are no
    - There are no ***enforcement mechanisms*** in place for some implementing regulations that have been drawn up.

3. ***Pricing and market interventions***. The Government has made important steps in establishing feed-in tariffs for some technologies, and rationalizing pricing frameworks for others. However, experience throughout the world has demonstrated the key role of pricing (e.g. feed in tariffs) or other mechanisms to expand the market (e.g. renewable portfolio standards) in stimulating

clean energy development. These efforts should be reviewed and if appropriate expanded. Moreover, the Government must continuously monitor the impact of its pricing and market policies, and adjust them as necessary to achieve the longer term goals it has specified.

4. ***Business entry***. Policies must promote ease of business entry without compromising the quality of developers. Licensing and permitting between local and national levels must be harmonized, and licensing mechanisms should preserve resource availability and exclusivity for authorized developers. At the same time, policies and regulations should help ensure that only "serious" developers obtain exclusive rights, and that speculators are prevented from "locking up" resources that would otherwise be readily developed.

5. ***Financing***. There are a few key policy areas relevant to increasing the availability of clean energy finance:
    - Banking policies should not penalize banks for clean energy investments (e.g. impact of legal lending limit).
    - Energy policies should ensure that risks are clearly articulated and allocated, and
    - Clean energy technology development should be structured in a manner compatible with Indonesia's PPP framework, and hence more readily able to avail of government guarantees.

6. ***Resource availability***. Many other countries have devoted considerable effort to identifying locations suitable for renewable energy development. Resource mapping and identification has been an important part of promotional policies.

Annex A

Definitions of Renewable Energy Deployment Policies and their Applicability by Sector

Policy	Definition	Sector Applicability	
		Power	Transport
Deployment Policies			
Fiscal Incentives			
Grant	Monetary assistance that does not have to be repaid and that is bestowed by a government for specified purposes to an eligible recipient. Usually conditional upon certain qualifications as to the use, maintenance of specified standards, or a proportional contribution by the grantee or other grantor(s). Grants (and rebates) help reduce system investment costs associated with preparation, purchase or construction of RE equipment or related infrastructure. In some cases grants are used to create concessional financing instruments (e.g., allowing banks to offer low-interest loans for renewable energy systems).	■	■
Rebate	Direct payment from the government per unit of renewable energy produced.	■	■
Energy production payment	One-time direct payment from the government to a private party to cover a percentage or specified amount of the investment cost of a renewable energy system or service. Typically offered automatically to eligible projects after completion, not requiring detailed application procedures.	■	■
Tax credit (production or investment)	Provides the investor or owner of qualifying property with an annual income tax credit based on the amount of money invested in that facility or the amount of energy that it generates during the relevant year. Allows investments in renewable energy to be fully or partially deducted from tax obligations or income.	■	■
Tax reduction/ exemption	Reduction in tax – including but not limited to sales, value-added, energy or carbon tax – applicable to the purchase (or production) of renewable energy or renewable energy technologies.	■	■
Variable or accelerated depreciation	Allows for a reduction in the income tax burden in first years of operation of renewable energy equipment. Generally applies to commercial entities.	■	■

Policy	Definition	Sector Applicability	
		Power	Transport
Public Finance			
Investment	Financing provided in return for an equity ownership interest in a renewable energy company or project. Usually delivered as a government-managed fund that directly invests equity in projects and companies, or as a funder of privately managed funds (fund of funds).	■	■
Guarantee	Risk-sharing mechanism aimed at mobilizing domestic lending from commercial banks for renewable energy companies and projects that have high perceived credit (i.e., repayment) risk. Typically a guarantee is partial, that is, it covers a portion of the outstanding loan principal with 50 to 80% being common.	■	■
Loan	Financing provided to a renewable energy company or project in return for a debt (i.e., repayment) obligation. Provided by government, development bank or investment authority usually on concessional terms (e.g., lower interest rates or with lower security requirements).	■	■
Public procurement	Public entities preferentially purchase renewable energy services (such as electricity) and/or renewable energy equipment.	■	■
Regulations			
Quantity driven			
Renewable portfolio standard/ quota obligation or mandate	Obligates designated parties (generators, suppliers, consumers) to meet minimum (often gradually increasing) renewable energy targets, generally expressed as percentages of total supplies or as an amount of renewable energy capacity, with costs borne by consumers. Building codes or obligations requiring installation of renewable energy heat or power technologies, often combined with efficiency investments. RE heating purchase mandates. Mandates for blending biofuels into total transportation fuel in percent or specific quantity.	■	■
Tendering/ bidding	Public authorities organize tenders for given quota of renewable energy supplies or supply capacities, and remunerate winning bids at prices mostly above standard market levels.	■	
Price driven			
Fixed payment feed-in tariff	Guarantees renewable energy supplies with priority access and dispatch, and sets a fixed price varying by technology per unit delivered during a specified number of years.	■	
Premium payment feed-in tariff	Guarantees renewable energy supplies an additional payment on top of their energy market price or end-use value.	■	
Quality driven			
Green energy purchasing	Regulates the supply of voluntary renewable energy purchases by consumers, beyond existing renewable energy obligations.	■	■

Policy	Definition	Sector Applicability	
		Power	Transport
Green labeling	Government-sponsored labeling (there are also some private sector labels) that guarantees that energy products meet certain sustainability criteria to facilitate voluntary green energy purchasing. Some governments require labeling on consumer bills, with full disclosure of the energy mix (or share of renewable energy).	■	■
Access			
Net metering and net billing	Allows a two-way flow of electricity between the electricity distribution grid and customers with their own generation. The meter flows backwards when power is fed into the grid, with power compensated at the retail rate during the "netting" cycle, regardless of whether instantaneous customer generation exceeds customer demand.	■	
Priority or guaranteed access to network	Provides renewable energy supplies with unhindered access to established energy networks.	■	
Priority dispatch	Mandates that renewable energy supplies are integrated into energy systems before supplies from other sources.	■	

Annex B

Comparison of Renewable Energy Policies in Selected Countries

	Regulatory Policies						Fiscal Incentives				Public Financing	
	Feed-in tariff, including premium payment	Electric utility quota/RPS	Net metering	Biofuels obligation/mandate	Heat obligation/mandate	Tradable renewable energy certificate	Capital subsidy, grant, or rebate	Investment or production tax credits	Reductions in sales, energy, CO_2, VAT or other taxes	Energy production payments	Public investments, loans, or grants	Public competitive bidding
Indonesia	■						■	■	■		■	■
Malaysia	■										■	
Thailand	■			■							■	
Singapore											■	
Brazil				■					■		■	■
India	■	■		■		■	■	■	■		■	■
China	■	■		■	■		■			■	■	■
USA	■	■	■	■	■	■	■	■	■	■	■	■
Japan	■	■	■			■	■				■	
Germany	■			■	■		■	■	■		■	

■ Adopted nationally

■ Adopted in certain states

Source: REN 21, *Renewable 2011 Global Status Report.*

Annex C

Comparison of Energy Efficiency Policies in Selected Countries

Australia	
Law	Energy Efficiency Opportunities Act (enforcement as of July 2006)
Regulatory measures based on law	The Energy Efficiency Best Practices Program (has now ended)
Regulatory measures: other	The Equipment Energy Efficiency Program
National plan for promoting EE&C	National Framework on Energy Efficiency
Cambodia	
Other	▪ Receives energy conservation support from Japan ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (PROMEEC), 2001-
Indonesia	
Law	Energy Law No. 30/2007, enacted in August 2007
Regulatory measures based on law	To emphasize that energy conservation is the responsibility of central and local governments, entrepreneurs, and larger society
National plan for promoting EE&C	National Master Plan for Energy Conservation: RIKEN 1995 and RIKEN 2005
Energy prices	Energy prices are basically controlled by the GOI and are usually subsidized
Other	Receives energy conservation support from Japan, including: ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (PROMEEC), 2001- ▪ International energy consumption efficiency model projects ▪ Training program in Japan on energy efficiency and conservation ▪ Dispatch of energy conservation experts ▪ Introduction of energy conservation system for the industrial sector in East Java ▪ Study on Energy Conservation and Efficiency Improvement in the Republic of Indonesia, supported by JICA
Regulatory measures based on law	To conduct energy conservation at every stage of energy processing (both upstream and downstream)
National plan for promoting EE&C	National Energy Policy (Presidential Decree No. 5/2006)
Other	Cooperation with Denmark on Environmental Support Program Phase 2, Component 2: Energy Efficiency in Construction and Use of Large Buildings
Regulatory measures based on law	To provide incentives/disincentives for energy producers and efficient appliance producers to have implemented energy conservation
National plan for promoting EE&C	Blueprint for National Energy Management (2005-2025)
Other	▪ Cooperation with UNIDO in Promoting Energy Efficiency in Industries through System Optimization and Energy Management Standards ▪ Asia regional cooperation with UNDP in barrier removal to the cost-

	effective development and implementation of energy efficiency standards and labeling (BRESL)
Japan	
Law	Law Concerning the Rational Use of Energy, also called the Energy Conservation Law (enforcement began in 2006; a reinforced and revised law was implemented in April 2007)
Regulatory measures based on law	To make it mandatory for plants and businesses to periodically report conditions of energy use, prepare and submit medium- and long-term plans to achieve energy conservation targets, and assign energy managers
National plan for promoting EE&C	Energy Conservation Front Runner Plan (aiming to improve energy efficiency by at least 30% over the 2003 level by 2030)
Tax scheme	Tax scheme to promote investments in structural reforms of energy supply and demand
Low-interest loan	Investment and loan system
Subsidies/budgetary measures	Support for the introduction of energy conservation equipment
Energy prices	▪ Outline of electricity prices ▪ $0.176 per kWh for residential sector and $0.117 per kWh for the business sector (2006 averages) ▪ For customers in the contract category of 50 kW or larger, electricity rates are decided freely between the customer and supplier ▪ Customers in the contract category of less than 50 kW must receive approval from the central government to raise their electricity rate and submit notification to the central government to reduce their rates. Moreover, the fuel cost adjustment system is introduced to reflect crude oil price fluctuations in electricity rates. While promoting demand leveling by discounting electricity rates during slow demand hours and periods with optimal time-of-use lighting services, electricity usage is divided into three tiers and energy conservation is promoted by imposing higher rates on customers with large usage.
Other	Keidanren Voluntary Action Plan on Environment (Japan Business Federation)
Regulatory measures based on law	To make in mandatory for transport service providers and shippers and prepare energy conservation plans and to report energy consumption and other related matters
Tax scheme	Vehicle greening tax scheme
Subsidies and budgetary measures	Support for the promotion and dissemination of high-efficiency water heaters
Energy prices	Outline of gasoline prices: $1.375 per liter, as of December 2007 Gasoline prices are determine by the oil price (A) that is decided by those other than taxes such as crude oil prices and refining and distribution costs, the petroleum tax and coal tax (B = 2.04 yen), the gasoline tax (C = 53.8 yen), and the tax on transactions of gas oil (D = 32.1 yen) Gasoline = (A + B + C) x 1.05 (*)

	Gas oil = (A + B) x 1.05 + D Kerosene = (A + B) x 1.05 (*) Consumption tax = 5
Other	Voluntary program for the reduction of stand-by power consumption
Regulatory measures based on law	To make it mandatory to notify builders of energy conservation measures at the time of construction of new houses and buildings, extension or reconstruction of houses and buildings, and large-scale repairs
Subsidies and budgetary measures	Support for promotion of the dissemination of high-efficiency air conditioners
Regulatory measures based on law	Top Runner Program
Subsidies and budgetary measures	Support for high-efficiency houses and buildings (project to promote the introduction of high-efficiency energy systems into houses and commercial buildings)
Regulatory measures based on law	Energy Conservation Labeling Program
Subsidies and budgetary measures	▪ Support for the promotion of ESCOs ▪ Support for the promotion of Eco-drive ▪ Promotion of the development of energy conservation technology
Lao PDR	
Regulatory measures: other	In 2001 the government issued a decree on public savings
National plan for promoting EE&C	The Ministry of Energy and Mines (MEM) is drafting a decree on energy efficiency and conservation
Subsidies/budgetary measures	The government is considering issuing a decree or measures to reduce the annual budget expenditures on government organizations
Other	Receives energy conservation support from Japan, including: ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (PROMEEC), 2001- ▪ MEM has been actively participating in PROMEEC since 2001. Under this project, more than 10 seminars/workshops and on-the-job trainings in energy auditing have been organized for state and private officials to disseminated best practices and experience on energy efficiency and conservation from Japan and ASEAN member nations.
National plan for promoting EE&C	Proposal to establish a new MEM department responsible for renewable energy and energy efficiency and conservation
Other	The Demand-Side Management and Energy Efficiency Cell has been established within Electricite du Laos, the state-owned electric generation, transmission, and distribution utility, to carry out a World Bank-funded project to save electricity, primarily targeting government offices. Under this project, four state buildings in Vientiane have been selected as pilot sites for implementing energy conservation activities.
National plan for promoting EE&C	Proposal for energy conservation measures in state buildings.
Other	There are daily advertisements in the mass media on saving energy.
Malaysia	
Law	Law of Malaysia Act 610, Energy Commission Act 2001 (announced March 2001)

Regulatory measures based on law	At present, there are no regulatory measures concerning mandatory renewable energy and energy efficiency activities based on the law. The Energy Manager Regulation is in the final stage before implementation.
National plan for promoting EE&C	National Energy Efficiency Program (1991)
Tax scheme	Incentives for Investment: Pioneer Status, and Investment Tax Allowance
Low-interest loan	Malaysian Industrial Energy Efficiency Improvement Project
Subsidies/budgetary measures	Malaysia Electricity Supply Industry Trust Account
Energy prices	After the 2008 electricity tariff increase, the manufacturing sector is paying electricity rates that would be 12.4% to 14.5% higher. Industries not under special tariff schemes (such as SMEs) are expected to be paying a minimum of 12.4% and up to 12.7% increase in tariff rates. The average Malaysian company pays about US $0.08/kWh for electricity. It is also expected that the national utility company, TNB, will have to pay double the natural gas price of the present US $1.93 to the national petroleum company, Petronas, in the coming months as well. The price of retail petroleum (transport fuel) has already been increased to US $0.80 per liter.
Other	Malaysian Industrial Energy Efficiency Improvement Project
National plan for promoting EE&C	The Ninth Malaysia Plan: 9MP (2006-2010)
Tax scheme	Incentives for Investment: 1) sales tax exemption for locally produced equipment/machinery, 2) import duty and sales tax exemption on imported equipment/machinery
Low-interest loan	MIDF, Bank Pembangunan Daerah
Subsidies/budgetary measures	At present, fuel prices are subsidized in Malaysia, which is a net exporter of oil. However, subsidies on fuel have been reduced tremendously and the price of fuel will follow the near-term market price.
Other	DANCED of Denmark has a project on renewable energy and energy efficiency
National plan for promoting EE&C	Fifth Fuel Strategy (Renewable Energy, June 1999)
Other	Japan's energy conservation support: ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (2001-) ▪ International Energy Consumption Efficiency Model Project ▪ Training programs in Japan on energy efficiency and conservation ▪ Dispatch of energy conservation experts from Japan ▪ Energy conservation guidelines of industries supporting project. Support from DANIDA: ▪ Capacity Building on EE/DSM in Malaysia (2003-2005) Support from ASEAN: ▪ EASE projects on energy efficiency and renewable energy Support from GEF: ▪ Building Integrated Photovoltaics Project ▪ Diffusion of cogeneration using biomass resources

Myanmar	
Regulatory measures based on law	There is no regulatory measure, but energy efficiency and conservation is performed on an individual basis.
Regulatory measures: other	Giving guidelines to implement energy conservation for plants and businesses, and periodically measuring equipment life and all parameters related to equipment energy consumption is monitored and appropriate counter-measures are taken. Myanmar seeks to prepare and submit plans to achieve energy conservation targets and assign energy managers.
National plan for promoting EE&C	Currently, this is under development. A national Coordinating Committee has been formed for Energy Conservation and Efficiency.
Subsidies/budgetary measures	Support for the introduction of energy conservation equipment and energy conservation measures for the purpose of introducing energy-efficient and cost-effective equipment.
Energy prices	Electricity prices: $0.08 per kWh for the residential and business sectors, effective May 2006
Regulatory measures: Other	To encourage public transportation (mass transit (rail), trams and buses) to reduce individual travel by car and save fuel consumption.
National plan for promoting EE&C	Energy Conservation Runner Plan
Subsidies/budgetary measures	Support for high-efficiency houses and buildings (project to promote the introduction of high-efficiency energy systems into houses and buildings)
Energy prices	Gasoline prices: $4.20 per gallon as of August 2008, based on PLATT price mainly
Regulatory measures: other	Organized to make the energy conservation measures at the time new industrial, commercial and office buildings are constructed
National plan for promoting EE&C	Energy Conservation Runner Plan (see below)
Subsidies/budgetary measures	Promotion of energy conservation technology development
Energy prices	HSD price: $5.15 per gallon, as of August 2008 (price based mainly on PLATT price)
Regulatory measures: other	Top Runner Program
Subsidies/budgetary measures	Support for the dissemination and promotion of eco-drive
Energy prices	ATF price: $5.25 per gallon, as of August 2008 (price based mainly on PLATT price) LPG Price: $0.32 per liter, as of 1997
New Zealand	
Law	Energy Efficiency and Conservation Act 2000 (enacted in 2000)
Regulatory measures based on law	Regulations for Minimum Energy Performance Standards and Labeling on Appliances, and Mandatory Vehicle Fuel Efficiency Labels on new and used cars at the point of sale, under the Energy Efficiency (Energy Using Products) Regulations 2002.
Regulatory measures: other	Efficiency requirements for new buildings and change of use of buildings under the New Zealand Building Code. Fuel efficiency regulations under investigation.
National plan for promoting EE&C	ENERGYWISE HOMES NZEECS 2007. Warmer, drier, healthier homes with reduced energy costs for families.

	ENERGYWISE BUSINESS NZEECS 2007. More energy-efficient and competitive businesses using more renewable energy and emitting less carbon dioxide. ENERGYWISE TRANSPORT NZEECS 2007 EFFICIENT AND RNEWABLE ENERGY NZEECS 2007 GOVERNMENT LEADING THE WAY NZEECS 2007
Low-interest loan	ENERGYWISE interest subsidy provides funds to homeowners to cover the interest costs of efficiency improvements. Crown Energy Efficiency Loan Scheme for the government sector.
Subsidies/budgetary measures	ENERGYWISE Homes Grants and Clean Heat Grants for low-income household insulation and replacement of old, polluting heaters. EMPROVE grants for business sector energy audits. Energy-intensive business grants and wood energy grants for biomass in industry.
Energy prices	Petro Excise Tax, Road User Charge certificates for heavy vehicles, levy on electricity consumption to fund electricity efficiency projects.
Philippines	
Law	An act creating the Department of Energy, rationalizing the organization and functions of government agencies related to energy, and for other purposes (short title: Department of Energy Act of 1992), approved by Congress in December 1992.
Regulatory measures: other	Philippine National Energy Efficiency and Conservation Program
National plan for promoting EE&C	PEP: Philippine Energy Plan, 2005-2014
Tax scheme	Tax incentive scheme on Biofuels Program for fuel substitution in putting up manufacturing facilities. Specific tax incentive scheme on biofuels.
Subsidies/budgetary measures	Omnibus Investment Code
Other	Support from USAID related to funding for promoting energy conservation
Law	Electric Power Industry Reform Act, Republic Act No. 9136-EPIRA, proclamation in June 2001
Regulatory measures: other	Energy Efficiency Standards and Labeling Program
National plan for promoting EE&C	Expanded Rural Electrification Program (1999-)
Subsidies/budgetary measures	Support for energy efficiency measures through energy management advisory services
Other	GEF project related to energy efficiency and conservation
Regulatory measures: other	Government Energy Management Program
National plan for promoting EE&C	Medium-Term Philippine Development Plan (2004-2010)
Other	Japanese energy conservation support: ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (2001-) ▪ Training programs in Japan on energy efficiency and conservation ▪ Dispatch of energy conservation experts from Japan.
Singapore	

Law	Environmental Protection and Management Act, Section 40C, 40D: Mandatory Energy Labeling
Regulatory measures based on law	Mandatory Energy Labeling Scheme
National plan for promoting EE&C	Promote the adoption of energy-efficient technologies and measures by addressing existing market barriers to such adoption
Tax scheme	Investment allowance scheme
Subsidies/budgetary measures	Innovation for Environmental Sustainability Fund
Other	Government Taking the Lead in Environmental Sustainability
Law	Building Control (Environmental Sustainability) Regulations 2008
Regulatory measures based on law	Green Mark Legislation
National plan for promoting EE&C	Build capability to drive and sustain energy efficiency efforts and develop the local knowledge base and expertise in energy management
Tax scheme	Green Vehicle Rebate
Subsidies/budgetary measures	Energy Efficiency Improvement Assistance Scheme
Other	Promoting Public Transport
National plan for promoting EE&C	Raise awareness of energy efficiency among businesses and the public to stimulate energy-efficient behavior and practices
Subsidies/budgetary measures	Design for Energy Efficiency Scheme
Other	Green Mark Scheme
National plan for promoting EE&C	Support R&D that will enhance Singapore's capability in energy-efficient technologies
Subsidies/budgetary measures	BCA GMIS: BCA Green Mark Incentive Scheme
Other	Energy Smart Labeling Scheme Fuel Economy Labeling Scheme 10% Energy Challenge
Vietnam	
Law	Decree No. 102/2003/ND-CP on Energy Conservation and Energy Efficiency (September 2003)
Regulatory measures based on law	Circular No. 01/2004/TT-BCN: To enforce Decree No. 102/2003/ND-CP, serves as the guideline for energy conservation and the efficient use of energy in factories (July 2004)
Regulatory measures: other	Establishment of Energy efficiency and Conservation Office (April 2006)
National plan for promoting EE&C	Energy Conservation Master Plan Programme (1997)
Subsidies/budgetary measures	Government budget under National Strategic Program on Energy Saving and Effective Use, about 2 million/year
Energy prices	Energy prices are basically controlled by government and are usually subsidized
Other	Energy conservation program supported by the Netherlands
Law	Electricity Law (July 2005)
Regulatory measures based on law	Circular No. 08/2006/TT-BCN: To enforce Decree No. 102/2003/ND-CP, serves as the guideline for energy standards and labeling (promulgation in November 2006) Circular No. 40/2005/QD-BXD: Guideline on energy efficiency and conservation for buildings (code)(November 2005)

	Electricity Saving Program for the period 2006-2010 (began in 2006 and ended in 2010)
National plan for promoting EE&C	National Strategic Program on Energy Saving and Effective Use (approved in April 2006)
Other	▪ GEF Project by Vietnam ▪ DSM and Energy Efficiency Project with GEF (funded by IBRD/WB) ▪ Viet Nam Energy Efficient Public Lighting Project with GEF (funded by UNDP) ▪ UNDP Project: Promoting Energy Conservation in Small to Medium Scale Enterprises (funded by GEF with support from New Zealand, USA and the Philippines) ▪ Support for the National Strategic Program on Energy Savings and Effective Use of Funds (supported by the ADB) Japanese energy conservation support: ▪ ASEAN Energy Management System: Promotion of Energy Efficiency and Conservation Project (2001-) ▪ International Energy Consumption Efficiency Model Project ▪ Training programs in Japan on energy efficiency and conservation ▪ Dispatch of energy conservation experts from Japan