7. Peer Review on Low Carbon Energy Policies (PRLCE) for Indonesia

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APERC Workshop at Energy Working Group 46
Da Nang, Viet Nam, November 18, 2013

Asia-Pacific
Economic Cooperation

Outline of Presentation

1. Process of PRLCE for Indonesia
2. Background Information
3. Review Team Report
4. Review Team Composition

Process of PRLCE for Indonesia

Indonesia accepted to host PRLCE

12 February 2013

EWG Members endorsed PRLCE for Indonesia

20-21 March 2013 at EWG45

APERC Formed Peer Review Team

15 April 2013

Indonesia submitted Background Information

26 April 2013

Peer Review Team Visited to Indonesia

13-17 May 2013

Peer Review Team provided Preliminary Report

17 May 2013

APERC sent Draft Review Report to Indonesia

- **The 1st Draft: 2 July 2013**
- **The 2nd Draft: 26 Aug 2013**
- **The 3rd Draft: 13 Sep 2013**

PRLCE for Indonesia presented at EGNRET 41

16 October 2013 at EGNRET 41

Final Draft Report signed off by Indonesia

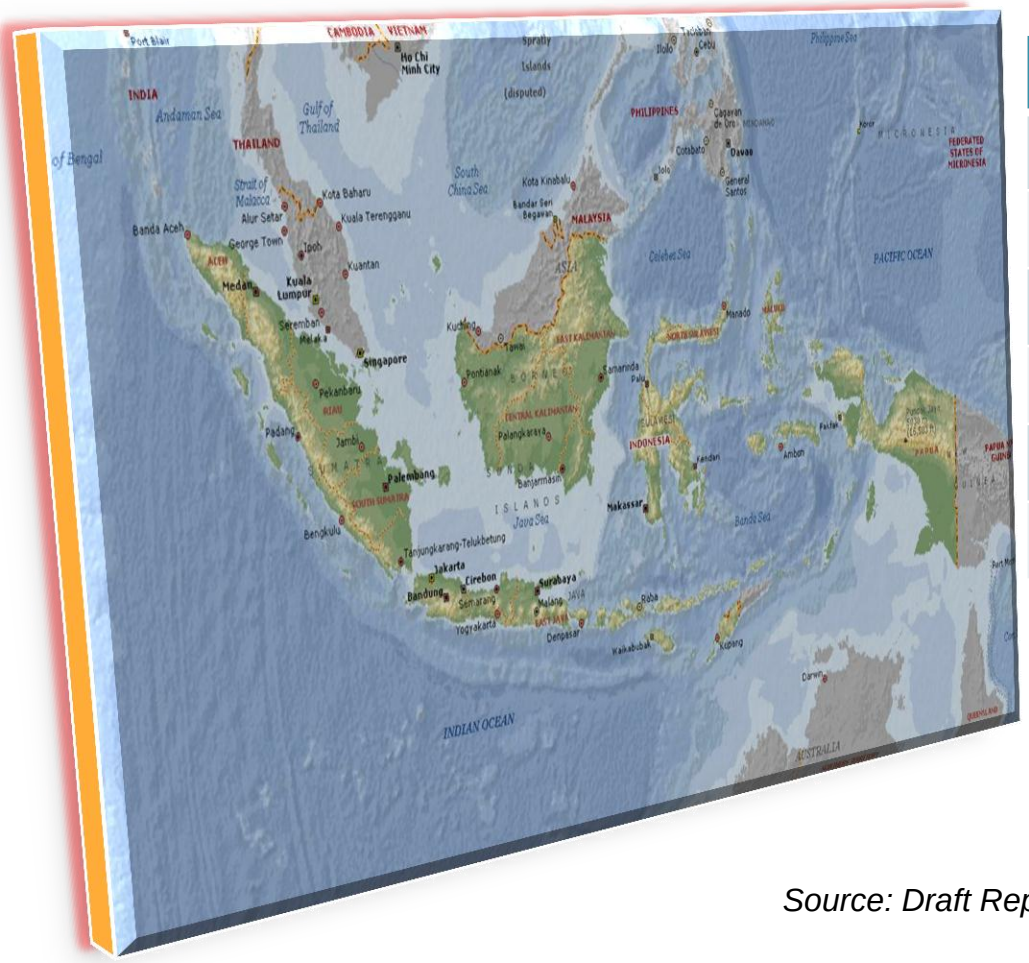
18 October 2013

PRLCE Report for Indonesia approved by EWG Members

18-21 Nov 2013 at EWG46?

- Indonesia : The Directorate General of New Renewable Energy and Energy Conservation, MEMR
- PRLCE Focused on : Renewable Energy
- Total period of PRLCE : ~10 months

Background Information – The Economy



The Economy Profile	2011
• No. Islands	17 508
• Area (million sq. km)	7.8
• Population (million)	241
• Income/capita (USD)	3 944
• Energy/capita (TOE)	0.69
• Electrification ratio (%)	72.95

Source: Draft Report PRLCE p.2 & p.4

Background Information – RE Potential

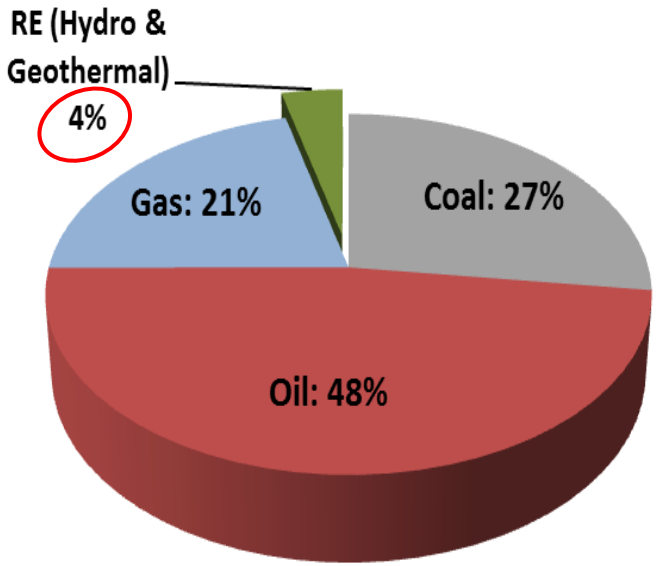
Indonesia has an abundant resources of renewable energy

- **Hydro** energy potential is about **75.7 GW**, however only **5.6%** of the potential is utilized (4.2 GW).
- **Geothermal** potential in 2012 was about **28.6 GW**, however only **5%** of the potential is utilized (1.3 GW).
- Located in equator line, Indonesia has **an abundant resources of solar energy** but **installed capacity is very small** (13.5 kW in 2009)
- As agricultural based country, Indonesia has an **abundant resources of bioenergy** (estimated **49.8 GW**), however only **3.2%** of the potential is utilized (estimated1.6 GW).
- **Some areas have a good wind speed** as an effect of nozzle in the narrowing area between two islands or in the mountain slopes between two adjacent mountains. So far, installed capacity was only **1.96 MW** in 2010.

Source: Draft Report PRLCE p.17 -18 & p.20 - 23

Background Information – RE Utilization

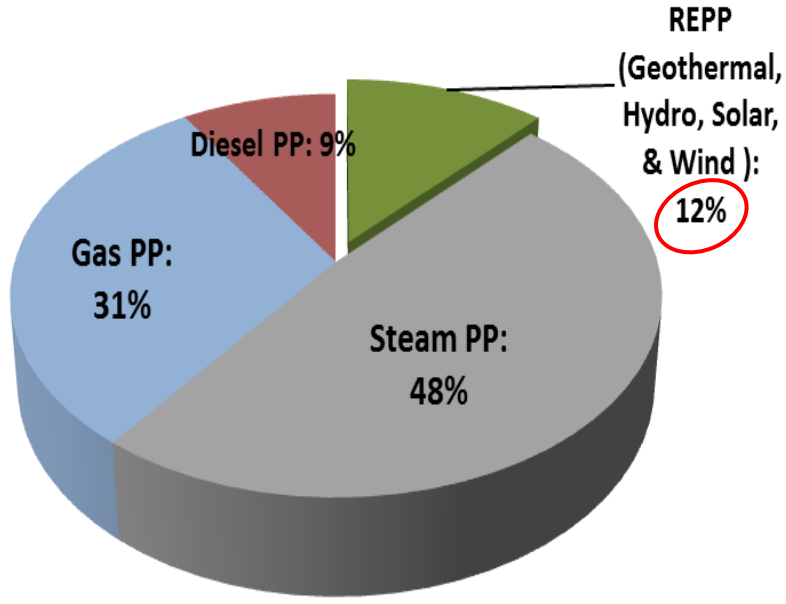
Primary Energy Supply 2011



Total Primary Energy Supply: 167 MTOE

Note: Biomass and Biofuel are not included

Electricity Production by Power Plant 2011



Total Electricity Production: 15.8 MTOE

Note:
- Diesel PP: Diesel Power Plant
- Gas PP: Gas Power Plant
- REPP: Renewable Power Plant
- Steam PP: Steam Power Plant (Coal, Gas, and Biomass)

Source: Draft Report PRLCE p.3

Background Information – Regulations & Institutions

Regulations, Policies, Planning

- The Geothermal Law No. 27 Year 2003
- The Energy Law No. 30 Year 2007
- The Electricity Law No. 30 Year 2009

- The 2006 National Energy Policy
- The Draft National Energy Policy
- Policy on Incentives and Fiscal

- Planning documents

RE Dev.

Institutions/Organizations

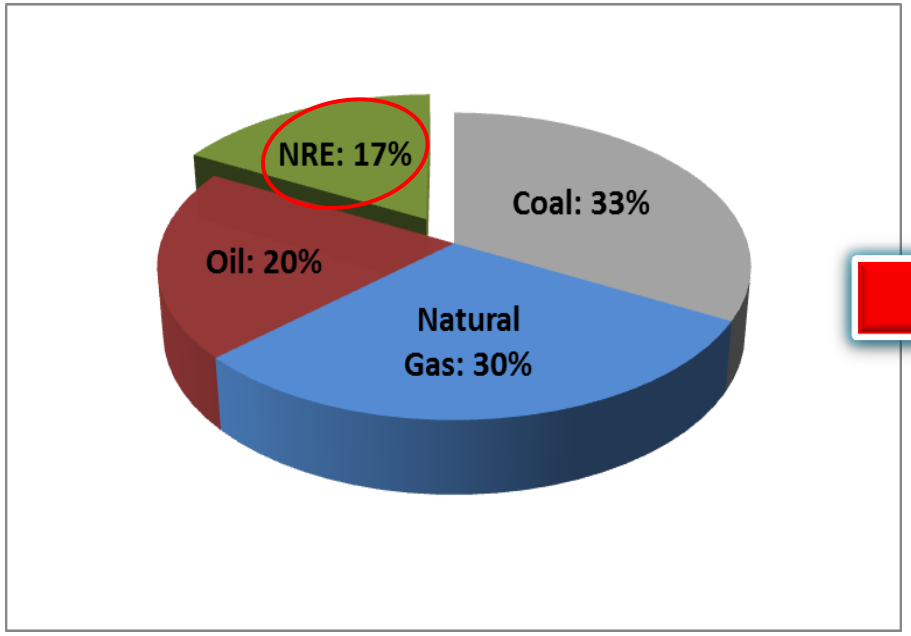
- **The Government Ministries & Agencies**
  - National Energy Council
  - DG of New Renewable Energy & Energy Conservation
  - DG of Electricity, etc
- **Energy State & Private Companies**
  - PLN
  - PERTAMINA
  - PGN, etc
- **Energy Organizations**
  - Indonesia Renewable Energy Society, etc

Source: Draft Report PRLCE p.5 – p.16

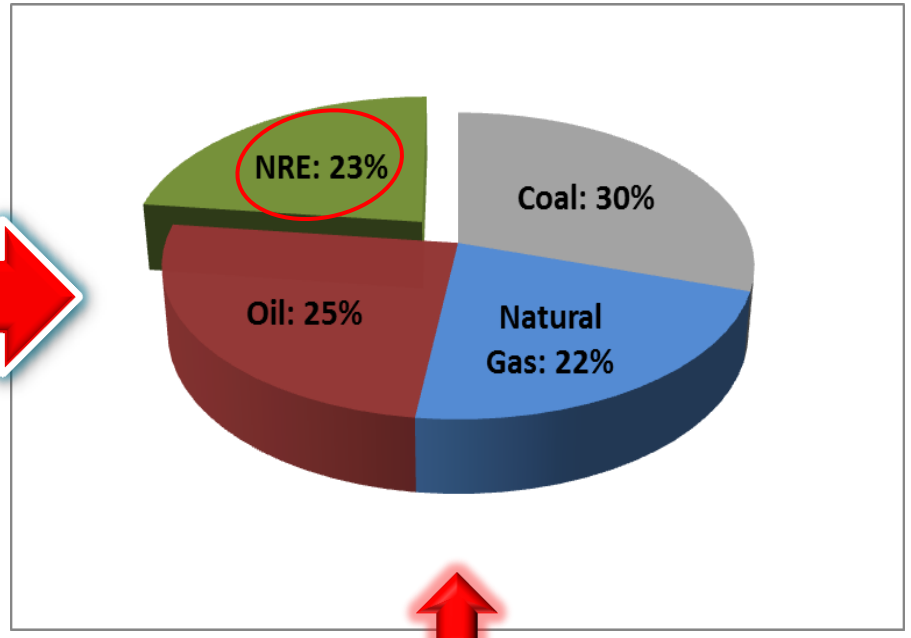
Background Information – NRE Target

2006 KEN: 2025 Target

Based on the Presidential Regulation No. 5/2006 on the National Energy Policy



2011 KEN: 2025 Target



Not yet implemented it is because the National Energy Policy (KEN) is waiting approval from the Parliament before its stipulated by the Government.

Note:
- KEN: National Energy Policy –Kebijakan Energi Nasional
- NRE: New Renewable Energy

Source: Draft Report PRLCE p.16 and p.36

Review Team Report - Areas Covered

P R L C E

- Institutional Context
- Renewable Energy Goals, Targets and Strategy
- Regulation and Infrastructure
- Biofuels and Biomass Energy
- Geothermal, Solar and Wind Energy
- Hydro Power Energy
- Power Supply System-FIT, Smart Grid & Private Participation)
- Green House Gas Management

Review Team Report – Institutional Context

Institutional Context

The National Energy Council (DEN)

- Review the role of DEN related to RE
- Review the decision made by DEN related to RE

The Directorate General of New Renewable Energy & Energy Conservation (DGNREEC)

- Review the role of DGNREEC related to RE
- Review the procedure for RE development

Stakeholders : review their participation related to RE development

Recommendations 5

Review Team Report – RE Goals, Target & Strategy

Renewable Energy Goals, Targets & Strategy

The 2006 National Energy Policy and the Draft National Energy Policy

- Review the targets related to RE
- Review the plans related to RE
- Review the programs related to RE

Recommendations 5

Review Team Report – Regulation & Infrastructure

Regulation and Infrastructure

Regulation

- Review existing laws & regulations and planned

Infrastructure

- Review electricity infrastructure
- Review infrastructure funding

Recommendations 9

Review Team Report – Renewable Energy

Bio-Fuels & Biomass Energy 5

Geothermal, Solar and Wind 4

Hydropower Energy 7

- Review potential resources and installed capacity
- Review the existing regulations and planned
- Review the plans and program
- Review the barriers

Recommendations 16

Review Team Report – Power Supply System

Power Supply System

- Review implementation FIT related to RE
- Review the plans and program of smart grid
- Review the private participation in RE development and the barriers for them to participate it

Recommendations 10

Review Team Report – Green House Gas Management

Green House Gas Management

- Review existing regulation and planned
- Review the targets, plans and program

Recommendations 4

Review Team Report – Recommendations (1)

Total recommendation that Peer Review Team provided are **49 recommendations**

Some of the recommendations are:

Institutional Context

- In formulating the KEN and the RUEN, the National Energy Council (DEN) can play a pivotal role under the leadership of the chairman, the President of Indonesia. The DEN should be strengthened to set up basic policy guidelines on energy issues in timely manner.
- Further coordination between relevant government offices, not only in the central government but also among local (both provincial and municipal) governments, is recommended in regulatory or promotional procedures for renewable energy development.

Source: Draft Report PRLCE p.34-35

Review Team Report – Recommendations (2)

Renewable Energy Goals, Targets and Strategy

- ❑ Finalize approval of the 2011 KEN quickly to provide a clear market signal to the private sector, financial institutions, international investors, and PLN regarding the long-term demand for electricity generation from renewable energy.
- ❑ Develop permitting checklists that clearly define the path and timeline for permitting each type of renewable energy technology and list separate paths for large-scale and small-scale projects.

Regulation and Infrastructure

- ❑ Issue the National Energy Policy (KEN) as soon as possible so that the further implementation of this policy through the National Energy Master Plan (RUEN) and the Regional Energy Master Plan (RUED) can be developed.
- ❑ Harmonize the regulations between central government agencies, between central and local governments, and between local government agencies to prevent conflicting regulations that may hinder the development of renewable energy.
- ❑ Continue to encourage dialogue between the government and investors and continue to improve the investment climate.

Source: Draft Report PRLCE p.37-38, p.42- 43, and p.44-45

Review Team Report – Recommendations (3)

RE (Biofuels & Biomass Energy, Geothermal, Solar & Wind Energy, and Hydro)

- ❑ Apply Key Performance Index (KPI) on bioenergy for large players in the energy business, especially state-owned energy companies such as Pertamina and PLN.
- ❑ Solar, wind, micro hydro are important for rural electrification and for the reduction of diesel consumption. One can consider such measures like special support for the introduction of those renewable energies under “Rural Electrification with Renewables”.
- ❑ Review and redesign the subsidy structure for hydro power project depending on the scale and remoteness of a system.

Power Supply System

- ❑ Yearly FIT rate review - Sustainability of the FIT mechanism should be reviewed yearly in terms of achievements, tariff rate and funds required for the mechanism.
- ❑ Establish standard operating procedures and time frame– To ensure efficiency in renewable energy project implementation by private investors, standard operating procedures and timeframe should be established in terms of project award time, approval from ministries (Ministry of Finance), PPA signing, etc.

Source: Draft Report PRLCE p.46-47, p.50-51, p.53, p.56, and p.58

Review Team Report – Recommendations (4)

Green House Gas Management

- ❑ Expand the education program targeting the general public regarding the national GHG emissions goals and the benefits of achieving these goals.
- ❑ Ensure the GHG emissions reductions targets are aligned with and incorporated into the national energy plan and the national electrification plan.

Source: Draft Report PRLCE p.60-61

The Review Team Composition

APERC

Mr. Takato OJIMI
(Review Team Leader)

APERC

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(Institutional Context)

UNITED STATE OF AMERICA

Ms. Sarah BUSCHE
(RE Goals & Strategy + Green House Gas Management)

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CHINA

Dr. Li KUISHAN
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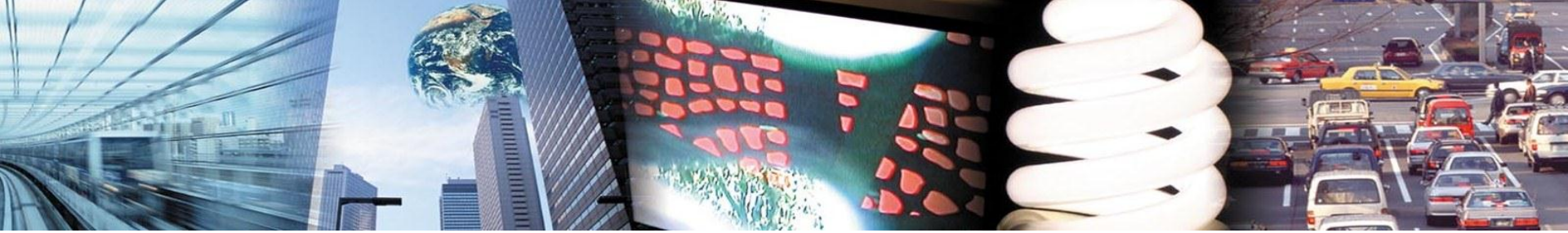
MALAYSIA

Mr. Koh Keng SEN
(Power Supply System)

Photos



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