Energy Efficiency and Conservation Policy in Indonesia

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Outline

1. BACKGROUND
2. POLICY AND REGULATION ON ENERGY CONSERVATION
3. PROGRAM ON ENERGY EFFICIENCY & CONSERVATION
National Energy Demand and Supply Dominated by Fossil Energy

- High dependency on Fossil Energy (> 95%)
  - Oil 48% (around 50% import)
- Low Renewable Energy use (< 5%)

Energy Mix 2011

- Oil: 48.0%
- Gas: 27.0%
- Coal: 21.1%
- NRE: 3.9%
Primary Energy Su2000 - 2011

- NRE 3.9%
- Natural Gas 21.1%
- Oil 48.0%
- Coal 27.0%

Million BOE

- 2000: 726
- 2001: 772
- 2002: 800
- 2003: 859
- 2004: 873
- 2005: 896
- 2006: 899
- 2007: 984
- 2008: 956
- 2009: 1015
- 2010: 1155
- 2011: 1237

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## Final Energy Consumption

### Energy Sector Breakdown

- **Industry**: 37.8%
- **Household**: 33.4% (2011)
- **Commercial**: 10.2% (2011)
- **Transportation**: 3.9%

### Energy Consumption by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>2000</th>
<th>2005</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td>193</td>
<td>218</td>
<td>312</td>
<td>315</td>
</tr>
<tr>
<td>Household</td>
<td>88</td>
<td>89</td>
<td>82</td>
<td>85</td>
</tr>
<tr>
<td>Commercial</td>
<td>19</td>
<td>25</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Transportation</td>
<td>139</td>
<td>178</td>
<td>255</td>
<td>278</td>
</tr>
<tr>
<td>Others</td>
<td>29</td>
<td>29</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>Non Energy Use</td>
<td>40</td>
<td>54</td>
<td>84</td>
<td>98</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>509</td>
<td>595</td>
<td>794</td>
<td>836</td>
</tr>
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## Potential of Energy Conservation

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<tr>
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</thead>
<tbody>
<tr>
<td>Industry</td>
<td>10 – 30%</td>
<td>17%</td>
<td>41%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Commercial</td>
<td>10 – 30%</td>
<td>15%</td>
<td>5%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Transportation</td>
<td>15 – 35%</td>
<td>20%</td>
<td>37%</td>
<td>7.4%</td>
</tr>
<tr>
<td>Household</td>
<td>15 – 30%</td>
<td>15%</td>
<td>13%</td>
<td>2%</td>
</tr>
<tr>
<td>Others (ACM)</td>
<td>25%</td>
<td>-</td>
<td>4%</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>17%</strong></td>
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*source: Draft National Renewable Energy Master Plan (RIKEN) 2011*

- Low Energy Efficiency
- High primary energy intensity: 502 BOE/Billion IDR

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Global Warming and Climate Change has been a Hot Issue

- President Commitment on G-20 Pittsburgh and COP15 To reduce the GHG Emission in 2020
- Presidential Regulation No. 61 & 71 Year 2011

26% (767 mln Ton)

Own efforts

Forestry, Peat Land, Agriculture (680 million ton)
Energy Sector (30 million ton)
Industry and Transportation (9 million ton)
Waste (48 million ton)

41% (26%+15%)

Own efforts and international support

Through the development of new renewable energy and implementing energy conservation by all sectors
Paradigm Shifting of National Energy Management

1. Energy use has not been efficient
2. Energy demand are met with fossil energy at a cost of whatever and even subsidized
3. Renewable energy as an alternative only
4. Renewable energy sources that are not utilized is wasted God's gift

Current condition:

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• Target in Energy Conservation in year 2025:
  - Energy elasticity < 1
  - Reducing energy intensity 1% per year
Law and Its Derivative

- Law No. 30 / 2007 Concerning ENERGY
- Government Regulation No.70/2009 On Energy Conservation
- Ministry of EMR Regulation No.01 / 2013 on the Control of Oil Fuel Use
- Ministry of EMR Regulation No.13 / 2012 on Electricity Consumption Savings
- Ministry of EMR Regulation No.14 / 2012 on Energy Management
- Ministry of EMR Regulation No. 6/2011 on Affixing Label Energy Saving for Swaballast Lamp

Related Regulations

- Presidential Regulation No. 5/2006 on National Energy Policy (Kebijakan Energi Nasional)
- President Instruction No. 13/2011 on Energy and Water Saving
- Ministry of EMR Regulation No.15/ 2012 on Water Savings
- Ministry of Manpower and Transmigration Regulation No. 321 and 323/MEN/XII/2011 on Standard Work Competence of Indonesia for Energy Manager (SKKNI Manajer Energi)
- Ministry of Manpower and Transmigration Regulation No. 614/MEN/IX/2012 on Standard Work Competence of Indonesia for Energy Auditor (SKKNI Auditor Energi)
Stipulate among others:

• Prioritizing the utilization of new renewable energy and energy efficiencies by the government and regional government

• Providing incentives and disincentives for energy efficiency and renewable energy

• Energy prices based on market mechanism, but provide subsidy for less income people

• Establishment of National Energy Council

• Development of National Energy Plan and Regional Energy Plan
Stipulate among others:

- Responsibilities of Government, regional governments, private sectors and society in energy conservation
- Implementation of energy conservation and energy efficiency from downstream to upstream
- The energy consumers which consume 6000TOE and more are obliged to implement energy management by setting energy conservation program, appointing energy manager and implementing energy audit
- Standard and labeling
- Facilitation, incentive and disincentive for energy consumer and producer of energy saving technology
- Direction and supervision
Companies with energy consumption above 6000 TOE must:
1. Appoint Energy Managers
2. Design Energy Conservation program
3. Conduct regular audit and implement the recommendation of the audit process
4. Report the energy conservation implementation

Companies with energy consumption above 6000 TOE and the manufacturer of energy efficient appliances are eligible for incentives in forms of:
- Tax facilities
- Reduction or alleviation of provincial taxes
- Custom facilities
- Low interest rate from banking sectors
- Energy Audit through partnership program

Meanwhile, in article 22, companies that do not implement conservation program will get disincentives in a form of warnings, publication in media, fines and reduction of energy supply.
3 • PROGRAM ON ENERGY EFFICIENCY & CONSERVATION
## Energy Conservation Program... (1)

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<th>Program</th>
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  - Preparing policy on energy efficiency in industrial, commercial, household, and transportation sector.  
  - Preparing policy on energy conservation of energy resources                                                                 |
| 2. Incentive and Disincentive    | - As a follow up of Government Regulation No. 70/2009 on Energy Conservation  
  - Preparing mechanism of fiscal incentive, incentive for import duty of energy efficiency appliances, etc.  
  - To assess financing scheme for energy efficiency implementation such as revolving fund  
  - To assess criteria for energy efficiency appliances and implementation of energy conservation which will receive incentive and disincentive |
| 3. Creating Public Awareness     | - Conduct seminar/workshop and public advertisement through printed and electronics media, and dissemination of brochure on energy efficiency  
  - Conduct National Energy Awards for building and industrial sector and participating in ASEAN Energy Awards  
  - Energy Efficiency Guidelines (for Building)                                                                                                                                 |
| 4. Education and Training       | - Training on energy efficiency and conservation by Centre for Training and Education – MEMR  
  - Participating in the overseas training on energy conservation in abroad                                                                 |
# Energy Conservation Program... (2)

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| 5. Partnership Program on Energy Conservation     | - Free energy audit incentive for buildings and industries that commit to reduce energy consumption by increasing the energy efficiency level.  
- During 2003 - 2012, energy audit already done for 806 industries and buildings |
| 6. Energy Manager & Auditor                       | - Development of standards for energy manager and auditor  
- Preparing the Certification Institution → HAKE (Expert Association on EC)  
- Conducting Energy Manager Certification : 45 (2012) |
| 7. Standard and Labeling                          | - Energy Efficiency Labeling; provide information for consumers about energy efficiency level of electric home appliances. “More Star, more efficient” (Maximum 4 stars).  
- To encourage manufacturers to increase their quality of products especially in the field of energy efficiency.  
- Energy efficiency label for CFL is a pioneer for electric home appliances (2011).  
- Followed by refrigerator and air conditioner which is implemented in 2012.  
- Minimum Energy Performance Standard (MEPS) will be Implemented soon |
### 8. International Cooperation

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| ASEAN Energy Efficiency and Conservation Sub Sector Network (EE&C - SSN) | - Bilateral Indonesia –Denmark (DANIDA)  
  Cooperation with 3 (three) main outputs:  
  ✓ Energy Efficiency and Conservation Clearing House  
  ✓ Energy Efficient: New large building are efficient  
  ✓ Auditor Certification and review of incentive scheme  |
<p>| Bilateral Indonesia-Netherland (NL Agency) | - Energy efficiency improvement in industrial sector through implementation of Energy Potential Scan (EPS) |
| Bilateral Indonesia-Japan (NEDO) | - Implementation of Smart Grid in Industrial Park |
| International Copper Association (ICA) | - Conducting Minimum Energy Performance Standards (MEPS) for Electric Motor and Air-Conditioning |
| Barrier Removal to the Cost-effective Development and Implementation of Energy Standards and Labeling Efficiency (BRESL) | - Cooperative project among six Asian countries (Bangladesh, China, Indonesia, Pakistan, Thailand, and Vietnam) which together make harmonization of standards and labels of the seven household products (air conditioners, fan, refrigerator, electric ballasts, electric motors, CFL and a rice cooker), also pilot project on replacing the existing lamp with LED in local governent building in Makasar. |</p>
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<thead>
<tr>
<th>Program</th>
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▪ The Indonesian Clean Energy Development (ICED) is a technical assistance program supported by the United States Agency for International Development (USAID) from March 2011 to September 2014. ICED supports government, private sector and civil society in increasing the contribution of clean energy resources (renewable energy, energy efficiency and energy conservation) in Indonesia.  
▪ Development of a NAMA strategy on the substitution of conventional street lighting with LED, supported by GIZ. |
| **9. Energy Efficient Street Lighting**      | ▪ Developing standard for SL system  
▪ Promoting energy efficient technology in SL  
▪ Developing guidelines for implementing energy efficient technology SL. |
TERIMA KASIH
THANK YOU

MINISTRY OF ENERGY AND MINERAL RESOURCES REPUBLIC OF INDONESIA
DIRECTORATE GENERAL OF NEW, RENEWABLE ENERGY, AND ENERGY CONSERVATION
Jalan Pegangsaan Timur No.1A, Cikini, Jakarta 10320; Telp/Fax : (+6221) 3983007/31901087

Energy and Mineral Resources for People Prosperity
www.ebtke.esdm.go.id
www.konservasienergiindonesia.info / www.energyefficiencyindonesia.info
ENERGY EFFICIENCY LABEL: SNI 04-6958-2003 (Comparative Label)

- To Introduce Energy-Saving Rate as a Guide for Consumers
- Logo: “More Star, More Efficient”
TARGET PRODUCTS FOR LABELING

1. Compact Fluorescent Lamp
2. Refrigerator
3. Room Air Conditioner
4. Television
5. Electronic Ballast
6. Electric Fans
7. Rice Cooker
8. Motor
9. Washing machine
10. Electric Iron
STANDARD & LABELING PLAN 2011 - 2015

CFL*  Refrigerator & Air Conditioner  Electric Ballast, Fan, and TV  Refrigerator** & Air Conditioner**  Rice Cooker and Electric Motor  Electric Iron and Washing Machine

* Will be enforced in May 2013
** The regulation of standard will be released in 2013

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Purpose:

- Demand side energy efficiency
- Encouraging supplier (importer and manufacturer) to supply only efficient products;

Planning MEPS for 2014:
MEPS for Electric Motor and Air Conditioning