INDUSTRIAL ENERGY EFFICIENCY POLICY IN INDONESIA
Final Energy Consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>Others</th>
<th>Transportation</th>
<th>Commercial</th>
<th>Household</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>26</td>
<td>170</td>
<td>25</td>
<td>85</td>
<td>234</td>
</tr>
<tr>
<td>2007</td>
<td>25</td>
<td>175</td>
<td>26</td>
<td>87</td>
<td>295</td>
</tr>
<tr>
<td>2008</td>
<td>25</td>
<td>186</td>
<td>27</td>
<td>84</td>
<td>276</td>
</tr>
<tr>
<td>2009</td>
<td>25</td>
<td>210</td>
<td>28</td>
<td>81</td>
<td>260</td>
</tr>
<tr>
<td>2010</td>
<td>22</td>
<td>230</td>
<td>30</td>
<td>82</td>
<td>306</td>
</tr>
<tr>
<td>2011</td>
<td>27</td>
<td>278</td>
<td>33</td>
<td>85</td>
<td>330</td>
</tr>
<tr>
<td>2012</td>
<td>34</td>
<td>330</td>
<td>36</td>
<td>92</td>
<td>325</td>
</tr>
<tr>
<td>2013</td>
<td>31</td>
<td>341</td>
<td>38</td>
<td>100</td>
<td>238</td>
</tr>
<tr>
<td>2014</td>
<td>29</td>
<td>343</td>
<td>39</td>
<td>106</td>
<td>245</td>
</tr>
<tr>
<td>2015</td>
<td>33</td>
<td>307</td>
<td>41</td>
<td>111</td>
<td>264</td>
</tr>
<tr>
<td>2016</td>
<td>19</td>
<td>303</td>
<td>40</td>
<td>115</td>
<td>217</td>
</tr>
</tbody>
</table>

Reference: Excluding Biomass, Other sectors including agriculture, construction and mining
Energy Saving Potential

**INDUSTRY**
Consumption 2016: 217 MBOE
Energy saving potential: 10-30%

Programs:
- Energy Audit / IGA / ESCO
- Energy Management / ISO 50001
- Online reporting system
- Energy manager & auditor certification
- Increase public awareness
- Pilot Project

**COMMERCIAL**
Consumption 2016: 40 MBOE
Energy saving potential: 10-30%

Programs:
- Energy Audit / IGA / ESCO
- Pilot Project
- Energy Efficiency Standard
- Online Reporting System for Government Building

**TRANSPORT**
Consumption 2016: 303 MBOE
Energy saving potential: 15-35%

Programs:
- Mass transport (BRT / MRT / LRT)
- Fuel Switching (Fuel oil to Natural Gas & Biodiesel)
- Transport Management System

**HOUSEHOLD**
Consumption 2016: 115 MBOE
Energy saving potential: 15-30%

Programs:
- EE Standard (Label / MEPS)
- Public awareness

Reference:
- Excluding Biomass
- Other sectors including agriculture, construction and mining

ENERGY CONSERVATION IN INDUSTRIAL SECTOR
## Classification of Industrial Sectors

The division of industries by subsector refers to the Indonesian Standard Classification of Business Fields (KBLI) 2009

<table>
<thead>
<tr>
<th>No</th>
<th>Subsektor Industri</th>
<th>Keterangan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Food Industry</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pharmaceutical Industry, Cosmetics, and Medical Devices</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Textile, Leather, Footwear, and Multifarious Industries</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Transportation Equipment Industry</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Electronics and Telematics / ICT Industry</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Power Plant Industry</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Capital Goods, Components, Auxiliary and Services Industry</td>
<td>Supporting Industry</td>
</tr>
<tr>
<td>8</td>
<td>Upstream Agro Industry</td>
<td>Upstream Industry</td>
</tr>
<tr>
<td>9</td>
<td>Basic Metal and Non Metallic Quarrying Industry</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Basic Chemical Industry Based on Oil, Gas and Coal</td>
<td></td>
</tr>
</tbody>
</table>
Energy Conservation on the Utilization Side
(Government Regulation No 70 Year 2009 Article 12)

Mandatory for energy users that consume more than 6,000 TOE * per year to apply energy management

1. Appoint an energy manager;
2. Preparing energy conservation programs;
3. Conducting periodic energy audits;
4. Implementing the recommendations of the energy audit results;
5. Report on the implementation of energy conservation to the Government

*)

- The number of energy users is not too much, but the total energy consumption reaches about 60% of energy use in the industrial sector.
- 6000 TOE equivalent to 251,400 giga joules (GJ) or 69,780 mega watt hour (MWh).
Appoints Energy Manager
- Must establish an energy management team
- The energy management team is headed by energy managers
- The Energy Manager must have a competency certificate

Conducting an Energy Audit
- Performed periodically at least 1 (one) time in 3 (three) years.
- Conducted by an internal energy auditor and / or an accredited institution.
- The auditor must have a competency certificate

Conducting Energy Audit Results
- Recommended Without Cost applied in less than 1 year
- Low Investment Recommendations applied in less than 2 years
- Medium Investment Recommendations and High Investment Recommendations applied in less than 5 years

Reporting on the Implementation of Energy Management
- Annual report submitted to MEMR c.q. Director General of NREEC, governor, and regent / mayor in accordance with their authority
- Report submitted in January s.d. March 31 of the following year
- Reporting for the first time delivered in January 2013
Trend of Energy Management Reporting

<table>
<thead>
<tr>
<th>Year</th>
<th>Green Category</th>
<th>Yellow Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2013</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>2014</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>2015</td>
<td>21</td>
<td>66</td>
</tr>
<tr>
<td>2016</td>
<td>27</td>
<td>85</td>
</tr>
<tr>
<td>2017</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

i. Green category: The Company has exercised all points contained in Article 12 Government Regulation 70/2009

ii. The yellow category: The Company has exercised some of the points contained in Article 12 Government Regulation 70/2009
Implementation of Energy Management

Year 2017 (POME)

- **Companies reporting**: 141

**Savings gained**

- 8.262 GWh eq/ year

**Decrease in Green House Gas Emissions**

- 4.47 Million CO2 ton/ year

Equal to construct new power plant

1.028 MW eq*

*power plant operational hour: 8040 hours per year
Role of Industry Supports the Energy Conservation Program

Inovation:
- Increasing the capacity of human resources in the face of rapid dynamics
- Adoption of clean energy technology
- Optimization of industrial systems
- Process efficiency in industry

Applying Energy Management:
- High level Management Commitment for energy efficient
- Establish a reliable energy management system
- Continuous improvement through a good management cycle (Plan – DO – Check - Act)

Disemination dan Colaboration:
- Online energy management reporting to the Government to build industrial benchmarking system
- Share success stories to inspire others
- Seeing is believing, mutual comparative study
- Collaboration builds mutual competence

Being The Best
Participated in:
- Competition in Company / Association Group environment
- National Energy Efficiency Award / Subroto Award (National level)
- Asean Energy Award (among ASEAN countries)
- The Energy Management Leadership Awards (among members of Clean Energy Ministerial / CEM)
THANK YOU

“ENERGY CONSERVATION IS THE FOUNDATION OF ENERGY INDEPENDENCE”