1) **Security** – to create stability for national energy need/demand and support the National Economic and Social Development Plan by distributing fuel to reduce risk on depending too much on a fuel’s kind.

2) **Economy** – to create reasonable energy cost for both people and business, which will not be hurdle for long-term national development, including to promote energy efficiency.

3) **Ecology** – to reduce effects on environment and community.
The Energy Efficiency Development Plan (EEDP) is now being drafted in order to conform to the Thailand Power Development Plan (PDP 2015) and achieve the National Agenda.
Energy Saving Targets in the past few years

• 2010; Ref. from the Agreement reached by APEC Leaders in 2007
  A Target to reduce Energy Intensity by 25% in 2030, compared with that in 2005

• 2011
  A Target to reduce Energy Intensity by 25% in 2030, compared with that in 2010

• 2014
  A Target to reduce Energy Intensity by 30% in 2036, compared with that in 2010
To reduce energy intensity (EI) by 30% in 2036, in comparison with 2010

To accomplish the APEC agreed target aiming to reduce EI by 25% in 2030 when compared with 2005

To achieve the GHG emission reduction target according to the pledge submitted to UNFCCC in COP20, which aims to reduce 7% from transport and energy sector in 2020, compared with 2005
EEDP 2015 Saving Target

A Target to reduce Energy Intensity by 30% in 2036, compared with that in 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual EI (ktoe/billion baht)</th>
<th>Forecast EI (ktoe/billion baht)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>15.28</td>
<td>15.28</td>
</tr>
<tr>
<td>2013</td>
<td>14.93</td>
<td>11.0</td>
</tr>
<tr>
<td>2030</td>
<td>11.0</td>
<td>10.7</td>
</tr>
<tr>
<td>2036</td>
<td>10.7</td>
<td>10.7</td>
</tr>
</tbody>
</table>

Assumption:
- GDP Growth 3.8%
- Population Growth 0.03%

Saving from the past & recent measures (EI 15.28 → 14.93):
- Heat 85% (44,059 ktoe)
- Electricity 15% (7,641 ktoe) = 89,672 GWh

Target: 56,142 ktoe

Saving from EEDP:
- 51,700 ktoe
- 4,442 ktoe
Strategies to achieve the target

1. **Compulsory Measures**
   1.1 Enforcement of energy conservation standards in designated factories and buildings
   1.2 Building Energy Code (BEC) on the new buildings
   1.3 Energy labeling on equipment/appliances (HEPS & MEPS)
   1.4 Enforcing of Energy Efficiency Resource Standard (EERS)

2. **Voluntary Measures**
   2.1 Supporting financial tools to hasten the equipment changing
   2.2 Promoting greater use of LED by price mechanism
   2.3 Energy saving measures in transport sector

3. **Complementary Measures**
   3.1 Supporting the human resource development on energy conservation
   3.2 Supporting the creation of public awareness and behavioral change
   3.3 Supporting the energy efficiency technology research and development
Electricity saving

<table>
<thead>
<tr>
<th>Measure</th>
<th>Residential</th>
<th>Industry</th>
<th>Commercial</th>
<th>Total (GWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enforcement of energy conservation standards in designated factory/building</td>
<td>-</td>
<td>10,814</td>
<td>8,834</td>
<td>19,649</td>
</tr>
<tr>
<td>2. Building Energy Code (BEC) for the new buildings</td>
<td>-</td>
<td>-</td>
<td>13,686</td>
<td>13,686</td>
</tr>
<tr>
<td>3. Energy Labeling (HEPs &amp; MEPs)</td>
<td>8,936</td>
<td>6,226</td>
<td>8,598</td>
<td>23,760</td>
</tr>
<tr>
<td>4. Energy Efficiency Resource Standard (EERS) for large energy producers and distributors</td>
<td>1,343</td>
<td>2,367</td>
<td>2,162</td>
<td>5,872</td>
</tr>
<tr>
<td>5. Financial Incentives and support for energy performance achievement</td>
<td>-</td>
<td>9,133</td>
<td>5,941</td>
<td>15,074</td>
</tr>
<tr>
<td>6. Promoting greater use of LED</td>
<td>3,355</td>
<td>3,303</td>
<td>4,975</td>
<td>11,632</td>
</tr>
<tr>
<td><strong>Total (GWh)</strong></td>
<td>13,633</td>
<td>14,516</td>
<td>44,196</td>
<td><strong>89,672</strong></td>
</tr>
</tbody>
</table>

Or Total saving 7,641 ktoe

Government
7,144 GWh (8%)

Residential
13,633 ktoe (15%)

Commercial
37,052 GWh (41%)

Industry
31,843 GWh (36%)
**EEDP 2015 Target by Economic sectors**

**Heat/Fuel saving**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Transport</th>
<th>Industry</th>
<th>Residential</th>
<th>Commercial</th>
<th>Total (ktoe)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enforcement of energy conservation standard in designated factory/building</td>
<td>-</td>
<td>3,467</td>
<td>-</td>
<td>15</td>
<td>3,482</td>
</tr>
<tr>
<td>2. Building Energy Code (BEC) for the new buildings</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. Energy Labeling (HEPs &amp; MEPs) for large energy producers and distributors</td>
<td>-</td>
<td>219</td>
<td>991</td>
<td>915</td>
<td>2,125</td>
</tr>
<tr>
<td>4. Energy Efficiency Resource Standard (EERS) for large energy producers and distributors</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Financial Incentives and support for energy performance achievement</td>
<td>-</td>
<td>8,117</td>
<td>-</td>
<td>123</td>
<td>8,239</td>
</tr>
<tr>
<td>6. Promoting greater use of LED</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. Energy saving measures in transport sector</td>
<td>30,213</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>30,213</td>
</tr>
<tr>
<td><strong>Total (ktoe)</strong></td>
<td>30,213</td>
<td>11,802</td>
<td>991</td>
<td>1,053</td>
<td>44,059</td>
</tr>
</tbody>
</table>

**Total saving in 2036 = 44,059 ktoe**

**Transport**

30,213 ktoe (69%)

**Industry**

11,802 ktoe (27%)

**Residential**

991 ktoe (2%)

**Commercial**

1,053 ktoe (2%)
Summary of EEDP 2015 Target by Measures

<table>
<thead>
<tr>
<th>Expected Energy Saving by Economic Sector</th>
<th>Total (ktoe)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE1 Enforcement of energy conservation standard in designated factory/building</td>
<td>5,156</td>
<td>10%</td>
</tr>
<tr>
<td>EE2 Building Energy Code (BEC) for the new buildings</td>
<td>1,166</td>
<td>2%</td>
</tr>
<tr>
<td>EE3 Energy Labeling (HEPs &amp; MEPs)</td>
<td>4,149</td>
<td>8%</td>
</tr>
<tr>
<td>EE4 Energy Efficiency Resource Standard (EERS) for large energy producers and distributors</td>
<td>9,524</td>
<td>18%</td>
</tr>
<tr>
<td>EE5 Financial Incentives and support for energy performance achievement</td>
<td>991</td>
<td>2%</td>
</tr>
<tr>
<td>EE6 Promoting greater use of LED</td>
<td>500</td>
<td>1%</td>
</tr>
<tr>
<td>EE7 Energy saving measures in transport sector</td>
<td>30,213</td>
<td>58%</td>
</tr>
<tr>
<td><strong>Total (ktoe)</strong></td>
<td><strong>51,700</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Economic Sector

1. Industry
2. Commercial
3. Residential
4. Transportation
Targets in Economic Sectors in 2036

- **Industrial sector**
  - 1994: 10,000 ktoe
  - 2036: 50,000 ktoe
  - With EE Plan: 46% reduction

- **Commercial and governmental sector**
  - 1994: 15,000 ktoe
  - 2036: 40,000 ktoe
  - With EE Plan: 34% reduction

- **Residential sector**
  - 1994: 20,000 ktoe
  - 2036: 70,000 ktoe
  - With EE Plan: 12% reduction

- **Transport sector**
  - 1994: 1994 ktoe
  - 2006: 2006 ktoe
  - 2011: 2011 ktoe
  - 2036: 2036 ktoe
  - With EE Plan: 46% reduction
Strategies to achieve the target

1. Compulsory Measures

1.1 Enforcement of energy conservation standards in designated factories and buildings

- Intensively supervising the implementation of buildings/factories regarding to the ministerial regulations and also forcing the legal punishment

1.2 Building Energy Code (BEC) on the new buildings

- Newly-built/modified buildings over 2,000 M² shall be designated following the ministerial regulations, both standard and criteria
Compulsory Measures

1.3 Energy labeling on equipment/appliances (HEPS & MEPS)

- Set the High Energy Performance Standard (HEPS) to promote the widespread use of the equipment
- Set the Minimum Energy Performance Standard (MEPS) to prevent the importing of low efficiency performance equipment

1.4 Enforcing of Energy Efficiency Resource Standard (EERS)

- Regulating utilities or large energy producers/distributors to help end-users to save energy in the percentage of their usual or expected electricity use
Strategies to achieve the target

2 Voluntary Measures

2.1 Supporting financial tools to hasten the equipment changing

- Subsidy
- Soft Loan
- ESCO Fund
- Tax Incentive

2.2 Promoting greater use of LED by price mechanism

- LED can reduce electricity price ca. 30-85% when compared to general bulbs and also environmentally friendly by mercury free.
1. Promoting EE vehicles using CO\textsubscript{2} tax and EE labeling
2. Promoting EE labeling for tire
3. Logistics and transport management
4. ECO Driving
5.ESCO revolving fund for EE in transport sector
6. Energy saving subsidy in transport sector (SOP+DSM)
7. Developing transport infrastructure; Mass rapid transit
8. Developing transport infrastructure; Double track railway
9. Energy saving from Diesel price policy
10. Energy saving from using electric vehicles (EV)
Thank you for your kind attention