Promoting energy efficiency investments for climate mitigation and sustainable development

Improved regulatory and institutional framework for EE projects

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Executive Director : The Institute of Industrial Energy, The Federation of Thai Industries
Vice President : Thai ESCO Association

The Fifth International Forum on Energy for Sustainable Development
Hammamet, Tunisia, 5th November 2014
Energy Conservation Act


Energy Management in designated buildings and factories
- Appointing Person Responsible for Energy (PRE)
- Energy Management Auditors

Apply to large buildings and factories with 1 MW peak demand

Energy Efficiency Standard Of Equipments and Machinery
- Air conditioners
- Refrigerators
- Motors
- Boilers
- Lighting
- Insulation materials
- Stoves
- etc.

Building Code for New Constructed Big Buildings
- 2,000 sq. meter
- Hotel
- Shopping malls
- Offices
- Hospitals
Achievement of EE Promotion

National Energy Intensity

<table>
<thead>
<tr>
<th>Year</th>
<th>EI (ktoe/billion Baht)</th>
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<tbody>
<tr>
<td>EEDP Based Year : 2010</td>
<td>15.6</td>
</tr>
<tr>
<td>Current Year : 2013</td>
<td>14.93</td>
</tr>
<tr>
<td>Achievement / Target</td>
<td>4.3 % / 25%</td>
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EE Players

Policy
- Energy Policy and Planning Office
- Energy Regulatory Commission

Implementing Agency
- Department of Alternative Energy Development and Efficiency
- Electrical Generating Authority of Thailand

Key Stakeholder
- The Federation of Thai Industries
- The Thai Chamber of Commerce
- Thai ESCO Association
3 most popular EE financial

DSM Bidding Program
- 1 Baht / kWh for 1 year, min 500MWh/yr.
- 75 Baht / MBTU for fossil fuel and 15 Baht / MBTU others, min 400 MMBTU/yr.
- 600 MB /yr.

Direct Subsidy to EE purchaser
- 20% of Standard Price, 3MB max
- 500 MB/yr.

Energy Service Company (ESCO) Promotion
- Revolving Fund at 4% interest rate, 500 MB
- Marketing Activities via FTI
- Support ESCO Association
Development of ESCO Promotion in Thailand

1999
- **Introduction of ESCO Concept as a tool for doing EE projects**
  - The first ESCO pilot project by DEDE, EGAT with support from World Bank

2003-2004
- **Boosting ESCO business by Gov. incentive schemes**
  - Low interest loan program for EE projects
  - Tax incentive for ESCO business

2007
- **Establishment of PPP program for effective ESCO promotion**
  - A Cooperation program between DEDE, FTI and ESCOs for promoting ESCO

2010
- **Indicating ESCO as a major strategy for long term EE Promotion**
  - Putting ESCO as one of the main strategies under the 20 yrs EEDP (2010-2030)
“A business which provides **total services or solutions** in energy efficiency improvement or development of renewable energy based on **performance guarantee concept** with **standardized Measurement and Verification approach**”
Role of Government in promoting ESCO

- Raising of awareness & confidence
- Creating of demand & market
- Providing supports & incentives
- Encouraging networking establishment
- Building capacity & strength
1. Raising of awareness & confidence

Annual Thailand ESCO Fair

ESCO Fairs in provincials

Dinner Talk for Executives

Site Visiting Programs
1. Raising of awareness & confidence

**Awarding Program for ESCO**

- ESCO Awards for 3 categories
  - Excellent ESCOs
  - Excellent ESCO projects
  - Excellent ESCO-supported Banks

- Presenting awards at Thailand ESCO Fair by Energy Minister

- More than 10 ESCOs and 40 projects have been awarded
2. Creating of demand & market

- Organizing **ESCO Business Matching program**
- Forum for deal making in ESCO projects between ESCOs, Customers and Banks
- 10 matchings were conducted in potential locations with averagely 15 – 20 ESCOs and more than 100 customers attended in each matching.
3. Providing supports & incentives

- Incentive programs to encourage EE investment as well as boosting ESCO business have been provided by Gov.

- **ESCO Fund**
  - Co-investing program with benefit sharing in EE/RE projects
  - **Equipment Leasing**
    - 100% of total cost with max. 10 mill. Baht/proj.
    - Interest rate Max. 4% (negotiable)
    - Max. leasing period 5 years
    - Apply for ESCO with Energy Performance Contract

- **Tax incentive from BOI to ESCO**
  - Tax break on income tax (max 8 yrs)/import duty

- Establish ESCO Information Center
  - Website providing all info. about ESCO: www.thaiesco.org
4. Building capacity & strength

**Trainings:**
ESCO/Entrepreneur /Banks /DEDE&FTI

**Site Visiting Programs**
5. Encouraging networking establishment

**Internal**

DEDE & FTI

ESCO-Bank Networking

ESCOs Networking

**External**

PPP network for ESCO

Japan

 ✓ JAESCO
 ✓ JASE-W

Korea

 ✓ KEMCO

Singapore

 ✓ SEAS

APEC

 ✓ CEEDS

Thai ESCO Association

newly established (Dec. 2013)
5. Encouraging networking establishment

Thai ESCOs Networking

- Candidate ESCOs are encouraged to be registered by FTI under the PPP program with the supervised from DEDE

- 5 criteria will be considered for registration & awards:
  - **Achievement in implementing ESCO projects;**
    - no. of successful EPC / guaranteed performance / M&V completion
  - **Company’s competency;**
    - experience/ awarded QS standard; ISO/ no. of areas of expertise
  - **Staff’s competency;**
    - working experience/ training experience / professional certificate
  - **Financial’s capability;**
    - authorized capital/ D/E ratio (<3) / ability of issuing B/G
  - **Environmental concerns;**
    - environmental-related policy / environmental-friendly technology
5. Encouraging networking establishment

Thai ESCOs Networking

- Registration on yearly basis with free of charge
- FTI presents certificates for registered ESCOs
- 57 companies have registered for Thai ESCOs;
57 registered ESCOs to offer service

Establishment of Thai ESCO Assoc. for sustainability

5 Banks are in ESCO-Networking for financing

Cooperation with ESCO Assoc. from 3 countries

429 EPCs have been implemented through ESCO with total saving of 1.3 bill. Baht/yr

Stimulating total investment up to 7 bill. Baht
Commercial bank loan program for ESCO projects