Country Report
(Thailand)
EE2 Building Energy Code (BEC)

1. Enforcement of the Ministerial Regulation
   - Enforcement BEC standard
   - Development of BEC auditor training
   - Tightening BEC standard

2. Supporting new energy conservation building
   - Energy building labels
   - Financial incentives, for example government funds or low interest personal loans

3. Zero Energy Building
   - Study green building design, economic value and the climate change of Thailand
   - Zero Energy Building Plan

Road Map according to BEC

**Target:** Government and private new building total area ≥ 2,000 m²

- 9 types of new buildings
- In 2018, Starting enforce with new buildings area ≥ 10,000 m²
- Down to small size in 3 years

- To support the new projects receive formal green building certification as LEED, TREES.

<table>
<thead>
<tr>
<th>Area</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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<tbody>
<tr>
<td>10,000 m²</td>
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<td>5,000 m²</td>
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<td>2,000 m²</td>
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EEP = Energy Efficiency Plan
PDP = Power Development Plan
AEDP = Alternative Energy Development Plan

- Envelop system
- Lighting system
- Air conditioning
- Hot water system
- Renewable energy
Building Energy Code Standard

- 9 types of new buildings
- Total area $\geq 2,000 \text{ m}^2$
BEC Standard

Standard for building design

1. System compliance
   - Envelop system: FAILED
   - Lighting system: PASSED
   - Air conditioning: PASSED
   - Hot water system: PASSED

2. Whole building compliance
   - Designed Building: 250,000 kWh/year
   - Reference Building: 300,000 kWh/year

   Hot water system: PASSED
BEC Implementation

BEC Center

Since 2010

“Coordinating Center of Energy Conservation Building Design”

- To provide information to any government sectors, state enterprises, or project stakeholders regarding the evaluation procedures of building plans for energy conservation as required by the Ministerial Regulation
- To create collaborative networks between the government and private sectors in order to lay the foundation of energy conservation building design

Evaluation of energy conservation building
(2009 - 2017 = 500 building drawing plans)

BEC’s auditor training 2,000 persons
(Architect, Engineer and Building Owner etc.)

MOU municipalities and universities
(Bangkok, Chiangmai, Pattaya etc.) (KU, TU, CMU, KMITL etc.)

Private network and professional associations
(Engineering institute, Siamese Architects) (SCG, CPN, LPN)

Develop of prototypes for standard government conservation building drawing plans
Result of the Evaluation of BEC

Only 32% of Private Building in Cooperation with the Promotion of BEC from 2009 to 2016

500 Buildings

- Condominium: 21.40% (107 Buildings)
- Hotel: 11.20% (56 Buildings)
- Department Store: 1.00% (5 Buildings)
- Convention Hall: 9.40% (47 Buildings)
- Office: 14.80% (74 Buildings)
- Government sector: 37.90% (121 Buildings)

Energy Saving 2009 - 2016

Energy Saving: 278.81 GWh/yr
- Oil Equivalent: 23.83 ktoe/yr
- Cost Value: 975.84 Baht/yr
- Reduce CO₂: 161.71 tons
BEC AWARDS 2017

For the energy conservation buildings passing every saving system.

- Excellent: >70%
- Very good: 50-70%
- Good: 30-50%

Rewards in 2016-2017, 96 buildings
Excellent 9, Very good 38, Good 49

Energy conservation Building’s Label
Evaluation of Thailand Energy Award

1. Renewable Energy
2. Energy Efficiency
   - Building
     - Small and Medium Building Category (1)
     - BEC Category (6)
     - New and Existing Building Category (3)
     - Retrofitted Building Category (3)
     - Tropical Building Category (1)
   - Industry
   - Transportation
3. Personnel
4. Energy Creativity
5. Contributor of Efficiency Energy and Renewable Energy

Since 2000
www.thailandenergyaward.com
ASEAN Energy Award 2017

1. Renewable Energy
2. Energy Management in Building and Industry
   - Small and Medium Building Category (1)
   - Large Building Category (2)
3. Energy Efficiency Buildings
   - Retrofitted Building Category (2)
   - Tropical Building Category (1)
4. Green Building (1)

From AEA 2017, Thailand joined the event in 27 September 2017. There are 19 awards that Thailand entrepreneur get from AEA 2017.
THANK YOU

www.dede.go.th
www.2e-building.com
E-mail : 2e.center@gmail.com