Sustainable Financing Mechanisms and Practice for the Energy Transition in Thailand

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• Thailand’s National Energy Policy
• Energy Investment for Energy Transition
• Way Forward
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Overview of Energy Situation

Primary Commercial Energy

As of Jan-Aug 2022

**Primary Energy Production**

- **18.6%**
- **Total 699 thousand barrel/day***

Primary energy production decrease in all energy type except hydro increase 49%

**Primary Energy Import (Net)**

- **4.7%**
- **Total 1,610 thousand barrel/day***

Primary energy import (net) increase in all energy type such as crude oil, electricity and natural gas except coal

**Primary Energy Consumption**

- **2.5%**
- **Total 2,059 thousand barrel/day***

Primary energy consumption increase YoY basis especially oil product coal hydro and import of electricity

**Final Energy Consumption**

- **11.2%**
- **Total 1,552 thousand barrel/day***

Final energy consumption increase in all energy type

Source: EPPO, Thailand

Remarks: Year on Year basis
Electricity

**Electricity Supply**

**Contract Capacity**
- EGAT: 32%
- IPP: 30%
- SPP: 18%
- Import: 12%
- VSPP: 8%

*52,938 MW* (August 2022)

**Electricity Production**
- 3.8%
- 146,799 GWh*
- Export: 1,402 GWh

**Power Generation**
- from oil/hydro/import and RE increase
- but from coal/lignite decrease

**Peak in EGAT, MEA, PEA System**
- 33,177 MW

As of 28 April 2020 at 14.30 Hrs.
(Not include IPS’s peak)

**Electricity Consumption**
- 4.3%
- 133,464 GWh*

**Use of Electricity**

<table>
<thead>
<tr>
<th>Type</th>
<th>Growth (%)</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households</td>
<td>▼ 0.3</td>
<td>28</td>
</tr>
<tr>
<td>Business</td>
<td>▲ 10.7</td>
<td>23</td>
</tr>
<tr>
<td>Industry</td>
<td>▲ 4.0</td>
<td>45</td>
</tr>
<tr>
<td>NGO</td>
<td>▲ 8.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Agriculture</td>
<td>▼ 19.9</td>
<td>0.2</td>
</tr>
<tr>
<td>Others</td>
<td>▲ 10.9</td>
<td>2</td>
</tr>
<tr>
<td>Free of Charge</td>
<td>▲ 6.3</td>
<td>2</td>
</tr>
</tbody>
</table>

Electricity consumption has increased in all sector, especially in business sector has increased up to 10.7%
(except agriculture and households)

Remarks: Year on Year basis
Source: EPPO, Thailand
Fuel Mix for Power Generation

- **Natural Gas**: 113,113 GWh (54%)
- **Lignite/Import Coal**: 36,065 GWh (17%)
- **Import**: 33,356 GWh (16%)
- **Renewable**: 21,894 GWh (11%)
- **Hydro**: 4,540 GWh (2%)
- **Oil**: 716 GWh (0.3%)

Source: EPPO, Thailand
Thailand’s National Energy Policy

Thailand’s Nationally Determined Contribution (NDC)

Action Plan for NDC (Potential)

- Energy + Transport: 216 MtCO₂eq
- Agriculture: 2.6 MtCO₂eq
- IPPU: 1.1 MtCO₂eq
- Waste: 2.6 MtCO₂eq

At 2030 Reduce GHG emission 222 MtCO₂e

Equal to 40% Reduction*

Remark: with international support

Source: EPPO, Thailand
Thailand’s National Energy Policy

Benefits from adapting low carbon economy energy plan

- Create economic value
- Reduce investment in underperforming stranded assets

- Increase the competitiveness of Thai entrepreneurs
  Supporting trade models through the carbon tax mechanisms

- Increase investment and employment in the economy
  By increasing RE

- Economic recovery after COVID-19

- Mitigate the impacts of PM 2.5
We are developing our energy system to achieve the goals of Affordable & Accessible Energy for all.
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Energy Investment for Energy Transition

Catalyst on Investment

SDG 7
Ensure access to affordable, reliable, sustainable and modern energy for all

Source of Fund
- Banks/Financial Inst.
- Donors
- Green Climate Fund

Conditions
Taxonomy for sustainable finance among AMS

€$¥

Clean Energy Project Proposal

National Energy Plan 2022
RE Expansion/EV Promotion/New Energy/CCUS/Grid Modernization/BCG

Project Developers
- COVID19 Recovery
- Lower Pressure on People’s Energy Spending
- National Commitments
- Available Bankable Projects

Energy Transition

Jan - Sep 2020
Energy Investment for Energy Transition

ESCAP’s role to promote clean energy investment

Provide Technical Assistance
- Country’s roadmap to achieve SDG7
- Identify the right technology for SDG7
- Enhance clean energy infrastructure connectivity
- Ensure that the carbon market will benefit the region
- Identify and help unlock related regulations for smooth fund flow

Facilitate Financial Flows
- Build up the comprehensive list of clean energy funding sources
- Educate project developers to access to source of funding
- Create platform for matchmaking funding for clean energy project
- Support the fast lane of approval for funding

Mitigate Impacts from Energy Transition
- Evaluate the comprehensive impacts of energy transition on community and individuals
- Focusing on vulnerable group of people to identify the appropriate support
- Implement necessary program of assistance to upskill/reskill workers for the new jobs.

ESCAP
Economic and Social Commission for Asia and the Pacific
Energy Investment for Energy Transition

Thailand’s Green Industry Promotion to reduce the GHG toward sustainable

1. **Measure for Improvement of Production Efficiency**
The investment plan on the project of **machinery replacement or upgrade** for energy conservation, alternative energy utilization or environmental impact mitigation

2. **Investment Promotion Measure for Grassroots Economy**
to reduce the impact of GHG from agriculture sector and high potential business operators to develop the sustainable agriculture

3. **Investment Promotion Measure for Electric Vehicle**
- EV Production
- Electric Motorcycle Production
- Parts for EV

4. **Investment Promotion Measure for CCUS**
- Gas Separation Plants business
- Petrochemical production business

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**Incentive**
- **Exemption** of import duties on machinery
- **CIT Exemption** 3 Years
- no more than **120%** of the investment capital

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**Incentive**
- **CIT Exemption** 3 Years
- **50%** of investment capital

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**Incentive**
- **CIT Exemption** 3-11 Years
- Depend on each business

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**Incentive**
- **CIT Exemption** 8 Years
- Depend on each business

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*Source: BOI, Thailand*
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Way Forward

1. Create predicable scenario plan for future cooperation during the energy transition
2. Prepare necessary energy infrastructure for the future transition
3. Encourage technology sharing and transfer
4. Mitigate the impact of energy transition on the community and workforce
5. Ensure cost effective funding for green energy projects
6. Gain public acceptance for energy transition
Thank you