



**Asia-Pacific
Economic Cooperation**

2017/EWG/EGEEC50/015

Economy Update – Thailand

Purpose: Information
Submitted by: Thailand



**50th Expert Group on Energy Efficiency and
Conservation Meeting
Moscow, Russia
6-7 October 2017**

Economy update in Thailand

Department of Alternative
Energy Development and
Efficiency (DEDE)

Bureau of Energy Regulation
and Conservation

 Department of Alternative
Energy Development and Efficiency
MINISTRY OF ENERGY



 กระทรวงพลังงาน
MINISTRY OF ENERGY

1

- **Thailand's Energy Situation**

2

- **Energy Efficiency Project Update in 2017**



Department of Alternative
Energy Development and Efficiency

MINISTRY OF ENERGY

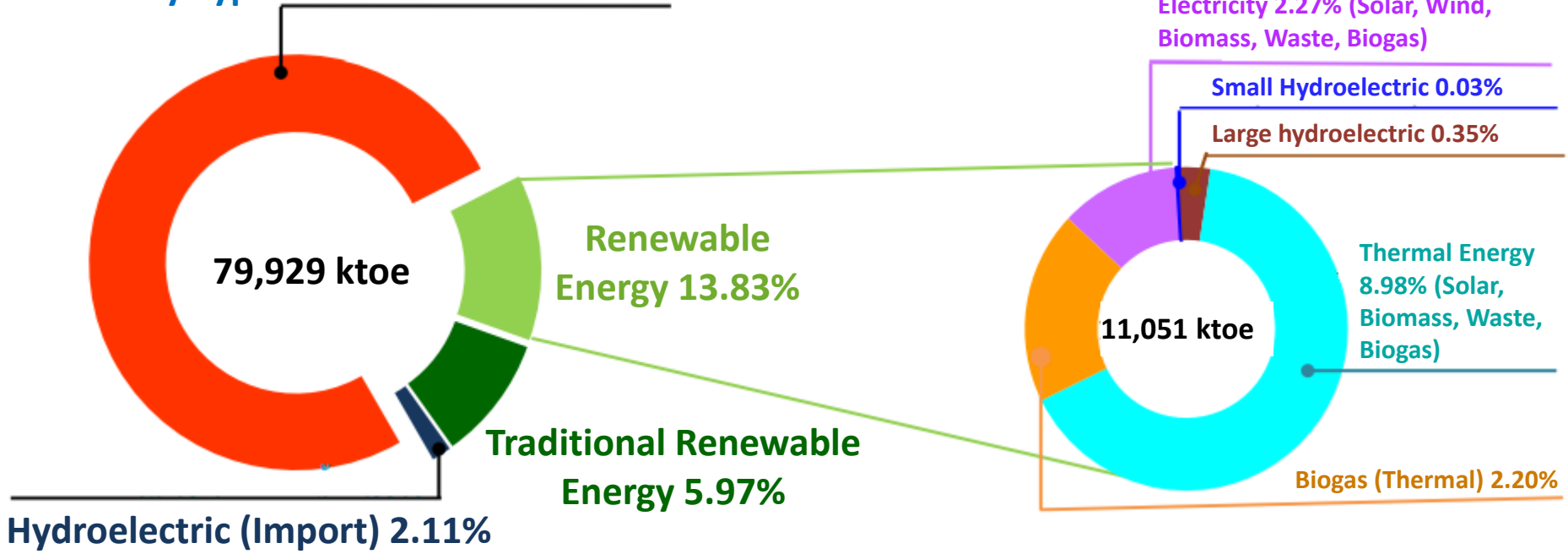
Thailand's Energy Situation

Thailand Energy Situation 2016

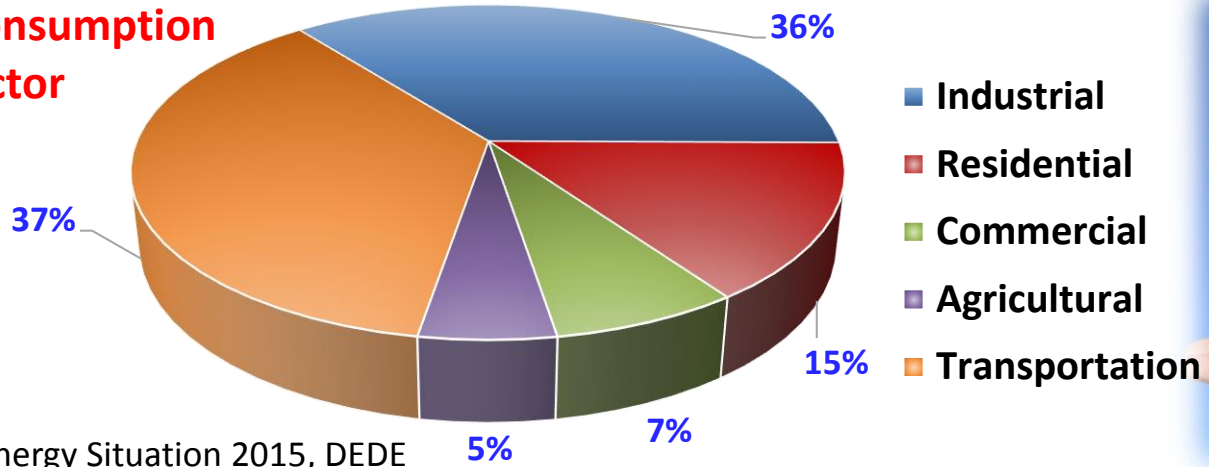
Final Energy Consumption

By Type

Fossil Fuel 78.09%



Final Energy Consumption by Sector





Integration



Harmonized Time Frame



Better Balanced Focus

Security Economy Ecology

PDP

POWER DEVELOPMENT PLAN

แผนพัฒนากำลังผลิตไฟฟ้าของประเทศไทย*

EEP

ENERGY EFFICIENCY PLAN

แผนอนุรักษ์พลังงาน*

AEDP

ALTERNATIVE ENERGY DEVELOPMENT PLAN

แผนพัฒนาพลังงานทดแทนและพลังงานทางเลือก

GAS

GAS PLAN

แผนบริหารจัดการก๊าซธรรมชาติ

OIL

OIL PLAN

แผนบริหารจัดการน้ำมันเชื้อเพลิง



กระทรวงพลังงาน
MINISTRY OF ENERGY

PDP

EEP

AEDP

GAS

OIL

TIEB

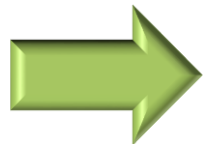


EEP 2015 Overview

Goal to reduce **Energy Intensity** by **30%** in **2036**

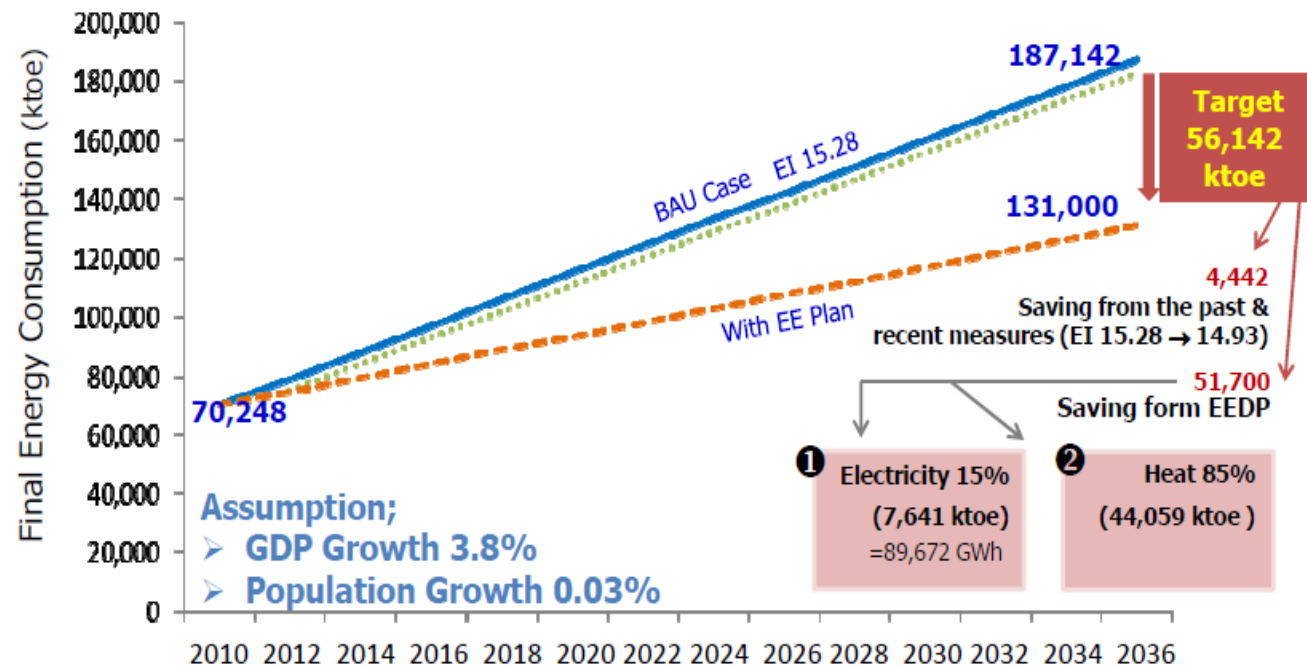
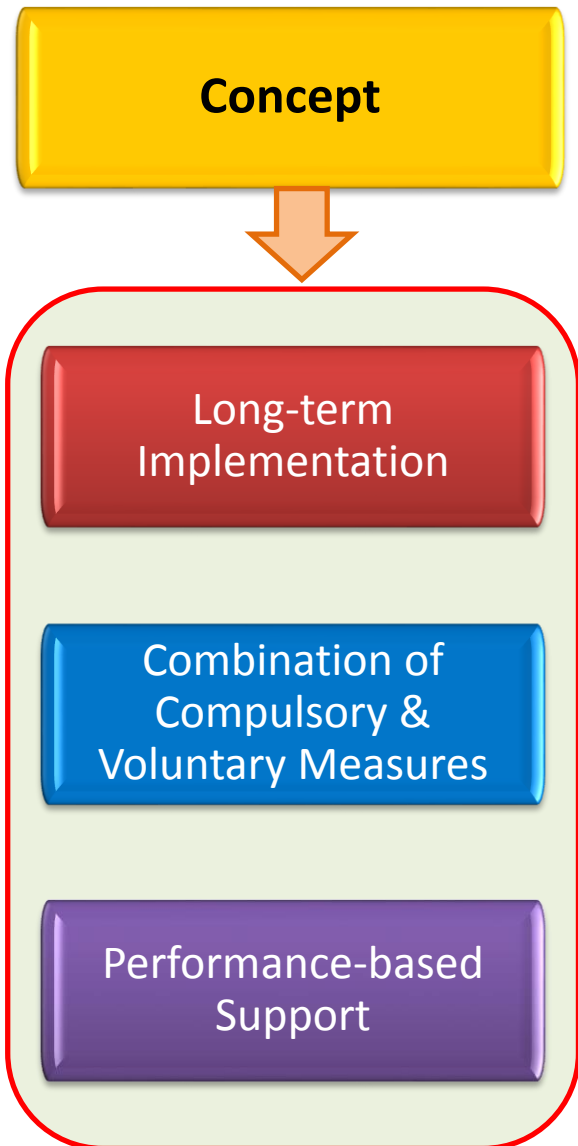
EEDP 2011 - 2030 = 25% Reduction

EI (2010) actual	EI (2013) actual
8.54	8.23
ktoe/billion baht	ktoe/billion baht



EEP 2015 - 2036 = 30% Reduction

EI (2036) forecast
5.98
ktoe/billion baht



3 Strategies – 10 Measures 4 Economic Sectors

- | | |
|---------------|-------------------|
| 1. Industry | 3. Residential |
| 2. Commercial | 4. Transportation |

1. Compulsory

- Enforcement of energy conservation standard (**designated factory/building**)
- Building Energy Code (**BEC**)
- Energy Standard and Labeling (**HEPS/MEPS**)
- Energy Efficiency Resources Standard (**EERS**)

2. Voluntary

- Financial Incentive
- Promotion of **LED** (Light Emitting Diode)
- Energy Saving Measures in **Transport** Sector

3. Complementary

- Research and Development (**R&D**) in Energy Efficient Technologies
- Human Resources Development (**HRD**)
- Promotion of Public Awareness on Energy Conservation (**PR**)



Yearly target: EEP2015 Action Plan

Unit : ktoe

Energy Efficiency Measure	2016	2017	2018	2019	2020	2021	2022-2031
EE-1 EM in Designated Building & Factory							
EE-2 Building Energy Code	299	311	323	331	339	347	2,920
EE-3 HEPS & MEPS and Labelling		-	-	21	22	23	1,101
EE-4 EERS							
EE-5 Financial Support	104	117	126	151	271	290	2,922
EE-6 Promoting LED	-	-	-	-	-	-	500
EE-7 Transportation							
Total (Not Incl. EE7)	417	256	349	348	627	399	7,100
Total	13	19	25	31	33	36	832
	1,059	567	797	934	2,320	946	21,875
		703	823	882	1,297	1,095	15,375
							37,251 ¹⁰

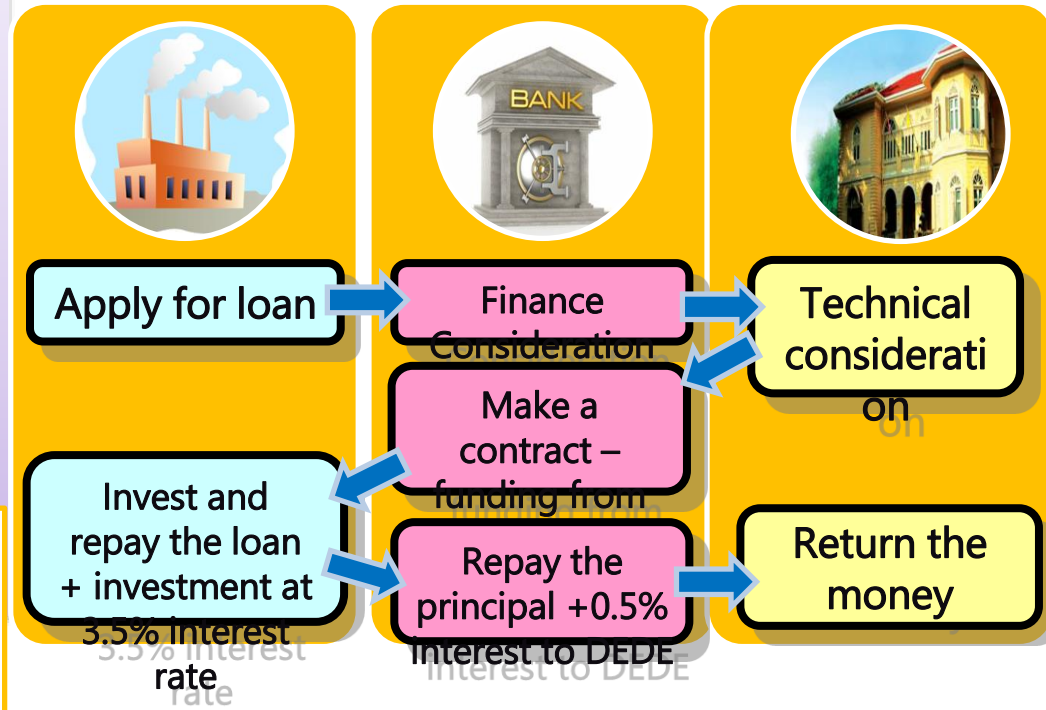


Energy Efficiency Project Update in 2017

Criteria:

- Available for factories/buildings/project developers for both EE and RE (RE ~ 37%)
- DEDE loans the funding via financial institutions to familiarize the bank with EE/RE investment
- Maximum loan of no more than 50Mbaht (1.5 million USD) at an interest rate of 3.5% per annum
- Payback period of less than 5 years

Status on 6th phase :
 Proposal : 82
 Loan approval : 38.24 Mdollars
 Energy saving : 7.512 ktce



Phase	# of projects	Total investment (Mbaht)/(Mdollar)	Investment via ENCON Fund (Mbaht)/(Mdollar)	Investment via bank (Mbaht)/(Mdollar)	Energy saved (ktce)	Energy saved (Mbaht)/(Mdollar)
1	78	3,427/103.85	1,902/57.64	1,525/46.21	98	1,805/54.70
2	83	3,330/100.91	1,735/52.58	1,595/48.33	99	1,713/51.91
3	98	5,878/178.12	2,702/81.88	3,176/96.24	93	2,329/70.58
4	12	1,282/38.85	377/11.42	905/27.42	13	421/12.76
5	24	2,042/61.88	489/14.82	1,554/47.09	17	539/16.33
Total	295	15,959/483.61	7,205/218.33	8,755/265.30	320	6,806/206.24

Subsidy Incentive

Energy Efficiency Improvement for factories via Investment Stimulus Project

ปรับเปลี่ยน
 เครื่องจักร/อุปกรณ์
 สนับสนุนเงินลงทุน
20 - 30%

Overview



Technical Assistance



Financial Incentive



Applicants

Qualification Overview

- **Eligible parties:** buildings and factories
- **Allocated fund:** 300 Mbaht (9 Mdollars)
- Subsidize 30% of equipment and installation cost for non-designated buildings and factories
- Subsidize 20% of equipment and installation cost for designated buildings and factories
- Max of 1,500,000 Baht (45,000 Dollars)
- Payback period no longer than 7 years

Period: May 2017 – July 2017
Applied : 541
Total requested amount of subsidy : 357 Mbaht (10.8 Mdollars)
Status : Pending



EE5: Financial Incentive – DSM Bidding



โครงการส่งเสริมการปรับปรุงเพื่อเพิ่มประสิทธิภาพการใช้พลังงาน
ระบบปรับอากาศขนาดใหญ่และระบบทำความเย็น
ในภาคอุตสาหกรรมและธุรกิจ

Qualification Overview

- **Eligible parties:**
- buildings and factories have
 - Chiller or Cooling system > 100 Tons or
 - Air Conditioning Space > 500 m²
- **Allocated fund:** 500 Mbaht (15.2 Mdollars)
- Subsidize 2 baht (0.06 Dollars)/ 1 kWh saved for payback period > 3 years
- Subsidize 1 baht (0.03 Dollars)/ / 1 kWh saved for payback period < 3 years
- Minimum saving 50,000 kWh/year
- Maximum subsidize 10,000,000 Baht (0.3 Mdollars)

“ ลดไฟฟ้า 1 หน่วย
รับสูงสุด 2 บาท/หน่วย
สูงสุด 10 ล้านบาท/แห่ง ”

สมัครด่วน!!!
ตั้งแต่บัดนี้
จนถึง 20 สิงหาคม 2560



- Research study of defining an energy effectiveness standard of electric motorcycle
- Research study of defining an energy effectiveness standard of electric vehicle charger
- Research study of developing and managing an energy conservation of freight transportation and domestic watery passenger
- Research study of developing and managing an energy conservation of domestic air shipments
- The Project of disseminating of energy conservation knowledge of Transportation
- The project of developing truck drivers so as to save energy in the freight shipment business





Thank You