

# **“Feasible trends toward higher BDF-Diesel mix ratio in Thailand”**



**Bureau of Biofuel Development**  
Department of Alternative Energy Development and Efficiency  
Ministry of Energy of Thailand

# Thailand Integrated Energy Blueprint



**PDP**

**Power Development Plan**  
(Cabinet approve in Jun. 30, 2015)

**EEP**

**Energy efficient Plan**  
(Cabinet approve in Oct. 6, 2015)

**AEDP**

**Alternative Energy Development plan**  
(Cabinet approve in Oct. 27, 2015)

**GAS**

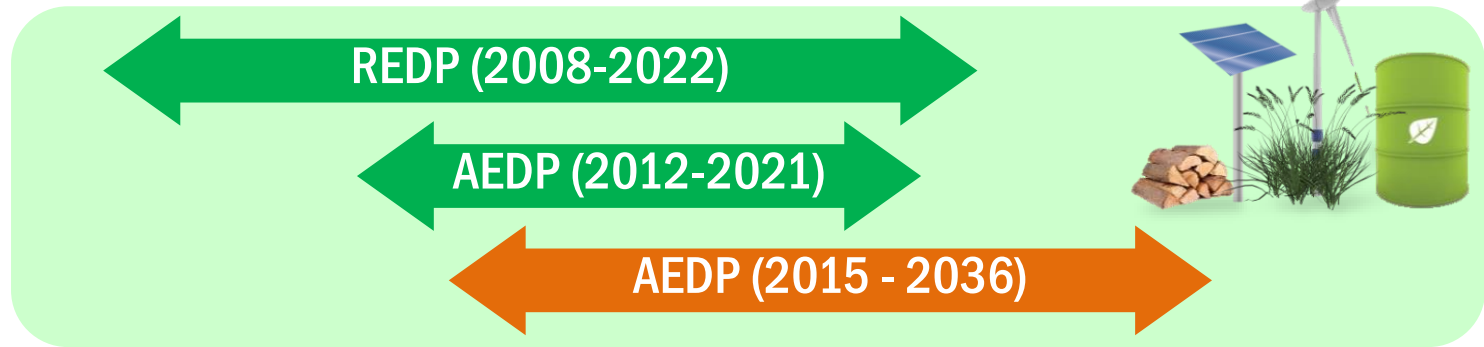
**Gas plan**  
(Cabinet approve in Oct. 27, 2015)

**OIL**

**Oil plan**  
(Cabinet approve in Oct. 27, 2015)

# AEDP – History and Objectives

## Renewable/Alternative Energy Development Plan



### Economy

- To develop alternative energy production with suitable technology

### Energy Security

- To fully utilize county's alternative energy potentials

### Ecology

- To increase social and community benefits from alternative energy production and usage

**OBJECTIVE**



# AEDP 2015 - Targets

## Overall Targets

**30%**

By  
**2036**

Renewable Energy  
in total energy consumption



**Electricity**

**19,684.4 MW**



Wind



Hydro



Waste



**Heat**

**25,088 ktoe**



Solar



Biomass



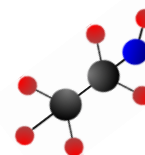
Biogas



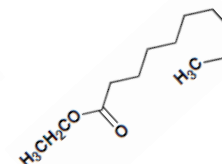
**Fuel**

**11.3 MLPD Ethanol  
14 MLPD B100**

**+0.53 MLPD Pyrolysis Oil  
+4,800 TPD of CBG**



Ethanol



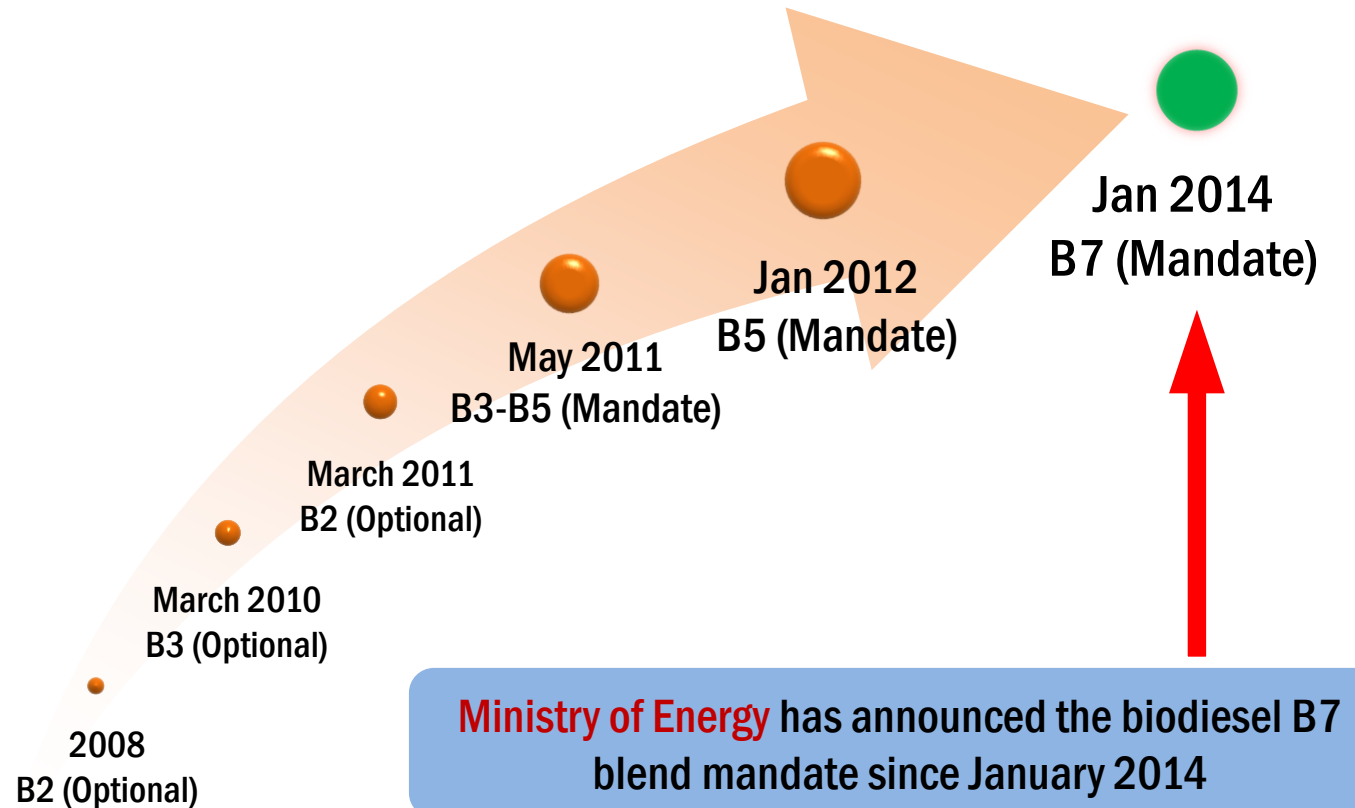
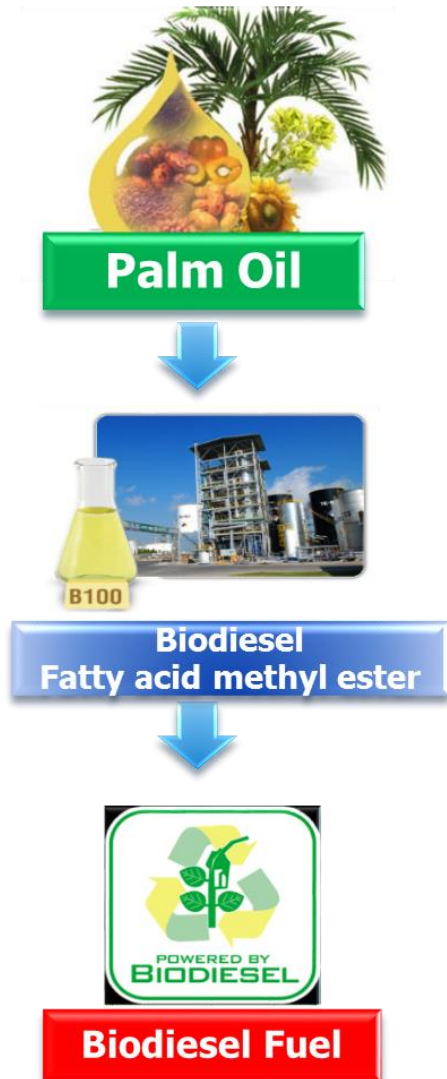
Biodiesel

**CBG**

Compressed  
Biogas

# Thailand Biodiesel History

## History of biodiesel blend in Thailand





# Thailand Palm Situation

**Oil palm**



There are only some certain areas suitable for oil palm plantation in Thailand (eg. Southern and Eastern)

Oil palm plantation area : 4.401 M.Rai

1 Hectare = 6.25 Rai



Crude palm oil  
2.09 MT

CPO import 50 KT



Domestic  
consumption

1.05 MT



Biodiesel  
Production

0.83 MT



Export

0.07 MT



Year End Stock

0.33 MT

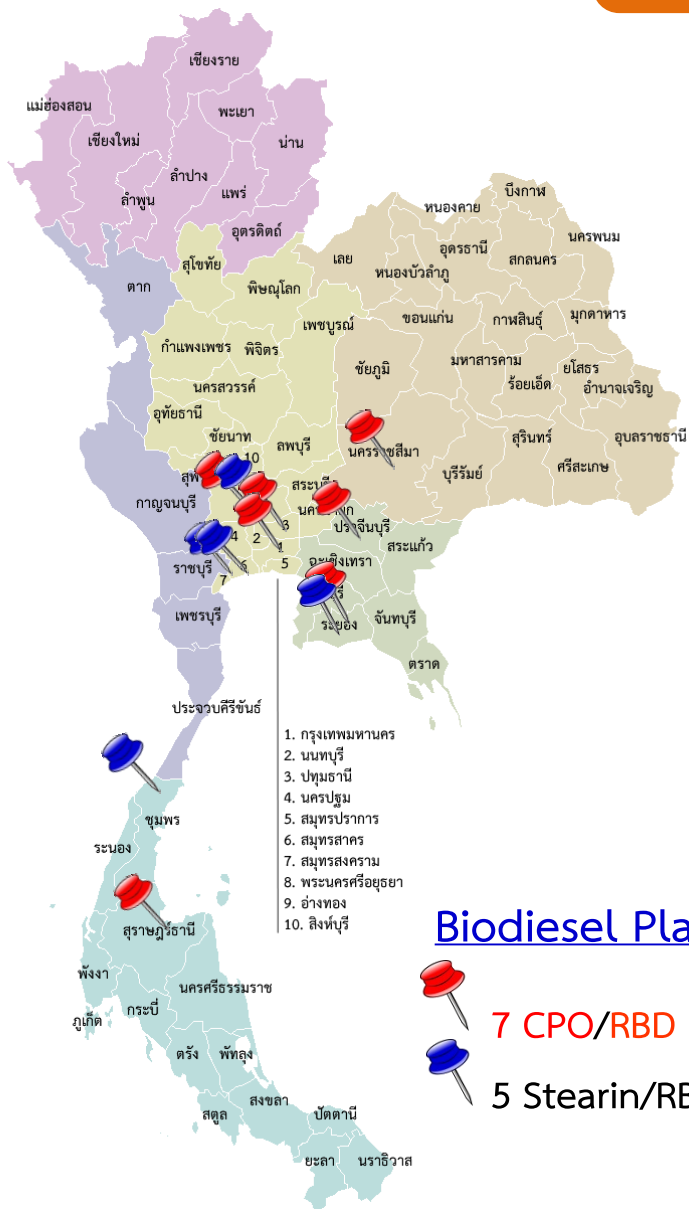
Oil palm plantation in Thailand

Average (2015 ) B100 consumption : 3.39 ML/day





# Biodiesel Production Plant



Feedstock	Registered capacity	
	No. of factories	Capacity (ML/day)
CPO/RBDPO/Palm Stearin	7	4.27
Palm Stearin	5	1.40
Total	12	5.67

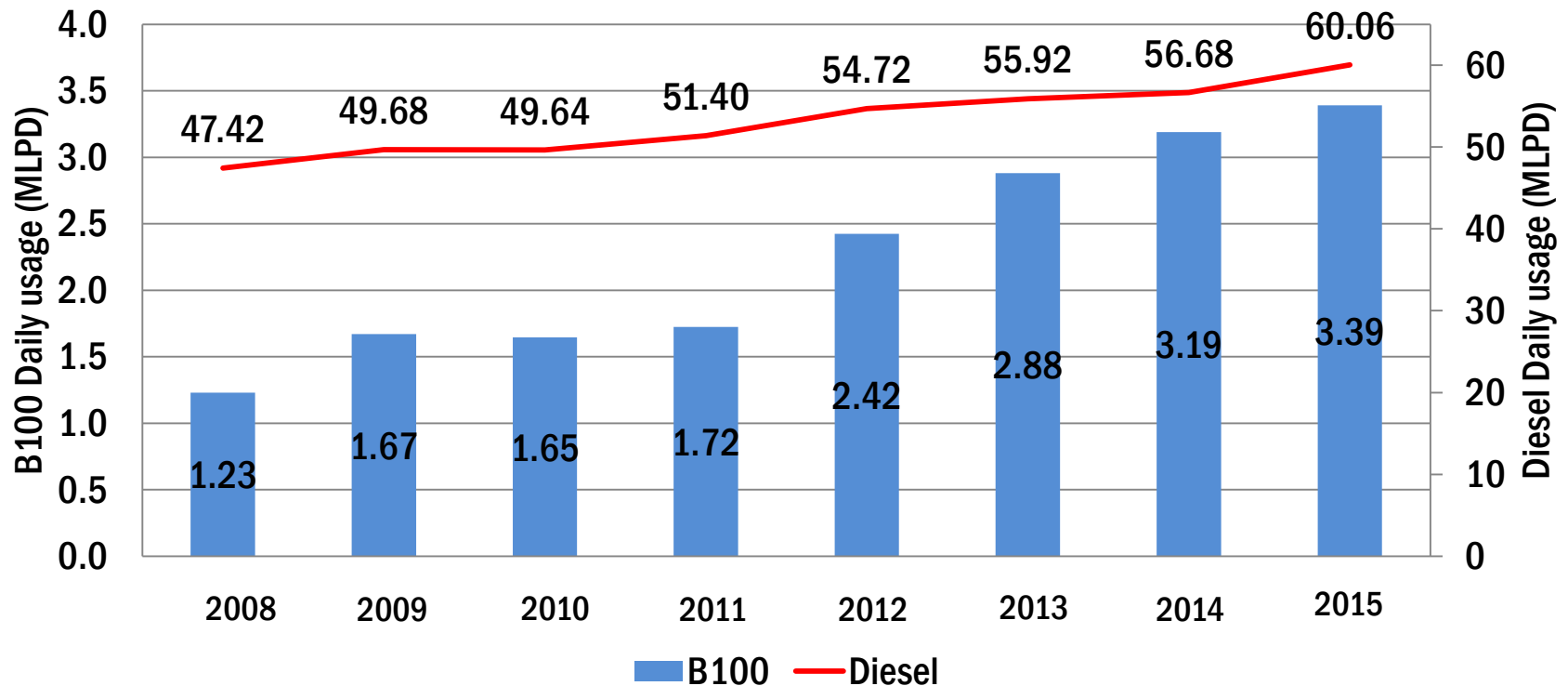
Department of Energy Business, March 2015



# Biodiesel Usage



Thailand mandated 7% biodiesel (B7) blend  
for every liter of diesel sold since Jan 2014



- Thailand mandated **B5** since Jan 2012 and **B7** since Jan 2014
- Blending percentage can be adjusted in accordance with palm oil supply abundance



# 2016 and beyond



Jan. – Mar. 2016 : Average B100 usage 4.23 MLPD

Jan. – Mar. 2015 : Average B100 usage 2.56 MLPD



Jan. – Mar. 2016 : Average blending ratio 6.7%

Jan. – Mar. 2015 : Average blending ratio 4.3%

Sources – Department of Energy business



**AEDP Target for Biodiesel of 14 Million Liter Per Day**

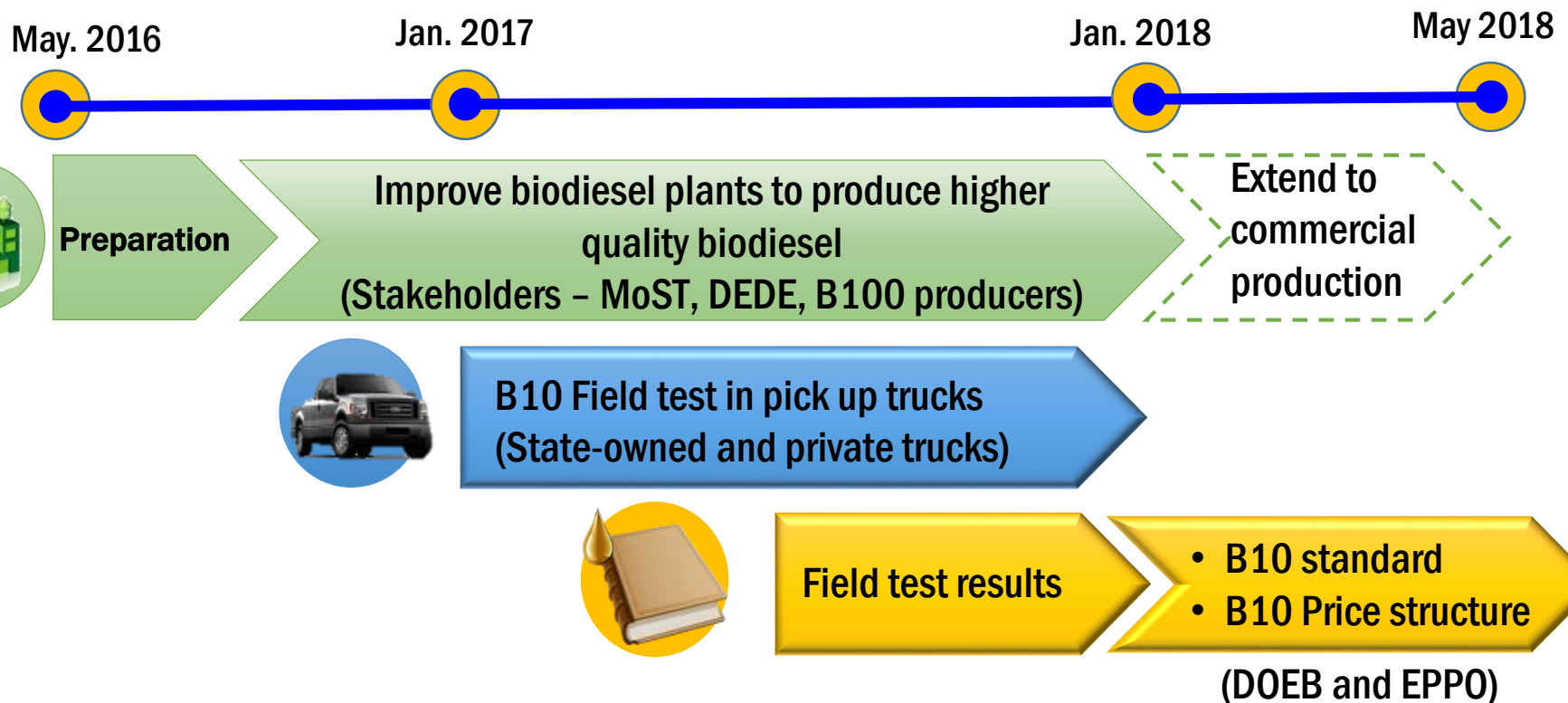
**“Higher Blending ratio is key”**



# Near term plan for biodiesel

**Target – Increase blending ratio from B7 to B10**

**Research targets :** 1. Improve biodiesel quality  
2. Field test with pick up trucks up to 50,000 KM





# Stakeholders

## Ministry of Energy

### DOEB

B10 standard

### EPPO

B10 price structure

### DEDE

Biodiesel research  
and overall policies

## Other Ministries

M. Agriculture & cooperative  
Palm production and cost

M. Commercial  
CPO management

M. Finance  
B10 vehicle excise tax code

M. Industry  
B10 vehicles production

M. Science & technology  
Biodiesel R&D

## Private sectors

### Motor industry

- Support B10
- Produce B10 car/trucks

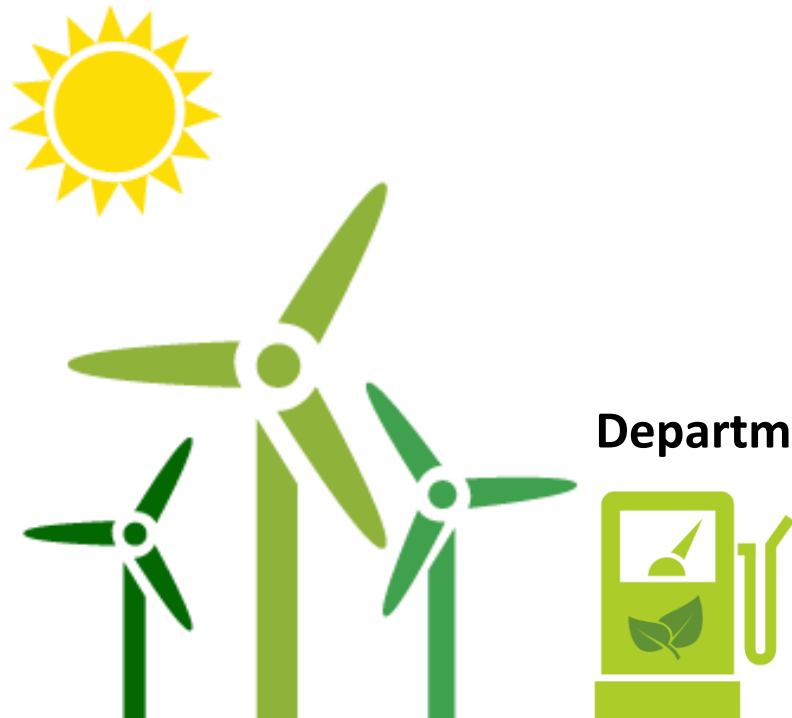
### Oil industry

Distribute and sell  
B10



**The target to sell B10 as  
an alternatives to B7 by  
2018.**

# THANK YOU FOR YOUR ATTENTION



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