

# Thailand Biofuel policies

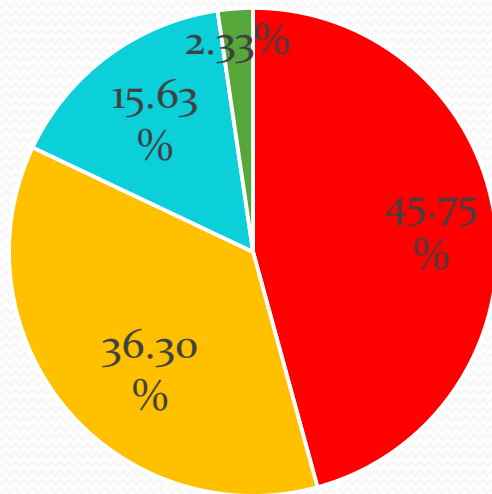
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Efficiency



# Energy situation in Thailand

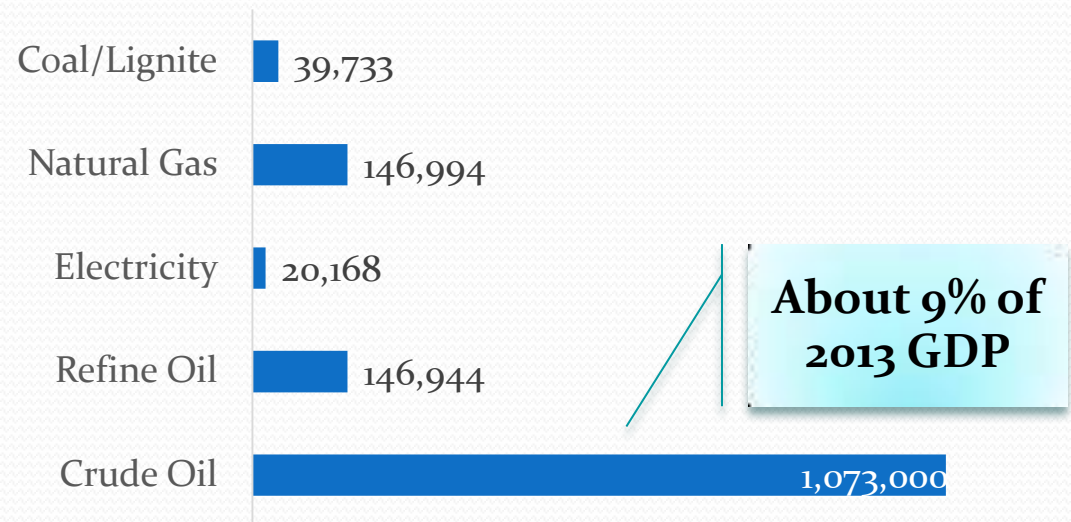
## Primary Energy Consumption (2013)



■ Natural Gas ■ Fuel  
■ Coal/Lignite ■ Hydropower

(Equivalent to 2 million Barrels of crude oil)

## Energy Import (Million Baht)



Remark – In 2013 Thailand exported crude oil worth 30,297 million baht, refined oil 322,621 million baht and Electricity 4,348 million baht

– 2013 Thailand GDP = 11.897 Trillion baht (NESDB, 2014)

# Alternative Energy Development Plan

**AEDP**  
(2012 -2021)



Target - **25%** of RE in total energy consumption by 2021

Solar & Wind

Hydro power



Total electricity target 13,927 MW

Bioenergy

New energy



Total heat target 9,800 KToe

Biofuel

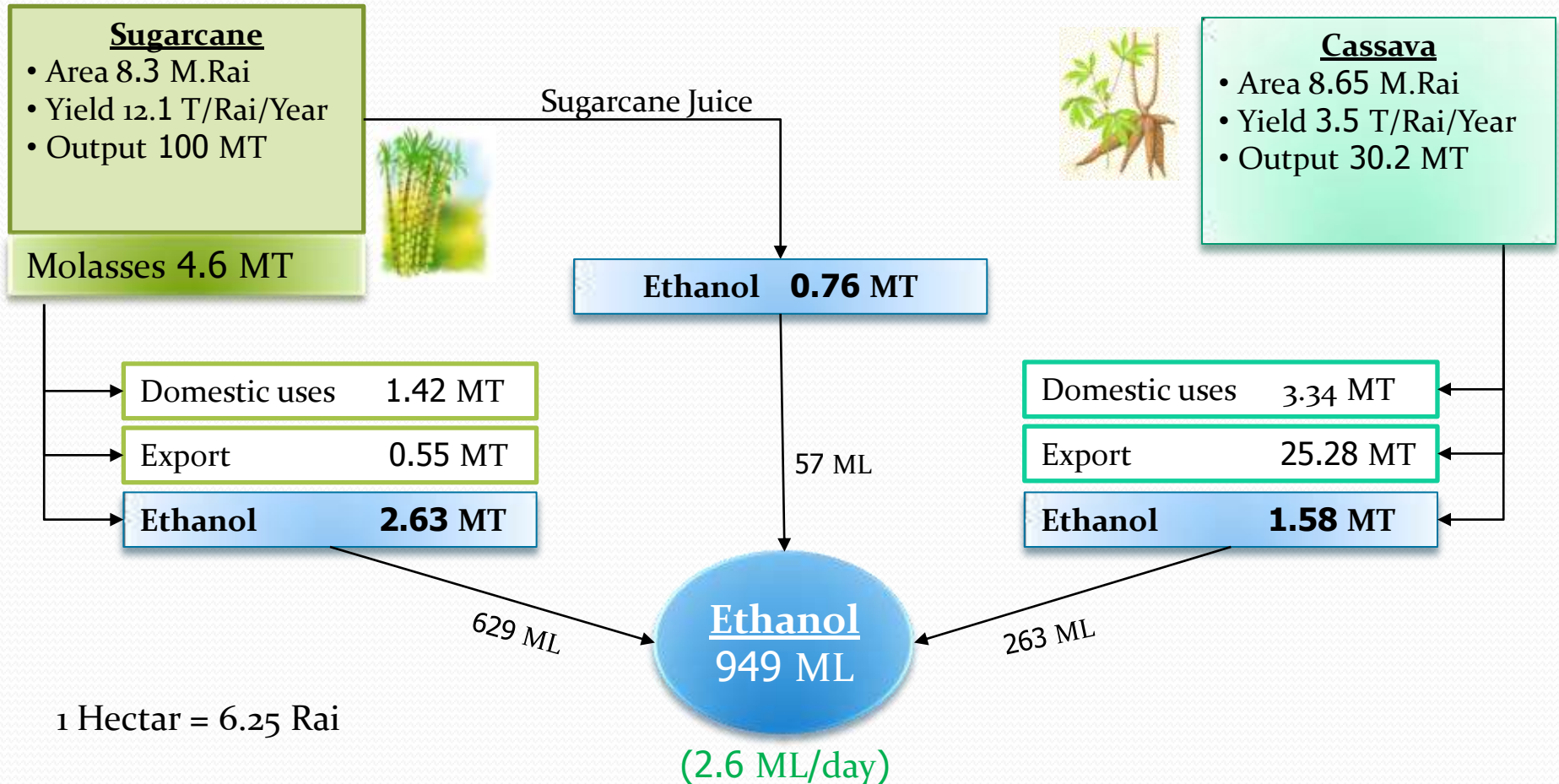


## Biofuel targets

Ethanol	Biodiesel	Advanced biofuel
9 ML/day	7.20 ML/day	3 ML/day

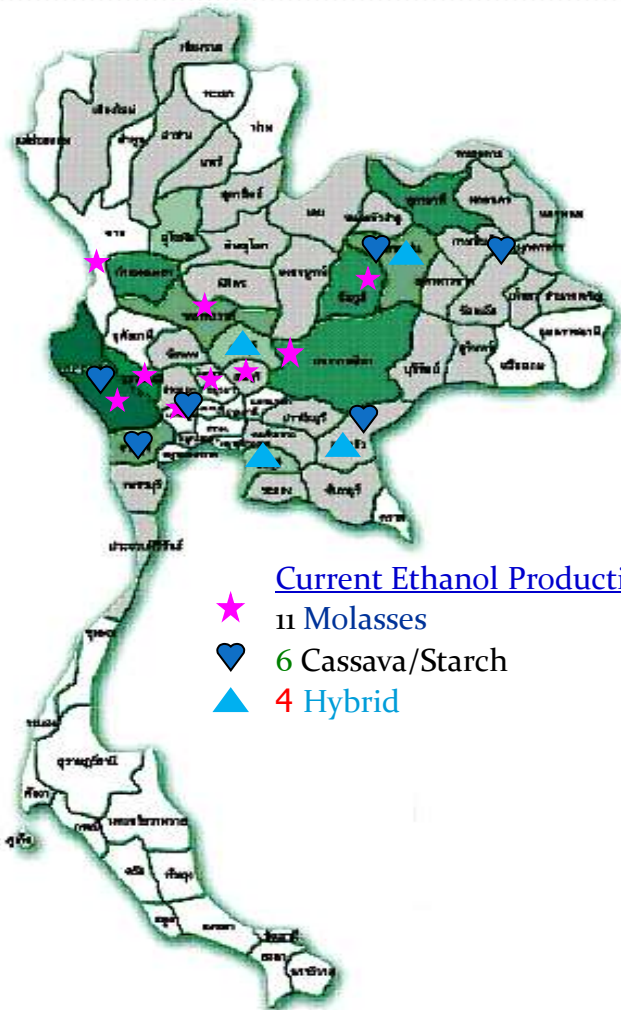
# Bioethanol – Target 9 ML/day

## Thailand Ethanol Feedstock



# Bioethanol – Target 9 ML/day

## Thailand Production Capacity



Feedstock	No. of plants	Total cap. (ML/day)
Molasses	11	2.41
Cassava	6	1.68
Molasses and Cassava	4	0.7
<b>TOTAL</b>	<b>21</b>	<b>4.79</b>

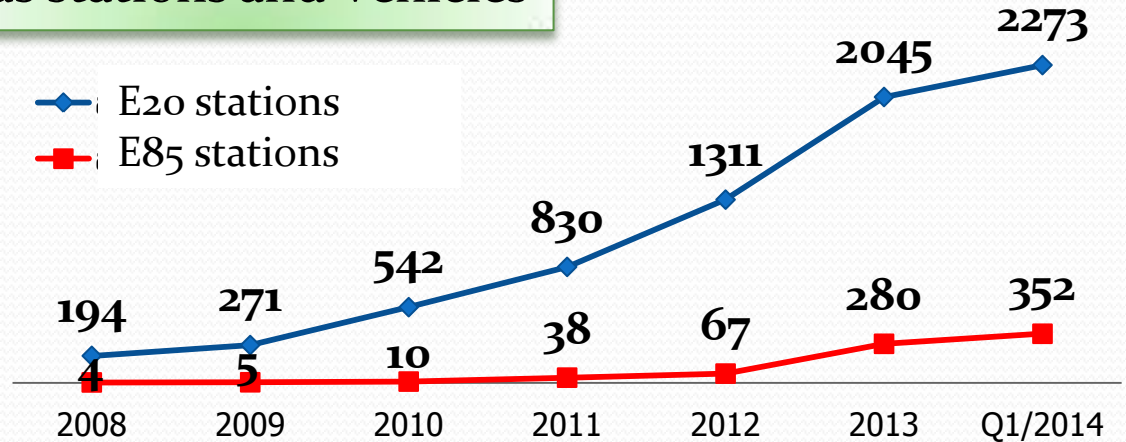


# Bioethanol – Target 9 ML/day

## Gas stations and Vehicles



E10 stations are well spread over Thailand



Most cars manufactured since 1995



Most cars manufactured since 2008



All Flex fuel cars (FFV)



CHEVROLET



HONDA



MITSUBISHI  
MOTORS



TOYOTA



VOLVO



# Bioethanol – Target 9 ML/day

## Ethanol usages



## Ethanol usage ML/day



# Bioethanol – Target 9 ML/day

## Ethanol policies

### Upstream policy

Yield

Increase feedstock plants' yields



### Midstream policy

Law & Regulations

Improve related law and regulations



### Downstream policy

Price structure

Manage price structure to give E20/E85 incentives



Gas stations

Increase E20/E85 gas stations<sup>18</sup>



PR

Continuously raises people awareness of E20/E85



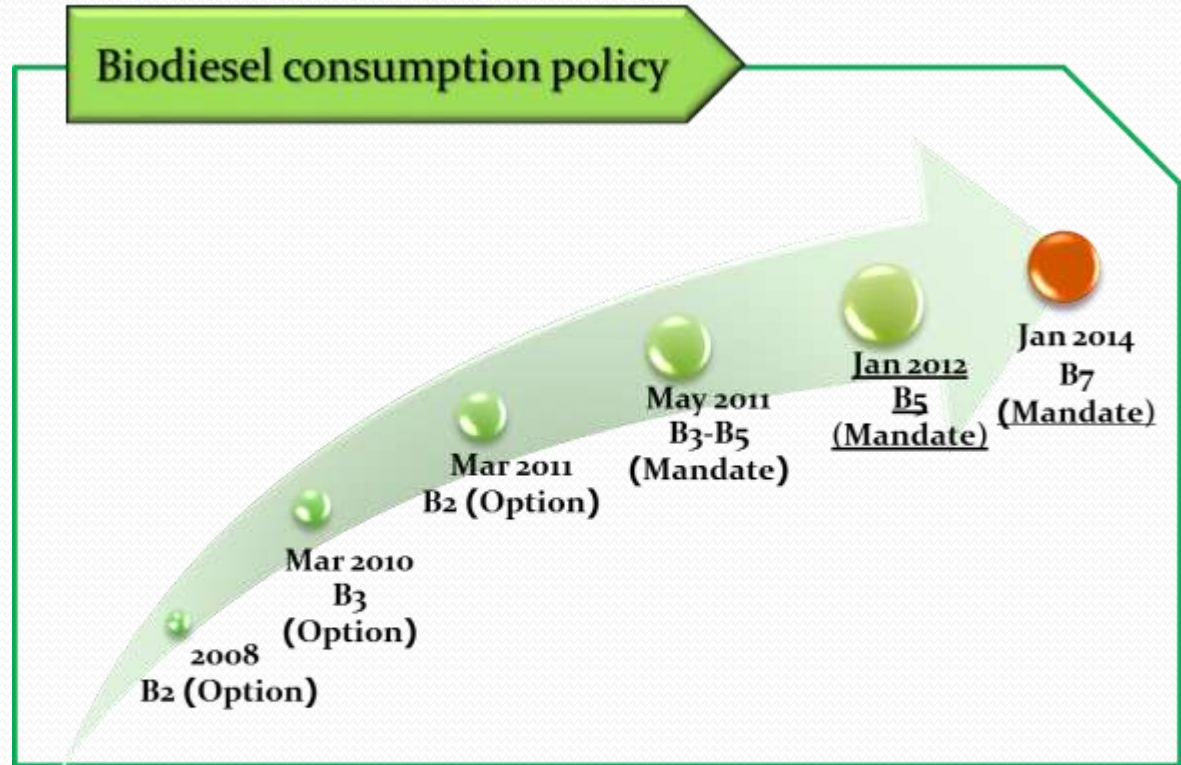
E85 cars

Increase incentive for E85 cars using tax structure



# Biodiesel – Target 7.2 ML/day

## Biodiesel situations



Dept. of Energy Business has announced policy  
⇒ Biodiesel B7 (7% B100 blended)  
⇒ since January 2014

# Biodiesel – Target 7.2 ML/day

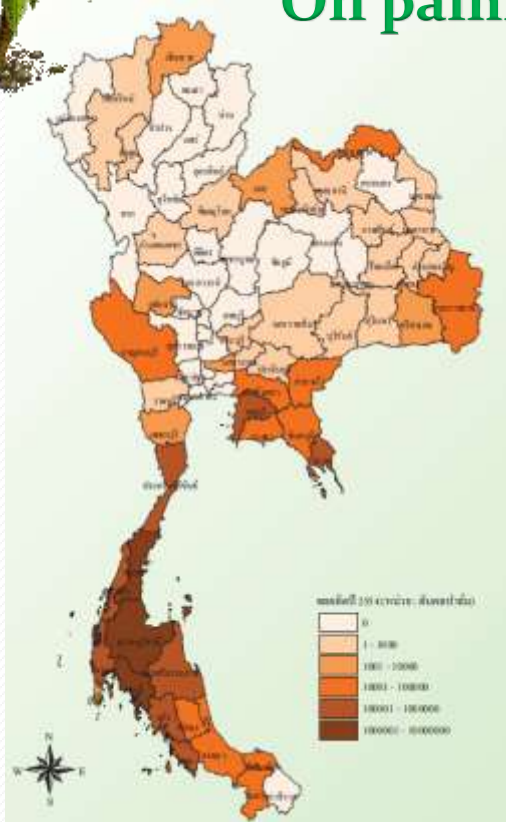
## Biodiesel policies

There are only some certain area suitable for oil palm plantation in Thailand (e.g. such as Southern and Eastern part)

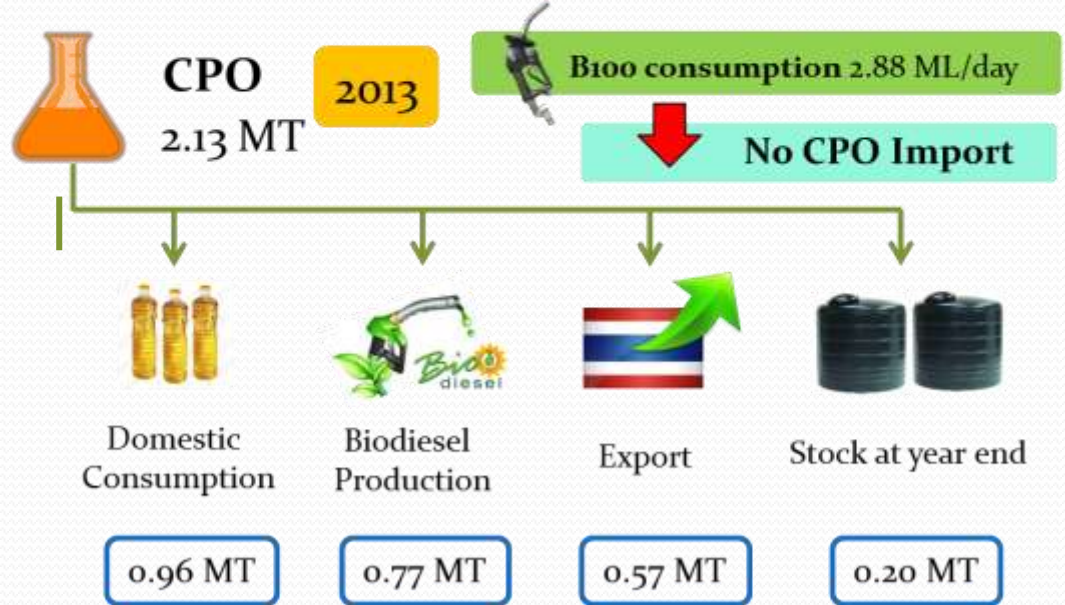
Oil palm plantation = ~ 7,520 sq.km  
= ~ 4.77% arable land in Thailand



## Oil palm

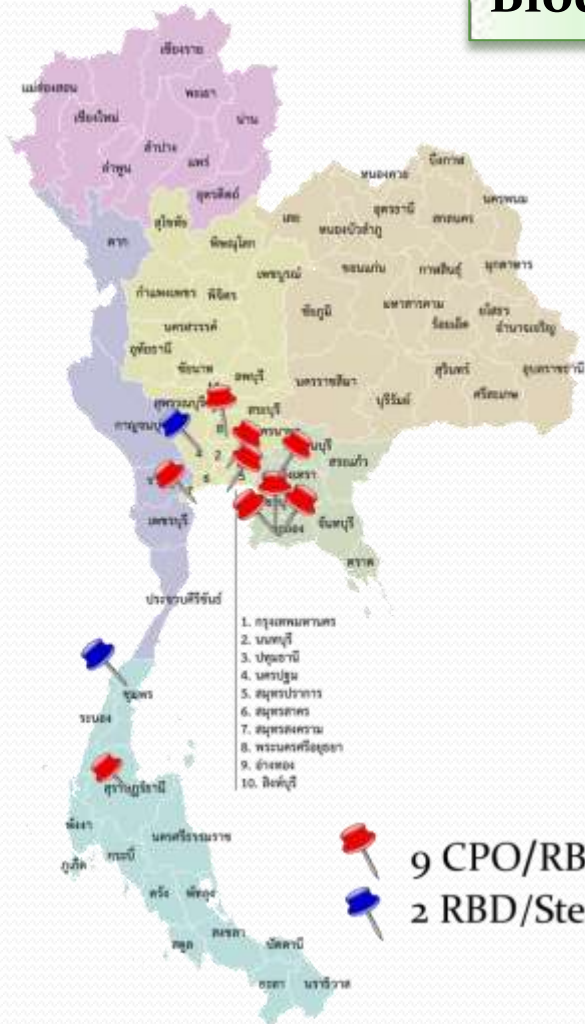


Oil palm plantation in Thailand



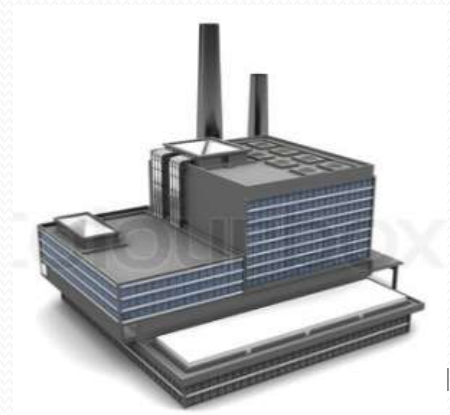
# Biodiesel – Target 7.2 ML/day

## Biodiesel production capacity



9 CPO/RBD/Stearine  
2 RBD/Stearine

Feedstock	Registered capacity	
	No. of factories	Capacity (ML/day)
CPO/RBDPO/Palm stearin	9	4.56
Palm stearin	2	0.40
<b>Total</b>	<b>11</b>	<b>4.96</b>



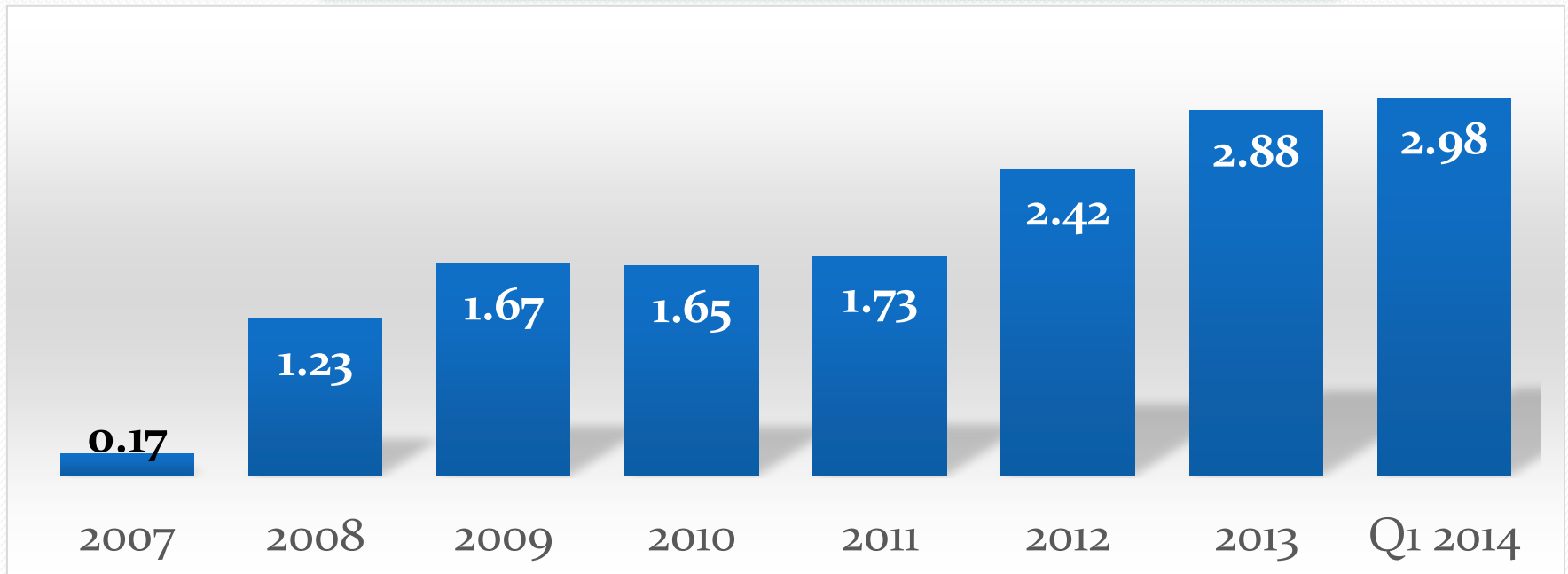
# Biodiesel – Target 7.2 ML/day

## Biodiesel usage



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

## Average daily usage of biodiesel (B100)



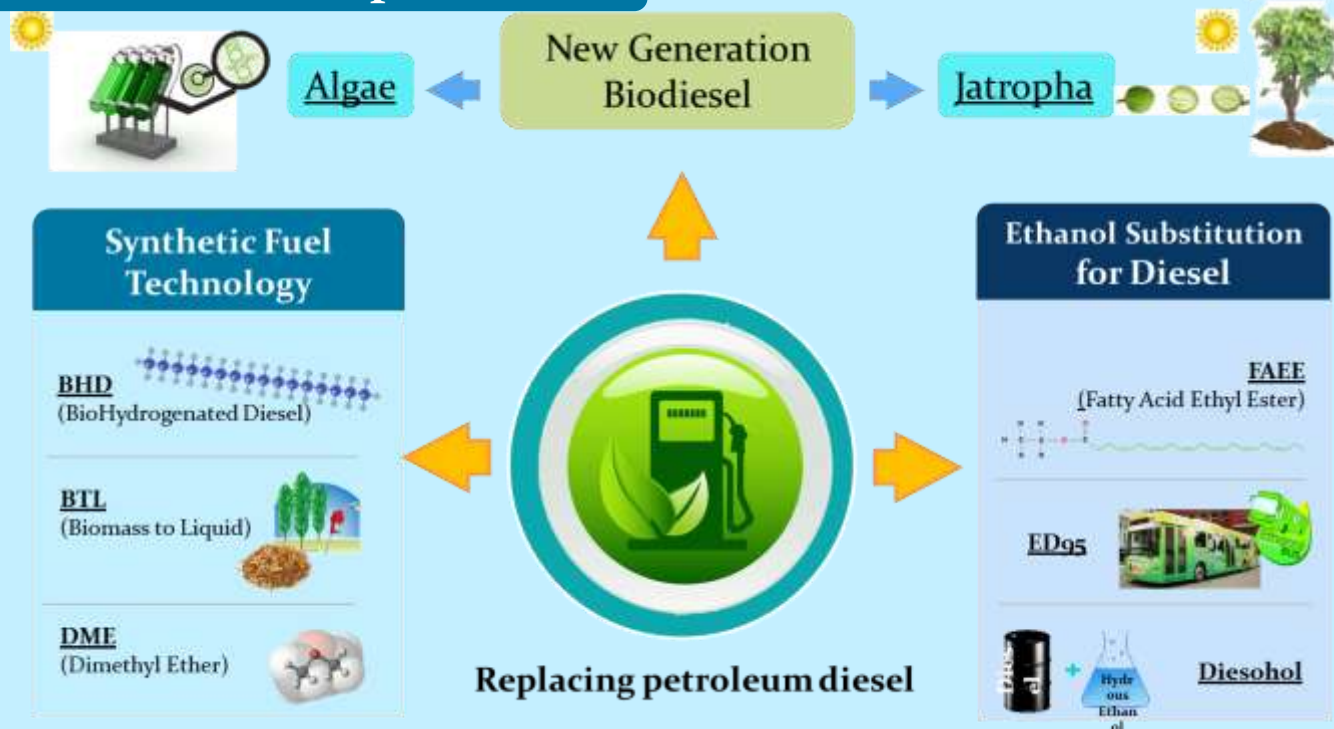
# Biodiesel – Target 7.2 ML/day

## Biodiesel policies

### Biodiesel

- Ministry of Energy launched B7 beginning in Jan 2014

### Advanced Biofuel to replace diesel





Department of Alternative  
Energy Development and Efficiency  
**MINISTRY OF ENERGY**



**BIOFUELS**

**BETTER FOR  
PEOPLE  
BETTER FOR  
THE WORLD**

**Thank you**