

# **Energy Security Strategy and E&P Activities in Thailand**

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# Aspiration Goals

- Thai people have secured and steady supply of power with reliability and affordability
- **Competitiveness energy cost for industries and consumers**
- **Lowest but fair electricity tariff with the balance of economic, resources, social, and environment**
- **Fuel Diversification ( Natural Gas, Coal, Hydro, RE, Nuclear)**

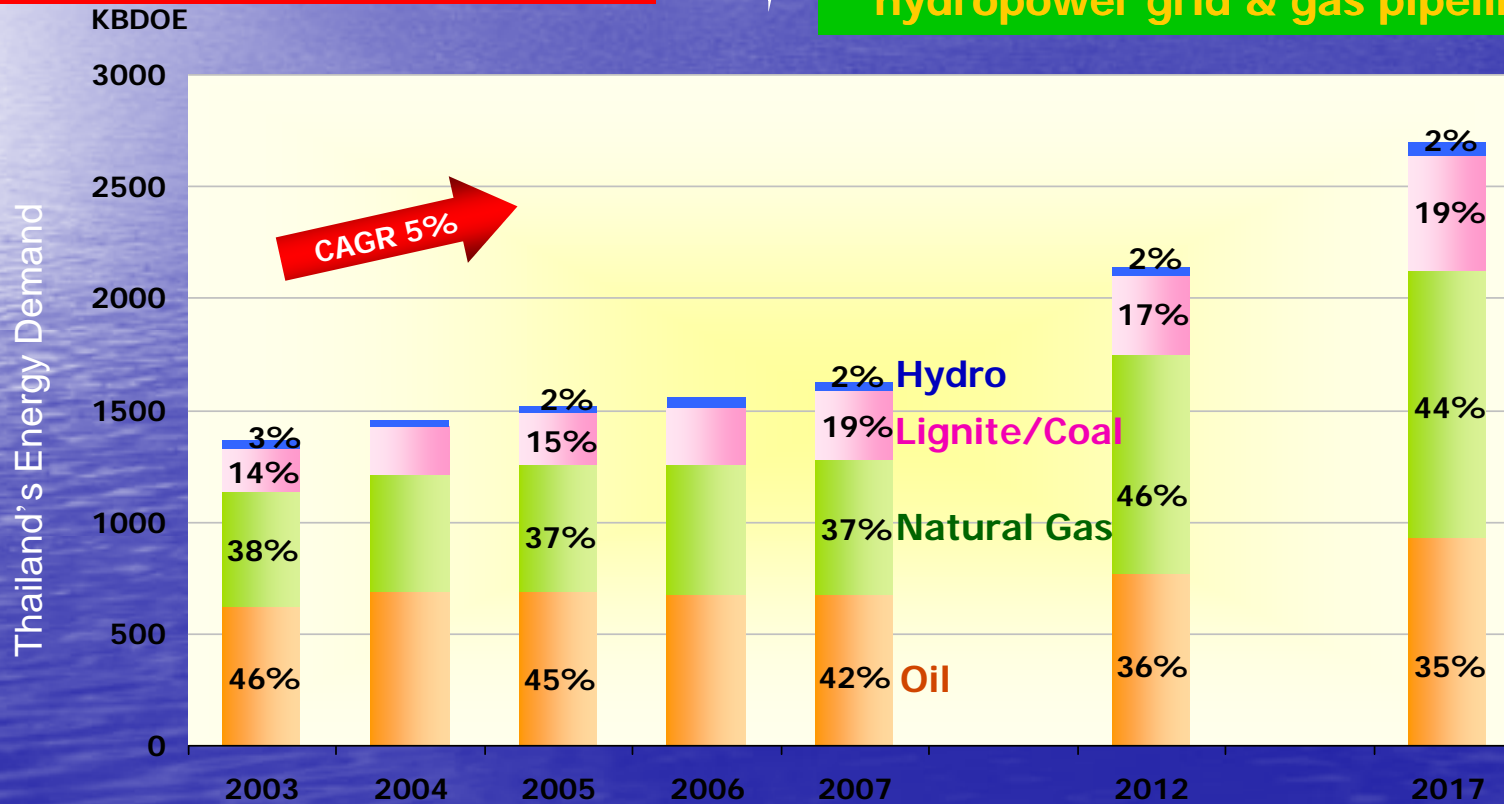
# Thailand Energy Security Policy

## Targets

- Reduce oil import
- Diversify fuels consumption
- Promote indigenous resources

## Energy Security

- Promote indigenous petroleum E&P
- Interconnection with Neighboring Countries and Beyond Border (ASEAN hydropower grid & gas pipeline)



Source: Energy Policy and Planning Office, PTT, PTIT

## Energy Policy

1. **Enhance Energy Security**
  - Diversify fuels
  - Promote indigenous resources
  - Ensure Sufficient Power Supply
  - Interconnection with Neighboring Countries and Beyond Border (ASEAN hydropower grid & gas pipeline)
2. Consumer Protection
3. Promote Renewable Energy and Alternative Energy
4. Enhance Energy Efficiency
  - Set Emission Standard + EIA
  - Promote CDM projects
  - Euro IV Fuel Quality Standard
  - VRU
  - Reduce GHG
5. **Protect the Environment**

## DMF's Strategic Plans

- Accelerate petroleum procurement from either domestic and oversea sources
- Promote Domestic and JDA E&P
  - Establish proactive international cooperation
  - Administer petroleum concession

- Promote policy to prevent and minimize environmental impact from E&P activities
- Reduce flare gas
  - Promote CDM projects
  - Control water discharge volume and quality
  - Facilitate NGV policy

# Environmental Support Plan : Flare Gas Utilization

Since 2006



Mini LNG Plant



CNG for NGV



Electricity for Small Generator

# Petroleum E&P in Thailand

**Cumulative E&P Investment = 1,043,177 Mil. Baht**

Cumulative Q1 2009

## Social Returns

### Creation of Jobs

> 20,000 local staffs employed

### Benefit Distribution to Local Districts

= 11,071 million Baht

### Technology Transfer

Reduce Dependency on Imported Petroleum

## Economic Returns

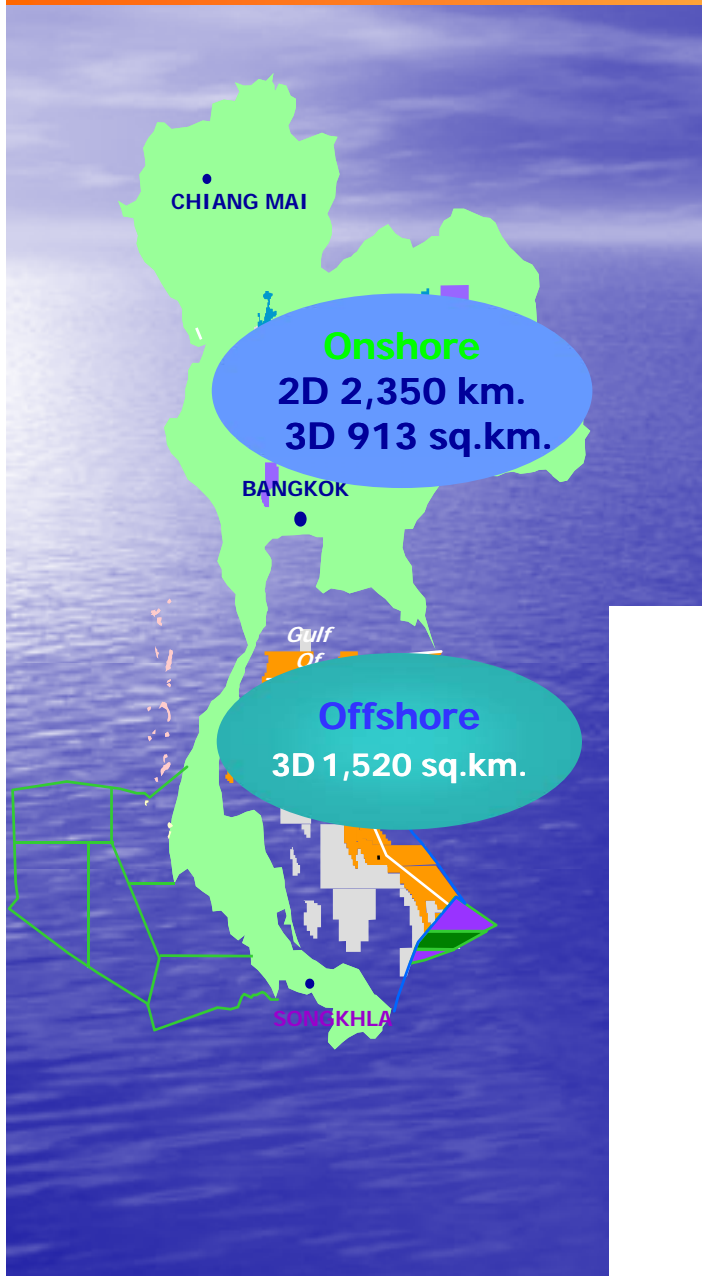
### Values of Sale Petroleum

= 2,399,682 Mil. Baht

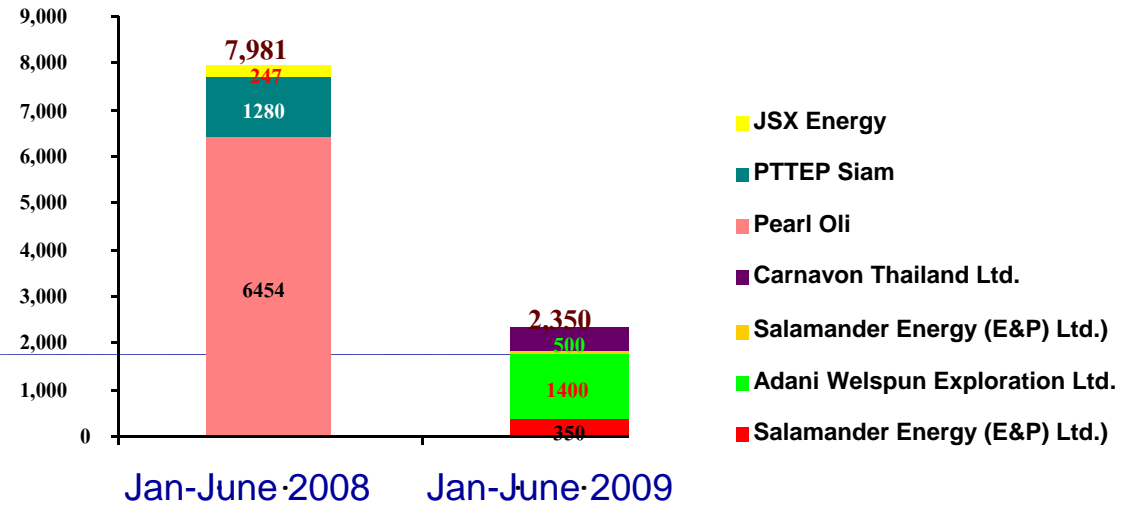
### Government's Take

- Royalties  
= 301,534 Mil. Baht
- Petroleum Income Tax  
= 429,212 Mil. Baht

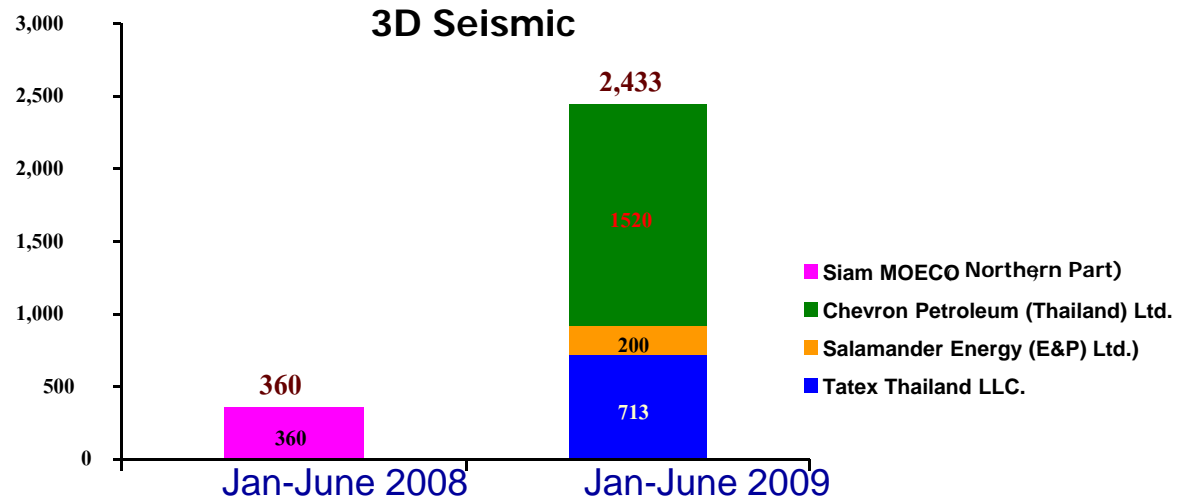
# Seismic Survey (Jan-June 2009)



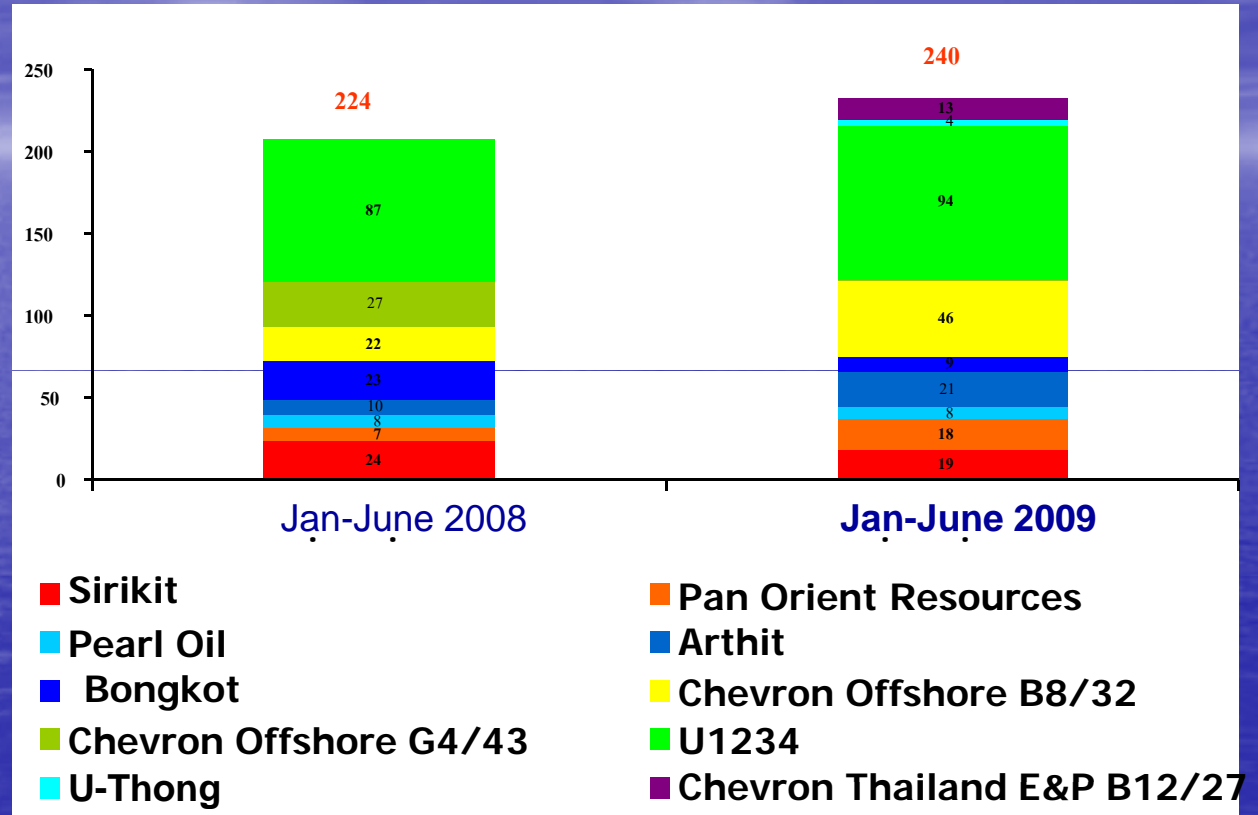
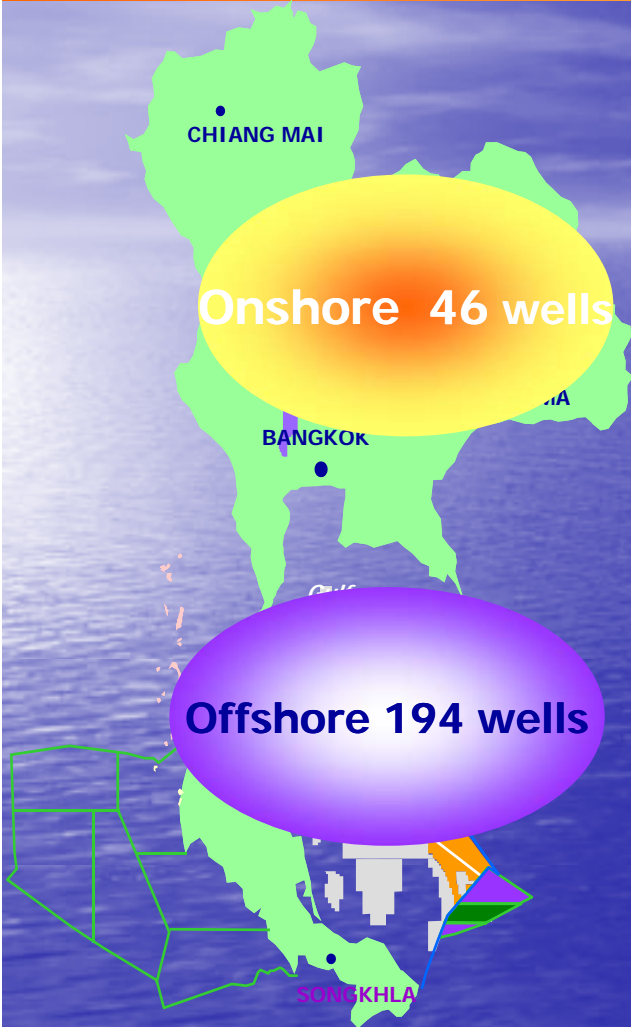
Km. 2D Seismic



Sq.Km. 3D Seismic



# Drilling (Jan-June 2009)



- 86 percent is the wells drilled for production
- 14 percent is the exploration and appraisal wells

Onshore L21/43, L44/43, L53/43

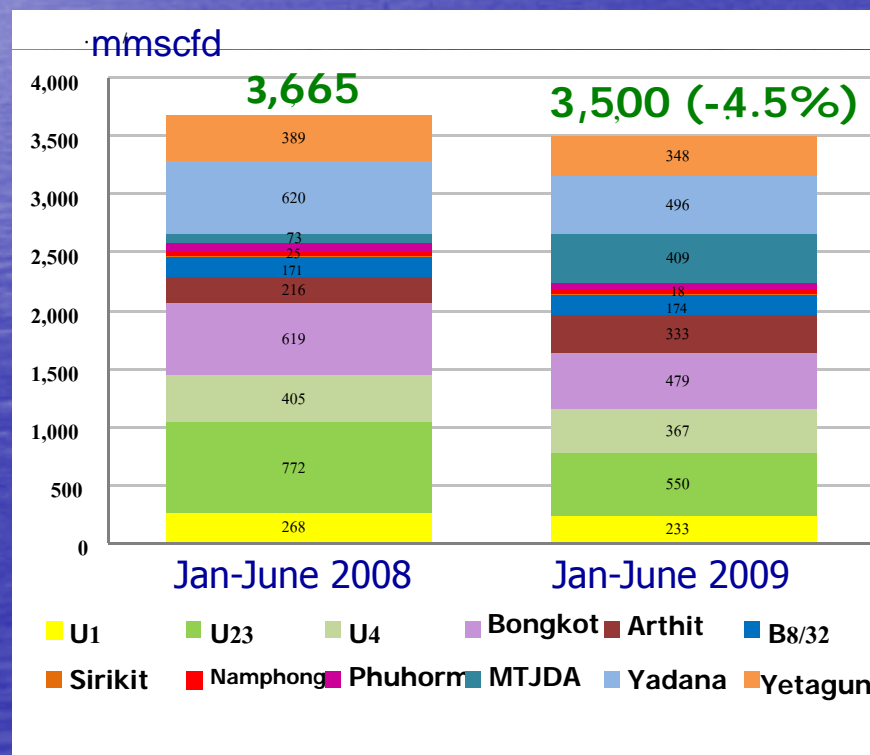
Offshore G10/48, G2/48, G11/48, B15A, B16A, B15, B16, G4/43, U1234, B12/27

# Natural Gas Supply (Jan-June 2009)

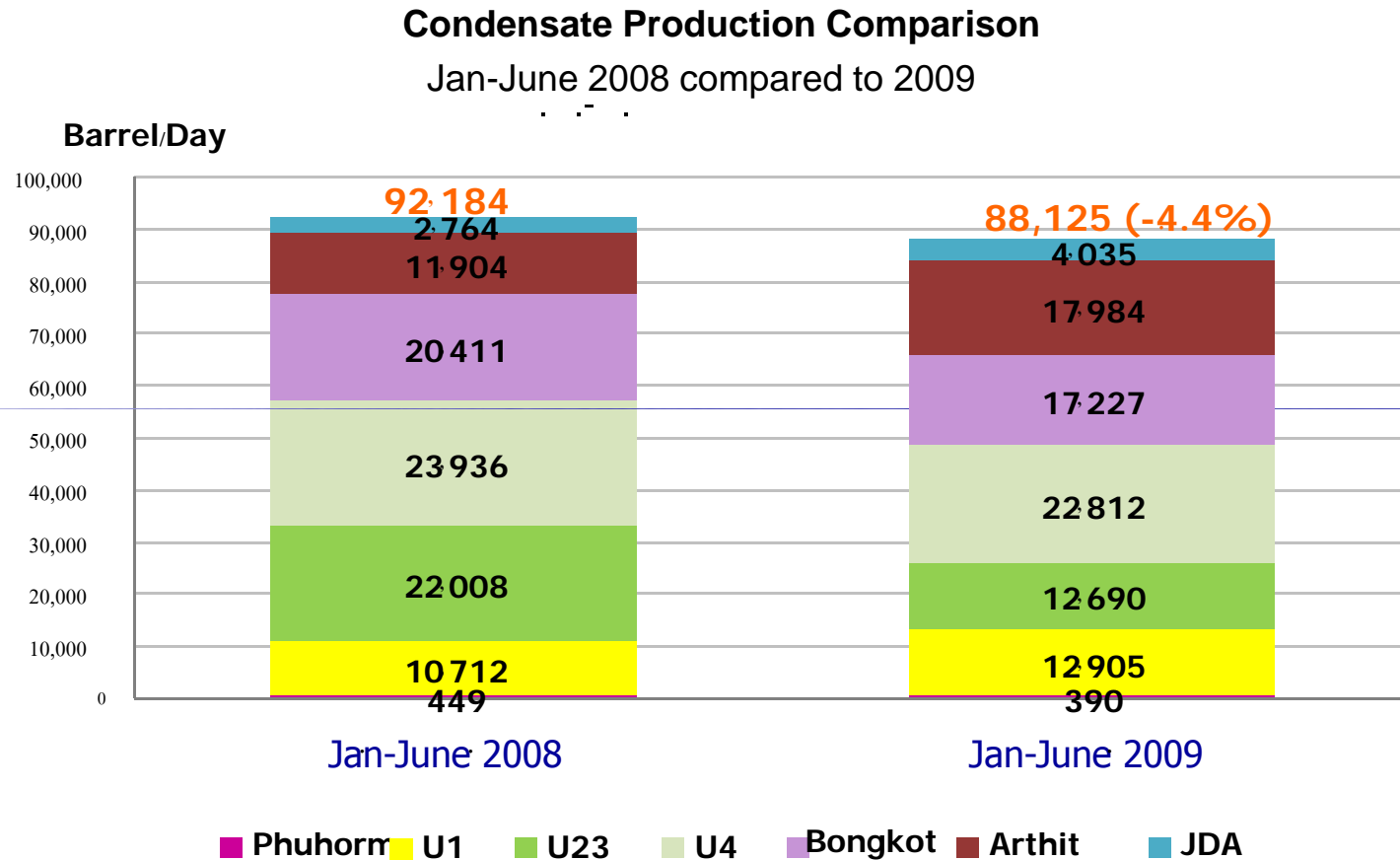
January to June 2009, the average natural gas supply is as followed

- Domestic Production and JDA 2,657 mmscfd
- Imported from Myanmar 843 mmscfd

## Comparison of natural gas supply Jan-June 2008 and Jan-June 2009



# Condensate Production (Jan-June 2009)

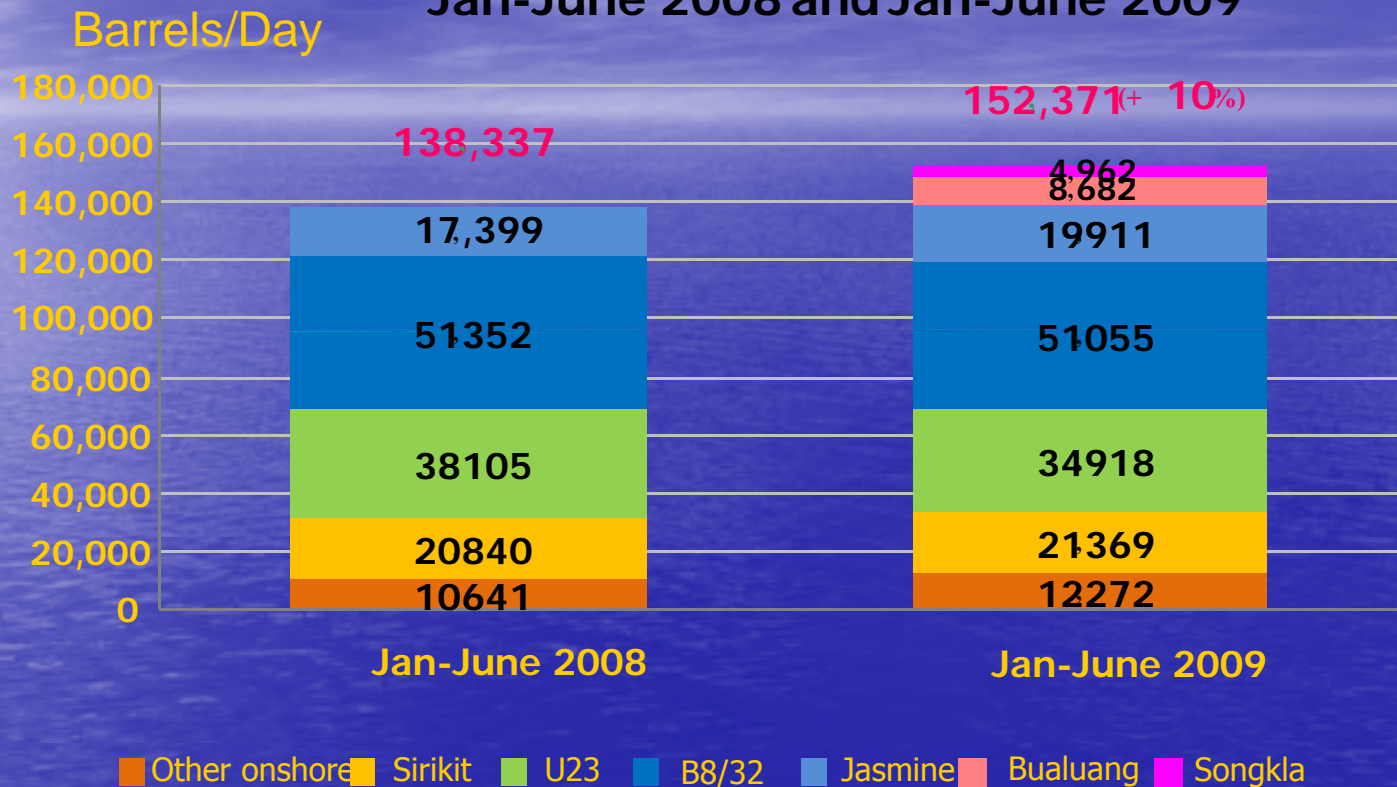


- January – June 2009 Average Domestic Condensate Production is 88,125 Barrels
- 55 percent of condensate produced comes from U1234 gas sale contract operated by Chevron Thailand, Co.Ltd

# Crude Oil Production (Jan-June 2009)



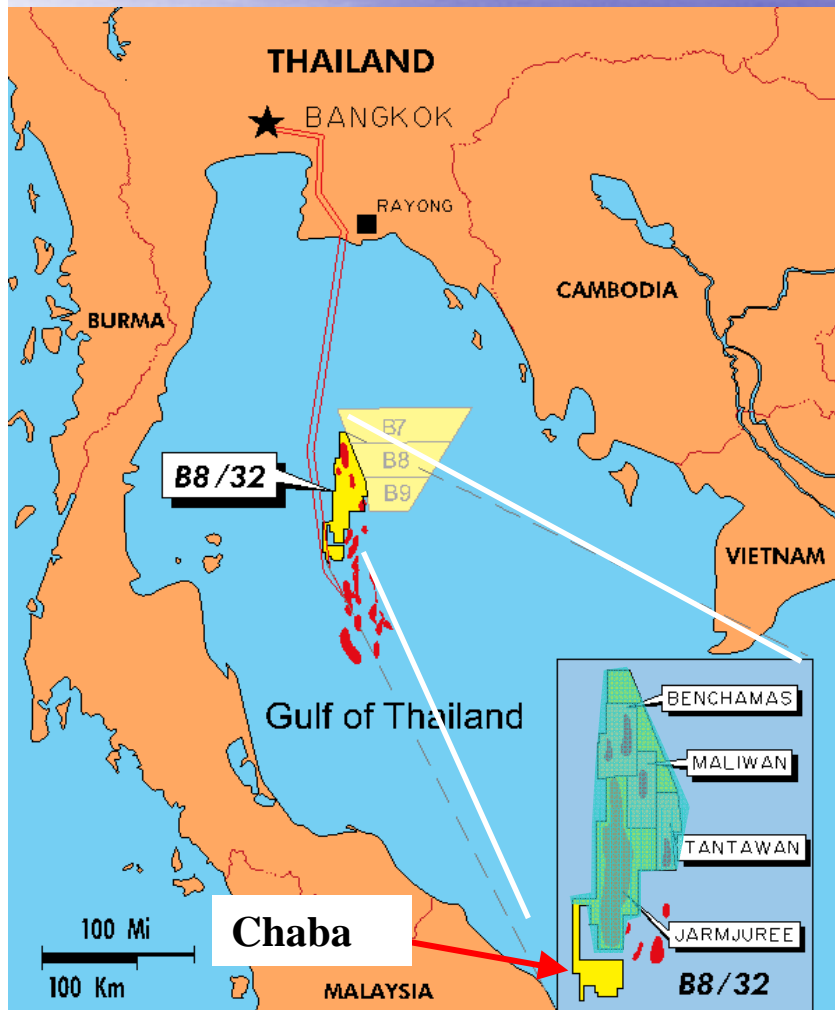
Crude Oil Production Comparison  
Jan-June 2008 and Jan-June 2009



- During the first six months of 2009, daily average of domestic crude oil production is 152,371 barrels

# Start production in 2009

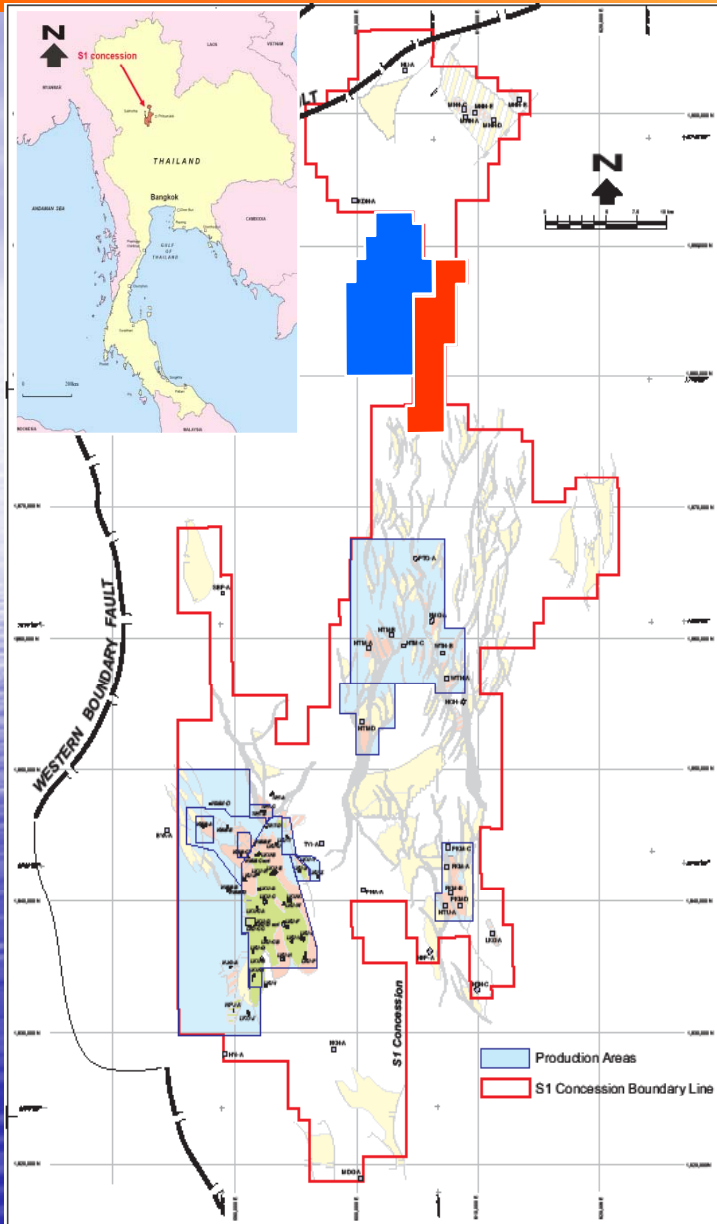
**Chaba- B8/32**  
**Chevron Offshore (Thailand) Limited**  
**Production Rate 5,000 barrels per day**  
**and 19 mmscfd**



**Yungtong- G4/48**  
**Chevron Pattani**  
**Production Rate 1,200-5,000 barrels per**  
**day and 4-40 mmscfd**



# Start Production in 2009



**Arunothai - L10/43**

**Siam Moeco Co.Ltd**

**Maximum production rate 2,000 barrels/day**

**Saothien - S1**

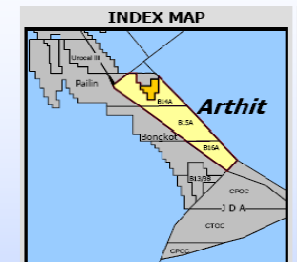
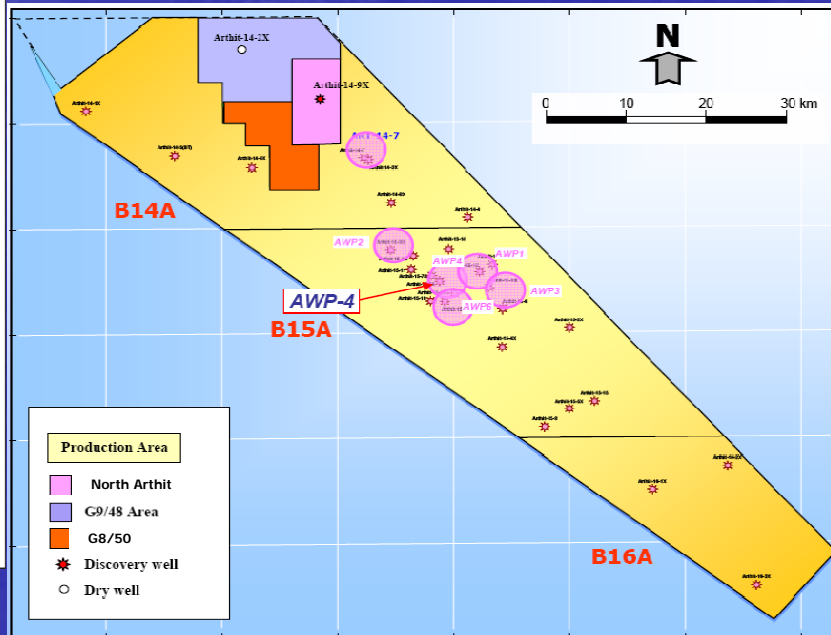
**PTTEP Siam Co.Ltd**

**Production rate 300 - 1,300 barrels/day**

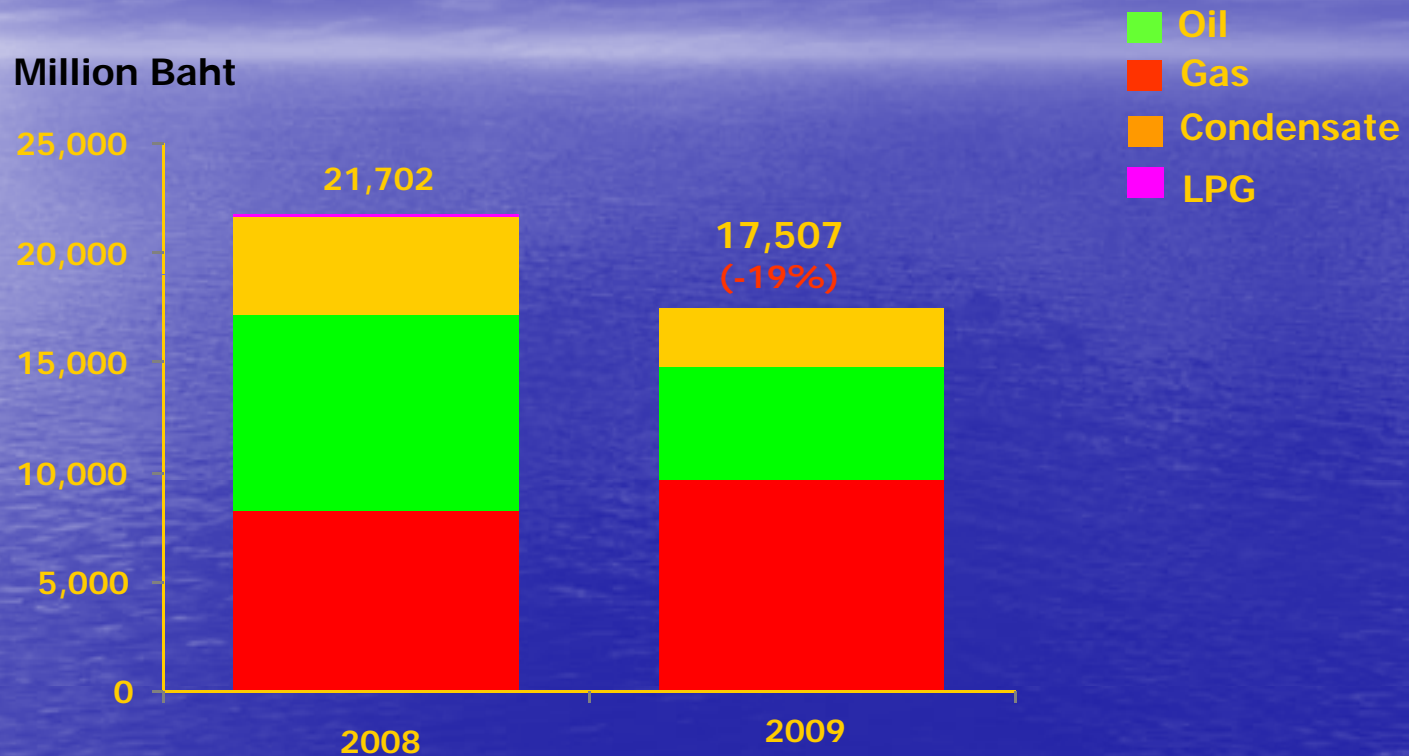
**North Arthit - B14A**

**PTTEP Co.Ltd**

**Production rate 120 - 150 mmscfd**



# Royalty from E&P (Jan-June 2009)



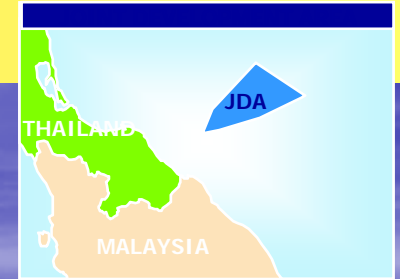
Central Government Earned 16,580 million baht

Local Administrative Earned 928 million baht

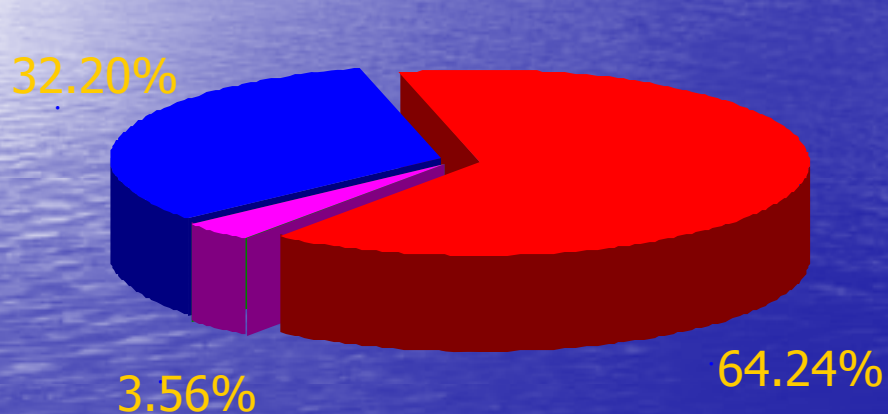
# Malaysia-Thailand Joint Development Area

## The operation in the first six months (Jan-June) 2009

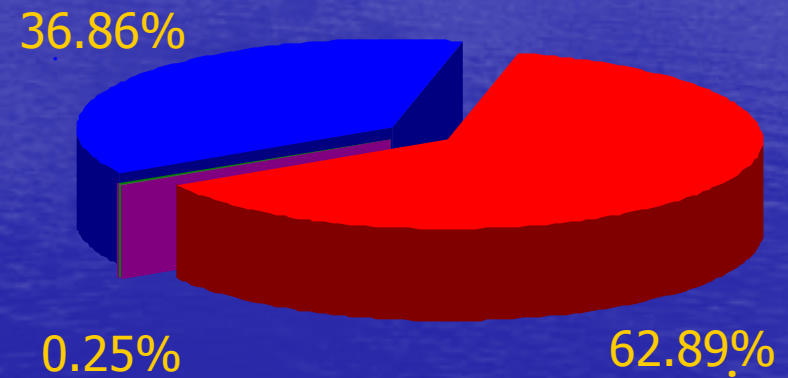
- Average Natural Gas Supply **856 mmscfd**
- Average Condensate Production **8,138 barrels/day**



■ Royalty   ■ Profit Petroleum   ■ Other Income



Government Earning during Jan-June 2008  
= 2,770 million baht



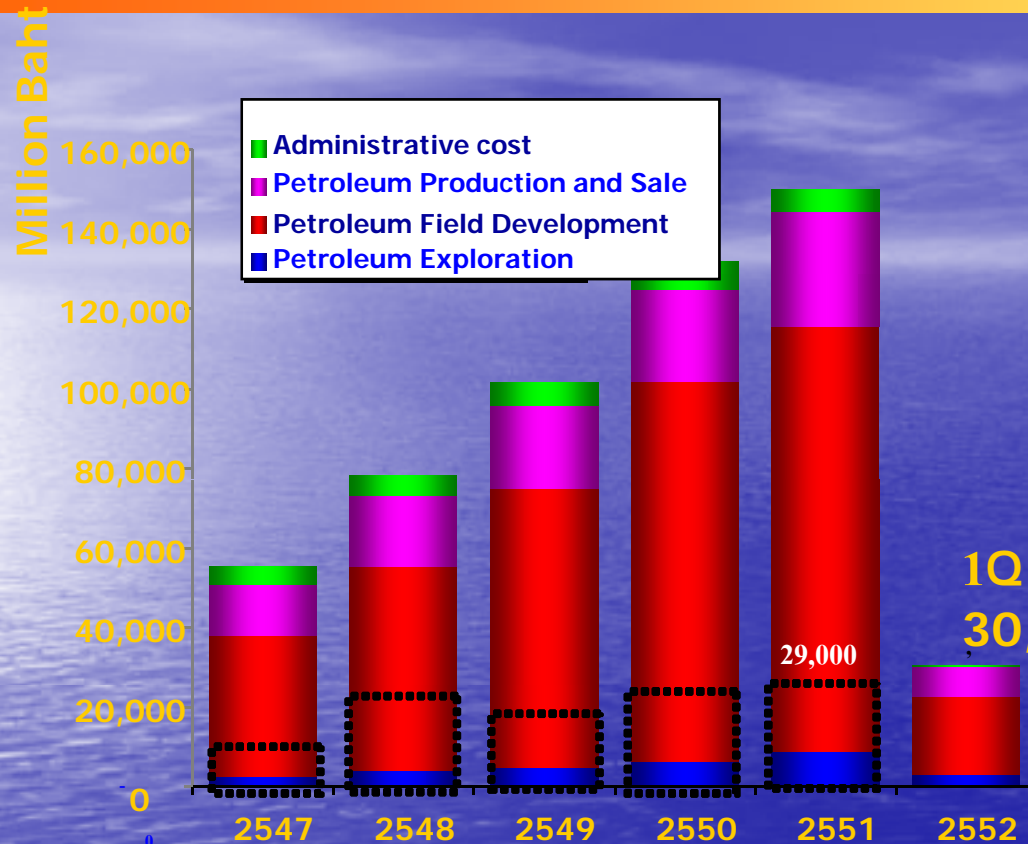
Government Earning during Jan-June 2009  
= 4,318 million baht

# Government Income from petroleum concessionaires in E&P business

	2003	2004	2005	2006	2007	2008	2009 (Jan-June)
Royalty	18,292	21,306	29,443	35,228	37,354	49,092	19,241
Income from MTJDA	-	-	771	2,742	2,407	5,650	4,317
SRB	-	1,039	2,077	7,810	7,197	4,743	6,862
Petroleum Income Tax	19,183	27,318	38,992	46,104	62,639	65,767	-
<b>Total</b>	<b>37,475</b>	<b>49,663</b>	<b>71,283</b>	<b>91,664</b>	<b>109,597</b>	<b>125,252</b>	<b>30,420</b>



# E&P Investment in the past 5 years



- The portion of investment in the Field Development area increased from the higher cost of petroleum production from the mature fields.
- The government should promote more of exploration activities in the future to continually provide energy security to the country.

1Q =  
30,574

From 1980 to the 1<sup>st</sup> quarter of 2009  
The cumulative petroleum sale amount  
is 1,040 billion baht

From the 2<sup>nd</sup> Quarter of 1981 to 2009  
The cumulative petroleum sale amount  
is 2,400 billion baht

# Number of Platforms in the Gulf of Thailand



**Platform and Ships used in Offshore Petroleum Production**

**Number (Platform/Trunk)**

- 1. Central Platforms**
- 2. Production Platforms**
- 3. Living Quarters**
- 4. Confined/Production Ships**

**11**

**192**

**10**

**8**

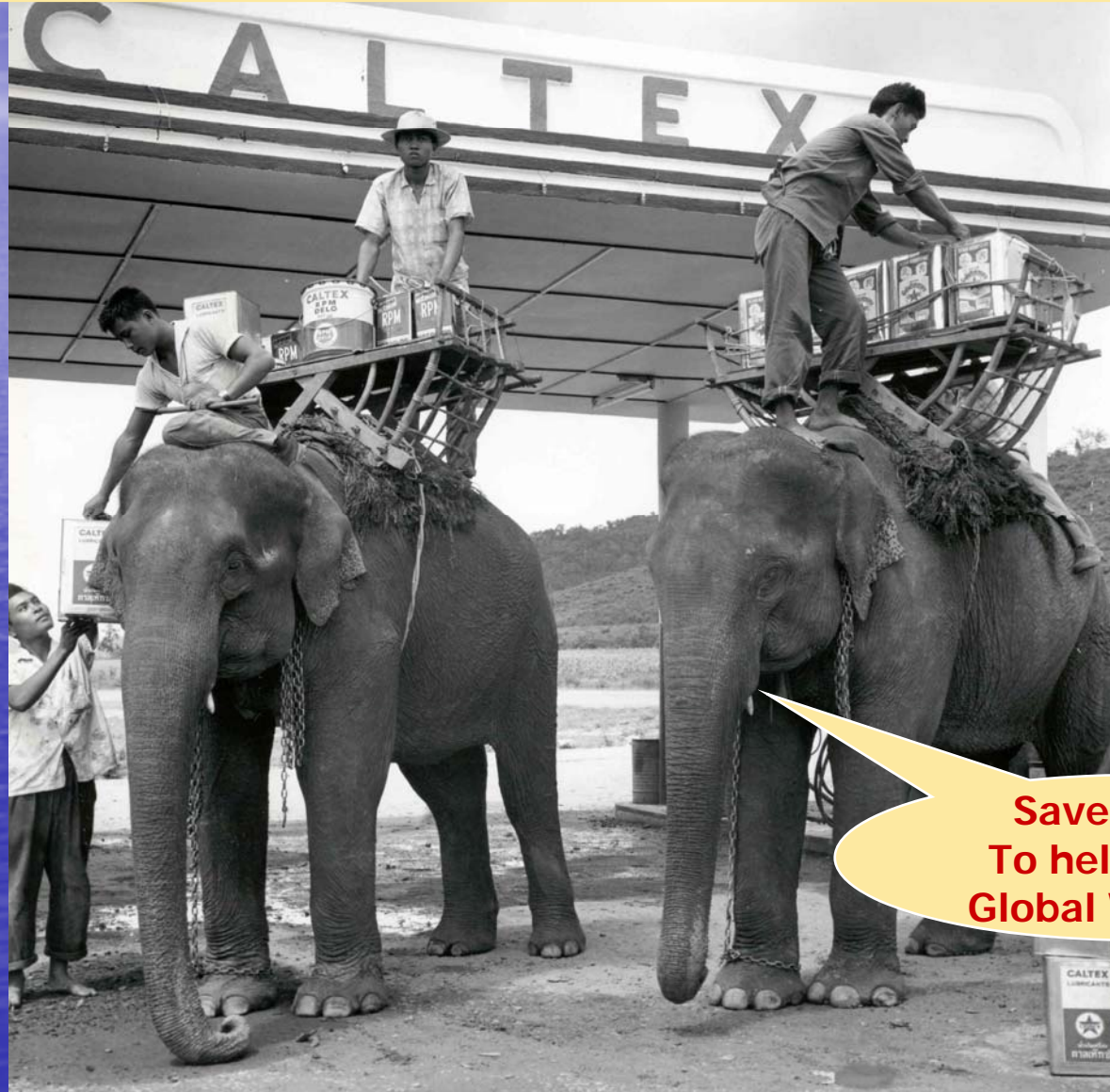
**Total**

**221**

**Bongkot Field**

**Cumulative Offshore E&P Investment is approximately 600,000 million baht**

**Conclusion:**  
**Secured Energy Supply**  
**Is the Key for Sustainable Economic Growth**



**Save Energy  
To help reduce  
Global Warming!**

Thank you

*Khob Khun Krub*



Department of Mineral Fuels  
MINISTRY OF ENERGY

