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MINISTRY OF ENERGY

DMF's Role in Energy Security for Thailand

"The 40th years of Success in E&P Business & A New Challenge: End of Concession and Decommissioning"

Present by

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AGENDA

1. **Thailand Energy Status and Policy**
2. **DMF Role and Policies**
    - **Current Activities**
    - **New opportunities : 21^{st} Bidding Round**
3. **Challenges of Thailand E&P Business :**
    - **End of Concession**
    - **Decommissioning**

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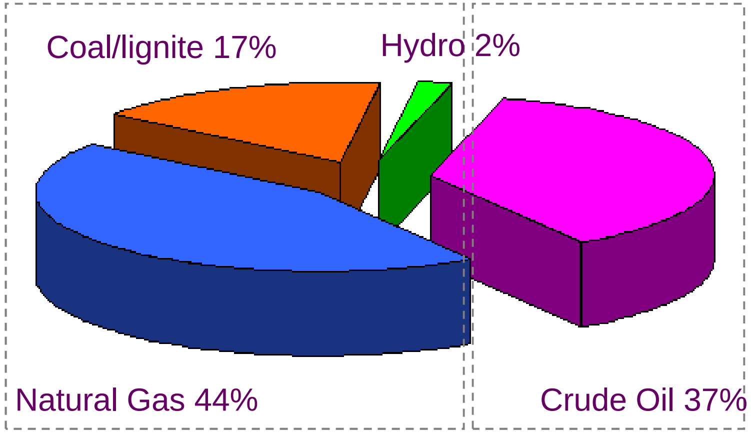
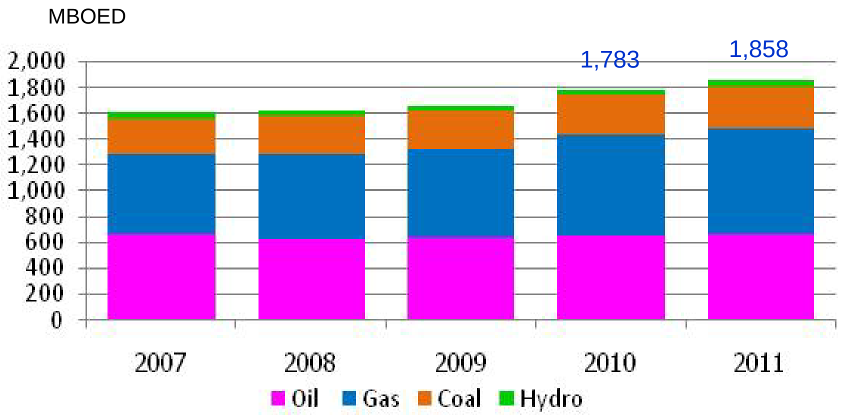
Domestic Energy Consumption

In 2011 Primary commercial energy consumption = 1.86 MMBOED

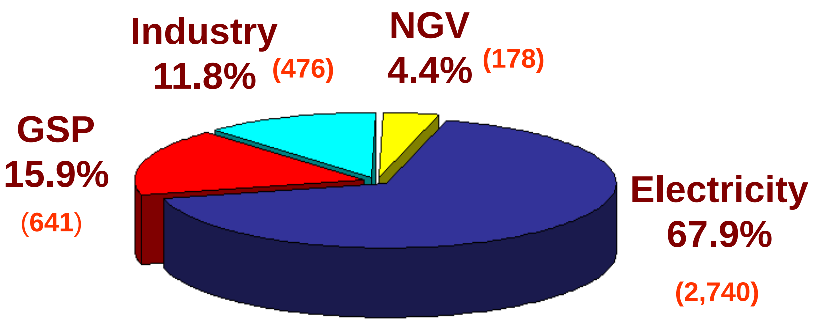
Primary Commercial Energy by Fuel



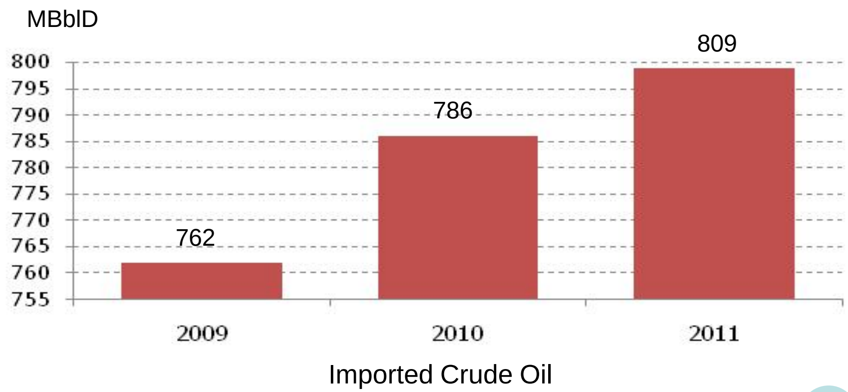


20% Imported (MYM)
Mostly used in power generation

4,035 MMSCFD



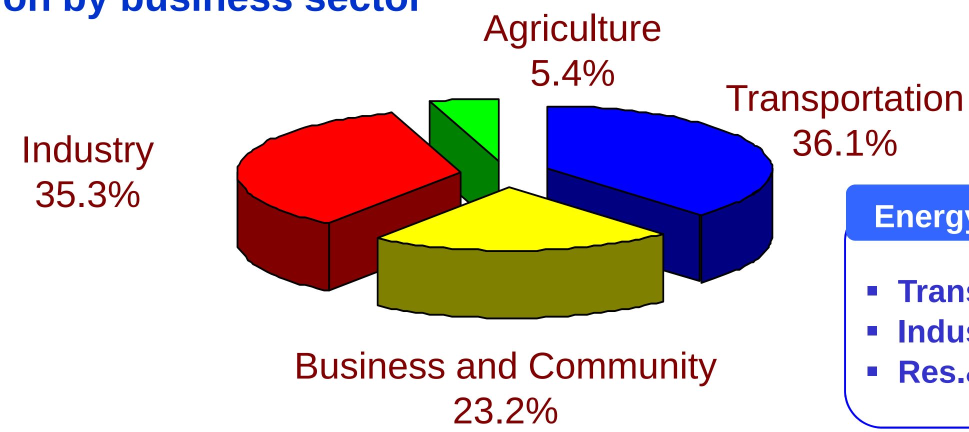
Crude oil 73% Imported (middle East)
Mostly used in Transportation



Thailand Energy Consumption by Sector & Value

In 2011 Primary commercial energy consumption = 1.86 <u>MMBOED</u>

Consumption by business sector

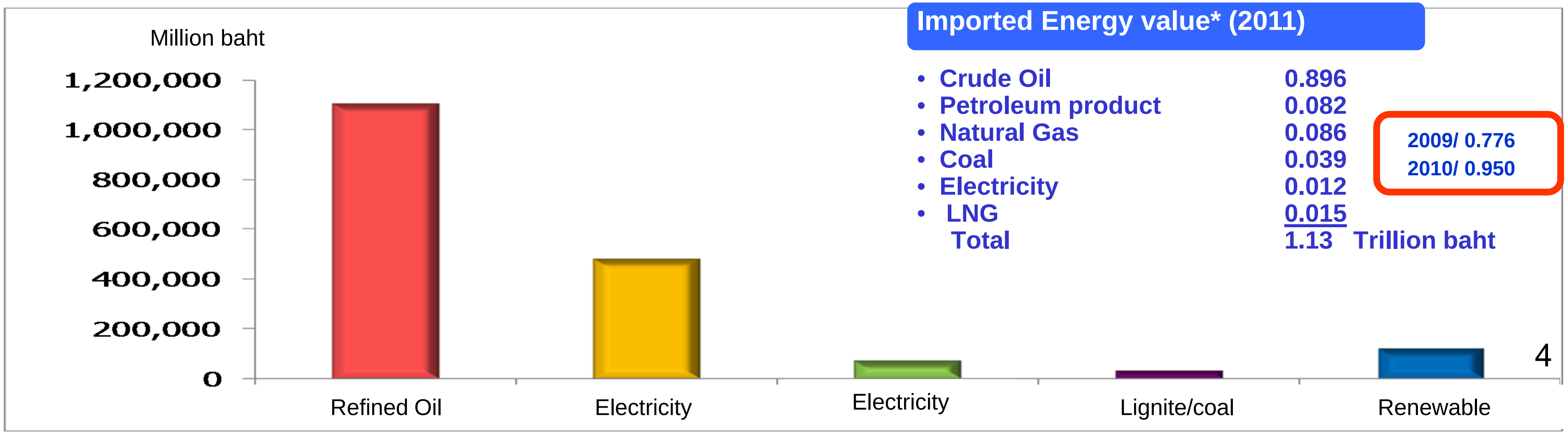


Energy Source

- **Transportation : Oil**
- **Industry : Coal, power**
- **Res.& Com. : Power, renewable**

Final Energy consumption = <u>1.74 trillion baht</u>

2008/ 1.67
2009/ 1.58
2010/ 1.79 Trillion baht



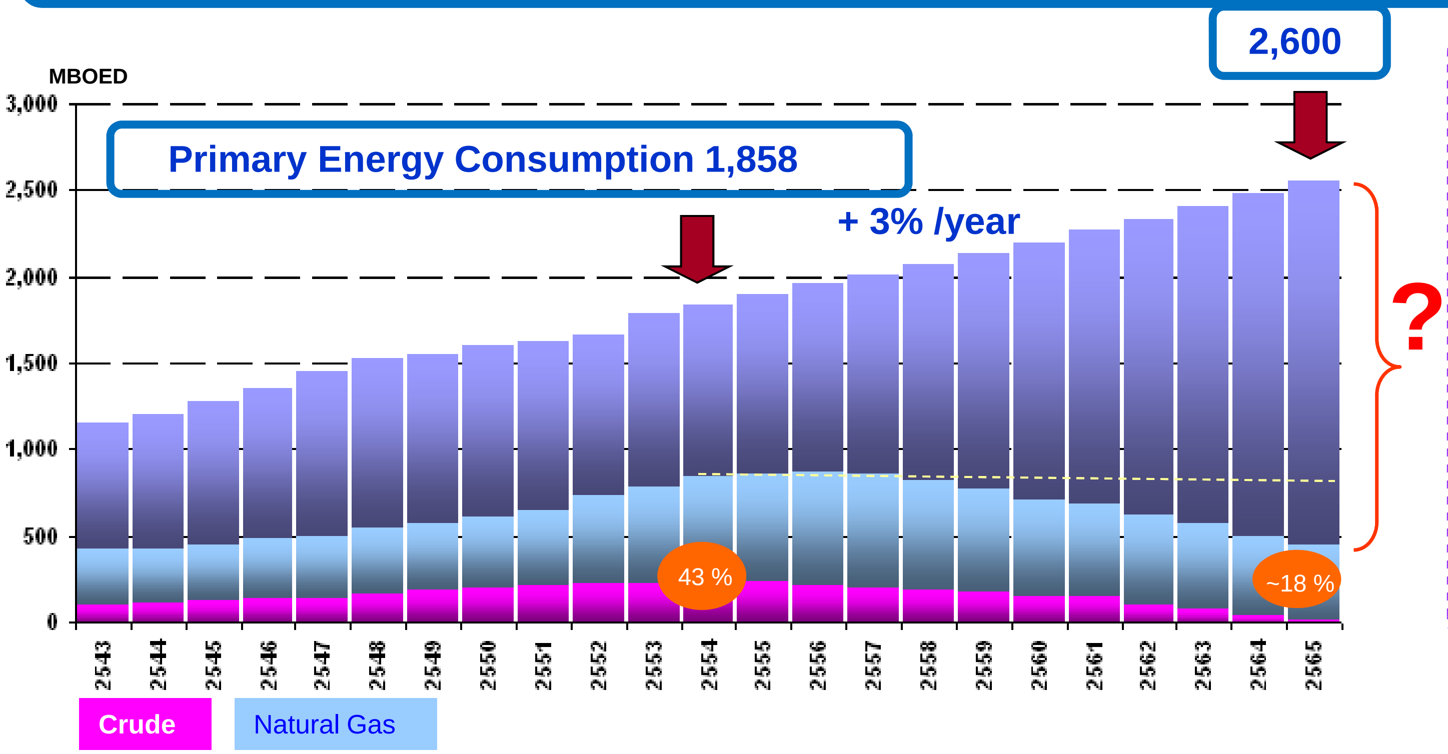
Imported Energy value* (2011)

• Crude Oil	0.896
• Petroleum product	0.082
• Natural Gas	0.086
• Coal	0.039
• Electricity	0.012
• LNG	<u>0.015</u>
Total	1.13 Trillion baht

2009/ 0.776
2010/ 0.950

Consumption by Sector & Value

Assume energy consumption increase 3% per year



Ministry of Energy 's Role

Promotion
- **Alt. Energy**
- **Nuclear**

Import
- **LNG**
- **Crude oil**
- **Hydro Power**

In 2011 Domestic Energy Supply = 801,260 BOED

Domestic Supply is only 43% of total primary energy consumption

National Energy Policy

Delivered by the prime minister, Yingluck Shinawatra
to the National Assembly on Tuesday 23 August B.E.2554 (2011)

1. **Promote and drive the energy sector to generate income for the country**
2. **Reinforce energy security**
3. **Regulate energy prices to ensure fairness**
4. **Promote renewable and alternative Energy**
5. **Promote and drive energy conservation**

DMF Roles

DMF: Vision Mission and Roles

DMF is the National Hydrocarbon Executive Agent

- **Planning, promoting and monitoring in policy and management of <u>upstream petroleum business</u> in <u>Thailand</u> including <u>Joint Developing Area</u> and <u>Overlapping Areas</u>**
- **Cooperating with other countries to encouraging Thailand's E&P business**

Vision

To manage mineral fuel resources to bolster and maintain national energy security in an efficient and sustainable way

Mission

To promote integrated exploration, development, production, and management of mineral fuel resources by using clean, international standard

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40 Years in E&P Business

63 Concessions 79 Blocks * Active

	blocks
Onshore	40
GOT	36
Andaman	3
Total	79

Drilling

Gulf of Thailand	5,785	wells
Andaman	19	wells
Onshore	1,050	wells
Total	6,854	wells

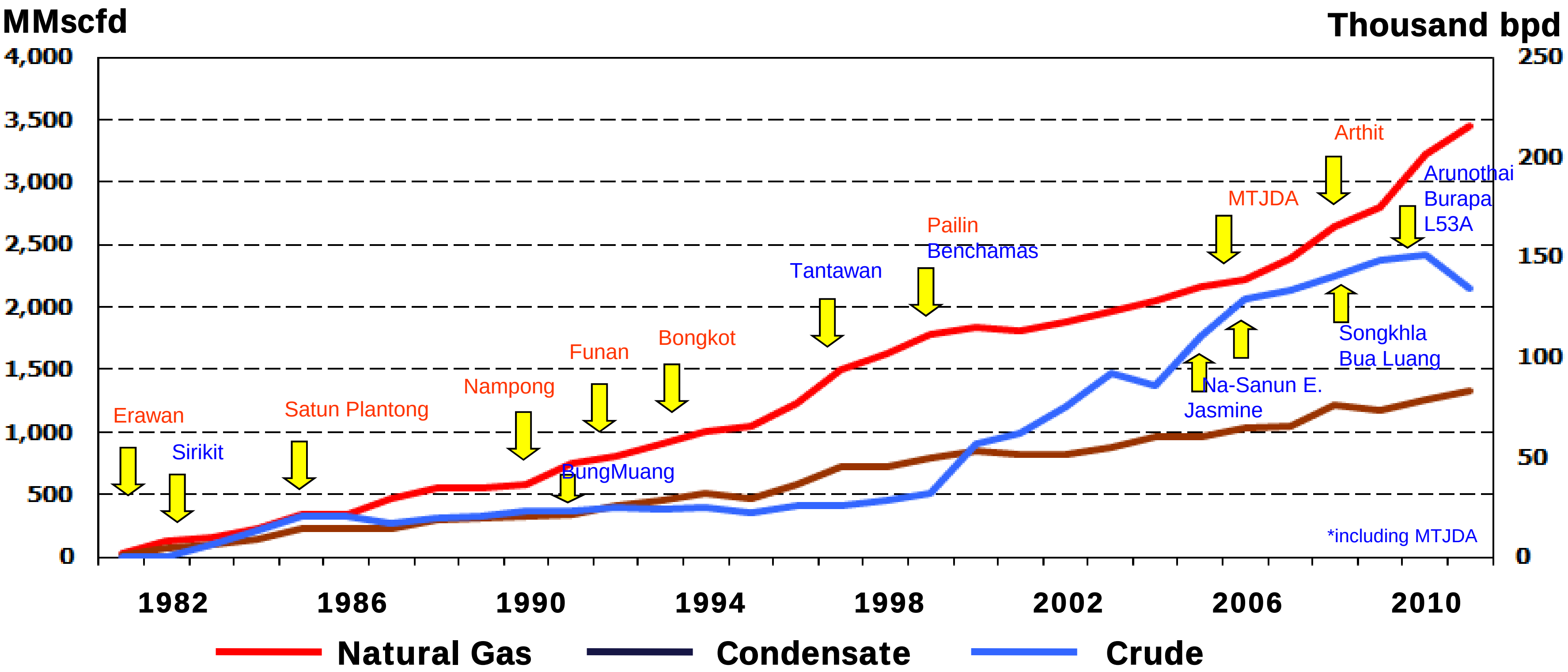
15 Operators success in 59 fields

Investment > 1.4 Trillion baht

* Include 9A-16A

** Production rate include MTJDA

Petroleum E&P Development in Thailand



Average Production Rate (2011) **707,531 boe/d**

- **Natural Gas** **2,820 MMscfd**
- **Condensate** **84,195 bpd**
- **Oil** **139,114 bpd**

Excludes MTJA

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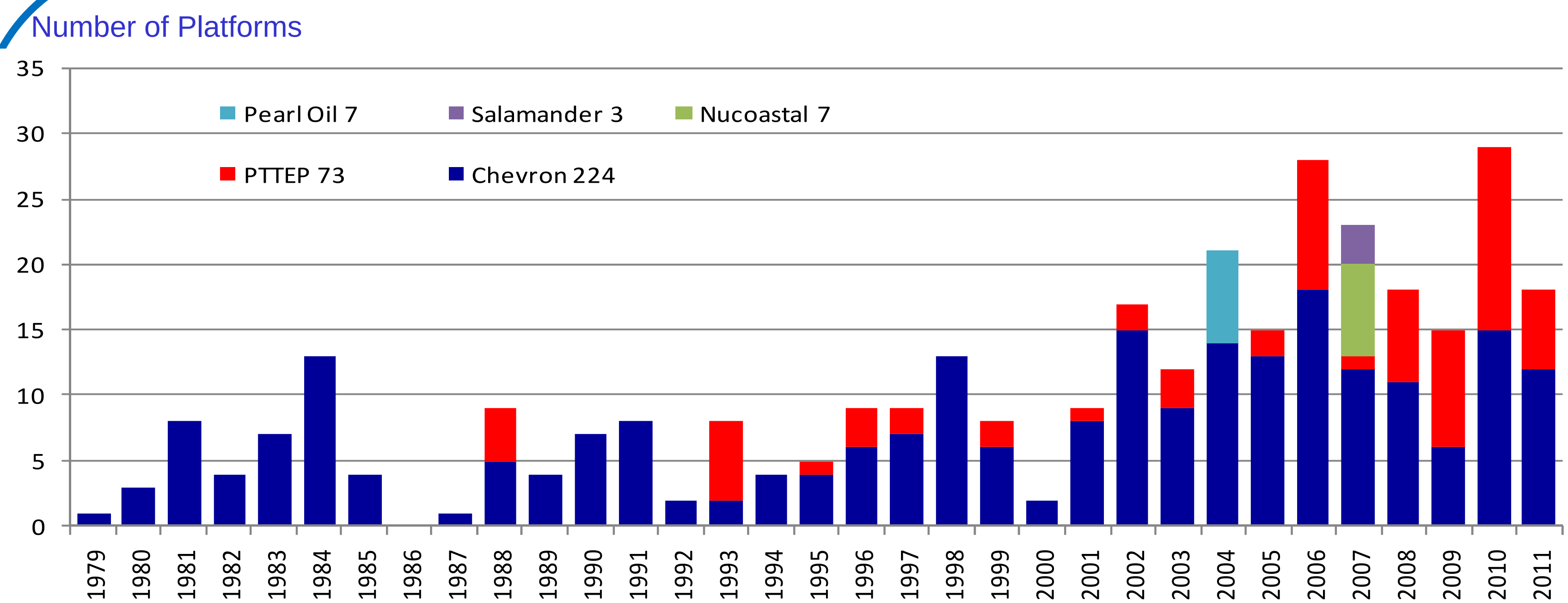
Offshore Installations



Wellhead Platform	**272**
Living Quarters Platform	**24**
Processing Platform	**28**
Floating Storage	**10**
Total	**334**

Annual Average : 20 platforms (past 5 years)

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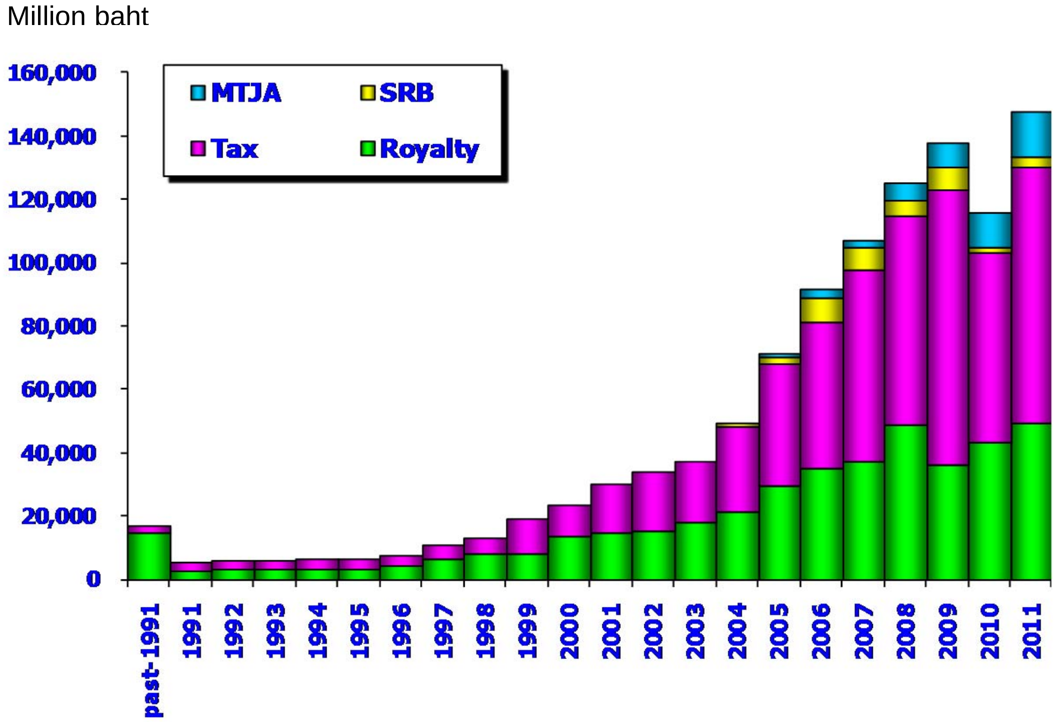
Government Revenue from E&P Business

	2005	2006	2007	2008	2009	2010	2011
Royalty	29,443	35,228	37,354	49,092	36,533	43,555	49,700
MTJA	771	2,742	2,407	5,650	8,043	11,258	14,117
SRB	2,077	7,810	7,197	4,743	6,925	1,780	3,389
Tax	38,992	46,104	62,639	65,767	86,664	59,642	80,528
Total	71,283	91,664	109,597	125,252	138,165	116,235	147,734

Unit : Million baht



At End of 2011 (excluding MTJA)

Cumulative Petroleum Value 3.32 Trillion baht
Cumulative Revenue 1.04 Trillion baht
Allocation to Local Admin. 20,708 Million baht

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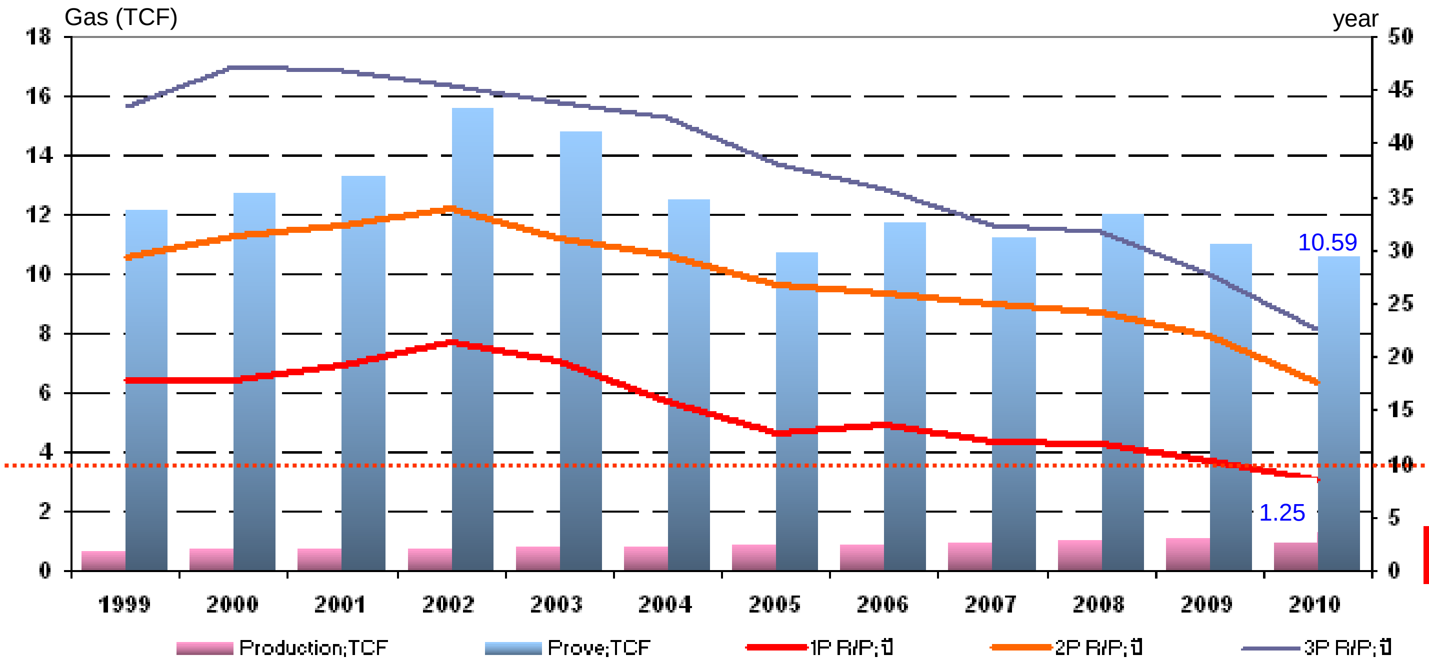
Petroleum Reserves

	Proved (P1)	**Probable (P2)**	**2P (P1+P2)**
Natural Gas (TCF)	10.59	11.48	22.07
Condensate (MMBBL)	245.21	335.40	580.6
Oil (MMBBL)	197.28	461.69	658.97
Total BOE (MMBOE)	**2,265**	**2,766**	**5,032**

As of Dec 2010



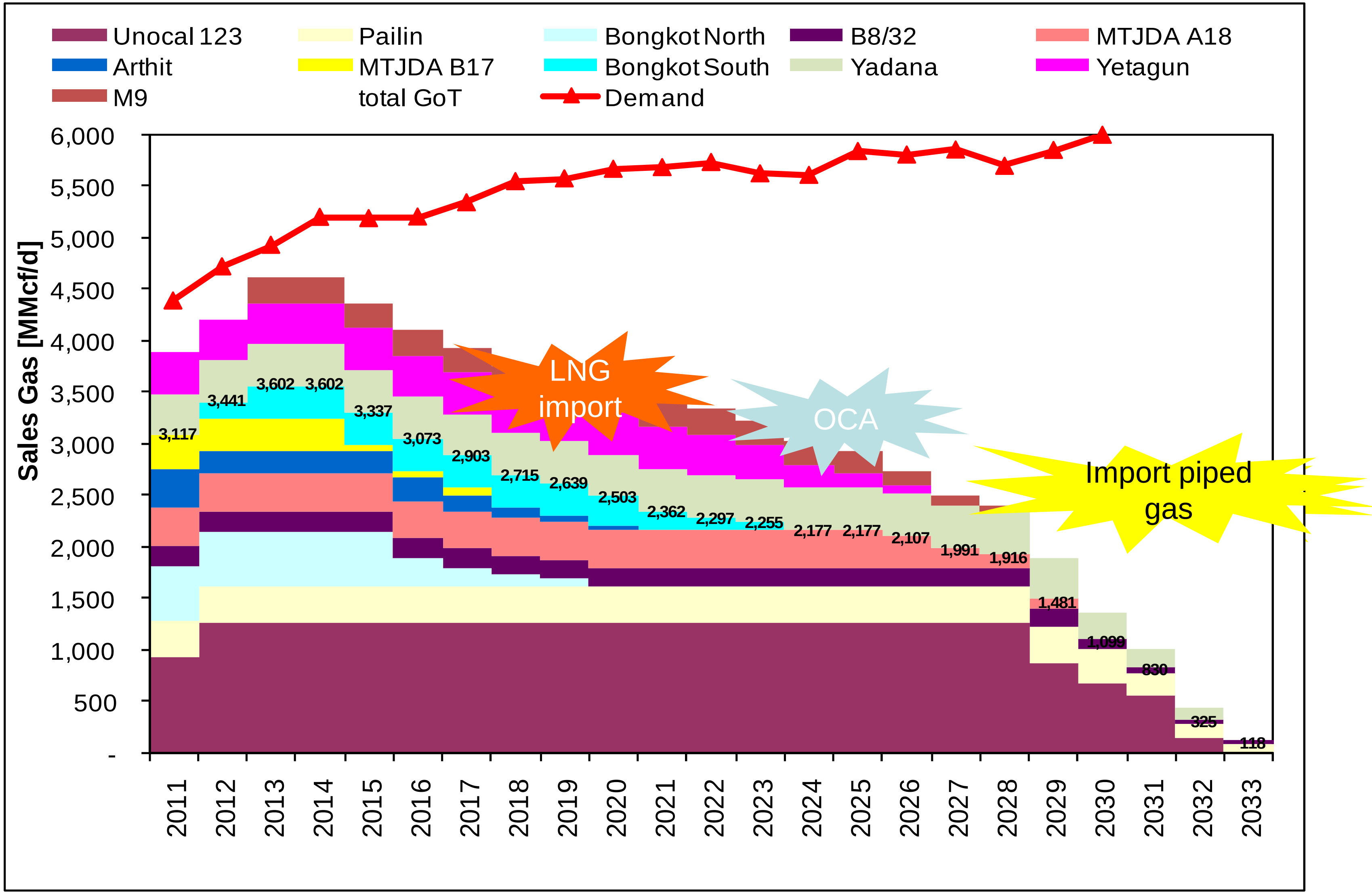
1P, R/P = 8.5
2P, R/P = 17.5
3P, R/P = 22.5

Target 1P , R/P = 10

1P R/P lower than 10

* Reserve include MTJDA

Long Term Gas Supply



***Note : 2022 – Unical 123 and Bongkot will end of Concession Period

Facing the New Challenges

- **Strengthen the Energy Security**
- **Supervising Decommissioning**
- **Manage the End of Concession**

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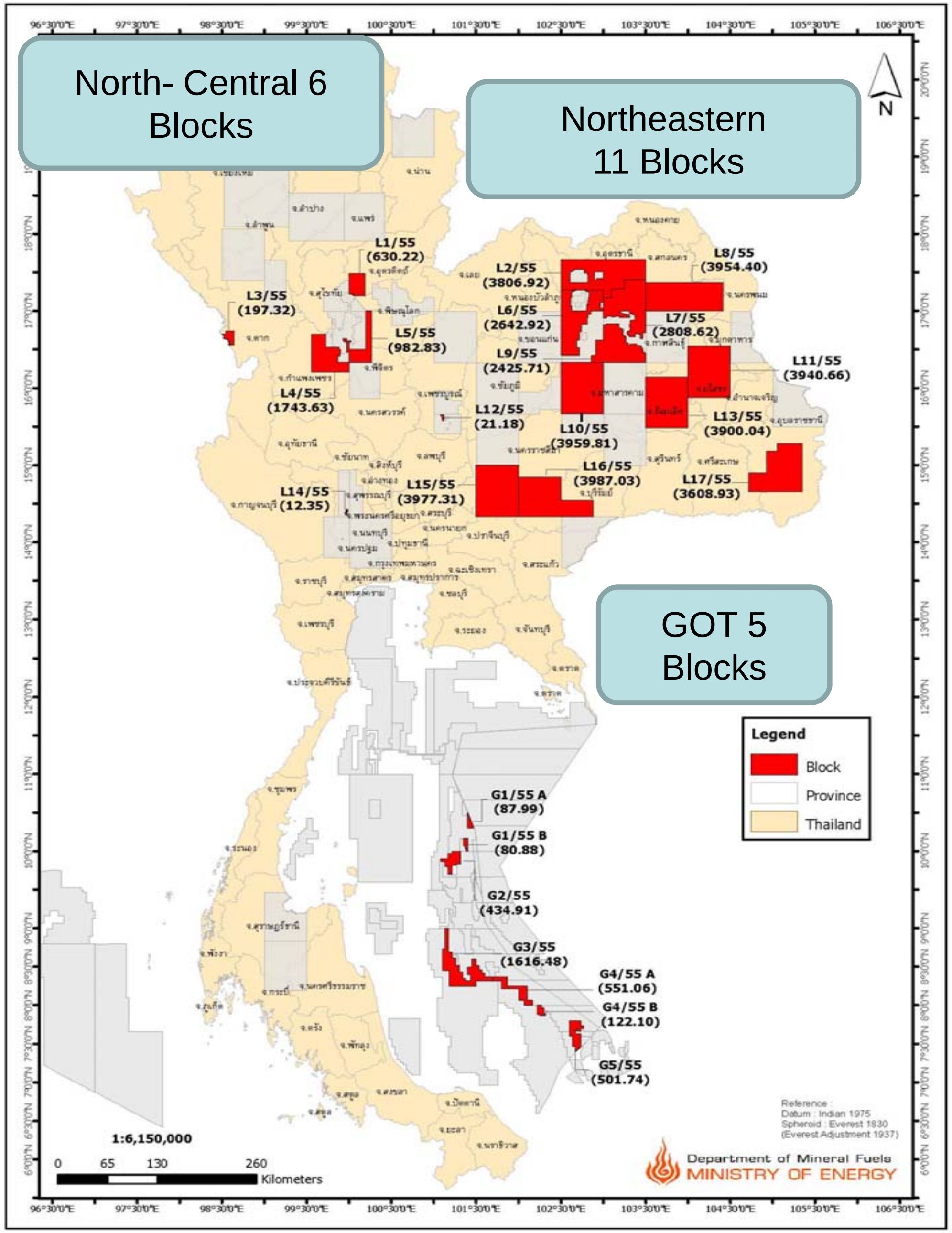
The NEW 21st Bidding Round



- **22 high potential blocks opened to bid, covering area of 46,000 sq.km.**
  - **Northeastern 11 blocks**
  - **Northern-Central 6 blocks**
  - **Gulf of Thailand 5 blocks**
- **Application to be submitted within 120 days after the announcement**
- **Minimum work commitment (1st obligation period) for each block defined in the announcement**
- **Refundable bid bond (~ 100,000 US$) required to prevent uncommitted applicant and opportunity loss to the State.**
- **Refundable bank guarantee equivalent to applicant's work commitment required prior to concession signing.**
- **Voluntary Social Development Fund throughout the concession life to develop local communities.**

Estimated Resources
Gas 4.3 Tcf Oil 9.5 MMbbl

Decommissioning

Thailand E&P Installations Decommissioning Guideline

Draft of Ministerial Regulations

- Submission of decommissioning plan for approval
- Obligation to place a financial guarantee for decommissioning

Manage the End of Concession

Concession System = Exclusive rights and obligations for petroleum operation under given areas for a specific given time period

- **Production period**

  Thai I 30 years + (10 years extension)

  Thai III 20 years + (10 years extension)