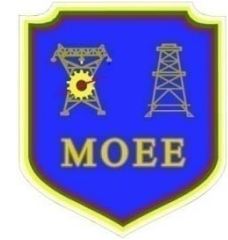




Republic of the Union of Myanmar

Ministry of Electricity and Energy



Current Status of Oil and Gas Sector

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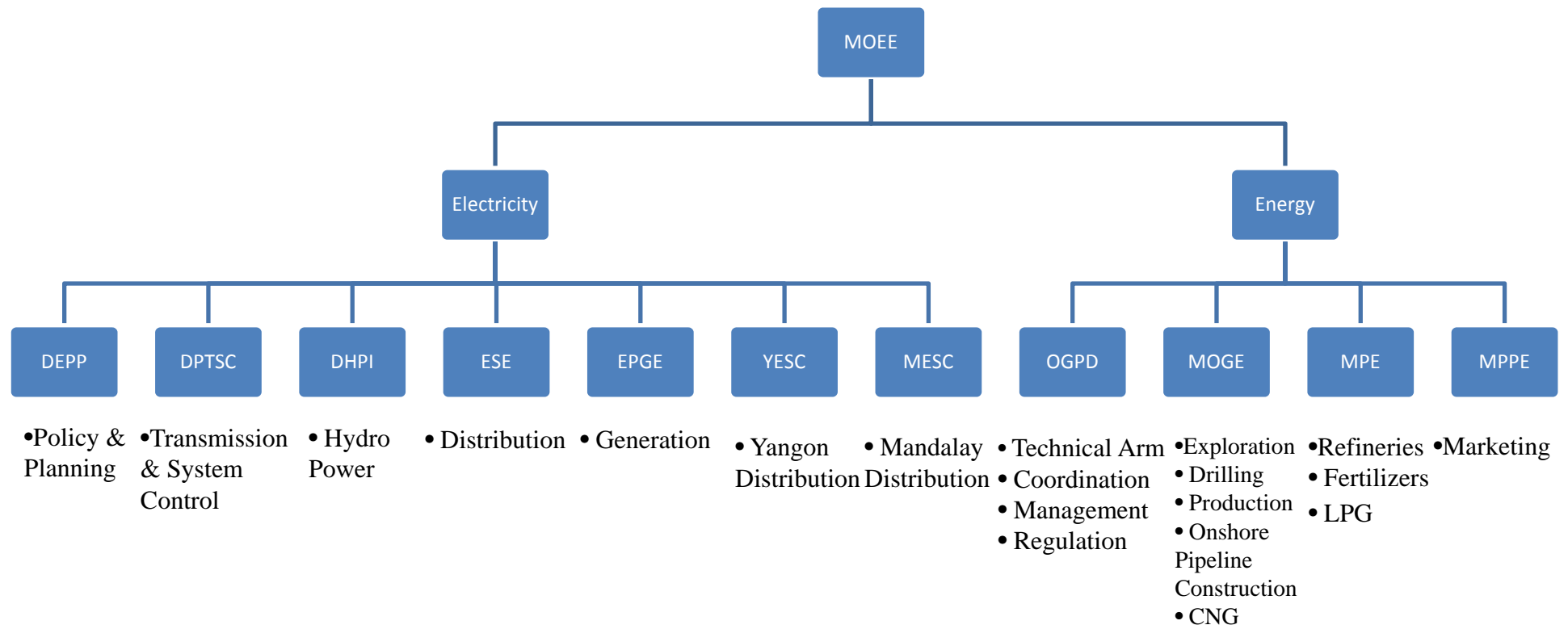
- I. Country Profile
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Country Profile (Myanmar)

- Capital (Administrative) Nay Pyi Taw
- Largest City (Commercial) Yangon (about 5,000,000 people)
- Population Over 51 millions
- Official Language Myanmar
- Currency Kyat
- Climate (Seasons) Summer, Rainy and Winter
- Total Land Area 676,577 km²
- Population Density per km² 84.2
- Population Growth Rate
(annual) 0.9%
- Forest Area 49% of the Country
- Literacy Rate 92%
- Standard Time Six hours and thirty minutes
ahead of Greenwich Mean Time
- Neighbouring Countries China (North and East)
Laos (East)
Bangladesh and India
(North-West)
Thailand (South-East)
- Coastal Strip 2,832 km facing to the bay of
Bengal and Andaman Sea
- GDP 6.5

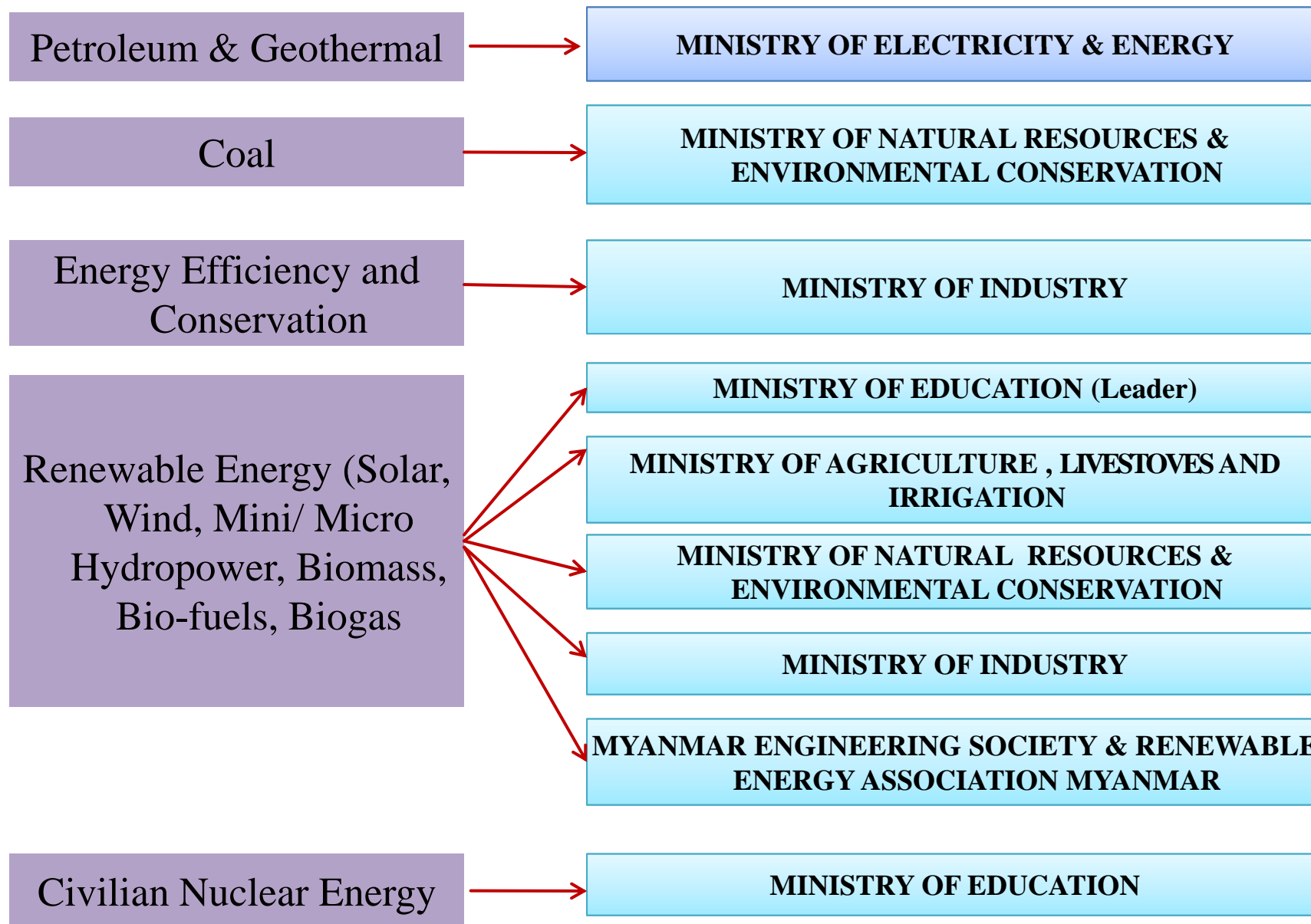


II. Organizational Structure of Ministry of Electricity and Energy

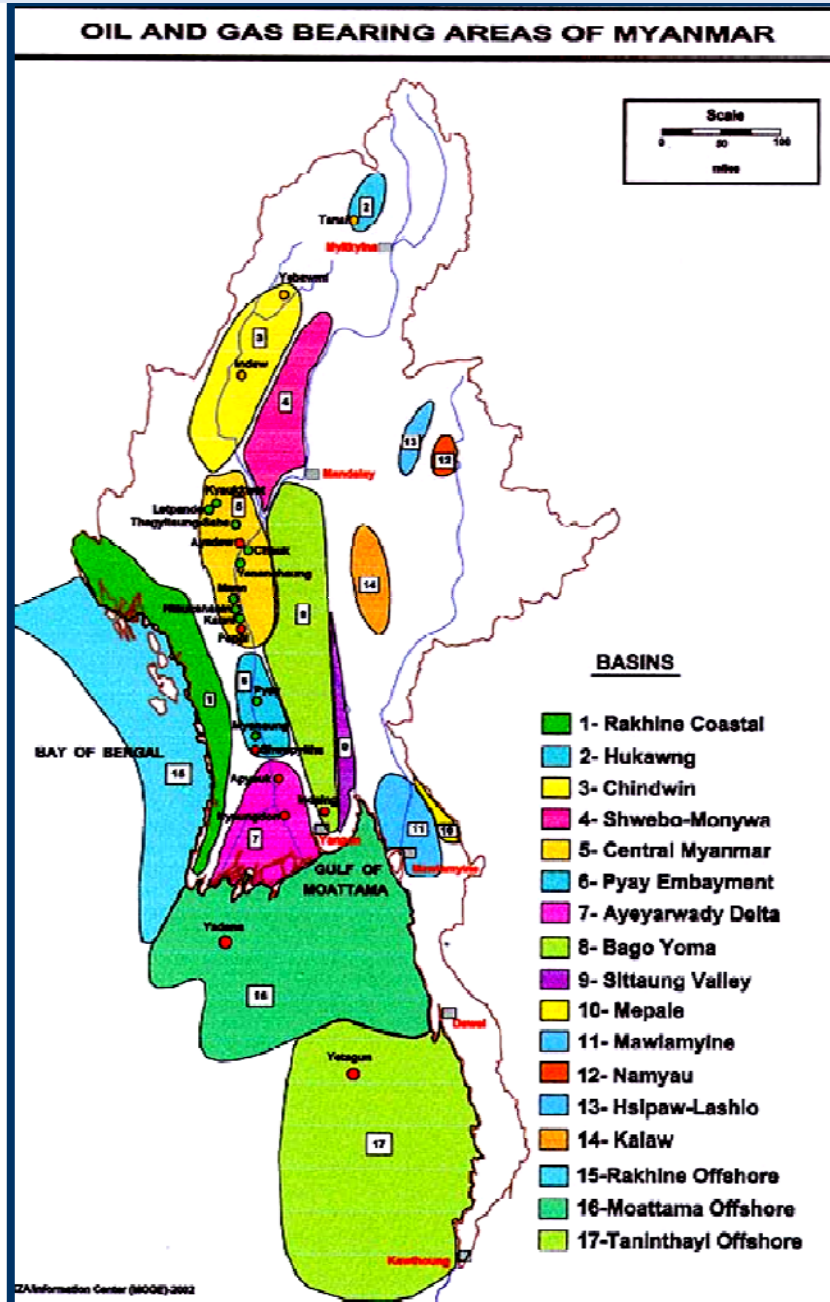


- Previously, we have the two separate ministries as MOEP & MOE
- Currently, these two ministries are merged as Ministry of Electricity and Energy for compact and perform the functions in efficient and effectively
- MOEE is taking the responsibilities of electricity, oil & gas and renewable energy(Hydro, solar, bio-fuel & geothermal) sub-sectors

Institutional Framework for Myanmar Energy Sector

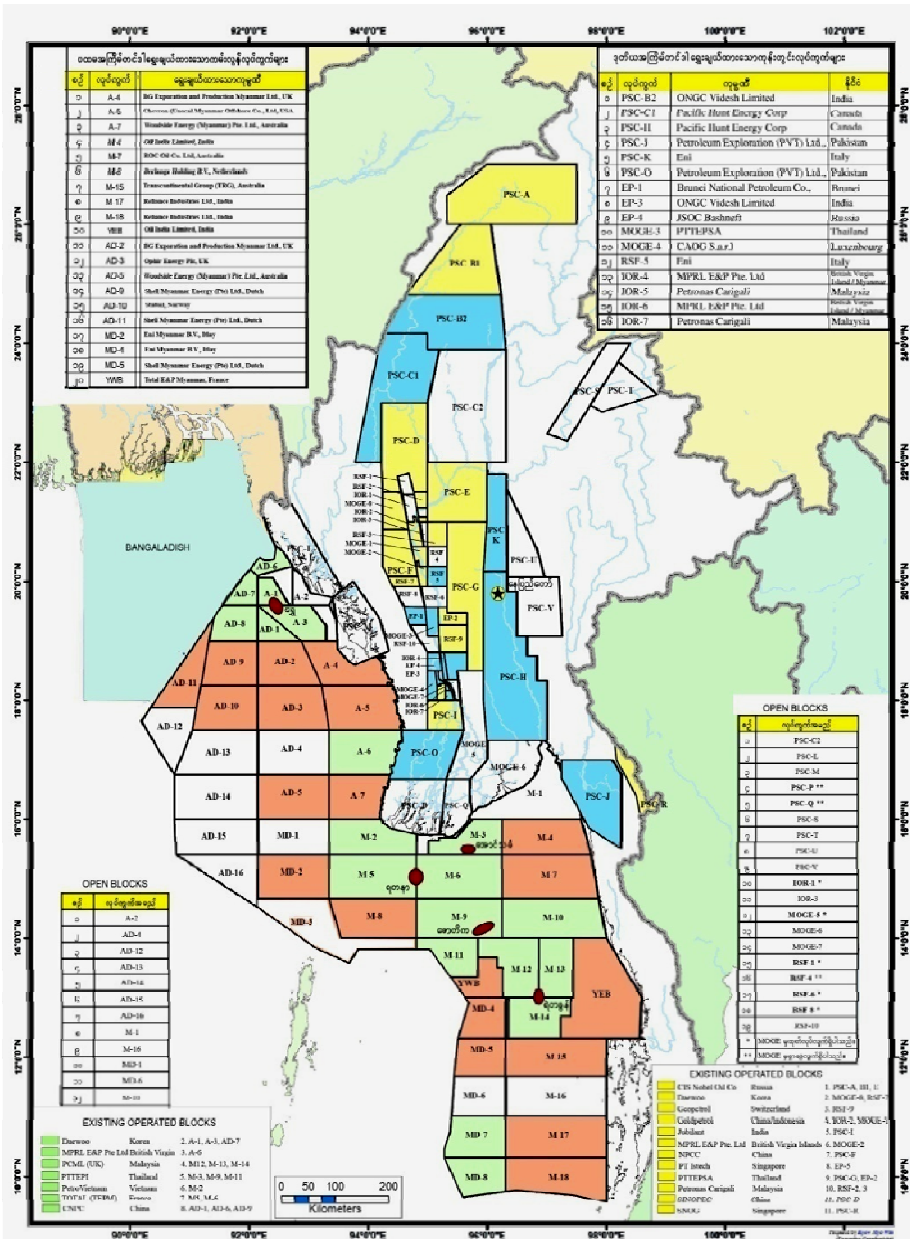


Sedimentary Basins of Myanmar



- A total of **17 sedimentary** basins have been identified to date, of which;
- **3 Onshore Tertiary basins** (Central, Pyay & Ayeyarwady Delta) are producing oil and gas
- **3 Offshore Tertiary basins** (Moattama, Rakhine & Taninthayi Offshore) are producing gas and condensate
- **8 onshore Tertiary frontier basins** need further exploration
- **3 onshore Pre-Tertiary basins** are secondary Targets.

Blocks on Production Sharing Basis



TYPES OF BLOCKS

- ❖ PSC BLOCKS (PSC)
- ❖ EXPLORATION / PRODUCTION BLOCKS (EP)
- ❖ IMPROVED PETROLEUM RECOVERY BLOCKS (IOR)
- ❖ REACTIVATION OF SUSPENDED FIELDS (RSF)
- ❖ MOGE RESERVED BLOCKS (MOGE)

Total 104 Blocks (Onshore + Offshore)
 53 Blocks (Onshore)
 51 Blocks (Offshore)

Type of Contract:
 Mainly Production Sharing Contract (PSC)

Daily Oil and Gas Production, Exportation and Domestic use

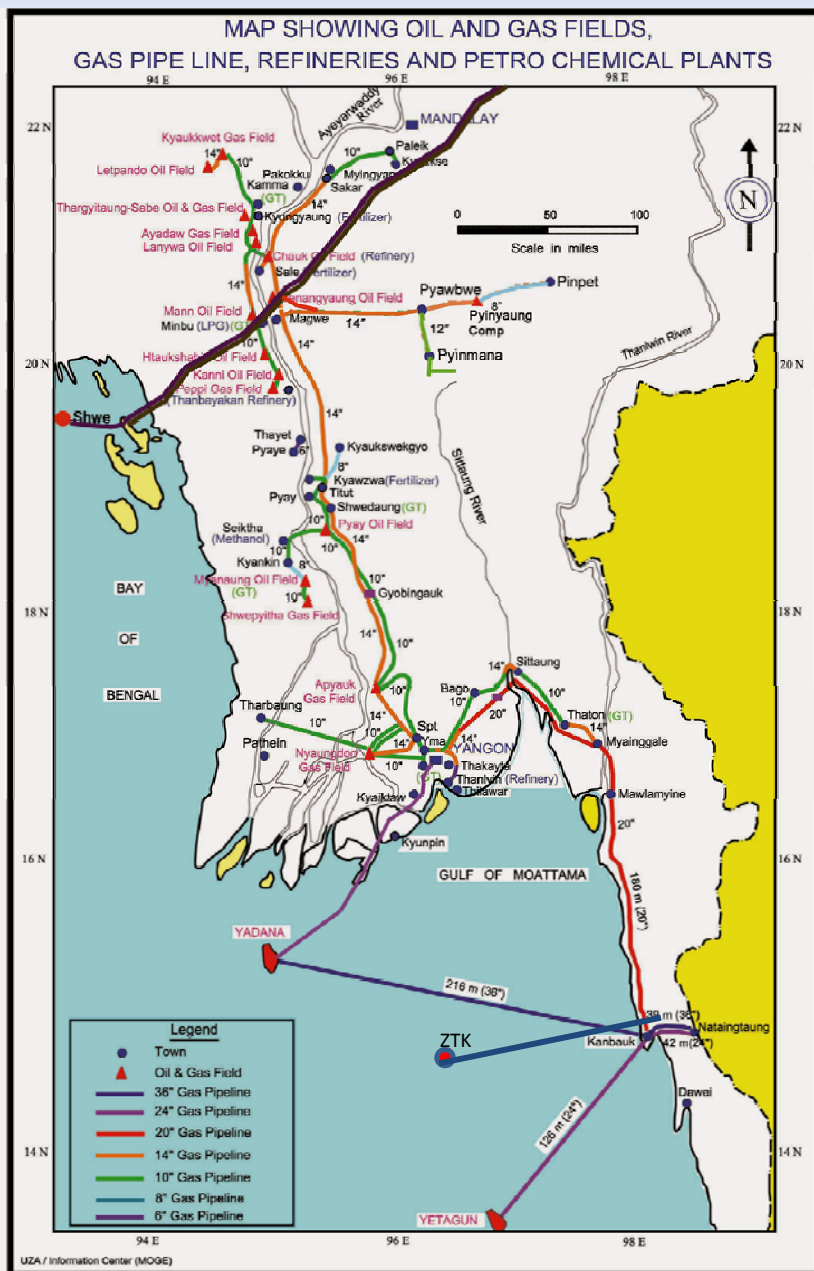
Oil

❖ Onland	- 7000 bbls
❖ Offshore	- 5000 bbls (Condensate)
Total	- 12,000 bbls

Gas

❖ Onland	- 50 MMscfd
❖ Offshore	- <u>1.75 Bscfd</u>
Total	- 1.80 Bscfd
❖ Export to Thailand	- 950 MMscfd
❖ Export to China	- 400 MMscfd
❖ Domestic use	- 400 MMscfd

Gas Distribution



Onshore - 50 MMCFD

(CNG Stations, Petrochemical Plants)

Offshore - 1850 MMCF

YADANA - 850 MMCFD

650 MMCFD Export

200 MMCFD Domestic

(YGN area GT & GEG, Shwetaung Mag)

YETAGUN - 200 MMCFD Export

ZAWTIKA - 300 MMCFD

200 MMCFD Export

100 MMCFD Domestic

(KBK, Mawlamyine, Thaton, YGN)

SHWE - 500 MMCFD

400 Export

100 Domestic

(KPU, YNG, Myingyan, KSE)

Existing Offshore Projects in Myanmar

YADANA PROJECT

TOTAL	31.24%
UNOCAL	28.26%
PTTEP	25.50%
MOGE	15.00%

Export 650 MMscfd
Domestic 200 MMscfd

YETAGUN PROJECT

PETRONAS	40.91%
NIPPON	19.32%
PTTEP	19.32%
MOGE	20.45%

Export 200 MMscfd
5,000 condensate

SHWE PROJECT

DAEWOO	51.00%
ONGC	17.00%
GAIL	8.50%
KOGAS	8.50%
MOGE	15.00%

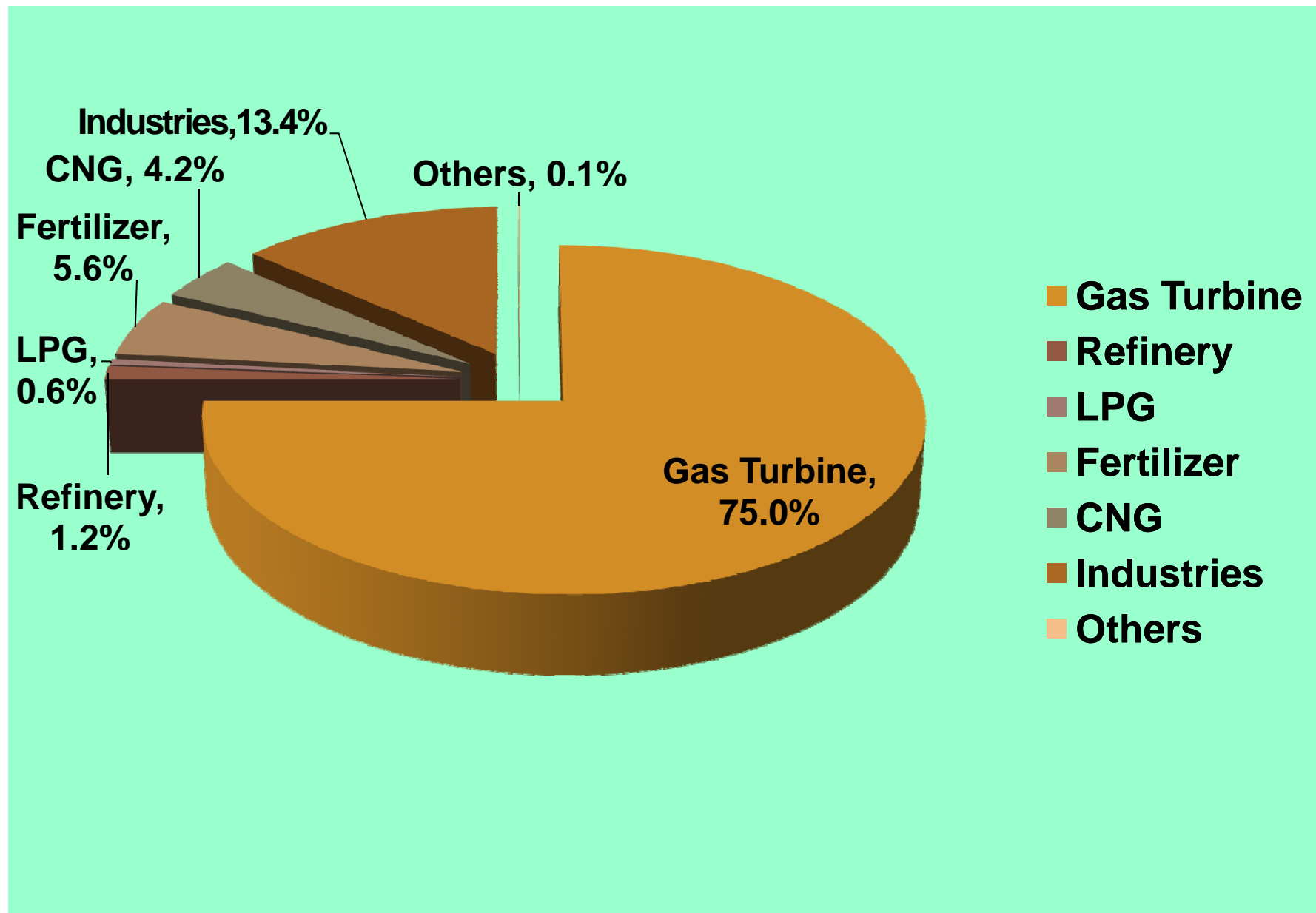
Export 450 MMscfd
Domestic 100 MMscfd

ZAWTIKA PROJECT

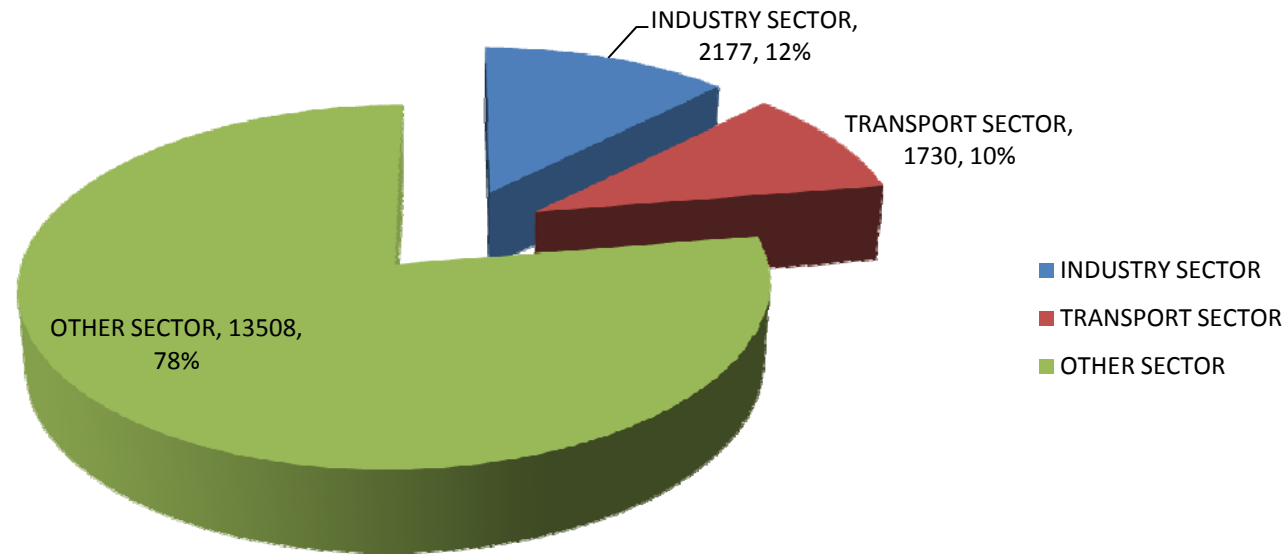
PTTEP	80.00%
MOGE	20.00%

Export 200 MMscfd
Domestic 100 MMscfd

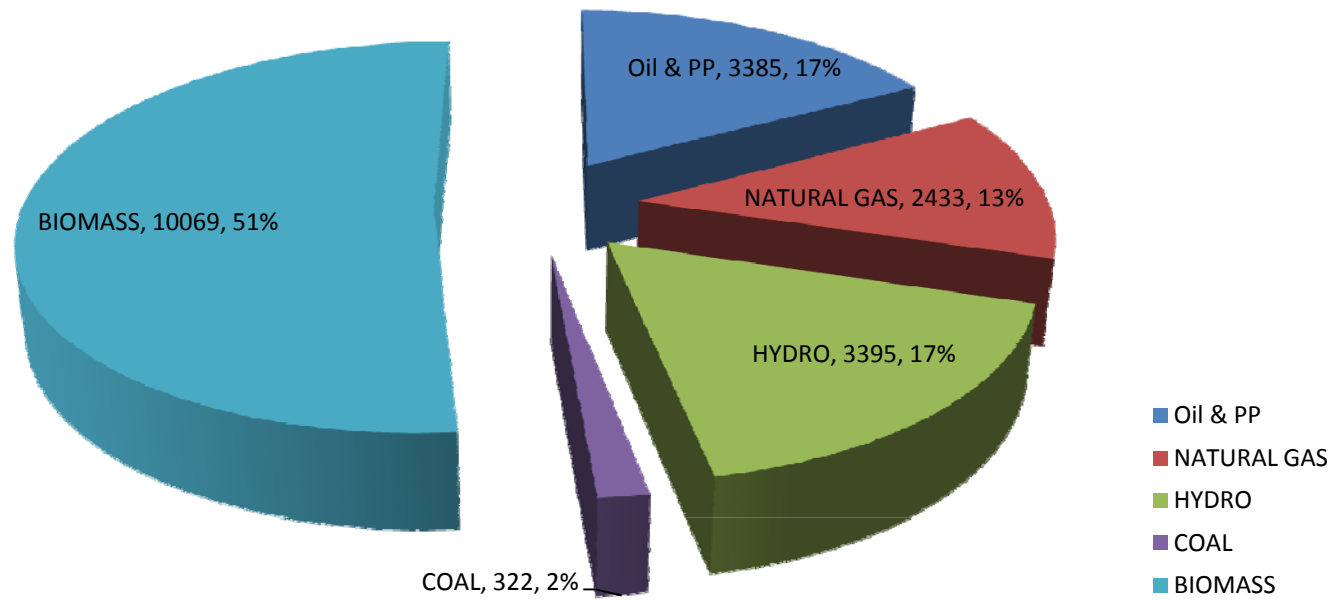
Sector wise Gas Utilization (As at 2017)



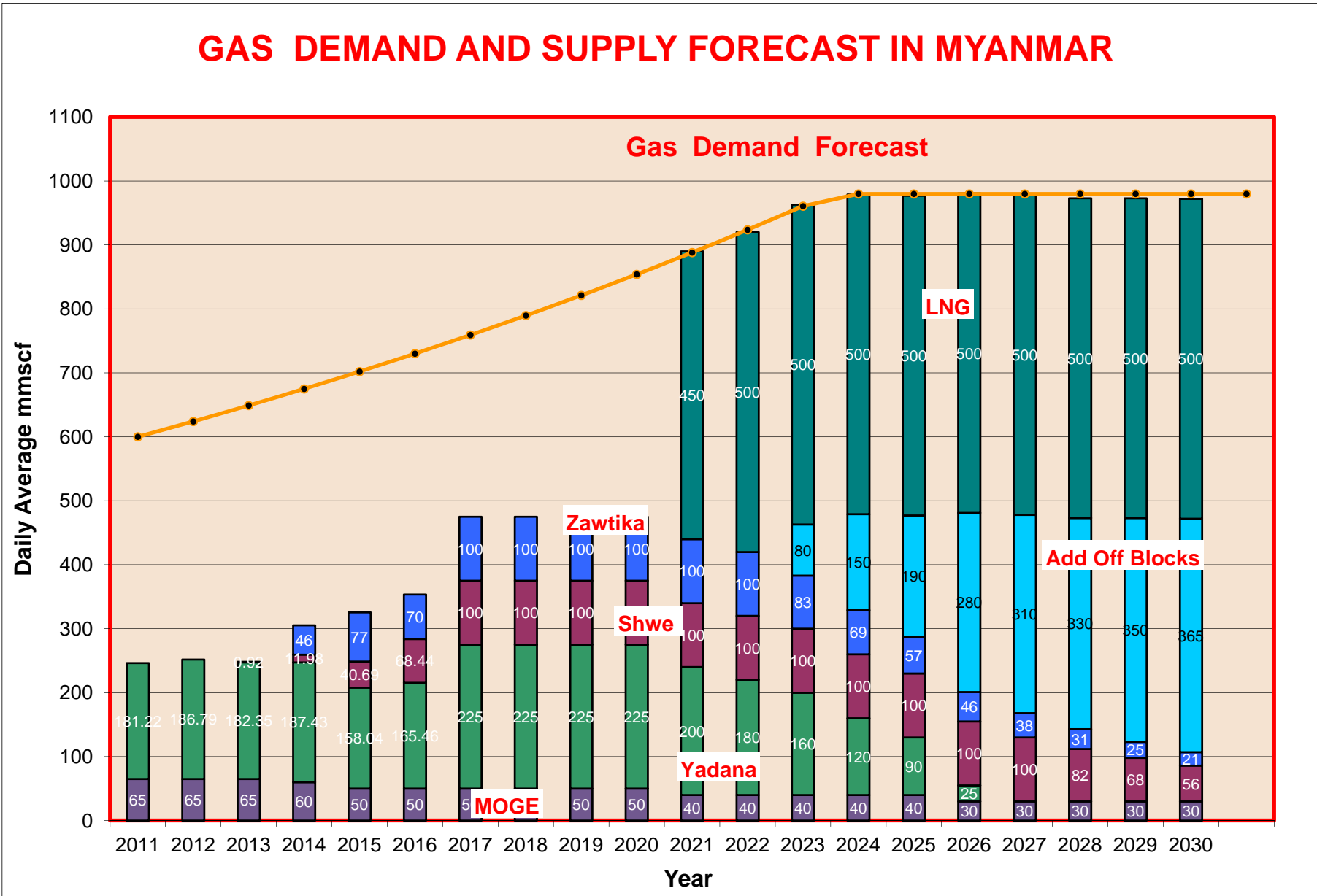
Final Energy Consumption by Sector (2014-15) KTOE



Primary Energy Supply (2014-15) KTOE



Prediction for Gas Demand & Supply in Myanmar



LNG Business

- In Myanmar, LNG is one of the options for future gas supply to fulfill the domestic needs. Due to the gas shortage in power sector and industrial sector, LNG business is significantly feasible for short term and medium term period to fulfill the gap of gas demand.
- Currently, two existing out of 4 offshore projects are being declined, so we consider to encourage the domestic requirements using by LNG till to produce from new discoveries in Myanmar offshore region.
- Accordingly, we have invited LOEI for LNG import and selected appropriate location to proceed for LNG tender which will be launching very soon.
- All technical and commercial assistance are provided by World Bank.

Corporatization Services

- Corporatization procedure for selected services of MOGE are as follow:-
 - Drilling Rig Services
 - Seismic Services
 - Pipe laying and Maintenance Services
- LOEI were declared for those services since June, 2014 and in order to establish 3 JVs' tendering process, Roland Berger Pte. Ltd. was awarded for consultancy service to make issuing and evaluation.
- On the other hand, to fulfill the logistic requirement of offshore petroleum operations, offshore supply base tender will be launched in very soon for JV with potential partner.
- All these are encouraging for corporatization purpose.

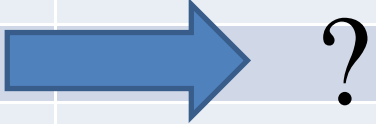
Tentative National Energy Policy of Myanmar

1. To minimize the environmental impacts, to include natural resources utilization plan for future generations , to invite the local and foreign investments and to continuously carry out Corporate Social Responsibility (CSR) activities in extraction and utilization of natural resources in order to fulfill the nation's energy needs.
2. To adopt prioritized plans on Energy Efficiency and Conservation
3. In defining the energy pricing in accordance with the market oriented economy, the necessary laws and regulations shall be promulgated by observing the ASEAN and international energy pricing policy in order to maintain the stability of energy prices, to guarantee the economic benefits for both energy producers and energy consumers, to ensure affordable energy price for the people, to ensure affordable energy price for the people and to set up an energy fund:-
4. To follow energy standards and specifications which are appropriate for the nation and which are also in compliance with ASEAN and international practices.
5. To promote private sector participation or privatization according to the State's economic policy for realizing the success of State's Own Enterprises.
6. To lay down the short term and long term plans for not only renewable energy and hydropower projects but also feasible utilization of Liquefied Natural Gas (LNG) in thermal power plants to generate more electricity in order to meet the increased demand which will accompany with the nation's GDP growth.

Tentative National Energy Policy of Myanmar (cont;)

7. To participate in regional energy trading (such as electric power, crude oil and natural gas) by expanding the power grid and pipeline network to neighboring countries including ASEAN nations.
8. To implement the following short term and long term plans in order to get power generation stability by conserving the water catchment areas of hydropower dams and the reservoirs, rehabilitating the aged plants and constructing the new ones in the grid system and replacing the ineffective transmission lines, constructing new lines, expanding the network system and building substations in the national grid system.
9. To prioritize the use of solar, wind, hydro, biomass and other renewable energy resources in fulfilling the electricity demand of off-grid areas.
10. To establish Energy Database System and to draw and implement the energy supply plans by surveying the nation's energy demand annually.
11. To formulate a plan on civilian use of nuclear energy.
12. To set up the energy stockpiling plan for future energy security

Market Price (Electricity)

Present Price		Consumed Ratio	New Price
Household			
1 unit to 100 units	35 kyats	60.45%	
101 units to 200 units	40 kyats		
201 units and above	50 kyats		
			
Industries/Commercial			
1unit to 500 units	75 kyats	39.55%	
501 units to 10,000 units	100 kyats		
10,001 units to 50,000 units	125 kyats		
50,001 units to 200,000 units	150 kyats		
200,001 units to 300,000 units	125 kyats		
300,001 units and above	100 kyats		

Market Price (Natural Gas)

Project	Unit	Price	
		MMK	USD
<u>Offshore</u>			
<u>Export Use</u>			
Yadana Project	1MMBTU		5.8333
Yetagun Project	1MMBTU		5.8333
Zawtika Project	1MMBTU		5.8333
Shwe Project	1MMBTU		5.9533

Market Price (Natural Gas) Domestic (Government & Private)

Project	Unit	Price	
		MMK	USD
<u>Onshore</u>			
Government Use	1,000 ft ³	2,000	
Private Use	1,000 ft ³	6,060	
<u>Offshore</u>			
Government Use	1MMBTU		7.5
Private Use			
(i) Zawtika Gas			
(1) Private	1,000 ft ³		4.6698
(2) Joint Venture	1,000 ft ³		5.0105
(ii) Shwe Gas (Offtake Point)			
(1) Kyaukphyu	1MMBTU		7.7207
(2) Yenangyaung	1MMBTU		8.4551
(3) Taungtha	1MMBTU		8.8654
(4) Mandalay	1MMBTU		9.1728
(iii) Yadana Gas	1,000 ft ³		5.0389

Outlook Plans- Tomorrow

Today “Oil & Gas Sector”

Tomorrow “Oil & Gas Sector”

State-Owned Enterprises (SOE)	⇒	Semi-State Owned Enterprises
Initiates JV process for 3Drilling Rigs, Pipeline construction (onshore) and Seismic Acquisition	⇒	JV in associated services of Upstream E&P (Investors and Locals)
JV process for a Refinery and LPG Plants	⇒	JV for existing Midstream Capacities and New Structures! (Investors and Locals)
Privatized in Downstream (Trading & Marketing)	⇒	JV in Trading and Marketing of Petroleum Products (Investors and Locals)
Only conventional Resources	⇒	Unconventional Resources

Future Potential Opportunities

- Prospects ⇒ Deep Water Area
- Upstream E&P is Priority & Associated Services ⇒ Today to Year 2023
- Integrated Infrastructures ⇒ Year 2023 and Forward
- Midstream and Downstream ⇒ Year 2023 and Future
- SOE to Semi SOE ⇒ JV between SOE, Local and Investors
- Mainly PSC & IPR ⇒ Leveling for all International Firms
- Service Contracts ⇒ JV in Existing Structures and Extend additionally

Way Forward for Petroleum Sector

- ❖ Unconventional and conventional prospects:
- ❖ Supply based for Petroleum operations
- ❖ Integrate Infrastructure: Pipeline, Plants and Refineries
- ❖ JV process for onshore drilling and seismic, pipe-laying, refinery, fertilizer, LPG plants and associated area
- ❖ JV process for LNG Business
- ❖ Natural gas basis industries are key role in future.
(mainly depends on newly discoveries in offshore)
- ❖ Trading, Marketing and Distribution of Petroleum Products
- ❖ Enhancing Capacity Building in the people of Myanmar

Thank You for Your Kind Attention
Domo Arigato Gozaimasu

