



**ROBECOSAM**  
Sustainability Award  
Gold Class 2014

MEMBER OF  
**Dow Jones**  
**Sustainability Indices**  
In Collaboration with RobecoSAM



# Thai Oil Public Company Limited

## Q2 & 1H/2014 Opportunity Day Presentation

### 20 August 2014



Time : 3.10 - 4.00 pm.  
Venue : Stock Exchange of Thailand



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<b>VISION</b>	<b>A LEADING FULLY INTEGRATED REFINING &amp; PETROCHEMICAL COMPANY IN ASIA PACIFIC</b>
<b>MISSION</b>	<ul style="list-style-type: none"> <li>• To be in top quartile on performance and return on investment</li> <li>• To create a high-performance organization that promotes teamwork, innovation and trust for sustainability</li> <li>• To emphasis good Corporate Governance and commit to Corporate Social Responsibility</li> </ul>
<b>VALUES</b>	<div> <div> <b>Professionalism</b>  Ownership &amp; Commitment  Social Responsibility </div> <div>  </div> <div> <b>Excellent Striving</b>  Vision Focus  Initiative </div> </div> <p>Integrity Teamwork &amp; Collaboration</p>



## Corporate Governance Policy

The board of directors, management and all staff shall commit to moral principles, equitable treatment to all stakeholders and perform their duties for the company's interest with dedication, integrity, and transparency.

## Roles and Responsibilities for Stakeholders

- Truthfully report company's situation and future trends to all stakeholders equally on a timely manner.
- Shall not exploit the confidential information for the benefit of related parties or personal gains.
- Shall not disclose any confidential information to external parties.

## CG Channels

Should you discover any ethical wrongdoing that is not compliance to CG policies or any activity that could harm the Company's interest, please inform:



Corporate Management Office  
Thai Oil Public Company Limited  
555/1 Energy Complex Building A  
11F, Vibhavadi Rangsit Road,  
Chatuchak, Bangkok 10900



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CG  
Manual

<http://www.thaioilgroup.com>





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Member of DJSI Emerging Markets 2013  
with Highest Ranked Level in Gold Class  
of Global Oil & Gas Companies

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# DJSI Gold Class 2014-Oil & Gas Ranking

## Sustainability leaders 2014

### RobecoSAM Gold Class

BG Group PLC*	United Kingdom
S-Oil Corp	South Korea

<b>Thai Oil PCL</b>	<b>Thailand</b>
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### RobecoSAM Silver Class

Eni SpA	Italy
Repsol SA	Spain

### RobecoSAM Bronze Class

Cenovus Energy Inc	Canada
Ecopetrol SA	Colombia
Galp Energia SGPS SA	Portugal
Petroleo Brasileiro SA	Brazil

### Sustainability Yearbook Members

Inpex Corp	Japan
IRPC PCL	Thailand
Neste Oil OYJ	Finland
Pacific Rubiales Energy Corp	Canada
PTT PCL	Thailand
Royal Dutch Shell PLC	United Kingdom
Santos Ltd	Australia
Sasol Ltd	South Africa
Statoil ASA	Norway
Total SA	France
Woodside Petroleum Ltd	Australia

\* RobecoSAM Industry Leader

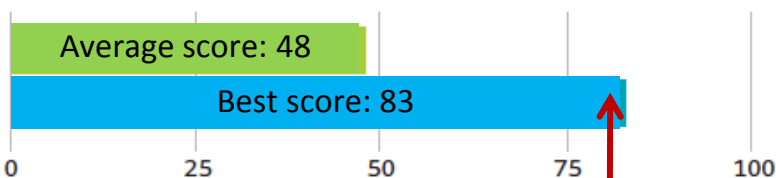
## Industry statistics

Number of companies in universe	134
Number of companies assessed by RobecoSAM in 2013	89
Assessed companies to total companies in universe (%)	66
Market capitalization of assessed companies to total market capitalization (%)	91

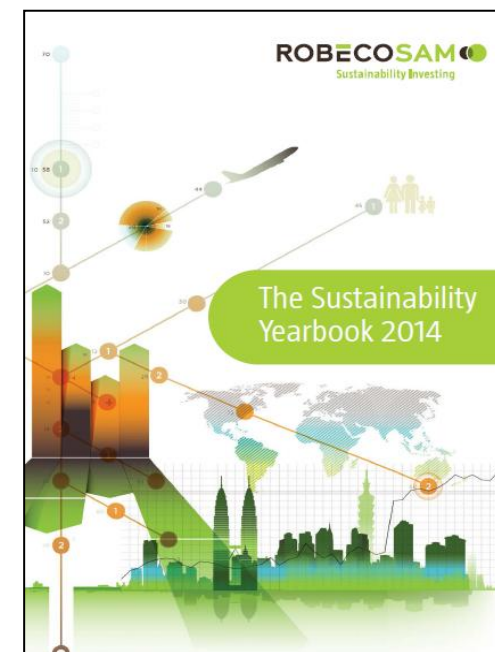
## Results at industry level

Dimension	Average score	Best score	Dimension weight
Economic	59	91	41%
Environmental	32	84	28%
Social	49	87	31%

### Total score



**TOP**  
Score 82





**Q2/14 KEY HIGHLIGHTS**

**Q2 & 1H/14 PERFORMANCE ANALYSIS**

**2H/14 & 1H/15 MARKET OUTLOOK**

**2014 KEY ACTIVITIES / PROJECT UPDATE**

**KEY TAKE AWAY MESSAGES**



## Q2/14 KEY HIGHLIGHTS





## Macro-economies / Industry Highlights

- **\$4/bbl rise in Dubai crude price** driven by violence in Iraq, Libya, Ukraine & Russia
- **Weak CN oil demand** causing higher diesel export into the region as reflected by high Singapore inventories
- **New PX capacities & slow CN polyester demand** continued pressure But downside capped by run cut in N.Asia
- **Tight Base oil supply** due to plants maintenance in CN, while soften regional bitumen demand



**Stock Gains from rising Dubai**



**Soften Market GRM**



**Weak Aromatics spread**



**Stable Base Oil margins while slightly soften bitumen**



## Business Highlights

- **Refinery** : 94% u-rate (CDU-3 planned MTA started from 15 Jun 2014) Capture domestic sale 86%
- **Aromatic/Base Oil** : Optimized run at 79% / 99% (Aromatic unit planned MTA started from 15 Jun 14)
- **Power** : Higher u-rate & power sales from GPSC
- **Marine** : Fully utilized crew boat fleet offset VLCC dry dock
- **Solvent** : Higher sales volume both local & international
- **Ethanol** : Uncertainties of policies supporting cassava-based ethanol pressured volumes & sales prices

## Financial Highlights

- **Commodity hedging gains** ~ 593 MB
- **FX Gains** ~ 291 MB
- **Effective tax rate at 17 % in Q2/14** ( ~ 1H/14 effective tax rate is 12% )
- **Affirmed credit ratings** : **S&P** :BBB , **Moody's** : Baa1 , **Fitch** : AA- (Tha)

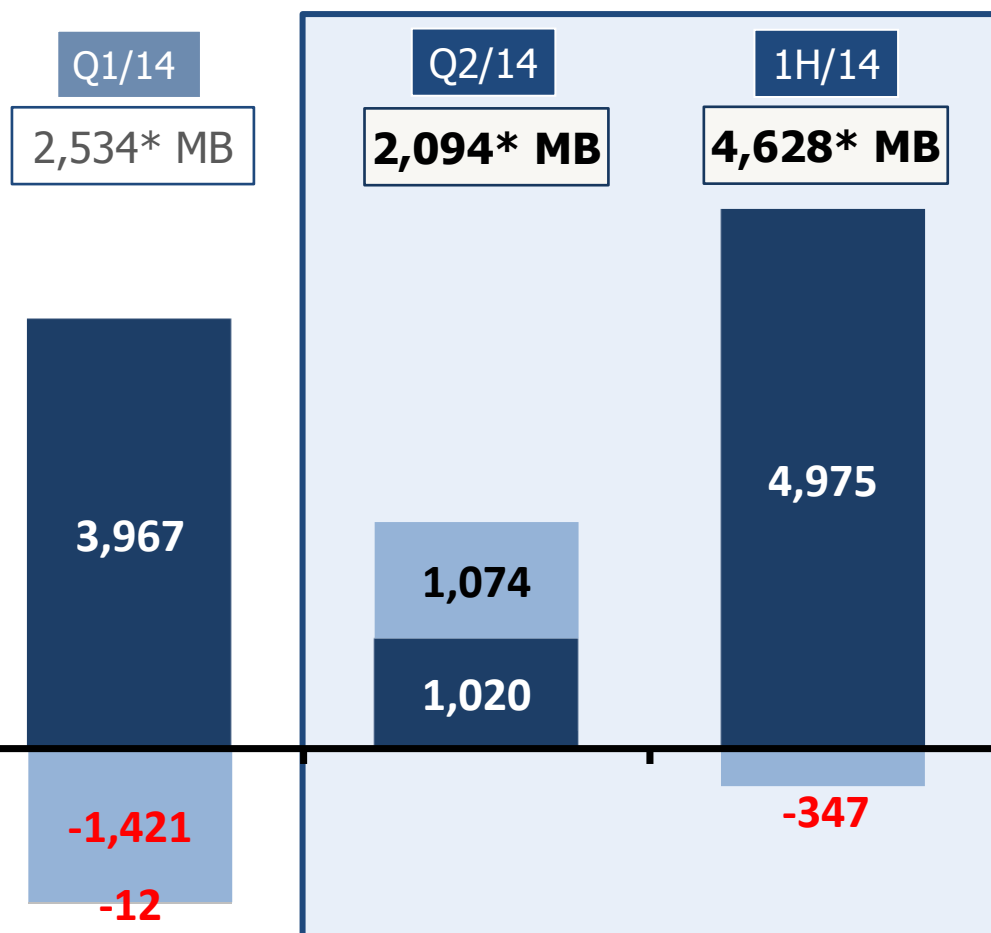


# Q2 & 1H/14: Group's Earnings...Among Headwind

## Top Group Net Profit

Unit : million THB

■ NP w/o Stock G/L ■ Stock G/(L) Before tax ■ LCM



## Gross Refining Margin - GRM

\$/bbl	Q1/14	Q2/14	1H/14
Marketing GRM	5.1	4.4	4.8
Stock Gain/(Loss)	(1.7)	1.4	(0.2)
Accounting GRM	3.4	5.8	4.6
Cracking SIN GRM**	6.3	5.8	6.0
Adj Cracking SG GRM **	3.1	2.6	2.9

## Gross Integrated Margin - GIM

\$/bbl	Q1/14	Q2/14	1H/14
Aromatics	0.4	0.0	0.2
Lube base	0.8	0.8	0.8
<b>Marketing GIM</b>	<b>6.1</b>	<b>5.1</b>	<b>5.6</b>
<b>Accounting GIM</b>	<b>4.5</b>	<b>6.4</b>	<b>5.4</b>

\*redeemed BOI privilege for tax exemption on environmental projects in Q1/14 = 265 MB, Q2/14 = 59 MB, 1H/14 = 324 MB

\*\* Cracking SIN GRM from Reuters based on product yield of LPG 3%, MOGAS 31%, Naphtha 7%, Jet 18%, GO 16%, FO 22%. Adj Cracking SG GRM assuming 3% F&L of Dubai crude cost



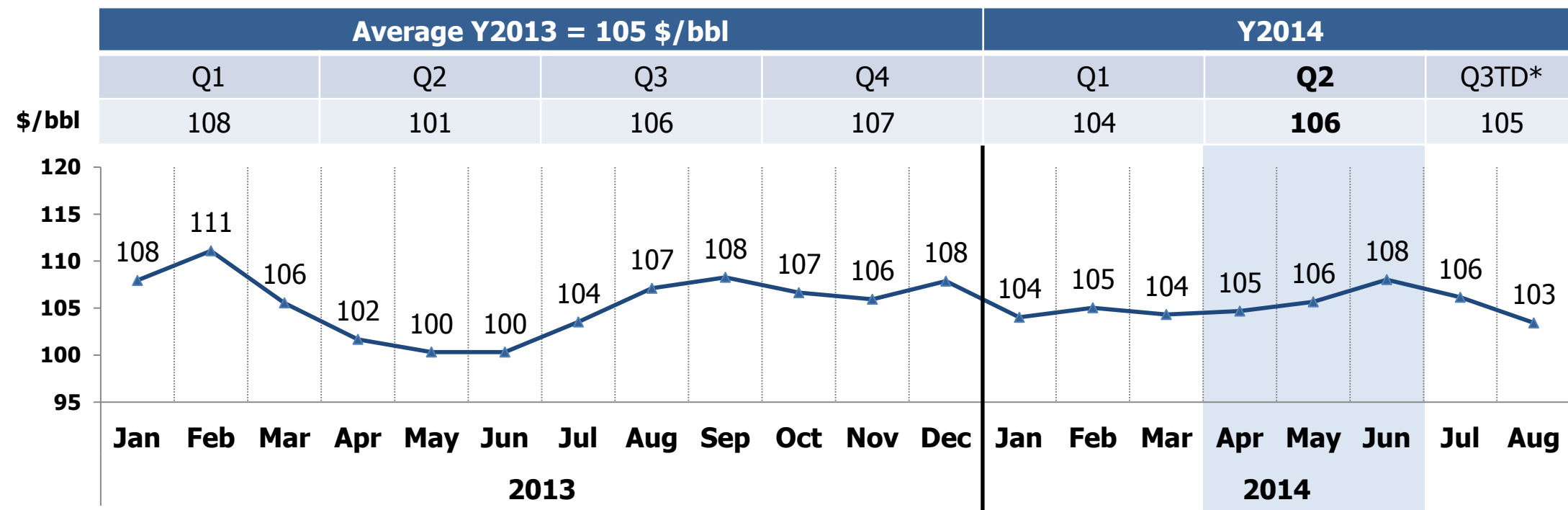
# Q2 & 1H/14 PERFORMANCE ANALYSIS





# Q2/14: Supply Disruption from Unrests...Rising Dubai Crude Price

## Dubai Crude Price



### Positive Factors

- + Unrest situation in Iraq and Libya vs. concerns over supply disruption
- + Conflicts between Ukraine vs. Russia
- + Concerns on US & EU sanction against Russia
- + Positive US & China econ data

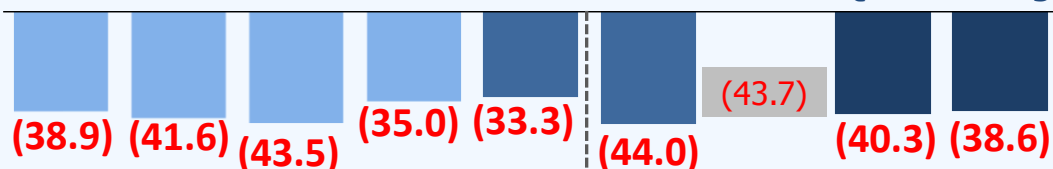
### Negative Factors

- High US crude stocks as less demand in refining T/A seasons
- Resumed Libyan oil export
- Extended Iranian sanction relief
- Ongoing FED QE tapering



# Q2/14: Lower Middle Distillate Cracks...Thinner MKT GRM

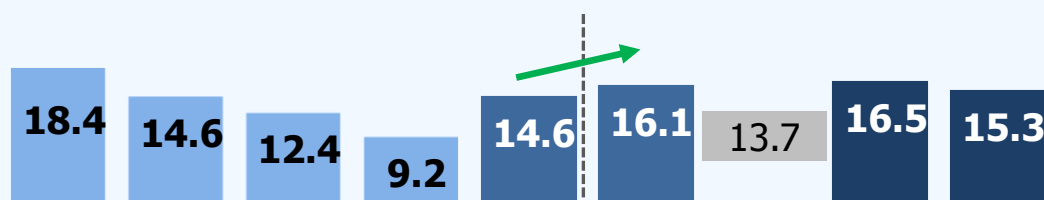
LPG - DB (Unit: \$/bbl)



• LPG price = 76% CP price + 24%\*333 \$/ton.

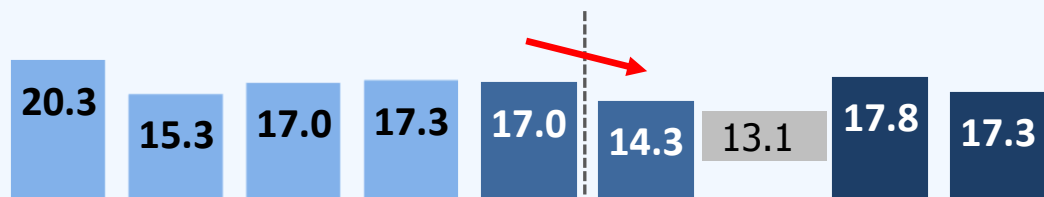
ULG95 - DB

- + Limited regional supply as refineries outages in India and Taiwan
- + Firm demand from Ramadan & US driving seasons



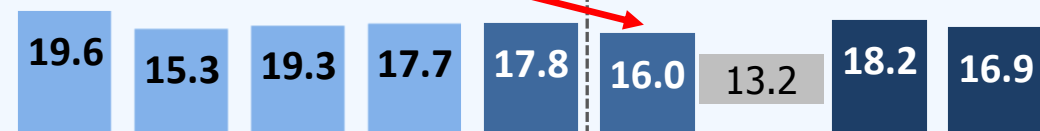
JET - DB

- Closed arbitrage to West
- Mute regional demand & poor airline's activities
- Ample regional supply

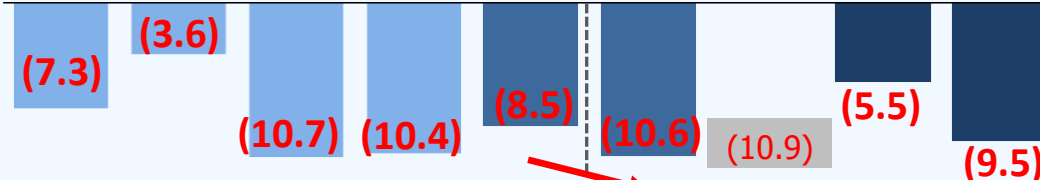


Diesel - DB

- High Chinese export from low domestic demand
- Slow regional demand i.e. fishing ban in China leading to high stock in Singapore
- + limited regional supply as T/A season and outages
- + Stockpiling for Ramadan

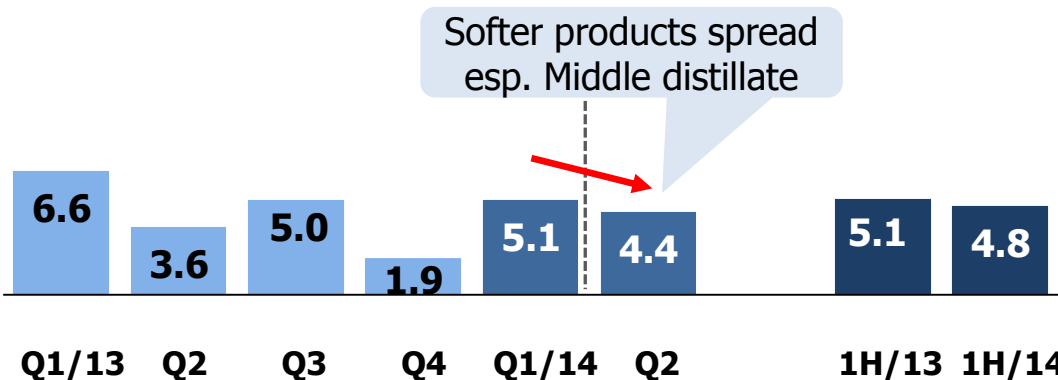


HSFO - DB



- Lower electricity demand in North Asia, especially in Japan resulting in high FO stock
- Slow Chinese demand from teapot refineries
- Sluggish bunker demand in SG

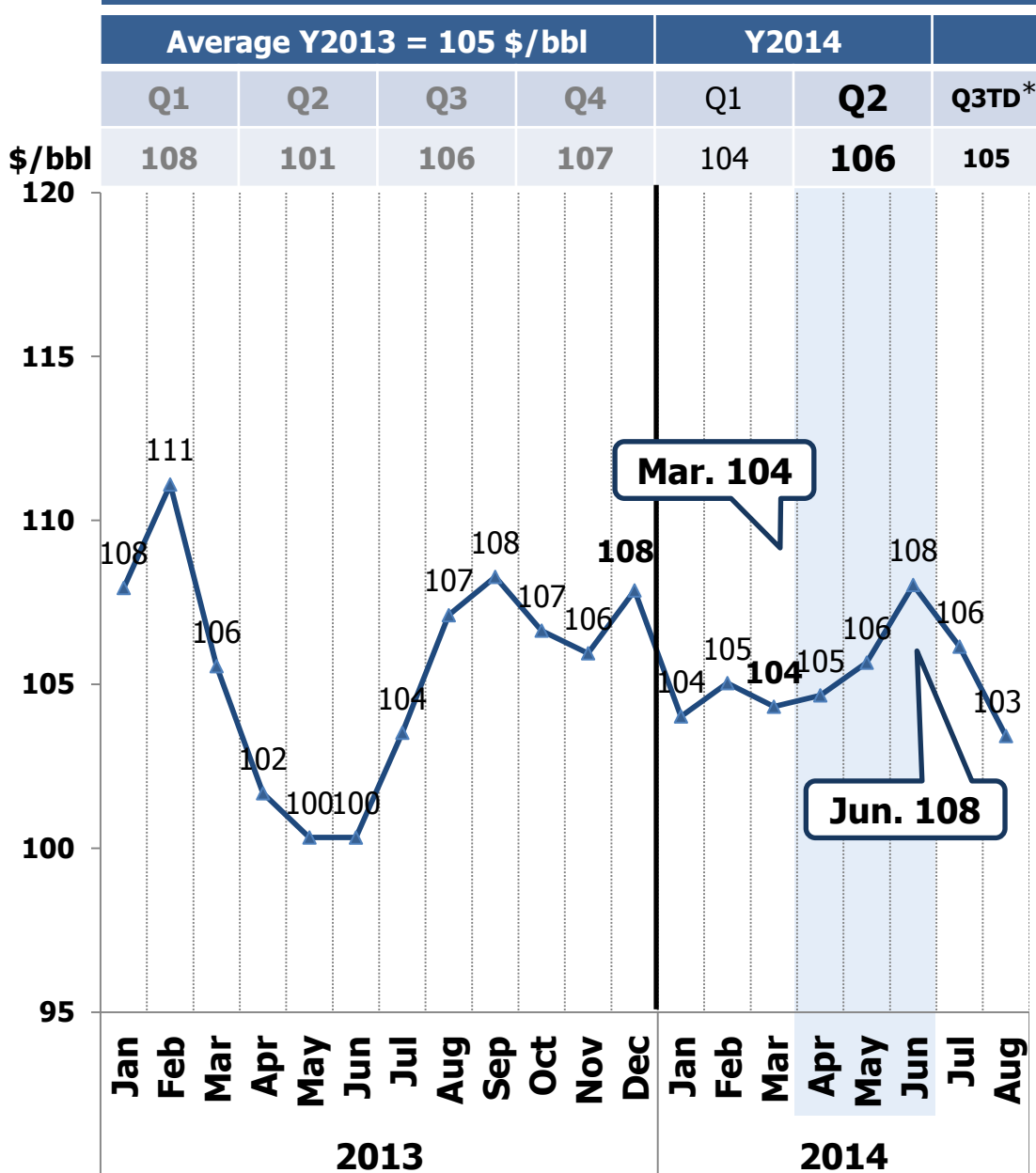
Marketing Gross Refining Margin - GRM





# Q2/14: Crude Price Up...Glory in Inventory Gain

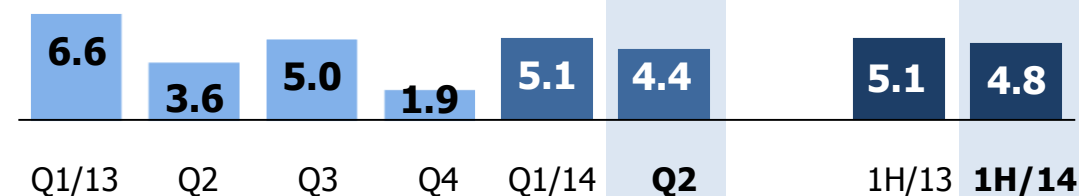
## Dubai Crude Price



\*as at 13 Aug 14

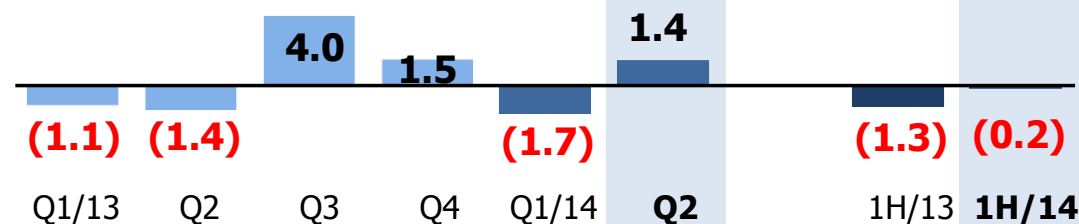
## Marketing Gross Refining Margin – Marketing GRM

(Unit: \$/bbl)



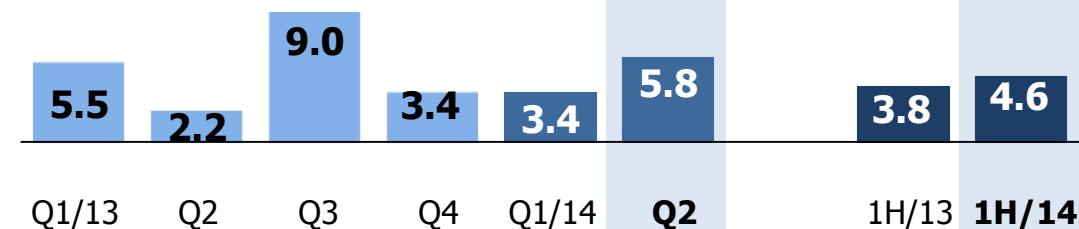
## Stock Gain/ (Loss)

(Unit: \$/bbl)



## Accounting Gross Refining Margin – Accounting GRM

(Unit: \$/bbl)

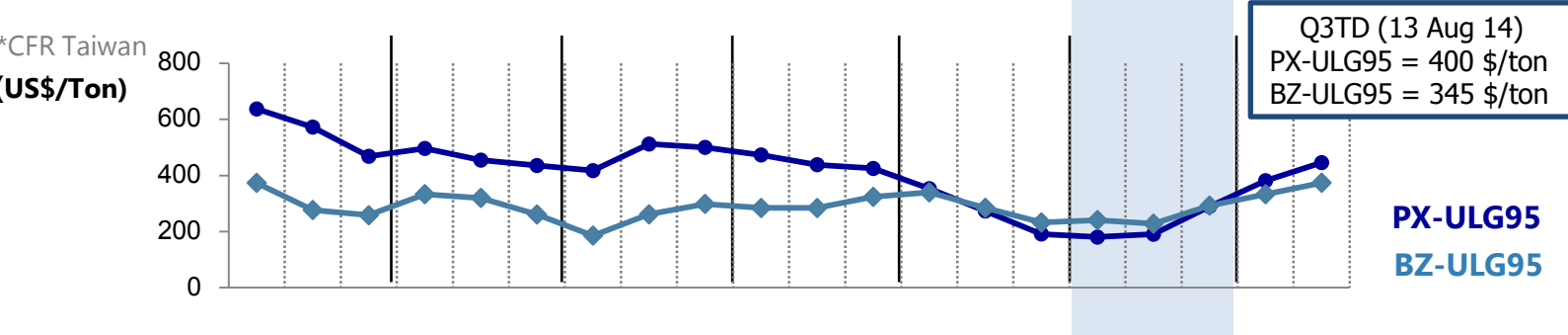




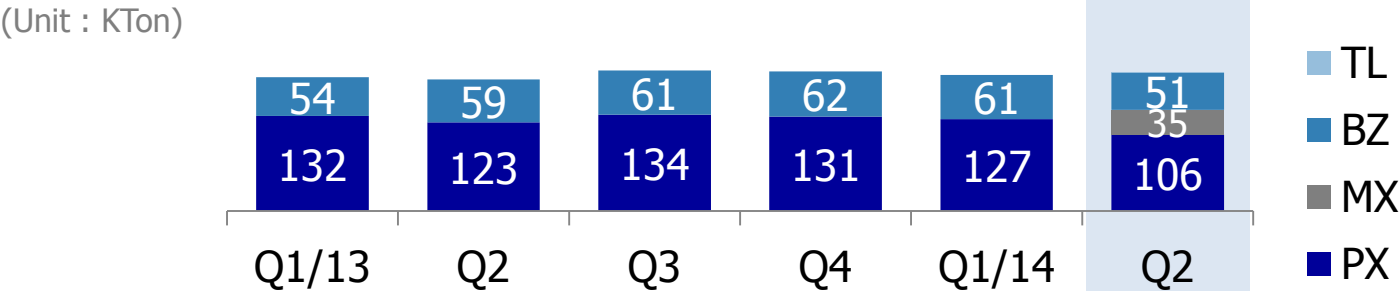
# Q2/14: Bottom PX Spread...Plunge Aromatics Margins

Aromatics Spreads and Margins

	2013				2014			
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	1H	2013
PX*-ULG95	559	462	476	445	273	220	246	486
BZ-ULG95	303	305	249	297	285	254	270	289



TPX's Sales & Product-To-Feed Margin (P2F)



	2013				2014			
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	1H	2013
P2F -\$/ton	155	127	142	165	63	37	51	147
P2F -\$/bbl	20.3	16.5	18.6	21.6	8.2	4.8	6.7	19.2

Aromatics Production		
Q1/14	Q2/14	1H/14
95%	79%	87%

## Paraxylene (PX)

- **Weak polyester demand** tracking slow Chinese economy
- **Lower PX demand** from many PTA plants cut run as poor margin (below their B.E. cost)
- + **Delayed startup of new PX plants** help limit loss
- + **Many PX plants** in JAP, SIN and Korea **stop run** as PX price is lower than their cost

## Benzene (BZ)

- **Lower US buying interest** as maintenance seasons of downstream SM & Phenol plants
- **New BZ supply in Asia** capped spread
- + **Tight supply** as maintenance shutdowns of many aromatics plants and the delayed startup of new plants



# Q2/14: Softer Bitumen Spread...Slightly Lower Lube Margins

## Base Oil & Bitumen Spreads & Margins

## Base oil Production

Q1/14	Q2/14	1H/14
100%	<b>99%</b>	<b>100%</b>

## Lube Base Oil

+ **Firm demand from seasonal lubricant replacement** of both automotive and agricultural sectors.

+ **Limited regional GI supply** from planned and unplanned maintenances

- **Excess GII supply** led to price competition pressing its margin

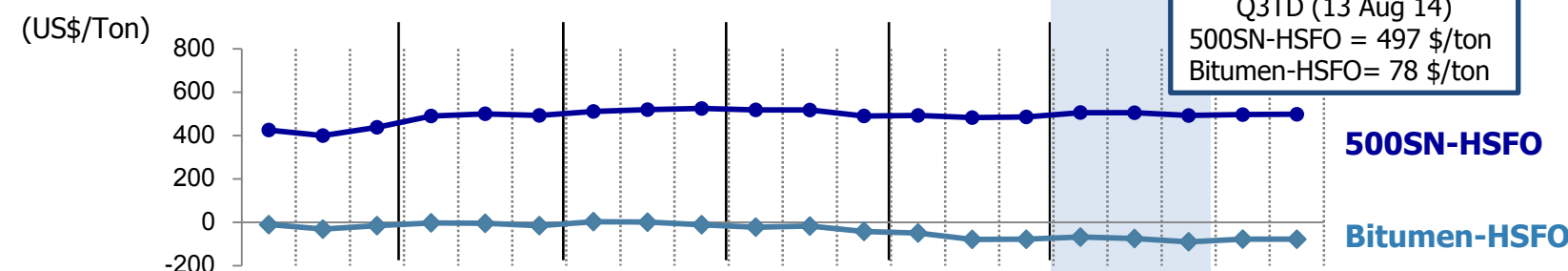
## Bitumen

- **Lack of demand** due to rainy seasons in SEA and winter in AUS limiting road construction

- **Slow Chinese demand** as tight budget policy following sluggish economy

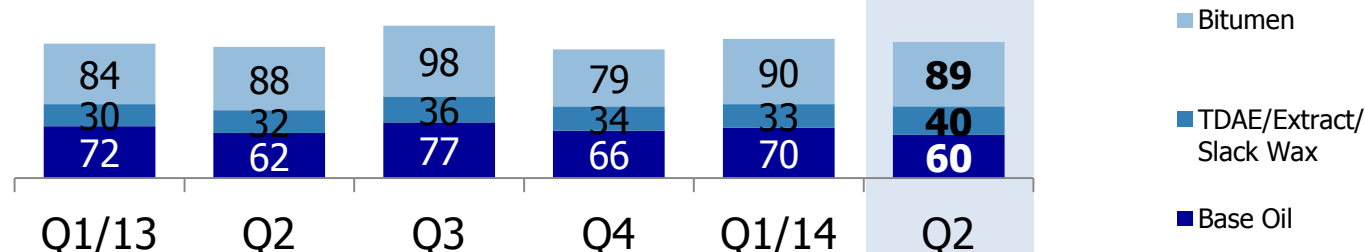
- **Indonesian president election and rupiah depreciation** kept buyers away from the market

	2013				2014			
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	1H	2013
500SN-HSFO	419	494	519	509	486	<b>501</b>	<b>494</b>	485
BITUMEN-HSFO	-19	-7	-3	-27	-69	<b>-77</b>	<b>-73</b>	-14



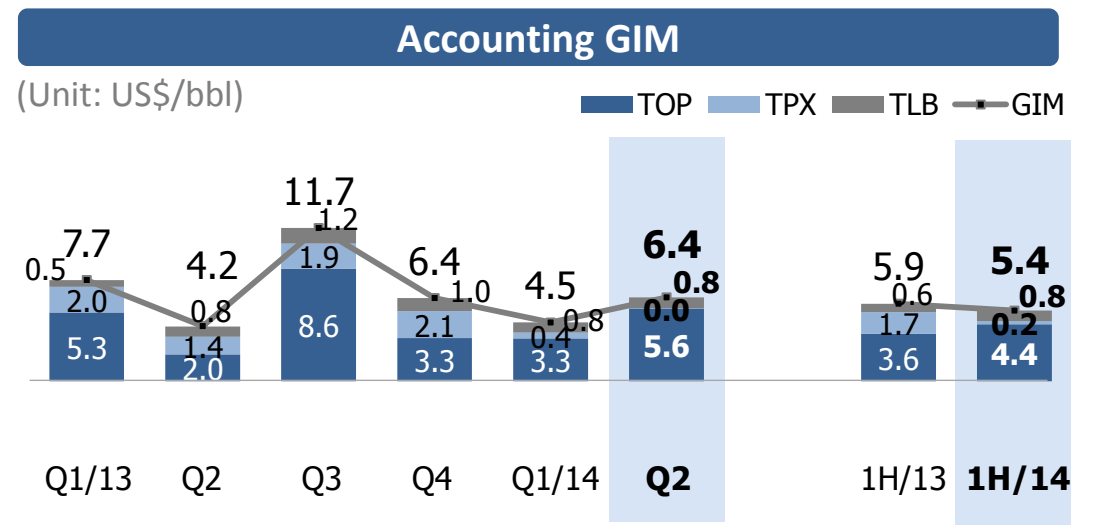
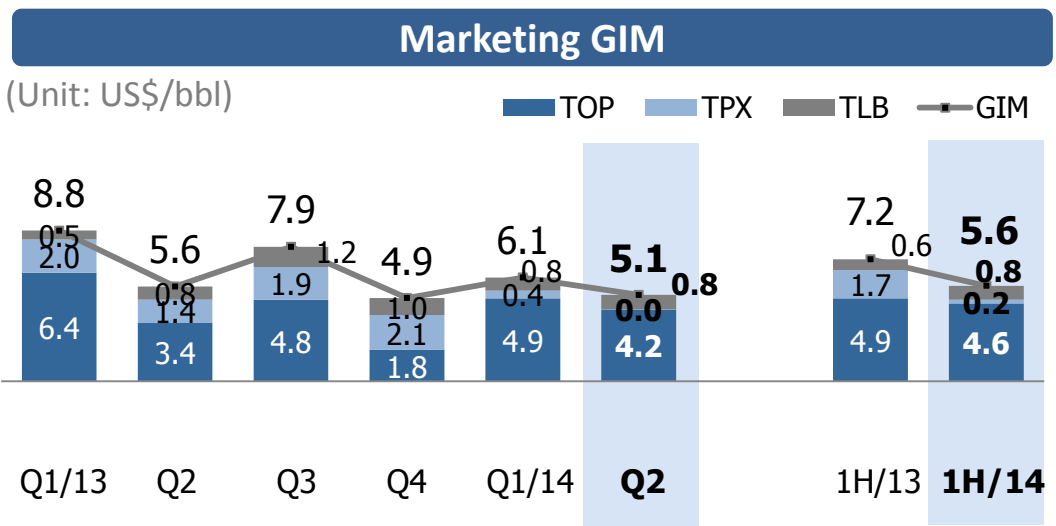
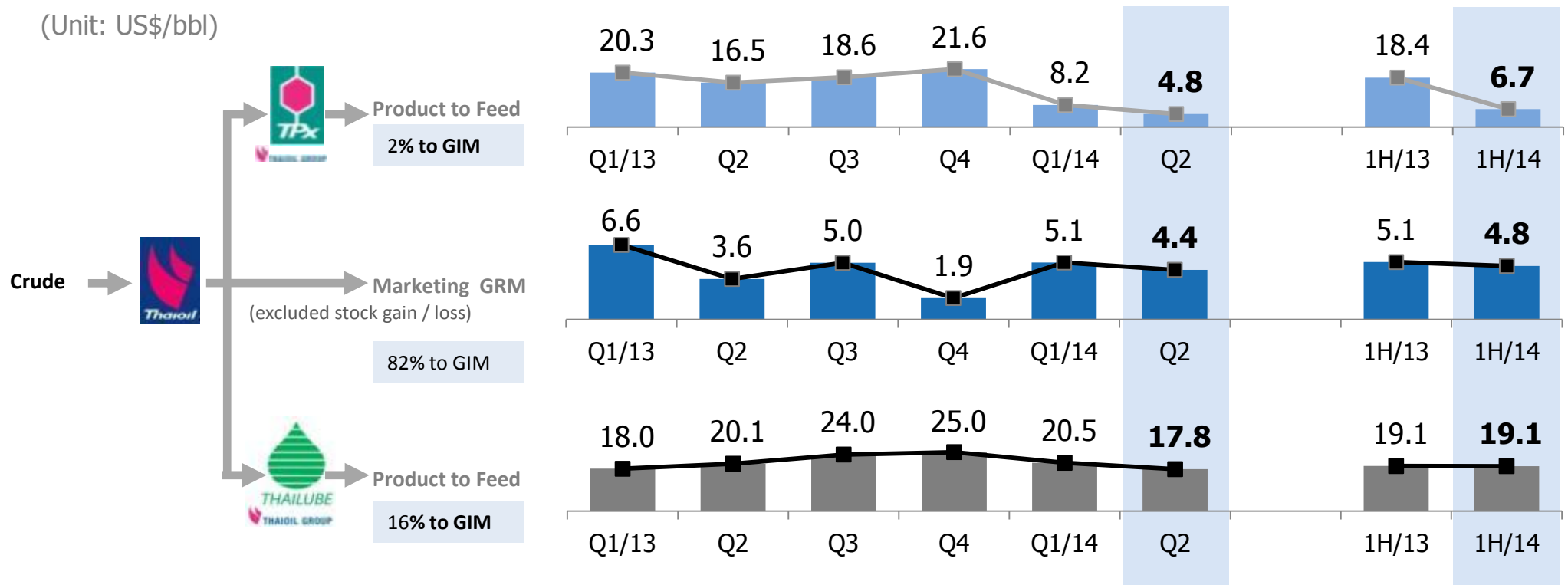
## TLB's Sales & Product-To-Feed Margin (P2F)

(Unit : KTon)



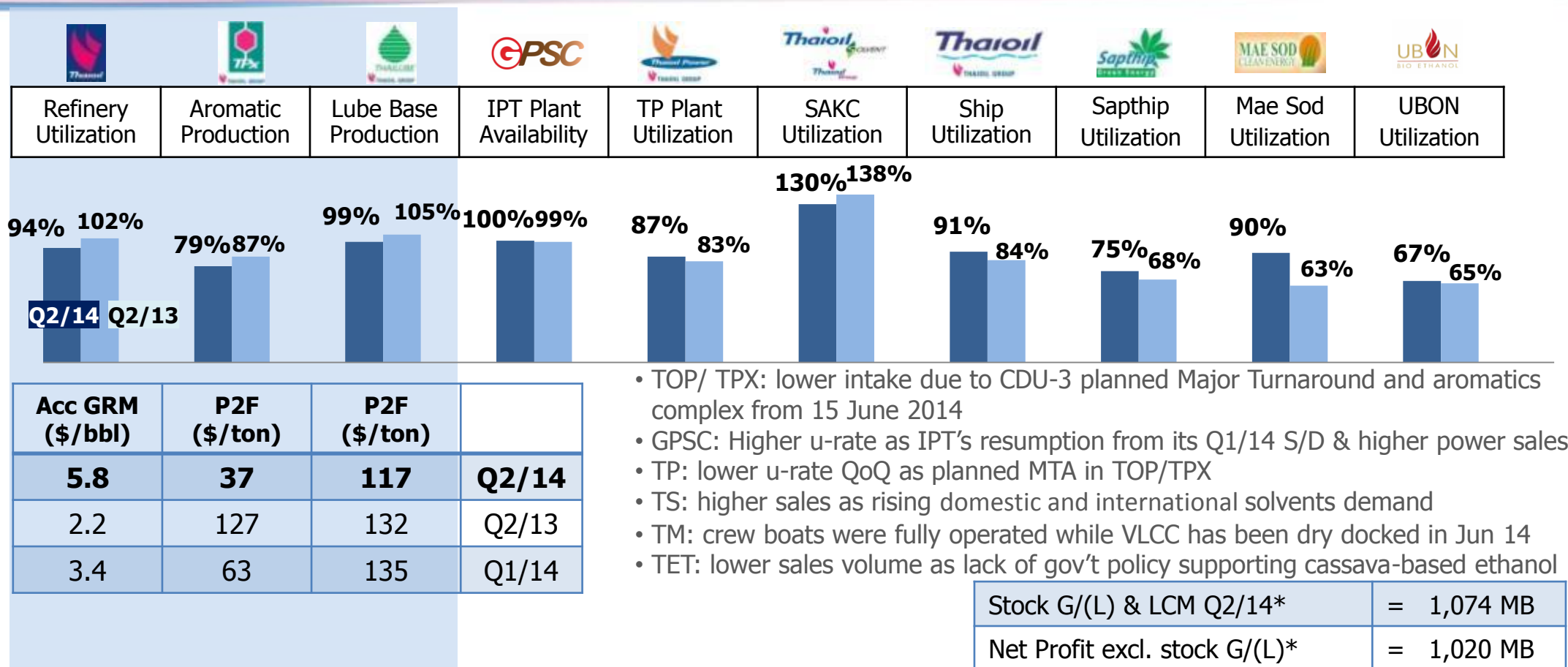
	2013				2014			
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	1H	2013
P2F -\$/ton	118	132	158	165	135	<b>117</b>	<b>126</b>	144
P2F -\$/bbl	18.0	20.1	24.0	25.0	20.5	<b>17.8</b>	<b>19.1</b>	21.9







# Q2/14: Performance Breakdown



## Q2/14 Net Profit Breakdown (include stock gain / loss)

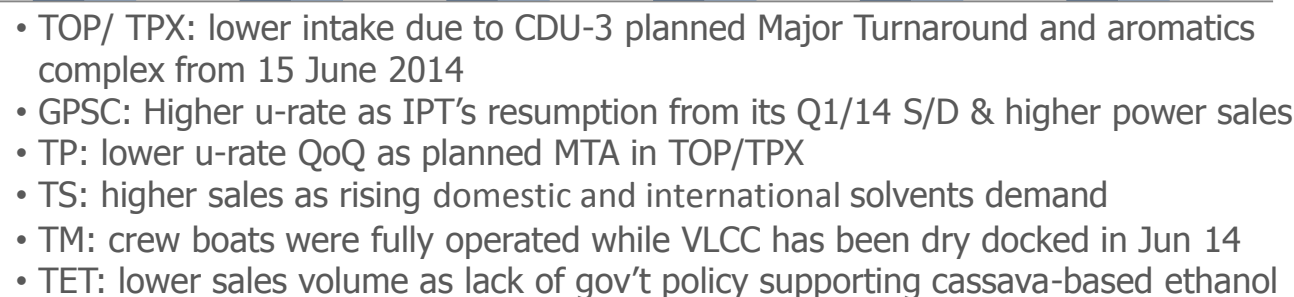
\*before tax

Thai Oil	TPX	THALUBE	GPSC	TP	TOP	Thai Oil	Thai Oil ethanol	Conso.	(Unit: million THB)
1,729	(397)	337	204	57	51	63	(13)	2,094	NP
4,638 ▲	(1,094) ▼	3 ▲	82 ▲	(3) ▼	15 ▲	16 ▲	(8) ▼	3,643 ▲	ΔYoY
(200) ▼	(236) ▼	(100) ▼	125 ▲	(14) ▼	8 ▲	24 ▲	(77) ▼	(440) ▼	ΔQoQ

\*\* Apply on an equity accounted basis in the consolidated financial statement.(GPSC has been hold by TOP 11.88% and TP 27.71% since 10 Jan 13)

\*\*\*TP performance only (excluding 27.71% shares of profit from the investment in GPSC). TOP hold TP 74% since 4 Dec 12





\*before tax

## 1H/14 Net Profit Breakdown (include stock gain / loss)

\*\* Apply on an equity accounted basis in the consolidated financial statement.(GPSC has been hold by TOP 11.88% and TP 27.71% since 10 Jan 13)

\*\*\*TP performance only (excluding 27.71% shares of profit from the investment in GPSC). TOP hold TP 74% since 4 Dec 12



# Consolidated Financial Performance

(US\$/bbl)	<u>Q2/14</u>	<u>Q1/14</u>	<u>Q2/13<sup>R</sup></u>	<u>QoQ+ / (-)</u>	<u>1H/14</u>	<u>1H/13<sup>R</sup></u>	<u>YoY+ / (-)</u>
Marketing GRM	4.4	5.1	3.6	(0.7)	4.8	5.1	(0.3)
Marketing GIM	5.1	6.1	5.6	(1.0)	5.6	7.2	(1.6)
Accounting GIM	6.4	4.5	4.2	1.9	5.4	5.9	(0.5)
(million THB)							
Sales Revenue	101,063	112,228	93,233	(11,165)	213,291	198,123	15,168
<b>EBITDA</b>	<b>4,467</b>	<b>4,102<sup>e</sup></b>	<b>3,255</b>	<b>365</b>	<b>8,569</b>	<b>7,628</b>	<b>941</b>
Financial Charges	1,010	959	987	51	1,969	1,853	116
FX G/(L) & CCS	291	692	(2,764)	(401)	983	(1,047)	2,030
Tax Expense	441	208	116	233	649	388	261
<b>Net Profit / (Loss)</b>	<b>2,094</b>	<b>2,534</b>	<b>(1,549)</b>	<b>(440)</b>	<b>4,628</b>	<b>1,678</b>	<b>2,950</b>
EPS (THB/Share)	1.03	1.24	(0.76)	(0.21)	2.27	0.82	1.45
THB/US\$ - average	32.59	32.81	30.05	(0.22)	32.70	29.99	2.71
THB/US\$ - ending	32.60	32.58	31.27	0.02	32.60	31.27	1.33
Effective Tax Rate (%) <sup>*</sup>	17%	8%	N/A	9%	12%	19%	(7%)

<sup>R</sup> Restated financial statement . As on 1 January 2014, Thaioil Group adopted Thai Financial Reporting Interpretations Committee 4 (TFRIC4) on determining whether an arrangement contains a lease.

<sup>e</sup> Revised EBITDA

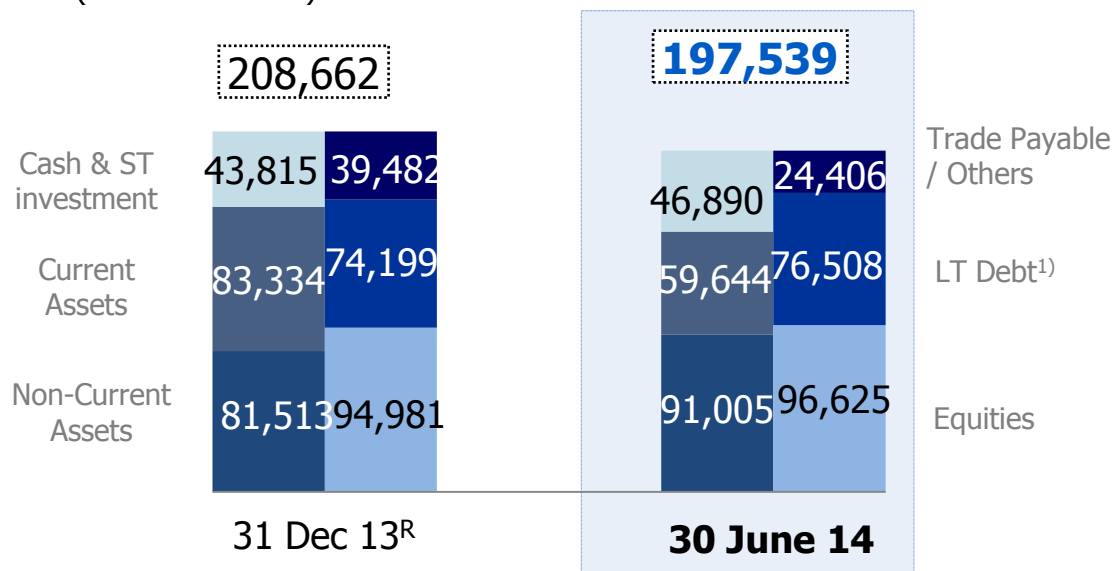
<sup>\*</sup>redeemed BOI privilege for tax exemption on environmental projects in Q2/14 = 59 MB, Q1/14 = 265 MB, Q2/13 = None, 1H/14 = 324 MB, 1H/13 = 1 MB (from subsidiary)



# Strong Financial Performance

## Statements of Financial Position

(Unit: million THB)



<sup>R</sup> Restated financial statement as TOP has adopt TFRIC4 since 1 Jan 14

<sup>1)</sup> Including current portion of Long-Term Debt

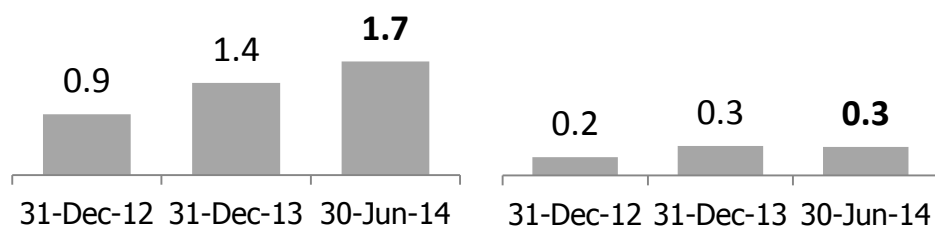
## Financial Ratios

**Net Debt / EBITDA\*\***

Policy ≤ 2.0x

**Net Debt / Equity**

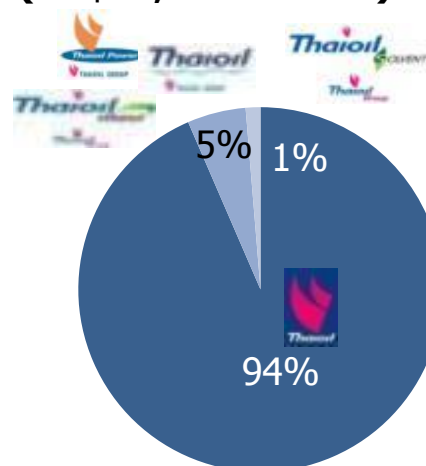
Policy ≤ 1.0x



## Consolidated Long-Term Debt as at 30 Jun 14 <sup>1)</sup>

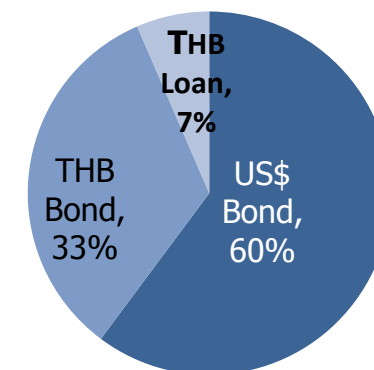
### Total Long-Term Debt

76,508 million THB  
(US\$ 2,347 million)



### Net Debt

30,498 million THB  
(US\$ 936 million)  
As at 30 Jun 14 (32.60 THB/US\$)



Interest Rate	Currency
6% Float	40% THB
94% Fixed	60% USD
Cost of Debt (Net*)	
TOP Group	3.50%

 **Moody's Investors Service**

Baa1  
Stable Outlook

 **STANDARD & POOR'S**

BBB  
Stable Outlook

 **Fitch Ratings**

AA-  
Stable Outlook

\*Calculated by interest expense net off interest income as per FS as at 30 Jun 14

\*\* EBITDA1H/14 (excl stock loss & LCM)\*2



## 2H/14 & 1H/15 MARKET OUTLOOK

- *Macroeconomics & Crude Prices*
- *Petroleum Market*
- *Aromatics & Base Oil*
- *Conclusion*





# Macroeconomics & Crude Prices

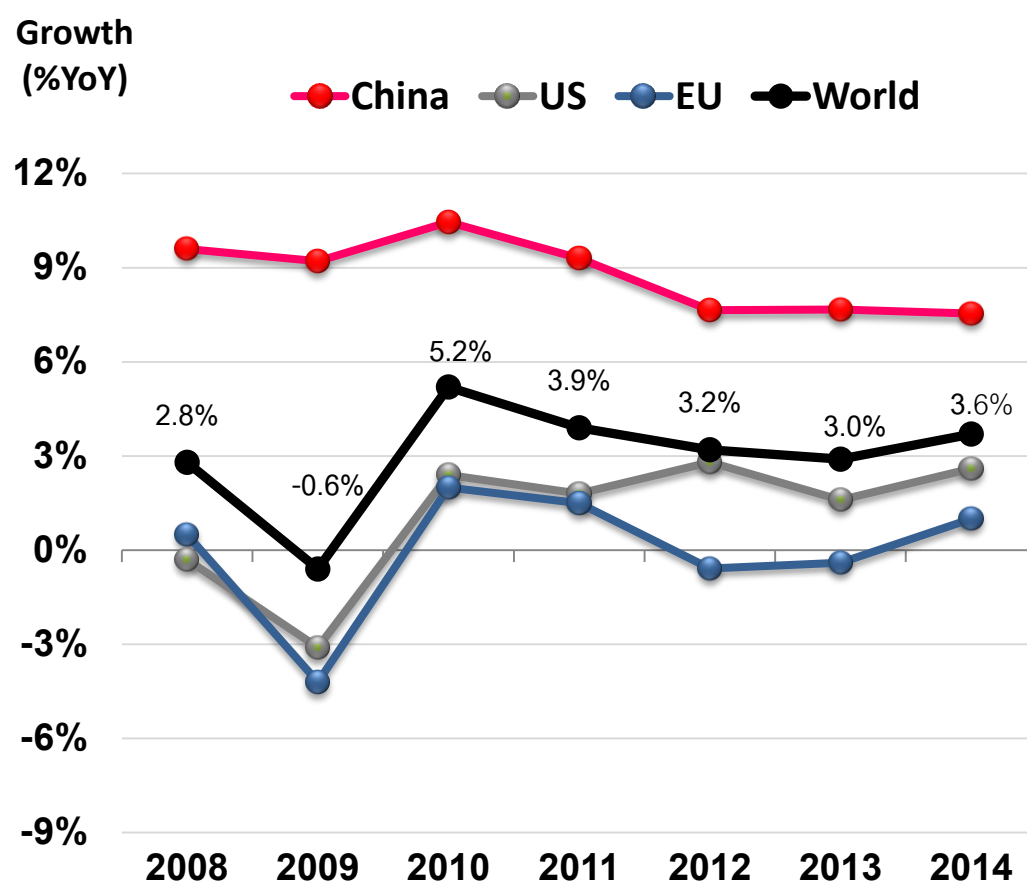





# 2014 Global GDP Growth by IMF

## Hoping for better world economy in the rest of the year !!!

Marking down global GDP, reflecting the weak in Q1, particularly in the US and a less optimistic outlook for some emerging markets.



	2013	2014	
		Apr-14**	Jul-14***
USA	1.9%	2.8%	1.7%
EU	-0.5%	1.2%	1.1%
China	7.7%	7.5%	7.4%
Japan	1.5%	1.4%	1.6%
India	4.4%	5.5%	5.4%
ASEAN-5*	5.2%	4.9%	4.6%
Thailand	2.9%	2.7% ****	1.5%*****
World	3.0%	3.6%	3.4%

\* ASEAN-5 includes Thailand, Malaysia, Indonesia, Vietnam, Philippines

\*\* IMF World Economic Outlook (WEO) Apr, 2014

\*\*\* IMF World Economic Outlook (WEO) Jul, 2014

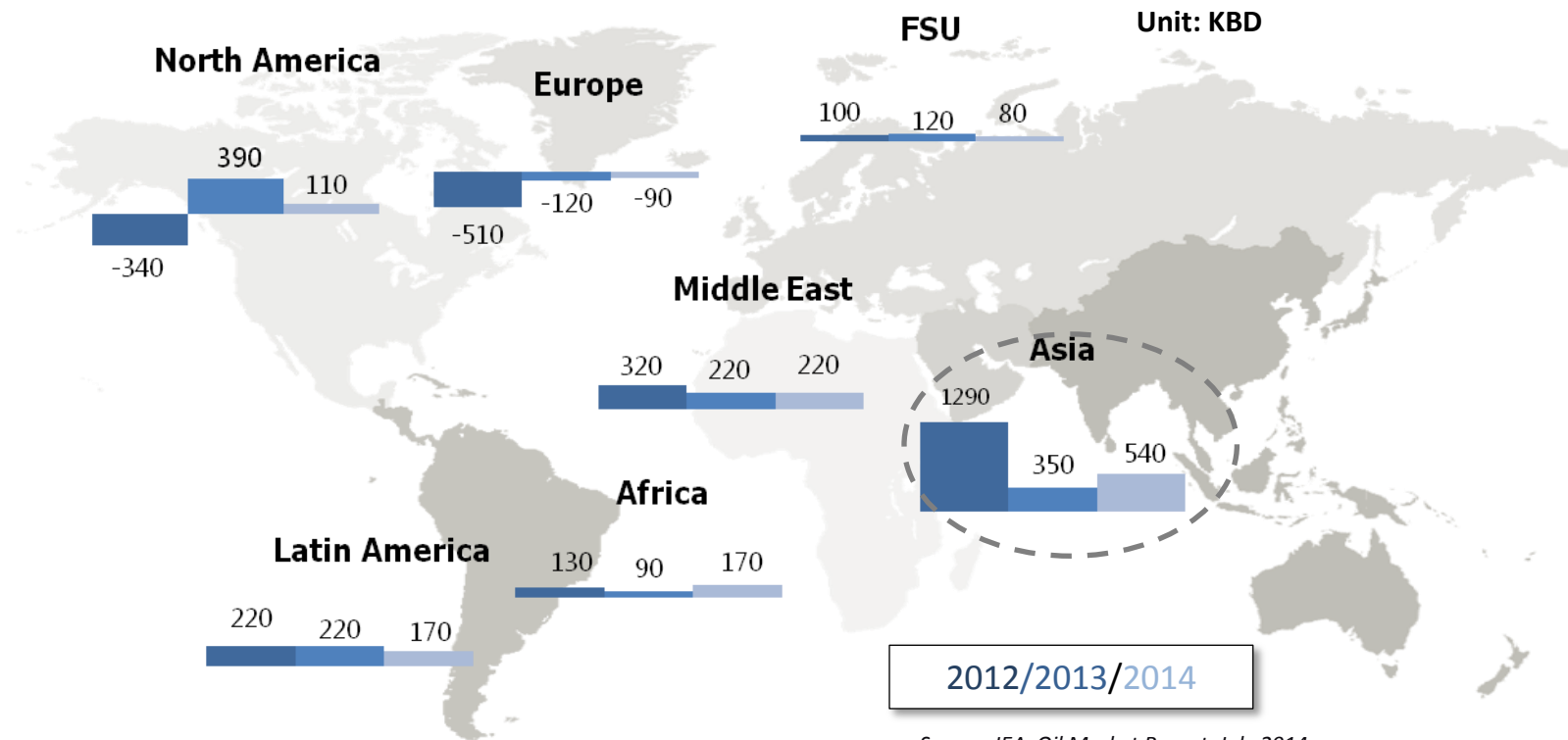
\*\*\*\* Bank of Thailand Mar, 2014

\*\*\*\*\* Bank of Thailand Jun, 2014



# 2014 Global Oil Demand Growth

**IEA forecasted 2014 world oil demand increases around 1.23 mbd**



Source: IEA, Oil Market Report, July 2014

IEA	Demand (mbd)	Growth (mbd)
2012	90.19	+1.23
2013	91.44	+1.25
2014	92.67	+1.23

Source: IEA, Oil Market Report July 2014

EIA	Demand (mbd)	Growth (mbd)
2012	89.17	+0.87
2013	90.49	+1.32
2014	91.62	+1.13

Source: EIA, Short Term Energy Outlook July 2014

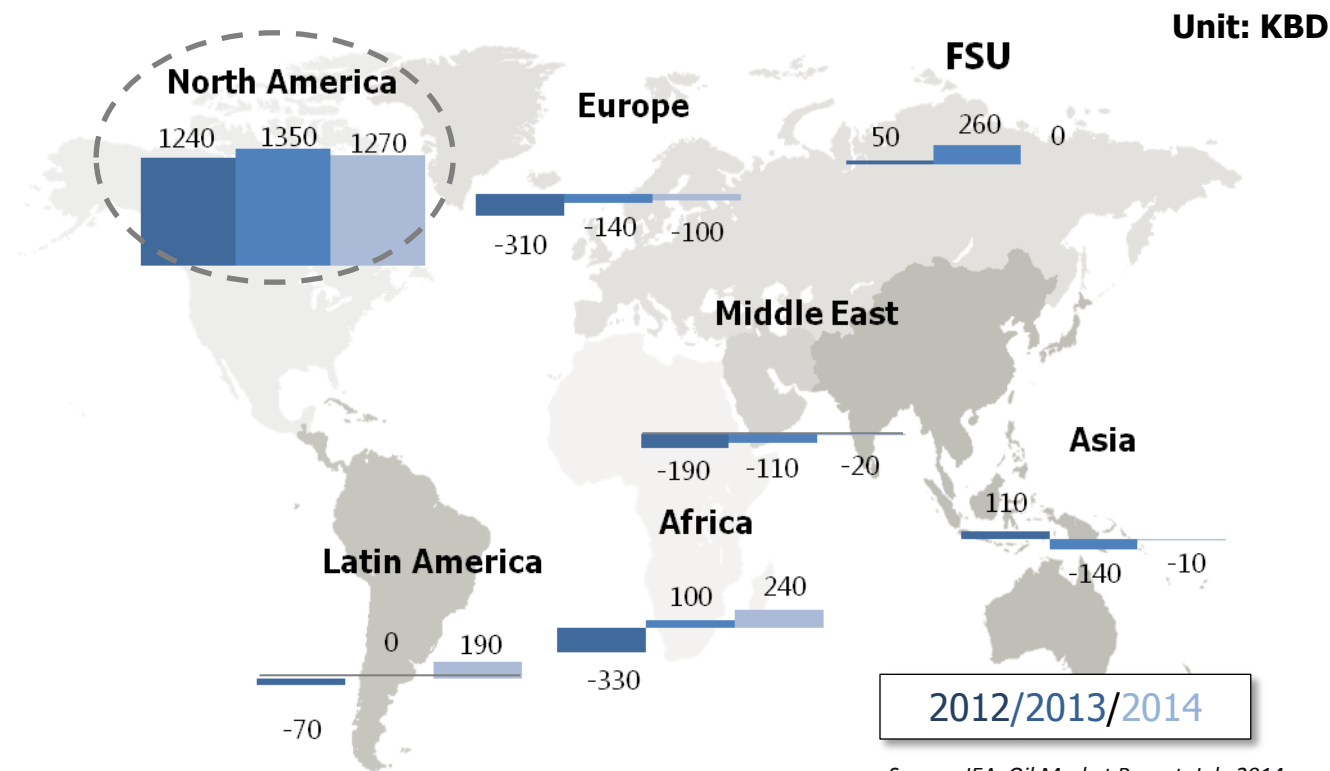
OPEC	Demand (mbd)	Growth (mbd)
2012	88.96	+0.86
2013	90.01	+1.05
2014	91.13	+1.13

Source: OPEC, Oil Market Report July 2014



# 2014 Non-OPEC Supply Growth

IEA forecasted 2014 Non-OPEC oil supply increases around 1.46 mbd mainly from North America



Source: IEA, Oil Market Report, July 2014

IEA	Supply (mbd)	Growth (mbd)
2012	53.36	+0.56
2013	54.86	+1.50
2014	56.32	+1.46

Source: IEA, Oil Market Report July 2014

EIA	Supply (mbd)	Growth (mbd)
2012	52.67	+0.61
2013	54.10	+1.43
2014	55.84	+1.74

Source: EIA, Short Term Energy Outlook July 2014

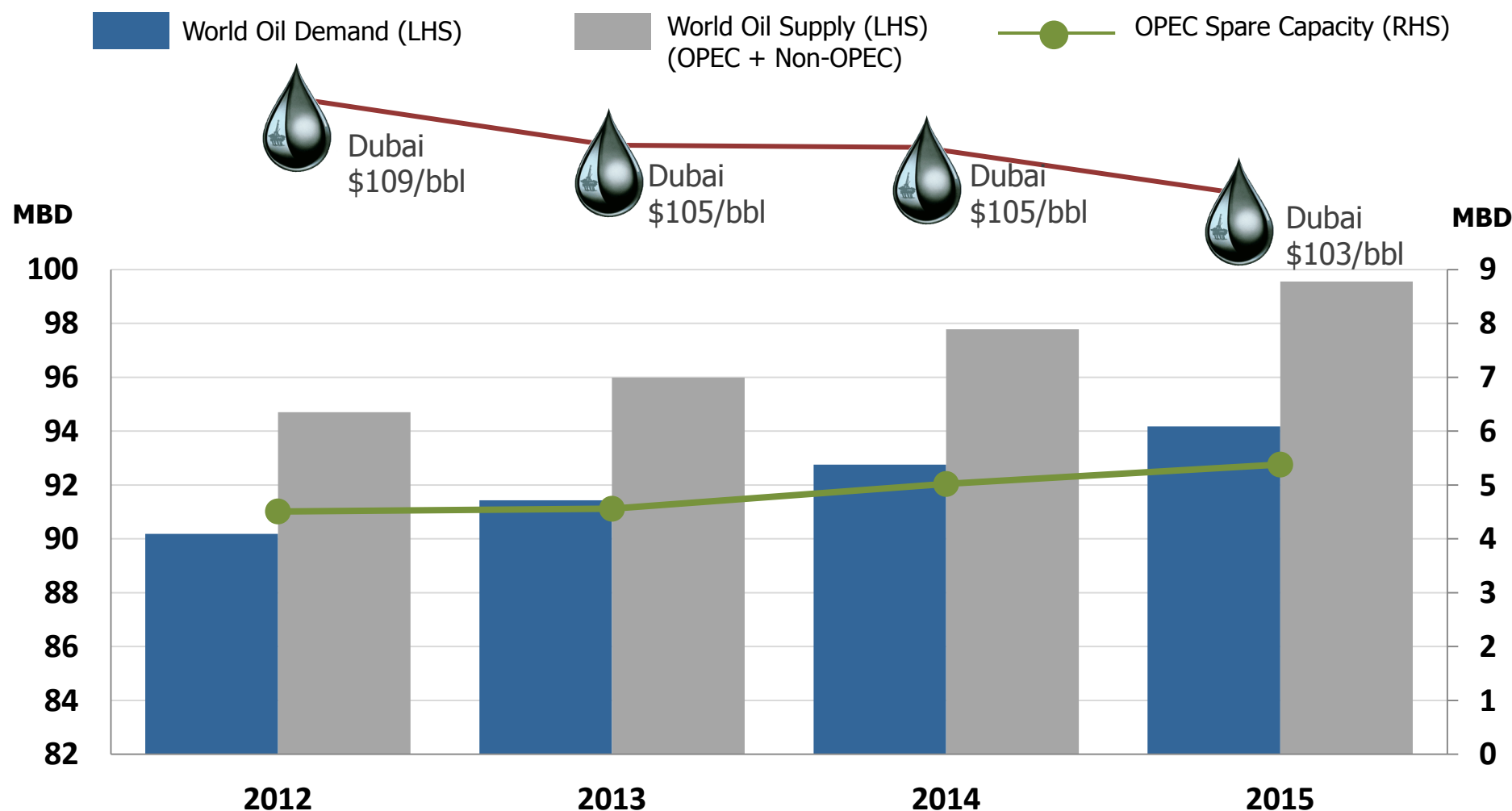
OPEC	Supply (mbd)	Growth (mbd)
2012	52.84	+0.53
2013	54.18	+1.34
2014	55.65	+1.47

Source: OPEC, Oil Market Report July 2014



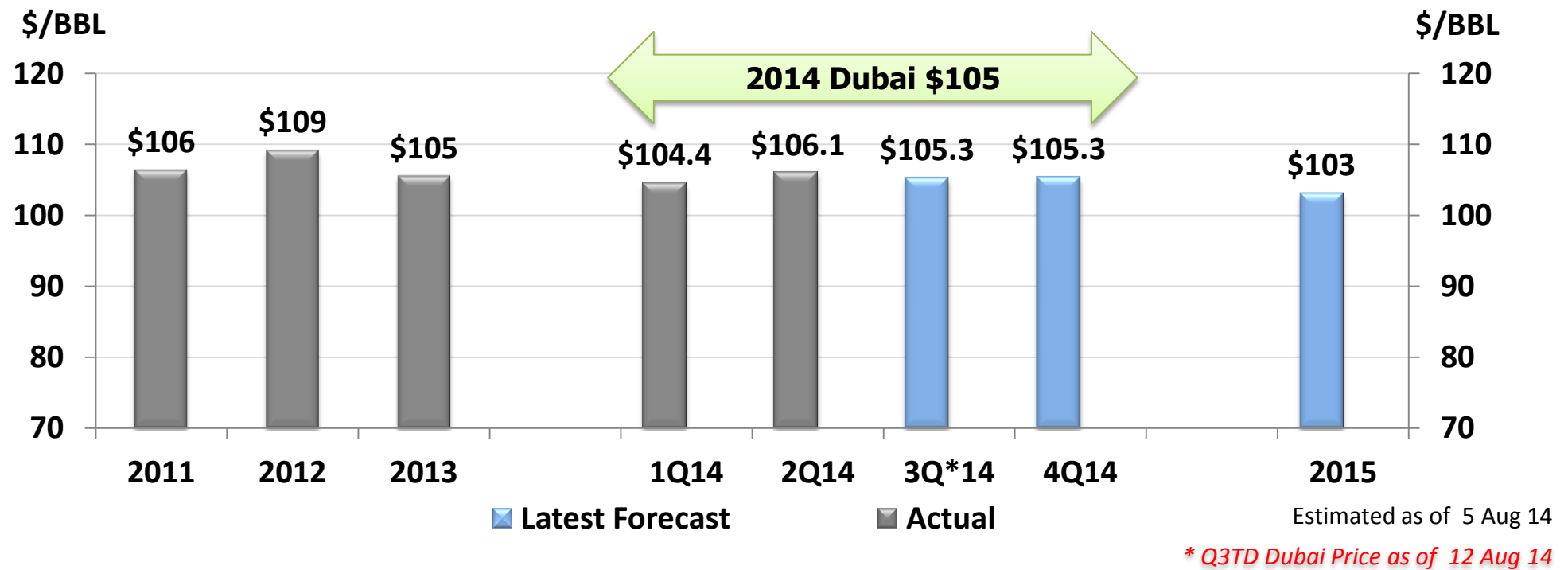
# 2014 World Oil Market Balance & OPEC Spare Capacity

OPEC spare capacity to stay around 5 MBD in 2014 on excess non-OPEC supply, weighed down by uncertainty growth of OPEC capacity





# More Crude Availability in the Market to Pressure Oil Price



## Factor to watch for 2H-14...

- Higher US exports and low demand due to refinery MTA/run cuts to pressure price



+ Refinery to ramp their run rates to support higher winter demand



## Factor to watch for 1H-15...

- Increasing non-OPEC supply esp. US, Brazil and China



+ Political factor in the Middle East & North Africa to support price

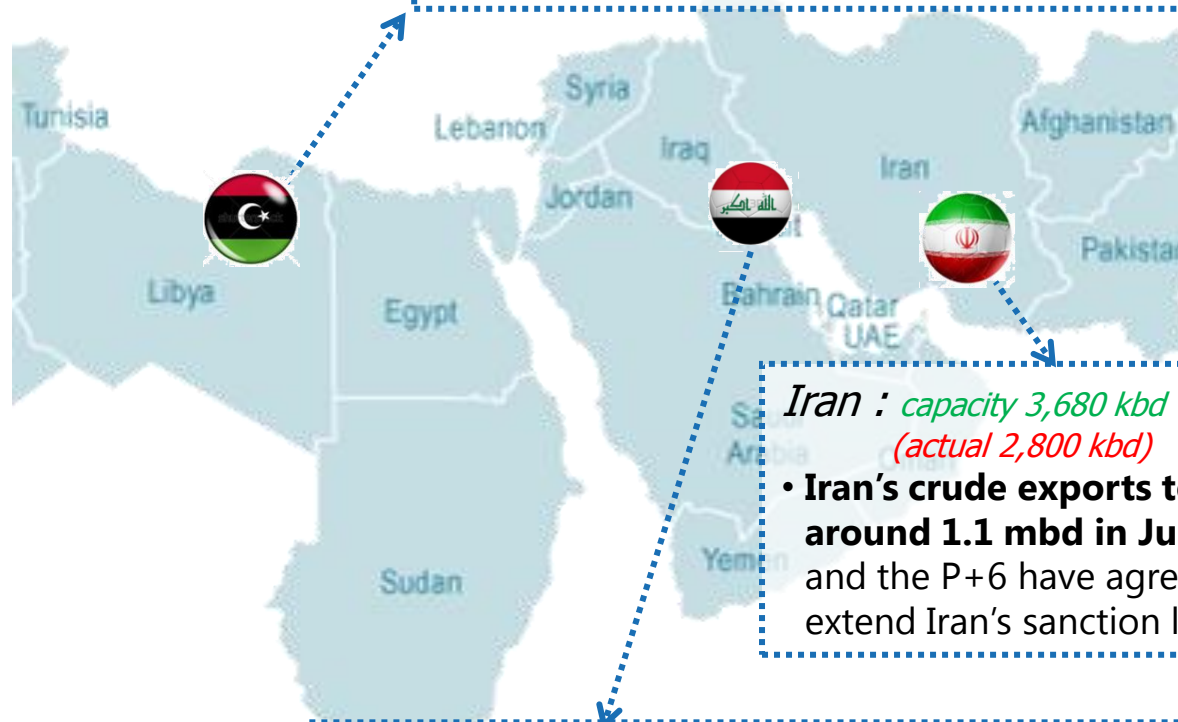
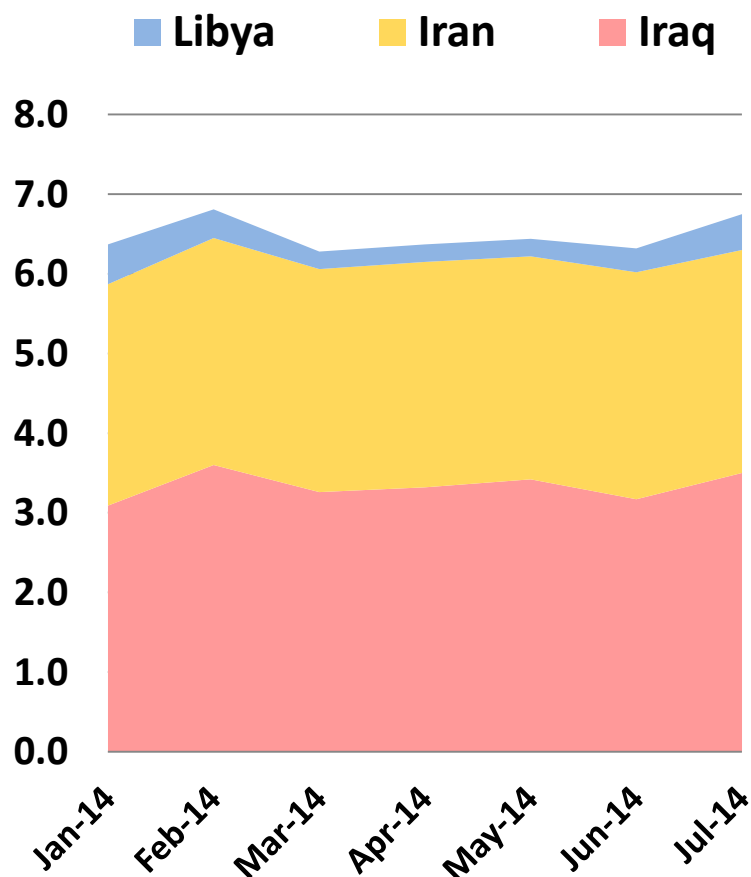




# Resumption of Libya, Iraq, Iran Oil Output

Easing concerns over tight supply in 2H-2014,  
however unstable unrest in the MENA to add volatility to crude price movement in 2014

## OPEC Oil Production (MBD)



*Libya : capacity 1,400 kbd (actual 450 kbd)*

- **Libya's oil exports are set to recover** after major ports were reopened.

*Iran : capacity 3,680 kbd (actual 2,800 kbd)*

- **Iran's crude exports to stay around 1.1 mbd in Jul**, after Iran and the P+6 have agreed to extend Iran's sanction lift to Nov

*Iraq : capacity 3,500 kbd (actual 3,500 kbd)*

- **Iraqi crude exports to remain the same at around 2.6 mbd in Jul** while IS attacked in the north didn't affect to export in the south



# Petroleum Product Market

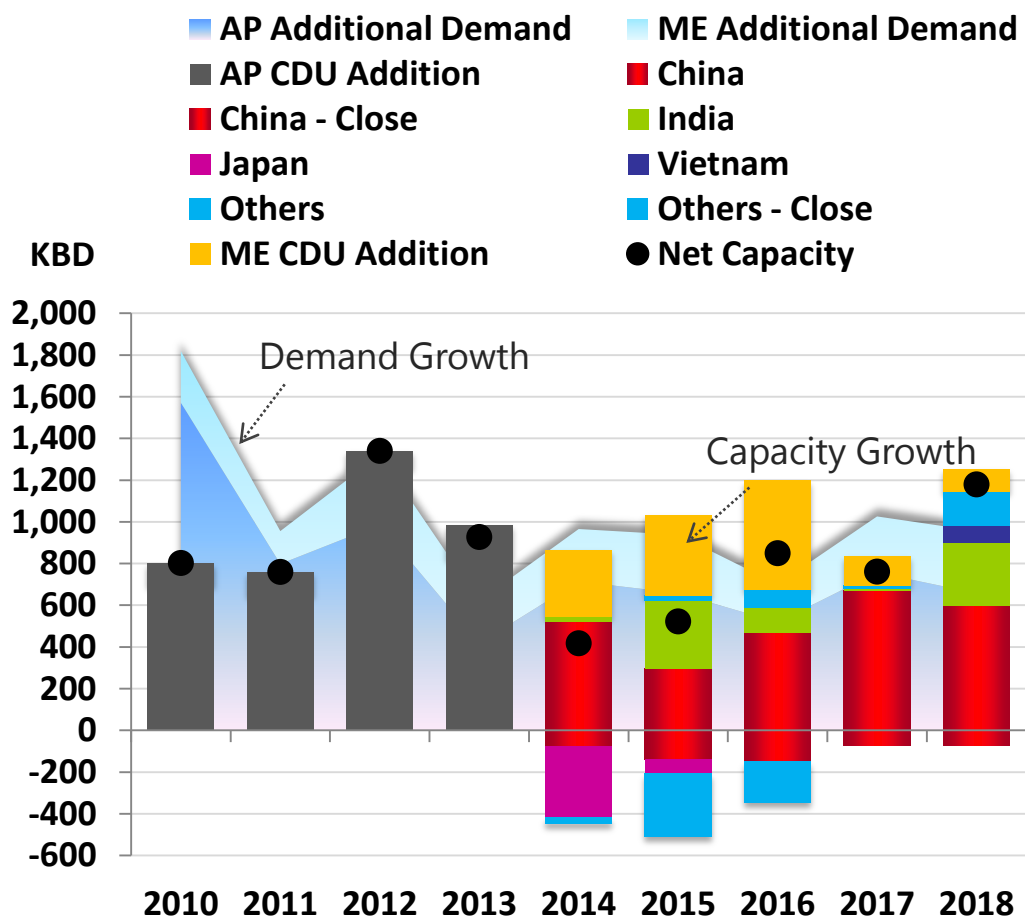




# Overview 2014-18 Refinery Status (Effective Additional Capacity)

*"Limited net capacity addition as refinery closure in Japan, Australia & project postponement in China"*

## CDU Addition VS Additional Demand – AP & ME



Note: Adjusted capacity based on start-up period  
(Effective additional capacity)

Addition		KBD	Company
China	Jan-14	200	Sinochem Quanzhou (Fujian)
{Delay from 2013 on technical issue during start-up }			
	Jan-14	240	PetroChina Pengzhou (Sichuan)
{Postpone to 2015}			
	Q2-14	90	Sinopec (Jiangsu)
{Gov't policy}			
	Q4-14	30	Sinopec Jiujiang (Jiangxi)
{Gov't policy}			
	Q4-14	140	CNOOC/Ningbo Daxie (Zhejiang)
{Gov't policy}			
Saudi Arabia	Jan-14	100	Jubail
{Fully run at 400 kbd in Aug-14}			
India	Dec-14	300	IOC Paradeep
Japan	Mar-14	35	Idemitsu Aichi/Hokkaido
{Add to 2014}			
{Expansion}			
Australia	Q4-13	105	Shell (Geelong)
{Still operate until 2015 after sold to Vitol}			
Closure		KBD	Company
Japan	Mar-14	-377	Tonen/ Idemitsu/ JX Nippon
{Regulation}			
	Mar-14	-68	Cosmo Oil/ Kyokuto Petroleum
{Add to 2014}			
{Regulation}			
Australia	Oct-14	-125	Caltex (Kurnell)
{Economic}			

{Note: compared with FACT Fall 2013}



# Recovery GRM in 2H-14 on Limited Surplus Supply

(\$/bbl)	Q1-14	Q2-14	Q3TD-14*	2H-2014**	1H-2015***
ULG95-DB	14.5	16.0	13.7	↓	↔
JET-DB	17.0	14.2	13.1	↔	↑
GO-DB	17.7	16.0	13.2	↔	↑
HSFO-DB	-8.4	-10.6	-10.9	↔	↑
Adj. Cracking SG GRM	3.4	2.5	0.8	↔	↑

Adj Cracking SG GRM assuming 3% F&L of Dubai crude cost

Remark : \*QTD until 13 Aug 14 \*\*Compared to 1H-14 \*\*\*Compared to 2H-14

## Factor to watch for 2H-14...

- + Limited surplus supply due to refinery run cuts
- + Expected higher demand during winter in Q4
- +/- Uncertainty in Chinese demand



- Off-peak demand for gasoline and limited Chinese fuel oil demand

## Factor to watch for 1H-15...

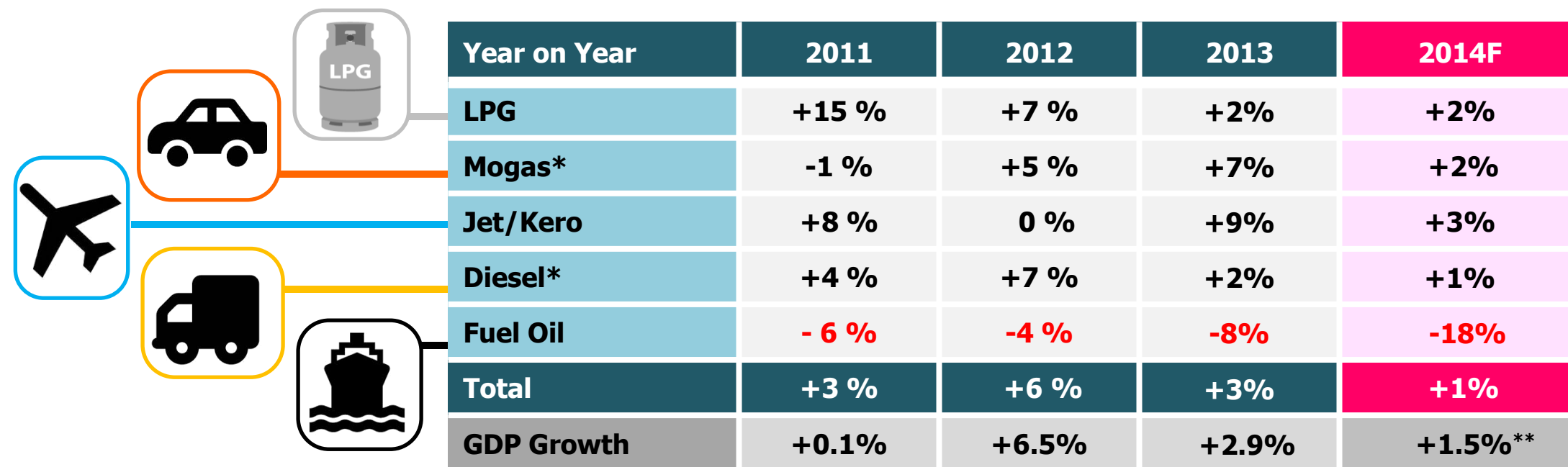
- + More oil demand in the region on expected better economy in ASEAN



- More supply on new additional refinery to flood Asian oil market



# Thailand Oil Demand 2014 Outlook



Remarks : \* Mogas and diesel have included ethanol and biodiesel, respectively

\*\* Forecasted by BOT (Monetary Policy Report as of Jun-14 )

## ECONOMIC Slowdown

BOT revised 2014 GDP forecast down from 2.7% to 1.5% as political uncertainties weighed down on domestic demand and tourism.

## 30B Diesel Price

Maintaining 30B diesel price policy by using diesel excise tax exempting till the end of Aug-14

## LPG Retail Price Structure

Pausing household LPG retail price increase at 22.63 Baht/Kg in Jun-14. While, auto and industrial price stayed the same level at 21.38 Baht/Kg. and 30.13 Baht/Kg.

## FACTORS TO WATCH

*"Energy Policy & Economic Stimulus Program"*



# Aromatics

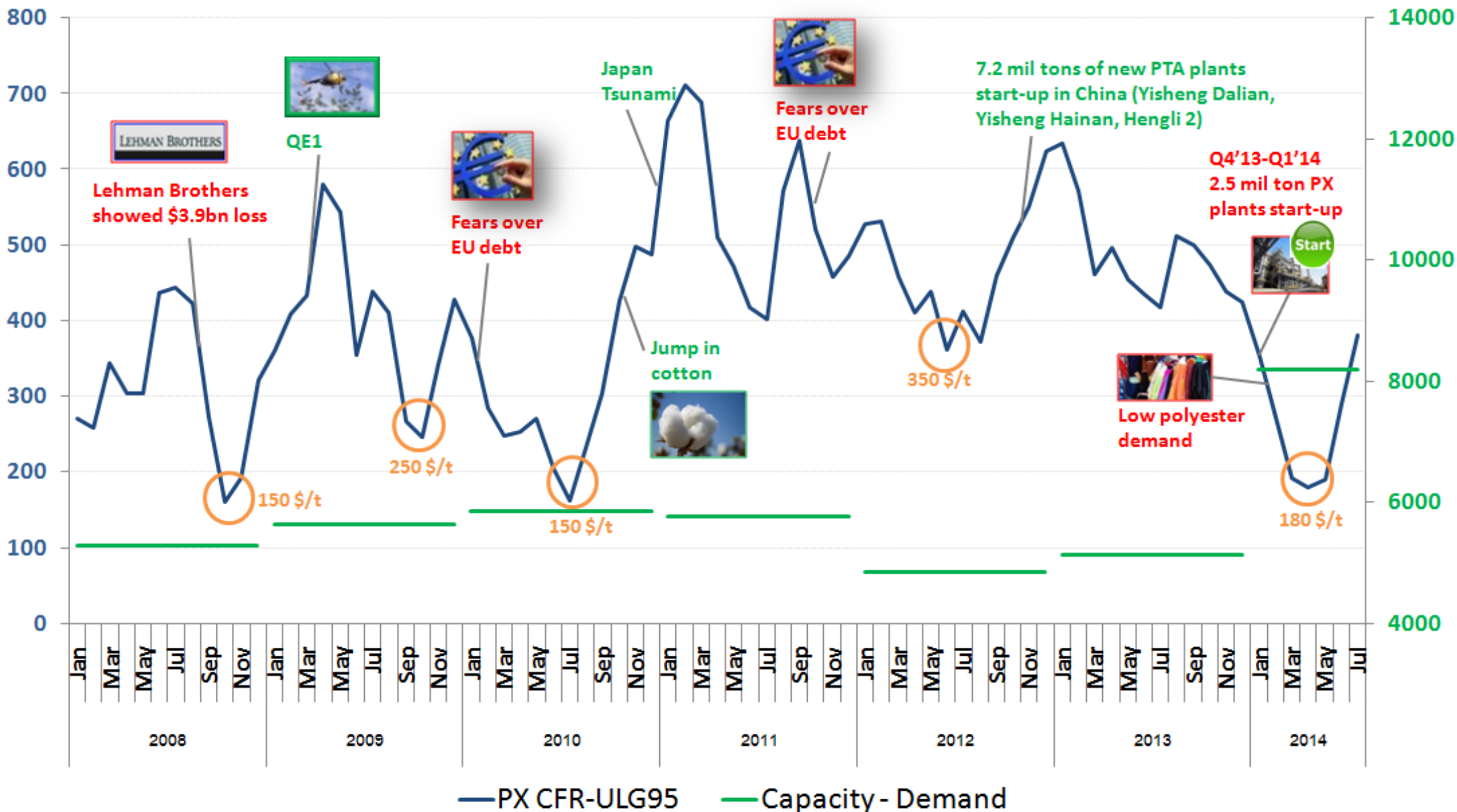




# Has PX Spread Hit the Bottom?

PX CFR-ULG95(\$/t)

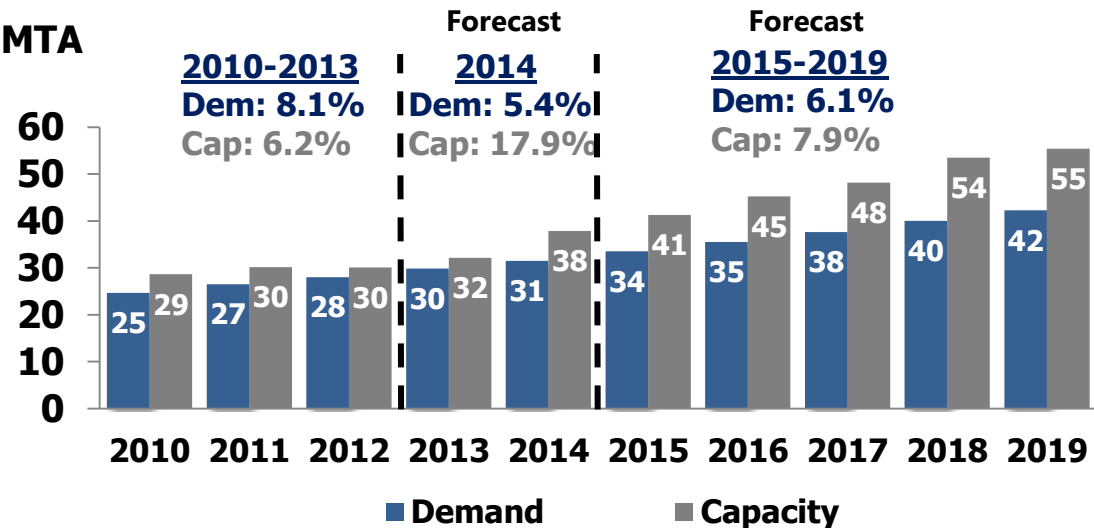
Nameplate Capacity-Demand (KTA)





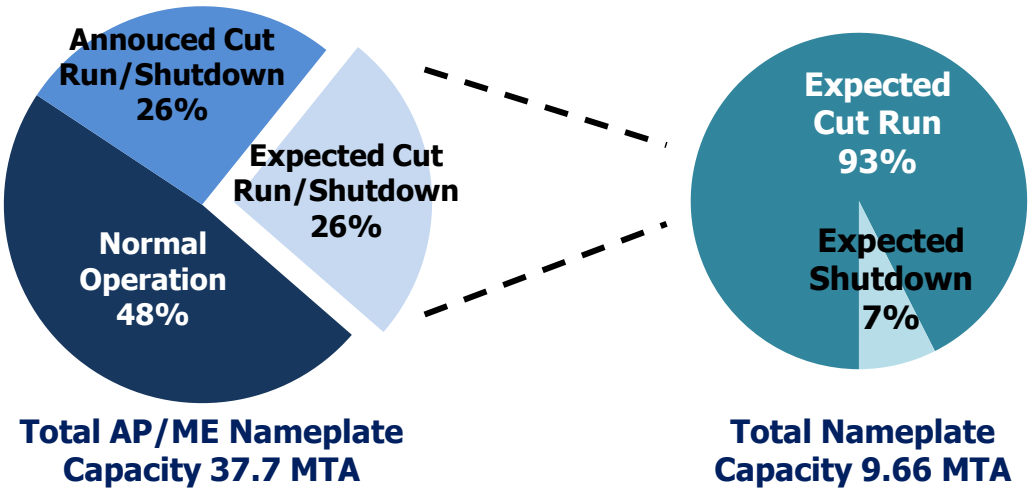
# PX Demand/Supply Outlook

AP/ME PX Capacity\* and Demand



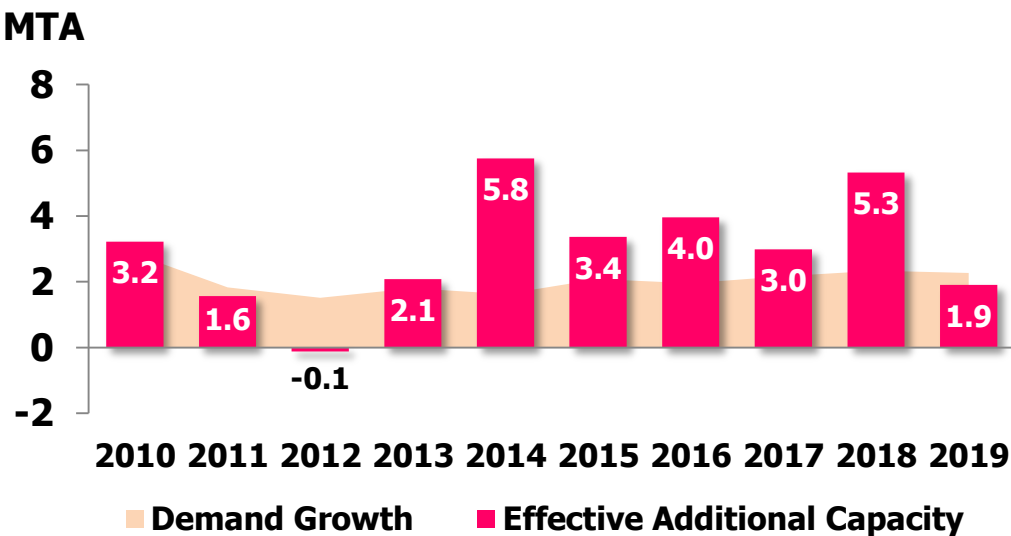
Remark : \* Nameplate capacity

## "2014 Expectation of Cut Run by Producers"



Remark : Cut Run means producers reduced operation by around 20%

Effective Additional Capacity



Source: PCI Xylene&Polyesters and TOP estimate

### DEMAND

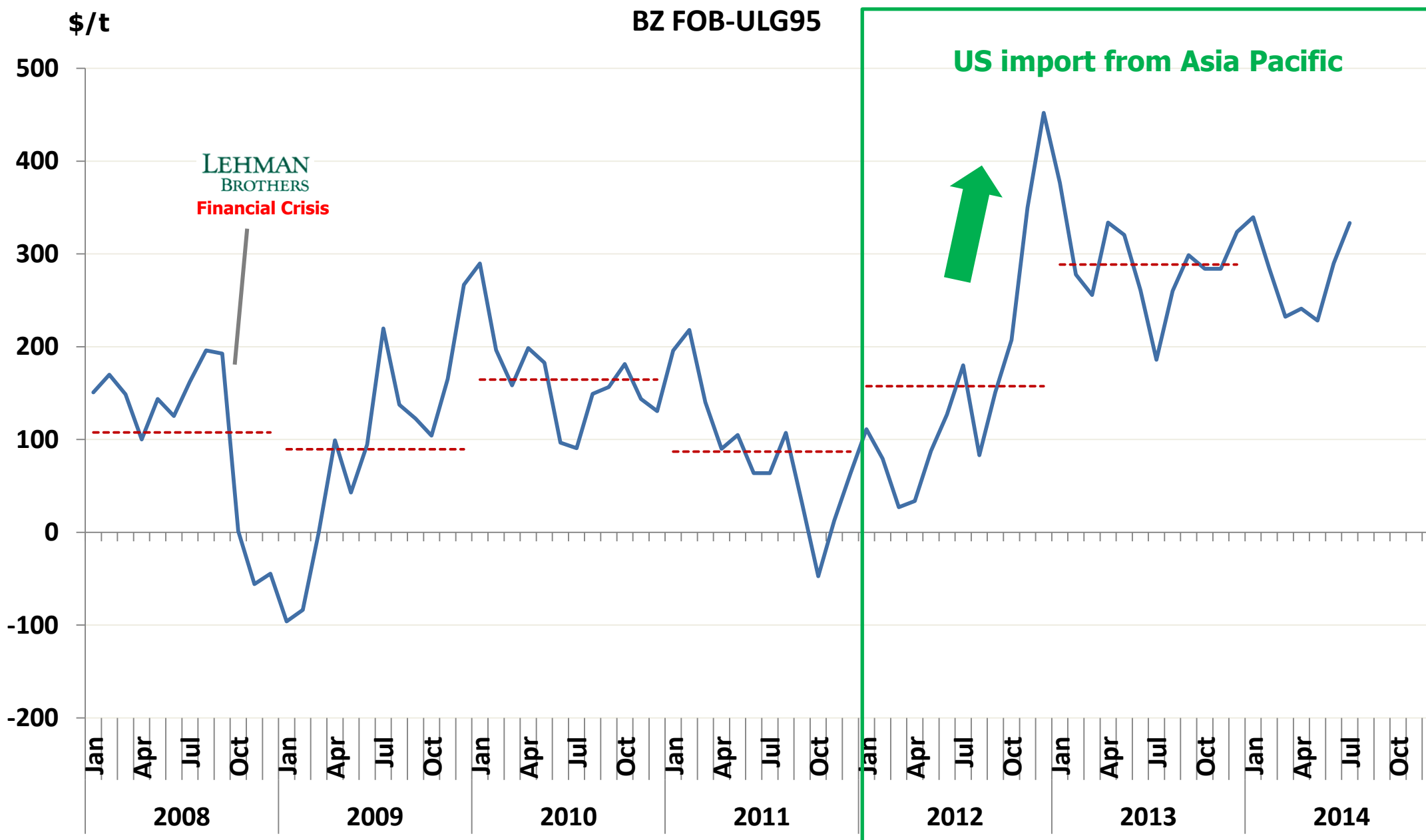
- PX demand during 2014-2019 is projected to grow by 6% (2.16 mil tons/yr), which is lower than the growth rate during 2010-2013 due to slow down in China's GDP growth.

### SUPPLY

- New PX additional capacity of 3.9 mil tons/yr will be added in South Korea, India, China, Singapore and ME during 2014-2019.



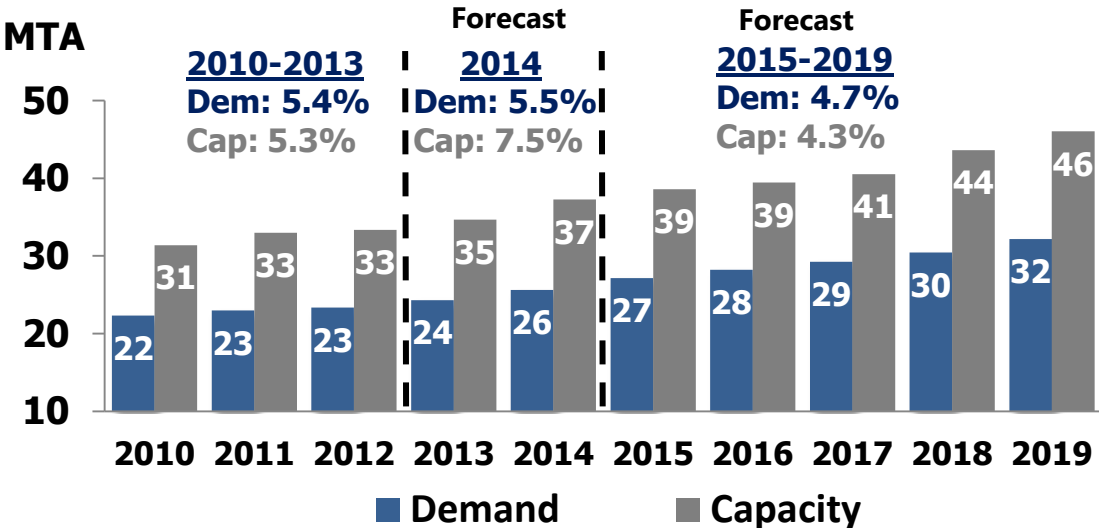
## Paradigm Shift of BZ Spread (from 100 to 300 \$/ton)





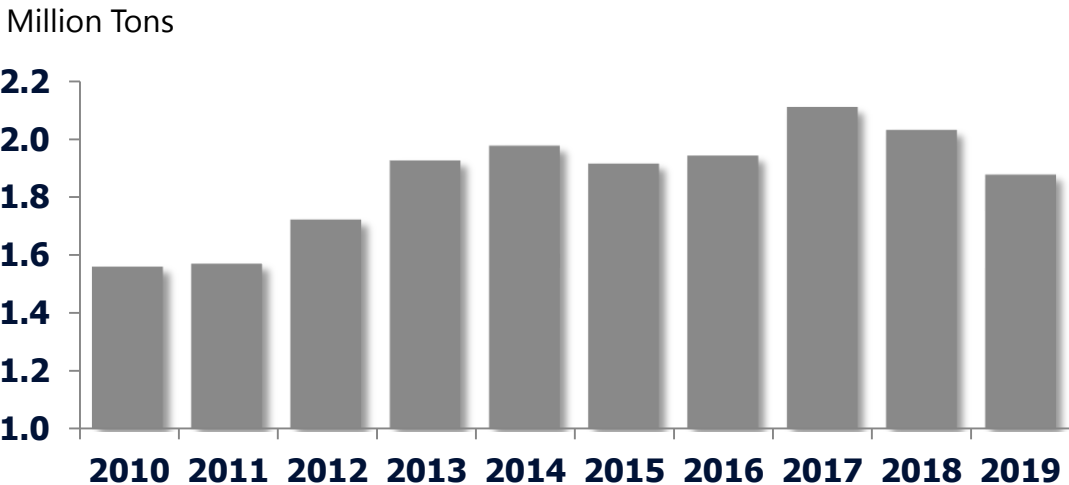
# BZ Demand/Supply Outlook

AP/ME BZ Capacity\* and Demand



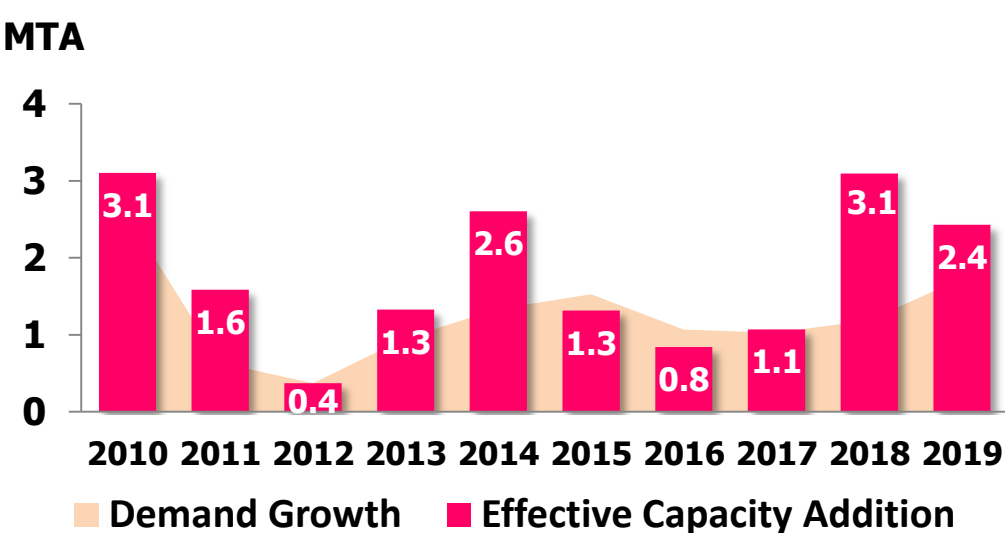
Remark : \* Nameplate capacity

## “BZ Imports by North America”



Source: IHS and TOP estimate

Effective Additional Capacity



### DEMAND







- BZ demand growth during 2014-2019 is projected to reach at 4.8% (1.3 mil tons/yr).

### SUPPLY

- BZ capacity growth at 3.9% (1.5 mil tons/yr) will be added in China, South Korea, India and Singapore during 2014-2019.



# Short Supply during May-Jul Supported PX Market

(\$/t)	Q1-14	Q2-14	Q3TD-14*	2H-2014**	1H-2015**
<b>PX-ULG95</b>	<b>273</b>	<b>221</b>	<b>400</b>		
<b>BZ-ULG95</b>	<b>286</b>	<b>254</b>	<b>345</b>		
<b>TL-ULG95</b>	<b>81</b>	<b>48</b>	<b>166</b>		

Note: PX = Paraxylene, BZ = Benzene, TL = Toluene

\*QTD until 13 Aug 14 \*\* Compared to 1H-14 \*\*\* Compared to 2H-14

## Factor to Watch for 2H-14 ....

PX:



- + PX producers run cut and PX plants maintenance
- + Seasonal polyester demand
- Heavy supply from PX plants

BZ:



- + Firmer BZ demand from the US
- + Lighter feedstock impacted BZ production
- Upcoming BZ plants start-up in Asia

TL:



- + Firm demand from key player China
- + Improved TL demand due to new PX plants startup

## Factor to Watch for 1H-15 ....

- PX:
- + Lotte Chemical No.1 (PX 200 KTA) announced to shutdown
  - + Seasonal PET demand (Apr-Jun)
  - Strong PX supply in Asia



- BZ:
- + Seasonal BZ plant turnaround
  - Narrow arbitrage window from Asia to the US



- TL:
- + Firm demand for gasoline blending and solvent sector
  - Soft buying interest after PX run cut





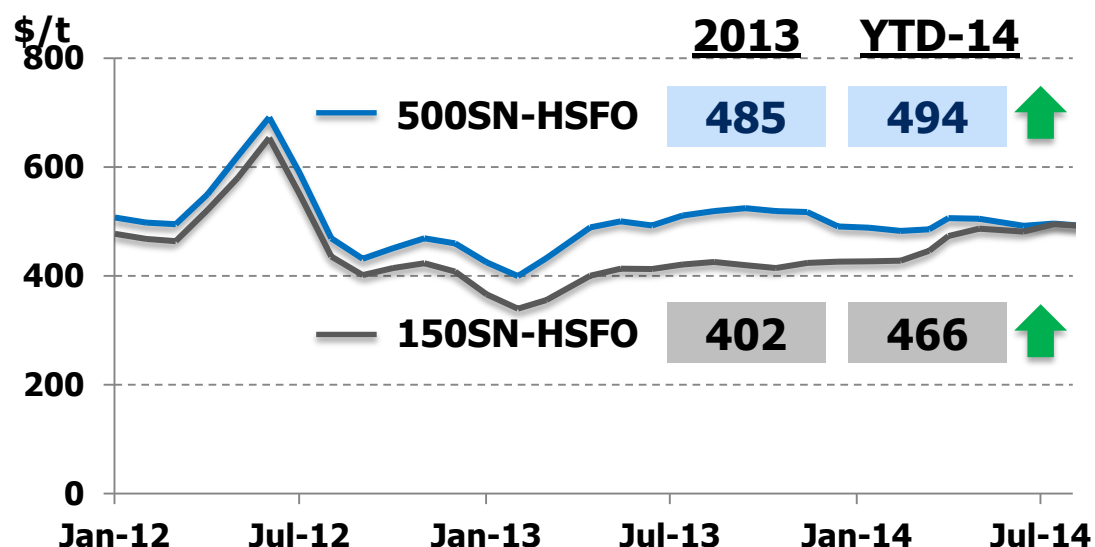
# Lube Base & Bitumen





# Depressed Base Oil Price on Thin Demand

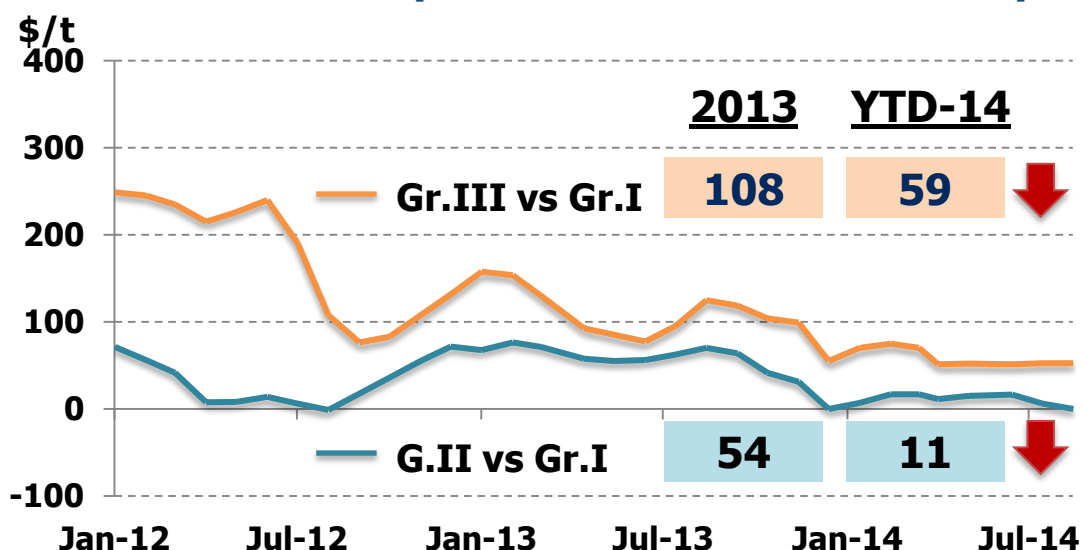
## Stronger Gr.I margin mainly driven by light grade



### Key Factors

- 500SN spread increased, tracking stable demand and softer fuel oil price.
- 150SN spread also supported by Gr.II production cut

## Gr.II / Gr.III surplus continues to limit the upside







### Key Factors

- Long supply of Gr.II and Gr.III to keep pressure on premium over Gr.I
- Gr.I margin was limited by potential shift towards higher quality Gr.II/III base oil



# Soft Demand & Abundant Supply Pressures on Base Oil

(\$/t)	Q1-14	Q2-14	Q3TD-14*	2H-2014**	1H-2015***
<b>500SN-HSFO</b>	<b>486</b>	<b>501</b>	<b>497</b>		
<b>Bitumen-HSFO</b>	<b>-69</b>	<b>-77</b>	<b>-78</b>		

Remark : \*QTD until 13 Aug 14 \*\*Compared to 1H-14 \*\*\*Compared to 2H-14

## Factor to Watch for 2H 2014

### Base oil:



- Slow demand during rainy season in 3Q2014 in the region
- Additional supply of Gr.II pressured Gr.I (Chevron US 1,200KTA, Shell Hyundai S. Korea, 650 KTA)
- + Firm improving demand for light grade during upcoming winter

### Bitumen:



- + Improved Indonesian demand after the presidential election
- Less CN Import from increased domestic bitumen output after maintenance

## Factor to Watch for 1H 2015

### Base oil:



- + Stronger demand especially from agricultural sector during summer in 2Q2015
- Abundant supply from new G.II/III plant start-up

### Bitumen:



- + Expectation of recovered regional demand from improving economic activities and increasing AEC infrastructure construction.
- Ample supply in the region, especially China, limits the upside



# Conclusion





# 2H/14 & 1H/15 Market Conclusion

## Refinery



- More crude availability in the market to pressure oil price
- Sideway GRM in 2H-14 due to higher winter demand amid uncertainty in Chinese demand
- Mild local oil demand growth in 2014 pressured by slower economy

## Aromatic



- Improved PX spread due to short-covering amid tight supply after PX producers cut run rate and shut down
- Stronger BZ spread on firm demand in the US

## Lube Base



- Softer base oil spread due to thin demand and ample Gr. II supply
- Stable bitumen spread is supported by improved regional demand



# 2014 KEY ACTIVITIES / PROJECT UPDATE





# CDU-3 Major Turnaround...

## Successfully Completed & 9 Days Ahead of Announced Schedule



■ **CDU-3 (165 KBD) major turnaround was completed 9 days ahead of the announced schedule** (~46 vs 55 Days)

■ **Completion within budget & having excellent safety & environmental record** (YTD annualized safety record within global top 10%, No complaints from communities on environmental issues)



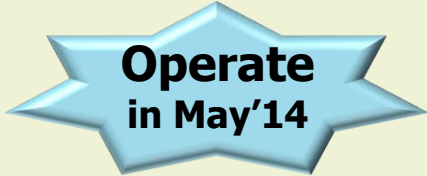
■ **Revise up FY2014 expected refinery run rate to 96%** from 95% estimated earlier & **maintain aromatic production rate at 84%**






~ 46 Days CDU-3 MTA, 2.04 million man hours,  
(Peak time ~ 8,400 workers/days)



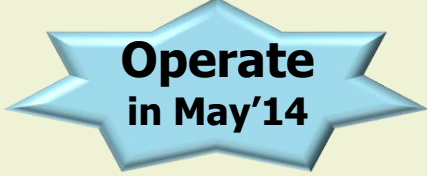


# 2014 Key Project Completion

Project	Detail	Progress
 <b>HVU Revamp:</b> <ul style="list-style-type: none"> <li>• Phase I: PSA-3</li> <li>• Phase II: HVU-2 Revamp</li> </ul> 	<ul style="list-style-type: none"> <li>• <b>Modify HVU-2</b></li> <li>• <b>Capable to produce more diesel/jet at the expense of fuel oil (1-2%)</b></li> <li>• <b>Capable to process cheaper heavier crude oil</b></li> <li>• <b>Incremental benefit to MKT GRM ~ 0.2-0.4 \$/bbl</b></li> <li>• <b>CAPEX = 137 M\$</b></li> <li>• <b>COD = 2Q2014</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED</b></li> </ul> 


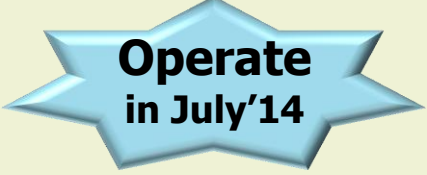
Project	Detail	Progress
 <b>Emission Improvement Project (EIP)</b> 	<ul style="list-style-type: none"> <li>• <b>To control flue gas quality according to the new emission law (New emission law limits SOX &lt; 500 ppm from Dec 2013 onwards)</b></li> <li>• <b>To build spare capacity for flue gas treating unit</b></li> <li>• <b>CAPEX = 233* M\$</b></li> <li>• <b>COD = 2Q2014</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED</b></li> </ul> 

\* BOI privileges : Exemption of corporate income tax for 8 years at 100% of actual investment cost for emission reduction projects

Project	Detail	Progress
 <b>Solvents Expansion (SAKC)</b> 	<ul style="list-style-type: none"> <li>• <b>To expand solvent capacity to meet the demand growth in Thailand and the region</b></li> <li>• <b>Capacity increase to 141 KTA from 76 KTA</b></li> <li>• <b>CAPEX = 64 M\$</b></li> <li>• <b>COD = 2Q2014</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED</b></li> </ul>  <p><b>First product launched for marketing on 12<sup>th</sup> May 14</b></p>




# 2014 Key Project Update : CDU-3 Crude Preheat Train

Project	Detail	Progress
 <b>CDU-3 Crude Preheat Train Improvement</b>	<ul style="list-style-type: none"> <li>• Set up, replace &amp; rearrange heat exchangers in CDU-3 to reduce fuel usage</li> <li>• Improve tray &amp; equipment in CDU-3 to enhance refining efficiency by increasing Jet production &amp; Crude intake</li> <li>• <b>Benefit = Reduce fuel usage in CDU-3 ~ 15 % or equivalence to 20 MW (~0.1 \$/bbl)</b></li> <li>• <b>CAPEX = 68 M\$</b></li> <li>• <b>COD = 3Q2014</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED</b></li> </ul> <div style="text-align: center;">  <p><b>Operate in July'14</b></p> </div>





# 2014 Key Project Update : LAB

Project	Detail	Progress
 <b>Linear Alkyl Benzene (LAB)</b> TPX JV with Mitsui 75% : 25% Established on 11 Jul 13	<ul style="list-style-type: none"> <li>• Upgrade existing Benzene and Kerosene into higher valued product; LAB which is an intermediate feedstock in production of surfactant</li> <li>• Capacity: 100 KTA (First Integrated LAB Plant in SEA)</li> <li>• Benefit = add to GIM ~ 0.4-0.6 \$/bbl</li> <li>• CAPEX = 400 M\$ (TPX's part = 300 M\$)</li> <li>• COD = 2015</li> </ul>	<ul style="list-style-type: none"> <li>• <b>CONSTRUCTION Phase</b> (overall progress 52.2%)</li> </ul>



Column foundation erection



Sub Station building

	KTA	%
<u>Feedstock</u>		
Kerosene (from TOP)	520	94%
Benzene (from TPX)	33	6%
<u>Product/ By-products</u>		
LAB	100	19%
By-products (mostly Kerosene components) (to TOP)	453	81%



Hot oil heater foundation



Inter-connecting pipe rack erection




Equipment foundation erection



Tanks foundation erection



# 2014 Key Project Update : 2 SPPs

Project	Detail	Progress
 <p><b>TOP SPP</b> <b>(2 blocks of SPP)</b></p> <ul style="list-style-type: none"> <li>Power capacity: 239 MW (SPP block 1: 124 MW) (SPP block 2: 115 MW)</li> <li>Steam capacity 498 T/H</li> </ul>	<ul style="list-style-type: none"> <li>Low risk power business enhance income stability</li> <li>Support reliability of electricity &amp; steam supply for TOP Group</li> <li>Develop 2 new SPP power plants; total capacity 239 MW under a firm contract with the government</li> </ul> <p>• <b>CAPEX = 380 M\$</b> • <b>COD = 2016</b></p>	<ul style="list-style-type: none"> <li><b>EXECUTE Engineering, Procurement &amp; Construction (EPC)</b></li> <li><b>CONSTRUCTION Phase (overall progress 31.1%)</b></li> </ul>



TOP SPP : EPC &amp; PMC contract signing ceremony



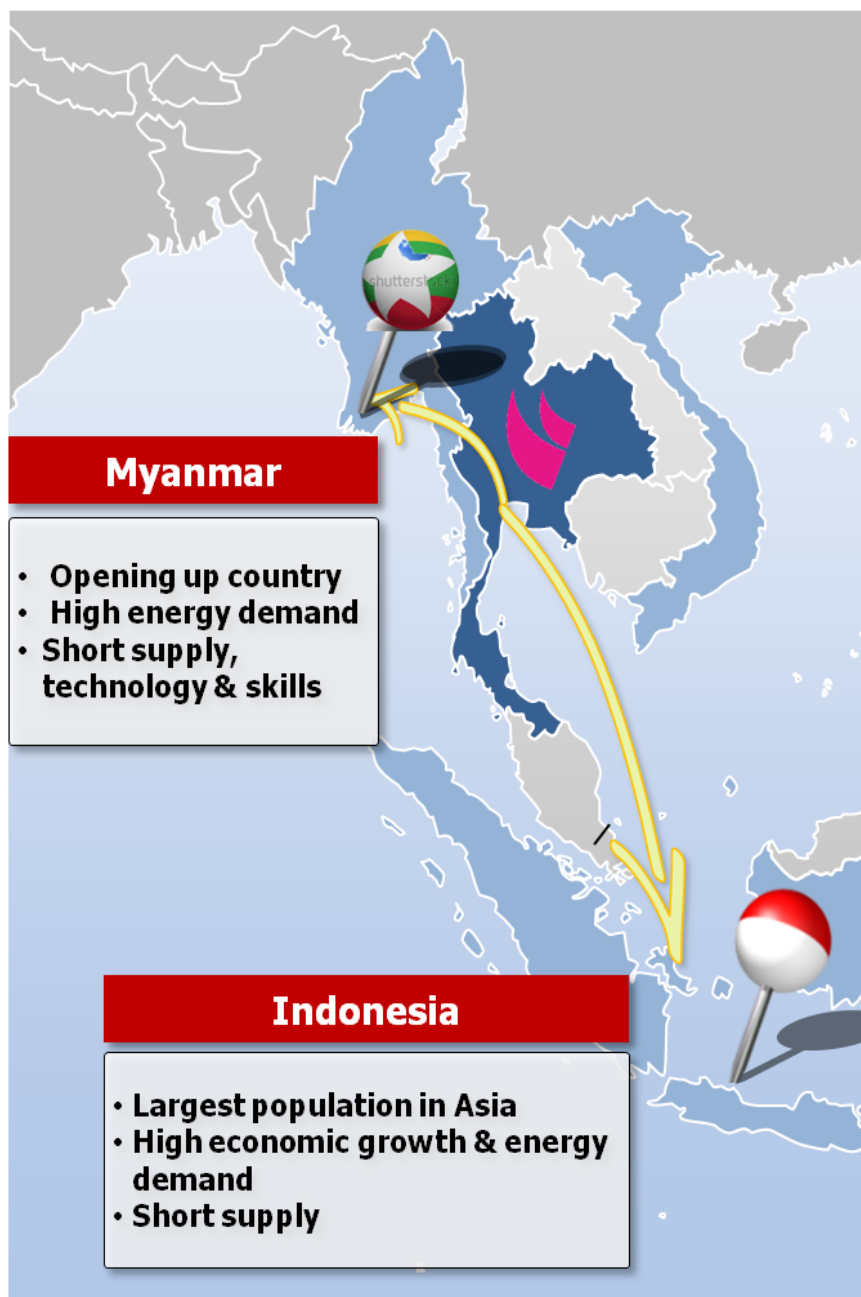
SITE CONDITION






TEMPORARY FENCE ISOLATION NEW PLANT AND EXSITING PLANT



# 2014 Key Step Out on New Geography Study



Project	Progress
<b>Refinery Upgrading Project in Myanmar</b> 	 <ul style="list-style-type: none"> <li>• On <b>mid-July, 2014</b>, Myanmar Petrochemical Enterprise (<b>MPE</b>) <b>issued Invitation to Tender</b>, specifying the <b>proposal deadline by mid-Oct, 2014</b> and expect to announce the <b>result by Q1/15</b></li> <li>• <b>Two Phase Proposal</b> (TOP in collaboration with PTT Group) <ul style="list-style-type: none"> <li>1 - <b>Revamp existing</b> Thanlyin Refinery</li> <li>2 - Develop new <b>green field refinery</b></li> </ul> </li> </ul>
Project	Progress
<b>Wax Upgrading Project in Indonesia</b> 	<ul style="list-style-type: none"> <li>• <b>Under the engineering study phase with Pertamina</b> to produce hard wax at Pertamina's Cilacap refinery. <b>Expect study / decision to be finalized by end-2014</b></li> </ul> <p>(Hard Wax Application : Candles , rubber tire, particle board and matches etc.)</p>
<b>Refinery Upgrading Project in Indonesia</b>	<ul style="list-style-type: none"> <li>• On <b>Jul-14, Pertamina sent solicitation letter to PTT Group</b> on "<b>Refinery Upgrading</b> in Indonesia" The project is in the early stage study.</li> </ul>



## KEY TAKE AWAY MESSAGES





## Business / Operational / Financial Excellence

- **Successful Completion of CDU-3/Aromatic/Related units MTA**  
(9 Days ahead of announced schedule , ~ 46 vs 55 Days)
- **Revise up FY2014 Refinery U-rate to 96% from 95% estimated earlier & maintain aromatic production rate at 84%**
- **Successful Project Execution** e.g. CDU-3 Preheat Train, HVU-2 Revamp, Solvent Expansion, EIP
- **Progress on Step Out Strategies** e.g. Refinery in Myanmar, Wax & Refinery in Indonesia
- **Solid Financial Discipline / Strong Liquidity Position**





# Thank You

Any queries, please contact:



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Tel: 662-797-2999 / 662-797-2961

Fax: 662-797-2976



# APPENDIX





# Optimized & Flexible Operations...Superior Performance

Crude Assays based on  
TOP configuration



Sources of  
Crude

Product  
output

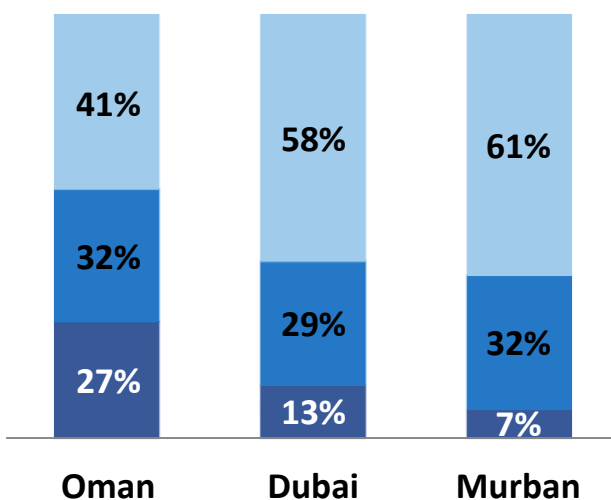
Spread over  
Dubai (US\$/bbl)



Domestic demand for  
petroleum products\*

% S = 1.54 API = 31.2	% S = 2.13 API = 30.4	% S = 0.79 API = 39.7
--------------------------	--------------------------	--------------------------

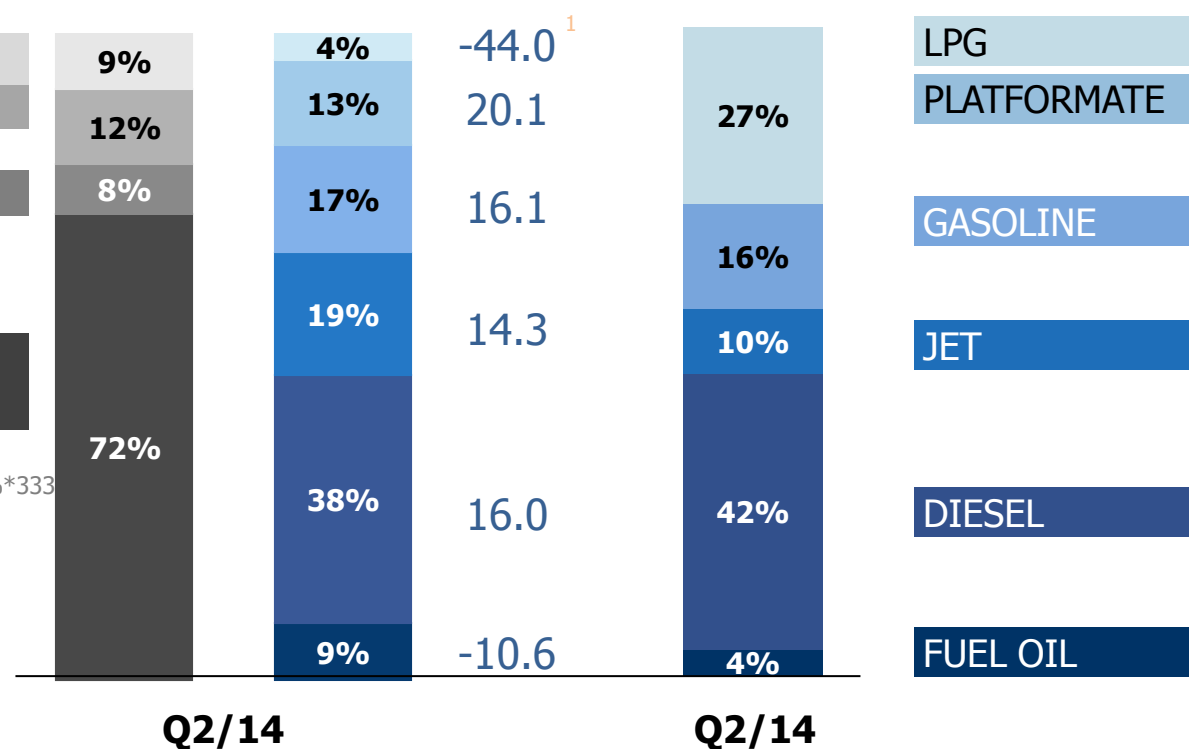
■ Short Residue ■ Waxy ■ Gas/Distillates



Others  
Far East  
Local

Middle  
East

1. LPG price =  
76% CP + 24%\*333  
\$/ton



Thai Oil is able to diversify its type of crude intake and product outputs to maximize demand and margin

- Flexibility in crude intake allows diversification of crude types to source cheaper crude
- Flexibility in product outputs by maximizing middle distillates (jet and diesel) by adjusting production mode to capture domestic demand and price premium
- Maximize Platformate production to capture higher margin on aromatics
- Minimize fuel oil output to avoid lower margin products

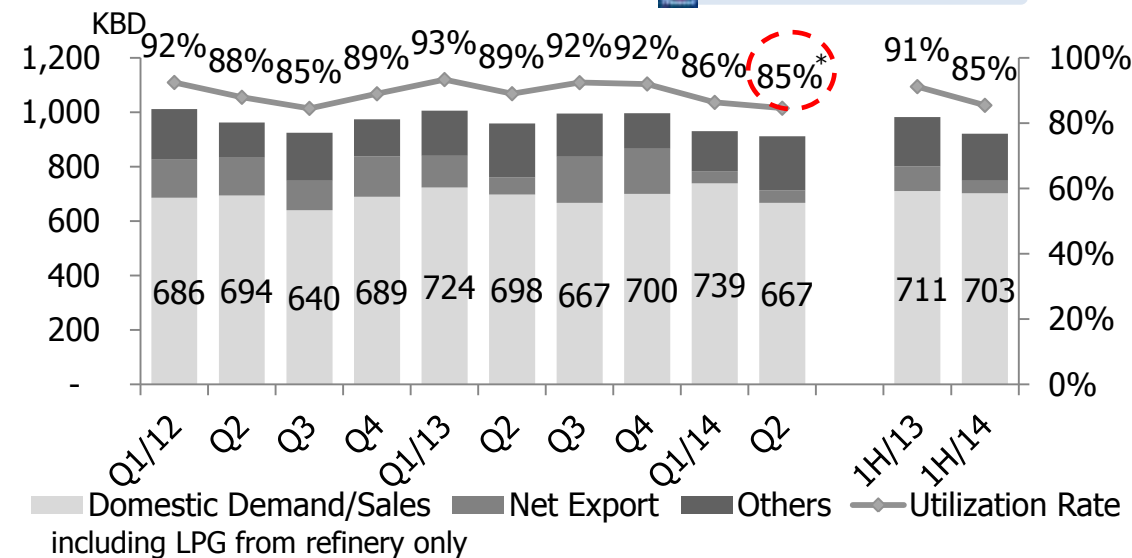


# Strong Domestic Sales despite Flatten Local Demand

## Domestic Oil Demand / Domestic Refinery Intake

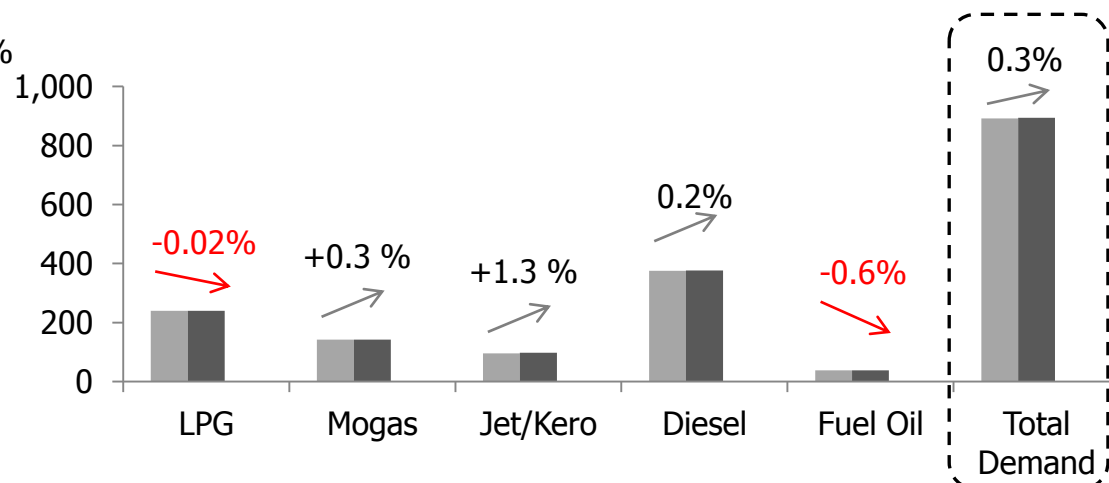
\*including TOP intake (Excluding TOP = 62%)

**Utilization = 94%**

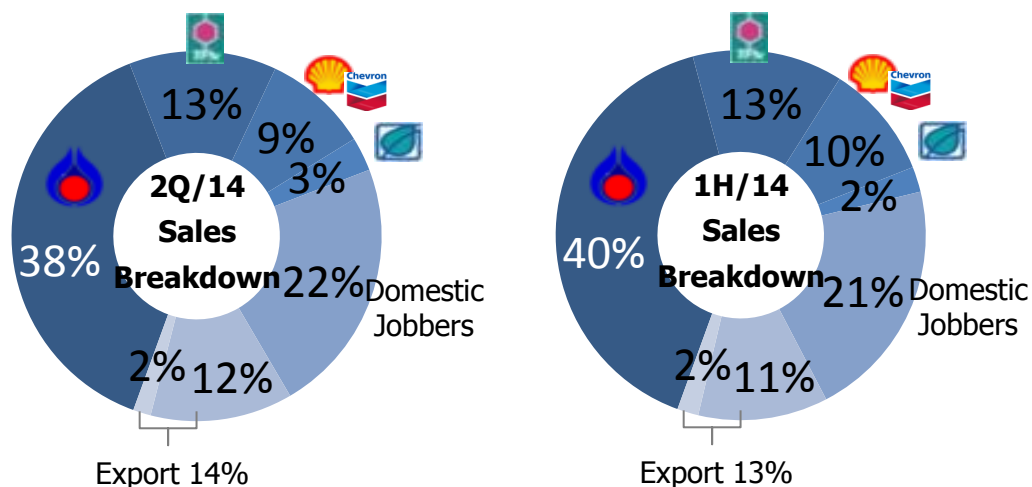


## Domestic Oil Demand

KBD ■ 1H56 ■ 1H57



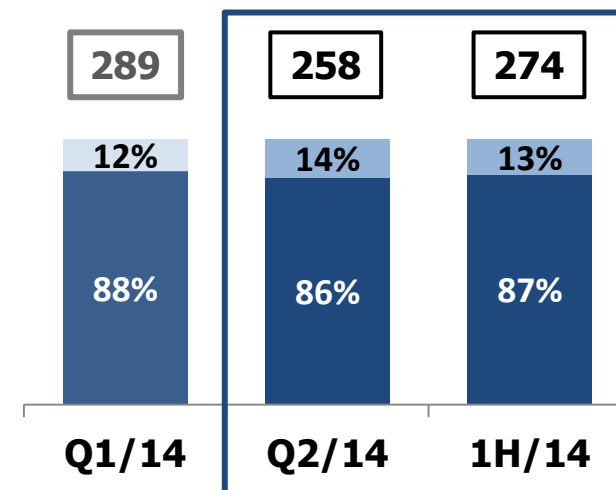
## Sales breakdown by customers



## TOP's Domestic & Export Sales

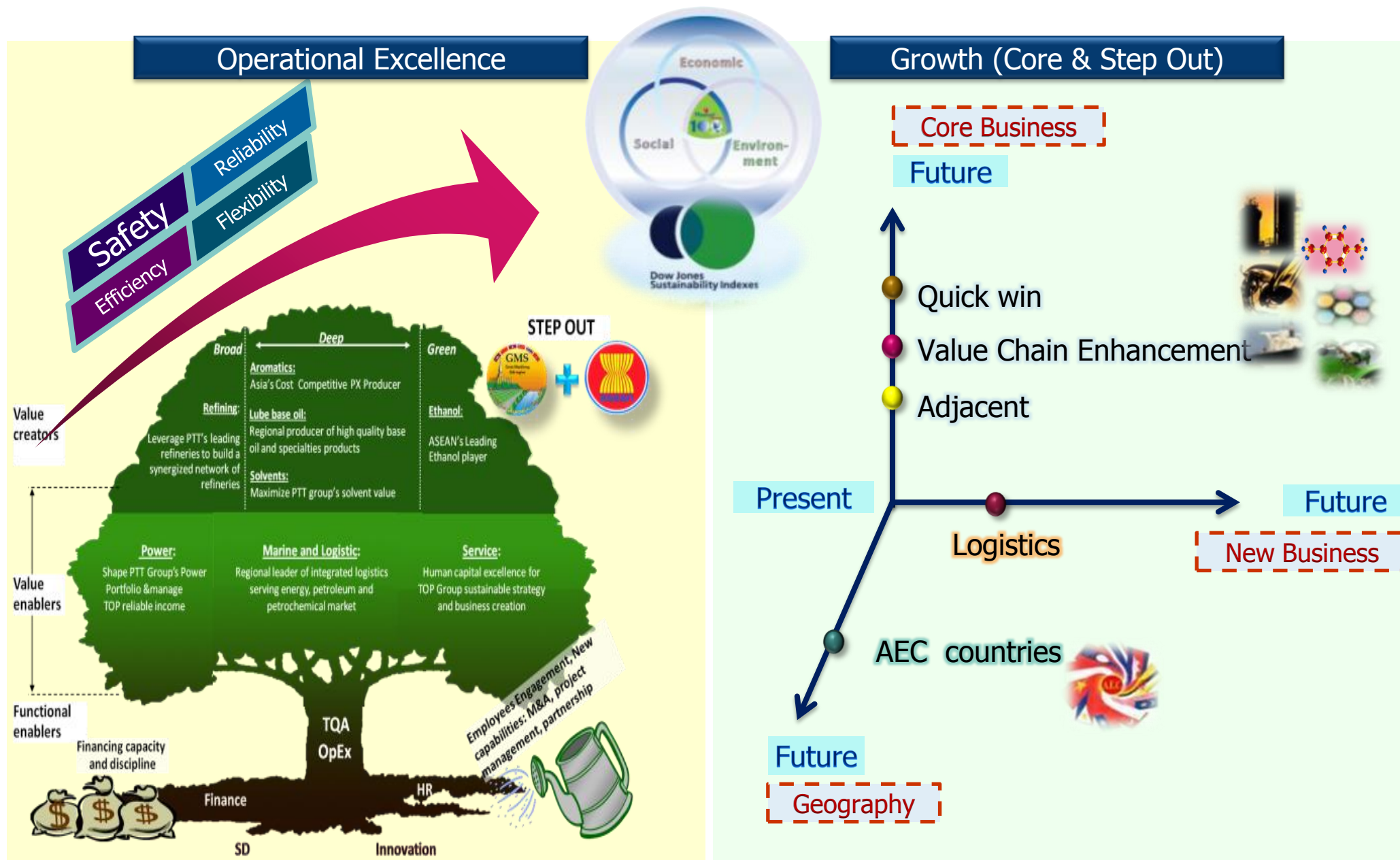
Refinery Intake (KBD)

■ Export  
■ Domestic





# TOP Way forward : Broadening Growth, Capturing Step Out ,Pursuing Sustainability





# Strategic Investment Plan

**Our CAPEX investments will cover improvements in plants reliability, efficiency & flexibility, environmental & fuel efficiency improvement as well as value chain enhancement**

**Thai Oil has sufficient internal cash flow to fund this investment plan**

## CAPEX Plan (Unit US\$ million)

Projects	COD	Total Project Cost	Remaining capital investment				
			2013	2014	2015	2016	2017-2019
Refinery upgrading	2014	137	99	29			
Reliability, efficiency and flexibility improvement	-	353	65	91	56	13	34
Environmental and fuel efficiency improvement	-	317*	169	116	9		
CDU-3 preheat train	2014	68	10	58			
Benzene Derivatives - LAB	2015	300	47	169	57	10	17
GPSC investment	End 2013	75	75				
Power – 2 SPPs	2016	380	5	173	161	41	
Solvent expansion – SAKC	2014	64	31	21			
Aframaxs / Crew boats	2013/14	47	17	16			
<b>Total</b>		<b>1,742</b>	<b>517</b>	<b>674</b>	<b>283</b>	<b>64</b>	<b>51</b>

**\$1,072 m**

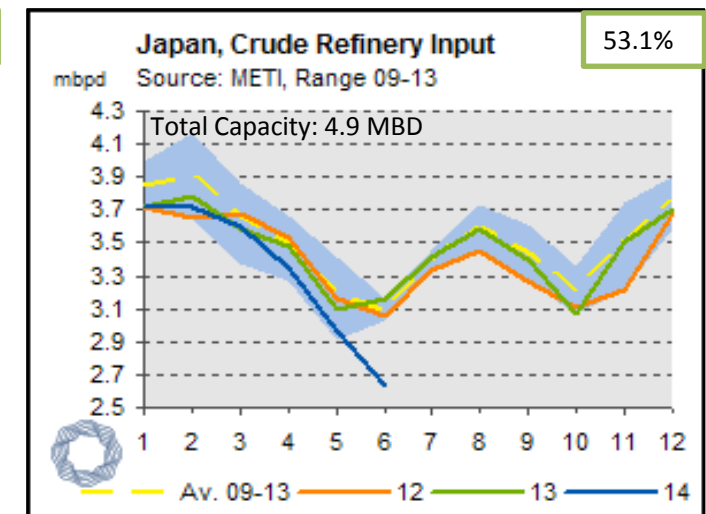
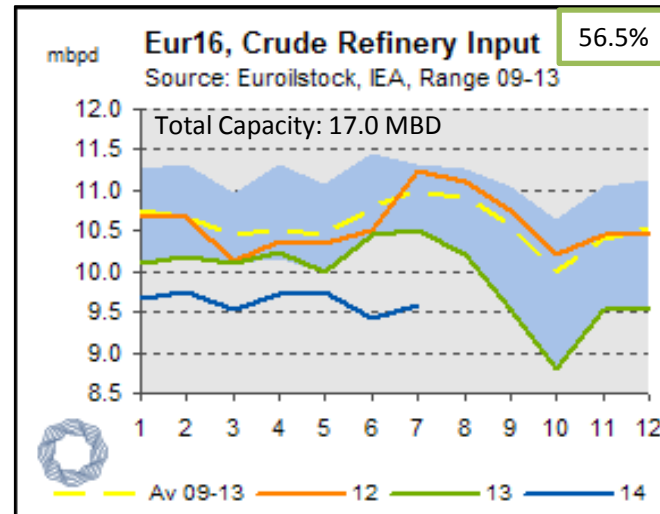
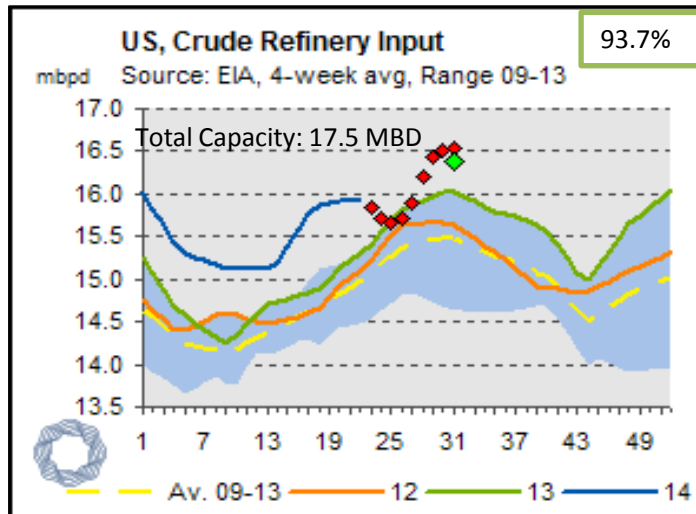
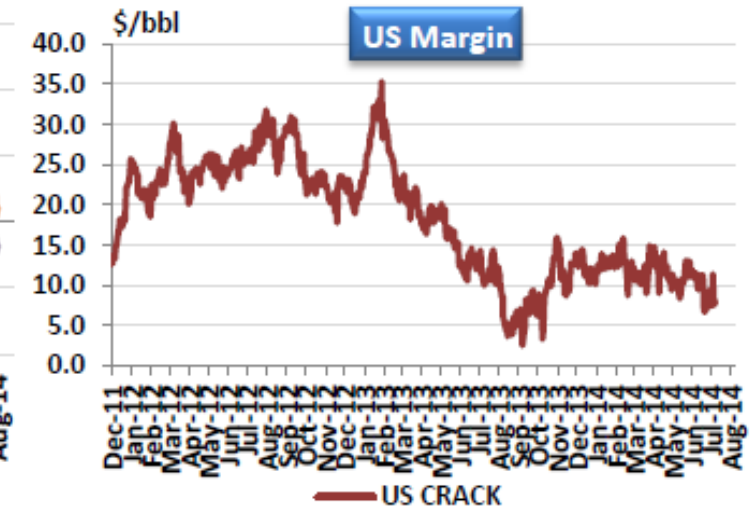
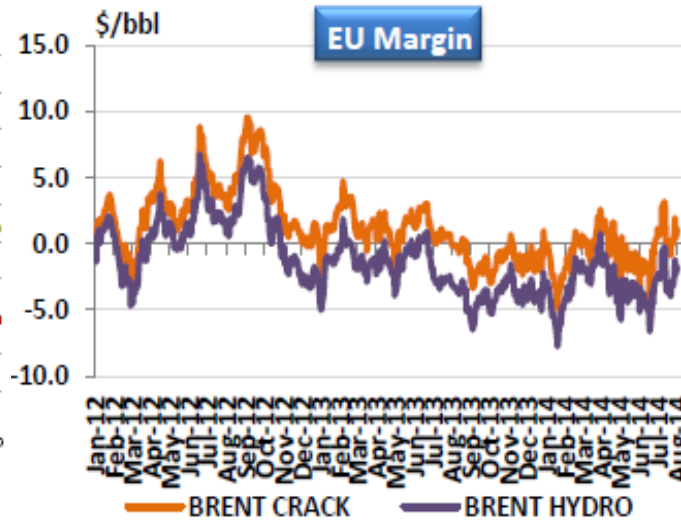
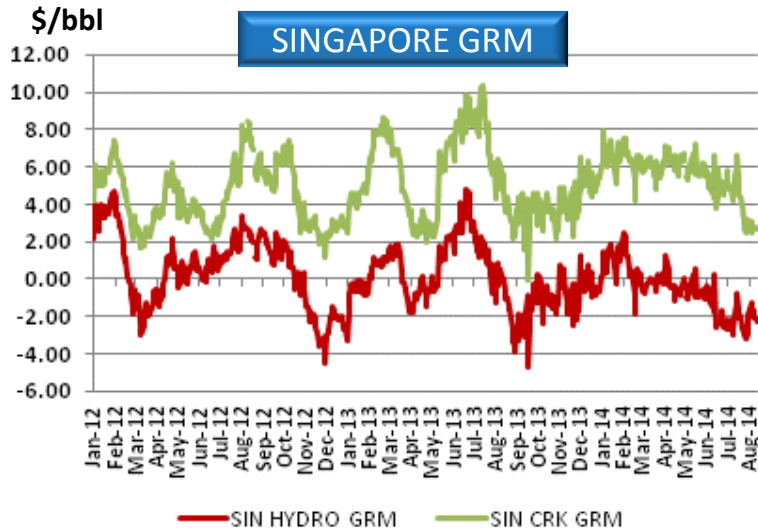
Projects under review/study	COD	Total Project Cost	2013	2014	2015	2016	2017-2019
Jetty 7,8	Q1-15	162	1	85	70	6	

Notes: Excluding approximately 40 M\$/year for annual maintenance

\*anticipated to receive BOI 100% of actual investment cost

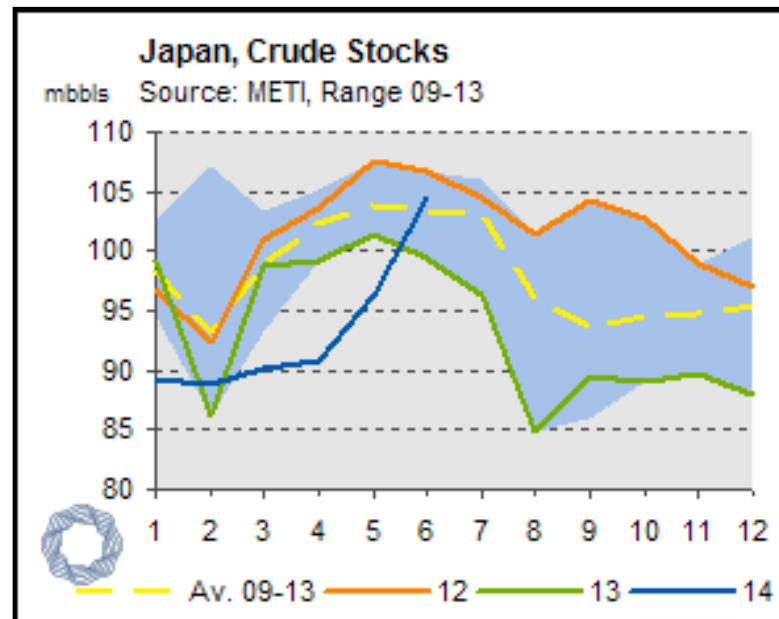
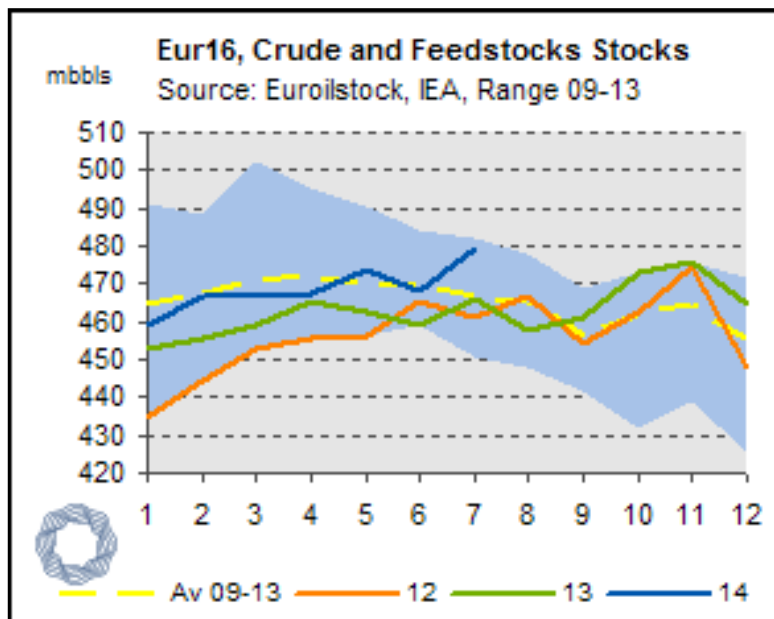
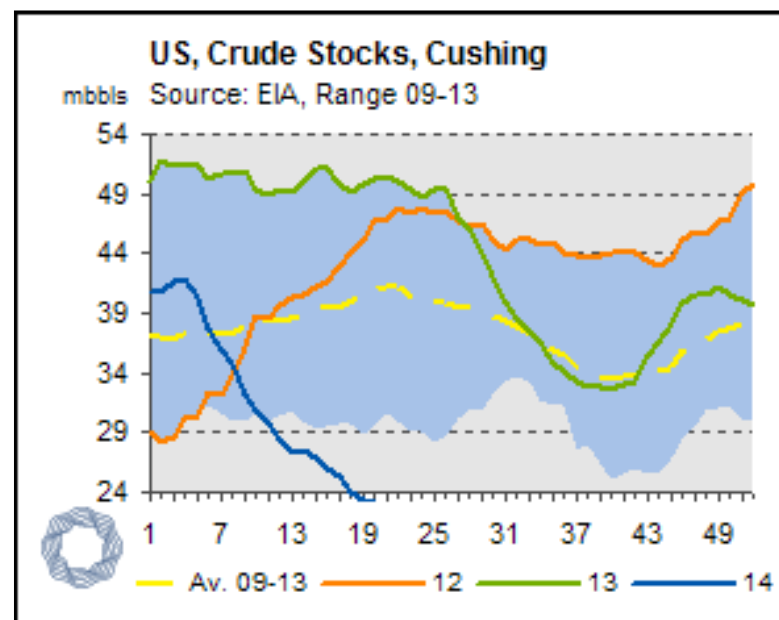
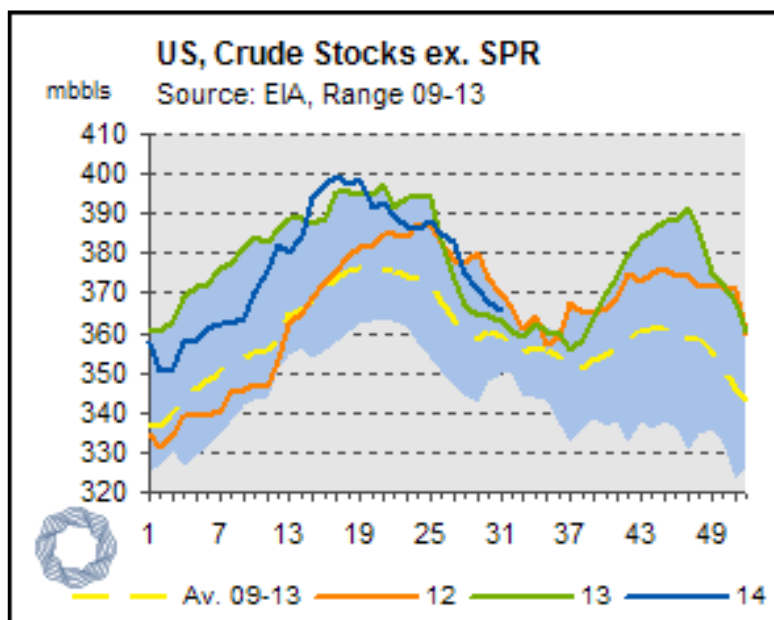


# Asian Margin Vs. US-EU margin



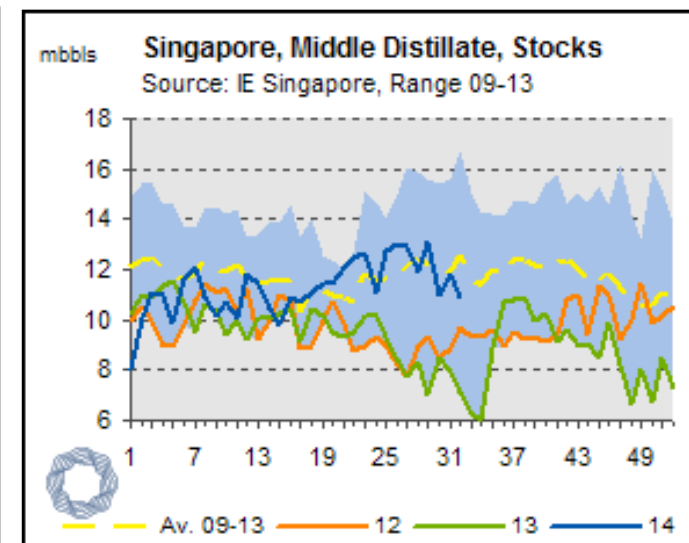
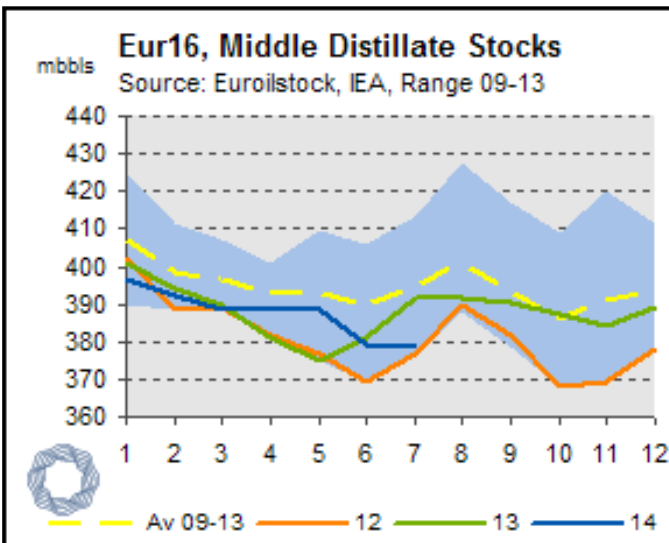
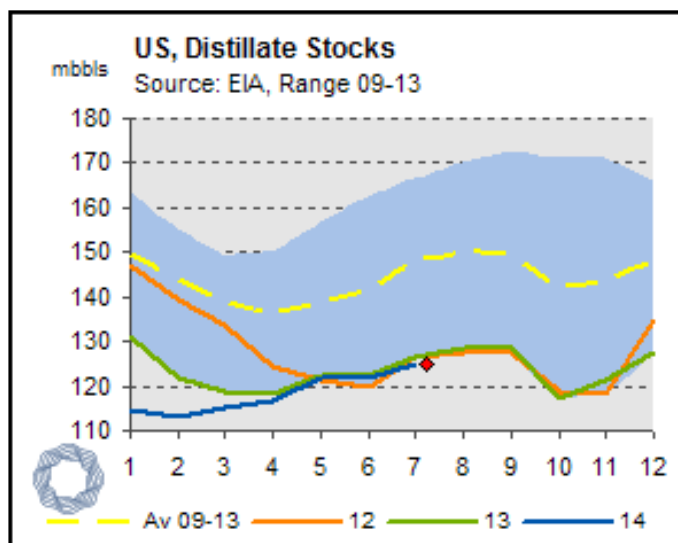
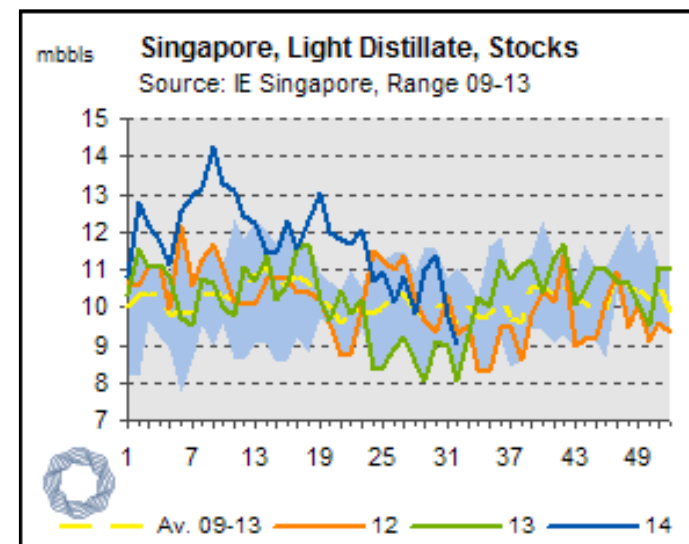
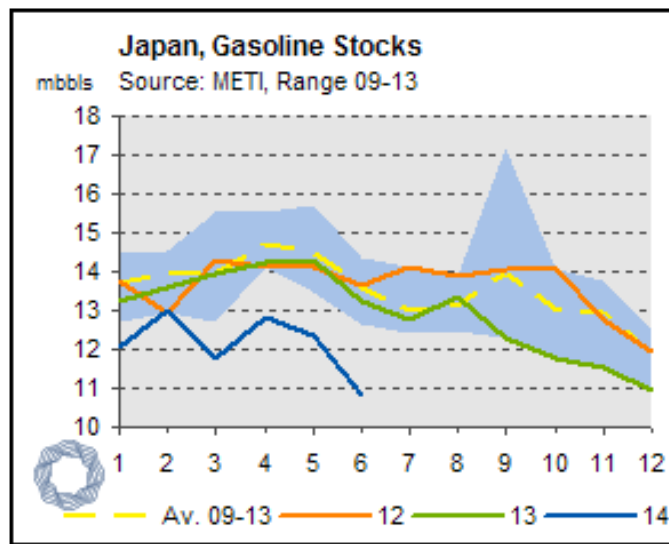
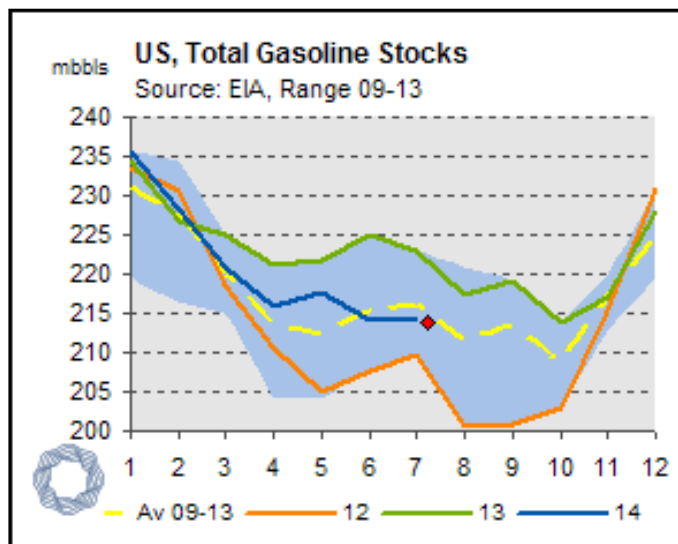


# Crude Inventory

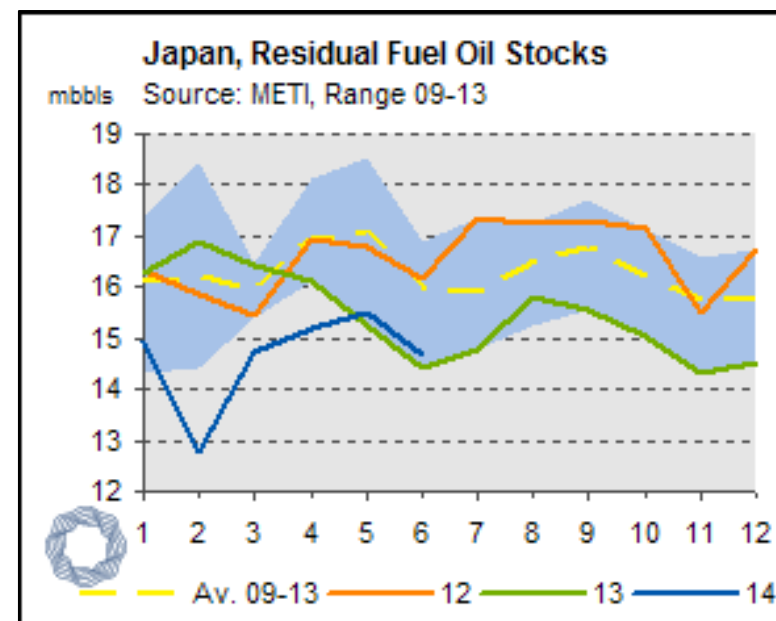
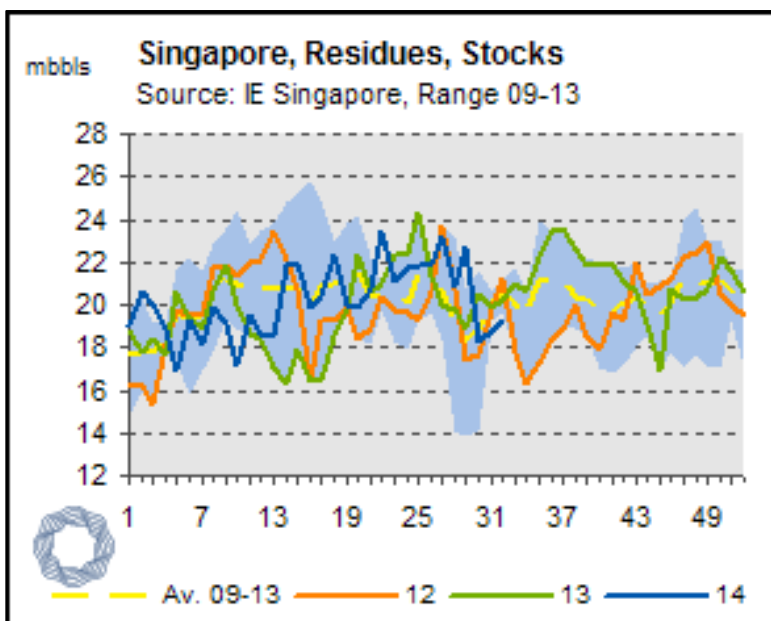
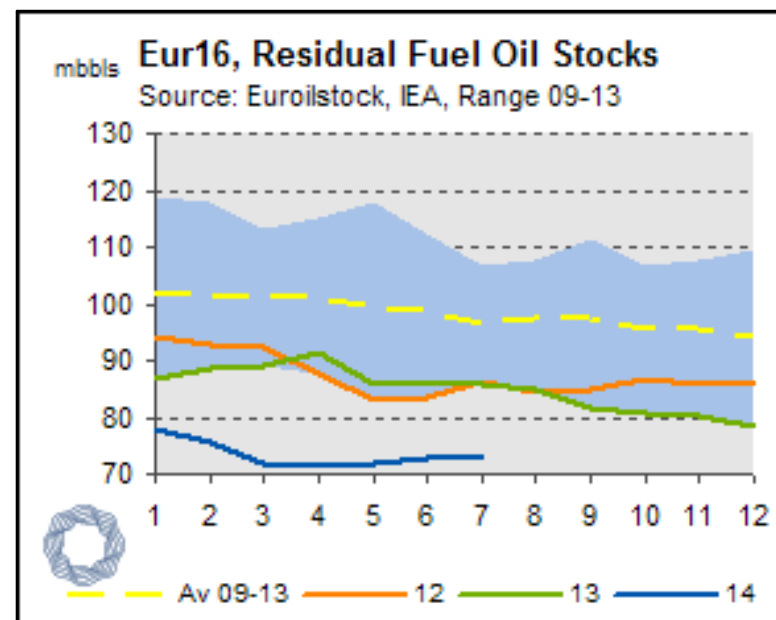
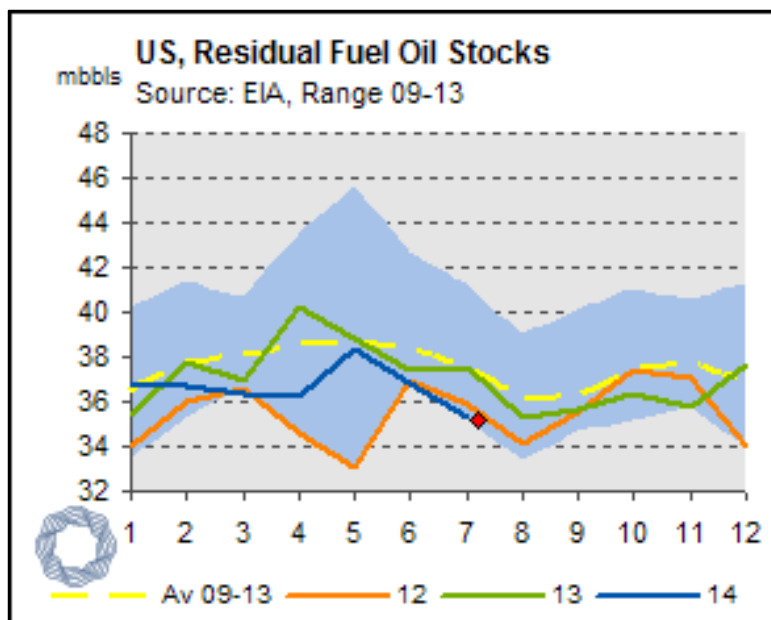




# Global Distillate Inventory

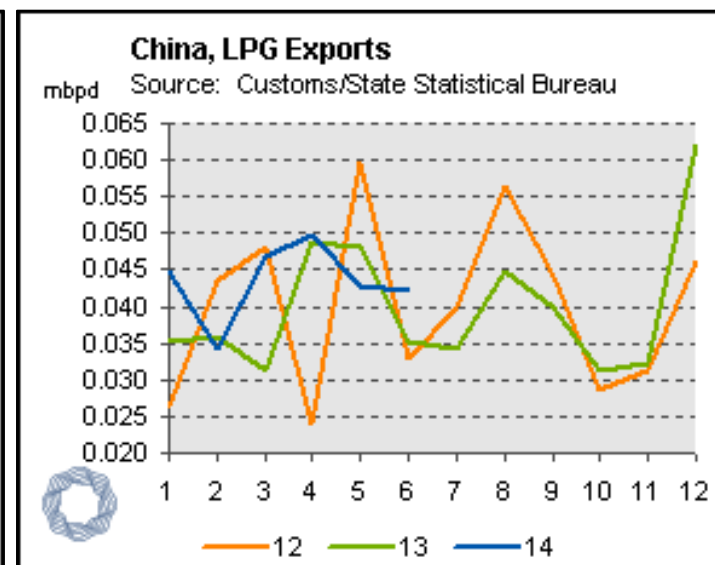
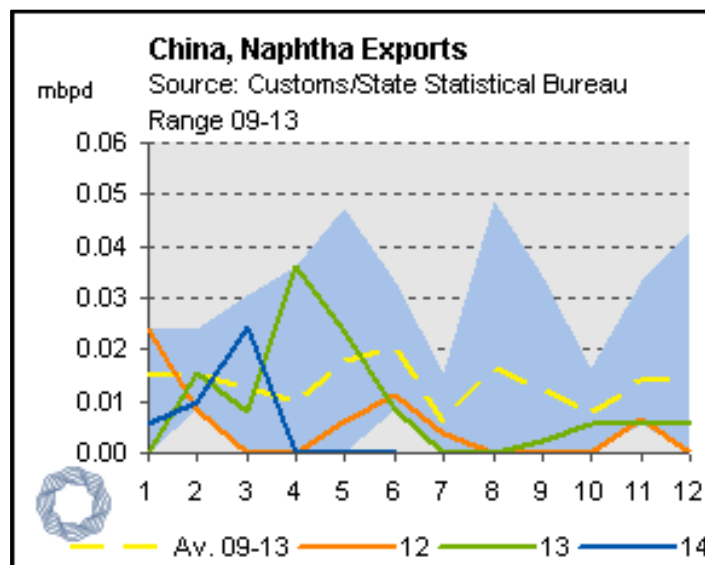
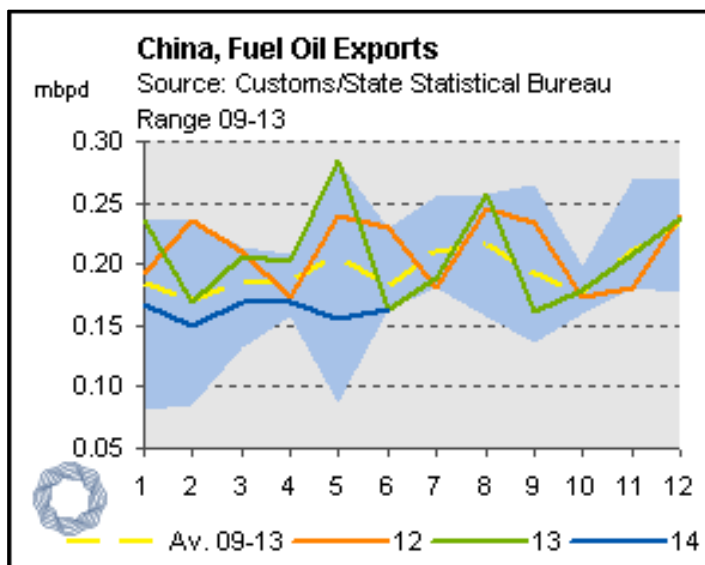
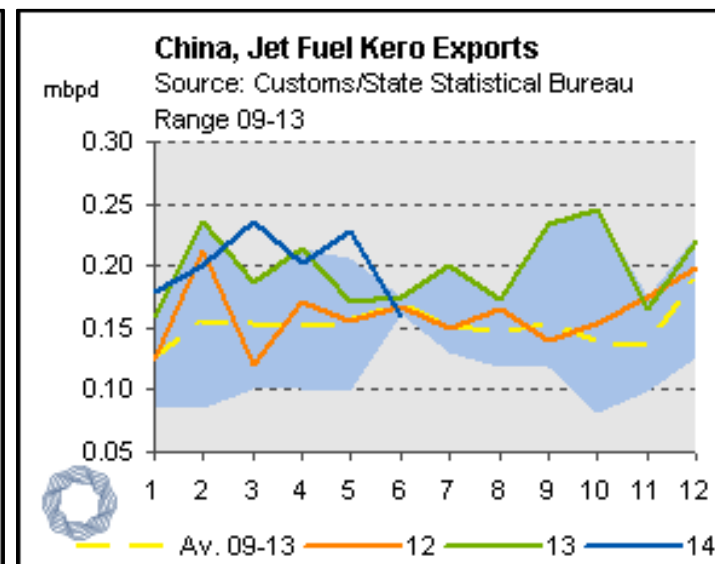
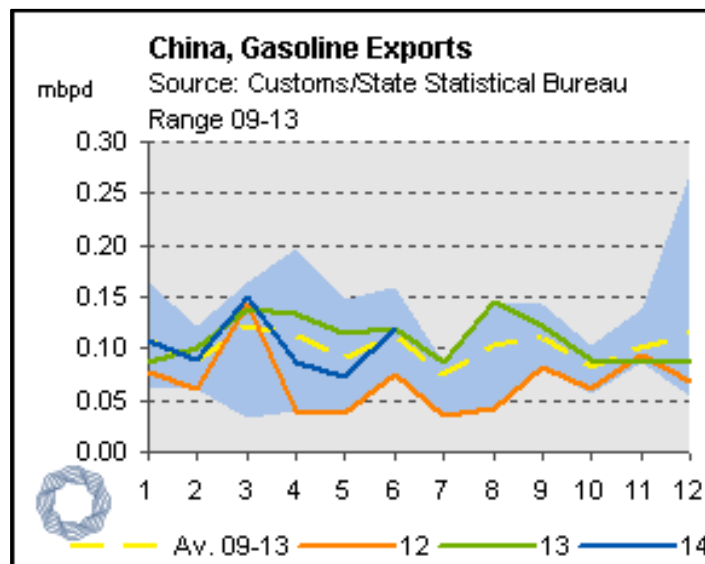
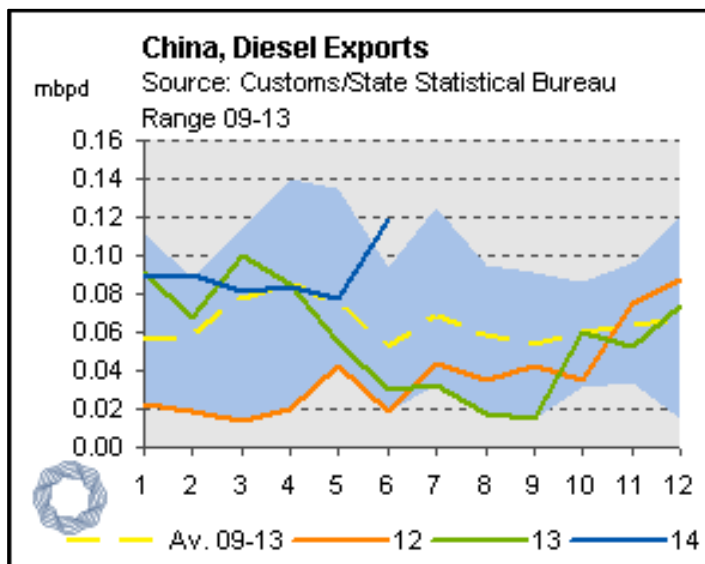








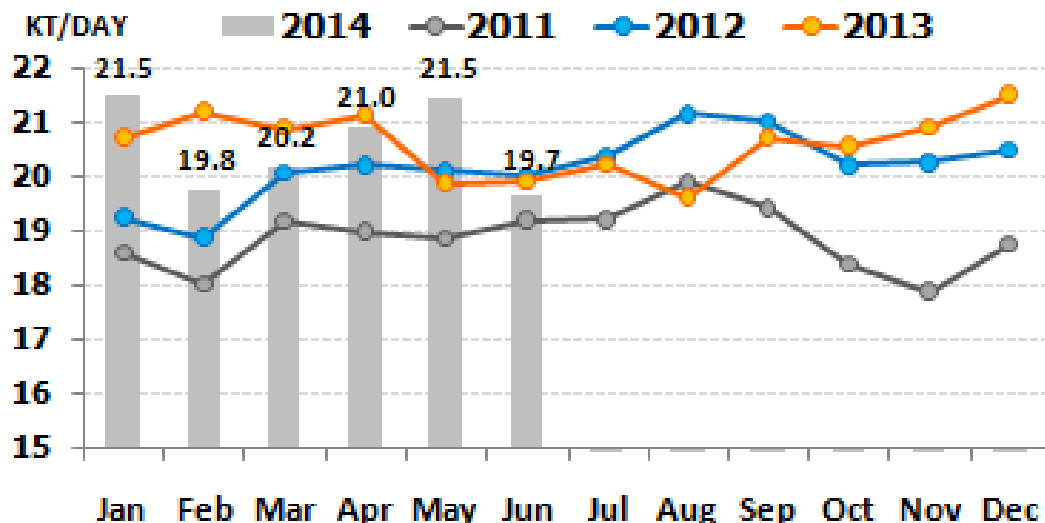
# China's Product Export





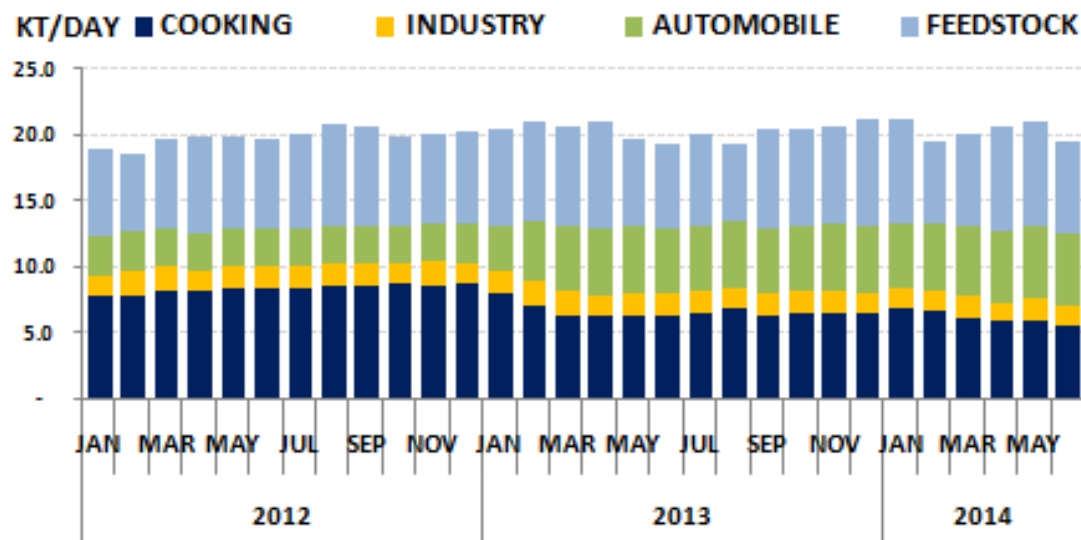
# Domestic LPG Demand

## Thailand LPG Demand



Remark : Include Propane and Butane, and add own used consumption

## LPG Demand by Sector



## LPG Demand Highlight

- LPG demand in Q2/14 augmented by 1.9% YoY thanks to incremental usage in petrochemical and auto sectors. However, demand expansion was capped by lower usage in cooking and industrial sectors, as a result of economic slowdown and political uncertainties.

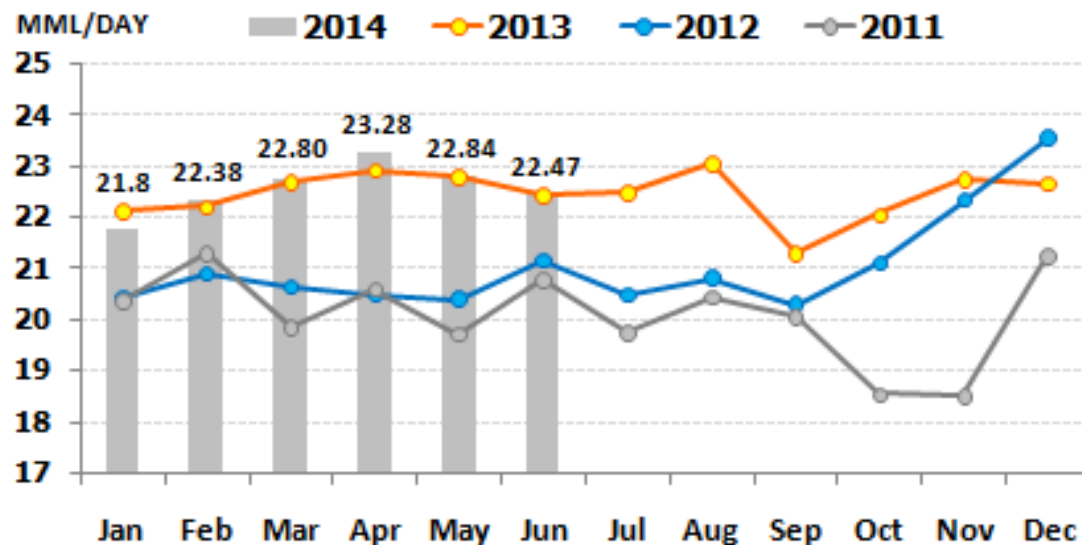
## Outlook for 2014

- LPG demand is expected to grow by 2.0% YoY supported by the expectation of higher demand for feedstock in petrochemical industry.
- However, LPG demand growth was expected to limit by LPG price structure reform that government aims to increase retail price in household sectors.

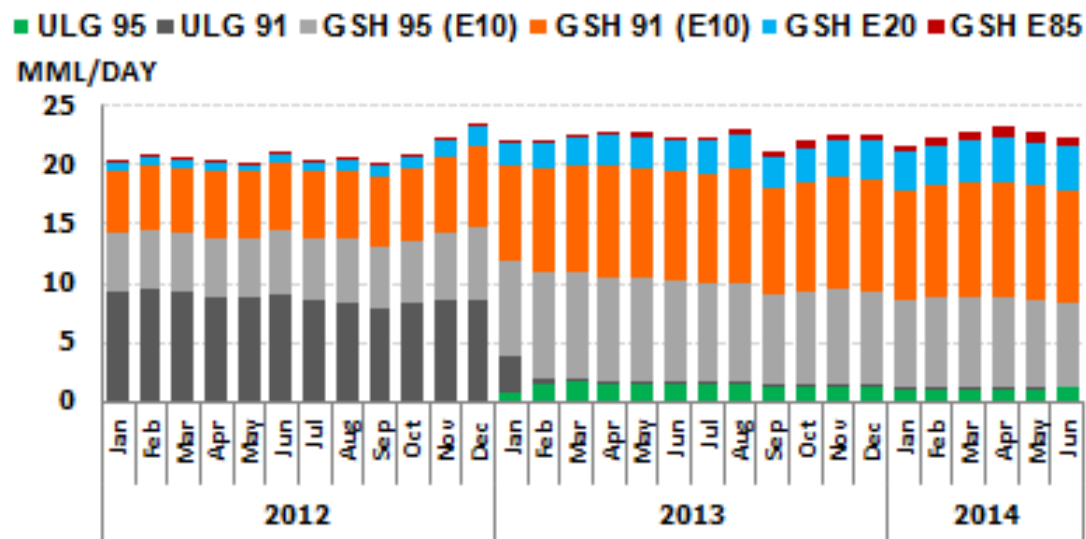


# Domestic Gasoline Demand

Thailand Gasoline Demand



Gasoline Demand by Grade



## GASOLINE Demand Highlight

- **Mogas demand in Q2-14 increased by 0.6% YoY to 22.9 mml/day.** This is because of new registered car, leading to transportation demand expansion. Gasohol portion was record at 93.6% comparing to 91.6% at the same period last year, mainly due to government's campaign on alternative fuel usage. Gasohol consumption was continuously boosted by enormous growth of E20 and E85.
- The level of **domestic ethanol demand in Q2-14 rose significantly by 22.03% YoY from 2.58 mml/day to 3.15 mml/day** because of higher demand in GSH-91, GSH-E20, and GSH-E85 backed by increasing in the number of new registered personal car.

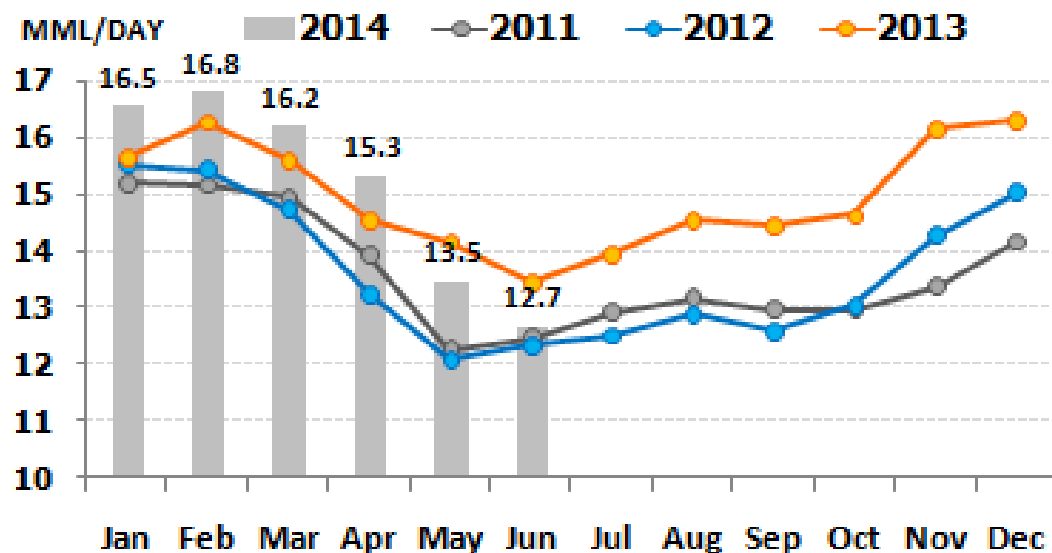
## Outlook for 2014

- Mogas consumption is predicted to grow by 2.0 YoY supported by new registered vehicles. However, it is limited gain by high base effect of last year.

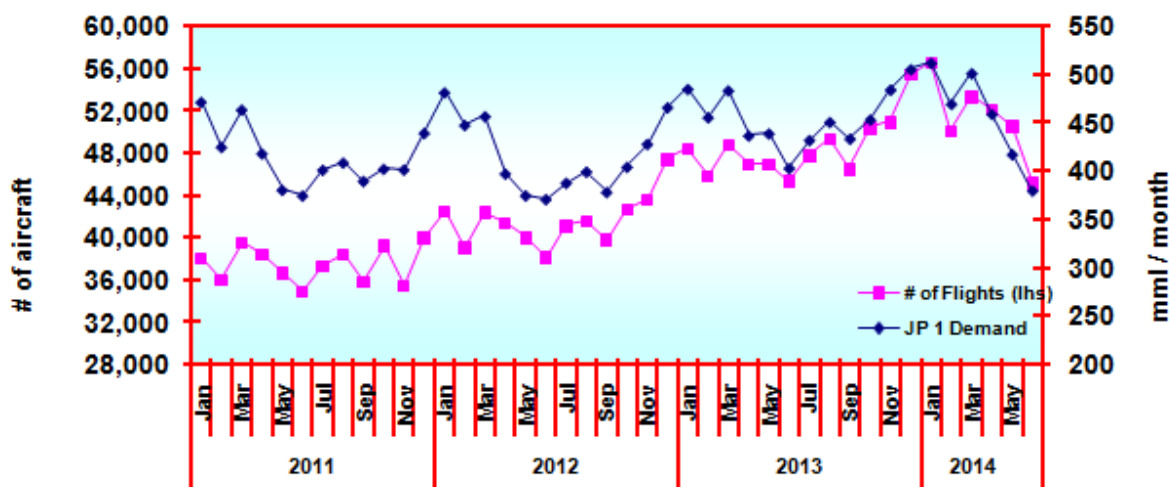


# Domestic Jet Demand

Thailand JET-A1 Demand



JET-A1 demand and # of flights



## JET Demand Highlight

- **In Q2-14 Jet consumption declined by 2.0% YoY.**  
This was due to lower international aircraft movement, resulted from foreign tourist declining. Compared to the last year, foreign tourist fell as they concerned over military coup. Nevertheless, jet demand loss was limited by domestic aircraft movement expansion which supported by intense movement in Chiang Mai international airport.

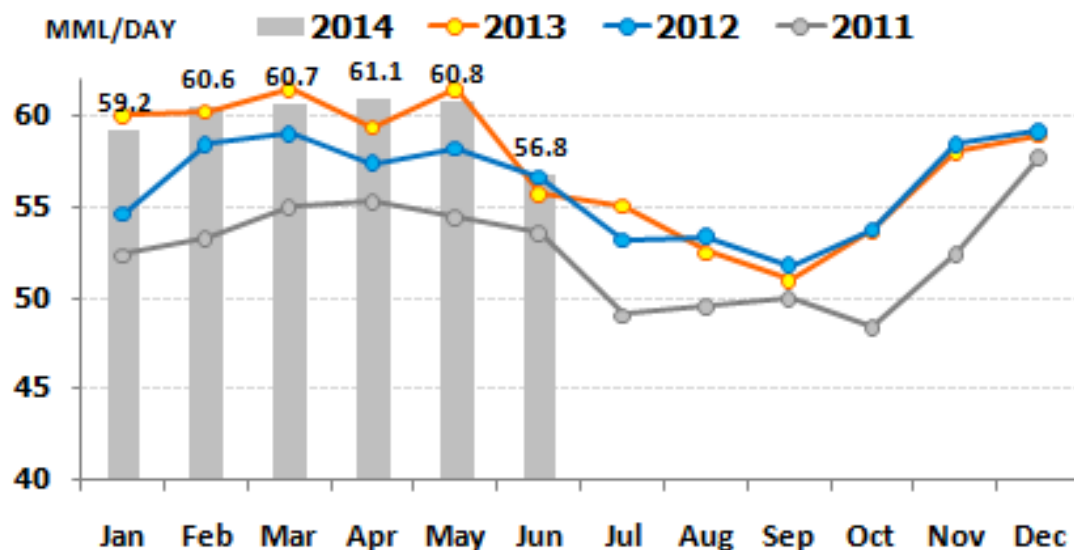
## Outlook for 2014

- Jet demand growth is expected to be only 2.6 YoY owing to high base effect of last year and concerns on political risk.

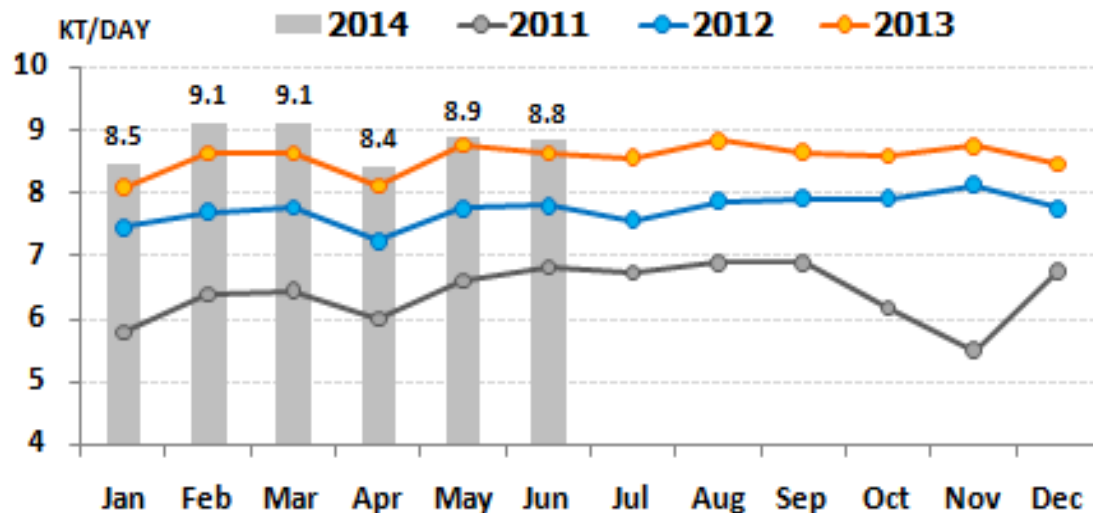


# Domestic Gasoil Demand

Thailand Gasoil Demand



NGV Demand



## Diesel Demand Highlight

- Diesel demand in Q2-14 rose by 1.2% YoY supported by new registered car, leading to higher usage in transportation sector. Nonetheless, upside was limited by lower usage in Industrial and electrical sectors which were dampened by economic slowdown.

## Outlook for 2014

- Diesel demand in 2014 is expected to expand by 1% YoY supported by capped retail price at 30B/litre policy but upside is limited by the expectation of weak economy growth.

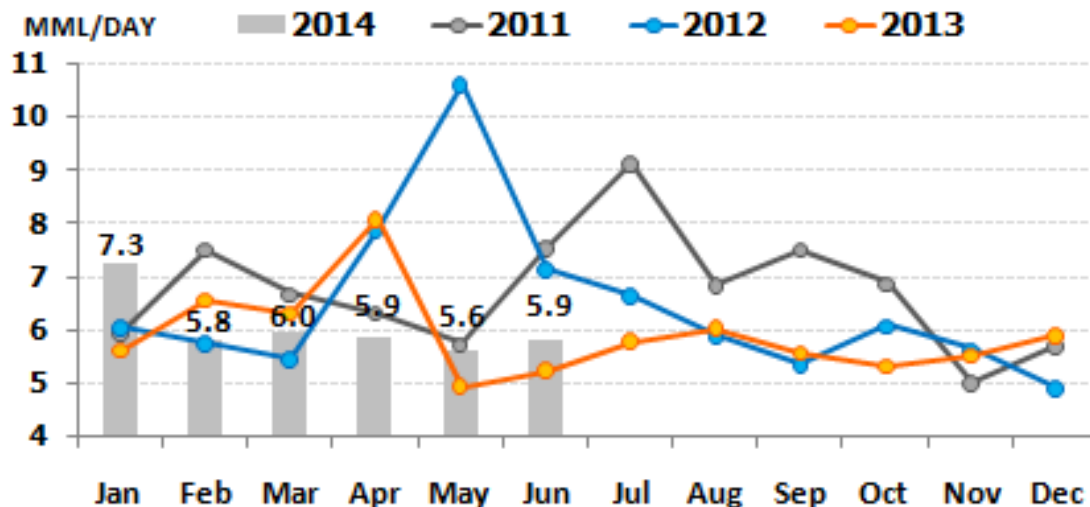
## NGV Demand Highlight

- NGV consumption in Q2-14 increased 2.5% YoY to 8.7 KT/day thanks to switching on fuel engines of trucks and public vehicles from Diesel to NGV and price attractiveness over other fuels.

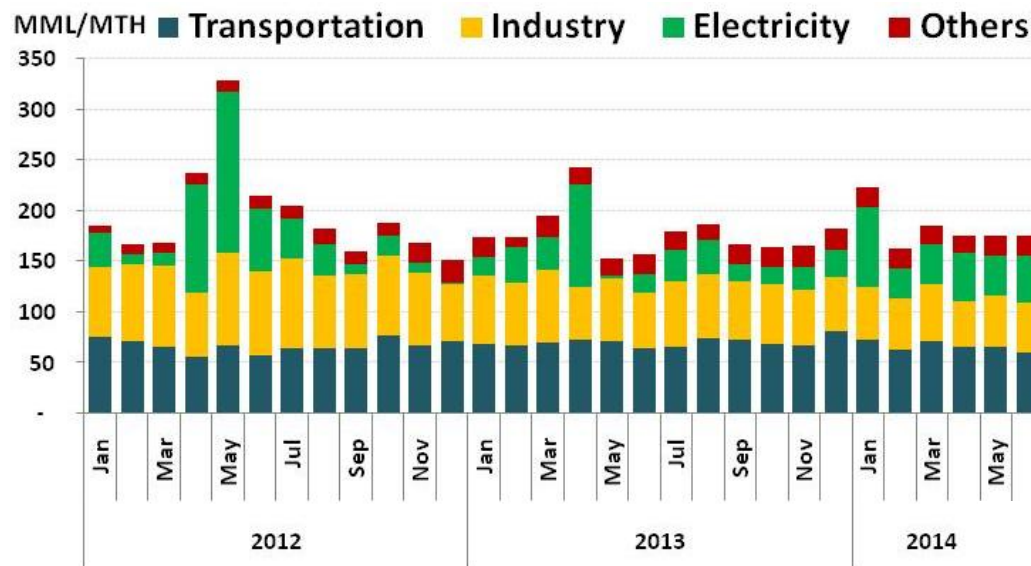


# Domestic Fuel Oil Demand

Thailand Fuel Oil Demand



Thailand Fuel Oil Demand by Sector



## FUEL OIL Demand Highlight

- Fuel Oil demand in Q2-14 declined by 5.0% YoY due to declining usage in transportation and Industrial sector, impacted by economic slowdown. However, usage in electrical sector increased because of building stock during shutdown of gas platform.

## Outlook for 2014

- Fuel oil demand is expected to dropped by 17.8% YoY as the expectation of lower demand as government campaign to reduce fuel oil usage in electricity sector following PDP plan.