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In Collaboration with RobecoSAM



**ROBECOSAM**  
Sustainability Award  
Gold Class 2014



# Thai Oil Public Company Limited Presentation to Investors Opportunity Day

5 March 2014



## Disclaimer

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## Corporate Vision, Mission and Values

<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>	<p><b>Professionalism</b> Ownership &amp; Commitment Social Responsibility</p> <p></p> <p><b>Excellent Striving</b> Vision Focus Initiative Integrity Teamwork &amp; Collaboration</p>

## Corporate Governance Policy

### 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:



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CG  
Manual

<http://www.thaioilgroup.com>



## Agenda

**AWARDS & RECOGNITIONS**

**Q4 & FY/2013 BUSINESS HIGHLIGHTS**

**PERFORMANCE ANALYSIS**

**MARKET OUTLOOK**

**TOP WAY FORWARD**

The background features a teal gradient at the top, transitioning into a white area. Overlaid on this are several wavy, ribbon-like shapes in shades of pink and magenta. One prominent shape is a thick, solid magenta band that curves from the top right towards the bottom right. Other shapes are thinner and semi-transparent, some containing a fine grid pattern. The overall aesthetic is modern and dynamic.

# **Awards & Recognitions**

## Awards & Recognitions



**Thailand TOP Awards 2014**  
• TOP Management Award by Business+ Magazine



**SET Awards 2013**  
• Best Social Responsibility Award  
• Top Corporate Governance Report Award



**Best of Asia Recognition Awards 2013**  
• Asia's Outstanding Company on CG



**Asian Company Secretary of the Year 2013**



**Asian Excellence Recognition Awards 2013**

- Best Investor Relations & Best CSR

**DJI**  
• Member of DJSI Emerging Market 2013  
• Gold Class Sustainability Award 2014



**Alpha Southeast Asia 2013**  
• The Strongest Commitment to Sustainable Energy in SEA  
• The Strongest Adherence to Corporate Governance  
• The Best Strategic CSR



**Sustainability Report Award 2013**  
• Best Sustainability Report under the category of Environmental, Social and Governance (ESG)



**Thai Energy Awards 2013**  
• Outstanding Renewable Power Award under the category of Non-Grid Connect renewable Electricity Generation Project (Off-Grid)



**Annual Platts Top 250 Asia Awards 2013**  
Global Energy Company Rankings  
• Rank 38<sup>th</sup> in Asia  
• Rank 136<sup>th</sup> in the world



**IR Magazine Awards – South East Asia 2013**  
• Winner of BEST IN ENERGY SECTOR  
• Finalist in GRAND PRIX FOR BEST OVERALL INVESTOR RELATIONS (Small or Mid-Cap) (in SEA)  
• Finalist in BEST INVESTOR RELATIONS BY A THAI COMPANY



**CSRI Recognition 2013**  
• Best Social Responsibility Award (CSR Awards)

## Thaioil Group Sustainable Development



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



# 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>

### 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

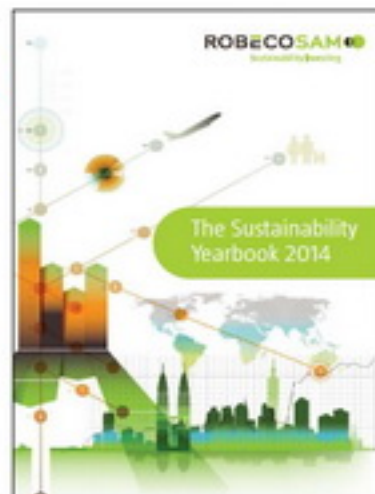
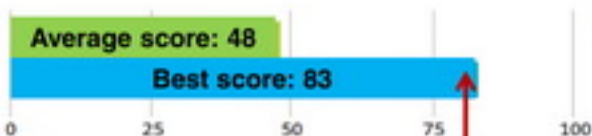
## Industry statistics

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



The background features a series of overlapping, wavy lines in shades of teal and pink. The lines are composed of many thin, parallel strokes, creating a sense of motion and depth. The teal lines are more prominent in the upper half, while the pink lines are more prominent in the lower half. The overall effect is a dynamic, modern aesthetic.

# **Business Highlights**

## 2013 : Business Highlights

### Economic / Industry Highlights

- **Global economy slowdown** yet US/ EU/ China econ data showed improved sign by the year-end
- **Uncertainties in Middle East and North Africa**
- **Weaker Rupiah in Q4** led to falling Indonesian import petroleum products demand
- **Delay of new PX supplies** whereas **growing BZ arbitrage demand to West** due to shale gas impact
- **Oversupply of Lube pressured its price vs. weaker bitumen demand** in China & Indonesia

➤ **Sluggish oil demand growth in AP**

➤ **Crude supply disruption supporting its price resulted in Stock Gain**

➤ **Softer GRM tracking along SIN GRM**

➤ **Improved Aromatics margins**

➤ **Maintained Lube margins**



### Financial Highlights

- **BOI privilege on tax exemption** of emission & fuel efficiency projects ~640 MB
- **Depreciation of THB against USD** ~2.2 THB/USD causing **FX loss** at ~3,111 MB (mainly unrealized loss)
- **Additional gain from commodities hedging** ~1,292 MB and **gain on CCS** ~230 MB
- **Successfully launched USD 1,000 bn bond**, 10/30 years, at a coupon rate of 3.625% p.a. / 4.875% p.a.
- **Affirmed credit ratings** : **Fitch**: AA-(tha), **S&P**: BBB, **Moody's**: Baa1

### Business Highlights

#### Safety / Reliability / Flexibility / Efficiency

- **TOP: 102% utilization rate, capture domestic sales 85%**,
- **TPX/ TLB: Optimized run at 89% / 102%**
- **GPSC**: increased capital and issued RO shares
- **TM**: acquired 2 Aframaxs and 3 Crew boats
- **TET: SAPHIP/MCE** efficiently operate due to rising gasohol demand after ULG 91 phase out, **UBE COD** in Jan 13

#### New Set Up Companies

LABIX (TPX 75:Mitsui 25)	11 Jun 13	Produce & distribute LAB which is an intermediate feedstock to produce surfactant
TOP Nautical Star (TM 50: Nathalin 50)	2 Aug 13	Buy vessels for crude, feedstock & petroleum product storage and transportation services
TOP SPP	26 Dec 13	Operate 2 SPPs (239 MW)

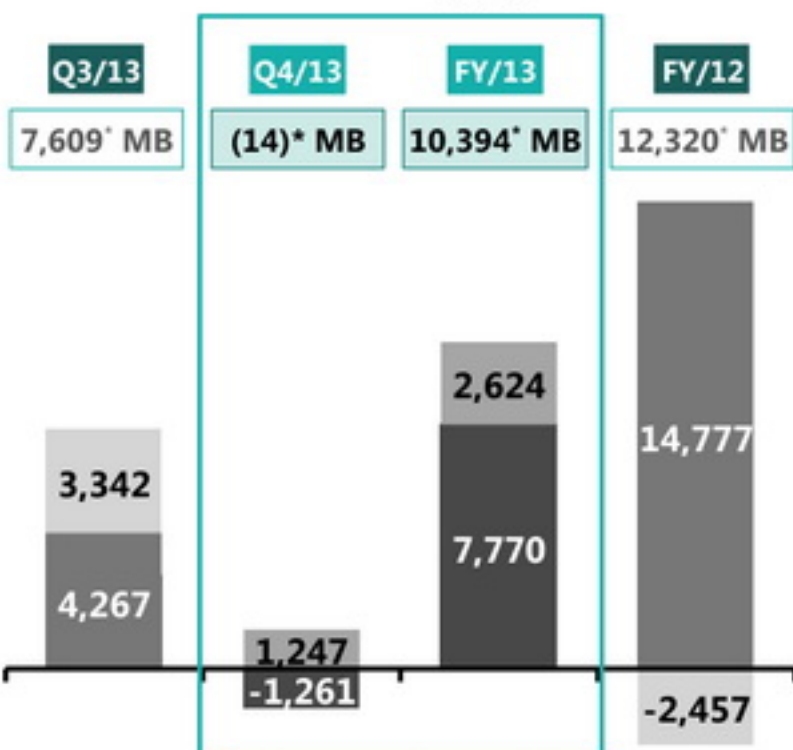


## 2013: Unrealized FX Loss Caused Softer Net Profit

### Top Group Net Profit

Unit : million THB

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



### Gross Refining Margin - GRM

\$/bbl	Q3/13	Q4/13	FY/13	FY/12
Marketing GRM	5.0	1.9	4.3	5.3
Stock Gain/(Loss)	4.0	1.5	0.8	(0.8)
Accounting GRM	9.0	3.4	5.1	4.5
Cracking SIN GRM**	5.4	4.2	6.1	7.5
Adj Cracking SG GRM **	2.2	1.0	3.0	4.2

### Gross Integrated Margin - GIM

\$/bbl	Q3/13	Q4/13	FY/13	FY/12
Aromatics	1.9	2.1	1.8	1.7
Lube base	1.2	1.0	0.9	0.9
<b>Marketing GIM</b>	<b>7.9</b>	<b>4.9</b>	<b>6.8</b>	<b>7.6</b>
<b>Accounting GIM</b>	<b>11.7</b>	<b>6.4</b>	<b>7.6</b>	<b>6.9</b>

\*redeemed BOI privilege for tax exemption on environmental projects in Q3/13 = 1,021 MB, Q4/13 = (382) MB, FY/13 = 640 MB and FY/12 = 1,171 MB

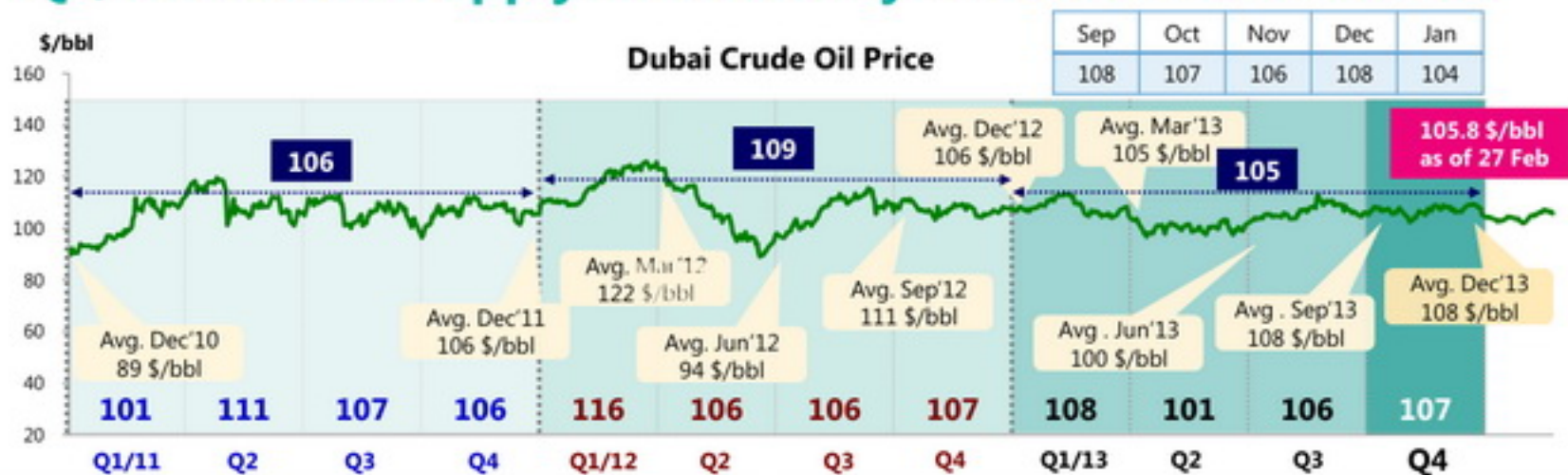
\*\* Cracking SIN GRM from Reuters based on product yield of LPG 3%, MOGAS 31%, Naphtha 7%, Jet 18%, GO 16%, FO 22%. Adj Cracking SG GRM assuming 3% F&L of Dubai crude cost



The background features several overlapping, wavy bands of teal and light blue. These bands are composed of many thin, parallel lines that create a sense of depth and movement. The overall aesthetic is clean, modern, and professional.

# **Performance Analysis**

## Q4/13: Lack of Supply...Incessantly Increase in Crude Price



### Expected Oil Production Increase



- **OPEC keep oil production at 30 MMBD**
- **Higher Non-OPEC supply growth:** speculate by fast-rising production from US tight oil
- **Highest U.S. oil production :** EIA expect U.S. oil production increase from 8 MMBD to 8.5 MMBD

### Concern over stimulus package



- **Uncertainty of QE tapering:** FED decided to taper its QE policy by \$10 billion per month and wind down steadily through 2014

### Supportive US Economic and Demand Growth



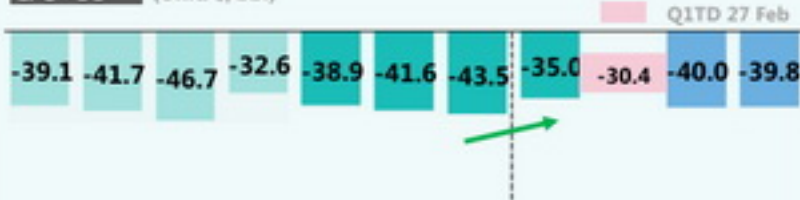
- **US Crude Stock dropped sharply:** after refinery in the U.S. came back from maintenance
- **Supportive U.S. economic data:** Unemployment rate low of 7%. Improve in econ data of Manufacturing, labor market and housing market

### Supply Disruption in Middle East & North Africa

- **Oil Sanction in Iran:** Iranian oil exports are still below 1 MBD
- **Violence in South Sudan:** oil production has fallen to 200 KBD
- **Ongoing supply disruption in Libya:** due to protest of militia and east state, major oil ports still be closed
- **Heavy snow in Egypt:** a snow fall for the first time in 112 years. Limiting export supplies from the oil as they need to stockpile inventories for domestic heating usage.

## Q4/13: Fallen Gasoline Spread...Weaker GRM

LPG - DB (Unit: \$/bbl)



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

ULG95 - DB

- Falling demand in Indonesia as Rupiah depreciation preventing import activity
- Peak global refinery run in Q4
- Weak demand in Europe



JET - DB

- + Improved travelling demand in holiday season
- + Stockpiled product for winter season
- + Heating fuel demand for kerosene



Diesel - DB

- + High demand in the region for traveling season
- + Heating demand from Europe and North Asia
- + Less than expected Chinese export due to an explosion incident in Qingdao

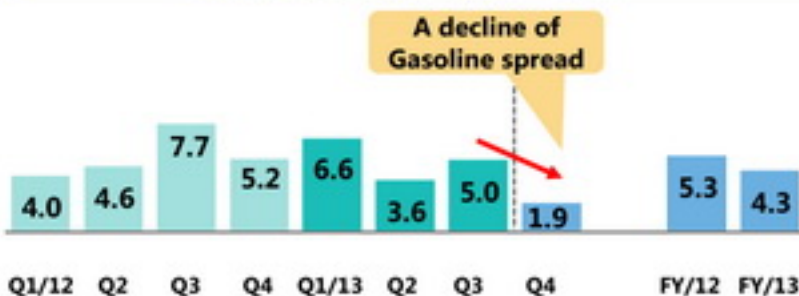


HSFO - DB



- + North Asian winter demand for power generation
- + Lower export from the ME during winter season
- + Lower arbitrage due to depressed EU refinery margin

### Gross Refining Margin - GRM

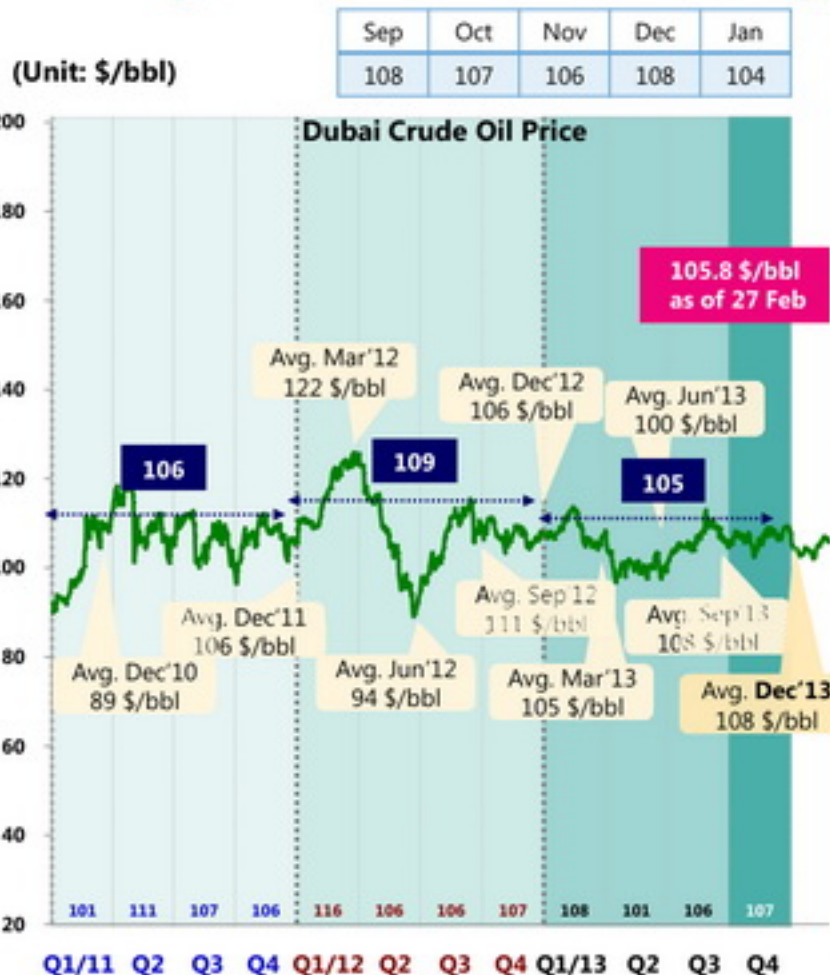


Q1/12 Q2 Q3 Q4 Q1/13 Q2 Q3 Q4 FY/12 FY/13

Q1/12 Q2 Q3 Q4 Q1/13 Q2 Q3 Q4 FY/12 FY/13



## Rising Crude Price...Resulting in Inventory Gain



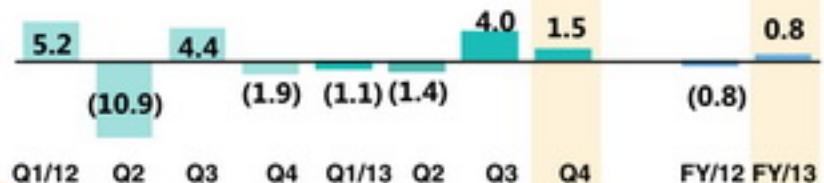
### Marketing Gross Refining Margin – Marketing GRM

(Unit: \$/bbl)



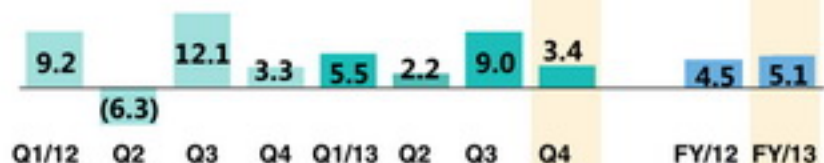
### Stock Gain/ (Loss)

(Unit: \$/bbl)



### Accounting Gross Refining Margin – Accounting GRM

(Unit: \$/bbl)





# Optimized & Flexible Operations...Superior Performance

Crude Assays based on  
TOP configuration



Sources of  
Crude

Product Spread over  
output Dubai (US\$/bbl)



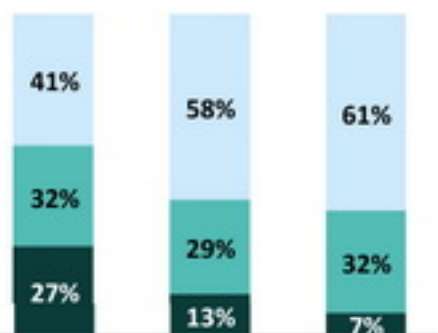
Domestic demand for  
petroleum products\*

% S = 1.54  
API = 31.2

% S = 2.13  
API = 30.4

% S = 0.79  
API = 39.7

■ Short Residue ■ Waxy ■ Gas/Distillates



Oman

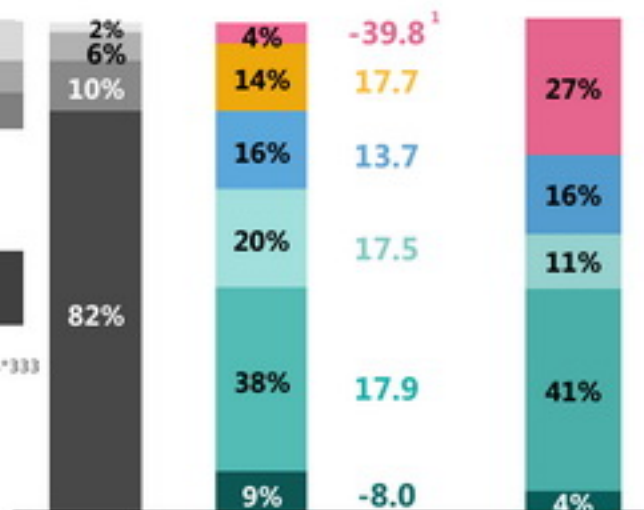
Dubai

Murban

Others  
Far East  
Local

Middle  
East

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



FY/13

FY/13

LPG

PLATFORMATE

GASOLINE

JET

DIESEL

FUEL OIL

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

# Healthy Local Demand...High Domestic Sales

## Domestic Oil Demand / Domestic Refinery Intake

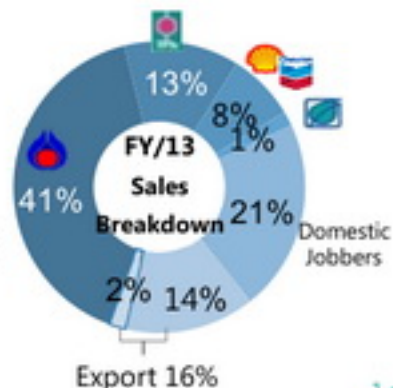
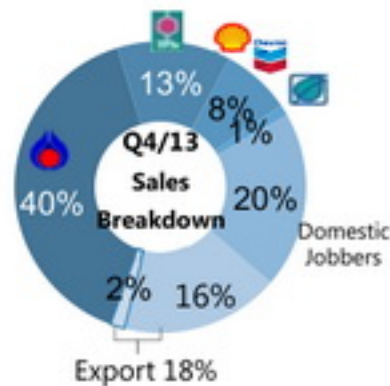
\*including TOP intake (Excluding TOP = 67%)

KBD

Utilization = 102%

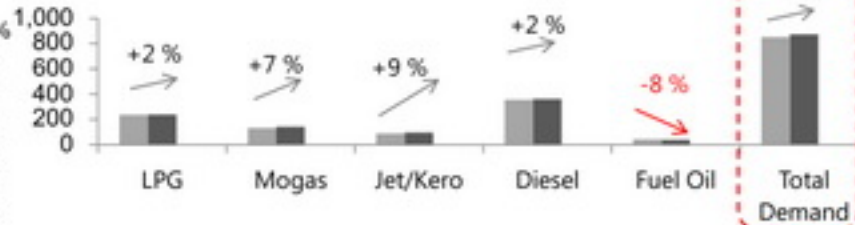


Domestic Demand/Sales including LPG from refinery only   Net Export   Others   Utilization Rate



## Domestic Oil Demand

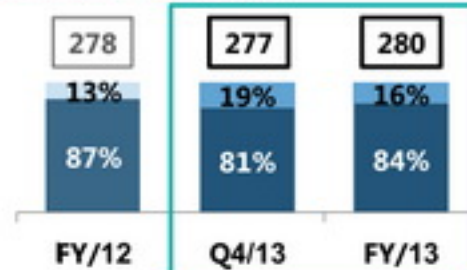
KBD   2012   2013



## TOP's Domestic & Export Sales

Refinery Intake (KBD)

Export   Domestic



## 2013 Market shares for refined petroleum product<sup>1</sup>



32% market shares

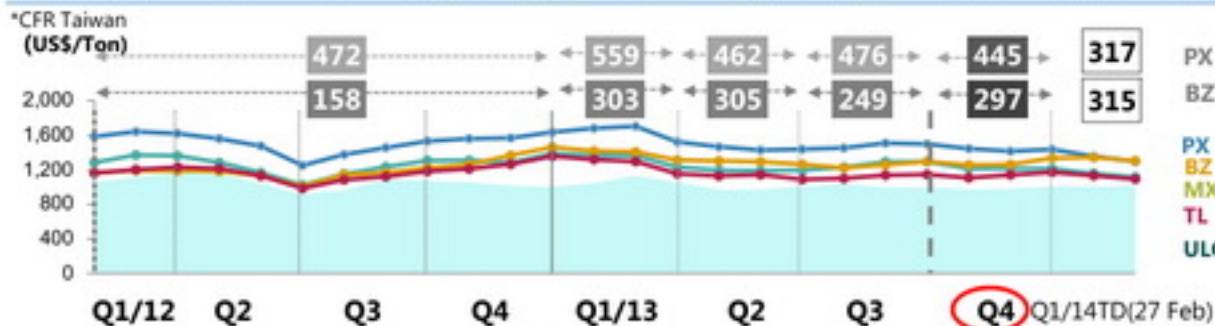


<sup>1</sup> calculate by total sales of refined petroleum products of Thai Oil in 2013 divided by total sales of petroleum products in Thailand in 2013 excl LPG. Source from EPPO

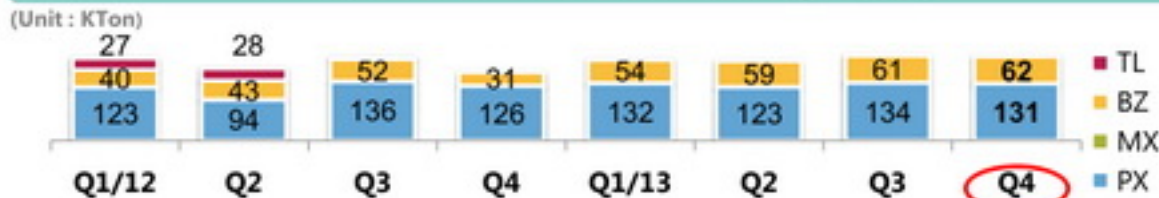
## Q4/13: Distinctive BZ spread...Thriving Margins

### Aromatics Spot Prices and Margins

(US\$/Ton)	Q1/12	Q2	Q3	Q4	2012	Q1/13	Q2	Q3	Q4	2013
PX*-ULG95	507	394	414	560	472	559	462	476	445	486
BZ-ULG95	72	84	139	336	158	303	305	249	297	289



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



(US\$/Ton)	Q1/12	Q2	Q3	Q4	2012	Q1/13	Q2	Q3	Q4	2013
P2F -\$/ton	138	125	98	139	126	155	127	142	165	147
P2F -\$/bbl	18.1	16.3	12.8	18.2	16.4	20.3	16.5	18.6	21.6	19.2

### Aromatics Production

Q4/13	FY/13	FY/12
94%	89%	85%

### Paraxylene (PX)

- **Several PTA producers cut their productions:** Due to PTA spread below 100 US\$/Ton as a result of soften demand

- **Increasing supply:** Resumption of TPPI aromatics plant in Indonesia (PX 550 KTA)

+ **Stronger demand from new PTA plants in China:** total capacity of 6,300 KTA

+ **Lower feedstock price** following ULG 95 price

### Benzene (BZ)

+ **Tight Supply:** Unplanned shutdown of EU&US refinery (800 KTA), aromatics plants in China and Korea (1,000 KTA)

+ **Well-remained SM demand:** for festive season in Christmas & New Year



## Q4/13: Mild Products Spread...Slightly Softer Margins

### Base Oil & Bitumen Spot Prices & Margins

(US\$/Ton)	Q1/12	Q2	Q3	Q4	2012	Q1/13	Q2	Q3	Q4	2013
500SN-HSFO	500	621	497	460	519	419	494	519	509	485
BITUMEN-HSFO	-99	-32	-41	15	-39	-19	-7	-3	-27	-14

### Base oil Production

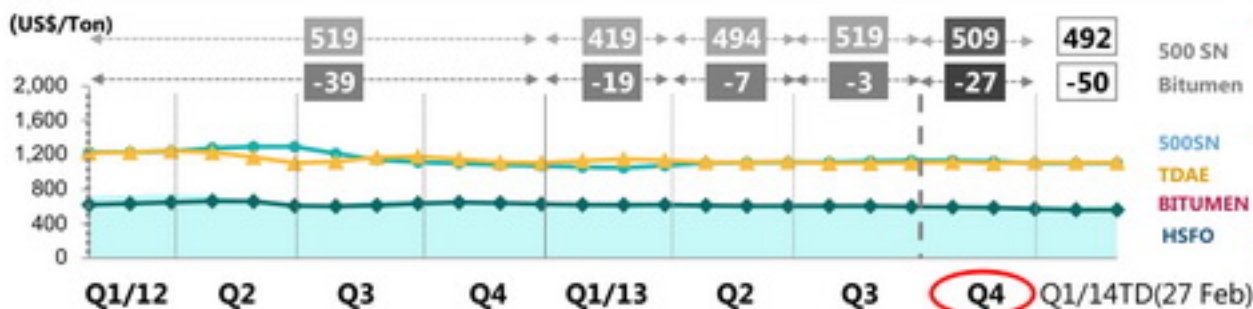
Q4/13	2013	2012
95%	102%	96%

### Lube Base Oil

- **Soften Demand:** season-ended engine lubricant replacement & buyers keep stocks in low level

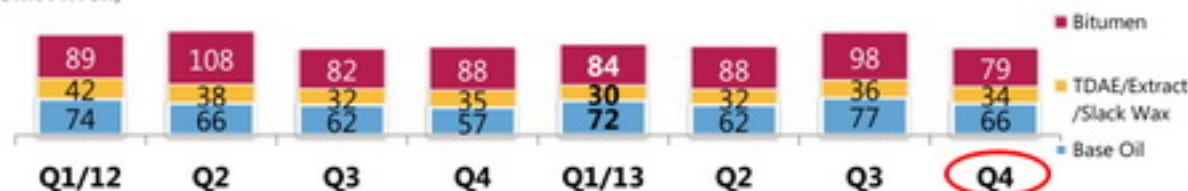
- **Ample supply:** from new plant in China & plant's resumption in Taiwan

+ **Lower feedstock cost** following HSFO price



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

(Unit : KTon)



### Bitumen

- **Slow demand from Indonesia** as projects were finished

- **Lower imports from China** as high inventories

- **Monsoon season in Vietnam** prevented road work

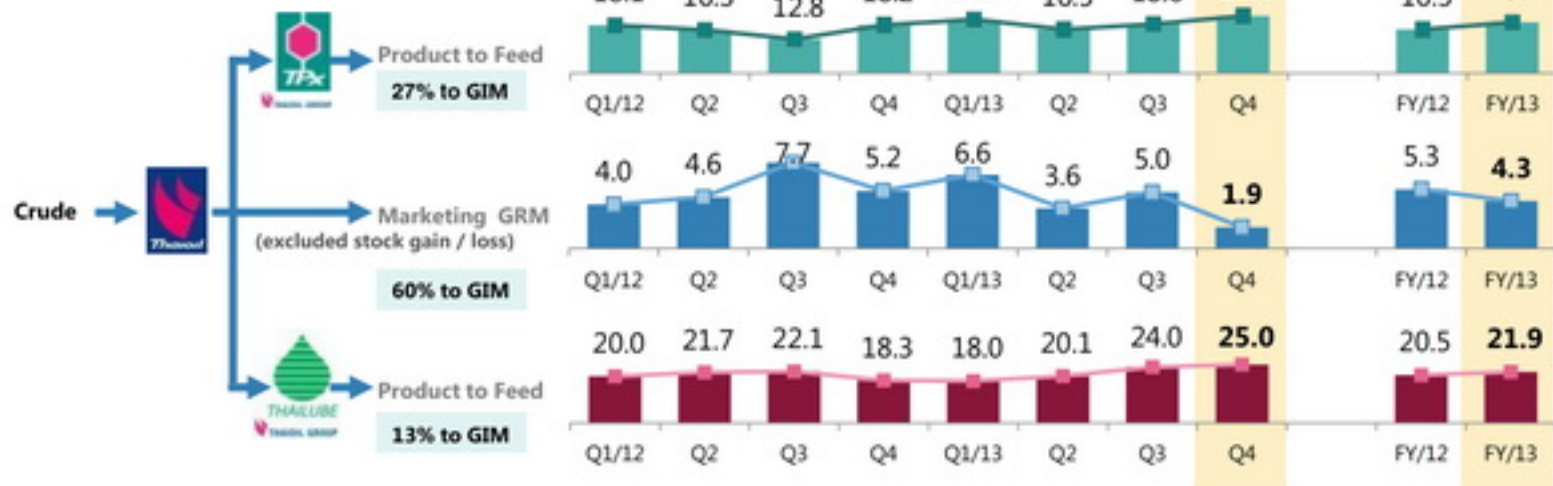
+ **Supporting Australian demand** during their peak paving season

(US\$/Ton)	Q1/12	Q2	Q3	Q4	2012	Q1/13	Q2	Q3	Q4	2013
P2F -\$/ton	132	143	145	120	135	118	132	158	165	144
P2F -\$/bbl	20.0	21.7	22.1	18.3	20.5	18.0	20.1	24.0	25.0	21.9



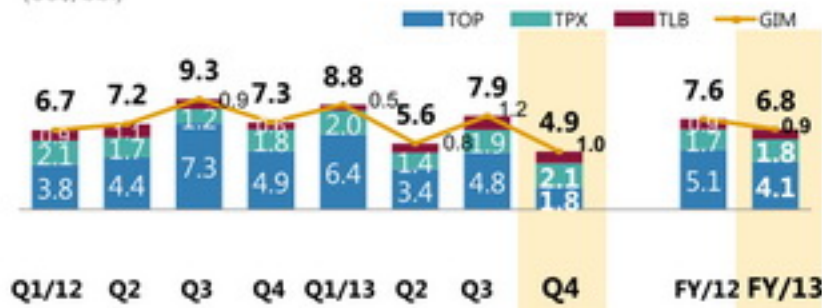
# Beauty of Integration...Sustainable GIM

(US\$/bbl)



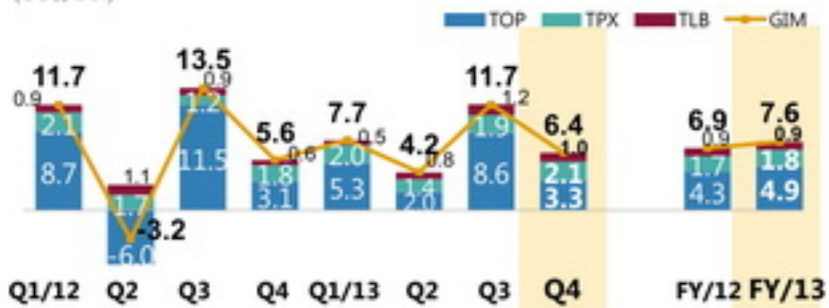
## Marketing GIM

(US\$/bbl)



## Accounting GIM

(US\$/bbl)



## Q4/13: Performance Breakdown



- TM: Higher utilization after maintenance, sold 1 Vessel (TH 12) in Dec.13 resulting in the realization of loss from asset disposal 107 MB
- TET: SAPTHIP and MCE improved ethanol production along continual growth in domestic gasohol demand

Stock G/(L) 4Q/13*	= 1,247 MB
Net Profit excl. stock G/(L)*	= (1,261) MB

\*before tax

### Q4/13 Net Profit Breakdown (include stock gain / loss)

(Unit: million THB)	Refinery	Aromatic	Lube Base	GPSC	TP	TOP	Thaioil	Thaioil	Conso.
NP	(2,168)	1,359	493	102	60	71	(35)	67	(14)
ΔYoY	2,700 ▼	468 ▲	262 ▲	N/A	5 ▲	15 ▼	46 ▼	85 ▲	1,939 ▼
ΔQoQ	7,674 ▼	297 ▲	173 ▼	12 ▼	11 ▼	6 ▼	96 ▼	58 ▲	7,623 ▼

\*\* 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

## 2013: Performance Breakdown



	Acc GRM (\$/bbl)	P2F (\$/ton)	P2F (\$/ton)
FY/12	4.5	126	135
FY/13	5.1	147	144

- TM: Sold 1 vessel (TH 12) in Dec.13 resulting in the realization of loss from asset disposal 107 MB and acquired 2 new Aframaxs to extend FSO business via new established company; TOP Nautical Star Co., Ltd.
- TET: SAPTHIP and MCE improved ethanol production along continual growth in domestic gasohol demand

Stock G/(L) FY/13*	= 2,624 MB
Net Profit excl. stock G/(L)*	= 7,770 MB

## FY/13 Net Profit Breakdown (include stock gain / loss)

\*before tax

(Unit: million THB)	Refinery	Aromatic	Lube Base	GPSC**	TP***	TOP	Thacoil	Thacoil	Conso.
NP 2013	3,012	4,004	1,668	351	265	232	118	114	10,394
NP 2012	6,359	3,262	1,744	N/A	208	333	173	(162)	12,320
ΔYoY	3,347 ▼	742 ▲	76 ▼	N/A	57 ▲	101 ▼	55 ▼	276 ▲	1,926 ▼

\*\* 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. FY2012 NP,TP takes 55% equity in Jan-Nov and 74% in Dec.



## Consolidated Financial Performance

(US\$/bbl)	<u>Q4/13</u>	<u>Q3/13</u>	<u>Q4/12</u>	<u>QoQ+ / (-)</u>	<u>FY/13</u>	<u>FY/12</u>	<u>YoY+ / (-)</u>
Marketing GRM	1.9	5.0	5.2	(3.1)	4.3	5.3	(1.0)
Marketing GIM	4.9	7.9	7.3	(3.0)	6.8	7.6	(0.8)
Accounting GIM	6.4	11.7	5.6	(5.3)	7.6	6.9	0.7
(million THB)							
Sales Revenue	107,952	108,500	111,755	(548)	414,599	447,432	(32,833)
<b>EBITDA</b>	<b>4,257</b>	<b>10,453</b>	<b>4,413</b>	<b>(6,196)</b>	<b>22,361</b>	<b>20,350</b>	<b>2,011</b>
Financial Charges	(968)	(965)	(592)	(3)	(3,786)	(2,343)	(1,443)
FX G/(L) & CCS	(1,815)	(249)	420	(1,566)	(3,111)	1,987	(5,098)
Tax Expense*	(217)	(555)	(736)	338	(1,158)	(1,789)	631
<b>Net Profit / (Loss)</b>	<b>(14)</b>	<b>7,609</b>	<b>1,925</b>	<b>(7,623)</b>	<b>10,394</b>	<b>12,320</b>	<b>(1,926)</b>
EPS (THB/Share)	(0.01)	3.73	0.94	(3.74)	5.09	6.04	(0.95)
THB/US\$ - average	31.83	31.62	30.82	0.21	30.87	31.23	(0.36)
THB/US\$ - ending	32.95	31.53	30.78	1.42	32.95	30.78	2.17
Effective Tax Rate (%)	N/A	7%	28%	N/A	10%	13%	(3%)

\* In 2013, the corporate income tax rate is reduced to 20% from 23%

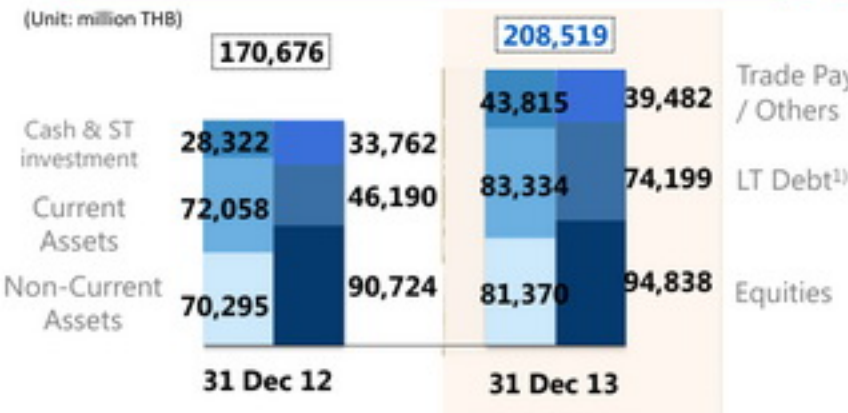
\* redeemed BOI privilege for tax exemption on environmental projects in Q3/13 = 1,021 MB, Q4/13 = (382) MB, FY/13 = 640 MB and FY/12 = 1,171 MB



# Strong Financial Performance

## Statements of Financial Position

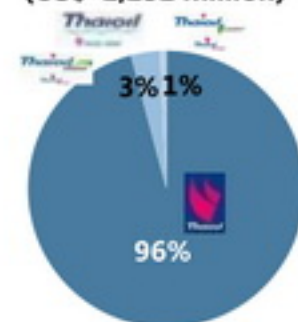
(Unit: million THB)



## Consolidated Long-Term Debt as at 31 Dec 13<sup>1)</sup>

### Total Long-Term Debt

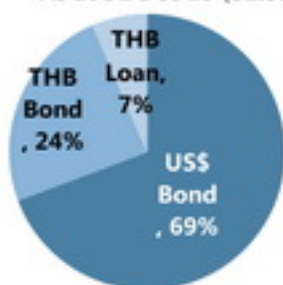
74,199 million THB  
(US\$ 2,252 million)



### Net Debt

31,048 million THB  
(US\$ 942 million)

As at 31 Dec 13 (32.95 THB/US\$)



1) Including current portion of Long-Term Debt

Interest Rate	Currency
6% Float	31% THB
94% Fixed	69% USD

Cost of Debt (Net*)	
TOP Group	3.01%*

## Financial Ratios

Net Debt / EBITDA

Net Debt / Equity

Policy ≤ 2.0x

Policy ≤ 1.0x



**M**  
Moody's Investors Service

Baa1  
Stable Outlook

**STANDARD & POOR'S**

BBB  
Stable Outlook

**FitchRatings**

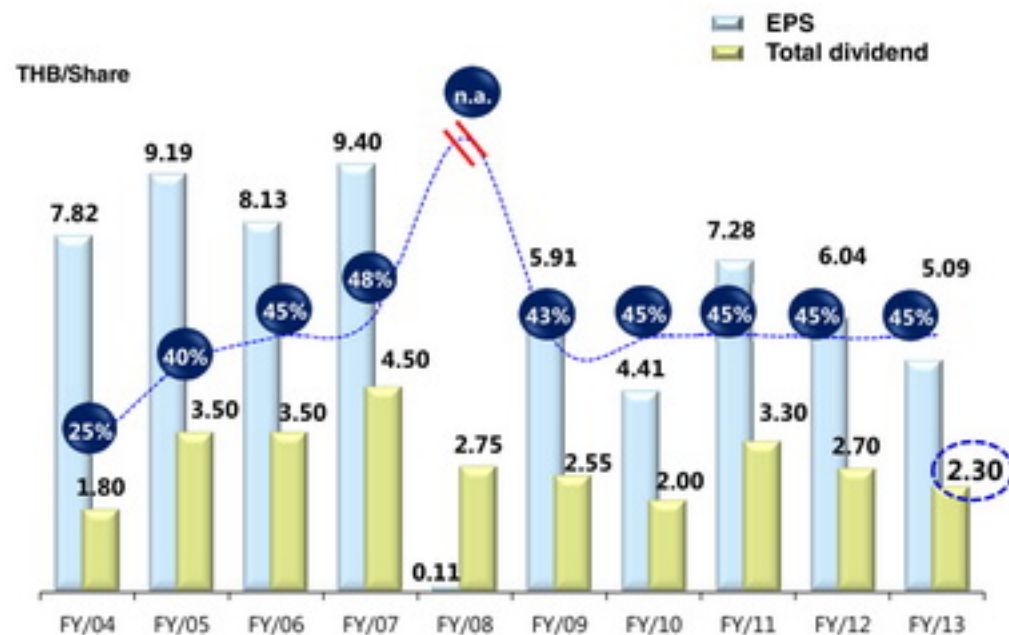
AA-  
Stable Outlook

\* Calculated by interest expense net off interest income as per FS as at 31 Dec 13

# Dividend Payment

## Dividend Policy :

Not less than 25% of consolidated net profit after deducting reserves, subject to cash flow and investment plan



Yield*	4.0%	5.6%	5.6%	6.2%	5.2%	7.1%	4.0%	4.7%	4.2%	3.6%

\* Based on average TOP price in each year

TOP price	44.7	63.0	62.7	72.7	53.3	35.9	49.9	69.8	65.1	64.6

Dividend Payment	THB/Share	Payout
FY/04	1.80	25%
FY/05	3.50	40%
FY/06	3.50	45%
Interim	1.50	
Annual	2.00	
FY/07	4.50	48%
Interim	1.75	
Annual	2.75	
FY/08	2.75	n.a.
Interim	1.75	
Annual	1.00	
FY/09	2.55	43%
Interim	1.05	
Annual	1.50	
FY/10	2.00	45%
Interim	0.60	
Annual	1.40	
FY/11	3.30	45%
Interim	1.30	
Annual	2.00	
FY/12	2.70	45%
Interim	0.50	
Annual	2.20	
FY/13	2.30	45%
Interim	0.80	
Annual	1.50	



## **Q1-2014 and 2014 Market Outlook**

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





## **Macroeconomics & Crude Prices**

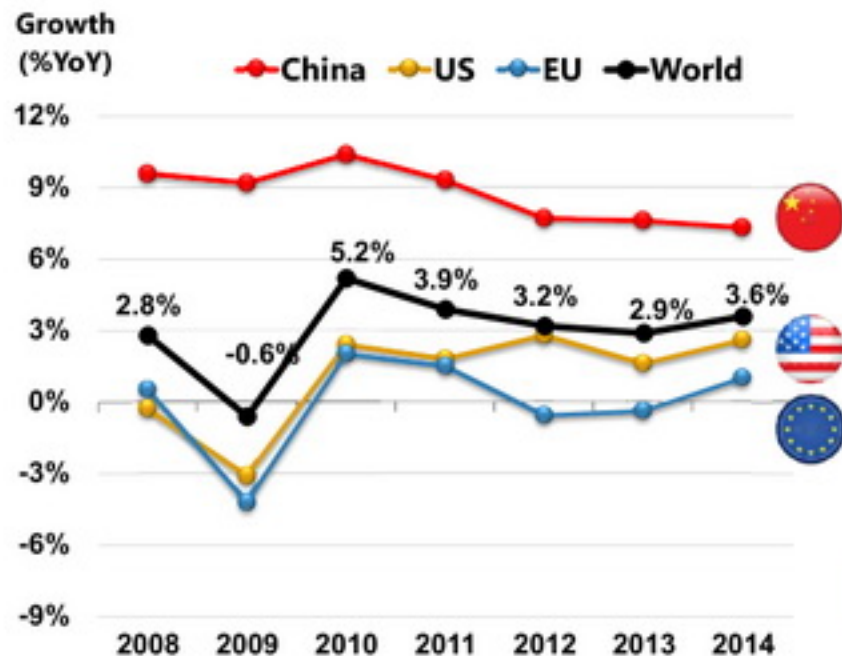
*Resume Supply in Libya , QE Tapering And Deal on Iran Nuclear*

*Pressure Crude Price in Q1-14 But high winter demand limit*

*downside*

## 2014 Global GDP Growth by IMF

Improved world economic growth 2014 driven by advanced countries



	2012	2013*	2014*
USA	2.8%	1.6%	2.6%
EU	-0.6%	-0.4%	1.0%
China	7.7%	7.6%	7.3%
Japan	2.0%	2.0%	1.2%
India	3.2%	3.8%	5.1%
ASEAN-5**	6.2%	5.0%	5.4%
Thailand	5.9%	2.9%	3.0% ***
<b>World</b>	<b>3.2%</b>	<b>2.9%</b>	<b>3.6%</b>

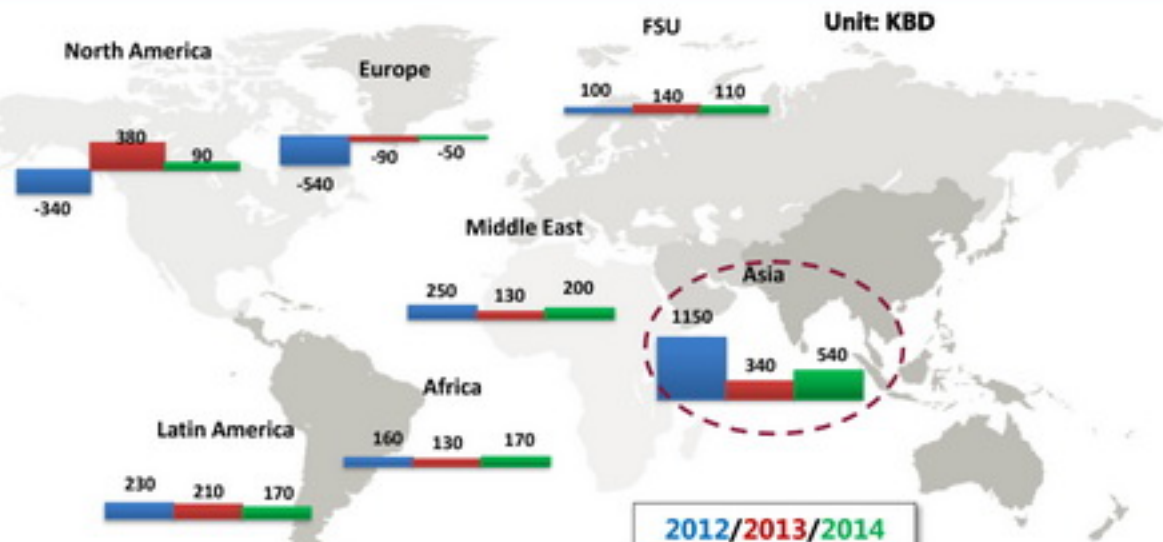
\* IMF World Economic Outlook (WEO) Oct, 2013

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

\*\*\* Bank of Thailand, 22 Jan 2014

## 2014 Global Oil Demand Growth

IEA forecasted 2014 world oil demand increases around 1.25 mbd from stronger GDP



Source: IEA, Oil Market Report, January 2013

IEA	Demand (mbd)	Growth (mbd)
2012	89.98	+1.02
2013	91.22	+1.24
2014	92.47	+1.25

Source: IEA, Oil Market Report January 2014

EIA	Demand (mbd)	Growth (mbd)
2012	89.17	+0.87
2013	90.38	+1.21
2014	91.59	+1.21

Source: EIA, Short Term Energy Outlook January 2014

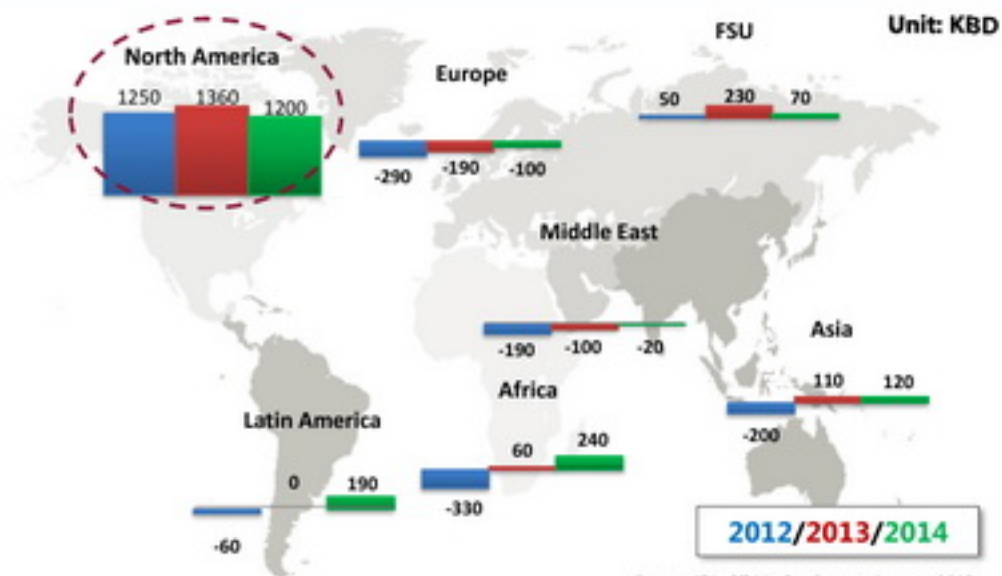
OPEC	Demand (mbd)	Growth (mbd)
2012	88.90	+0.80
2013	89.80	+0.80
2014	90.90	+1.10

Source: OPEC, Oil Market Report January 2014



## 2014 Non-OPEC Supply Growth

IEA forecasted 2014 Non-OPEC oil supply increases around 1.70 mbd mainly from North America



Source: IEA, Oil Market Report, January 2013

IEA	Supply (mbd)	Growth (mbd)
2012	53.37	+0.57
2013	54.73	+1.36
2014	56.43	+1.70

Source: IEA, Oil Market Report January 2014

EIA	Supply (mbd)	Growth (mbd)
2012	52.67	+0.61
2013	54.13	+1.49
2014	56.07	+1.94

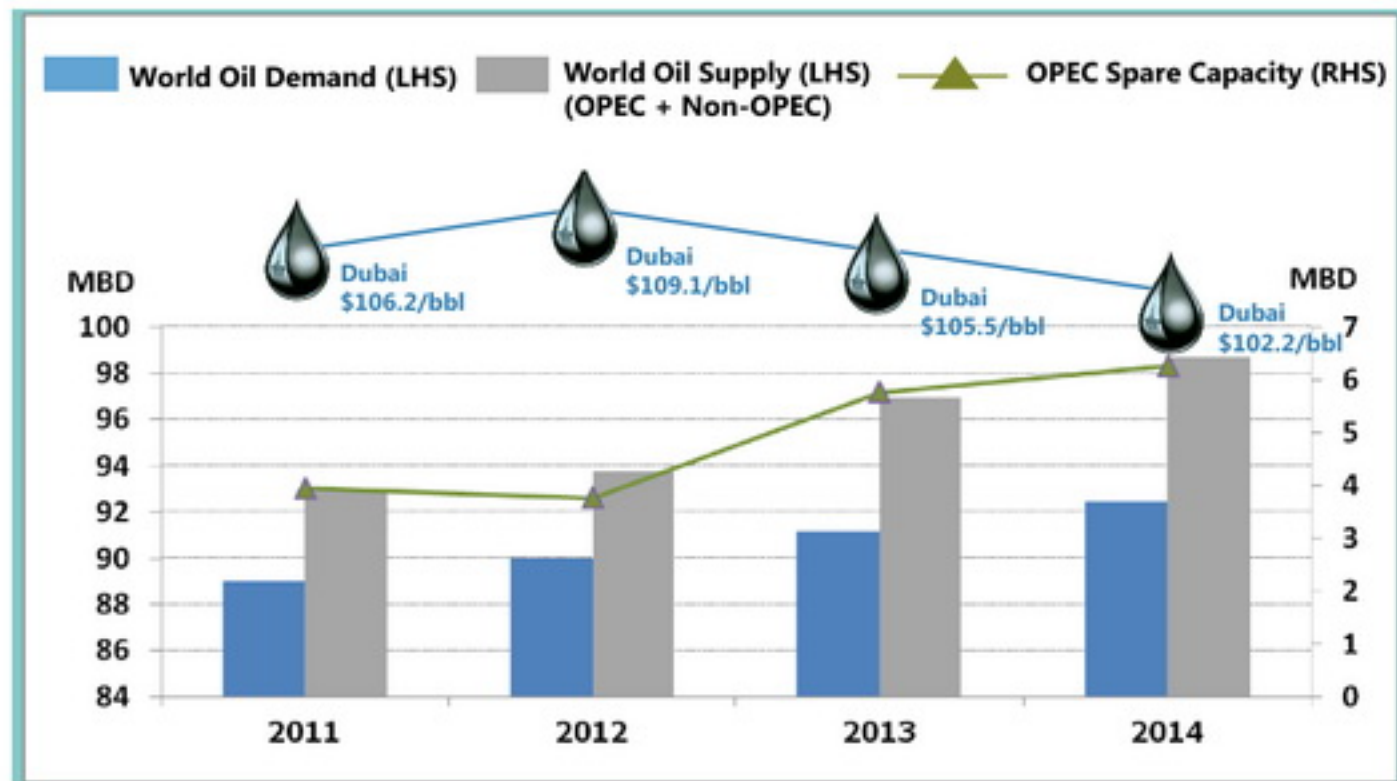
Source: EIA, Short Term Energy Outlook January 2014

OPEC	Supply (mbd)	Growth (mbd)
2012	52.86	+0.55
2013	54.11	+1.25
2014	55.38	+1.27

Source: OPEC, Oil Market Report January 2014

## 2014 World Oil Market Balance & OPEC Spare Capacity

Given supply growth exceeds demand growth, OPEC Spare Capacity rises above 6 MBD in 2014



Source: IEA, Oil Market Report (2011-14)



## **Petroleum Product Market**

*Expect Firm GRM in Q1-14 supported by strong winter demand and refinery closure in Japan*

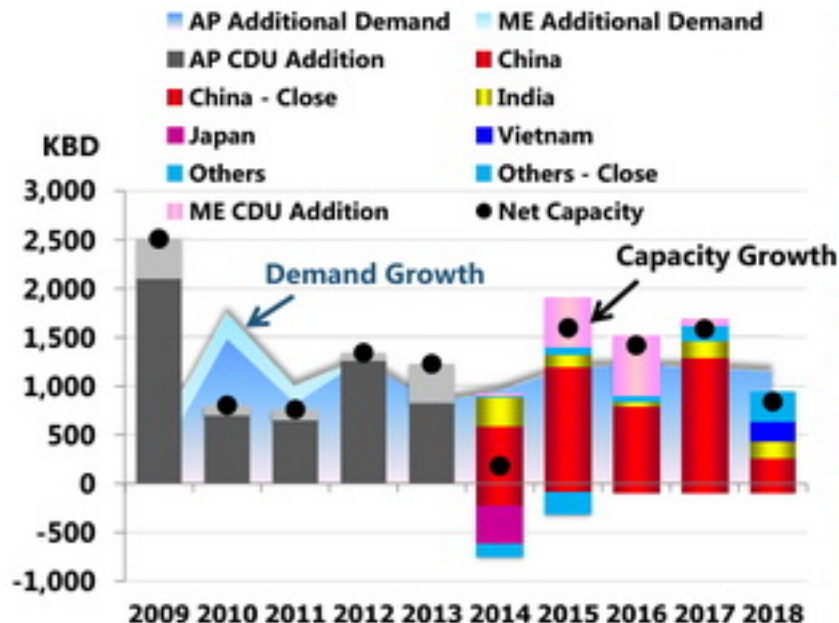
**Keep Watching Chinese Economies & New Supply From Saudi**



## Overview 2014-18 Refinery Status

*“Expect supportive GRM in 2014 due to limited net capacity addition as refinery closure in Japan, Australia & project postponement in China/India”*

### CDU Addition VS Additional Demand – AP & ME



Addition		KBD	Company
China	Q1-14	120	CNPC (Urumqi)
	Q2-14	160	Sinopec (Jiangsu)
	Q4-14	200	CNPC (Yunnan) <i>{Postpone to 2016}</i>
	Q4-14	100	CNPC/SA Anning (Huabei) <i>{Postpone to 2015}</i>
	Q4-14	100	Sinopec Jiujiang (Jiangxi)
	Q4-14	140	CNOOC/Ningbo Daxie (Zhejiang)
China	Q3-15	400	CNPC/PDVSA (Guangdong) <i>{Postpone to 2017}</i>
	Q2-14	300	IOC Paradeep
India			
<b>Closure</b>		<b>KBD</b>	<b>Company</b>
Japan	Q1-14	-377	Tonen/ Idemitsu/ JX Nippon <i>{Regulation}</i>
China	Q2/Q4	-70/-70	Sinopec (Jiangsu) / (Jiangxi) <i>{Gov't policy}</i>
	Q4-14	-100	Local refinery <i>{Gov't policy}</i>
Australia	Q2-14	-125	Caltex (Kurnell) <i>{Environment / Economic}</i>

## Expect Better Middle Distillate Spread in 2014 Supported by...

### 1. Japan to close some refineries



経済産業省  
METI  
Ministry of Economy,  
Trade and Industry

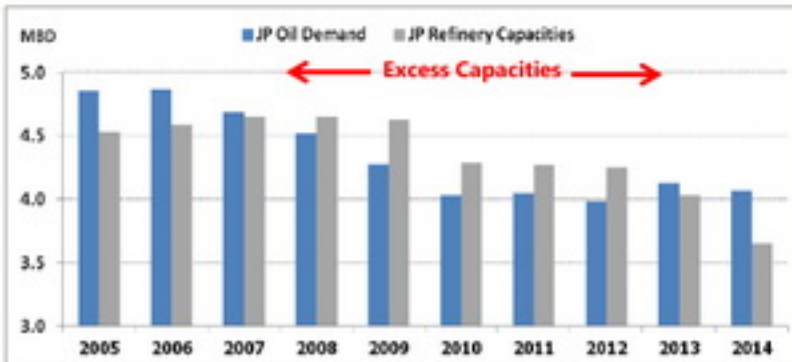


JP imposed regulation requiring ratio of cracking per Crude Distiller at min 13% effective April 1, 2014

Given declining oil demand, refiners choose to close crude distillers (377 KBD in 2014) instead of investing to upgrade

Implication →

"JP to import more FO/Naph,  
export less GO/Jet"



Source : FACTS Fall 2013

### 2. CNPC to postpone refinery project in China



CNPC

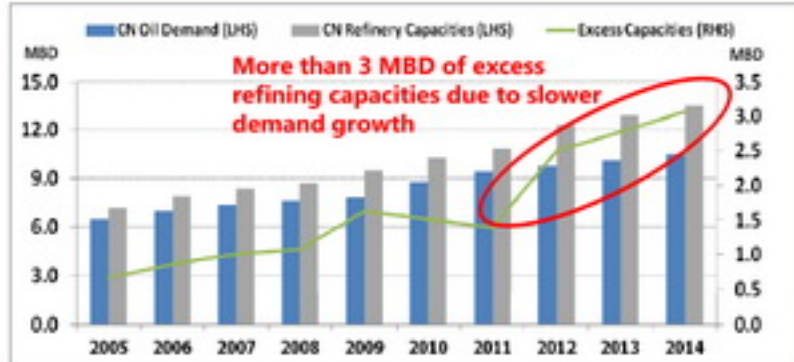
POSTPONED

CN econ grows slower than expected resulting in oversupply of petroleum prod

Jan-14, CNPC postponed refinery projects (total capacity of 700 KBD from 2014-15 to 2016-17)

Implication →

"Limited GO export from China"



Source : FACTS Fall 2013 / IEA Oil Monthly Report

## Firm GRM on Higher Winter Demand & Improving Regional Demand, especially Indonesia...

(\$/bbl)	2013FY	Q4-13	QTD Q1-14*	Q1-14**	2014FY***
ULG95-DB	13.6	9.2	14.3	↑	↓
JET-DB	17.5	17.3	17.7	↑	↑
GO-DB	17.8	17.7	18.0	↑	↑
HSFO-DB	-8.0	-10.4	-8.0	↑	↔
Adj Cracking SG GRM	3.0	1.0	3.3	↑	↔

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

Remark: \*QTD until 27 Feb 14 \*\*Compared to Q4-13 \*\*\*Compared to 2013FY

### Factor to watch for Q1-14...



+ Seasonal high demand during winter esp. in northern US

+ Resume Indonesian import demand

- Closed arbitrage to move cargo west on mild winter in Europe



### Factor to watch for Q2-4-14...



+ Expect less Chinese export as government impose import tax on biodiesel

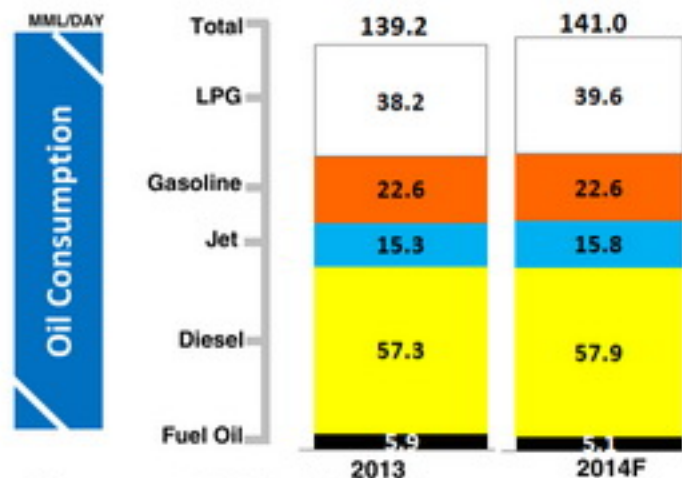
+ Less export from Japan due to refinery closure (regulation effective on Apr 1, 2014)

- Full effect of new supply from Jubail refinery (400 KBD)



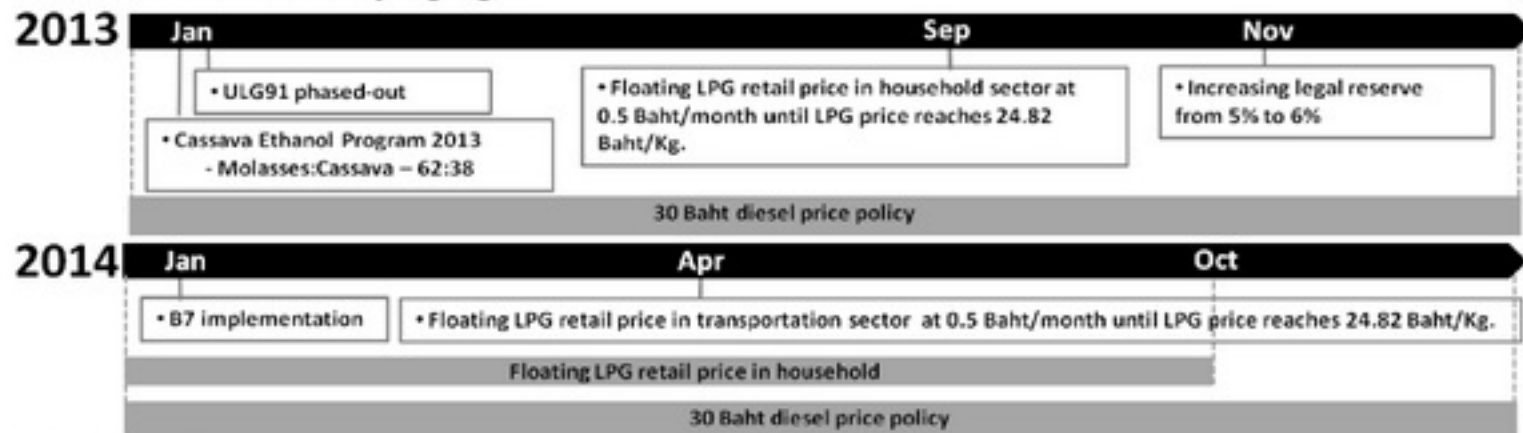


## Thailand Oil Demand 2013 and 2014 Outlook



year on year	2013	2014F
LPG	+2.2%	+3.7%
Gasoline	+6.6%	+0.4%
Jet/Kero	+9.5%	+3.6%
Diesel	+1.9%	+1.0%
Fuel Oil	-8.4%	-13.6%
Total	+3.0%	+1.3%

### Government Policy Highlight





## **Aromatics**

PARAXYLENE ....

*Upcoming of new PX capacity weigh down PX spread*

## Status of New AP/ME PX Capacities



Addition	Plan	KTPA*	Company	Note
China	Feb	650	Petrochina Sichuan Petrochemical	
Singapore	Apr	800	Jurong Aromatics Corp	
Korea	Jun	1,000	Samsung Total 2	
Saudi Arabia	Jul	660	SATORP	Delay from Dec'13
Korea	Jul	1,000	Ulsan Aromatic	
Korea	Aug	1,300	SK Energy	Construction works was delayed as local authorities ordered to halt work because construction area exceeding permits (Source : Reuter)
Algeria	Sep	220	Sonatrach	
Kazakhstan	Sep	469	JSC KazMunaiGas	
India	Sep	920	ONGC Mangalore Petrochemicals	Delay from Mar due to construction and technical issues

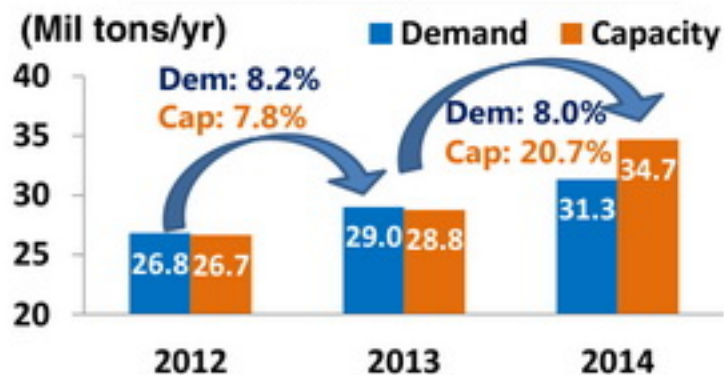
Remark : \* Nameplate capacities

Source: IHS and PCI Xylene&Polyesters



## PX Facing Challenges in Coming Year

### AP PX Capacity\* and Demand



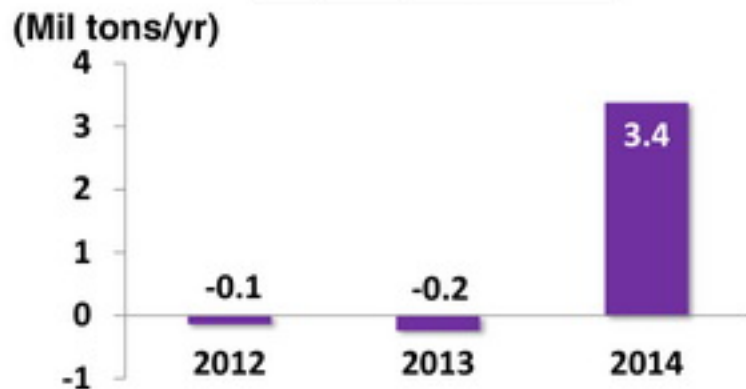
Remark : \* Normalized capacity to start up period

### PX CFR – ULG95

(\$/t)



### Capacity\*-Demand



#### DEMAND

- PX demand in 2014 is projected to grow by 8% (2.2 mil tons/yr), which is similar to the growth rate in year 2013.

#### SUPPLY

- New PX capacity of 5.7 million tons will be added in South Korea, China, India and Singapore.

#### PX CFR-ULG95

- Softer PX spread, but there will not be a major collapse as feedstock availability for the new standalone PX units is quite limited.

## Light feed in US to Support BZ Market in AP

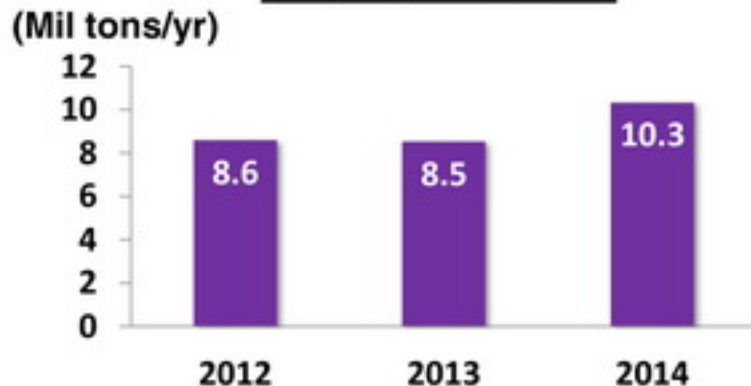
### AP BZ Capacity\* and Demand



### BZ FOB- ULG95 (\$/t)



### Capacity\*-Demand



Remark : \* Normalized capacity to start up period

#### DEMAND

- BZ demand growth in 2014 is projected to reach its normal level of 2.8% (0.6 mil tons/yr).

#### SUPPLY

- New BZ capacity of 3 mil tons/yr will be added in South Korea, China, India and Singapore.

#### BZ FOB-ULG95

- Firm BZ spread as light feed in US will help to bring the market into balance.

## Increasing New Supply from China Pressure PX Market

(\$/t)	2013FY	Q4-13	QTD Q1-14*	Q1-14**	2014FY***
PX-ULG95	485	446	317	↓	↓
BZ-ULG95	289	297	315	↑	↔
TL-ULG95	148	153	120	↓	↔

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

\*QTD until 27 Feb 14

\*\* Compared to Q4-13

\*\*\* Compared to 2013FY

### Factor to Watch for Q1-14 ....

- PX:**
- Startup of Petrochina Sichuan
  - Soft PX and PTA demand
  - Restart of Qingdao Lidong



- BZ:**
- + Open arbitrage window for Asian BZ to US
  - Sufficient BZ inventories from downstream producers



- TL:**
- Low demand for PX upgrading
  - Increasing TL inventory in China



### Factor to Watch for Q2-4-14 ....

- PX:**
- Upcoming PX plant start-up
  - High polyester inventory
  - Low PTA operating rates



- BZ**
- Heavy supply from new BZ plants
  - + High demand from US



- TL:**
- + Tighten TL supply following startup of new PX plant in Korea





The background features a series of overlapping, wavy lines in various shades of teal and light blue, creating a sense of motion and depth. The lines are composed of many thin, parallel lines that form a mesh-like texture.

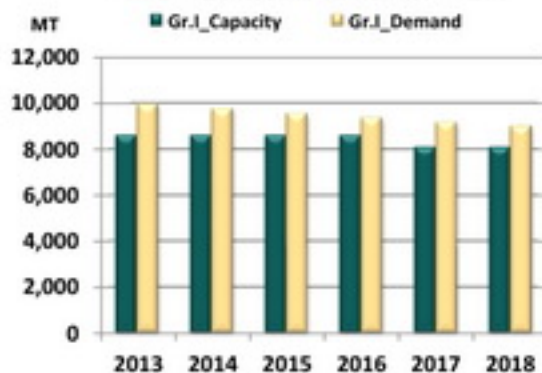
## **Lube Base & Bitumen**

*Supply from new base oil plants pressured market sentiment*

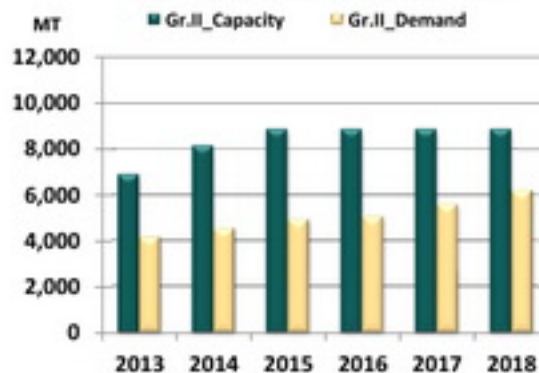
## Flooding of Group II & Group III Supply

- Global base oil demand remain on an uptrend, growing at 1.4% p.a., with the rising of Gr.II & III consumption.
- Approximate 70% of base oil Gr.I can be replaced by Gr.II.
- Surplus capacity of Gr.II and Gr.III in Asia Pacific (including ME) will lead to base oil price competition.

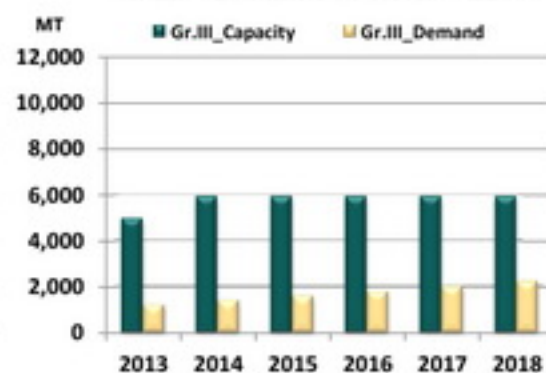
Gr.I Demand Growth = -2%



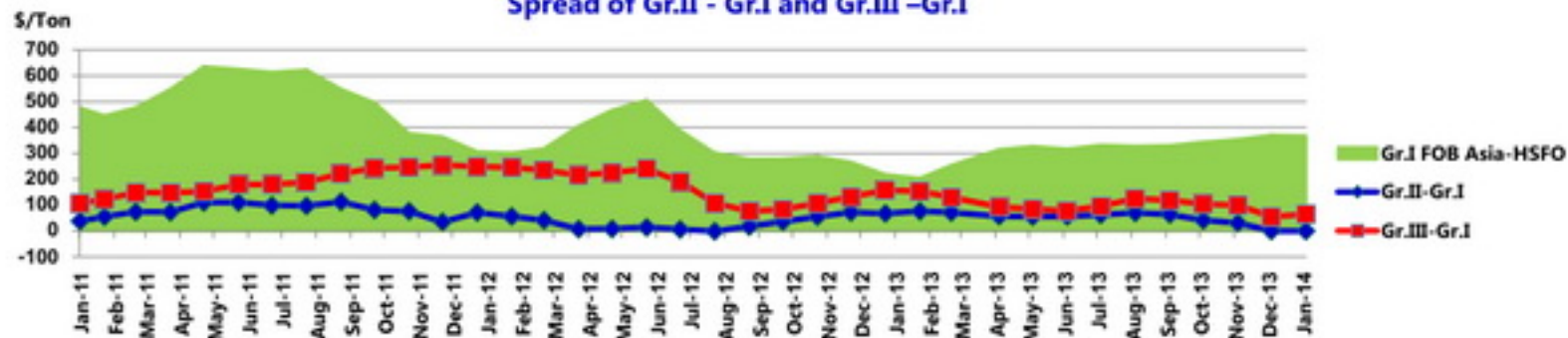
Gr.II Demand Growth = 8%



Gr.III Demand Growth = 11%



Spread of Gr.II - Gr.I and Gr.III - Gr.I



## More Supply from Gr.II Pressured Gr.I Base Oil Market

(\$/t)	2013FY	Q4-13	QTD Q1-14*	Q1-14**	2014FY***
500SN-HSFO	485	509	492	↔	↓
Bitumen-HSFO	-14	-27	-50	↓	↓

Remark : \*QTD until 27 Feb 14\*\* Compared to Q4-13 \*\*\* Compared to 2013FY

### Factor to Watch for Q1-14



+ Restocking activity after New Year holiday and ahead of agricultural season



- Price competition from ample supply of Gr.II from new plants

### Factor to Watch for Q2-4-14



+ Stocking activity for agricultural season demand during Q2  
+ Base Oil plant maintenance in Q2  
- Price competition from ample supply of Gr.II from new plants



- Tight budget control policy in China result in less road project approval  
+ Stocking activity of bitumen ahead of summer season



- Rainy season in late Q2 to Q3 pressures bitumen market  
+ Stocking activity of bitumen during summer season





The background features a series of overlapping, wavy lines in various shades of teal and light blue, creating a sense of motion and depth. The lines are composed of many thin, parallel strokes that form a mesh-like texture. The overall aesthetic is clean and modern.

## **Conclusion**

## Firm Fundamental

### Refinery



- **Soften crude oil price** on strong growth supply from US light tight oil
- **Supportive GRM in 2014** due to limited net capacity addition
- **Mild local oil demand growth in 2014** pressured by slower economy

### Aromatic



- **Softer PX spread** due to increasing supply, especially from Korea
- **Firm BZ spread** supported by light feed in US

### Lube Base



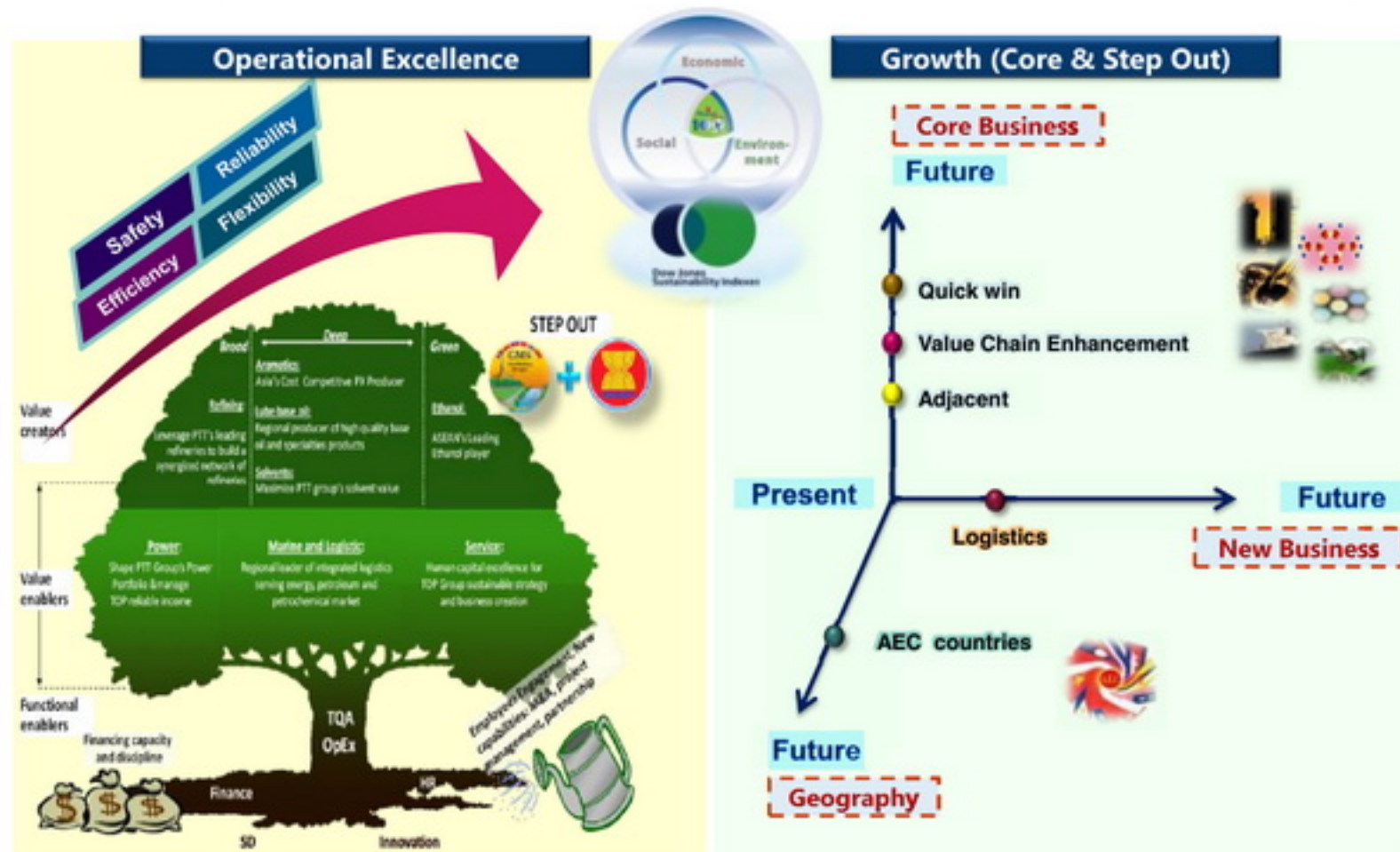
- **Weaker spread** due to more supply of premium grade base oil compete with Gr.I

The image features a teal background with several overlapping, wavy lines in shades of pink and magenta. The lines are composed of many thin, parallel lines, creating a sense of depth and movement. The text 'TOP Way Forward' is positioned on the left side of the image, in a bold, pink font.

**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


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>

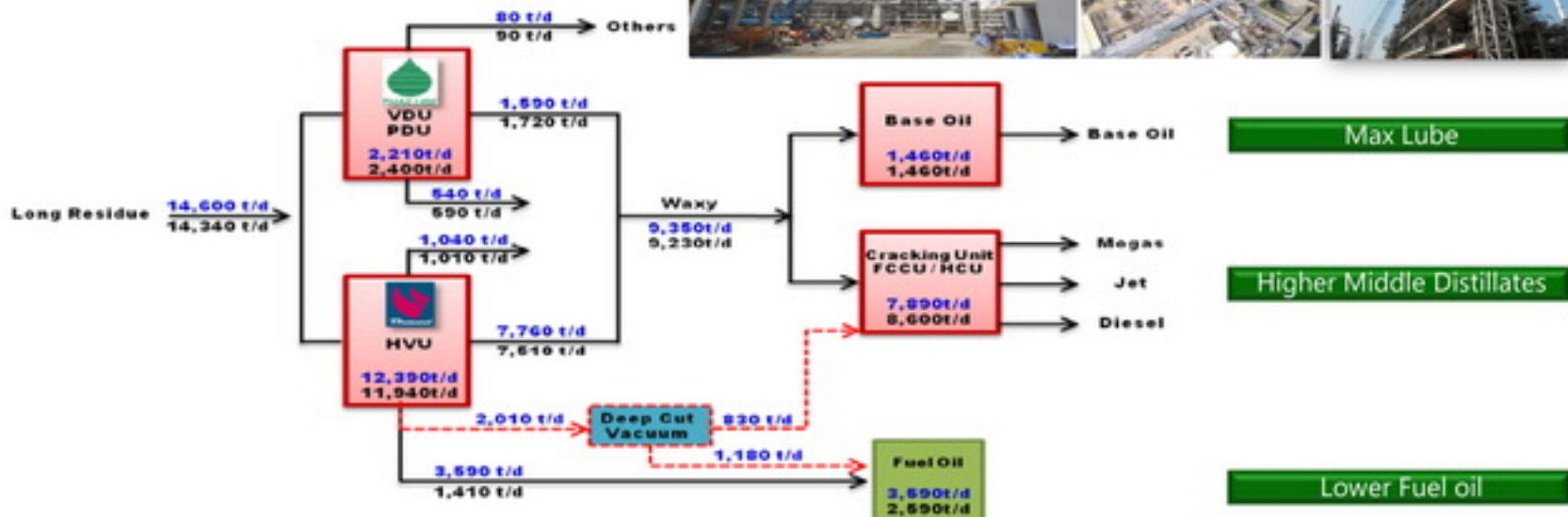
\$1,072 m

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


## Project Update

Project	Detail	Progress
 <b>HCU 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>Increase high purity hydrogen production to <i>gain margin from high sulphur crude processing</i></li> <li>Maximize lube base oil production while <i>increasing Gasoline/Jet/Diesel production</i></li> <li>CAPEX = 137 M\$</li> <li>COD = 1Q2014</li> </ul>	<ul style="list-style-type: none"> <li><b>COMPLETED</b> Basic Design Package (BDP) &amp; Basic Design Engineering Package (BDEP)</li> <li><b>CONSTRUCTION PHASE</b> (overall progress 96.0%)</li> </ul>

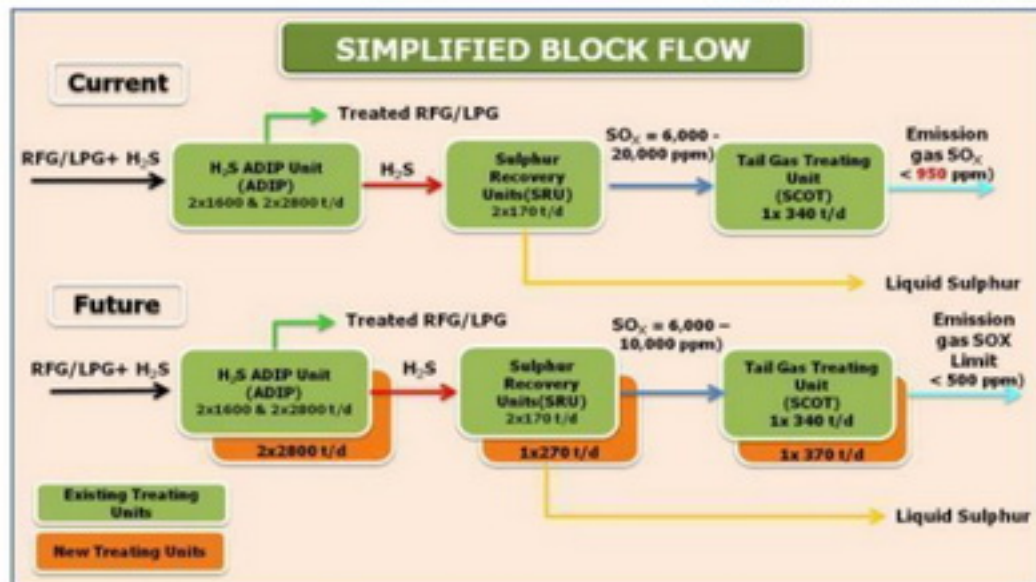





## Project Update

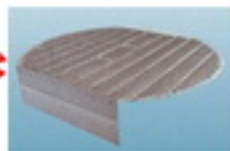
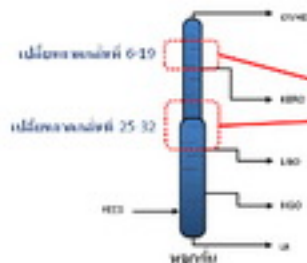
Project	Detail	Progress
 <b>Emission Improvement Project (EIP)</b>	<ul style="list-style-type: none"> <li>To control flue gas quality according to the new emission law (New emission law limits SOX &lt; 500 ppm from Dec 2013 onwards)</li> <li>To build spare capacity for flue gas treating unit</li> <li>CAPEX = 233.0* M\$</li> <li>COD = 1Q2014</li> </ul>	<ul style="list-style-type: none"> <li><b>CONSTRUCTION PHASE</b> (overall progress 96.0%)</li> </ul>

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



# Project Update

Project	Detail	Progress
 <b>CDU-3 Crude Preheat Train Improvement</b>	<ul style="list-style-type: none"> <li>• Set up, replace and 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 Kerosene production and Crude intake</li> <li>• CAPEX = 68 M\$</li> <li>• COD = 3Q2014</li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED Basic Design Package (BDP) &amp; Front End Engineering and Design (FEED)</b></li> <li>• EXECUTE Engineering, Procurement &amp; Construction (EPC) (overall progress 53.5%)</li> </ul>



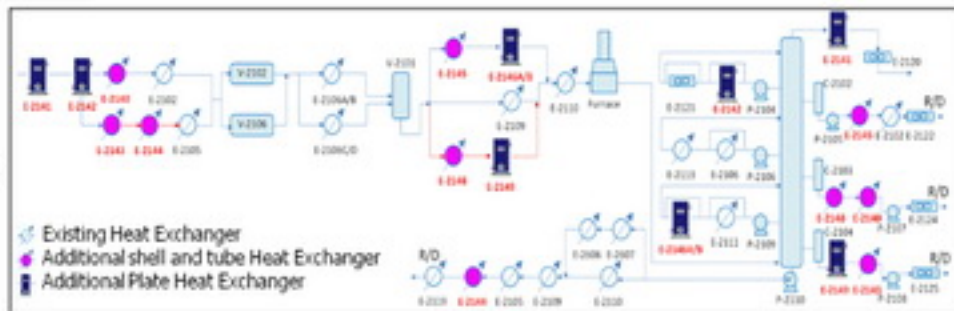
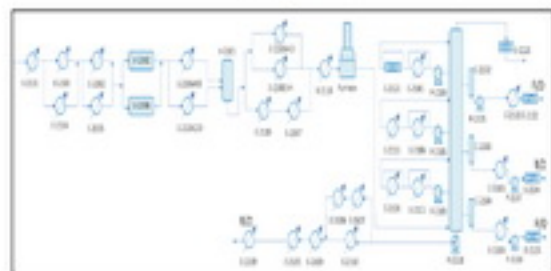
Tray



Plate Heat Exchanger



Shell &amp; Tube Heat Exchanger



## Project Update

Project	Detail	Progress
<b>LABIX 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>• CAPEX = 400 M\$</li> <li>• COD = 2015</li> </ul>	<ul style="list-style-type: none"> <li>• CONSTRUCTION Phase (overall progress 25.5%)</li> </ul>

### LAB in SEA market


- Demand growth rate ~3 % p.a.
- Net Deficit ; import from NEA
- Only 1 Producer in Indonesia; Non integrated ~70% Utilization (capacity 180 KTA)
- Demand in Thailand ~65 KTA (net import)

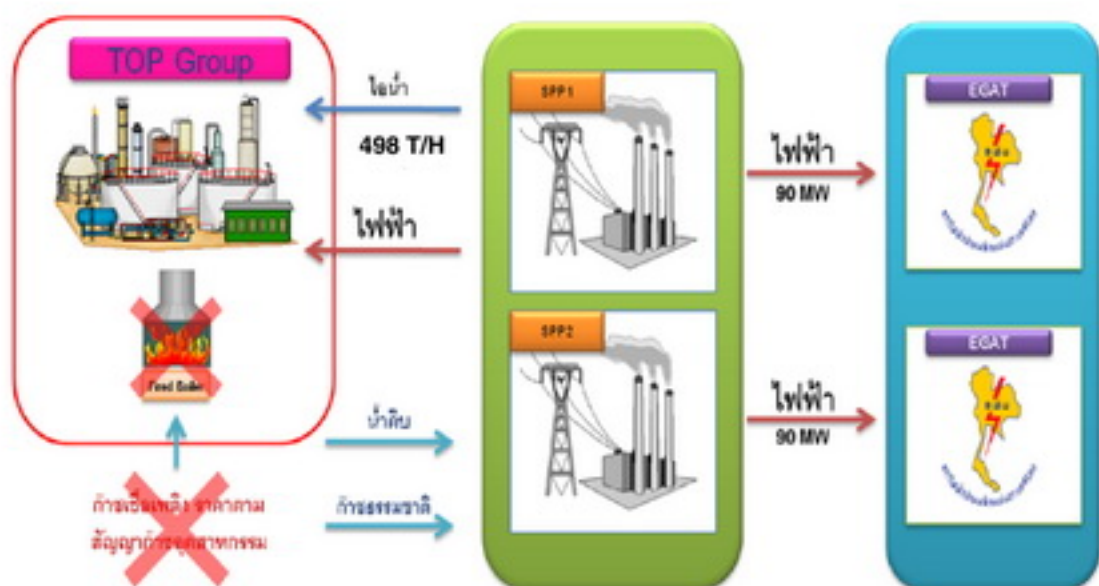


	KTA	%
<b>Feedstock</b>		
Kerosene (from TOP)	520	94%
Benzene (from TPX)	33	6%
<b>Product/ By-products</b>		
LAB	100	19%
By-products (mostly Kerosene components) (to TOP)	453	81%



## Project Update

Project	Detail	Progress
 <b>TOP SPP</b> (2 blocks of SPP)	<ul style="list-style-type: none"> <li>• Low risk power business enhance income stability</li> <li>• To support reliability of electricity and 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> <li>• CAPEX = 380 M\$</li> <li>• COD = 2016</li> </ul>	<ul style="list-style-type: none"> <li>• <b>COMPLETED</b> Front End Engineering and Design (FEED)</li> <li>• EXECUTE Engineering, Procurement &amp; Construction (EPC) (Awarded a contractor)</li> </ul>



## Project Update

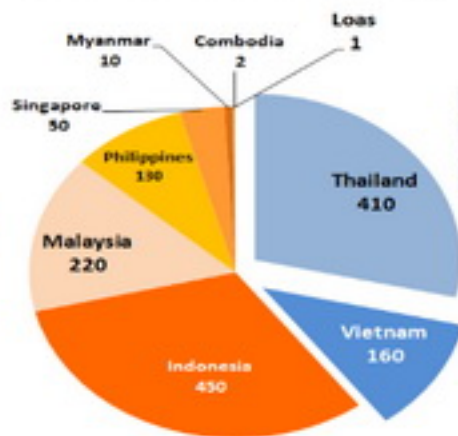
Project	Detail	Progress
 <b>Solvent Expansion (SAKC)</b>	<ul style="list-style-type: none"> <li>To expand solvent capacity to meet the demand growth in Thailand and the region</li> <li>Capacity increase to 141 KTA from 76 KTA</li> <li>CAPEX = 64 M\$</li> <li>COD = 2Q2014</li> </ul>	<ul style="list-style-type: none"> <li><b>CONSTRUCTION PHASE</b> (overall progress 89.9%)</li> </ul>



### AEC Member Countries

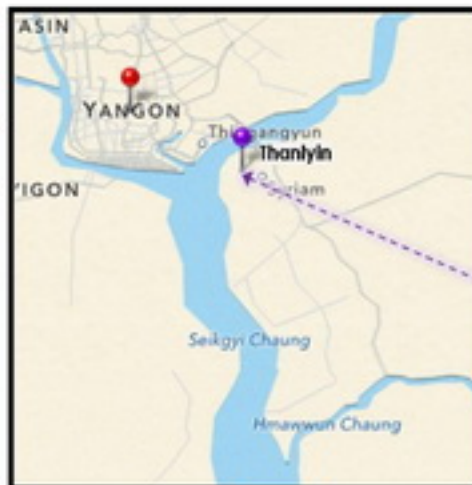
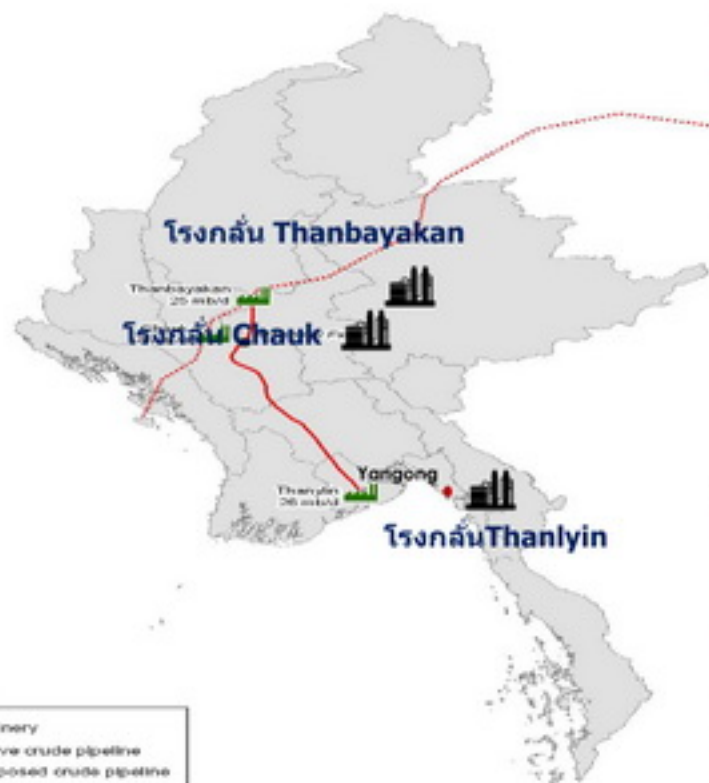


### Market Demand (KTA)



## Broadening Growth, Capturing Step Out ,Pursuing Sustainability

### โครงการปรับปรุงโรงกลั่นในประเทศเมียนมาร์





## Broadening Growth, Capturing Step Out ,Pursuing Sustainability

### โครงการลงทุนเพิ่มมูลค่าผลิตภัณฑ์ Wax ในประเทศอินโดนีเซีย



# Thank You

**Any queries, please contact:**



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