



ROBECOSAM Sustainability Award Industry Leader 2016

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Gold Class 2016

Dow Jones Sustainability Indices

# **Thai Oil Public Company Limited**

Presentation to Investors April 2016



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VISION	A LEADING FULLY INTEGRATED REFINING & PETROCHEMICAL COMPANY IN ASIA PACIFIC					
MISSION	<ul> <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>					
VALUES	Professionalism Ownership & Commitment Social Responsibility Integrity Teamwork & Collaboration					



### **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.



# **Thaioil Group Sustainable Development**





# **3 consecutive years for**

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

# & 2 consecutive years for

- No.1 in ENERGY industry around the WORLD (Industry Group Leader)
- No.1 in Oil & Gas Producers Worldwide (Industry Leader)



**TOP GROUP BUSINESS OVERVIEW** 

**KEY FINANCIAL HIGHLIGHTS** 

**STRATEGIC INVESTMENT PLANS** 

**MARKET OUTLOOK** 

**APPENDIX** 

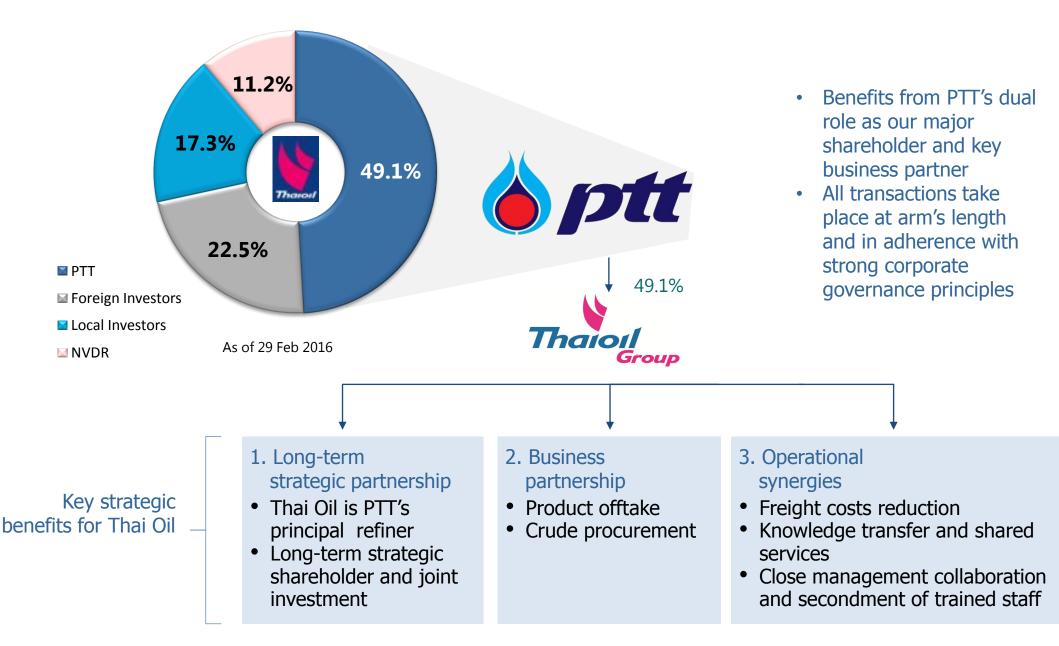


# **TOP Group Business Overview**



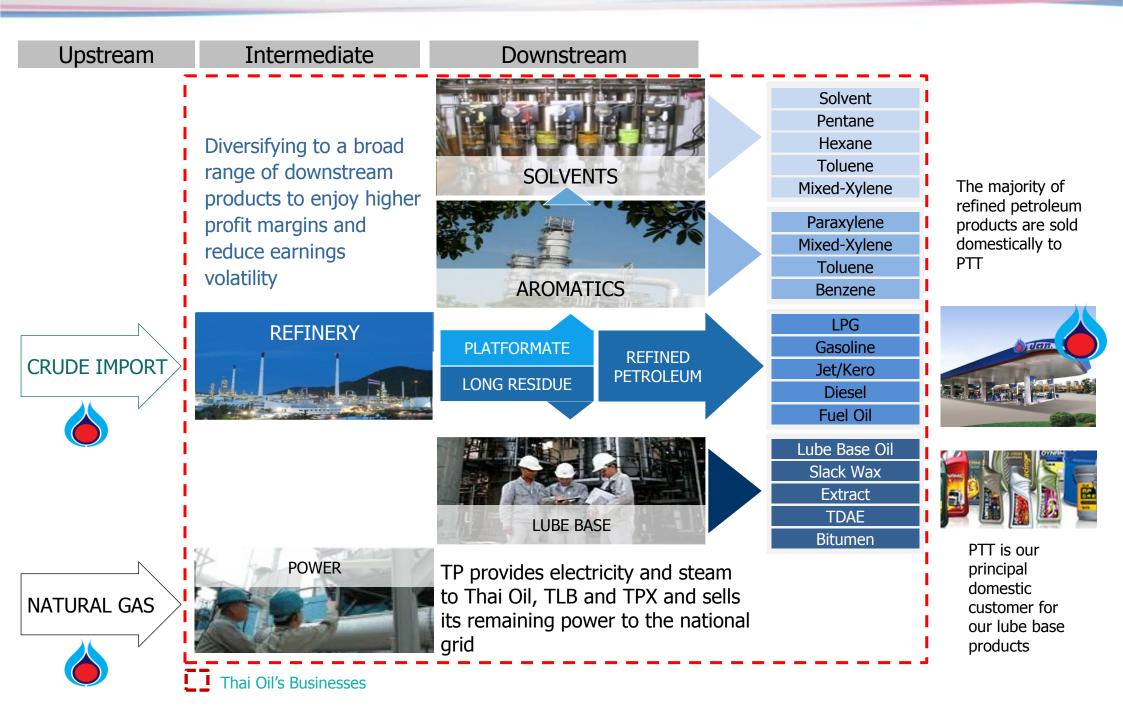


### Thai Oil's strong shareholder base



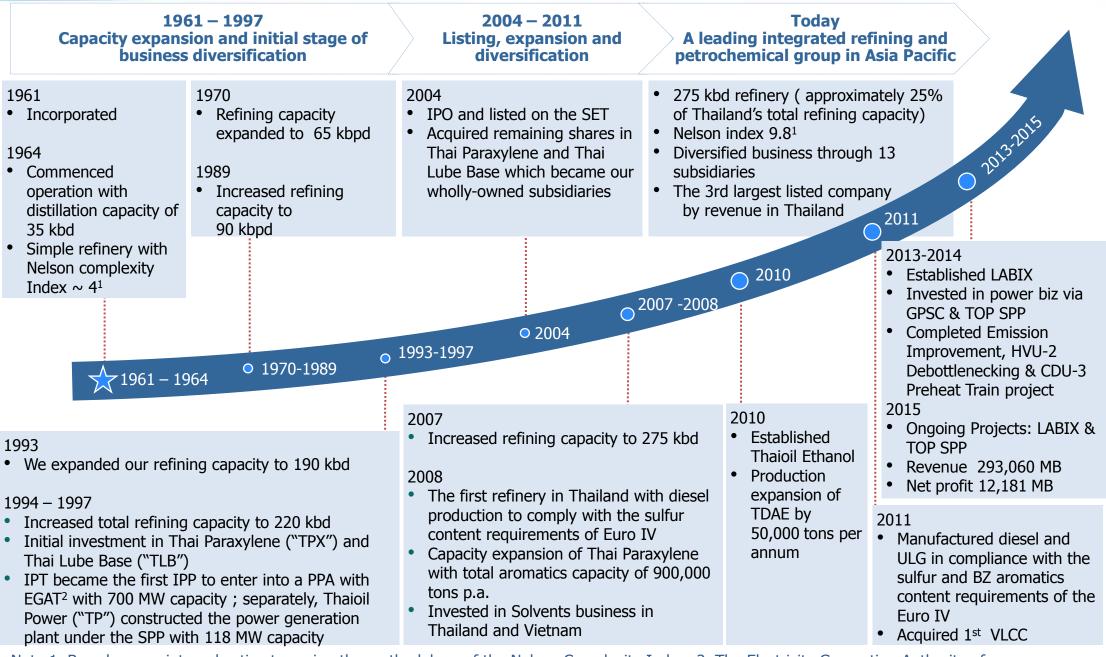
### **TOP Group Synergy & Strategic Role in PTT Group Value Chain**





### **Key Milestones: 55 Years, A Long Track Record of Success**





Note 1. Based on our internal estimates using the methodology of the Nelson Complexity Index 2. The Electricity Generating Authority of Thailand ("EGAT") is the national grid

# **Thai Oil Group Business Structure**



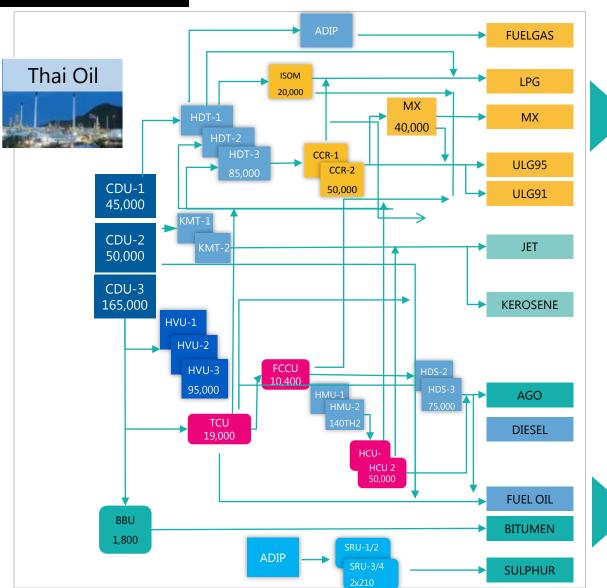


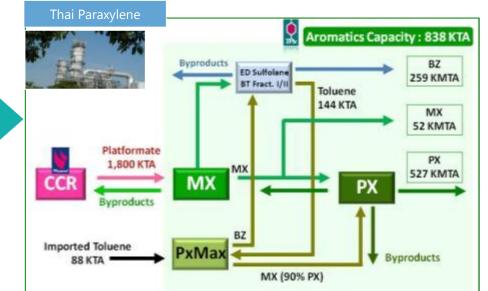
(Avg. from 2006 – 2015)

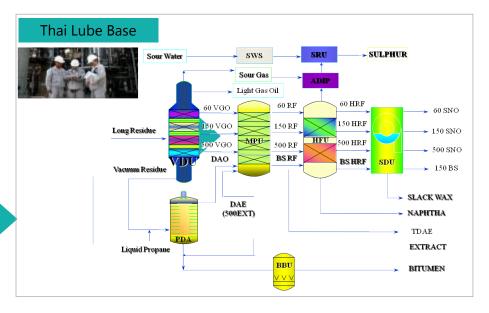
## **Process Linkage: Beauty of Integration**



PROCESS FLOWCHART

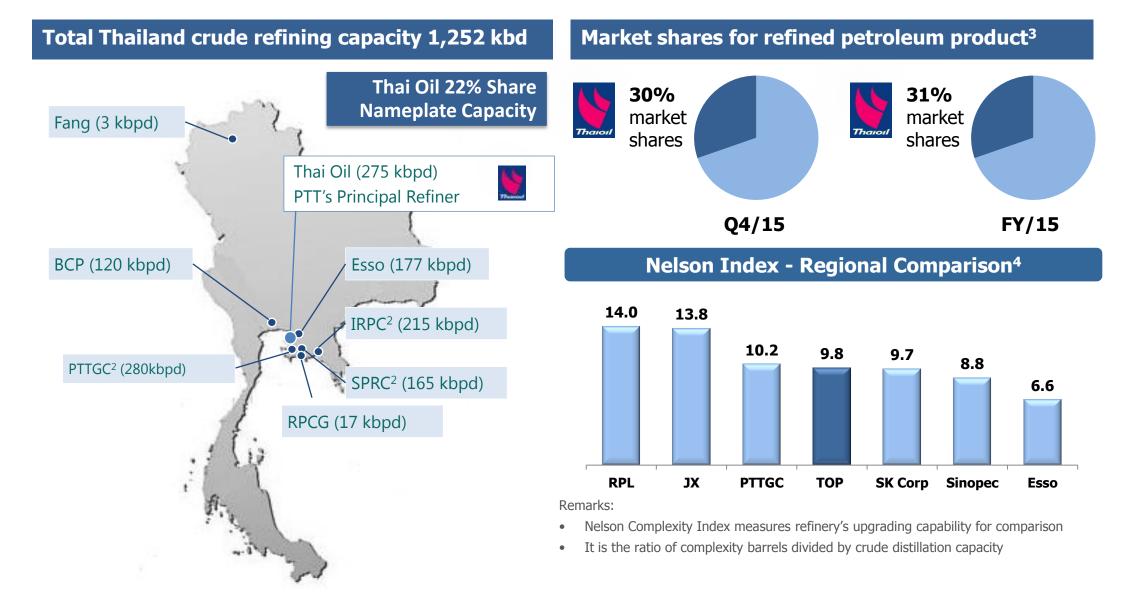






### **One of Region's Leading Refineries**





Note: 1. Source: Energy Policy and Planning Office (EPPO), Ministry of Energy Thailand

- 2. PTT holds a 38.51% interest in IRPC, a 48.9% interest in PTTGC, and a 5.41% interest in SPRC as at 3 Dec 15
- 3. Calculate by total domestic sales of refined petroleum products of Thai Oil divided by total sales of petroleum products in Thailand excl LPG as a feedstock and own used. Source from EPPO
- 4. Source: Worldwide Refinery Survey and Complexity Analysis 2015 from Oil & Gas Journal and company information

### **Strategic Location with Competitive Advantages in Access to Key Markets**

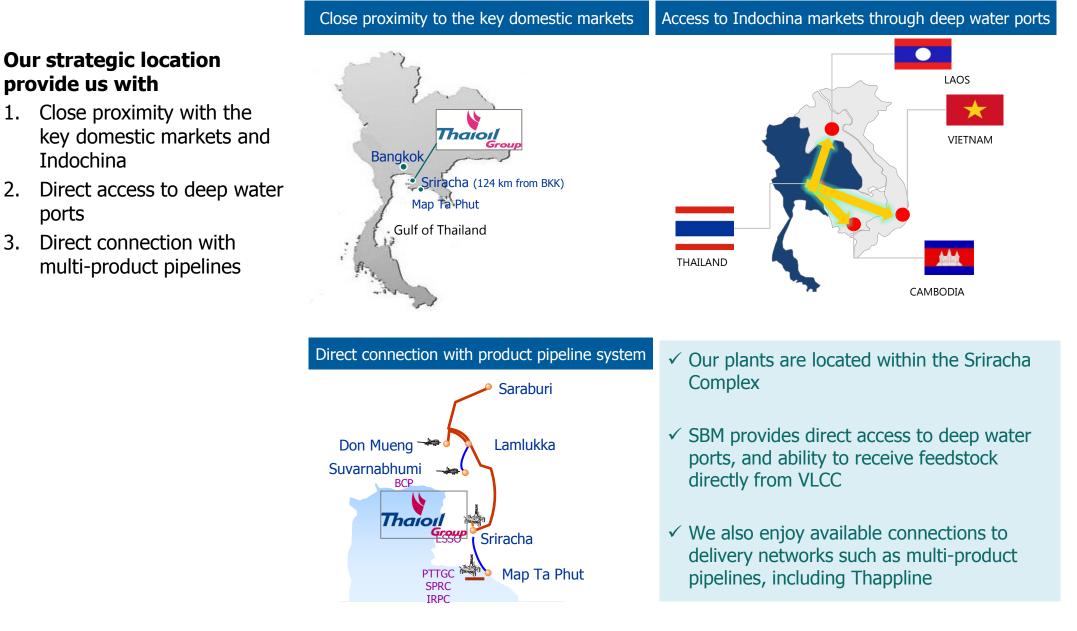
1.

2.

3.

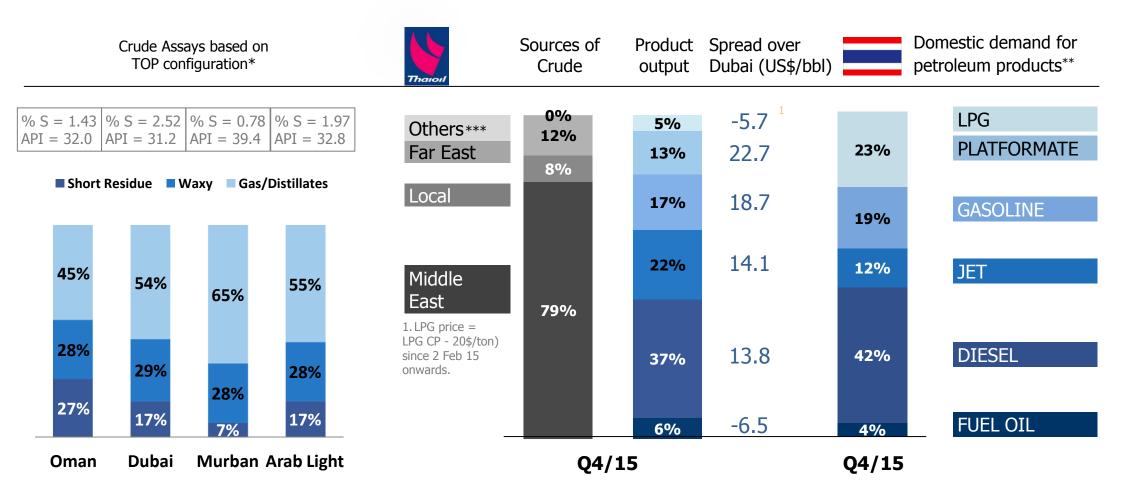
ports





Product pipeline system

# **Optimized & Flexible Operations...Superior Performance**



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

\*Crude yield as per assay in Spiral as of Feb 2016

\*\*Source: Energy Policy and Planning Office, Ministry of Energy Thailand

\*\*\* Including Nigeria, Russia and others

- 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

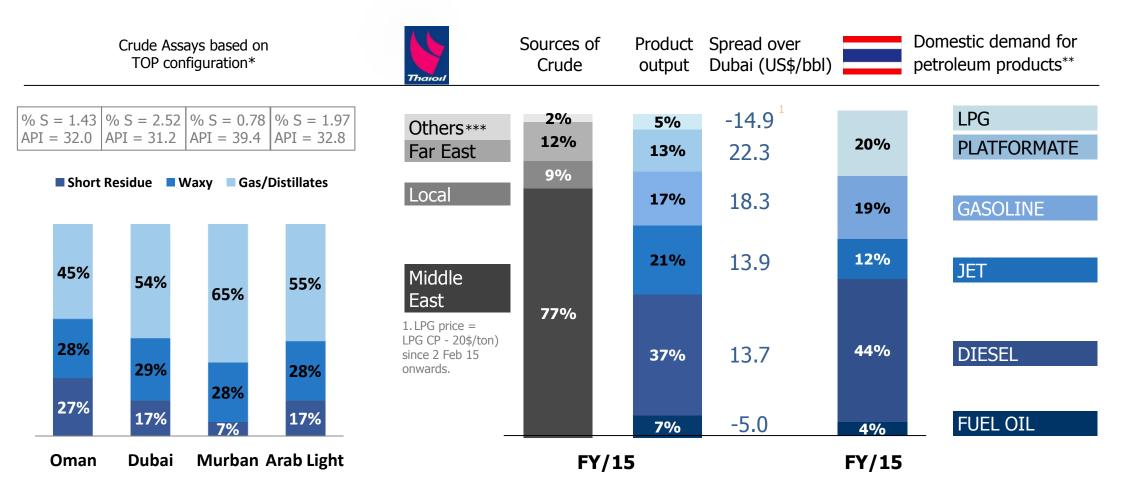
**\** -15-

Group

Thaioil

- Maximize Platformate production to capture higher margin on aromatics
- Minimize fuel oil output to avoid lower margin products

# **Optimized & Flexible Operations...Superior Performance**



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  - Flexibility in product outputs by maximizing middle distillates (jet and diesel) by adjusting production mode to capture domestic demand and price premium

**\** -16-

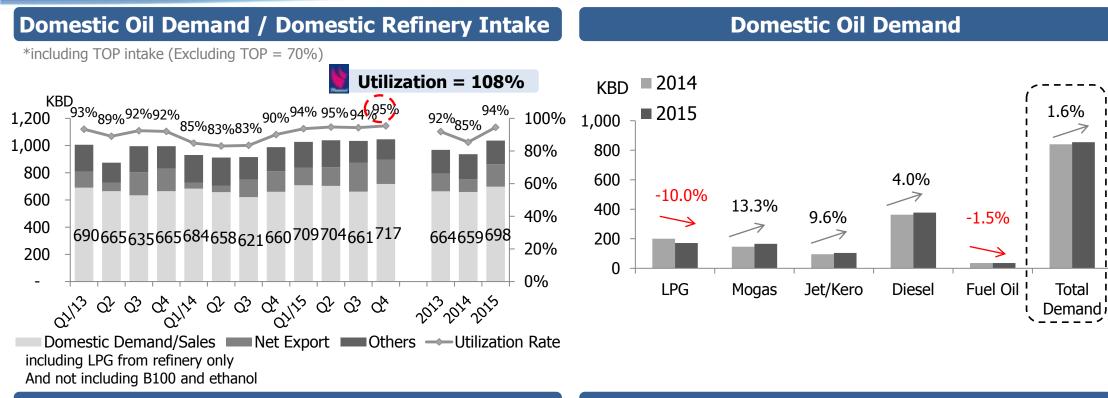
Group

Thaioil

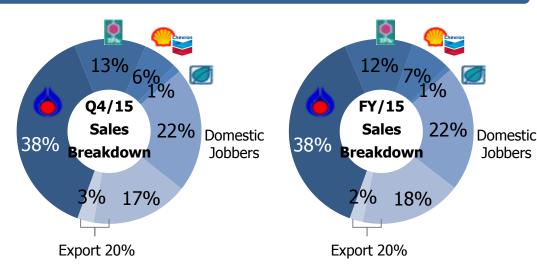
- Maximize Platformate production to capture higher margin on aromatics
- Minimize fuel oil output to avoid lower margin products

# **Strong Domestic Sales despite Flatten Local Demand**

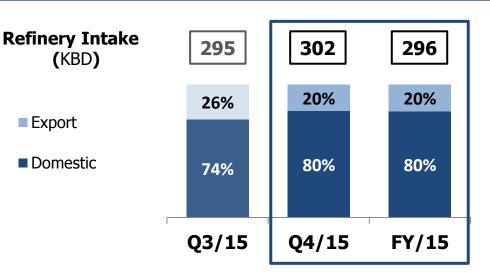




### Sales breakdown by customers



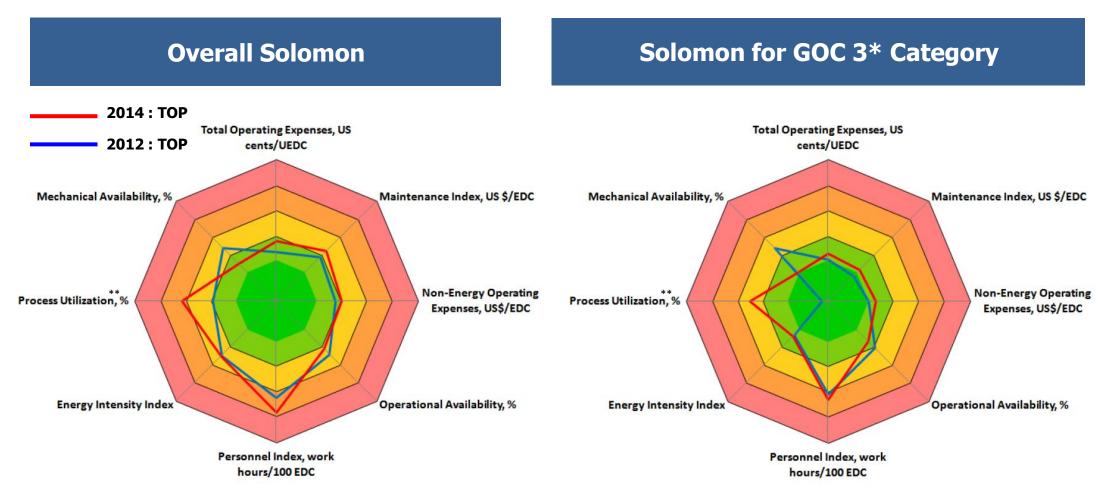
#### **TOP's Domestic & Export Sales**



# **Competitive Performance Benchmarking**

Thaioil Group

Solomon Associates is the independent 3<sup>rd</sup> party who applies Comparative Performance Analysis methodology to industry peers in the area of reliability, equipment, utilization, operating expense, gross margin and overall performance range and come up with comparative ranking



Remark : \*GOC 3 stands for Gas Oil Conversion Group 3, under which refineries in this group have equivalence distillation capacity 1,800 – 2,999 KEDC \*\* In 2014, Thai Oil had Major turnaround for CDU-3 46 days and 2014FY refinery utilization was at 98%

# **TOP Group Key Highlights**



Thaioil Group	Thailand's largest and one of the region's most advanced and competitive refineries	Diversified earnings through integration with, and significant contribution from, our subsidiaries	
Strategic relationship and operational integration with PTT as the Group's principal refiner	Strategic location with competitive advantages in access to key markets	Industry with high barriers to entry and strong market positioning	
Technological superiority, logistical advantages & cost leadership	Highly experienced management team	Strong financial profile	



# **Key Financial Highlights**

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#### **Key Highlights**

# **2015 Key Market Drivers Highlights**

### **Refinery**



- Robust refining margins supported by higher gasoline cracks from better demand during low oil price, soften crude premium and lower F&L
- \$26/bbl drop in Dubai crude price pressured by oversupply situation from recorded high OPEC & US production

**Implication** 

- Highest Yearly Mkt GRM since listed 2004 (7.8 vs 5.7 in 2014)
- (1.9) \$/bbl inventory loss\* (from stock loss (4.5)\$/bbl in 2014)

### **Aromatic**



 Despite stable aromatic margins due to ongoing regional surplus capacities, contribution to GIM improved supported by lower energy cost tracking lower oil price Improved Aromatic Margins (GIM contribution from 0.1 to 0.6 \$/bbl Y/Y)

### Lube Base



Strong Bitumen spread as significant feedstock price declined offset soften base oil spread due to new capacities from Gr II & Gr III. Lower energy cost uplifted contribution to GIM.

### Improved Base Oil Margins

(GIM contribution from 0.7 to 0.9 \$/bbl Y/Y)

# **Refinery + Aromatics + Lube Base**

Remark *	Based	on refinery	intake
----------	-------	-------------	--------

\$/BBL	2015	2014
Market GIM	<b>1</b> 9.1	6.2
Inventory Gains / <mark>(Loss)</mark>	(1.8)	(4.3)
Accounting GIM	<b>†</b> 7.3	1.9



#### **Key Highlights**

# **2015 Key Events / Achievements**



### **Key Events / Achievements 2015**



 High Refinery run at 108% to capture strong Mkt GRM & optimized run for Aromatic & Lube Base



 Effective cost management program resulted in lower group cash cost at 2.1 \$/bbl (lower 0.4 \$/bbl Y/Y)



 Robust Net Operating Profit Y/Y driven by robust margins, high utilization, cost leadership & effective hydrocarbon management program



 On planned progress for both LAB & TOP SPP projects , as well as progressing on CFP study as plan



 Proactive risk management coping with volatile oil price resulted in 1,489 MB gain in commodities hedging

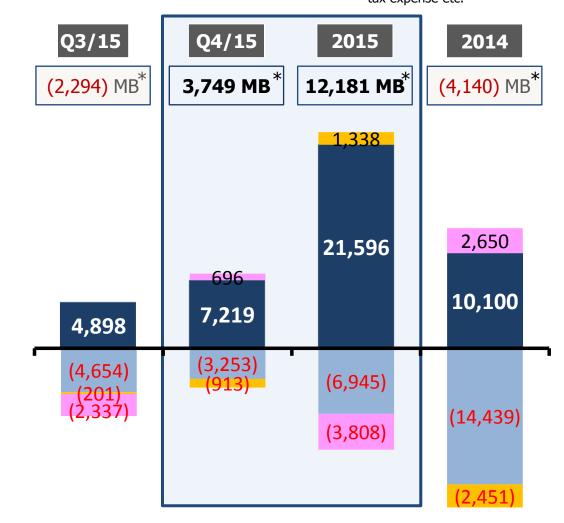


Sustainability Leader for Oil & Gas
 Industry for 2<sup>nd</sup> consecutive yr & Gold
 Class for 3<sup>rd</sup> consecutive yr

### **TOP Group Net Profit**

Unit : million THB (MB)

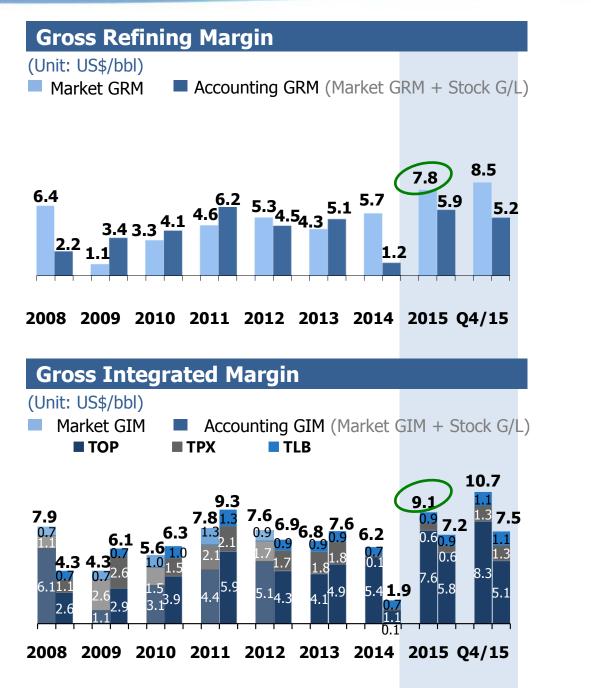
- Net Operating Profit (before tax) Stock G/(L) (before tax)
- Reversal of NRV/(NRV) (before tax) Others i.e. FX G/(L), Hedging G/(L), tax expense etc.



\*redeemed BOI privilege for tax exemption on environmental projects in Q3/15 = (742) MB, Q4/15 = 190 MB , FY/15 = 959 MB , FY/14 = 0 MB

# **Integrated Margin & Competitive Cash Cost**



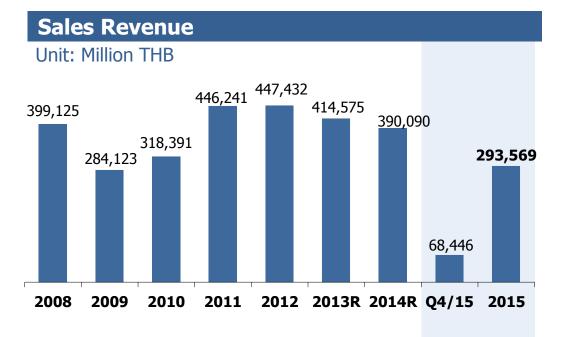


Refi	nery	's Cas	sh Co	st				
(Unit:	US\$/bb	ol)						
		iting Co one-time ng item)		■ In	terest	Expen	SE (net)	
<b>1.4</b> <b>0.4</b> 0.9 *Includi	<b>1.4</b> <b>0.5</b> ng MTA	<b>1.5</b> <b>0.5</b> 1.0 cost in 1	<b>1.5</b> <b>0.4</b> 1.1 MTA per	<b>1.6</b> 0.4 1.2	<b>2.1</b> <b>0.7</b> 1.4 e mid Ju	<b>2.3</b> * <b>0.8</b> 1.5 In-late J	<b>1.9</b> <b>0.6</b> <b>1.3</b> uly 2014 f	<b>2.4</b> <b>0.6</b> 1.8
(TOP M	TA cost	in 2014 :	= 436 M	1B or 0.3	L4 \$/bbl	)	-	
2008	2009	2010	2011	2012	2013	2014	2015 Q	24/15
Grou	up′s (	Cash	Cost					
(Unit: l	US\$/bb	l)						
	(exc	erating I. one-tin ating iten	ne non-		Inte	erest E	xpense	(net)
	. –				2.3	<b>2.6</b> <sup>*</sup>	2.1	2.6
1.6 0.5	1.7 0.5	2.5 0.5	1.8 0.4	1.8 0.4	0.6	<b>0.7</b> 1.8	0.6	0.5 2.1
*Incluc			MTA ne	riod sin	ce mid 1	un-late	July 2014	for 46 d

2008 2009 2010 2011 2012 2013 2014 2015 Q4/15

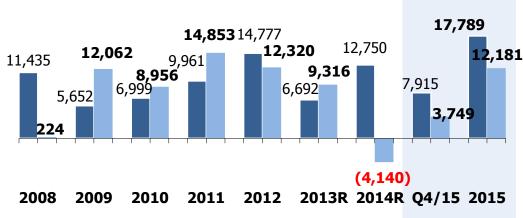
# **Financial Performance**





**Net Profit** 

#### Unit: Million THB



NP (incl stk G/L & NRV)

<sup>R</sup> Restated financial statement

\* Free Cash Flow (FCF) = Operating cash flow – CAPEX(PP&E)-Net

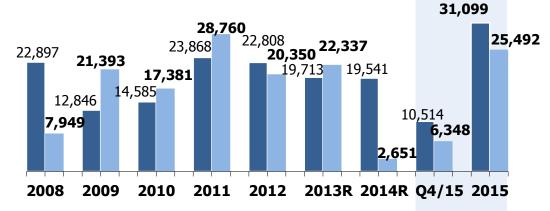
NP (excl stk G/L & NRV before tax)

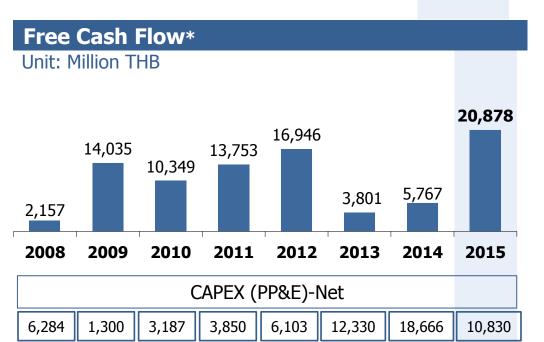
#### EBITDA

#### Unit: Million THB

EBITDA (excl stk G/L & NRV)

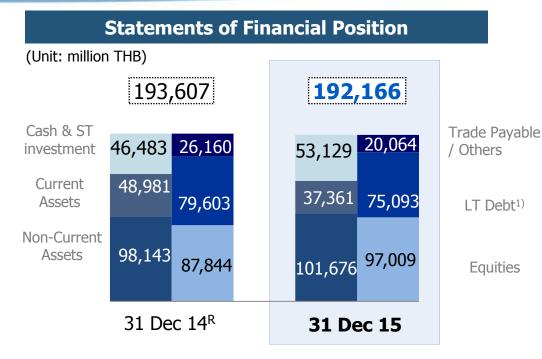
V) EBITDA (incl stk G/L & NRV)



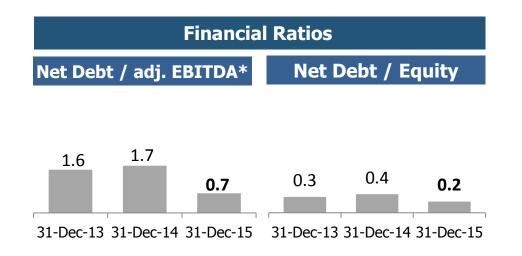


# **2015 TOP Group Strong Financial Position & Financial Ratios**





<sup>R</sup> Restated financial statement as TOP has adopt TFRS 10 (Common control) <sup>1)</sup> Including current portion of Long-Term Debt



#### \* EBITDA(excl stock gain/loss & Reversal of NRV/(NRV))

Consolidated Long-Te	erm D	ebt as at 31	Dec 15 <sup>1)</sup>		
Total Long-Term Debt	]	Net	Debt		
75,093 million THB (US\$ 2,072 million equivalence)	•	(US\$ 6 equi	nillion THB <b>17 million</b> ivalence) (36.25 THB/US\$)		
	Valu	e (Million)	Portion		
US\$ Bond & US\$ Loan	US\$ 1,155		56%		
THB Bond	THB 25,500		34%		
THB Loan	THB 7,707		10%		
Interest Rate	e Portion				
Float	15%				
Fixed		85%			

Cost of Debt					
TOP Group (Net***)	3.72%				
TOP Group (Gross)	4.89%				

12.9 Yrs

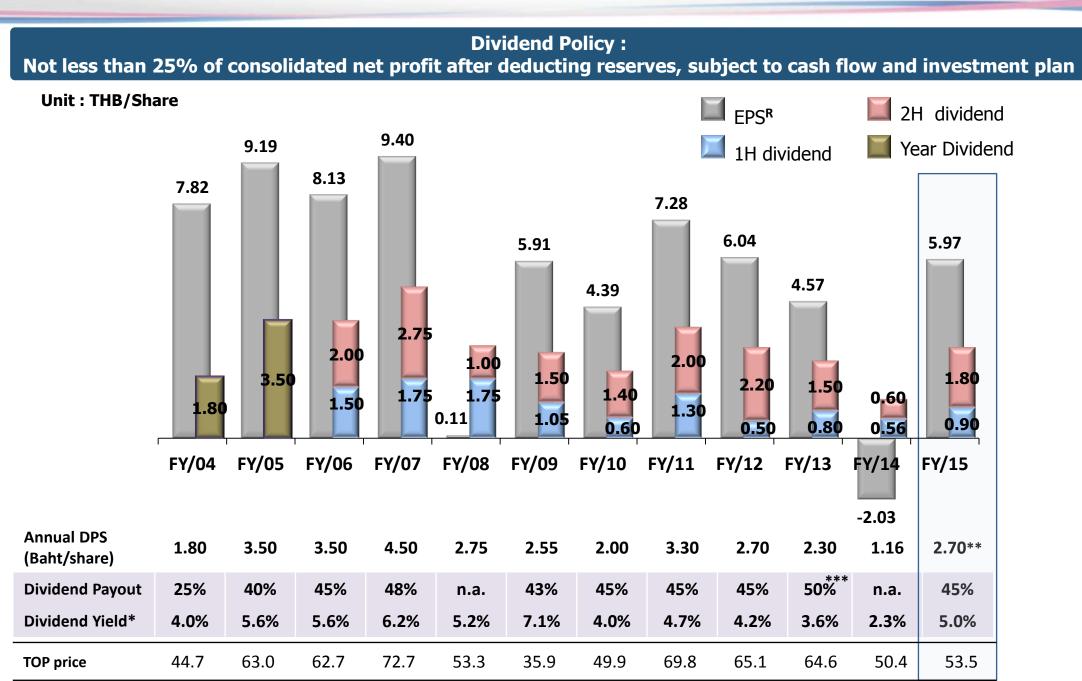
TOP avg.debt life

\*\*\*Calculated by interest expense net off interest income as per FS as at 31 Dec 15

Moody's Investors Service	STANDARD &POOR'S	<b>Fitch</b> Ratings
Baa1	BBB	AA- (tha)
Stable Outlook	Stable Outlook	Stable Outlook

# **2015 Dividend Payment**





<sup>R</sup> Based on restated financial statement

\* Based on average TOP share price in each year \*\* Subject to the approval from 2016 Annual General Meeting of shareholders \*\*\* Dividend payout before restated = 45%



# **Strategic Investment Plans**



#### **Way Forward**

### **Broadening Growth, Capturing Step Out , Pursuing Sustainability**



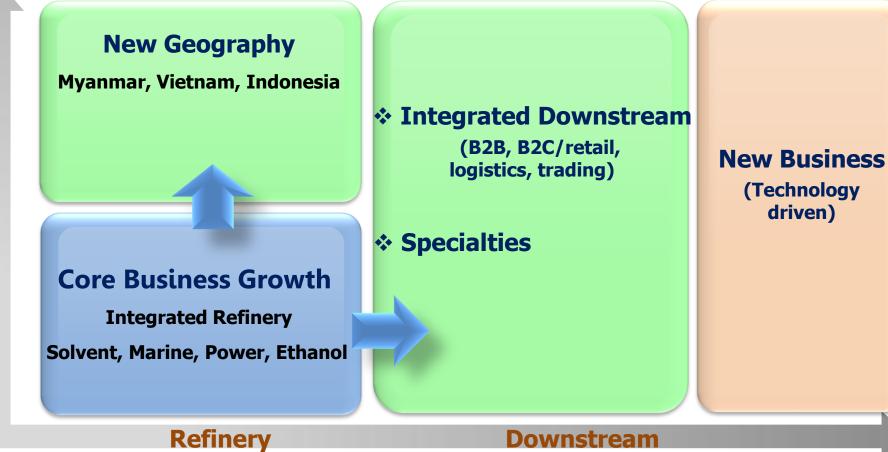


## **Thaioil Group Investment Matrix**





Thailand







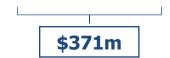
**Updated CAPEX plan** 

### **Strategic Investment Plan**



	CAPEX Plan (Unit US\$ million)			Remaining capital investmen			
Our CAPEX investments will	Projects	COD	Total Project Cost (2011-2018)	2015	2016	2017	2018
cover improvements in plants reliability,	Reliability, efficiency and flexibility improvement	2013-2018	353	21	57	5	4
efficiency & flexibility, environmental & fuel	Environmental and fuel efficiency improvement	2013-2015	269*	5	8		
efficiency	CDU-3 preheat train	2014	68	4	3		
improvement as well	Benzene Derivatives - LAB	2015	300	74	58		
as value chain	Power – 2 SPPs	2016	380	146	59		
enhancement	Solvent expansion – SAKC	2014	64	10			
	Marine fleets expansion	2014/15	56	15			
Thai Oil has sufficient internal cash flow to fund	Facility Improvement						
	- Lorry Expansion	2016	53	3	50		
this investment plan	- Jetty 7&8 / Improvement	2018	127		20	73	34
-	Total		1,670	278	255	78	38

Notes: Excluding approximately 40 M\$/year for annual maintenance \*anticipated to receive BOI for environmental projects



Update as of Jan 2016

# **Key Project Progress Update : LAB**



					Group
Project		Detail	Progress		
LABİX	<ul> <li>TPX JV with Mits</li> <li>Upgrade existing</li> </ul>	sui (75% : 25%) Benzene and Keros	sene into higher	100%*	
Linear Alkyl Benzene (LAB)	valued product; in production of • Capacity: 100 • Benefit = add • CAPEX = 400 I • COD = End-Fe • 3 <sup>rd</sup> Week Fe	LAB which is an inte surfactant (deterge KTA (First Integrated to GIM ~ 0.4-0.6 M\$	*As of Ja	nuary 2016	
LAB Sp	oread over BZ (\$/t	on)	LABIX : F	eedstock / Products	
				КТА	%
548 584 600 567 5	651	592 560 <sup>587</sup> 54	Feedsto	<u>ck</u>	
5	26 519 499		Kerosene (from TOP)	532	94%
			Benzene (from TPX)	33	6%
			Product/ By-p	oroducts	
Q1 Q2 Q3 Q4 Q	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	LAB	100	18%
2013	2014	2015	By-products (mostly K		82%
2013	2014	2013	components) (to TOP)		

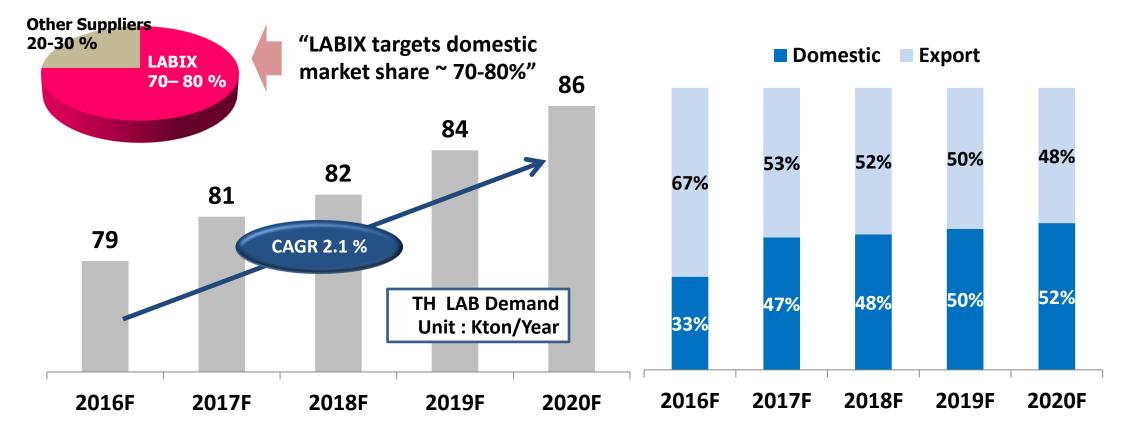
components) (to TOP)



"In 2016 Thailand LAB Demand is estimated at 79 Kton/Yr (100% Import) and after starts up LABIX

targets domestic market share at 70-80% "





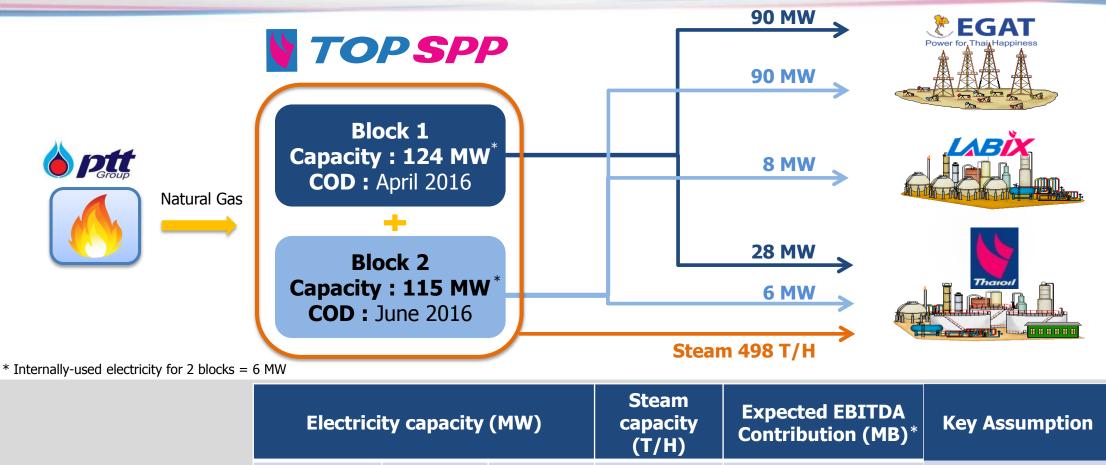
# **Key Project Progress Update : 2 SPPs**



Project	Detail	Progress
<b>TOP SPP</b>	<ul> <li>Low risk power business enhance income stability</li> <li>Support reliability of electricity &amp; steam supply for TOP Group</li> </ul>	<b>99%</b> *
TOP SPP (2 blocks of SPP)	<ul> <li>Develop 2 new SPP power plants;</li> <li>Total power capacity 239 MW (~20% used in TOP complex ~80% sales to national Grid under firm contract)</li> <li>Total steam capacity 498 T/H (100% used in TOP complex)</li> </ul>	
	• CAPEX = 380 M\$ • COD = Q2 2016	*As of January 2016

## **Key Project Progress Update : 2 SPPs Business Model**





<b>COD :</b> April 2016	
Block 2 : 115 MW	

**Block 1 · 124 MW** 

**COD :** June 2016

Total 2 blocks 239 MW

EGAT • BOI tax TOP LABIX TOP **TOP Group** (PPA 25 yrs) exemption for 8 years 90 28 ~ 1,000 p.a. Power Purchase 498 Agreement 25 90 6 ~ 850 p.a. 8 years Depreciation 180 34 8 **498** ~ 1,850 p.a. 25 years \* Estimated figures based on sales plan (power and steam)

# **2016 Key Margin Improvement Projects**



"Besides LAB & TOP SPP, other 2016 Key margins improvement projects from current Business Units will help further enhance Group Margins / EBITDA / Net Profit"

Project Category	Example of Sub-Activities	Benefits
Crude / Feedstock Optimization	<ul> <li>New crude processing</li> <li>Freight Saving from minimizing VLCC deadfreight</li> </ul>	
Energy Improvement	<ul> <li>Heat Recovery Improvement</li> <li>Decrease fuel &amp; steam consumption</li> </ul>	Approx. 0.10 \$/bbl
Plant Optimization	<ul> <li>More HVU-3 waxy production (operation adjustment)</li> <li>Cost saving from replacing desalination water by raw water</li> </ul>	

#### **Project Update**

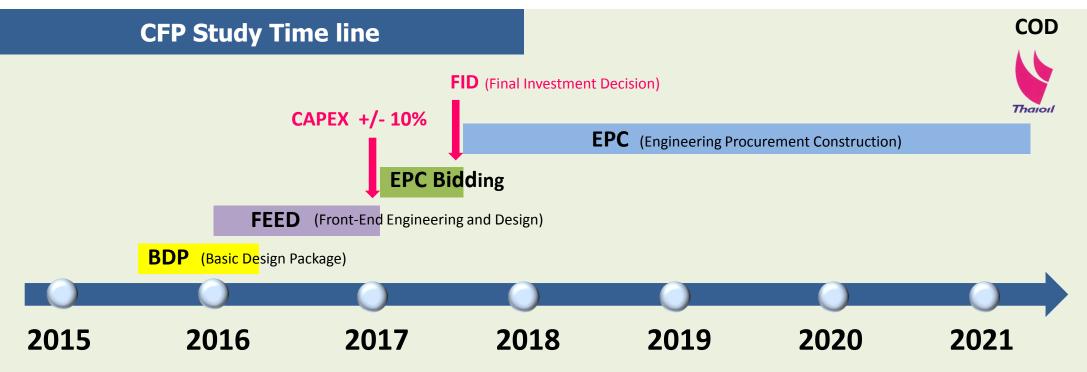
# Study Project : Clean Fuel Project (CFP)





### **Main objectives of CFP**

- Enhance competitive advantage of the refinery and maintain 1<sup>st</sup> quartile performer
- Enhance capability to upgrade lower value product into higher value product and ability to process heavier (cheaper) crude oil





# 1H16 & 2016 MARKET OUTLOOK

- Crude Oil
- Petroleum Products
- Aromatics
- Base Oil & Bitumen
- LAB



# **CRUDE OIL**

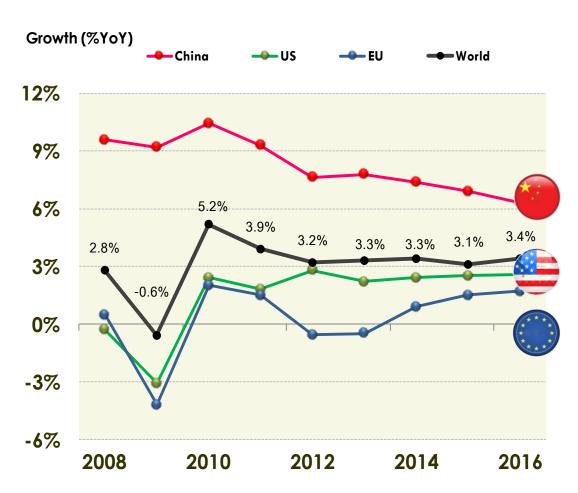
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### **Macroeconomics & Crude Prices**

# **2016 Global GDP Growth by IMF**



# **IMF estimated the 2016's Global GDP growth at 3.4%**



S RNATIO	2014	20	15	2016			
HOUT TARY FUR	Jan-16 <sup>(1)</sup>	<b>Oct-15</b> <sup>(2)</sup>	Jan-16 <sup>(1)</sup>	Oct-15 <sup>(2)</sup>	Jan-16 <sup>(1)</sup>		
USA	2.4%	2.6%	2.5%	2.8%	2.6%		
EU	0.9%	1.5%	1.5%	1.6%	1.7%		
China	7.3%	6.9%	6.9%	6.3%	6.3%		
Japan	-0.1%	0.6%	0.6%	1.0%	1.0%		
India	7.3%	7.3% 7.3%		7.5%	7.5%		
ASEAN-5 <sup>(5)</sup>	4.6%	4.7%	4.6%	4.8%	4.9%		
Thailand	0.9% <sup>(4)</sup>	2.7% <sup>(4)</sup>	<b>2.8%</b> <sup>(3)</sup>	3.7% <sup>(4)</sup>	3.5% <sup>(3)</sup>		
World	3.4%	3.1%	3.1%	3.6%	3.4%		

### Sources:

(1) IMF Jan'16 (2) IMF Oct'15(3) BOT Dec, 2015 (4) BOT Sep, 2015

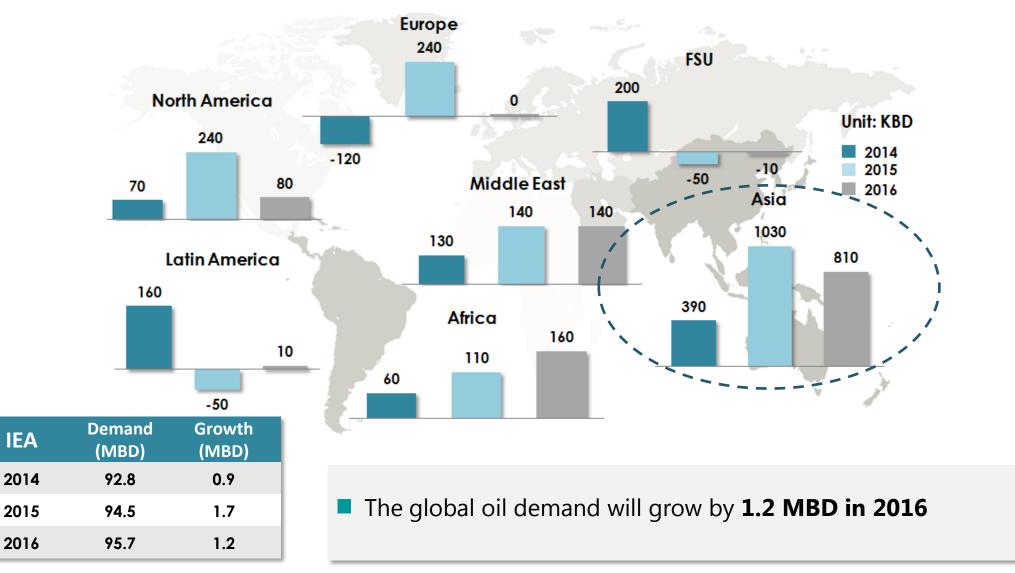
(5) ASEAN-5 includes Thailand, Malaysia, Indonesia, Vietnam, Philippines

# **Global Oil Demand Growth Projection**



# iea

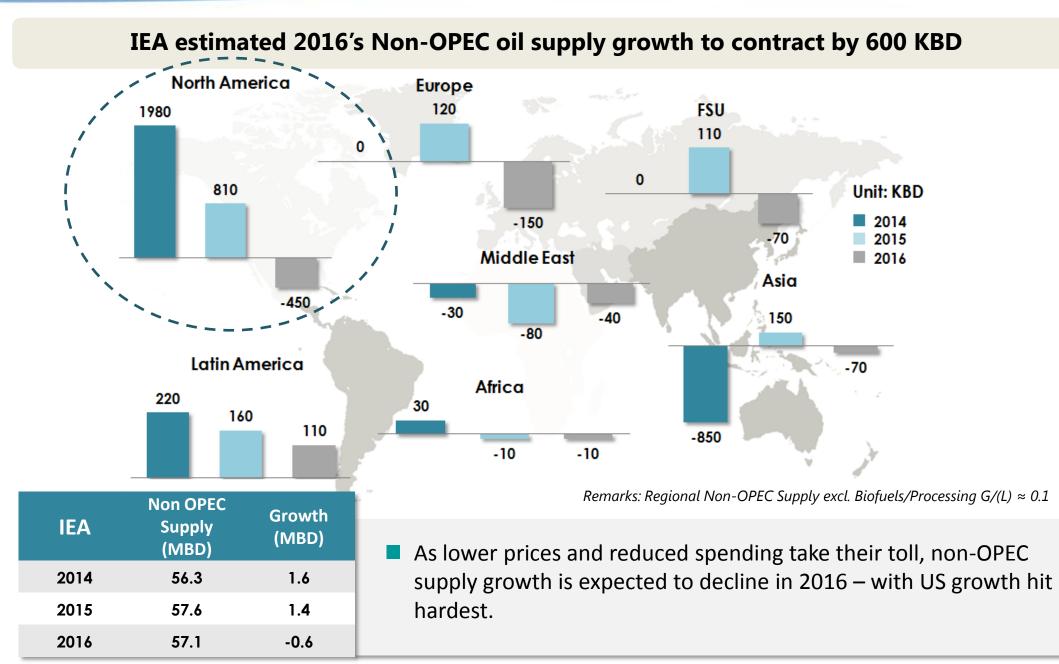
### IEA forecasted 2016's global oil demand to increase by 1.2 MBD mainly from Asia



Source: IEA, Oil Market Report Jan 2016

# **Non-OPEC Supply Growth Projection**

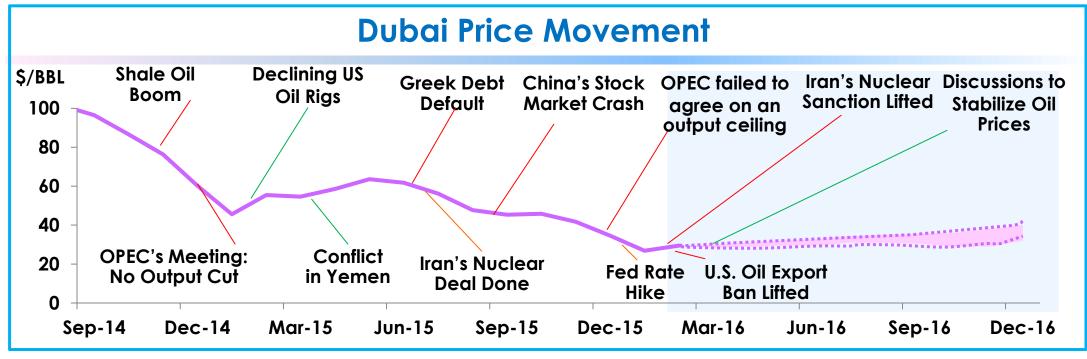




Source: IEA, Oil Market Report Jan 2016

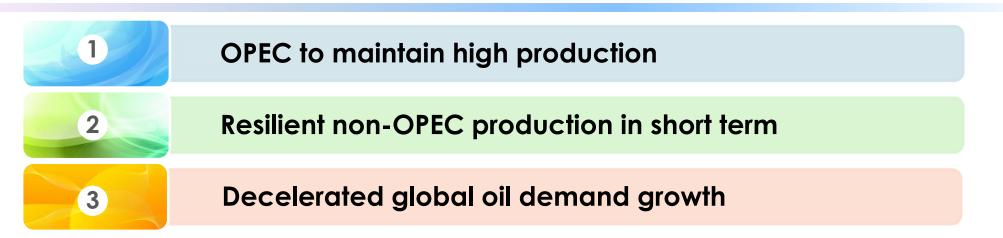
# **Crude Oil Market: Oil Market Rebalance is Still at Risk**





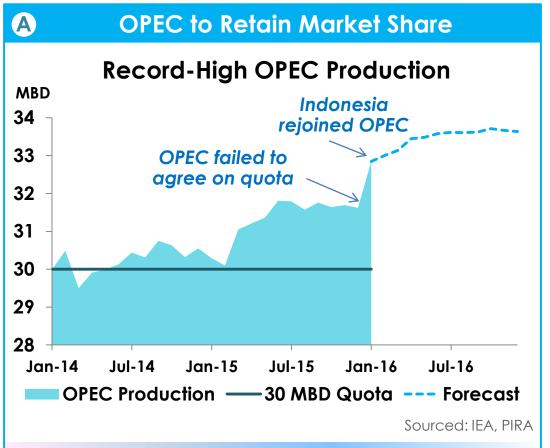
\*Q1TD (as of 10<sup>th</sup> Feb): \$29.4/BBL

# **Key Highlights:**

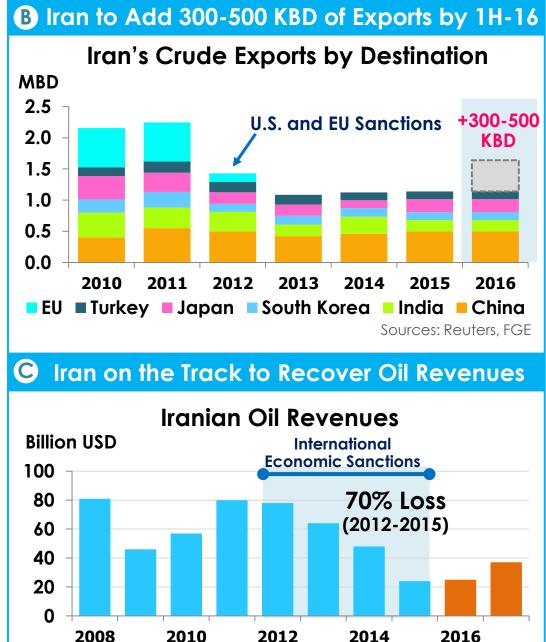


# **OPEC to Maintain High Production**



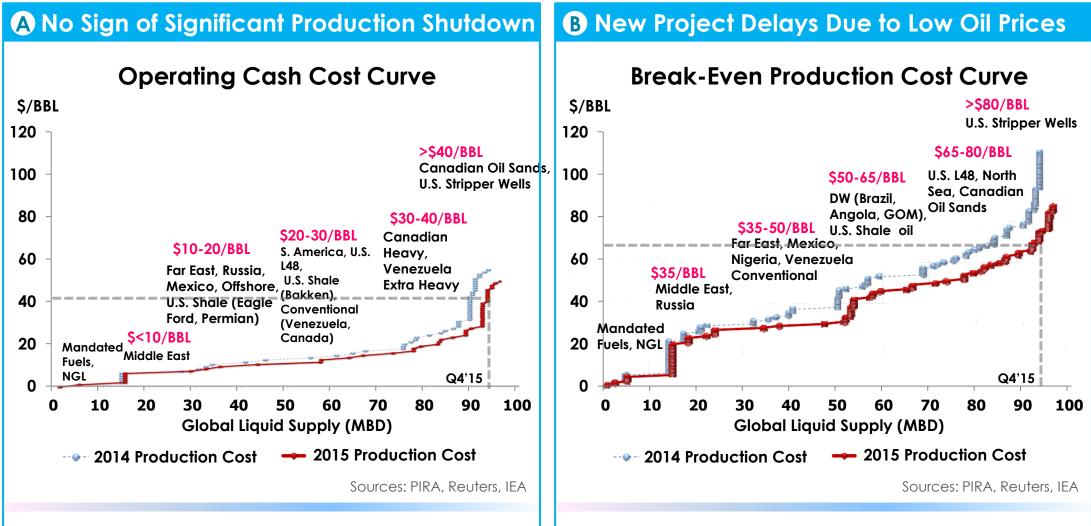


- OPEC unlikely to agree on output cuts
- OPEC to defend its market share and allow market prices to freely adjust



# **Resilient Non-OPEC Production in Short Term**



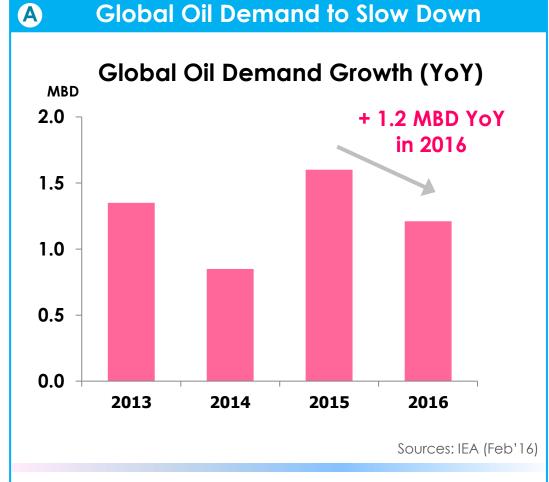


- Non-OPEC producers (Canada, U.S.) continue to produce oil at loss due to high cost of restarting production.
- In short term, oil surplus still remains

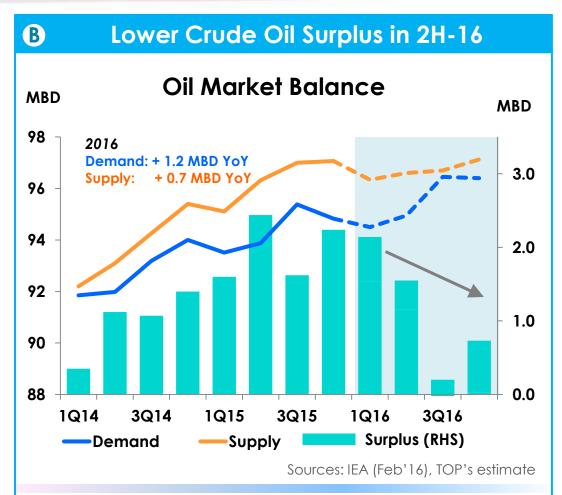
- New projects continue to be delayed or cancelled due to low oil prices.
- Non-OPEC supply is expected to significantly decline

# **Decelerated Global Oil Demand Growth**





 Global oil demand growth will slow down to 1.2 MBD, amid fragile global economic conditions



- Persistent crude surplus and massive global stock builds in 1H-16
- Declined non-OPEC Supply (≈ 650 KBD) to gradually narrow crude oil surplus in 2H-16

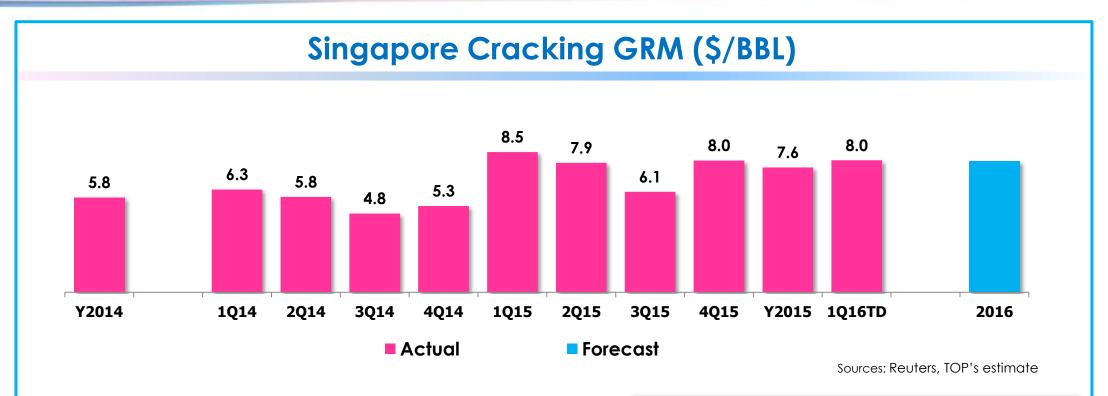


# **PETROLEUM PRODUCTS**

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# **Moderate Refinery Margin in 2016 on Low Oil Prices**





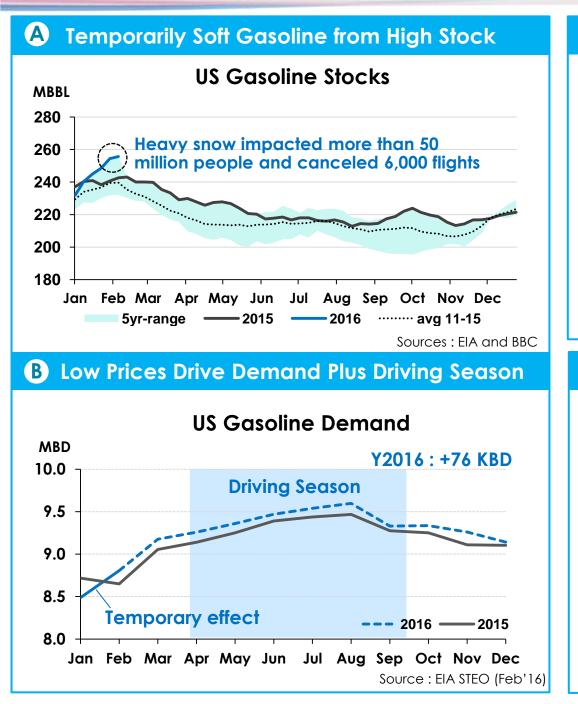
(\$/BBL)	Q4-15	2015	Q1TD16*	2016(F)**				
ULG95-DB	18.7	18.3	19.1					
JET-DB	14.1	13.9	11.6	$\leftrightarrow$				
GO-DB	GO-DB 13.8 13.7 9.5							
HSFO-DB	(6.5) (5.0)		(4.7)					
Remarks: *Q1TD-16	5 as of 11 Mar	16, **Compar	ed to 2015					

# **Key Highlights in 2016**

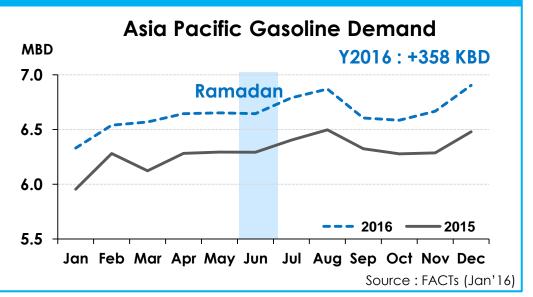
- Still high Gasoline cracks due to solid demand on low oil prices
- 2 Late winter and refinery MTA to support Jet/Kero in 1H-16
- Softer Gasoil on oversupply, but expect to recover in late March on seasonal demand and refinery MTA

# **Still High Gasoline Cracks Due to Solid Demand Growth on Low Oil Prices**

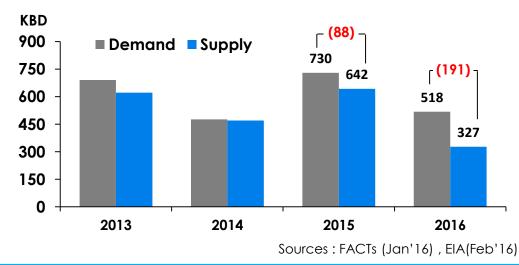




### C Low Oil Prices Continue to Support Demand



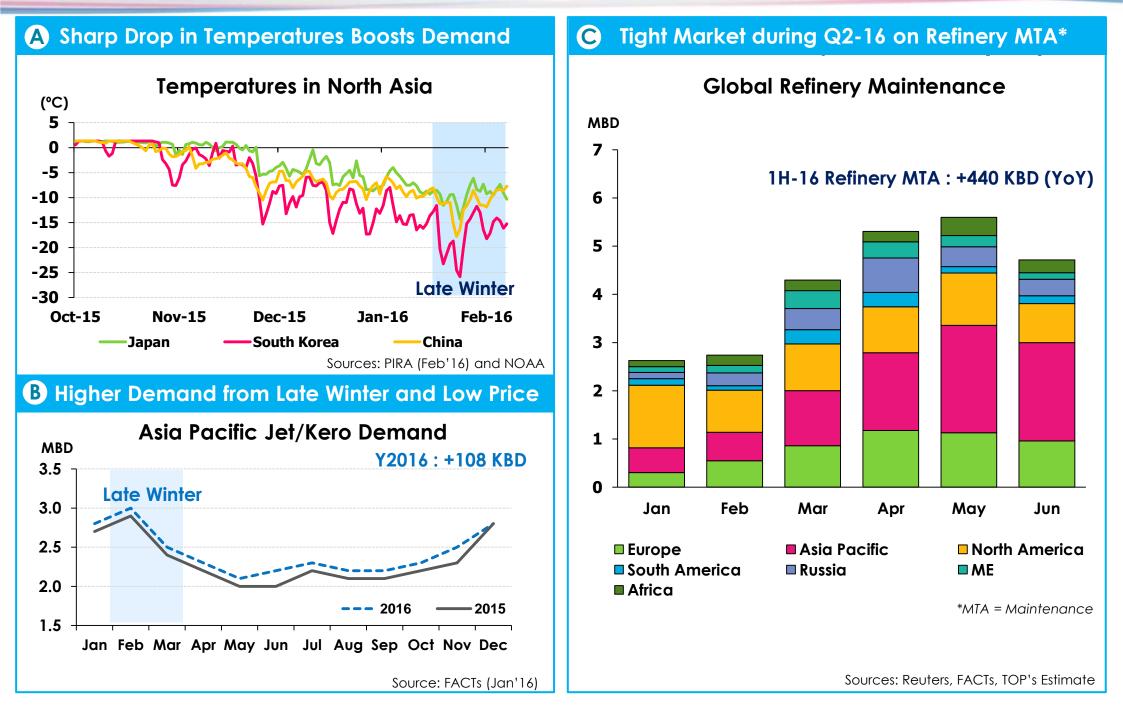
### **D** Global Demand Growth Outpacing Supply



### World Gasoline Demand & Supply Growth

# **2** Late Winter and Refinery Maintenance to Support Jet/Kero in 1H-16





# **Softer Gasoil on Oversupply, but Expect to Recover in Late March on Seasonal Demand and Refinery MTA**

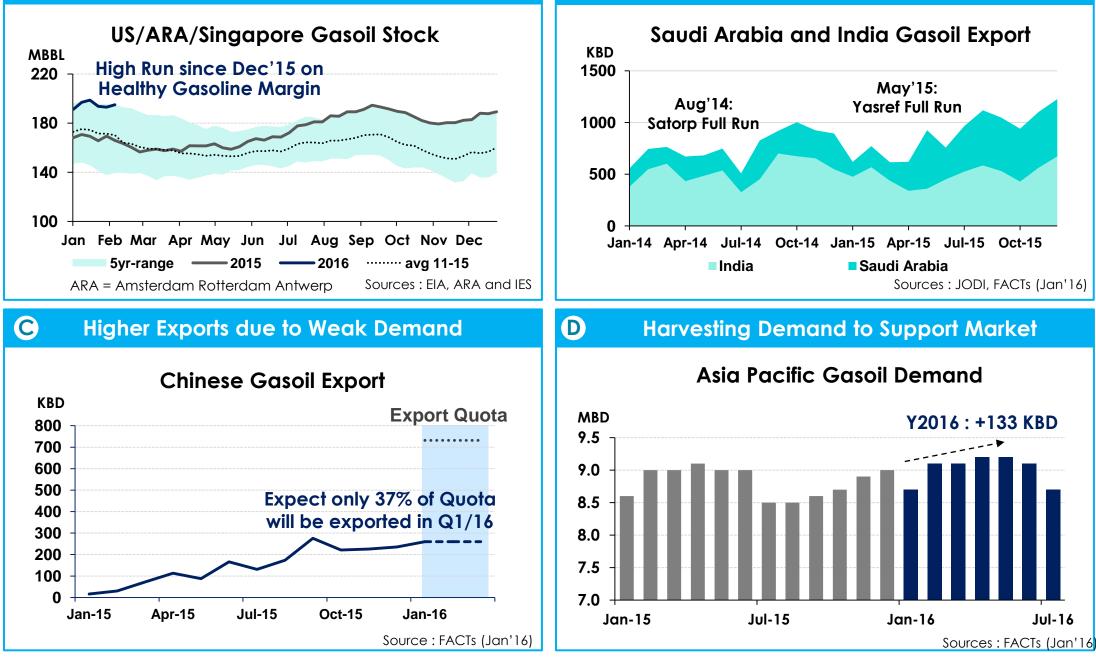
### Ample Gasoil Stocks on High Refinery Run



-50

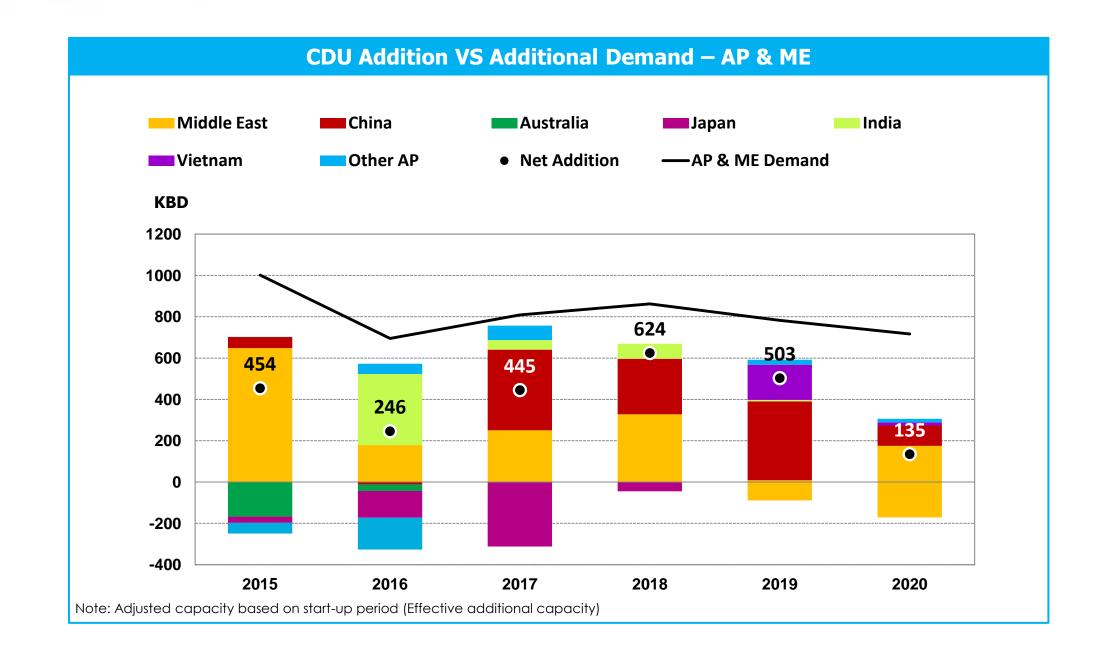
Group

ThaioIl



# Demand Growth Outpacing Supply Due to Refinery Closures Thereil Group

**V** -51-



### **Thailand's Oil Demand**

# **Thailand's Oil Demand in 2016**



Thail	Thailand Petroleum Demand Growth												
Year o	on Year	Y 2014	Y 2015	Y 2016 <sup>(B)</sup>									
Mogas <sup>(A)</sup>		+3.8%	+13.3%	+4.0%									
Jet/Kero		-1.0%	+9.7%	+2.6%									
Diesel (A)		+0.9%	+4.0%	+2.2%									
Fuel Oil		<b>-3.9</b> %	-1.4%	-0.7%									
Total		+1.0%	+6.6%	+2.6%									
GDP		+0.9%	+2.8% <sup>(C)</sup>	+3.5% <sup>(C)</sup>									

# Thailand's oil demand growth at 2.6% YoY in 2016

- Healthy Mogas and Diesel demand supported by lower retail prices and recovered economy
- Cheerful tourism sector leads to firm Jet demand growth

Remarks: (A) Mogas and Diesel included Ethanol and Biodiesel, respectively

(B) PTT Estimation (as of Oct 2015)

(C) BOT Estimation (Monetary report as of Dec 2015)

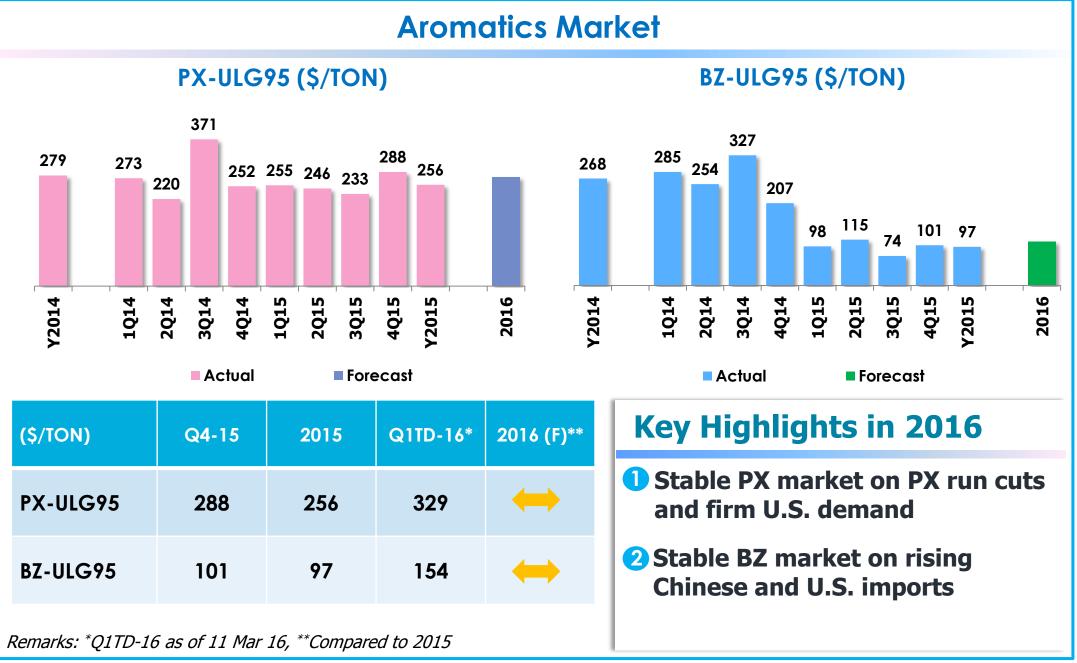


# AROMATICS

# 

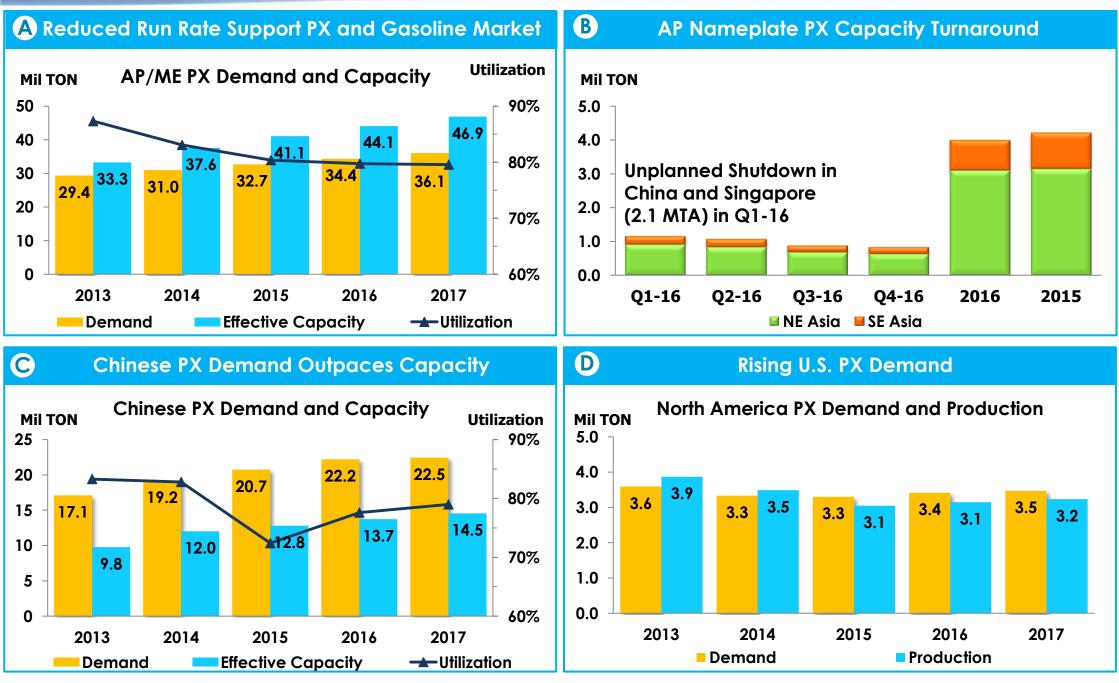
# Stable Aromatics Market on Reduced Run Rate and Improved Demand





Source: TOP's Estimate

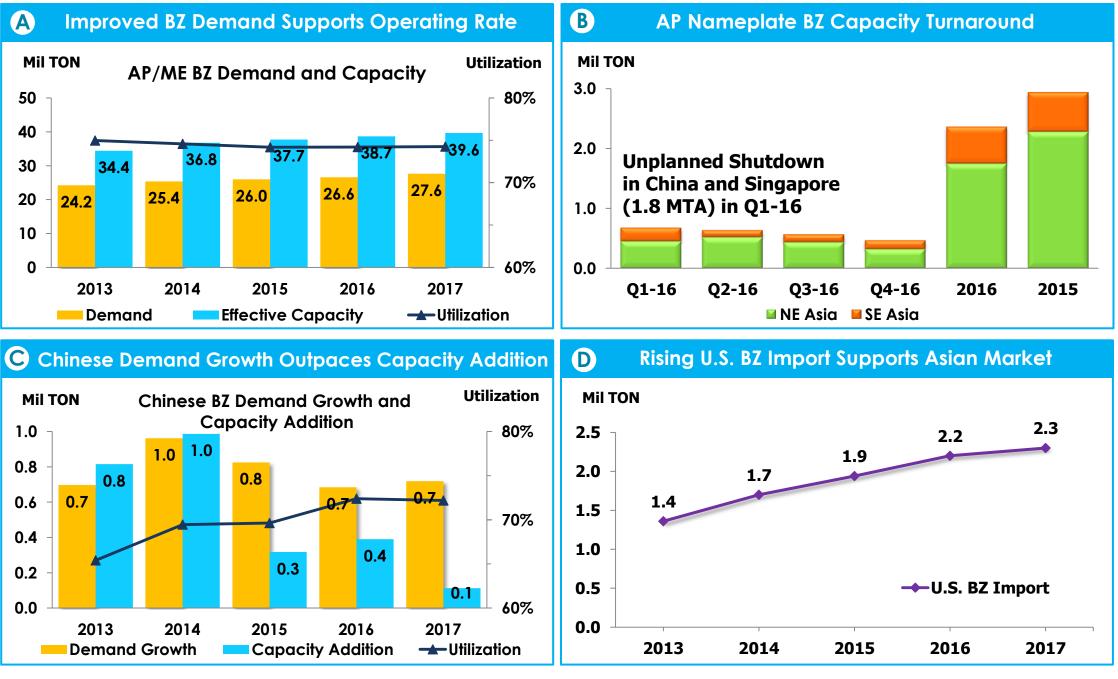
# **S** -55-Stable PX Market on PX Run Cuts and Firm U.S. Demand Theio(



Source: PCI as of Nov'15 and IHS as of Jan'16

# 2 Stable BZ Market on Rising Chinese and U.S. Imports





Sources: IHS as of Jan'16

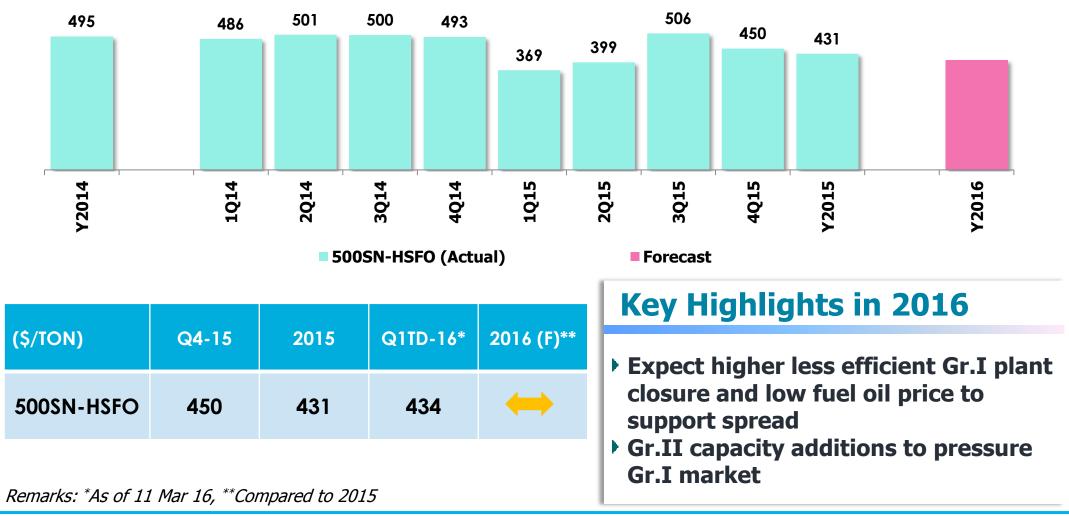


# **BASE OIL & BITUMEN**



# **Base Oil Market**

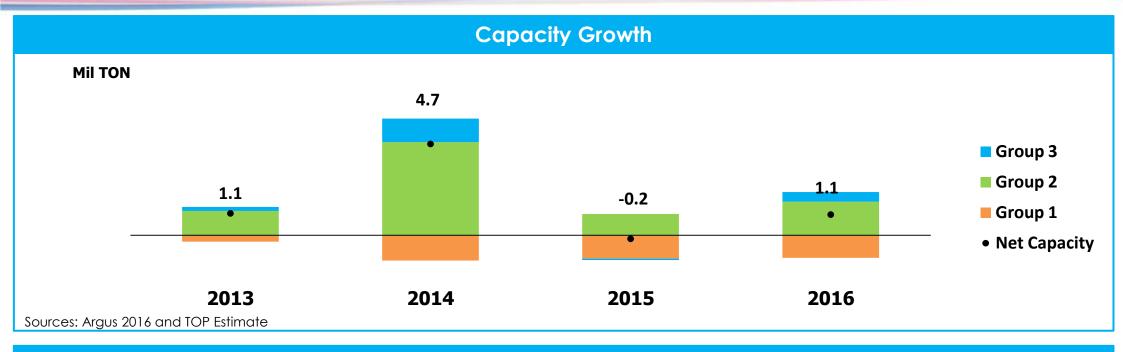
### Base Oil Benchmark Spread (\$/TON)



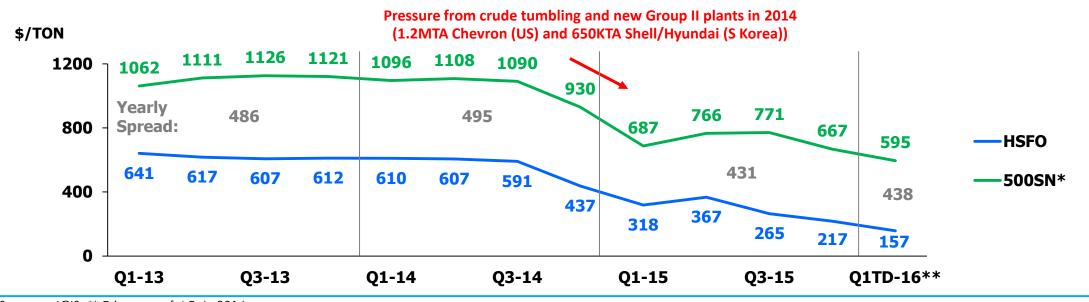
Source: ICIS Publication (2014-2016) and TOP's Estimate

### Base Oil & Bitumen Stable Base Oil Spread in 2016 on Gr.I Plant Closure and Low Fuel Oil Price





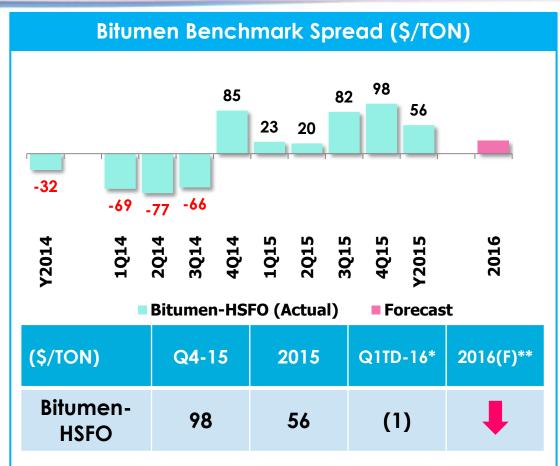
### 500SN Group I vs HSFO Price

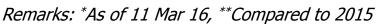


Sources: ICIS, \*\* Prices as of 4 Feb 2016

### **Base Oil & Bitumen**

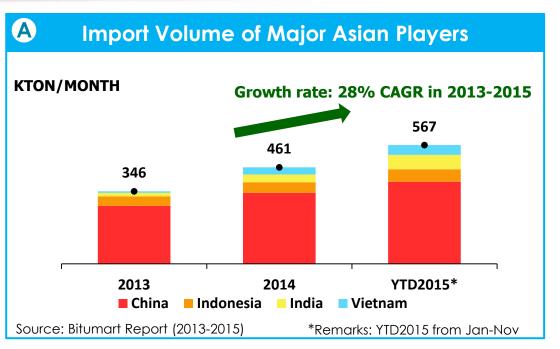
### **IN -60-**Lower Bitumen Spread in 2016 on Softer Chinese Demand Thatal





# **Key Highlights in 2016**

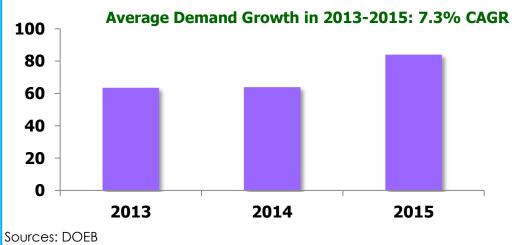
- Lower spread due to softer Chinese demand on economic slowdown
- However, SE Asian demand for infrastructure still supports spread



### **Thailand Domestic Bitumen Demand**

### **KTON/MONTH**

B



Sources: ICIS Publication and TOP's Estimate





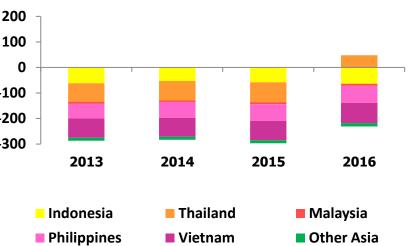
# **Stable LAB Spread on Steady Demand**





### LAB - BZ (\$/TON) КТА 200 651 100 592 <sub>560</sub> 587 <sub>543</sub> 571 549 526 519 499 0 -100 -200 -300 3Q14 Y2014 Y2016 4Q14 3Q15 Y2015 1Q14 2Q14 1Q15 2Q15 4Q15 LAB-BZ Forecast

### South East Asia LAB Balance



(\$/TON)	Q4-15	2015	Q1TD-16*	2016 (F)**
LAB - BZ	543	571	517	$\Leftrightarrow$
Remarks: *As of 11	Mar 16 **Com	nared to 2015	-	

# **Key Highlights in 2016**

- Thailand turns to net exporter
- South East Asia is still net importer

Source: ICIS Publication (2013-2015) and TOP's Estimate



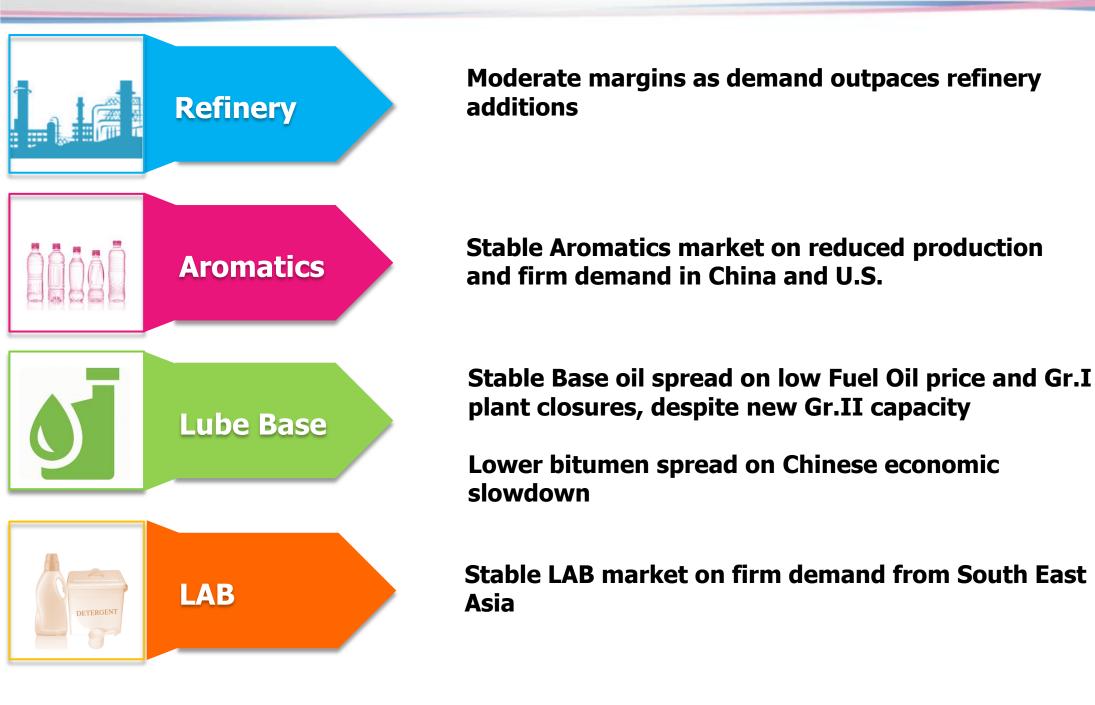
# CONCLUSION

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### Conclusion

# **2016 Market Outlook Conclusion**







# **APPENDIX**

- Q4&2015 Performance analysis
- World GRM / Inventories
- Thailand petroleum demand by products



# **Q4&2015 PERFORMANCE ANALYSIS**

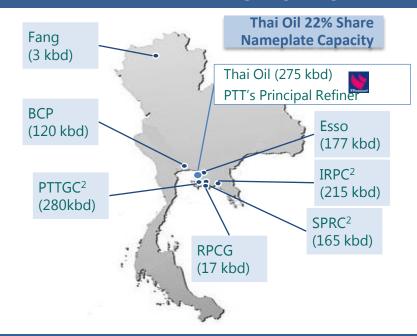
-66-

### Refining

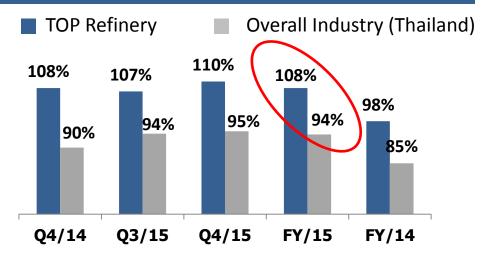
# **Thailand Leading Refinery : Superior Utilization/ Commercial**



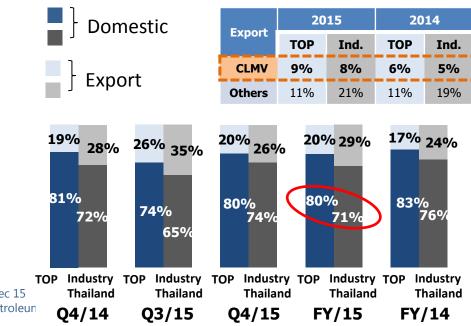
### Total Thailand Crude Refining Capacity 1,252 kbd<sup>1</sup>



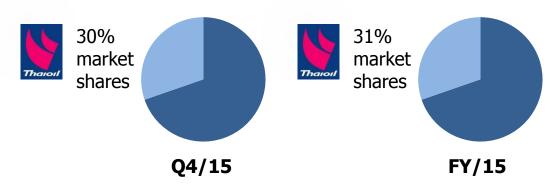
### **TOP's Refinery Utilization vs. Industry<sup>4</sup>**



### **TOP's Domestic Sale vs Industry<sup>4</sup>**



# Market Shares for Refined Petroleum Product<sup>3</sup>



Note: 1. Source: Energy Policy and Planning Office (EPPO), Ministry of Energy Thailand

2. PTT holds a 38.51% interest in IRPC, a 48.9% interest in PTTGC, and a 5.41% interest in SPRC as at 3 Dec 15 3. Calculate by total domestic sales of refined petroleum products of Thai Oil divided by total sales of petroleum

products in Thailand excl LPG as a feedstock and own used. Source from EPPO 4. Source: Department of Energy Business, Ministry of Energy

### Refining

# 68-Q4/15: Healthy Mkt GRM Driven by Recovered Middle Distillate Spreadhaiol

Dubai Crude Price & Key Petroleum Product Spreads											
		20			2015			2014			
\$/bbl	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY15	FY14	
DUBAI (DB)	104.4	106.1	101.5	74.4	51.9	61.3	49.7	<b>↓</b> 40.7	50.9	96.6	
ULG95 - DB	14.6	16.1	13.2	13.4	15.3	19.8	19.3	<b>↓</b> 18.7	18.3	14.3	
JET - DB	17.0	14.3	14.5	17.7	17.1	13.5	10.9	<b>1</b> 4.1	13.9	15.9	
GO - DB	17.8	16.0	14.4	16.0	16.3	13.7	10.8	<b>13.8</b>	13.7	16.1	
HSFO - DB	(8.5)	(10.6)	(8.4)	(5.6)	(1.8)	(3.5)	(8.1)	(6.5)	(5.0)	(8.3)	
100 - Dubai Price 80 - (US\$/bbl) 60 - 40 - 20 -	Jan Feb Mar	20	14		Jan Feb Mar Margi	· Apr May Jun	115	46 42 35 • Oct Nov Dec	JET-DB GO-DB HSFO-DB	= 29.1 \$/b = 19.1 \$/bt = 11.6 \$/bt = 9.5 \$/bt = (4.7) S/bt	
			14	ennery	Wargr		15			2014	
\$/bbl	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY15	FY14	
Market GRM	5.1	4.4	4.6	8.2	8.8	7.4	6.6	8.5	7.8	5.7	
Stock G/(L)	(1.7)	1.4	(5.2)	(11.7)	(1.5)	2.5	(4.9)	(3.3)	(1.9)	(4.5)	
Accounting GRM	3.4	5.8	(0.6)	(3.5)	7.3	9.9	1.7	5.2	5.9	1.2	

<b>Refinery Utilization</b>								
2014	Q4/15	2015						
98%	110%	108%						

% MB 3	% MB Intake/Premium*										
45%/	50%/	50%/									
2.8	2.0	1.6									

\*Murban Premium over Dubai

### Market GRM Highlight

- +Higher middle distillate **spread** during winter season
- +Lower refinery fuel cost (Energy cost) tracking fall in oil price

### Performance Highlight

- + Max run at 110% in Q4 to capture strong GRM
- + Successful margin improvement activities in 2015 i.e. new crude type vs. plan, freight saving from crude cargo arrangement optimization

# 69-Q4/15: Higher Aromatics Margins Supported by High Seasonal Demand That of Group

Aromatics Spreads and Margins											
	2014					2015					
\$/ton	Q1	Q2	<b>Q</b> 3	Q4	Q1	Q2	<b>Q</b> 3	Q4	FY15	FY14	
PX*-ULG95	273	220	371	252	255	246	233	<b>1</b> 288	256	279	
BZ-ULG95	285	254	327	207	98	115	74	<b>†101</b>	97	268	
450 - 353 381 415 PX-ULG 353 381 381 BZ-ULG							PX-ULG95	<b>(11 Mar 16)</b> 5 = 329 \$/ton 5 = 154 \$/ton			
300 · (US\$/Ton)	273 340 285	180 191 290	333 372		290 251 224	277 238 22	<sup>266</sup> 23523	270 255 25	PX-ULO	G95	
150	_ 232	2 241 <sup>228</sup>	275	270 229 1221	20 _ 110	184	164	25 59 125 1:	BZ-ULC	G95	
0					50	66					
	٦	ΓΡΧ's S	ales &	Produc	t-To-F	eed Ma	rgin (l	2F)			
(Unit : KTon)	<b>C 1</b>	51		CA		_	32		2015 t sales (		
■ TL ■ BZ	61	35	31	64	48	44	51	21 42	PX 44	42	
■ BZ ■ MX	127	106	31 20 69	129	103	108	126	106	BZ 18	35	
■ PX									TL 5	9	
		20	14			20	15			2014	
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY15	FY14	
P2F -\$/ton	63	37	66	22	11	76	54	93	63	46	
P2F -\$/bbl	8.2	4.8	8.7	2.9	1.4	9.9	7.1	12.2	8.2	6.1	
GIM contribution	0.4	0.0	0.4	(0.3)	(0.4)	0.8	0.5	1.3	0.6	0.1	

### **Aromatics Production** 2014 Q4/15 2015 82% 85% 81%

### Market Highlight

- + Improved PX margins driven by high polyester demand & limited supply from plant S/D i.e. Ningbo (China) 1.6 MTA PX capacity
- + **Improved BZ margins** driven by increase in China & US import, while more supply from naphtha cracker plants still limited upside

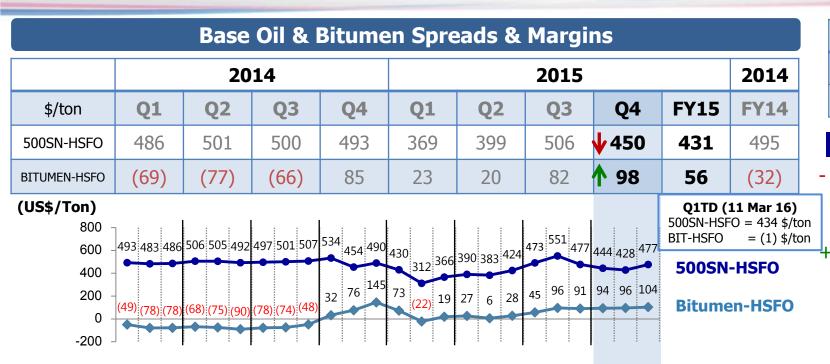
### Performance Highlight

- + Optimized run between Aromatics & refinery to maximize Group margins
- + Improved P2F supported by lower feedstock cost
- + Lower utility cost tracking drop in oil price help further support GIM contribution

### Lube Base Oil

# Q4/15: Lube/Bitumen Stay Firm on Low Oil Price





# Base oil Production 2014 Q4/15 2015 92% 90% 86%

### Market Highlight

**Soften Base Oil spread** pressured by slow demand toward year end

+ Improved Bitumen spread supported by sharp drop in feedstock cost & strong regional demand

TLB's Sales & Product-To-Feed Margin (P2F)												
(Unit : KTon) 2015 total sales (Kton)												
Bitumen	90	89	87	93	98	84	117	106	Bitumen	406 KT		
Specialty Base Oil	33 70	40 60	37 58	32 52	41 64	46	44	42 60	Specialty Base Oil	172 KT 238 KT		
- Dase On	70	00	58	52	04	59	55	00		250 KI		
		2014			2015					2014		
	Q1	Q2	02	04	01	00	00	~ 4				
	τ-	Q2	<b>Q3</b>	<b>Q4</b>	<b>Q1</b>	<b>Q2</b>	<b>Q</b> 3	Q4	FY15	FY14		
P2F -\$/ton	135	117	107	<b>Q4</b> 90	<b>Q1</b> 108	<b>Q2</b> 139	<b>Q3</b> 119	Q4 131	124	<b>FY14</b> 112		
P2F -\$/ton P2F -\$/bbl	-	•	•	-	-	-						

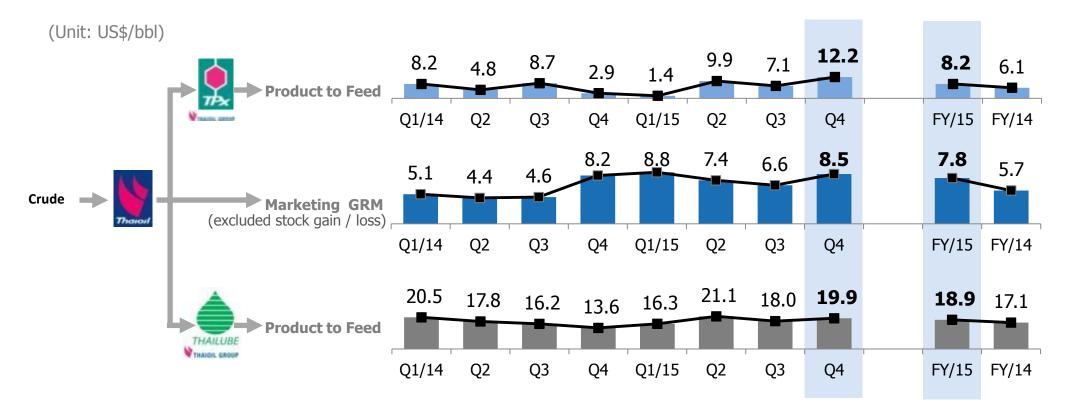
### Performance Highlight

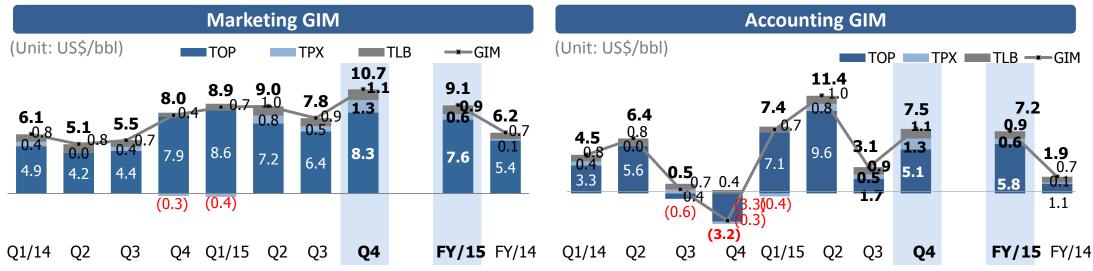
- + **High production rate to capture strong P2F** which was supported by robust Bitumen spread
- + Lower utility cost tracking drop in oil price help further support GIM contribution

### Performance Breakdown

# **Beauty of Integration...Sustainable GIM**







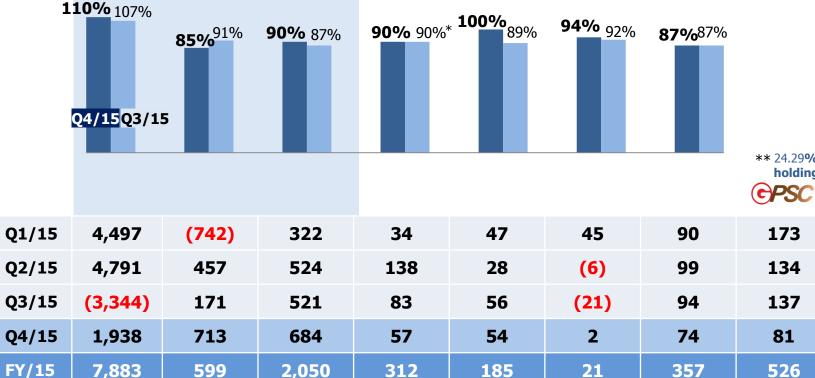
### **Performance Breakdown**

# Q4 & 2015: Performance Breakdown



### Utilization/Production (%) & Net Profit (million THB)





### **Key Points**

- TOP: max run to capture decent GRM & no major maintenance
- TPX/TLB: improved contribution from higher P2F & lower energy cost (tracking lower crude price)
- **TP:** soften contribution as declined FT and lower utilization due to planned maintenance
- **TS:** soften contribution pressured by lower selling price per unit & weaken demand toward year-end
- **TM:** stable contribution as higher petroleum & petchem vessel utilization offset by soften crew boat utilization
- **TET:** improved production rate but soften ethanol selling price & demand pressured contribution

								** 24.29% holding	Consol	Reversal of NRV/	Consol Excl Stock G/(L) & Reversal c NRV/(NRV)	of
15	4,497	(742)	322	34	47	45	90	173	4,498	999	3,499	
.5	4,791	457	524	138	28	(6)	99	134	6,228	2,414	3,814	
.5	(3,344)	171	521	83	56	(21)	94	137	(2,294)	(4,854)	2,560	
15	1,938	713	684	57	54	2	74	81	3,749	(4,166)	7,915	
5	7,883	599	2,050	312	185	21	357	526	12,181	(5,608)	17,789	

\*Since Q3/14 onwards, 2014 SAKC capacity = 141 KTA / 2013 SAKC capacity = 76 KTA

\*\* Apply on an equity accounted basis in the consolidated financial statement. (GPSC has been held by TOP 8.9% and TP 20.8% since 18 May 15)

\*\*\*TP performance are based on TOP's equity portion (excluding shares of profit from the investment in GPSC). TOP hold TP 74% since 4 Dec 12

#### **Financial**

### **2015 TOP Group Consolidated P&L**



(million THB)	<u>Q4/15</u>	<u>Q3/15</u>	<u>QoQ+/(-)</u>	<u>Q4/14<sup>R</sup></u>	<u>YoY+/(-)</u>	<u>2015</u>	<u>2014<sup>R</sup></u>	<u>YoY+/(-)</u>
Sales Revenue	68,446	74,721	(6,275)	88,545	(20,099)	293,569	390,090	(96,521)
Hedging Gain	1,053	547	506	328	725	1,489	2,218	(729)
EBITDA	6,348	2,931	3,417	(5,373)	11,721 /	25,492	2,651	22,841
EBITDA excl. Stk G/(L) & Reversal of NRV/(NRV)	10,514	7,786	2,728	6,880	3,634	31,099	<b>)</b> 19,541	11,558
Financial Charges	(659)	(858)	199	(992)	333	(3,435)	(3,966)	531
FX G/(L) & CCS	318	(2,568)	2,886	(548)	866	(2,754)	996	(3,750)
(Tax Expense)/Reversal of income tax	(566)	(317)	(249)	1,451	(2,017)	(1,597)	920	(2,517)
Net Profit / (Loss)	3,749	(2,294)	6,043	(6,444)	10,193	12,181	(4,140)	16,321
EPS (THB/Share)	1.84	(1.12)	2.96	(3.16)	5.00	5.97	(2.03)	8.00
Stock G/(L)&Reversal of NRV/(NRV)	(4,166)	(4,854)	689	(12,252)	8,086	(5,608)	(16,890)	11,282
Net Profit/ (Loss) excl. Stk G/(L) and Reversal of NRV/(NRV)	7,915	2,560	5,355	5,809	2,106	17,789	12,750	5,039
THB/US\$ - average	35.99	35.41	0.58	32.85	3.14	34.44	32.62	1.82
THB/US\$ - ending	36.25	36.53	(0.28)	33.11	3.14	36.25	33.11	3.14
Effective Tax Rate (%) *	13%	N/A	N/A	N/A	N/A	11%	N/A	N/A

<sup>R</sup> Restated financial statement. As on 1 January 2015, Thaioil Group adopted TFRS10 (Common control)

\*redeemed BOI privilege for tax exemption on environmental projects in Q3/15 = (742) MB, Q4/15 = 190 MB , FY/15 = 959 MB , FY/14 = 0 MB

### **2015 TOP Group Consolidated Cash Flow**



(Unit: Million THB)				(Unit: Million THB)						
<b>Operating Cash Flov</b>	V				Investments					
<u>20</u>			<u>2014</u> <sup>R</sup>			<u>2015</u>	<u>2014</u> <sup>R</sup>			
<b>Operating Cash Flow</b>	31,	708	24,432		Investments	2,530	(20,346)			
Net income & non-cash	adj. 25,	453	7,763	+	ST investments	12,881	(1,734)			
Change in working capit	in working capital 6,		55 16,669		CAPEX (PP&E) & other	(10,351)	(18,612)			
5 5 1	Í	_	,							
					Financing					
		Ť			Financing	(14,740)	(3,075)			
Free Cash Flow	34,2	238	4,086	+	Loans proceeding (i.e. LABIX, SAKC)	4,971	41,550			
					Loans repayment	(13,128)	(36,565)			
					Dividends paid	(3,194)	(4,242)			
					Interest	(3,389)	(3,818)			
			-							
Beginning			Chang	je	Effect of FCD	Ending				
cash 1	.6,237	+	19,49	8 🕇	+ 29 =	35,764				
S/T investment	30,246		(12,881			17,365				
	6,483					53,129				

<sup>R</sup> Restated financial statement. As on 1 January 2015, Thaioil Group adopted TFRS10 (Common control)



### **APPENDIX**

- CDU Addition VS Additional Demand AP & ME
- World GRM / Inventories
- Thailand petroleum demand by products

#### Refinery

# Demand Growth Outpacing Supply Due to Refinery Closures

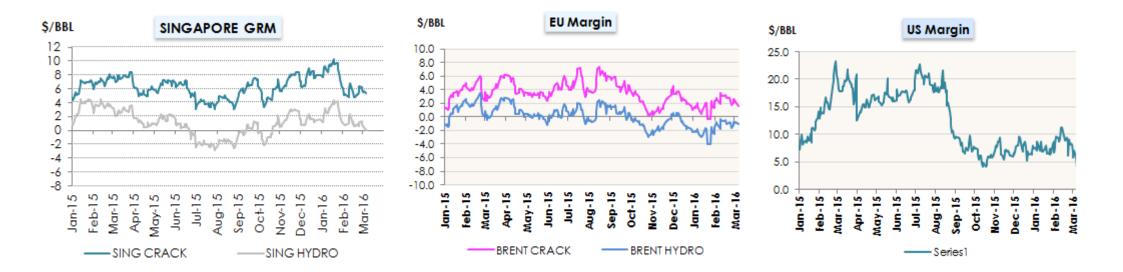
CDU Addition VS Additional Demand – AP & ME						P & ME	Start-up period)	Country	Nameplate (KBD)	Company
AP	AP Additional Demand ME Additional Demand				Q1-15	UAE	417	Ruwais		
Middle East China					Q2-15	China	70	Local Rizhao Lanqiao		
			■ Japan ■ Vietnam			Q3-15	China	30	Sinopec Jiujang	
_	<ul> <li>Other AP</li> <li>Net Addition</li> </ul>					Q4-15	China	140	CNOOC/Ningbo Daxie	
KBD								New Zealand	8	Marsden Point
1200							Q1-16	Pakistan	10	Pakistan Refinery
1000							Q2-16	India	300	IOC Paradip
								India	112	BPCL Kochi
800				624				Qatar	136	Ras Laffan
600	454		0.05	•	503			China	60	CNOOC Taizhou
	434		445 •		•		Q3-16	China	200	CNPC/SA Huizhou
400		<b>246</b>		-		135		South Korea	102	Hyundai Lotte
200							Q1-17	China	260	CNPC/SA Anning
0	_	_	_	_			Closures			
							Q2-15	Australia	-95	BP Bulwer
-200							Q4-15	China	-308	Local refineries
-400								Japan	-93	Nansei Sekiyu KK
	2015	2016	2017	2018	2019	2020		Taiwan	-186	<b>CPC Corporation</b>
Note:	Adjusted co	apacity ba additional (	sed on star	t-up period			Q3-16	Japan	-93	Cosmo oil
			capacity				Q4-16	China	-120	Local refineries

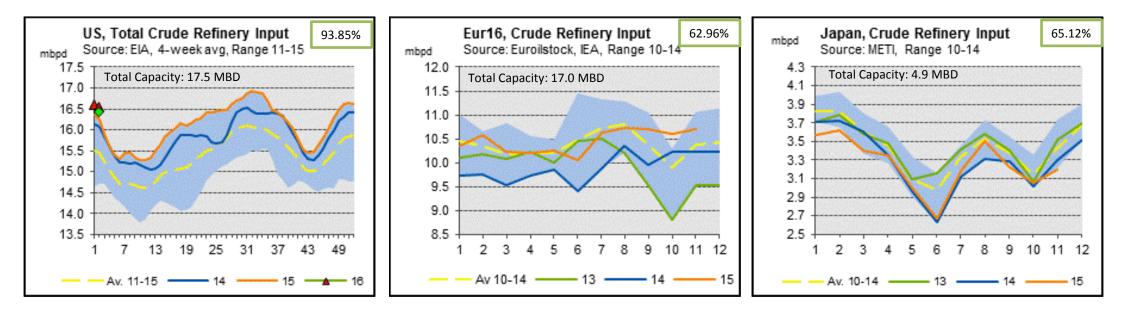
Sources: FACTs Semi Annual Reports, Fall 2015, Reuters, Bloomberg, TOP's estimate

#### World GRM

### **Asian Margin Vs. US-EU margin**



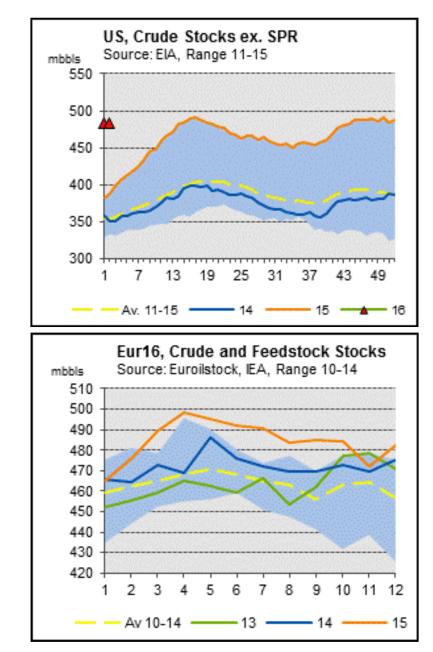


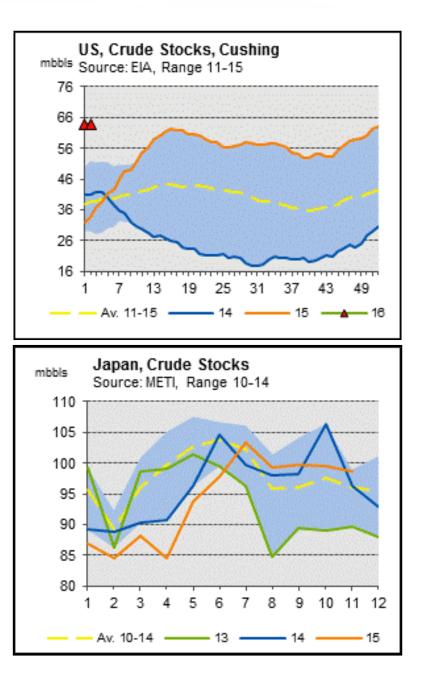


#### Inventories

### **Crude Inventory**



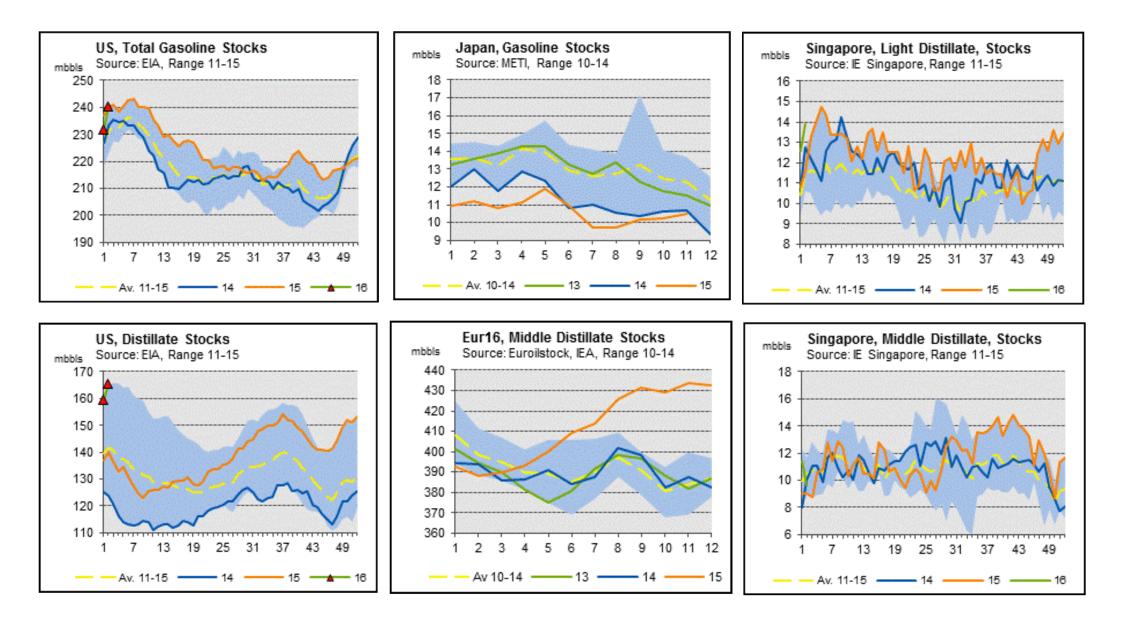




#### Inventories

### **Global Distillate Inventory**

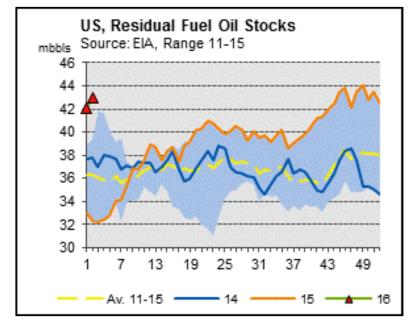


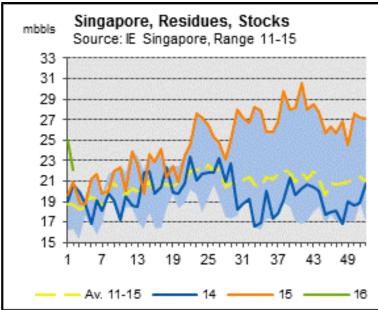


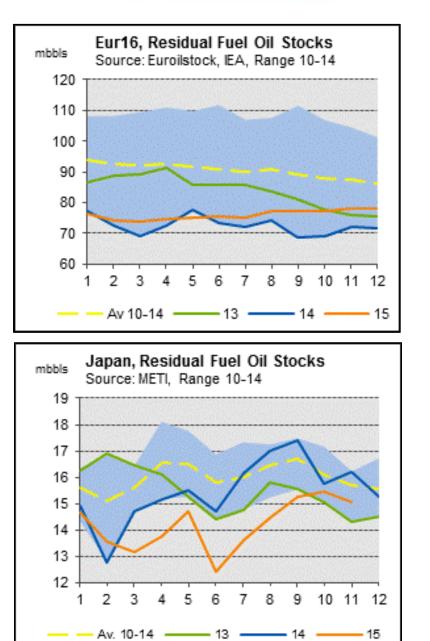
#### Inventories

### **Fuel Oil Inventory**







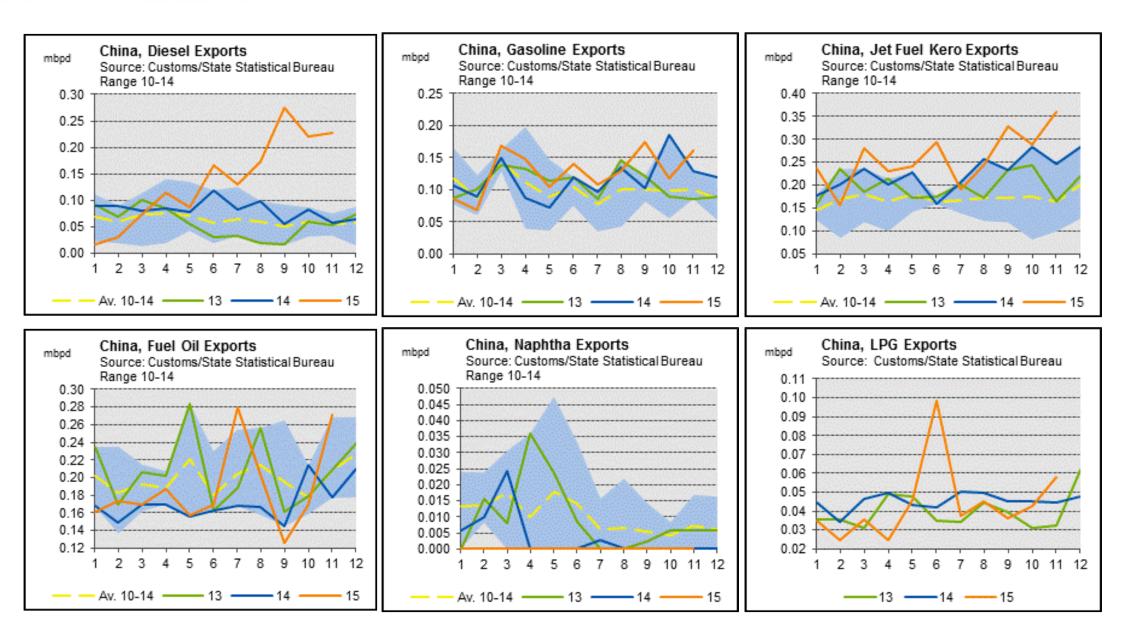


Source: Norwegian Energy

#### **China Export**

### **China's Product Export**

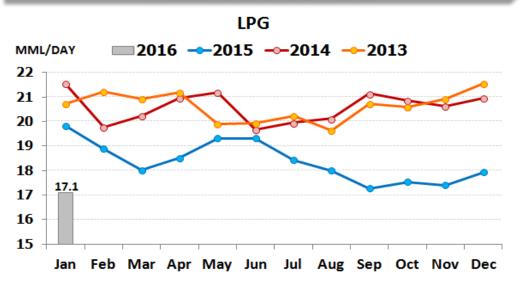




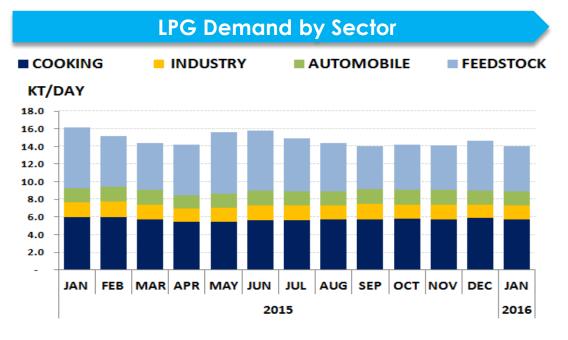
### **Domestic LPG Demand**



#### Thailand LPG Demand







#### LPG Demand Highlight

 In Jan-16, LPG demand fell significantly by 4.7%YoY on account of lower usages in all sectors. Most of the decline came from petrochemical sector which its feedstock switching from LPG to Naphtha leading to 26.1%YoY drop in this sector. Furthermore, LPG demand in automobile fell harshly by 16.4%, as a result of fuel switching from LPG to Mogas due to lower price of Mogas.

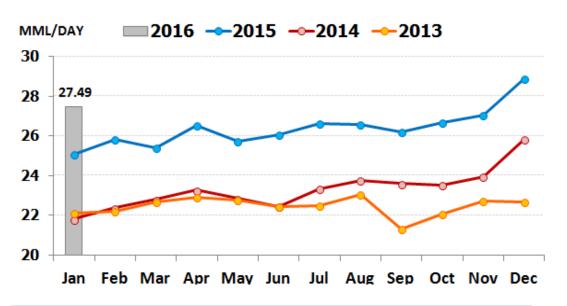
#### Outlook for 2016

- LPG demand is expected to dropped by 1.5% YoY pressured by the expectation of more fuel switching from LPG to Mogas, due to low oil price.
- However, the slowdown of LPG demand was expected to be limited by higher usage in industry sector as lower price compared to previous year.

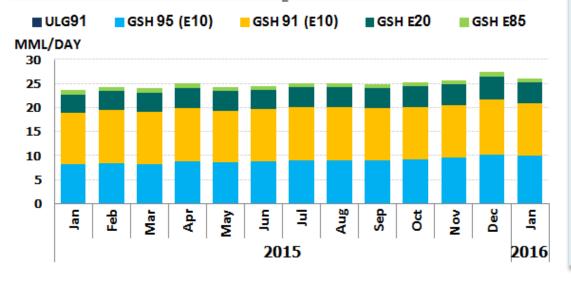
### **Domestic Gasoline Demand**



#### **Thailand Gasoline Demand**



Gasoline Demand by Grade



#### GASOLINE Demand Highlight

- In Jan-16, Mogas demand jumped sharply by 9.7%YoY to an average 27.49 mml/day. This was mainly due to lower retail prices and higher transportation. In fact, the gasohol portion increase significantly to 95.4% of total gasoline as a result of lower proportion of ULG95 from 5.4% to 4.6%, according to wide price gap of ULG95 and GSH.
- The level of domestic ethanol demand, in Jan-16, rose significantly by 7.2% YoY from 3.44 mml/day to 3.68 mml/day following the rising of Mogas demand. Additionally, this was also because of higher demand in GSH-91, GSH-95, and E20 backed by increasing in the number of new registered personal car and E20 gas station.

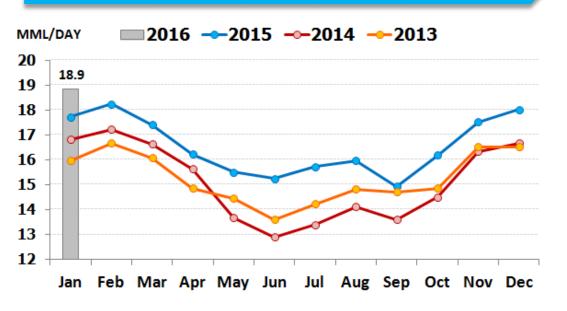
#### Outlook for 2016

Mogas consumption is predicted to grow by 4.0%
 YoY supported by low level of retail price and higher passenger cars.

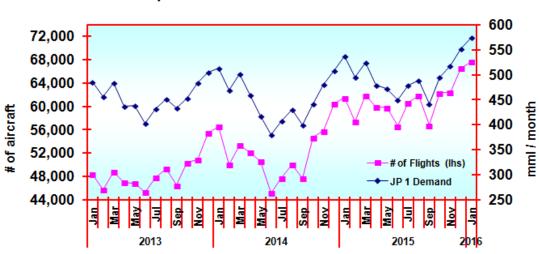
### **Domestic Jet Demand**



#### Thailand JET-A1 Demand



#### JET-A1 demand and # of flights



Relationship between aircraft movement and JP-1 demand

#### JET Demand Highlight

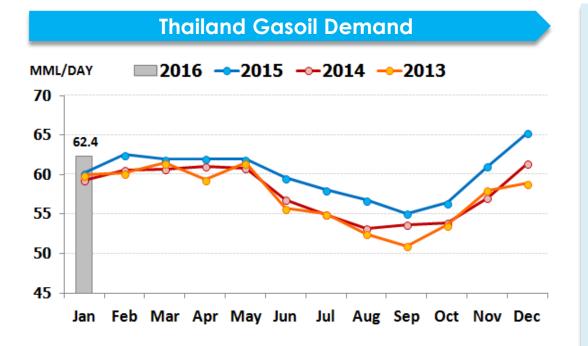
 In Jan-16, Jet consumption increased significantly by 6.3% over the corresponding period last year mainly owning to booming tourism industry. The expansion in tourism sector was a result of the 45.4%YoY and 10.4%YoY increasing number of Chinese and ASEAN tourists, pushing the number of flight movements higher both international and domestic aircrafts.

#### Outlook for 2016

 Jet demand growth is expected to grow by 2.6%YoY as a result of tourist number growth, but limited by constraint of Suvannabhume Airport capacity.

### **Domestic Gasoil and NGV Demand**





MML/DAY 2016 - 2015 - 2014 - 2013 10 9 8 7 6 5 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

#### Diesel Demand Highlight

In Jan-16, Diesel demand rose gradually by 3.6% YoY as relatively low retail prices boosted the consumption amidst higher number of accumulated commercial vehicles. Nevertheless, demand growth was curbed by the lowest level of export activity since 2012, as a result of decelerated global economy.

#### Outlook for 2016

 Diesel demand in 2016 is expected to expand by 2.2% YoY supported by reducing retail price and Thailand economic improvement.

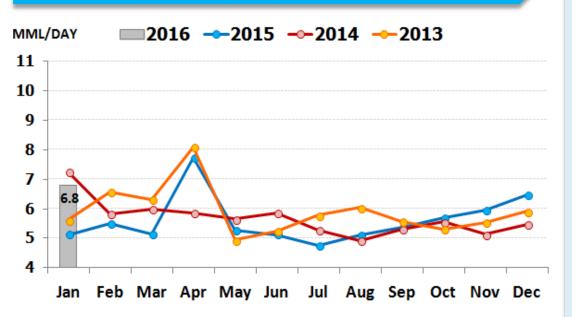
#### NGV Demand Highlight

 In Jan-16, NGV demand declined significantly by 7.1% YoY. This was mainly because of higher NGV retail price, which has increased to hit the record high at 13.5 baht/kg, and lower oil prices which reduced the fuel switching from old cars.

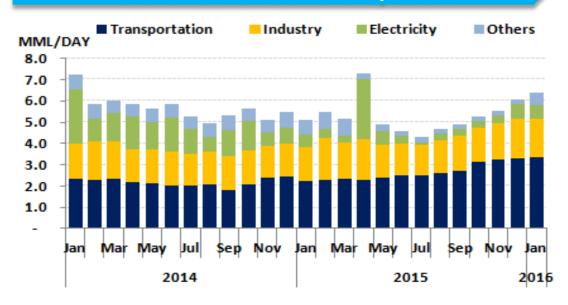
### **Domestic Fuel Oil Demand**



#### Thailand Fuel Oil Demand



#### **Thailand Fuel Oil Demand by Sector**



#### FUEL OIL Demand Highlight

 In Jan-16, Fuel Oil consumption jumped rapidly by 32.4%YoY, as a result of sharply increase by 50.6%YoY in transportation demand. Last year, transport activity in Thai fishery was pressured by EU warning of the concerning in illegal, unreported and unregulated fishing (IUU) of Thai seafood industry. Furthermore, the demand in industrial sector also increased by 14.6%YoY, as a result of lower price of fuel oil.

#### Outlook for 2016

 Fuel oil demand is expected to dropped by 0.7% YoY following the government power develop plan (PDP) that aim to promote alternative fuel. Moreover, power plant also alternate to use natural gas instead of fuel oil thanks to lower price. However, the falling of fuel oil demand is expected to be limited by lower price of fuel oil.



# **Thank You**

### Any queries, please contact:



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