

Security Code

Tokyo 5020

## Supplementary Information

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November 1, 2013



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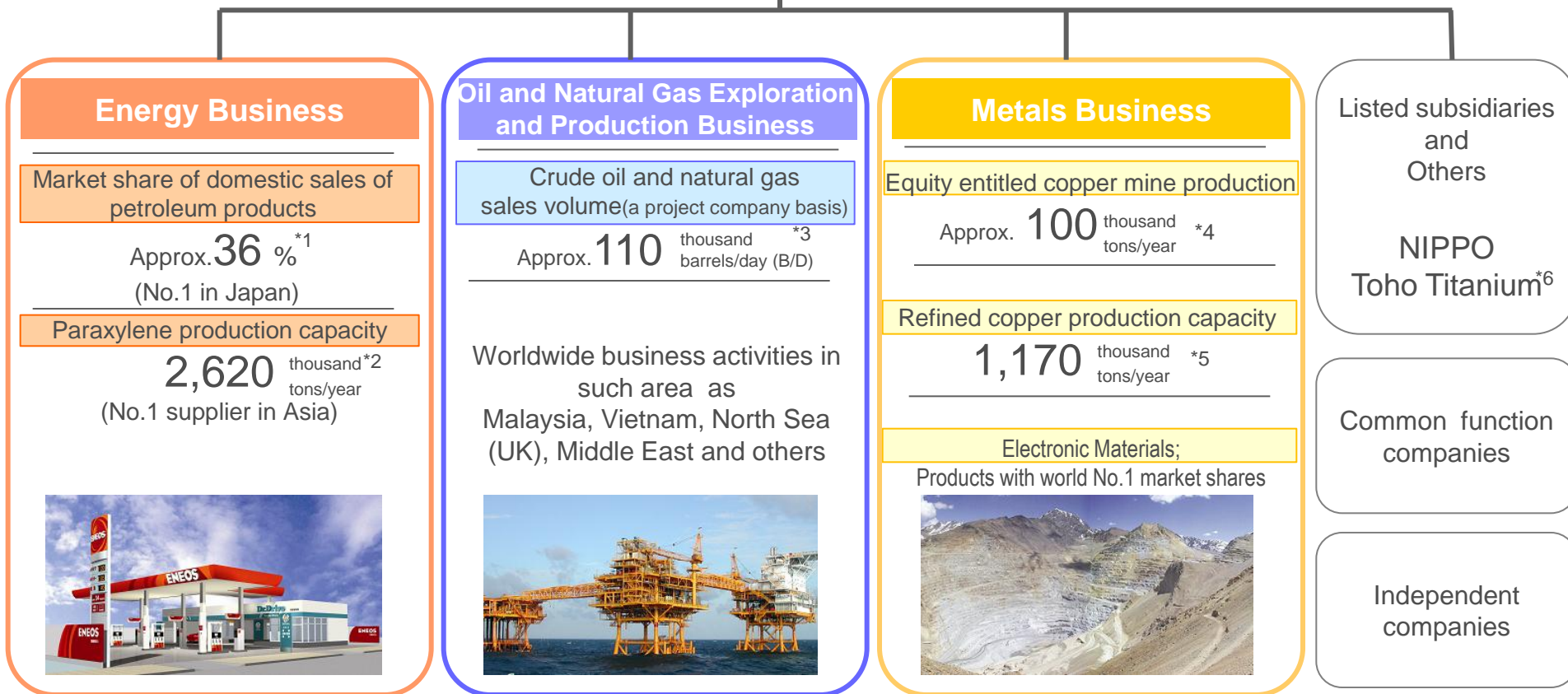


# Summaries of businesses and Financial Results



# Summary of JX Group's Businesses

## JX JX Holdings, Inc.



### Energy Business

Market share of domestic sales of petroleum products

Approx. **36** %<sup>\*1</sup>  
(No.1 in Japan)

Paraxylene production capacity

**2,620** thousand<sup>\*2</sup> tons/year  
(No.1 supplier in Asia)



### Oil and Natural Gas Exploration and Production Business

Crude oil and natural gas sales volume(a project company basis)

Approx. **110** thousand<sup>\*3</sup> barrels/day (B/D)

Worldwide business activities in such area as Malaysia, Vietnam, North Sea (UK), Middle East and others



### Metals Business

Equity entitled copper mine production

Approx. **100** thousand<sup>\*4</sup> tons/year

Refined copper production capacity

**1,170** thousand<sup>\*5</sup> tons/year

Electronic Materials;

Products with world No.1 market shares



Listed subsidiaries and Others

NIPPO Toho Titanium<sup>\*6</sup>

Common function companies

Independent companies

\*1 FY2013 1H actual

\*2 As of Sep. 2013

\*3 Crude Oil Equivalent (Estimated average daily production from Jan. to Jun. 2013)

\*4 Equity entitled copper production contained in copper concentrate (Estimated production from Jan. to Dec. 2012)

\*5 Pan Pacific Copper (66.0% equity stake) ; 610 thousand tons/year + LS-Nikko Copper (39.9% equity stake) ;560 thousand tons/year (As of Sep. 2013)

\*6 Profit and loss of Toho Titanium is included in the Metals Business.



# Financial Summary

	FY2012			FY2013		
	1Q	1H	Full Year	1Q	1H	Full Year
(JPY billion)	Actual	Actual	Actual	Actual	Actual	Forecast (Nov. 2013)
<b>Net Sales</b>	<b>2,551.0</b>	<b>5,189.1</b>	<b>11,219.5</b>	<b>2,773.8</b>	<b>5,777.7</b>	<b>11,860.0</b>
Energy	2,194.2	4,467.7	9,699.6	2,396.8	5,009.2	10,240.0
Oil and Natural Gas E&P	51.0	95.5	173.1	48.2	94.1	200.0
Metals	232.2	465.4	964.9	252.9	506.5	1,030.0
Others	73.6	160.5	381.9	75.9	167.9	390.0
<b>Operating Income (Loss)</b>	<b>(65.5)</b>	<b>37.4</b>	<b>251.5</b>	<b>53.6</b>	<b>139.4</b>	<b>215.0</b>
Energy	(98.5)	(23.3)	138.9	24.6	80.7	100.0
Oil and Natural Gas E&P	30.0	50.2	80.5	24.7	42.6	75.0
Metals	0.7	2.6	6.4	1.2	5.8	13.0
Others	2.3	7.9	25.7	3.1	10.3	27.0
<b>Ordinary Income (Loss)</b>	<b>(38.3)</b>	<b>79.6</b>	<b>328.3</b>	<b>72.5</b>	<b>176.1</b>	<b>300.0</b>
Energy	(90.9)	(9.6)	161.6	26.1	91.4	132.0
Oil and Natural Gas E&P	36.6	58.2	93.6	31.0	53.1	91.0
Metals	12.1	21.6	44.0	10.1	19.6	44.0
Others	3.9	9.4	29.1	5.3	12.0	33.0
<b>Net Income (Loss)</b>	<b>(32.9)</b>	<b>26.8</b>	<b>159.5</b>	<b>35.7</b>	<b>89.7</b>	<b>150.0</b>
Energy	(57.6)	(13.4)	117.1	21.6	61.8	86.0
Oil and Natural Gas E&P	(19.1)	28.3	33.9	13.1	20.0	42.0
Metals	4.3	9.6	(2.6)	3.1	6.8	14.0
Others	1.3	2.3	11.1	(2.1)	1.1	8.0
Capex	78.0	173.0	472.0	94.0	245.0	600.0
Depreciation and Amortization	46.0	91.3	180.4	45.0	90.6	190.0



# Ordinary Income by segment

	FY2012			FY2013		
	1Q	1H	Full Year	1Q	1H	Full Year
(JPY billion)	Actual	Actual	Actual	Actual	Actual	Forecast (Nov. 2013)
<b>Ordinary Income (Loss)</b>	<b>(38.3)</b>	<b>79.6</b>	<b>328.3</b>	<b>72.5</b>	<b>176.1</b>	<b>300.0</b>
Energy Business	(90.9)	(9.6)	161.6	26.1	91.4	132.0
Petroleum Products	(17.4)	23.9	56.1	(25.7)	(12.6)	19.0
Petrochemicals	3.1	9.8	46.7	22.4	41.8	75.0
Inventory Valuation	(76.6)	(43.3)	58.8	29.4	62.2	38.0
Oil and Natural Gas E&P Business	36.6	58.2	93.6	31.0	53.1	91.0
Metals Business	47.4	70.7	60.0	10.1	19.6	44.0
Resources Development	10.4	15.7	26.6	5.5	8.4	20.0
Smelting and Refining	2.3	4.8	11.1	2.5	5.6	12.0
Electronic Materials	0.8	2.8	6.3	1.3	4.3	11.0
Recycling and Environmental Services	(0.8)	1.1	2.5	0.3	2.3	5.0
Titanium	0.3	(0.1)	(1.0)	(0.9)	(3.4)	(6.0)
Inventory Valuation	(0.9)	(2.7)	(1.5)	1.4	2.4	2.0
Others	3.9	9.4	29.1	5.3	12.0	33.0



# Balance Sheets

	Sep. 2012	Mar. 2013	Sep. 2013
(JPY billion)	Actual	Actual	Actual
<b>Total assets</b>	<b>6,540.0</b>	<b>7,274.9</b>	<b>7,401.4</b>
Current assets	3,295.8	3,737.8	3,618.5
- Cash and deposits	275.4	250.1	282.9
Noncurrent assets	3,244.2	3,537.1	3,782.9
Property, plant and equipment	2,035.8	2,190.7	2,302.7
Intangible assets	148.6	134.8	138.7
Investments and other assets	1,059.8	1,211.6	1,341.6
<b>Liabilities</b>	<b>4,482.3</b>	<b>4,947.5</b>	<b>4,871.0</b>
Interest-bearing debt	2,323.8	2,549.3	2,608.4
Other liabilities	2,158.5	2,398.2	2,262.6
<b>Net assets</b>	<b>2,057.7</b>	<b>2,327.4</b>	<b>2,530.4</b>
Shareholders' equity	1,783.9	1,896.4	1,965.1
Accumulated other comprehensive income (loss)	(52.1)	46.3	113.0
Minority interests	325.9	384.7	452.3

# Performance Indicators

	FY2012		FY2013
	1H	Full Year	1H
(JPY billion)	Actual	Actual	Actual
Cash flows from operating activities	247.8	265.6	244.5
(Working capital)	138.0	(164.5)	15.2
Cash flows from investing activities	(186.1)	(426.1)	(248.1)
Free cash flows	61.7	(160.5)	(3.6)
Dividend and others	(20.3)	(18.0)	7.9
Net cash flows	41.4	(178.5)	4.3

	Sep. 2012	Mar. 2013	Sep. 2013
	Actual	Actual	Actual
Net D/E Ratio (times)	1.18	1.18	1.12
Shareholders' equity ratio (%)	26.5	26.7	28.1



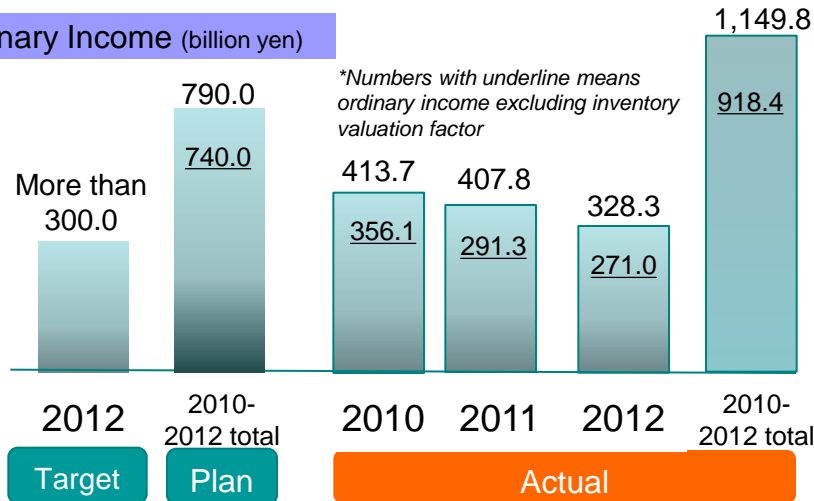
## Equity in earnings of unconsolidated subsidiaries and affiliates

	FY2012			FY2013		
	1Q	1H	Full Year	1Q	1H	Full Year
(JPY billion)	Actual	Actual	Actual	Actual	Actual	Forecast (Nov. 2013)
Energy	0.9	1.7	5.9	1.3	2.3	6.5
Oil and Natural Gas E&P	3.0	3.8	9.4	1.7	3.3	7.5
Metals	12.8	22.1	43.5	10.1	16.5	37.0
Resources Development	11.4	18.2	35.0	8.9	13.2	28.8
Smelting and Refining	1.4	3.9	8.5	1.2	3.3	8.2
Others	0.3	0.8	0.9	0.3	0.5	1.5

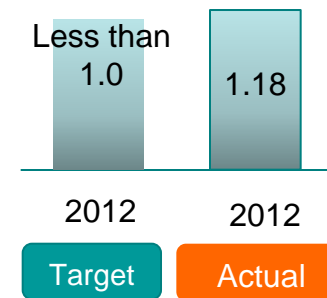


# Review of Target

Ordinary Income (billion yen)

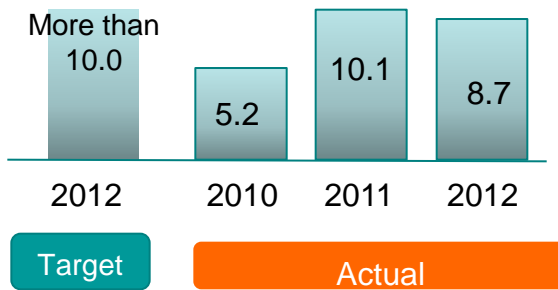


Net D/E Ratio

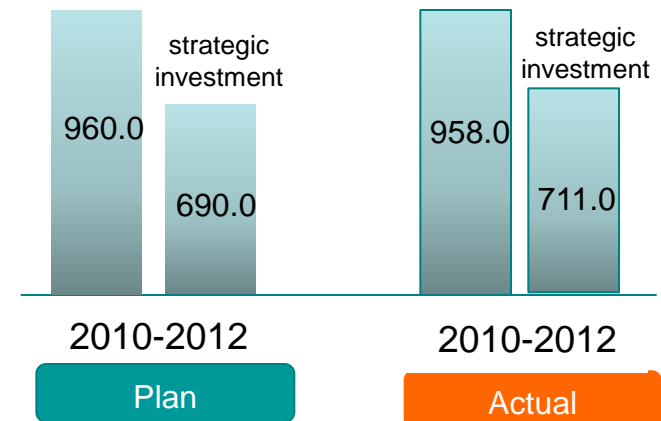


ROE(%)

\*Excluding negative goodwill of merger regarding FY2010



CAPEX (billion yen)

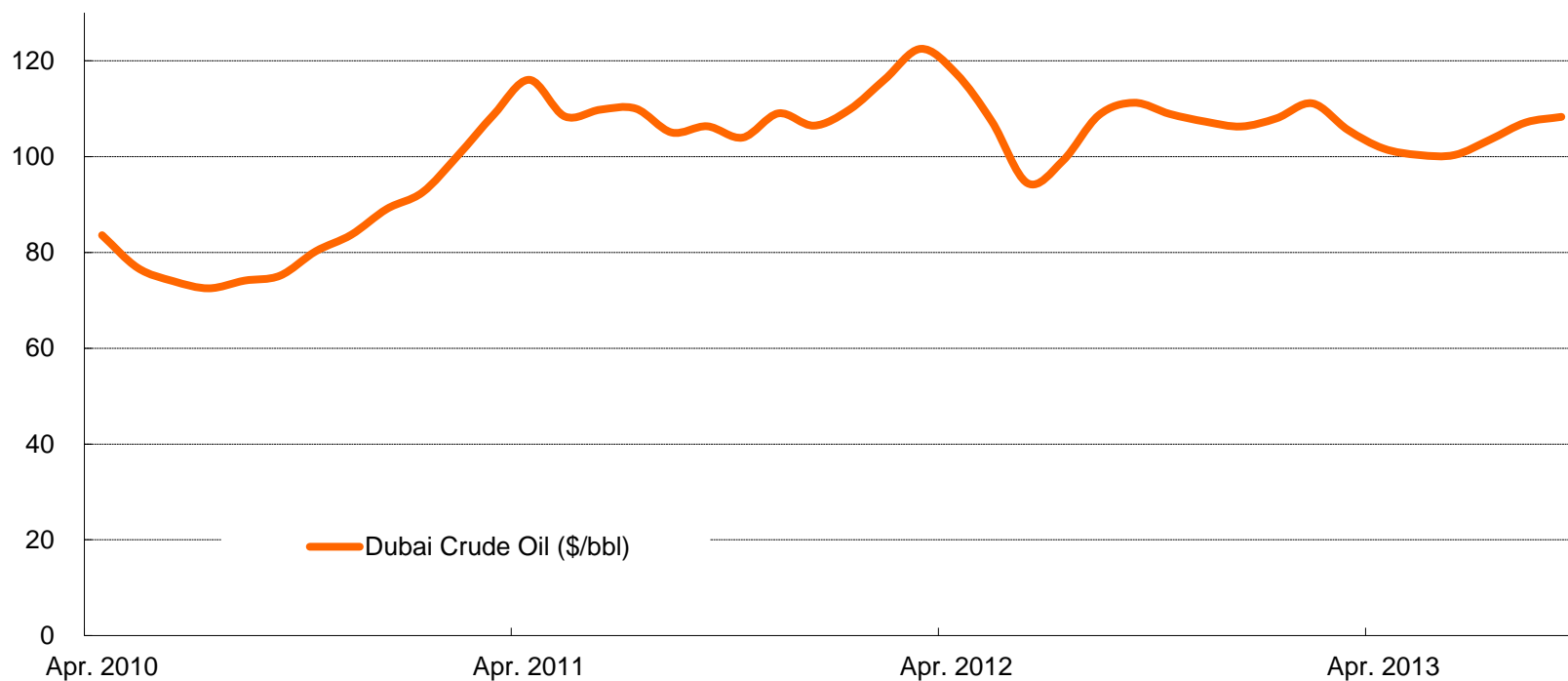




# Historical Dubai Crude Oil Price

Average Price	FY2010	FY2011	FY2012					FY2013	
			1Q	2Q	3Q	4Q	FY	1Q	2Q
Dubai Crude Oil	84	110	106	106	107	108	107	101	106

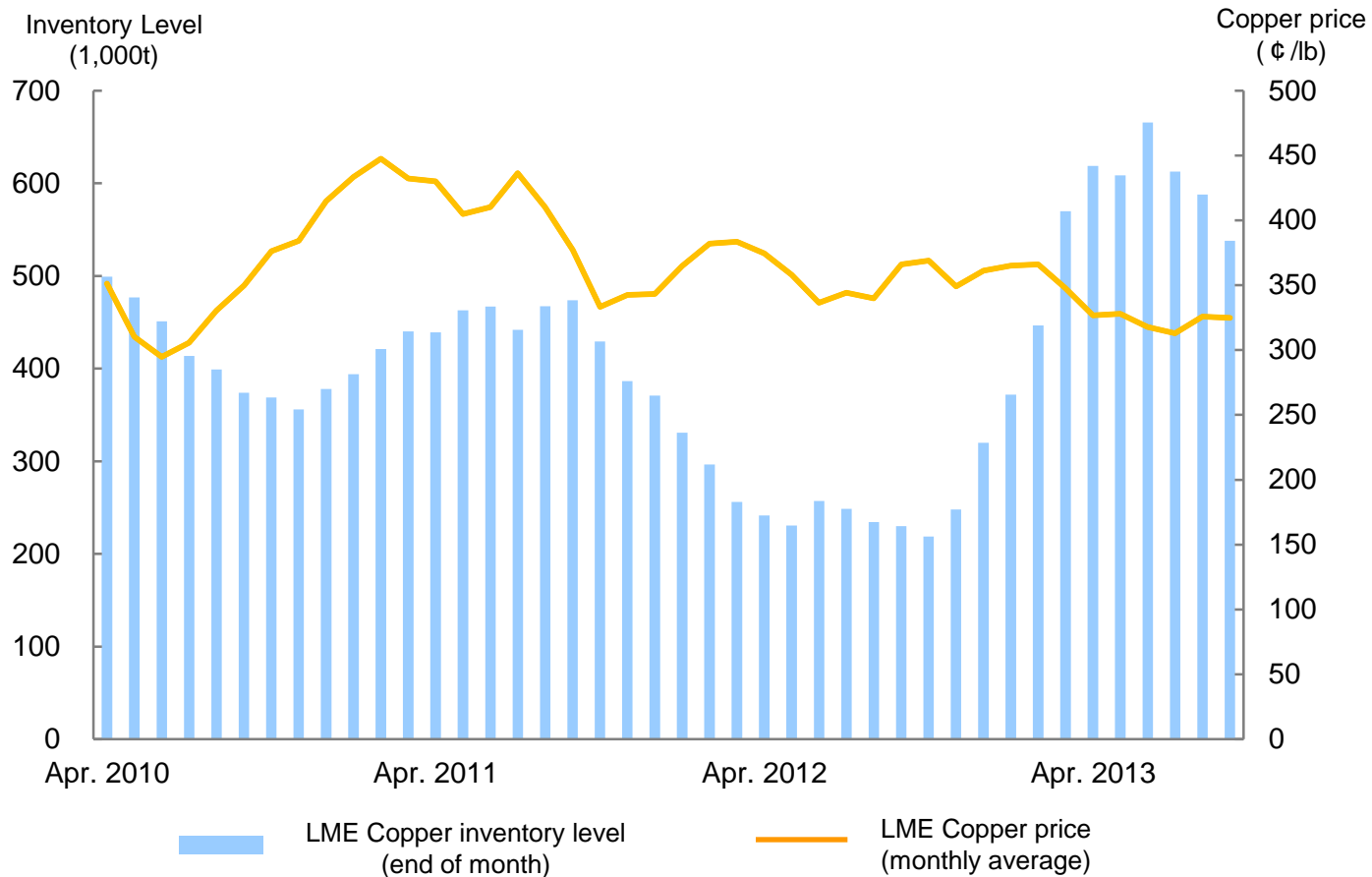
(\$/bbl)





# Historical Copper Price and Inventory Level

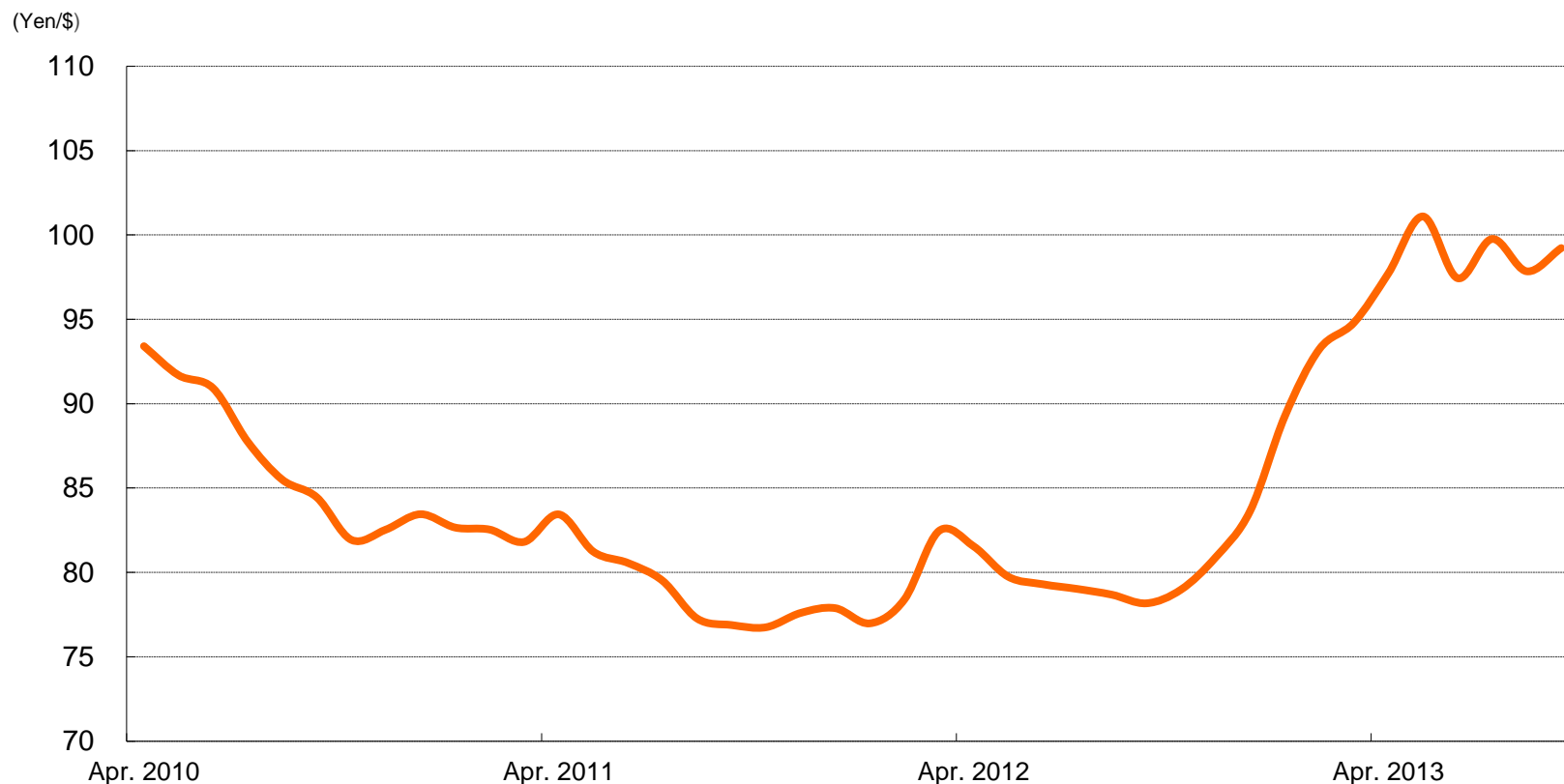
Average Price	FY2010	FY2011	FY2012				FY2013		
			1Q	2Q	3Q	4Q	FY	1Q	2Q
Copper	369	385	356	350	360	360	356	324	321





# Historical Exchange Rate

Average Price	FY2010	FY2011	FY2012					FY2013	
			1Q	2Q	3Q	4Q	FY	1Q	2Q
Exchange Rate	86	79	80	79	81	92	83	99	99



A thick, teal-colored curved line that starts on the left, rises to a peak in the middle, and then descends towards the right, spanning across the top of the slide.

# Strategies of Energy Business

# Enhance Overseas Businesses (Paraxylene)

## Main use of Paraxylene



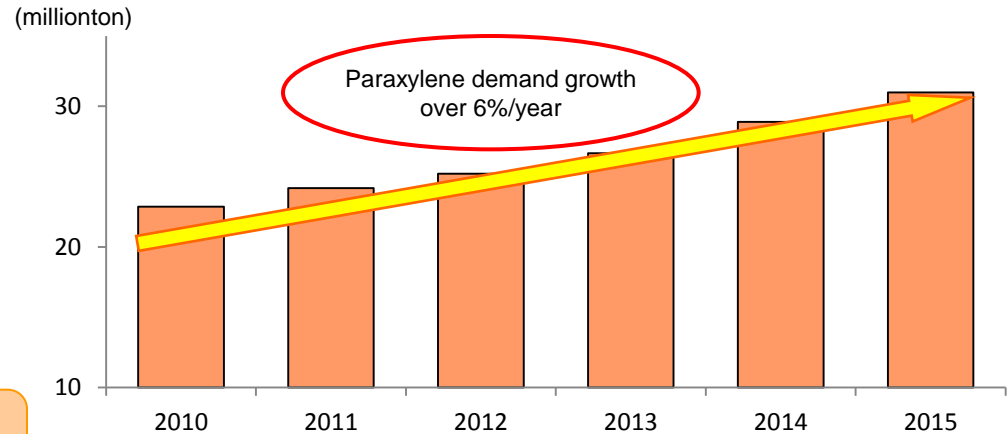
Polyester fiber



PET bottles

## Outlook for Paraxylene Demand in Asia

Group's current supply capacity of Paraxylene  
2,620 thousand tons /year = **No.1 in Asia**



Source: Company data

## Outline of a paraxylene joint venture project with SK Group of South Korea

Location : Ulsan, Korea

Capacity : 1,000 thousand tons / year One of the world's largest capacity

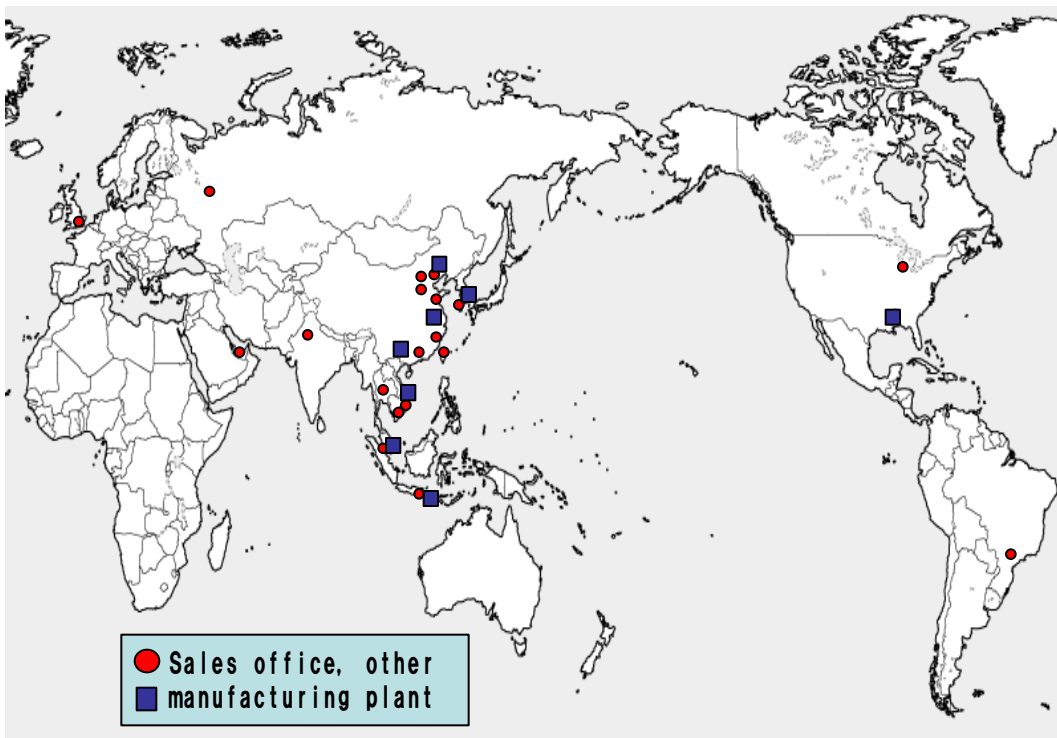
Production Start : 2014 (scheduled)

Investment : approx. 80 billion JPY

Ownership :  
 JX Nippon Oil & Energy 50% -1 share  
 SK Group 50% +1 share

# Enhance Overseas Businesses (Lubricants)

## ✓ Location of Overseas Lubricants Business (As of Oct. 2013)



➤ Mainly Asia, a total of 20 offices/plants in 13 countries.

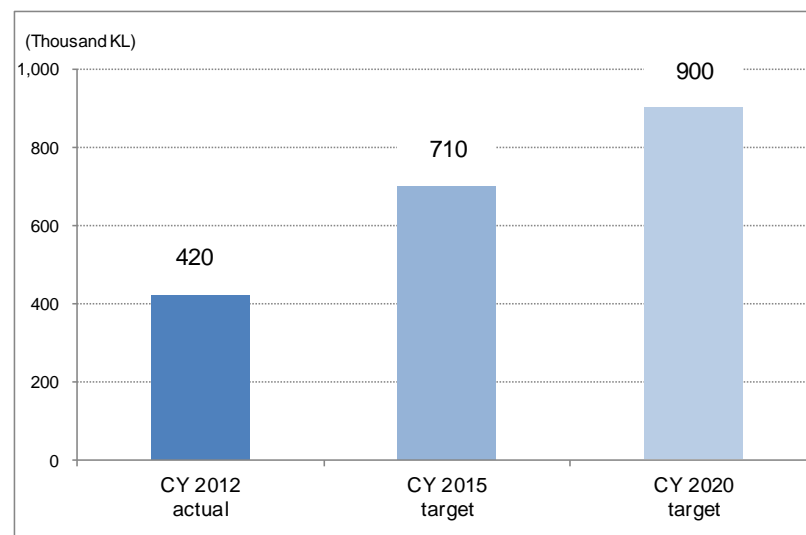
Sales office, other	12
Manufacturing plant	3
Sales / manufacturing base	5



## ✓ Expansion of Overseas Lubricants Business

- Established a lubricants marketing company in Dubai. (Jul. 2011)
- Lubricants manufacturing plant started its operation in Indonesia. (Apr. 2012)
- Determined the establishment of a lubricants manufacturing and marketing company in Vietnam. (established in Nov. 2012, scheduled to start production in 2014)
- Started joint venture business for lubricants base oil with SK Group of South Korea. (Oct. 2012)

## ✓ Medium-Term Target of Overseas Lubricants Sales





# Action for Energy Conversion Company (LNG Business)

## ✓ Hachinohe LNG Terminal Project

- Promoting construction of Hachinohe LNG Import Terminal and Kushiro LNG Satellite Terminal.
  - Taking in the demand of city gas and industrial use in the region of northern Tohoku and eastern Hokkaido.
  - Supplying natural gas to general electric utility.  
(For Hachinohe Thermal Power Plant of the Tohoku Electric Power Co., Inc.)

### 【LNG supply system of JX】

#### Hachinohe and Kushiro LNG terminals

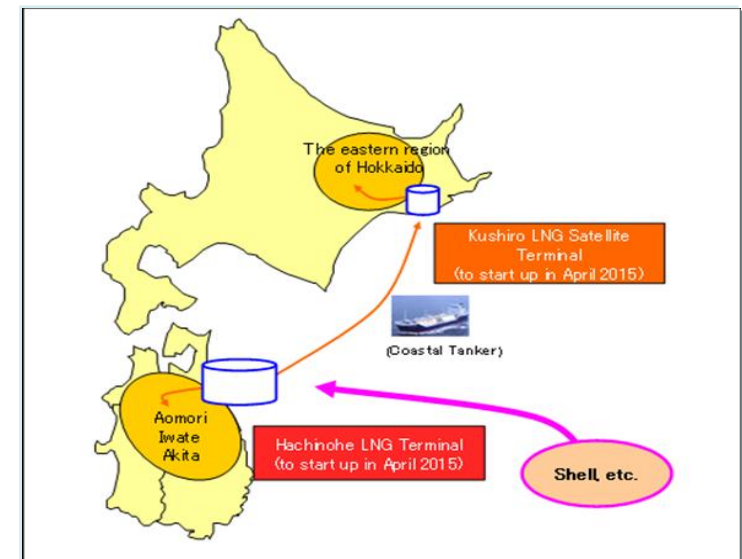
<b>【Current】</b>	Hachinohe (Satellite Terminal)	
Operation start	Mar. 2007	
Tank capacity (thousand KL)	4.5 x1 tank	



<b>【2015~】</b>	Hachinohe (Import Terminal)	Kushiro (Satellite Terminal)
Operation start	Apr. 2015 (scheduled)	
Tank capacity (thousand KL)	140x2 tanks	10x1 tank

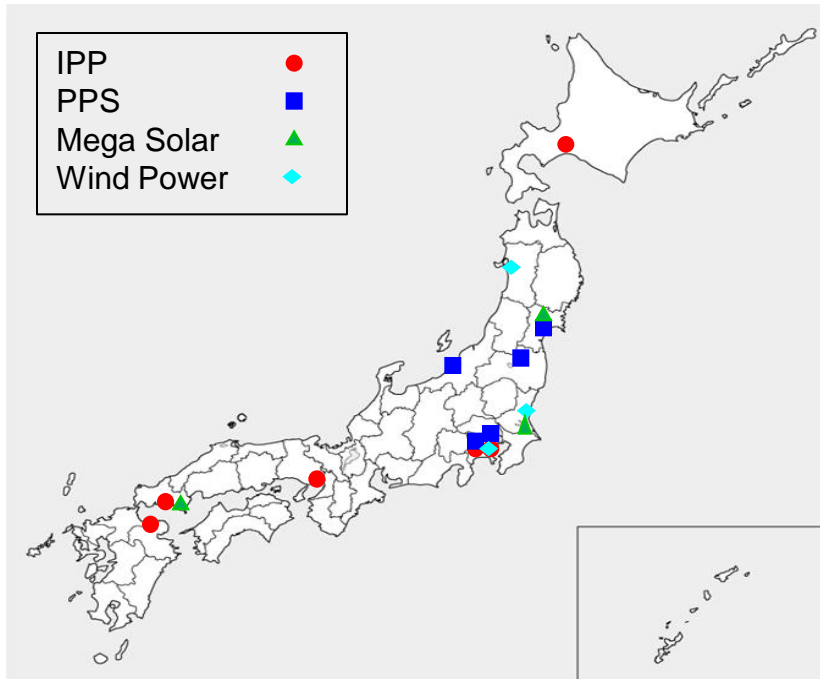
#### Mizushima LNG Import Terminal

	Tank No.1	Tank No.2
Operation start	Apr. 2006	Apr. 2011
Tank capacity (thousand KL)	160	160
Ownership	JX Nippon Oil & Energy The Chugoku Electric Power Co.,Inc.	50% 50%



# Action for Energy Conversion Company (Electricity Business, Fuel Cell)

## ✓ Location of Electricity Business (As of Nov. 2013)



## ✓ Power Generating Capacity of each Business

IPP	6 stations	840 thousand kW
PPS	5 stations	525 thousand kW
Mega Solar	3 stations	5 thousand kW
Wind Power	3 stations	5 thousand kW
Total (equity basis)		1,375 thousand kW

## ✓ Expansion of Electricity Business

- Started receiving electricity from Kawasaki Natural Gas Power Generation Co., Ltd, joint venture with Tokyo Gas Co., Ltd.(2008)
- Started operation of the Sendai Mega Solar (Feb. 2013)
- Started operation of the Kudamatsu Mega Solar (Mar. 2013)
- Started operation of the Kasumigaura Mega Solar (Nov. 2013)
- Scheduled to start operation of the Iwaki Mega Solar (Mar. 2014)
- Scheduled to start operation of the 2<sup>nd</sup> Kudamatsu Mega Solar(Jun. 2014)
- Scheduled to start operation of the Akita Mega Solar (Aug. 2014)
- Scheduled to start operation of the Uruma Mega Solar (Mar. 2015)
- Started operation of Wind Power at the Akita Oil Terminal and the Kashima Refinery.(2003, 2005)
- Ohgishima Wind Power Station started operation.(2010)
- Scheduled to establish the Solvent De-Asphalting equipment and the power generation facilities in the Kashima Refinery.(FY2015)



## ✓ Fuel Cell

- Launched Solid Oxide Fuel Cell(SOFC) system for residential use which is smaller and has higher electrical efficiency compared to conventional one. (Oct. 2011)
- Increasing sales volume by high attention to new energy after the earthquake.

# Action for Energy Conversion Company (Coal Business)

## ✓ Our Coal business

### 1. Main Upstream Businesses

- Own the interest of Bulga mine in Australia, through an investment to Oakbridge joint venture. (Sep. 1990)
- Started production and sales of Bulga coal. (Mar. 1991)
- Acquisition of the interest and dealership of Sukunka /Suska coal deposits, through an investment to Xstrata Coal British Columbia, and started metallurgical coal joint venture with Xstrata Coal. (Mar. 2012)

### 2. Sales

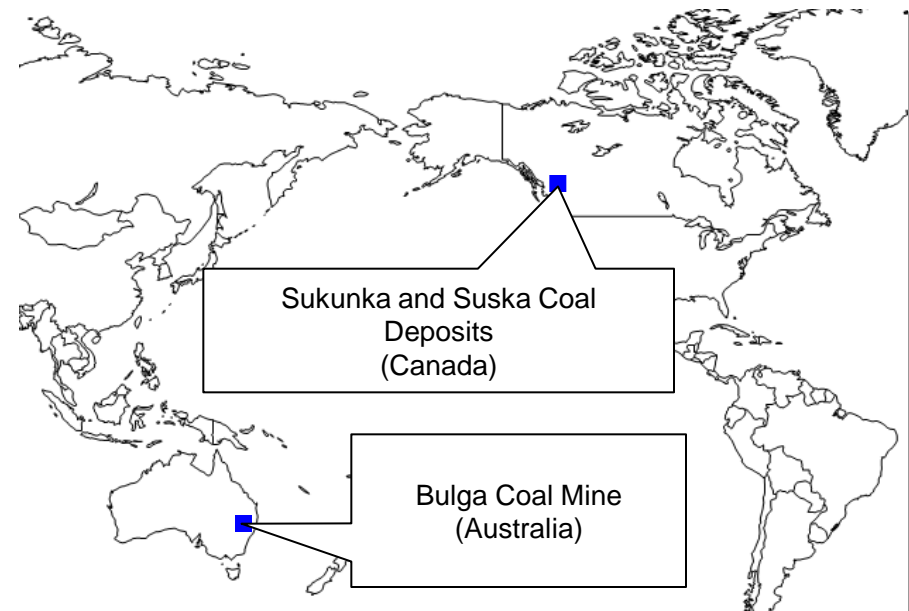
- Mainly supplying Bulga coal to customers. (Approx. 9 million tons/year)

### 3. Coal Transshipment Station

- Coal Transshipment Station was constructed on the site of former Kudamastu Refinery, and started its operation. (May 2001)

## ✓ Our Interest of Coal Mine/Deposits

	Bulga Coal Mine	Sukunka and Suska Coal Deposits
Location	New South Wales, Australia	British Columbia, Canada
Interest	13.3%	25.0%
Reserves/ Resouces	Recoverable reserves more than 300 million tons	Resouces Sukunka Deposit Approx. 240million tons Suska Deposit Approx. 240million tons
Production capacity	Approx. 11million tons/year	Apporox. 9.5 million tons/year (scheduled)



# Action for Energy Conversion Company (Hydrogen Business)

## ✓ Demonstration Test at Service Station (SS) that has Gasoline and Hydrogen Filling Machine

Action for the future hydrogen supply infrastructure

- Carry out the hydrogen supply in SS sites by 13 private enterprises (the energy industry, automotive industry) and government office jointly.
- Examine hydrogen supply infrastructure maintenance and construction of the business model at ENEOS service station network in all over the country.

## ✓ Outline of the Demonstration Test

- ENEOS Service Station (Total 2 stations)  
Placed in Kanagawa Pref. and Aichi Pref.
- Period (Scheduled)  
Apr. 2013 ~ Mar. 2016
- Contents of the Demonstration Test
  - Short time filling of high pressure hydrogen
  - Operation of hydrogen filling duties in parallel with gasoline and diesel fuel sale

Service Station (SS) that has Gasoline and Hydrogen Filling Machine (in Kanagawa)

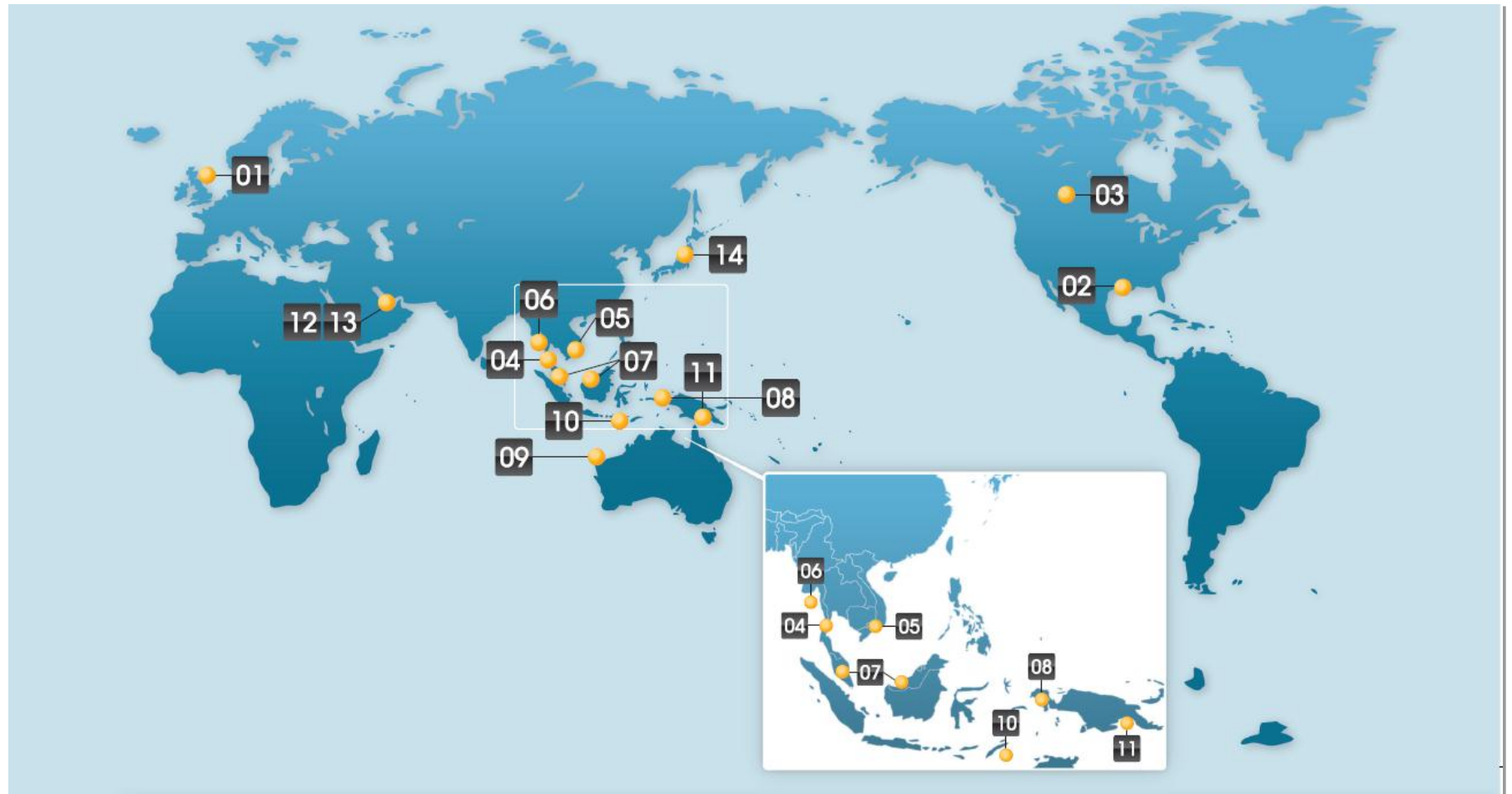




# Strategies of Oil and Natural Gas E&P Business



# Business Area





# Business Activities

	▼ Project Company	In Production ●	Under Development ●	Under Exploration ●
01	The North Sea	JX Nippon Exploration and Production (U.K.) Ltd.	●	● ●
02	The U.S. Gulf of Mexico	JX Nippon Oil Exploration (U.S.A.) Ltd.	●	
03	Canada	Japan Canada Oil Company / Mocal Energy	●	
04	Thailand	JX Nippon Oil & Gas Exploration Corp.		●
05	Vietnam	Japan Vietnam Petroleum Co., Ltd. Nippon Oil Exploration (Cuu Long) Ltd. / JX Nippon Oil & Gas Exploration Corp.	●	● ●
06	Myanmar	Nippon Oil Exploration (Myanmar) Ltd. JX Nippon Oil & Gas Exploration (Myanmar) Ltd.	●	● ●
07	Malaysia	JX Nippon Oil & Gas Exploration (Malaysia) Ltd. JX Nippon Oil & Gas Exploration (Sarawak) Ltd. JX Nippon Oil & Gas Exploration (Peninsular Malaysia) Ltd. JX Nippon Oil & Gas Exploration (Onshore Sarawak) Ltd. JX Nippon Oil & Gas Exploration (Deepwater Sabah) Ltd. JX Nippon Oil & Gas Exploration (Offshore Malaysia) Sdn. Bhd.	●	● ● ● ● ● ●
08	Indonesia	Nippon Oil Exploration (Berau) Ltd.	●	● ●
09	Australia	JX Nippon Oil & Gas Exploration (Australia) Pty Ltd.	●	●
10	JPDA *	Japan Energy E&P JPDA Pty Ltd.		●
11	Papua New Guinea	Merlin Petroleum Company / Southern Highlands Petroleum Co., Ltd. Nippon Oil Exploration (Niugini) Ltd. / Murray Petroleum Co., Ltd. Nippon Papua New Guinea LNG LLC	●	● ● ●
12 13	U A E · Qatar	Abu Dhabi Oil Co., Ltd. United Petroleum Development Co., Ltd. JX Nippon Oil & Gas Exploration (Qatar) Ltd.	●	● ● ●
14	Japan	JX Nippon Oil & Gas Exploration Corp.	●	●



# Outline of Oil and Natural Gas E&P Projects

	Project Name/Company	Sales Volume(Jan.-Jun. 2013) ( 1,000BOED ) <sup>*1</sup>			Reserves(million BOE) <sup>*1, *2</sup>			Reference pages
			Oil	Gas	As of the end of 2012	As of the end of 2011	As of the end of 2010	
1	(North Sea, U.K.) JX Nippon Exploration and Production (U.K). Limited	5	4	1	126	47	20	48 ~ 50
2	(Gulf of Mexico(U.S.A.)) JX Nippon Oil Exploration U.S.A. Limited	3	2	1	23	25	27	51
3	(Canada) Japan Canada Oil Company Limited	13	13	0	253	251	253	52
4, 5	(Vietnam and other) Japan Vietnam Petroleum Company, Limited, other	8	6	2				54 ~ 55
6	(Myanmar) Nippon Oil Exploration (Myanmar) Limited	9	1	8				56 ~ 57
7	(Malaysia) JX Nippon Oil & Gas Exploration (Malaysia) Limited JX Nippon Oil & Gas Exploration (Sarawak) Limited	20 19	4 2	16 17				58 ~ 60
8	(Indonesia) Nippon Oil Exploration (Berau) Limited	17	0	17	<Sub Total> 233	<Sub Total> 259	<Sub Total> 319	61
9, 10	(Australia and other) JX Nippon Oil & Gas Exploration (Australia) Pty Ltd., other	1	1	0				62 ~ 63
11	(Papua New Guinea) Merlin Southern Highlands Petroleum Co., Ltd.	6	6	0	<Sub Total> 99	<Sub Total> 99	<Sub Total> 87	64 ~ 65
12, 13, 14	(United Arab Emirates, Qatar and others) Abudhabi Oil Co., Ltd., United Petroleum Development Co., Ltd. and others	9	9	0	66	69	69	66 ~ 67
Total		110	48	62	800	749	775	

\*1 Project company basis.

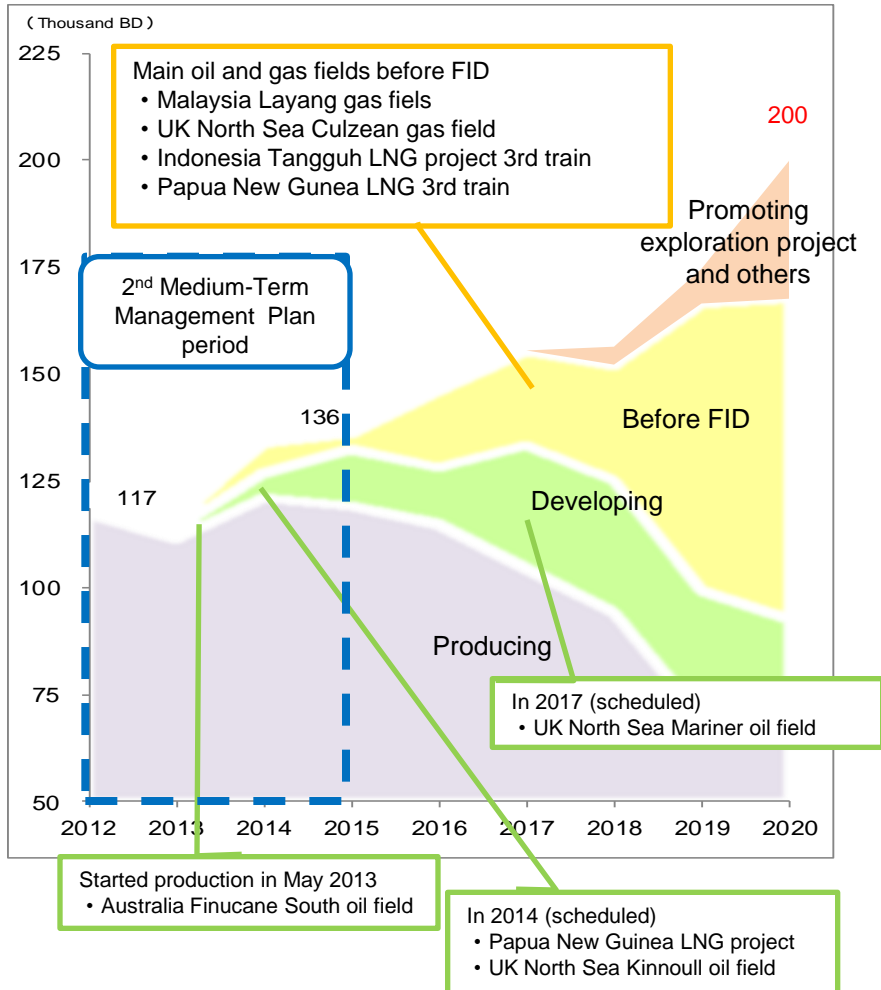
\*2 Proved reserves and probable reserves, including reserves from projects currently under development.





# Maintain and Expand Production Volume over the Medium/Long Term

## Production Plan

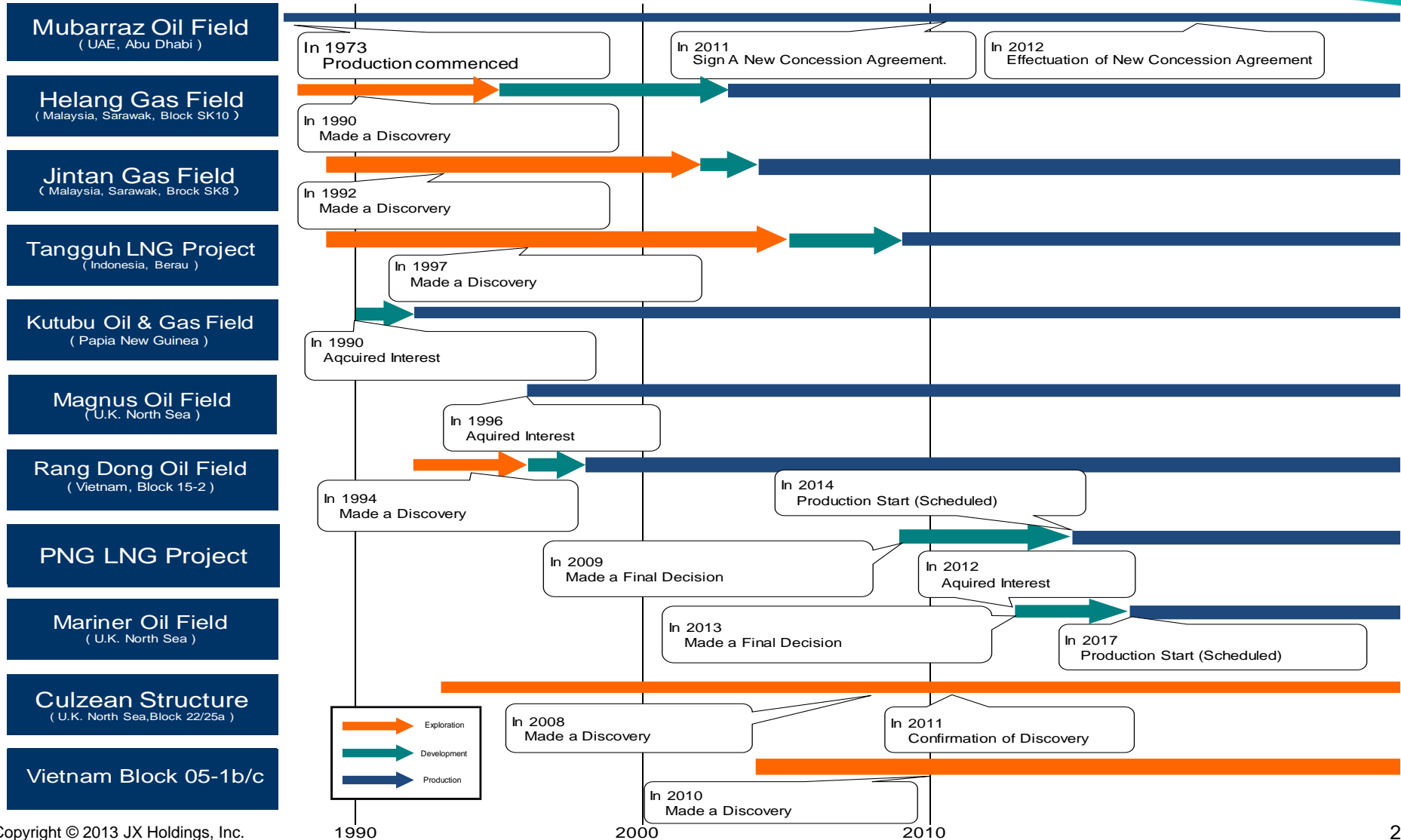


## Latest Results

	Country(Block)	Type	Acquisition of rights	Discovery of oil & gas strata	Final Investment Decision
Apr. 2011	Australia(WA-290-P)	Natural Gas		●	
	Papua New Guinea(PPL219)	Crude Oil		●	Production Commenced in May 2013
May. 2011	Qatar (Block A)	Natural Gas	●		
	Australia(WA-191-P)	Crude Oil		●	
Jan. 2012	Australia(WA-191-P)	Crude Oil			●
	Malaysia(Deepwater R)	Crude Oil	●		Production scheduled to Commence in 2014
Aug. 2012	UK(Kinnoull Oil Field)	Crude Oil	●		
Sep. 2012	Myanmar(M-11)	Natural Gas	●		
Oct. 2012	Australia(WA-435/437-P)	Natural Gas	●		
	UK(License Round)	Crude Oil Natural Gas	●		Production scheduled to Commence in 2017
Dec. 2012	UK(Mariner Oil Field and others)	Crude Oil Natural Gas	●		
Jan. 2013	Malaysia(SK333)	Crude Oil Natural Gas		●	
Feb. 2013	UK(Mariner Oil Field)	Crude Oil			●
Jun. 2013	Australia(WA-320-P/WA-155-P2)	Natural Gas	●		
Jun. 2013	Vietnam(05-1b/c)	Crude Oil Natural Gas		●	
Jul. 2013	Australia(WA-49-R)	Natural Gas		●	
Sep. 2013	Malaysia(Deepwater 2F)	Natural Gas	●		



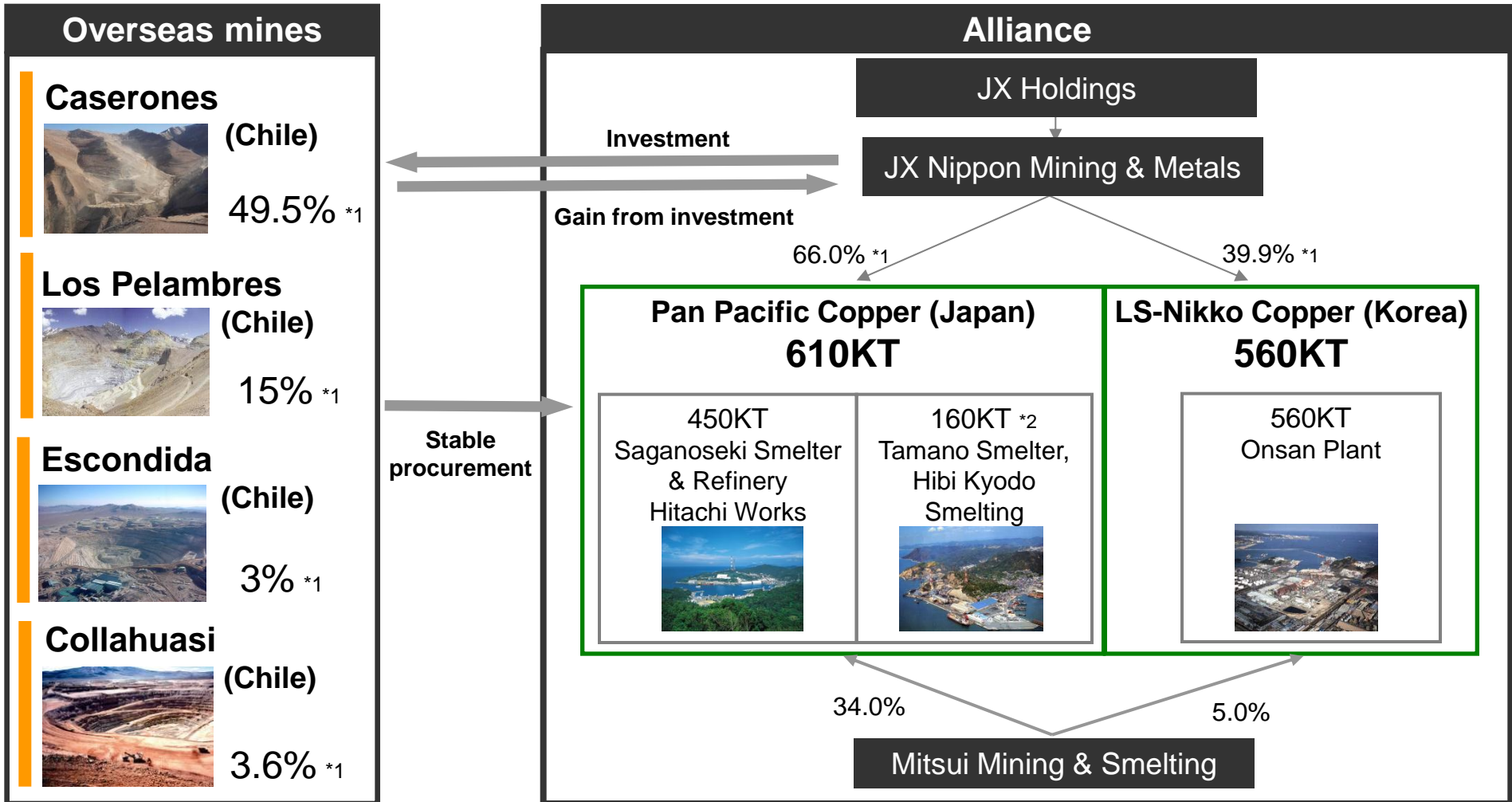
# Production Schedule of Principal E&P Projects





# Strategies of Metals Business

# Copper Business



\*1. Shares held by JX Nippon Mining & Metals

\*2. Total Capacity is 260KT. PPC has 63.51% equity.

# Overseas Copper Mine Development ①

## Caserones Copper Mine (Chile)



**Acquisition date** May 2006

**Acquisition price** \$137 million

**Initial investment** \$ 4.20 billion

In July 2011, project finance(\$1.1billion) and long-term loan(\$0.3billion) are concluded.

**Ownership**

**Pan Pacific Copper (PPC)\* 75%**

\* Jointly established by JX Nippon Mining & Metals (66%) and Mitsui Mining & Smelting (34%)

**Mitsui & Co., Ltd. 25%**

**Mine life**

From 2013 to 2040 (28 years )

SX-EW Copper Cathode From Mar. 2013

Copper Concentrate From Jan. 2014

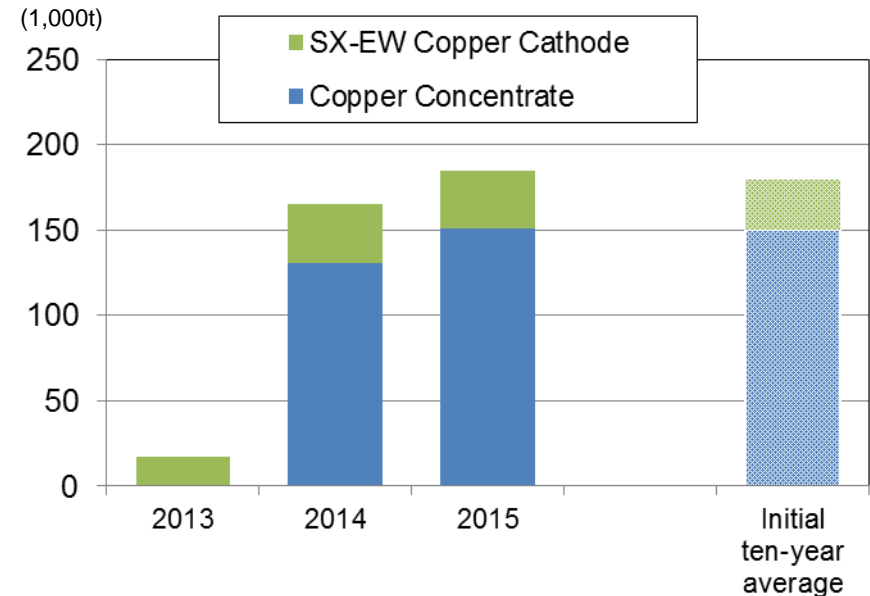
**Total production (28years)**

Copper : 3,550kt From Copper Concentrate 3,140kt

From SX-EW Process 410kt

Molybdenum : 87kt (3kt / year)

**Production plan**



### Ownership

NGEx Resources Inc. (Canada) : 60%

Pan Pacific Copper (PPC) : 40%

\*PPC is Jointly established by JX Nippon Mining(66%) and Mistui Mining & Smelting(34%)

PPC acquired the exploration rights in Sep. 2012 from JOGMEC (Japan Oil, Gas and Metals National Corporation)

### Exploration results

Drilled exploring holes at Los Helados between 2004 and PPC's acquisition and confirmed existence of copper-gold deposit.

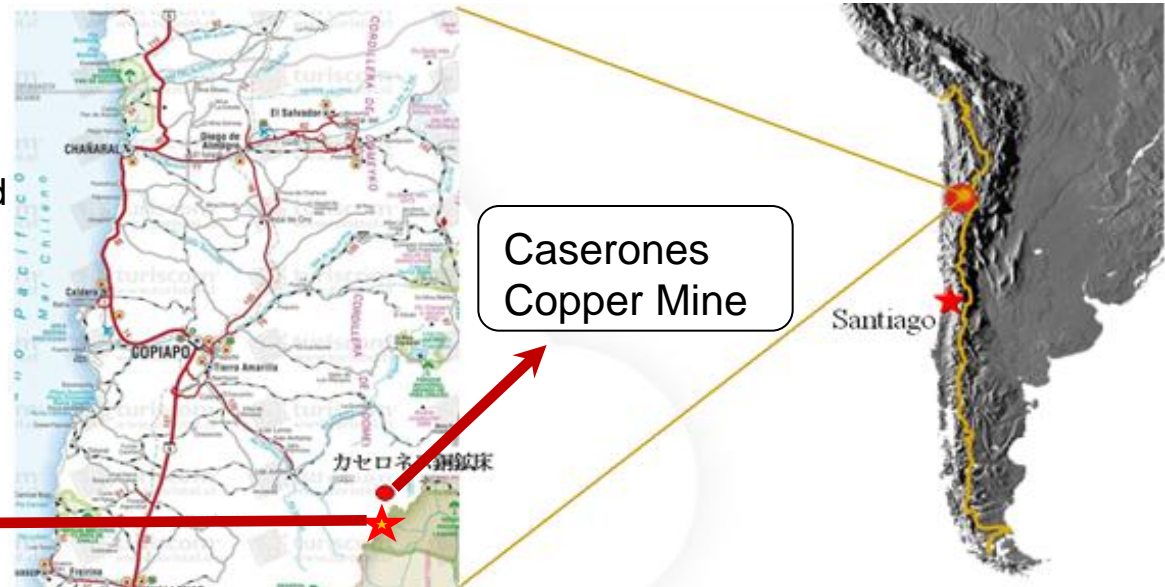
### Frontera Area

Dimension : 24,000ha  
Altitude : 4,400-4,900m


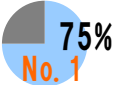

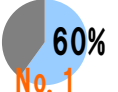
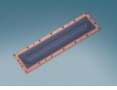


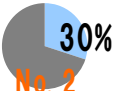

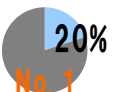

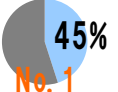

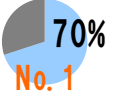

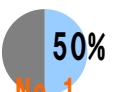
### Main exploring areas

Los Helados (Chile, 20km south of the Caserones Copper Mine)

Filo del Sol (Argentina)



# Electronic Materials

Main IT-related products	Global market share	Primary applications	End-use applications				
			PCs	Mobile phones / Smart phones	Digital, Avs	Telecom infra	Auto mobiles
 Treated rolled copper foil	 75% No. 1	Flexible printed circuit boards	○	⊙	⊙		
 Semiconductor targets	 60% No. 1	CPUs, memory chips, etc.	⊙	○	⊙	○	○
 ITO targets for FPDs *1	 30% No. 1	Transparent electrodes	⊙	○	⊙		
 HD media targets	 30% No. 2	HDD (Hard disk drives), etc.	⊙	○			
 Phosphor bronze	 20% No. 1	Connectors	⊙	○	○		○
 Corson alloy (C7025)	 45% No. 1	Lead frames, Connectors	⊙	○	○		○
 Titanium copper alloy	 70% No. 1	High-class connectors, etc.	○	⊙	○		
 In-P compound semiconductors	 50% No. 1	Optical communication devices High-speed IC			○	⊙	○

\*1 Flat Panel Displays

# Electronic Materials (Kakegawa Works)

## ✓ Expansion of Automotive Related Business

- Eco-friendly Car market which is applying full of environmental technology has a high potential of growth in near future.
- Demand for connectors used in electric components of eco- friendly car is expected to expand further.



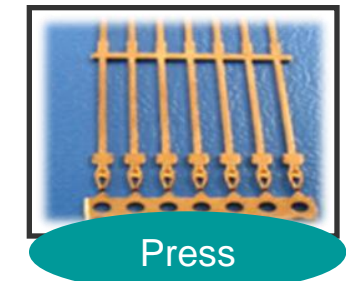
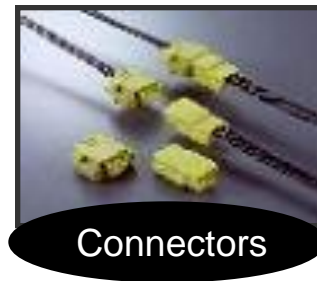
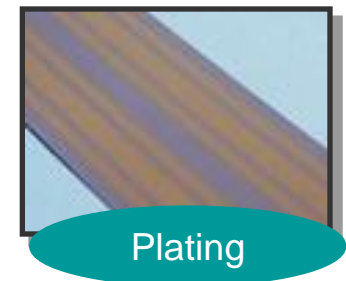
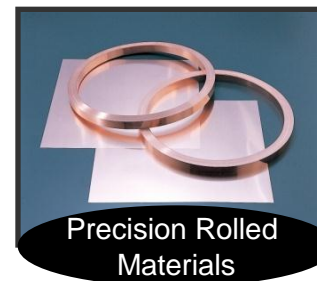
## ✓ Construction of Integrated Plant of Connector (Kakegawa Works)

- Decided to construct a new plant in Kakegawa with integrated production system (press, plating and assembly) for connector (Feb. 2011).
- Started operation (Apr. 2013) .



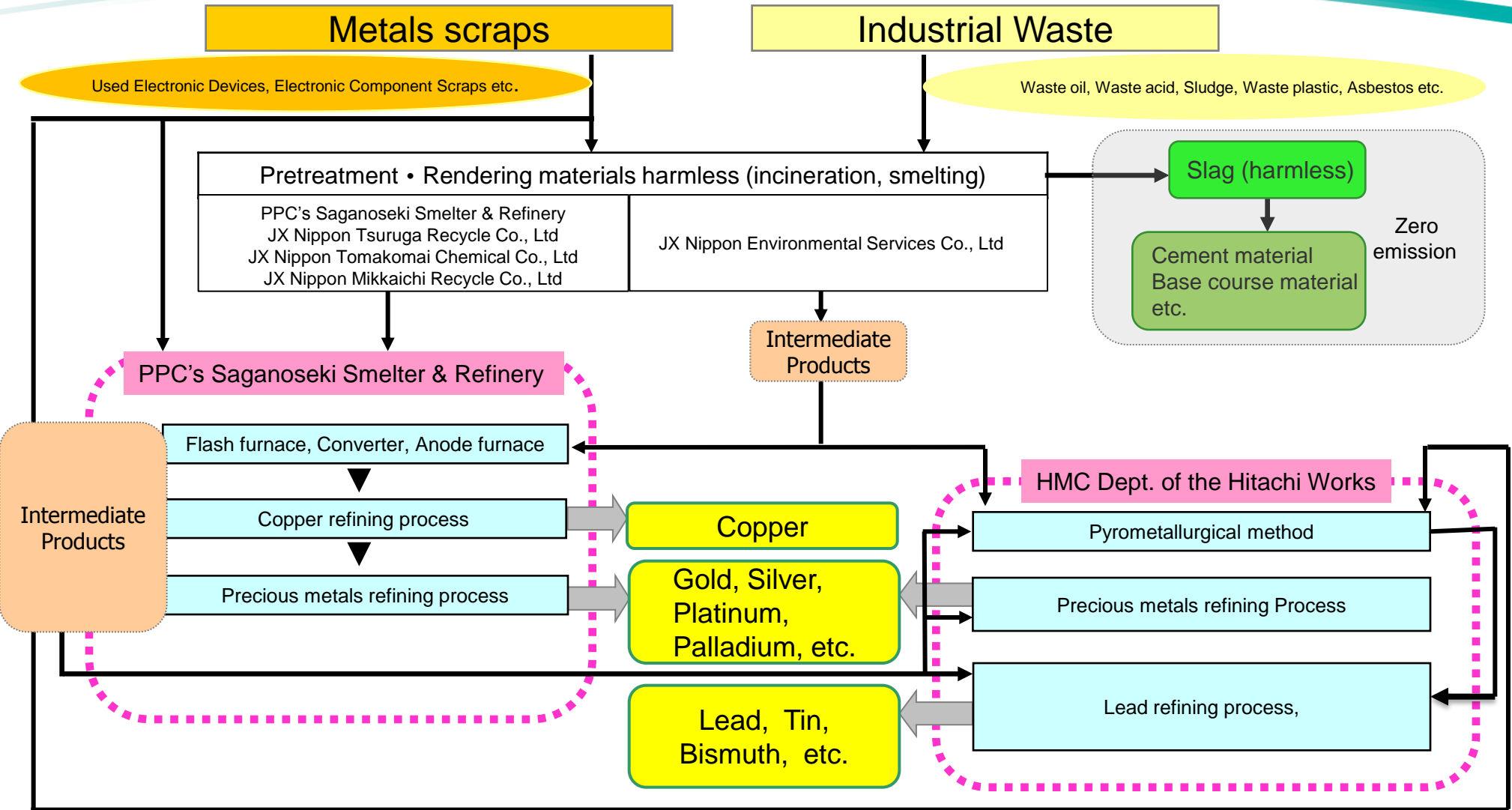
## ✓ Integrated Production System of Connector and Precision Materials

Process \ Use・Product	Press	Plating	Assembly
Connector for Automobile etc.	Kakegawa Works		
Connector for IT etc.	Nasu Works	Esashi Works Tatebayashi Works	Nasu Works





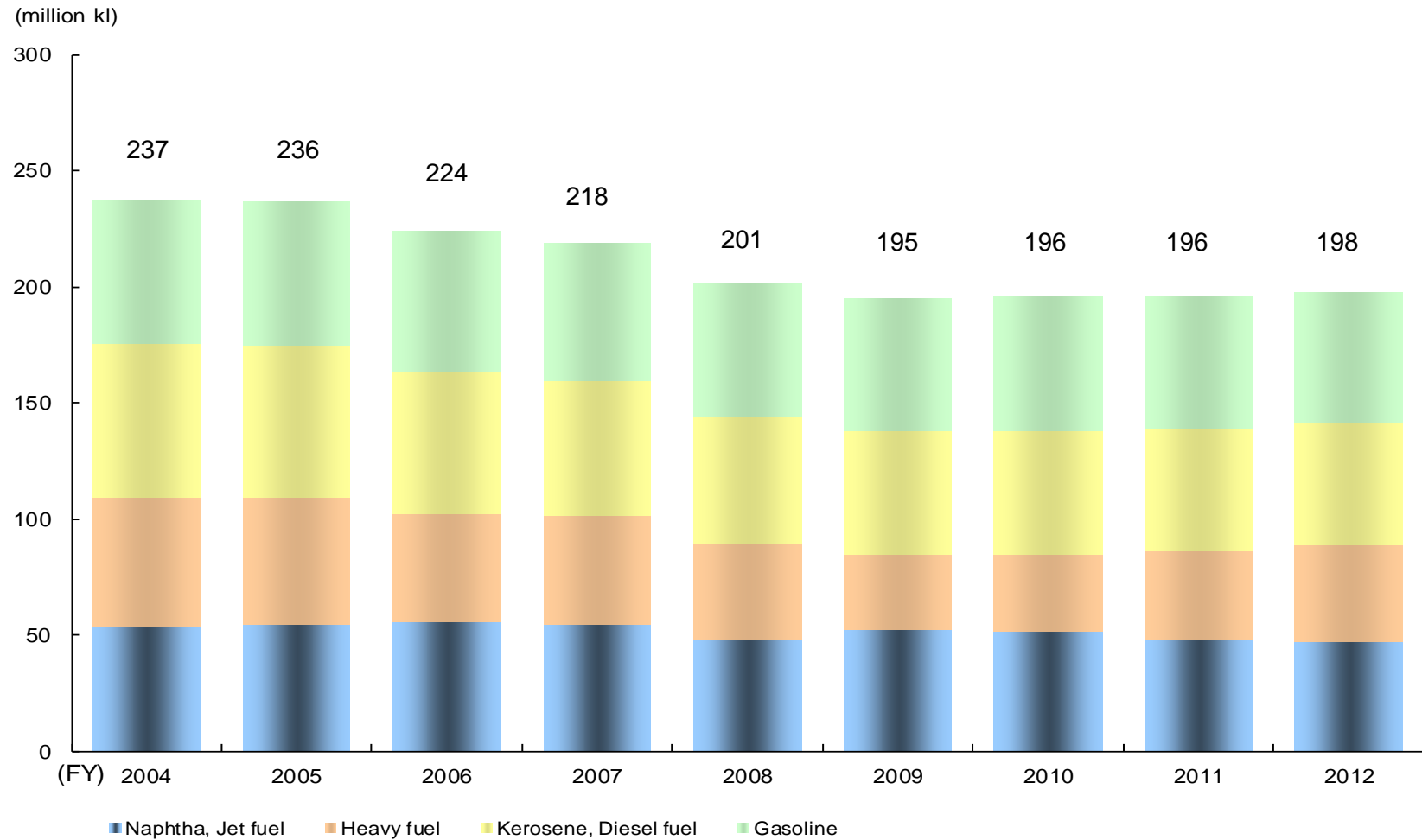
# Recycling and Environmental Services Business



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# Business Environment and Data - Energy Business -

# Demand for Petroleum Products ( Japan )



Note: Excluding Crude Oil for electric power plants.

Source: Petroleum Association of Japan and Company data

# Capacity Reduction Plan, Integration Synergies, Enhanced Efficiency of Refineries



## ✓ Capacity Reduction Plan

(JX)

2008.Dec. 2014.Apr.  
1,790 ⇒ 1,210 thousand BD

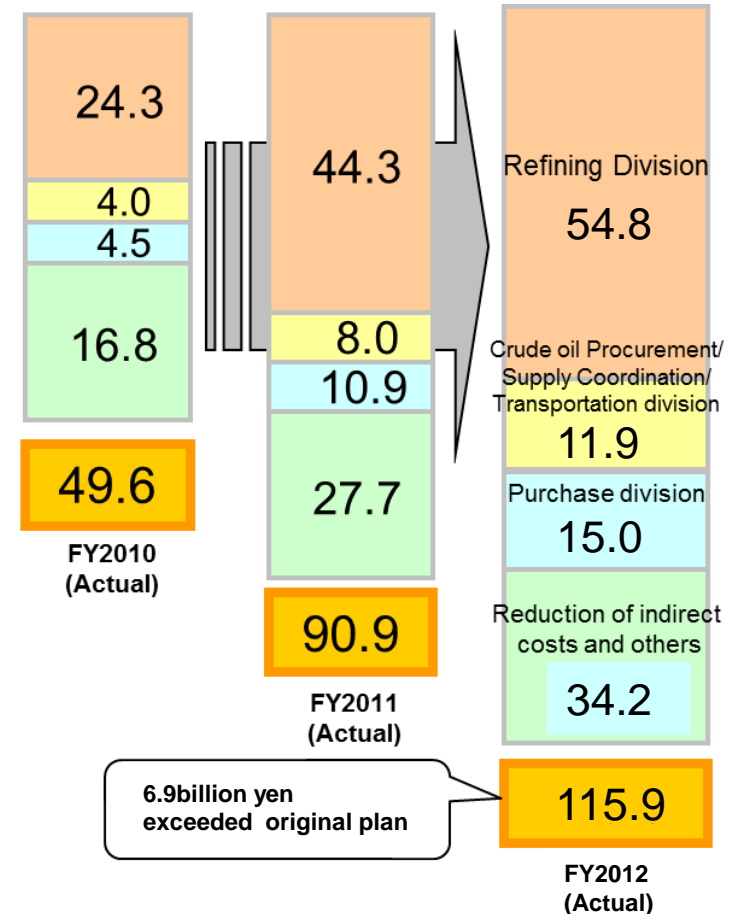
(Japan)

2008.Dec. 2014.Apr.  
4,830 ⇒ 3,720 thousand BD

Refinery	Due Date	Reduction Capacity	Completion
STEP1 Toyama	March, 2009	(60) thousand B/D	✓
Kashima	May, 2010	(21)	✓
Oita	May, 2010	(24)	✓
Mizushima	June, 2010	(110)	✓
Osaka	October, 2010	(115) Convert to exportation refinery	✓
Negishi	October, 2010	(70)	✓
Subtotal		(400)	
STEP 2 Muroran	March, 2014	(180)	□
Total		(580)	

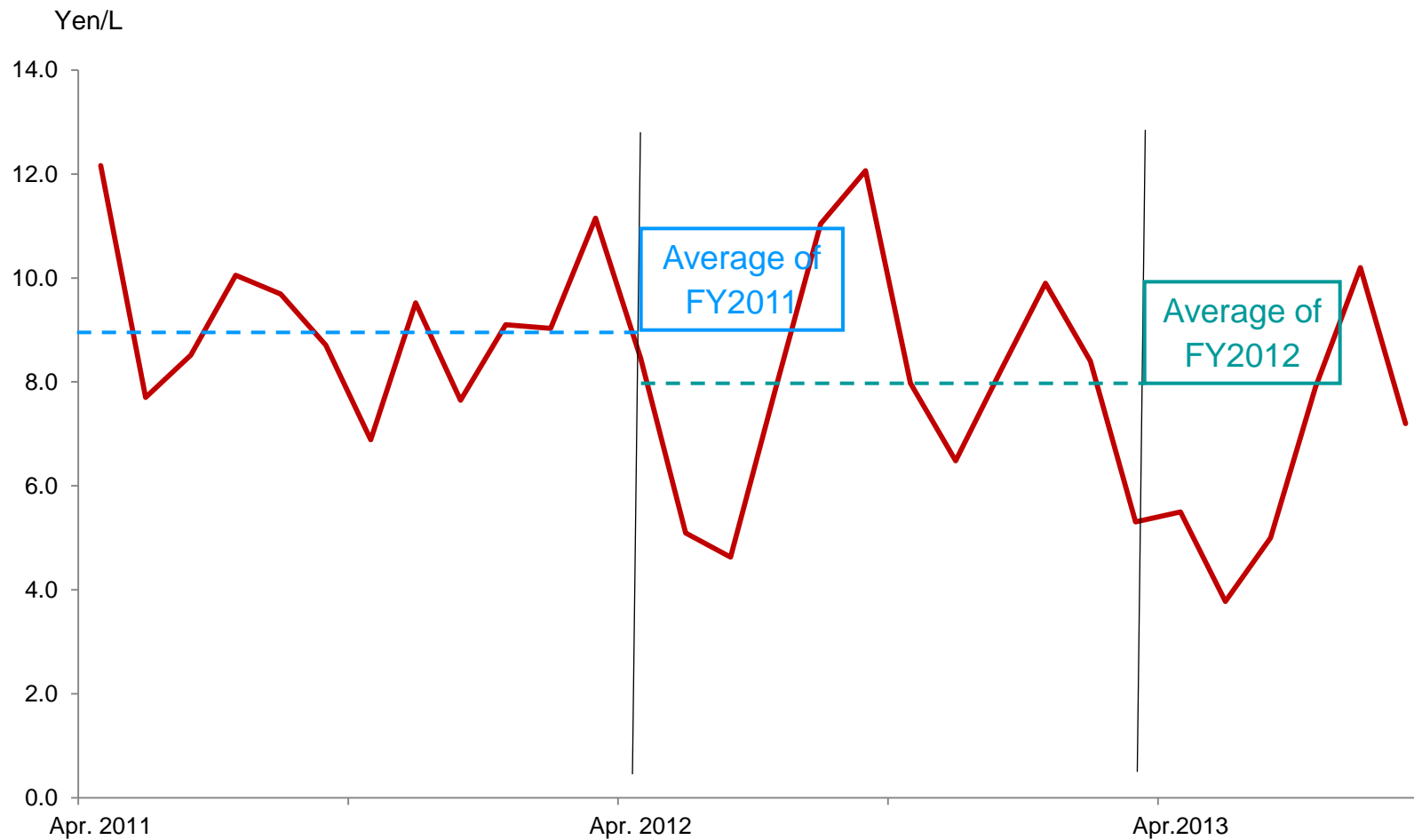
Corresponded to Sophistication of Energy Supply Structure Act

## ✓ Integration Synergies and Enhanced Efficiency of Refineries



(billion yen; Accumulated effect vs. FY2009)

# Margins of Gasoline, Kerosene, Diesel Fuel and Fuel Oil A



# JX Group's Market Share and Historical CDU<sup>\*1</sup> Utilization Rate, and Demand in Japan



## Domestic Market Share

	FY2012 1H (%)	FY2012 (%)	FY2013 1H (%)
a) Gasoline	33.6	33.7	33.7
b) Kerosene	38.9	39.7	42.9
c) Diesel Fuel	37.0	37.8	38.6
d) Fuel Oil A	43.6	44.6	44.7
a+b+c+d	36.1	37.0	37.0
Total Domestic Fuel *2	35.9	36.5	36.3

## Domestic Demand

	FY2012 1H (1,000KL)	FY2013 1H (1,000KL)	Changes vs. FY2012 1H (%)
a) Gasoline	28,662	28,770	100.4
b) Kerosene	4,485	4,348	96.9
c) Diesel Fuel	16,353	16,630	101.7
d) Fuel Oil A	5,909	5,669	95.9
a+b+c+d	55,408	55,416	100.0
Total Domestic Fuel *2	92,142	89,572	97.2

## CDU<sup>\*1</sup> Utilization Rate (Excluding the impact of periodic repair and earthquake)

	FY2010	FY2011	FY2012	FY2013 1Q	FY2013 2Q
JX Group *3	86%	88%	88%	90%	90%

\*1 Crude Distillation Unit

\*2 Excluding crude oil for electric plants

\*3 Excluding condensate splitters of Mizushima and Kashima

# Number of Service Stations (Fixed-Type)

	FY2010	FY2011	FY2012	FY2013.9 <sup>*5</sup>
JX Group	12,149	11,730	11,283	11,161
EMG <sup>*1</sup>	3,979	3,773	3,475	3,456
Idemitsu Kosan	4,148	3,997	3,861	3,841
Showa Shell Sekiyu	3,922	3,760	3,555	3,489
Cosmo Oil	3,609	3,498	3,325	3,298
Others <sup>*2</sup>	1,194	1,160	1,130	1,118
<b>Oil Companies</b>	<b>29,001</b> (76.5%)	<b>27,918</b> (75.7%)	<b>26,629</b> (74.8%)	<b>26,363</b> (74.7%)
<b>Private Brands and Others<sup>*3</sup></b>	<b>8,899</b> (23.5%)	<b>8,982</b> (24.3%)	<b>8,971</b> (25.2%)	<b>8,937</b> (25.3%)
<b>Total<sup>*3</sup></b>	<b>37,900</b>	<b>36,900</b>	<b>35,600</b>	<b>35,300</b>

Notes: \*1. Figures are total of Esso, Mobil and Tonen General Sekiyu.

\*2. Figures are total of Taiyo Petroleum, Mitsui Oil & Gas and Kygnus Sekiyu.

\*3. Estimated by JX Holdings.

\*4. Figures include only self-service retail outlets that are affiliated to oil companies.

\*5. Data except for JX Group and Showa Shell Sekiyu are as of the end of June 2013.

## <Number of Company-Owned Service Stations> (As of the end of fiscal years)

	FY2010	FY2011	FY2012	FY2013.9
JX Group	2,701	2,573	2,487	2,461

## <Number of Self-Service Stations> (As of the end of fiscal years)

	FY2010	FY2011	FY2012	FY2013.9
JX Group	2,385	2,423	2,535	2,606
Total for Japan <sup>*4</sup>	6,935	7,001	7,172	7,274 <sup>*5</sup>

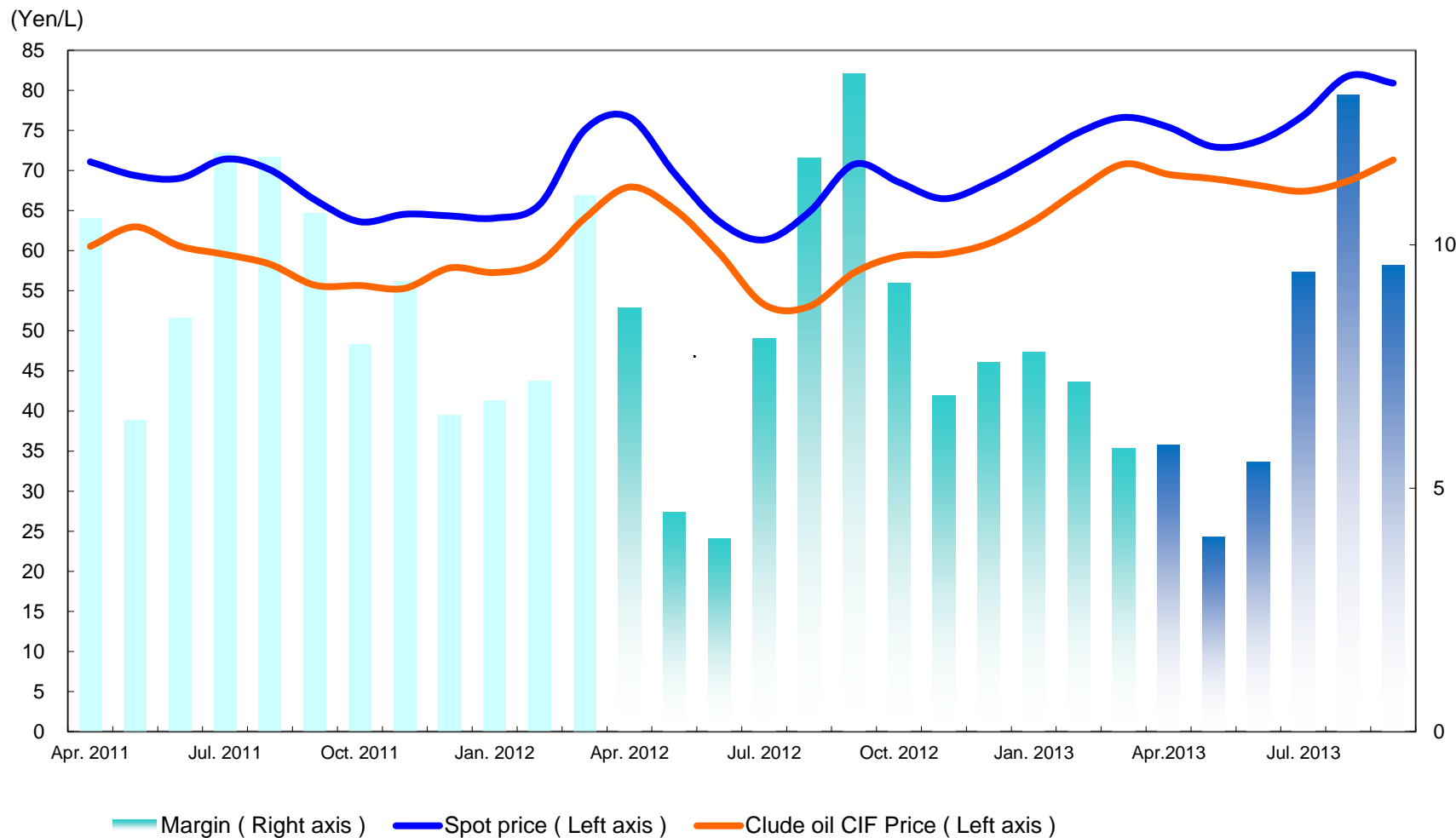
# Sales Volume by Product

	FY2012 1H	FY2013 1H	variation	Changes vs. FY 2012 1H
	(ten thousand KL)	(ten thousand KL)	(ten thousand KL)	
Gasoline	963	970	7	0.7%
Premium	123	120	-3	-2.4%
Regular	834	846	12	1.4%
Naphtha	191	190	-1	-0.5%
JET	75	84	9	12.0%
Kerosene	154	164	10	6.5%
Diesel Fuel	605	641	36	6.0%
Fuel Oil A	258	253	-5	-1.9%
Heavy Fuel Oil C	522	365	-157	-30.1%
For Electric Power	388	256	-132	-34.0%
For General Use	134	109	-25	-18.7%
<b>Total Domestic Fuel</b>	<b>2,767</b>	<b>2,667</b>	<b>-100</b>	<b>-3.6%</b>
Crude Oil	252	189	-63	-25.0%
Lubricants & Specialities	156	139	-17	-10.9%
Petrochemicals (ten thousand ton)	269	312	43	16.0%
Exported Fuel	542	612	70	12.9%
LPG (ten thousand ton)	13	16	3	23.1%
Coal (ten thousand ton)	312	344	32	10.3%
<b>Total Excluding Barter Trade &amp; Others</b>	<b>4,311</b>	<b>4,280</b>	<b>-31</b>	<b>-0.7%</b>
Barter Trade & Others	886	898	12	1.4%
<b>Total</b>	<b>5,197</b>	<b>5,178</b>	<b>-19</b>	<b>-0.4%</b>





# Domestic Market Margin\* (Gasoline)

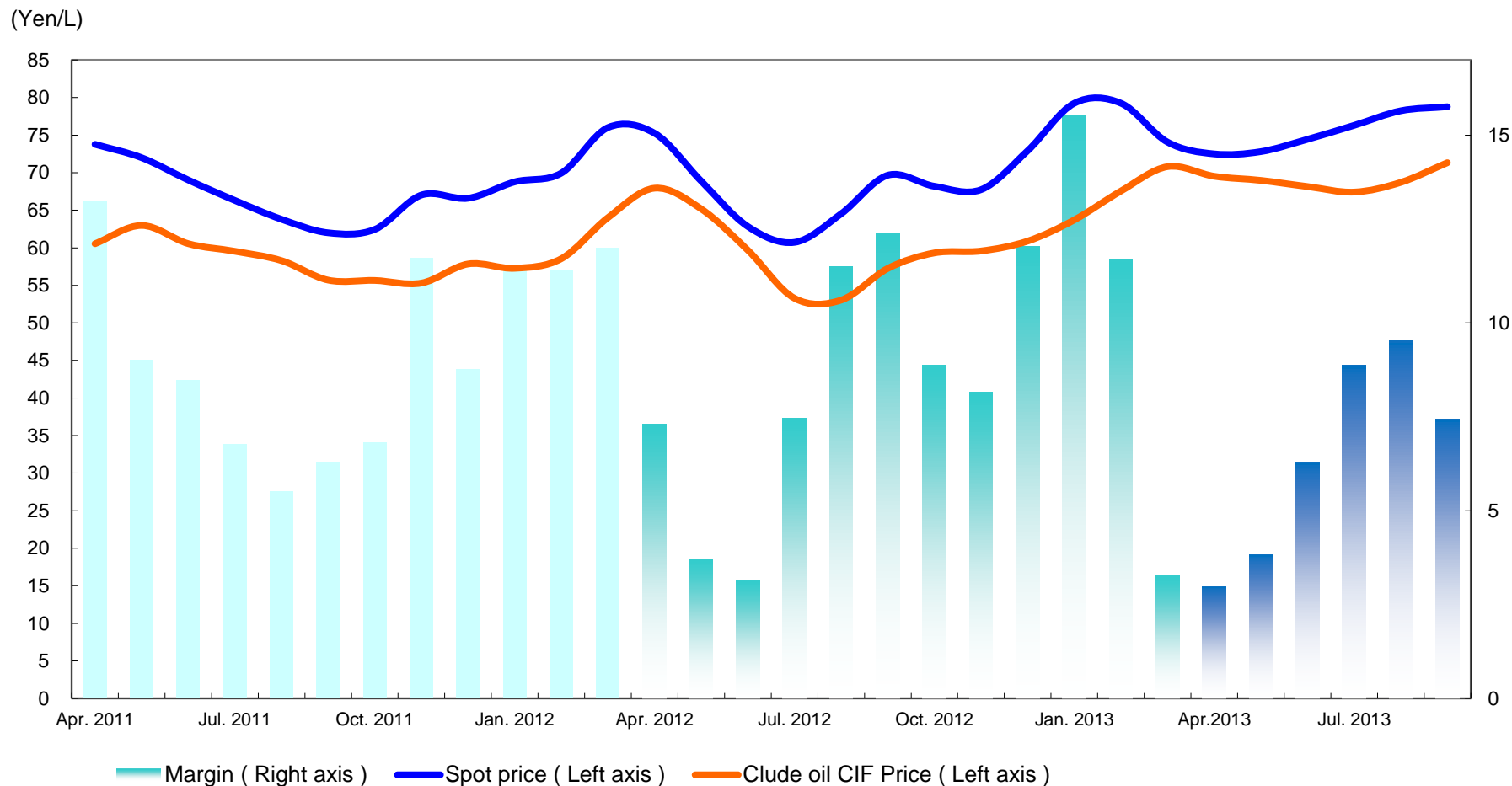


\* Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

Source : Trade statistics (Ministry of Finance, Japan)



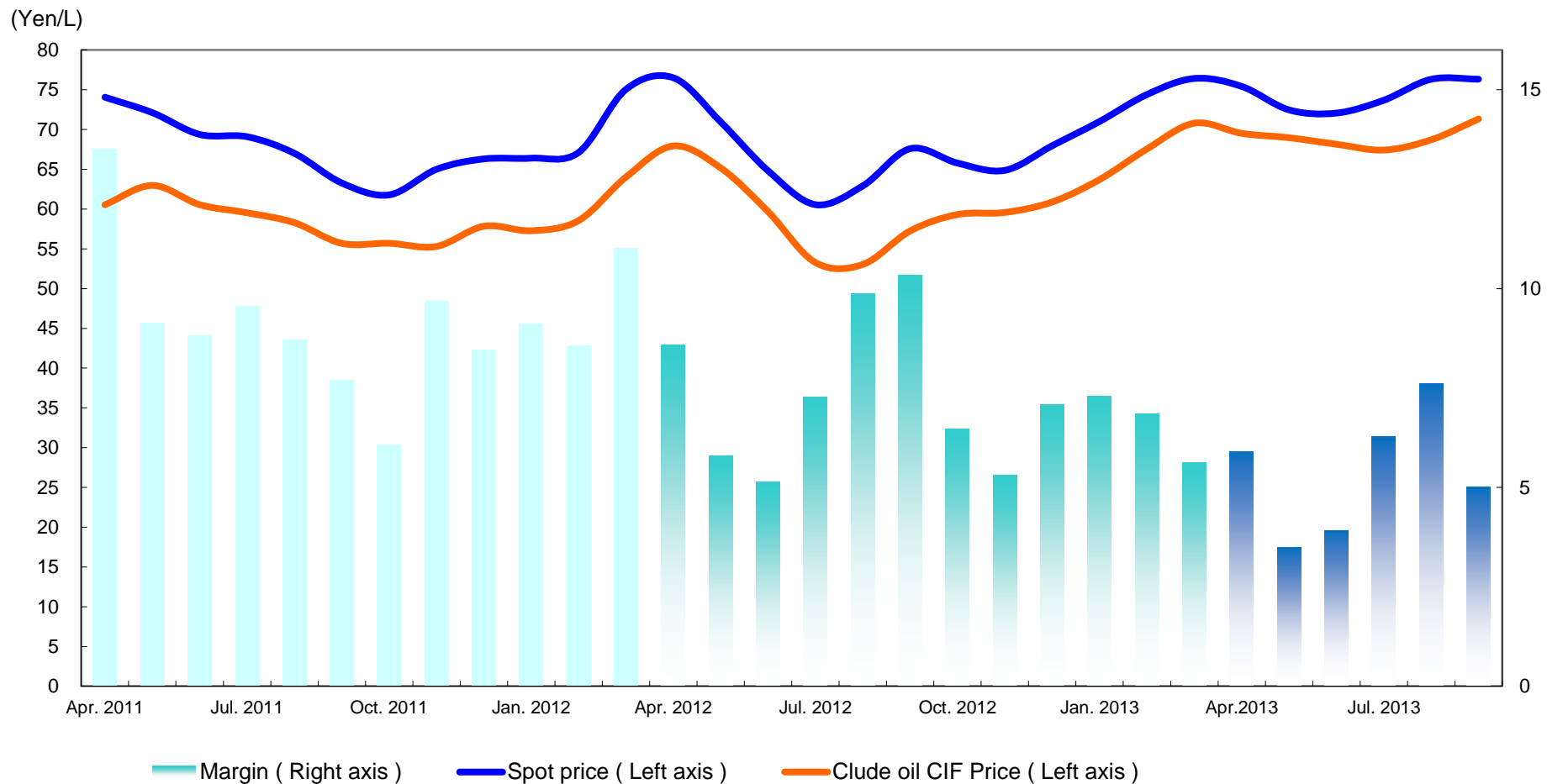
# Domestic Market Margin (Kerosene)



\* Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)  
 Source : Trade statistics (Ministry of Finance, Japan)



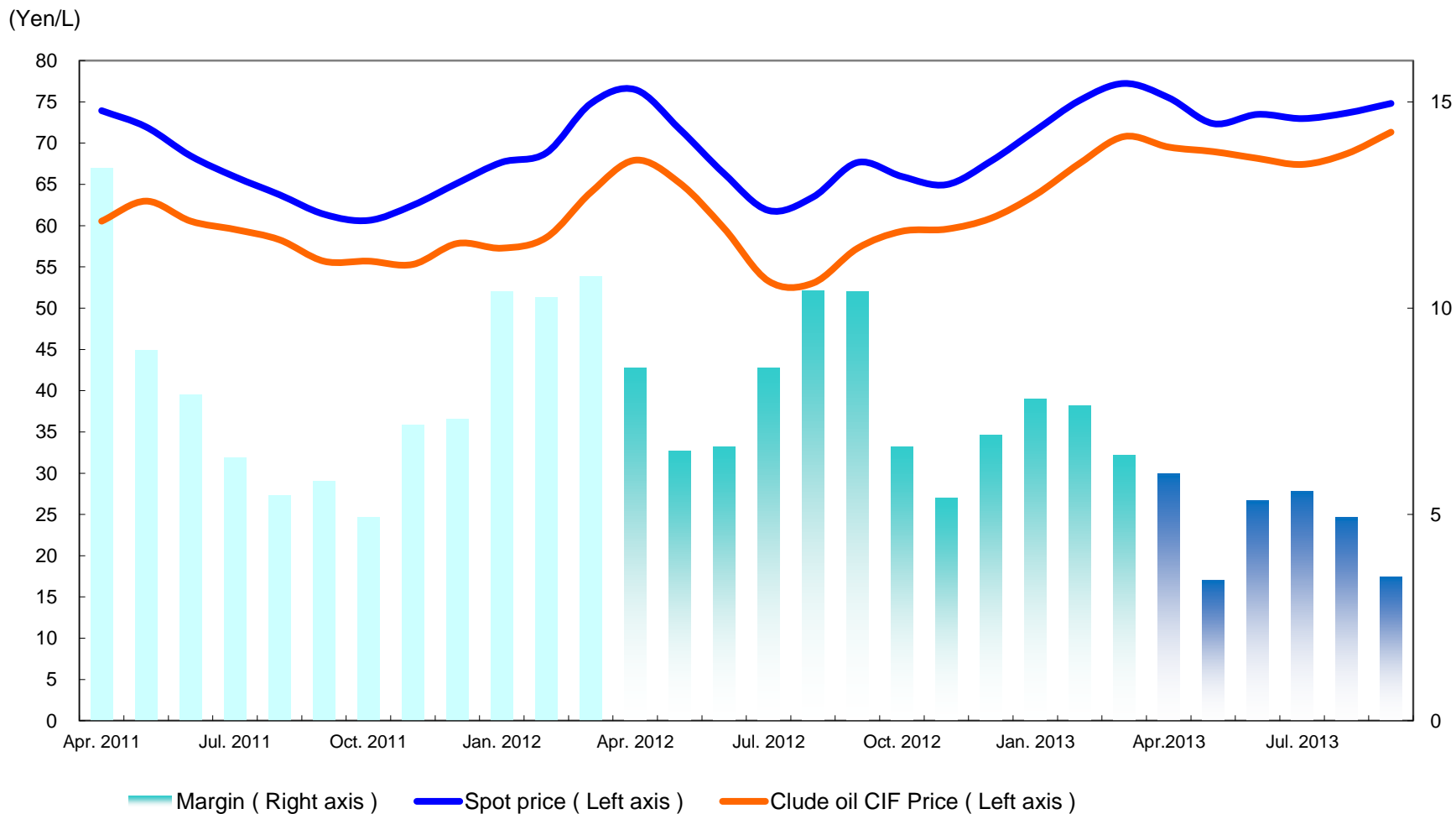
# Domestic Market Margin (Diesel Fuel)



\* Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)  
 Source : Trade statistics (Ministry of Finance, Japan)



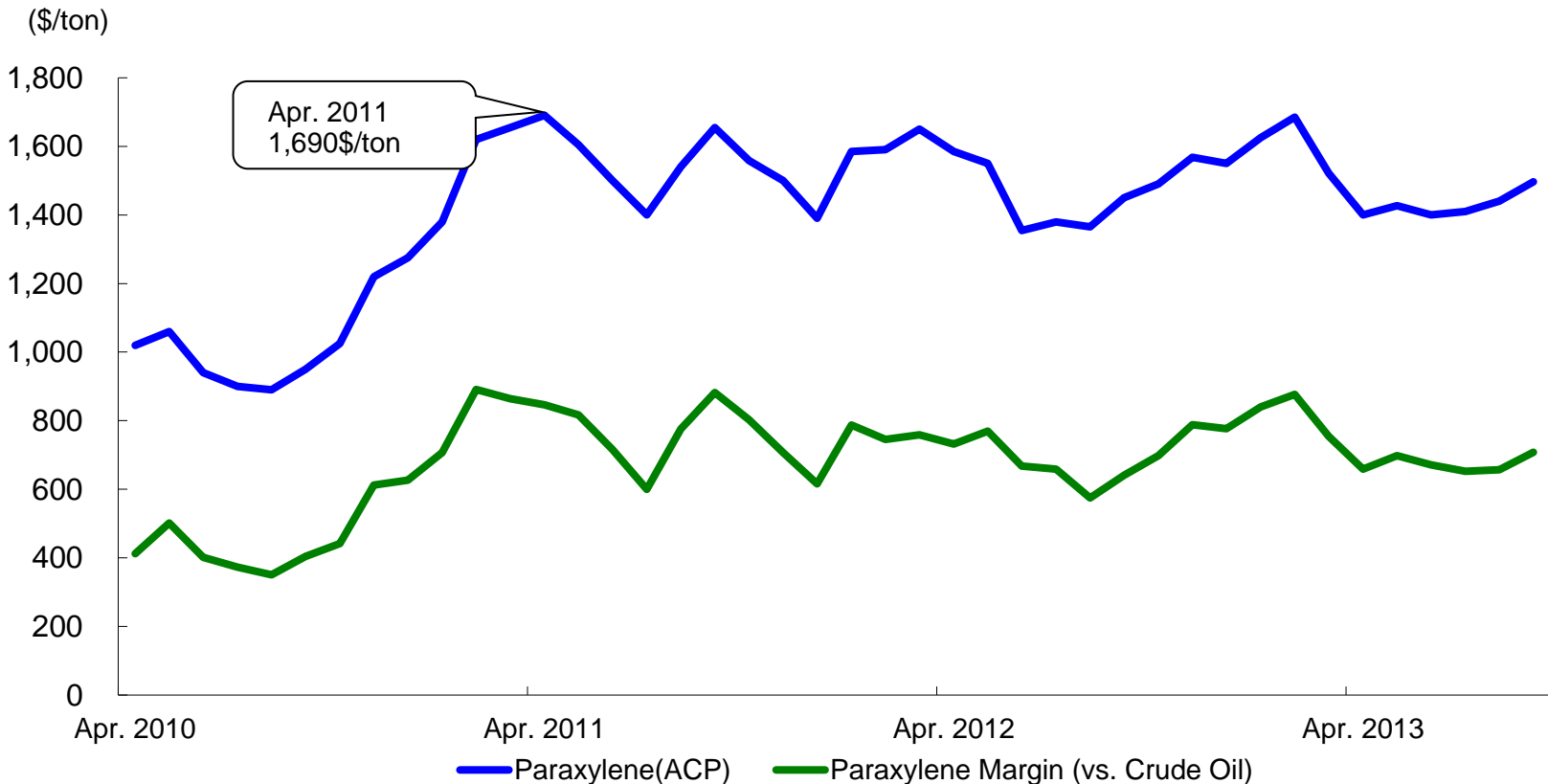
# Domestic Market Margin (Fuel Oil A)



\* Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)  
 Source : Trade statistics (Ministry of Finance, Japan)

# Paraxylene Price and Margin (vs. Crude Oil)

Average Price	FY2010	FY2011	FY2012					FY2013	
			1Q	2Q	3Q	4Q	FY	1Q	2Q
Asian Contract Price	1,162	1,555	1,497	1,398	1,536	1,611	1,510	1,409	1,449
Margin (vs. Crude Oil)	550	754	723	625	754	824	732	676	673

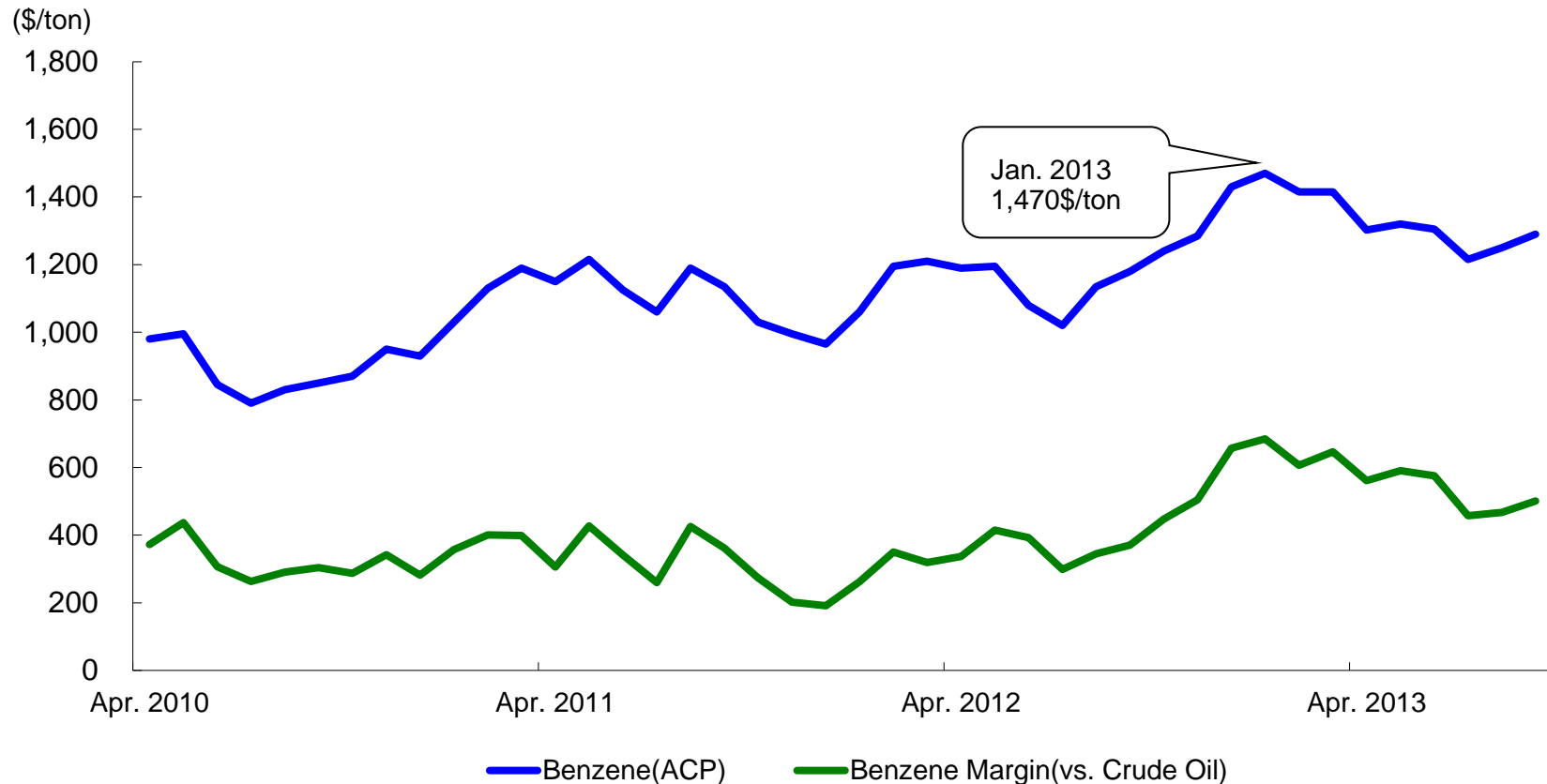


Note: In case of ACP undecided, average price of spot market is adopted.

# Benzene Price and Margin (vs. Crude Oil)

( \$/ton)

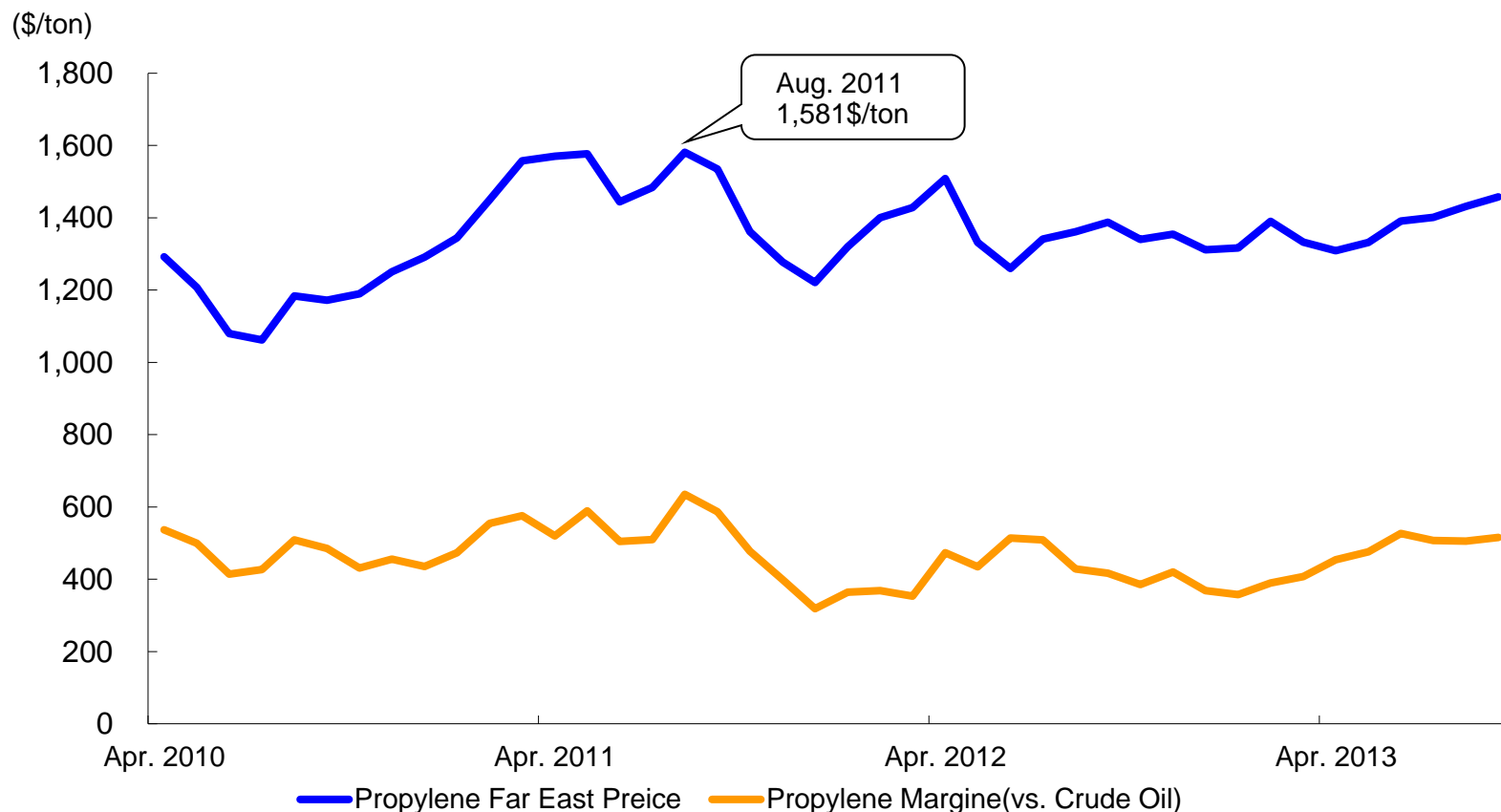
Average Price	FY2010	FY2011	FY2012					FY2013	
		4Q	1Q	2Q	3Q	4Q	FY	1 Q	2 Q
Asian Contract Price	948	1,111	1,155	1,112	1,318	1,433	1,255	1,309	1,252
Margin (vs. Crude Oil)	336	310	382	338	537	646	476	576	475





# Propylene Price and Margin (vs. Naphtha)

Average Price	FY2010	FY2011	FY2012					FY2013	
			1Q	2Q	3Q	4Q	FY	1Q	2Q
Far East Spot Price	1,258	1,383	1,367	1,364	1,336	1,347	1,353	1,344	1,430
Margin (vs. Naphtha)	484	362	474	452	392	385	426	486	510



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Business Environment  
- Oil and Natural Gas E&P Business -



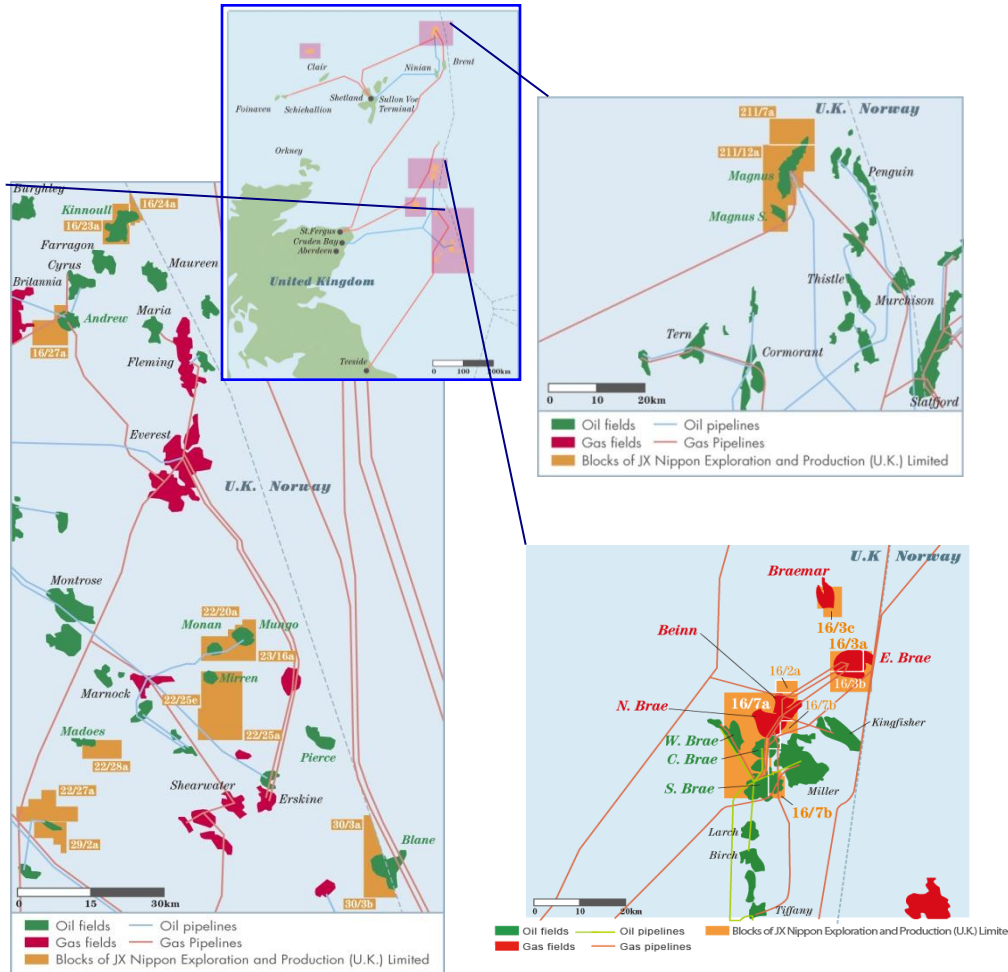
# Principal Individual E&P Project Overview ( U.K. ① )

## U.K. North Sea ①

Production

Development

Exploration



	Magnus, Brae, Andrew, Blane and other fields
Company Holding the Acreages	JX Nippon Exploration and Production (U.K.) Ltd.
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (100%)
Project Status	Exploration / Development / Production
Interest	2.1%~100.0%
Partners	BP, Shell, Marathon, Others
Sales Volume (Jan.-Jun. 2013)	5,000boed (oil 3,800b/d, gas 7.2mmcf/d)

UK (North Sea) is one of core countries with many opportunities to acquire exploration, development and production assets and the infrastructure related to them. We have over 10 fields currently producing oil and gas as well as several projects underway where development is envisaged to commence within the next few years. We are striving to acquire new acreages through open bid rounds as well as pursuing farm in and other opportunities.

### Production

**Mining Area during the production**  
Andrew, Mungo / Monan, Mirren / Madoes, Blane Magnus Oil Fields , Brae Gas Field etc

- From 1994 to 2002, acquired a working interest in individual blocks.

### Development

**Mining Area during Development : Kinnoull Oil Field**

- In August 2012, Acquired interest in Kinnoull Field which is under development, by exchanging interest in Pierce Field.

### Exploration

**Mining Area during Exploration**  
22/25a (Culzean Prospect) etc

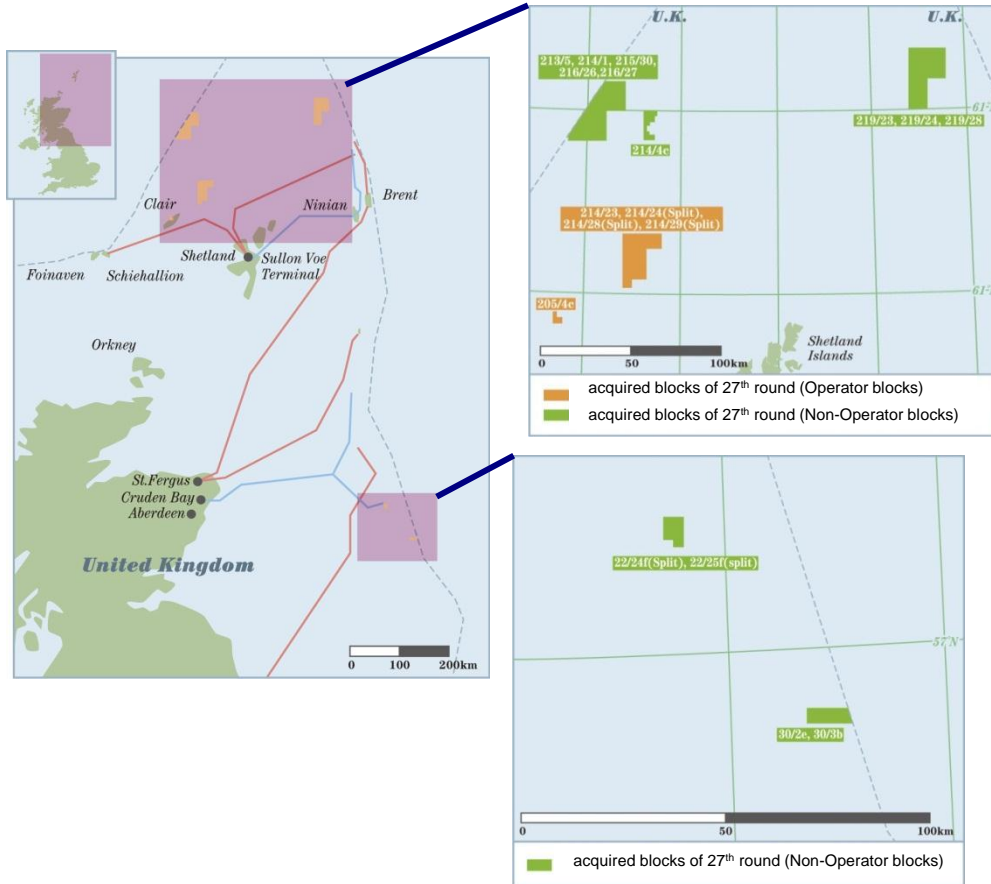
- In March 2011, confirmed the presence of a significant hydrocarbon accumulation.

# Principal Individual E&P Project Overview ( U.K. ② )

## U.K. North Sea ②

Exploration

New blocks are acquired in 2012 by 27<sup>th</sup> round of governmental open tender .



### Project Company

JX Nippon Exploration and Production (U.K.) Ltd  
(100%)

(%) = JX Group Shareholding

### Operator blocks

West of Shetlands Area

205/4c

214/23, 214/24, 214/28, 214/29

### Non-Operator blocks

North Sea Northern Area

219/23, 219/24, 219/28

North Sea Central Area

22/24f, 22/25f

30/2e, 30/3b

West of Shetlands Area

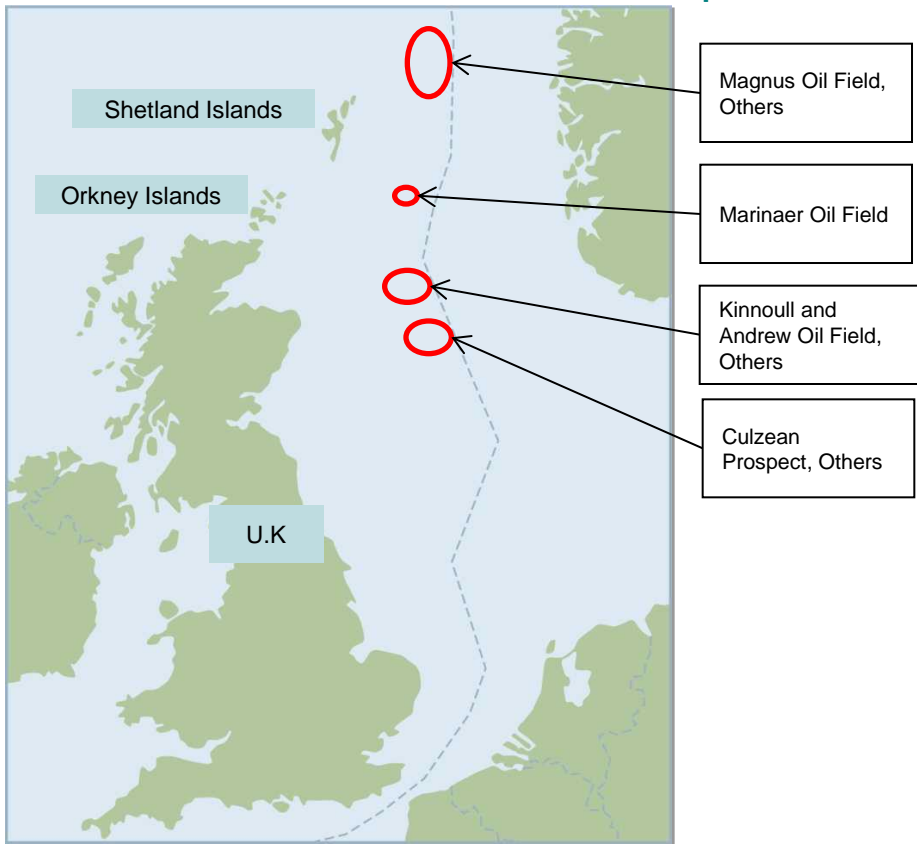
213/5, 214/1, 214/4c, 215/30, 216/26, 216/27

### Operators

GDF Suez, OMV, Maersk

# Principal Individual E&P Project Overview ( U.K. ③ )

## ✓ The main features of this acquisition



	Kinnoull Oil Field	Culzean Prospect	Mariner Oil Field
Blocks	16/23a, 16/24a	22/25e	9/11a
Partners (Interest)	BP 77.06% (Operator)	Maersk 49.99% (Operator)	Statoil 65.11% (Operator)
	JXNEPUK(*)22.94%	JXNEPUK(*)34.01%	JXNEPUK(*)28.89%
	Existing 6.27% Additional 16.67%	Existing 17.06% Additional 16.95%	Existing — Additional 28.89%
		BP 16.00%	Cairn 6.00%
Project Status	Under Development (Production to be commenced in 2014)	Under Exploration	Under Development (Field Development Plan approved in Feb. 2013)

\* JX Nippon Exploration and Production (U.K.) Limited



# Principal Individual E&P Project Overview (Gulf of Mexico)

## Gulf of Mexico

### Production



We hold assets in the Gulf of Mexico in the United States, which range from the continental shelf (less than 200meters in depth) to deep water area (more than 200 meter in depth).

	K2	Orchard North (onshore)	MP140,ST179, WC265/266 (offshore)
Company holding the Acreage	JX Nippon Oil Exploration(U.S.A.) Ltd.		
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration(100%)		
Project Status	Production	Production	Production
Interest	11.6%	50.0%	35.0%~62.5%
Partners	Anadarko(41.8%) ENI(13.4%) ConocoPhillips(12.4%) MCX(11.6%) EcoPetrol(9.2%)	Hilcorp (50.0%)	Apache Dynamic Ranger Tarpon
Operator	Anadarko	Hilcorp	Apache, Others
Sales Volume(Jan.-Jun. 2013)	3,500 boed (Oil 2,200b/d, Gas 7.8mmcf/d)		

### Production

#### Mining Area during the productionK2, Orchard North, MP140, ST179, WC265/266

- In 1990, began exploration, development, and production operations at an onshore field in Texas and offshore blocks in both deep as well as shallow waters in the Gulf of Mexico.
- In addition to continuing such existing operations as those in the Orchard North Gas Field, Aconcagua Gas Field, and Virgo Gas Field, purchased interests in certain producing assets in the Gulf of Mexico from Devon in 2005 and from Anadarko in 2007.
- In September 2010, sold some assets of shallow water and deep water areas.

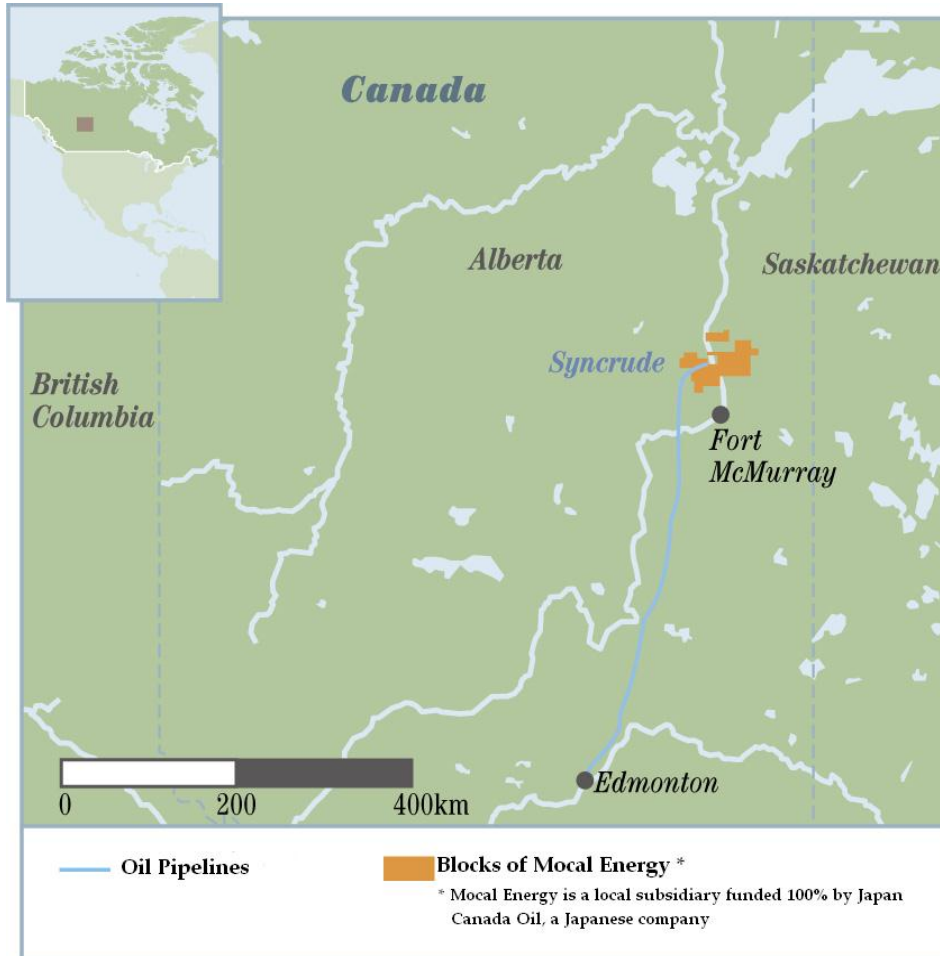


# Principal Individual E&P Project Overview (Canada)

Canada

Production

Development



	Syncrude Project
Company Holding the Acreages	Japan Canada Oil/Mocal Energy
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (100%)
Project Status	Development / Production
Interest	5.0%
Partners	Canadian Oil Sands (36.7%) Imperial Oil Resources (25.0%) Suncor Energy (12.0%) Sinopec (9.0%) Nexen (7.2%) Murphy Oil Company (5.0%)
Operator	Syncrude Canada
Sales Volume (Jan.-Jun. 2013)	13,300boed (oil 13,300b/d)

We are a partner in the Syncrude Project that produces synthetic crude oil from oil sand, the sand containing bitumen, huge deposits of which are found in Canada.

Production

- In 1978, Started Shipment of Synthetic Crude Oil.
- In 1992, acquired a working interest from PetroCanada.



## Next Page

Oil and Natural Gas E&P Business

# Principal Individual E&P Project Overview (Vietnam ①)

# Principal Individual E&P Project Overview (Vietnam ①)

Vietnam

Production

Development

Exploration



	Block 15-2		Block 16-2	Block 05-1b/c
	Rang Dong Oil Field	Phuong Dong Oil Field		
Company Holding the Acreages	Japan Vietnam Petroleum Company		Nippon Oil Exploration (Cuu Long)	JX Nippon Oil & Gas Exploration (100%)
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (97.1%) Mitsubishi Corporation (2.9%)		JX Nippon Oil & Gas Exploration (29.5%) JOGMEC (70.5%)	-
Project Status	Exploration/Development/Production		Exploration	Exploration
Interest	46.5%	64.5%	40.0%	35.0%
Partners	PVEP (17.5%) Perenco (36.0%)	PVEP (35.5%)	PVEP (45.0%) VSP (15.0%)	Idemitsu Oil & Gas (35.0%) INPEX (30.0%)
Operator	Japan Vietnam Petroleum Company		PVEP	Idemitsu Oil & Gas
Sales Volume (Jan.-Jun. 2013)	7,800 boed (oil 6,300b/d, gas 9.0mmcf/d)		-	-

# Principal Individual E&P Project Overview (Vietnam ②)

## Block 15-2 ( Rang Dong, Phuong Dong Oil Fields)

Production

Development

Exploration

Since the acquisition in 1992, the project has been one of our key operations. JVPC, our subsidiary, act as operator in the block.

The Rang Dong Oil Field and The Phuong Dong Oil Field feature an unconventional fractured granite basement rock reservoir that is unique in the world. Our fracture evaluation technology is highly valued and receiving worldwide recognition.

As part of our corporate activities, we have been promoting social welfare activities in Vietnam to improve the lives of the people of Vietnam, furthermore, we have been implementing a CDM project aimed at reducing greenhouse gas emissions.

- In 1992, JVPC acquired a working interest in block 15-2
- In 1994, JVPC discovered the [Rang Dong Oil Field](#) within block 15-2, and it began production in that field from 1998.
- In February 2008 and April 2011, Rang Dong CDM Project received CER (Certified Emission Reductions) issuance approval under the Kyoto Protocol.
- In July 2008, Rang Dong Oil Field achieved a cumulative production volume of 150 million barrels.
- In August 2008, JVPC began production in the [Phuong Dong Oil Field](#).

## Block 16-2

Exploration

- In November 2007, acquired a working interest in [block 16-2](#) offshore Vietnam.
- In November 2009, excavated test well No.1, and discovered gas and condensate.
- In August 2010, excavated test well No.2, and discovered gas and condensate.
- In April 2011, excavated appraisal well No1.

## Block 05-1b/c

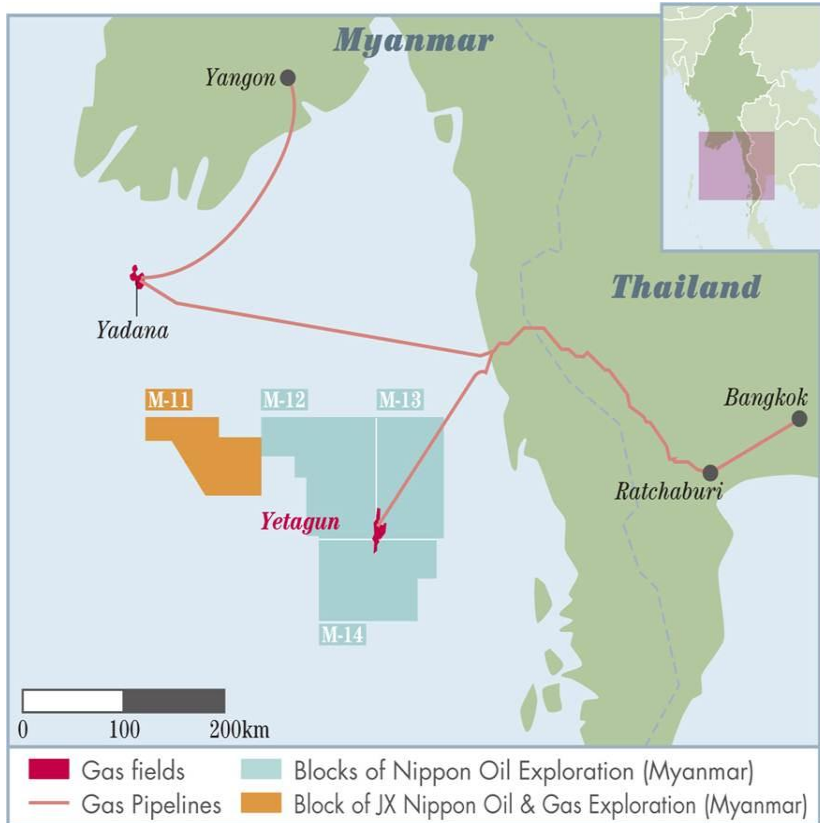
Exploration

- In October 2004, acquired a working interest in [block 05-1b/c](#) offshore Vietnam.
- In February 2007, excavated test well No.1.
- In August 2010, excavated test well No.2, and discovered gas and oil.
- In August 2012, excavated appraisal well No.1.
- in June 2013, confirmed gas and condensate.



# Principal Individual E&P Project Overview (Myanmar ①)

Myanmar    Production    Development    Exploration



	M-12, 13, 14	M-11
Company Holding the Acreages	Nippon Oil Exploration (Myanmar)	JX Nippon Oil & Gas Exploration (Myanmar)
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (50%) Government of Japan (50%)	JX Nippon Oil & Gas Exploration (100%)
Project Status	Exploration / Development / Production	Exploration
Interest	19.3%	15.0%
Partners	Petronas Carigali (40.9%)    MOGE(20.5%) PTTEP International (19.3%)	PTTEP International (45.0%) TOTAL (40.0%)
Operator	Petronas Carigali	PTTEP International
Sales Volume (Jan.-Jun. 2013)	8,500boed (oil 600b/d, gas 47.4mmcf/d)	-

## Principal Individual E&P Project Overview (Myanmar ②)

### Block M-12,13,14

Production

Development

Exploration

We have been participating in the Yatagun project in Myanmar since exploration stage. After the appraisal activities and the construction of the production and shipping facilities, the project is now at a stable production stage.

- In 1991, NOEX Myanmar acquired a working interest in [blocks M-13/14](#) offshore Myanmar.
- The following year, acquired a working interest in [block M-12](#) and discovered the Yetagun Gas Field in that block.
- In 2000, production at the Yetagun Gas Field commenced, with the produced gas supplied to the Ratchaburi power plants in Thailand.
- In 2012, Made the Final Investment Decision on the Yetagun North Gas Field.  
Development of the gas field are underway to commence of production in August 2014.

### Block M-11

Exploration

- In September 2012, acquired a working interest in [blocks M-11](#), offshore Myanmar.  
(Waiting for the approval of the Myanmar government)
- In January 2013, acquired the approval of the Myanmar government.
- In September 2013, commenced to excavate test well No1.

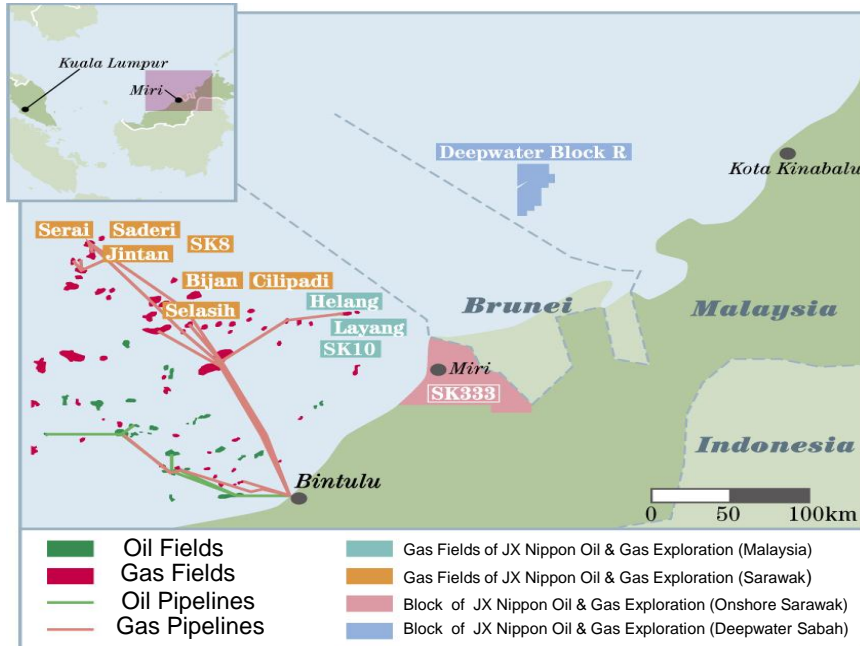


# Principal Individual E&P Project Overview (Malaysia ①)

Malaysia

Production

Development



	SK10 (Helang Gas Field, Others)	SK8 (Serai, Jintan Gas Field, Others)
Company Holding the Acreages	JX Nippon Oil & Gas Exploration (Malaysia)	JX Nippon Oil & Gas Exploration (Sarawak)
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (78.7%) INPEX (15.0%) Mitsubishi Corporation (6.3%)	JX Nippon Oil & Gas Exploration (76.5%) INPEX (15.0%) Mitsubishi Corporation (8.5%)
Project Status	Exploration / Development / Production	Exploration / Development / Production
Interest	75.0%	37.5%
Partners	Petronas Carigali (25.0%)	Shell Oil and Gas Malaysia (37.5%) Petronas Carigali (25.0%)
Operator	JX Nippon Oil & Gas Exploration (Malaysia)	Shell Oil and Gas Malaysia
Sales Volume (Jan.-Jun. 2013)	20,000boed (oil 3,500b/d, gas 99.0mmcf/d)	18,300boed (oil 1,800b/d, gas 99.6mmcf/d)

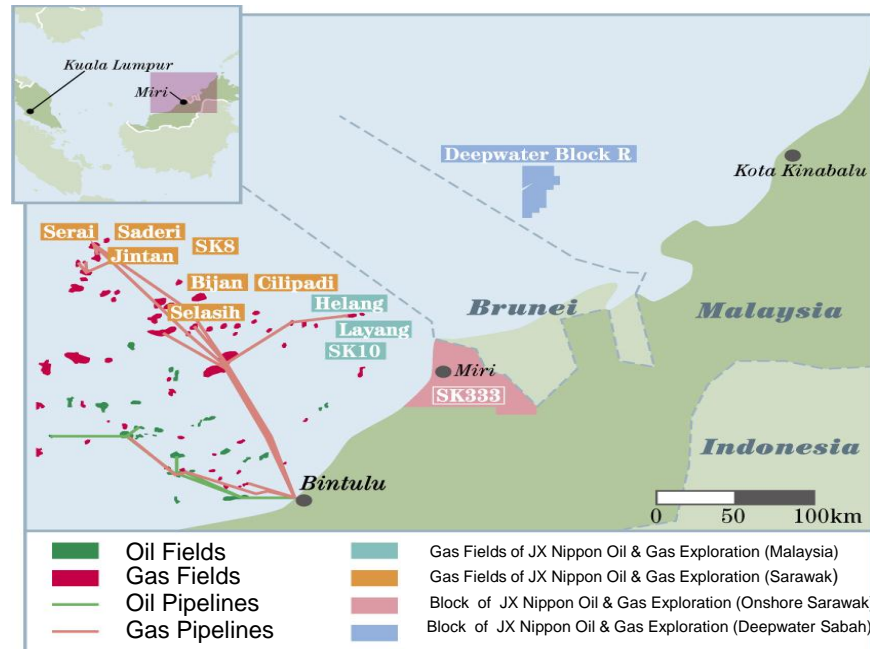
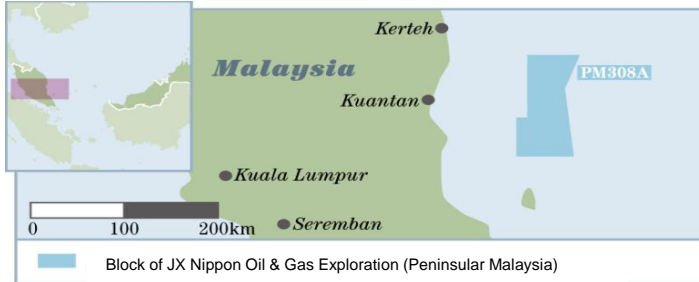
Block of JX Nippon Oil & Gas Exploration (Peninsular Malaysia)



# Principal Individual E&P Project Overview (Malaysia ②)

Malaysia

Exploration



	PM308A	SK333
Company holding the Acreage	JX Nippon Oil & Gas Exploration (Peninsular Malaysia)	JX Nippon Oil & Gas Exploration (Onshore Sarawak)
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (32.3%) JOGMEC (67.7%)	JX Nippon Oil & Gas Exploration (33.8%) JOGMEC (66.2%)
Project Status	Exploration	Exploration
Interest	40.0%	75.0%
Partners	Lundin Malaysia(35.0%) Petronas Carigali(25.0%)	Petronas Carigali (25.0%)
Operator	Lundin Malaysia	JX Nippon Oil & Gas Exploration (Onshore Sarawak)
	Deepwater Block R	Deepwater Block 2F
Company holding the Acreage	JX Nippon Oil & Gas Exploration (Deepwater Sabah)	JX Nippon Oil & Gas Exploration (Offshore Malaysia)
Shareholders (Holding Percentages)	JX Nippon Oil & Gas Exploration (100%)	JX Nippon Oil & Gas Exploration (100%)
Project Status	Exploration	Exploration
Interest	37.5%	40.0%
Partners	Inpex Offshore South Sabah(37.5%) Petronas Carigali(25.0%)	Petronas Carigali (40.0%) GDF Suez E&P Malaysia (20.0%)
Operator	JX Nippon Oil & Gas Exploration (Deepwater Sabah)	JX Nippon Oil & Gas Exploration (Offshore Malaysia)

# Principal Individual E&P Project Overview (Malaysia ③)

## Block SK10 (Helang Gas Field and others)

Since the acquisition of Block SK10 in 1987, the project has been one of our key operations. We act as the operator in the block. The natural gas from the block is exported in the form of liquefied natural gas (LNG) to various countries including

Japan.  
Production

### Mining Area during the production SK10 (Helang Gas Field)

- In 1987, acquired a working interest in Block SK10 offshore Sarawak, Malaysia.
- In 1990, discovered the Helang Gas Field, where production commenced in 2003.
- In 1991, discovered the Layang Gas Field.

## Block SK8 (Serai, Jintan Gas Fields and others)

Production

### Mining Area during the production SK8 (Serai, Jintan, Saderi Gas Fields)

- In 1991, acquired a working interest in Block SK8 .
- From 1992 through 1994, the Jintan and other 6 gas fields were discovered in that block, and production of Jintan and Serai were commenced in 2004.
- In 2008, the Saderi Gas Field commenced production.
- In 2011, the Cilipadi Gas Field commenced production.

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## Block SK333

Exploration

- In December 2007, acquired a working interest in [Block SK333](#) onshore Sarawak, Malaysia.
- In January 2013, discovered gas and oil in Adong Kecil West Prospect.

## Block PM308A

Exploration

- In April 2008, acquired a working interest in [Block PM308A](#) offshore peninsular Malaysia.

## Deepwater Block R

Exploration

- In January 2012, acquired a working interest in [Deepwater Block R](#) deep sea, offshore Sabah, Malaysia.

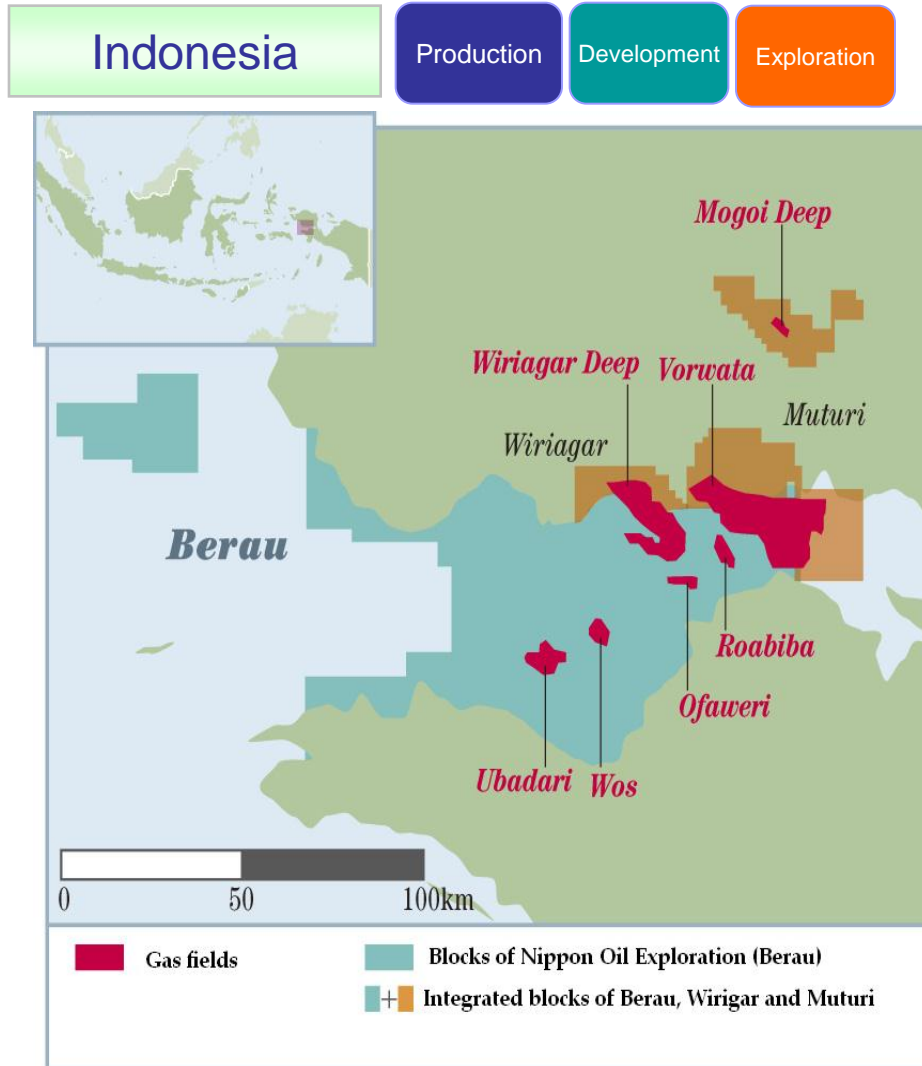
## Deepwater Block 2F

Exploration

- In September 2013, acquired a working interest in [Deepwater Block 2F](#) deep sea, offshore Sarawak, Malaysia.



# Principal Individual E&P Project Overview (Indonesia)



	Tangguh LNG Project	
Company Holding the Acreages	Nippon Oil Exploration (Berau)	
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration (51.0%) JOGMEC (49.0%)	
Project Status	Exploration/Development/Production	
Interest	12.2%(After Unitization)	
Partners	BP(37.2%) CNOOC(13.9%)	MI Berau(16.3%) KG Berau / KG Wiriagar (10.0%) LNG Japan (7.3%) Talisman (3.1%)
Operator	BP	
Sales Volume (Jan.-Jun. 2013)	17,400boed (oil 500b/d, gas 101.4mmcf/d)	

This is the second LNG project we have participated in, following the LNG Tiga project in Malaysia, and we are working to attain long-term and stable LNG production and revenue.

**Production** Project during the production :  
Tangguh LNG Project

- From 1990, excavated three test wells, natural gas was discovered in the area. Subsequently, discovered natural gas in the Vorwata Gas Field, Wiriagar Deep structure, and other gas field.
- From December 2002, those with interests in the Berau, Wiriagar, and Muturi blocks agreed to become partners in unitizing the blocks and undertake development work cooperatively.
- LNG production commenced in June 2009, and the first cargo was shipped in July 2009.

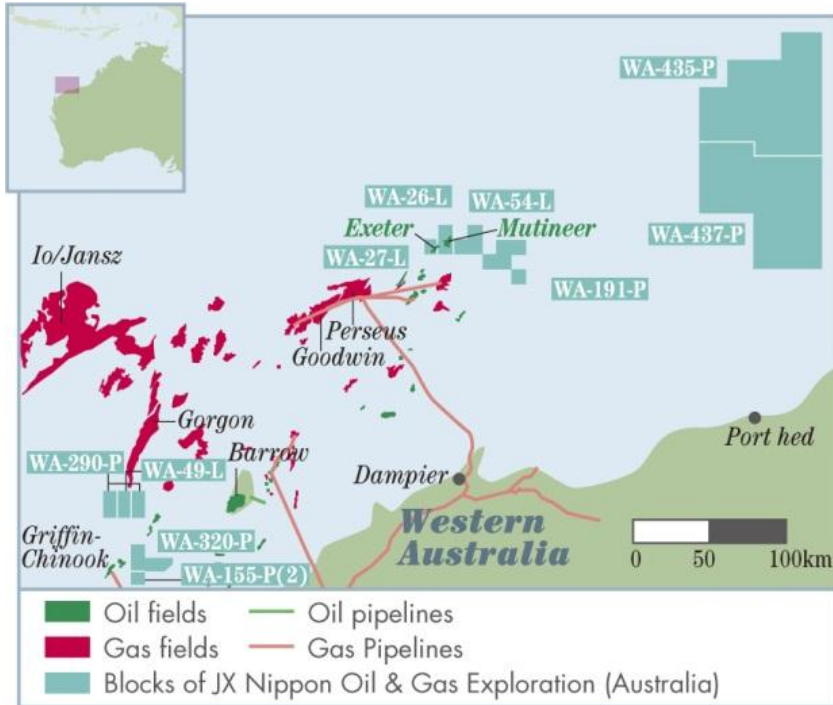


# Principal Individual E&P Project Overview (Australia①)

Australia

Production

Exploration



	Mutineer/Exeter Oil Field	Finucane South Oil Field Block WA-191-P
Company Holding the Acreages	JX Nippon Oil & Gas Exploration (Australia) Pty Ltd	
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration(100%)	
Project Status	Production	Exploration / Production
Interest	25.0%	25.0%
Partners	Santos (33.4%) Kufpec (33.4%) Woodside (8.2%)	Santos (41.6%) Kufpec (33.4%)
Operator	Santos	Santos
Sales Volume(Jan.-Jun. 2013)	1,000 boed(oil 1,000b/d)	

	Block WA-290-P Block WA-49-R	Block WA-435-P Block WA-437-P	Block WA-320-P	Block WA-155-P(2)
Company Holding the Acreages	JX Nippon Oil & Gas Exploration (Australia) Pty Ltd			
Shareholders(Holding Percentages)	JX Nippon Oil & Gas Exploration(100%)			
Project Status	Exploration	Exploration	Exploration	Exploration
Interest	15.0%	20.0%	10.0%	7.0%
Partners	Apache (30.25%) Santos (24.75%) OMV(20.00%) Tap(10.00%)	Apache (40.0%) Finder (20.0%) Carnarvon (20.0%)	Apache (40.665%) OMV (39.557%) Tap (9.778%)	Apache (40.665%) OMV(27.11%) Inpex (18.67%) Tap(6.555%)
Operator	Apache	Apache	Apache	Apache



# Principal Individual E&P Project Overview (Australia②)

We are producing high-quality low-sulfur crude oil from Mutineer / Exeter oil fields. Revenue from the sales of the crude oil is used for new exploration activities within Australia.

## Mutineer/Exeter Oil Field

### Production

- In May 1997, acquired a working interest in Block WA-191-P (present Block WA-26/27-L)
- From 1997 to 2002, discovered Mutineer and Exeter Oil Fields
- In March 2005, oil production commenced in Mutineer and Exeter Oil Fields

## Block WA-54-L,Block WA-191-P (Finucane South Oil Field and others)

### Production

### Exploration

- In May 2011, discovered oil in the Finucane South prospect in Block WA-191-P.
- In May 2013, oil production commenced in Finucane South Field.

## Block WA-290-P,Block WA-49-R

### Exploration

- In April 2011, excavated test well "Zola-1", and discovered Gas
- In July 2013, excavated appraisable well "Bianchi-1", and discovered Gas

## Block WA-435-P,Block WA-437-P

### Exploration

- In October 2012, acquired working interests in Block WA-435-P and Block WA-437-P

## Block WA-320-P,Block WA-155-P(2)

### Exploration

- In June 2013, acquired working interests in Block WA-320-P and Block WA-155-P





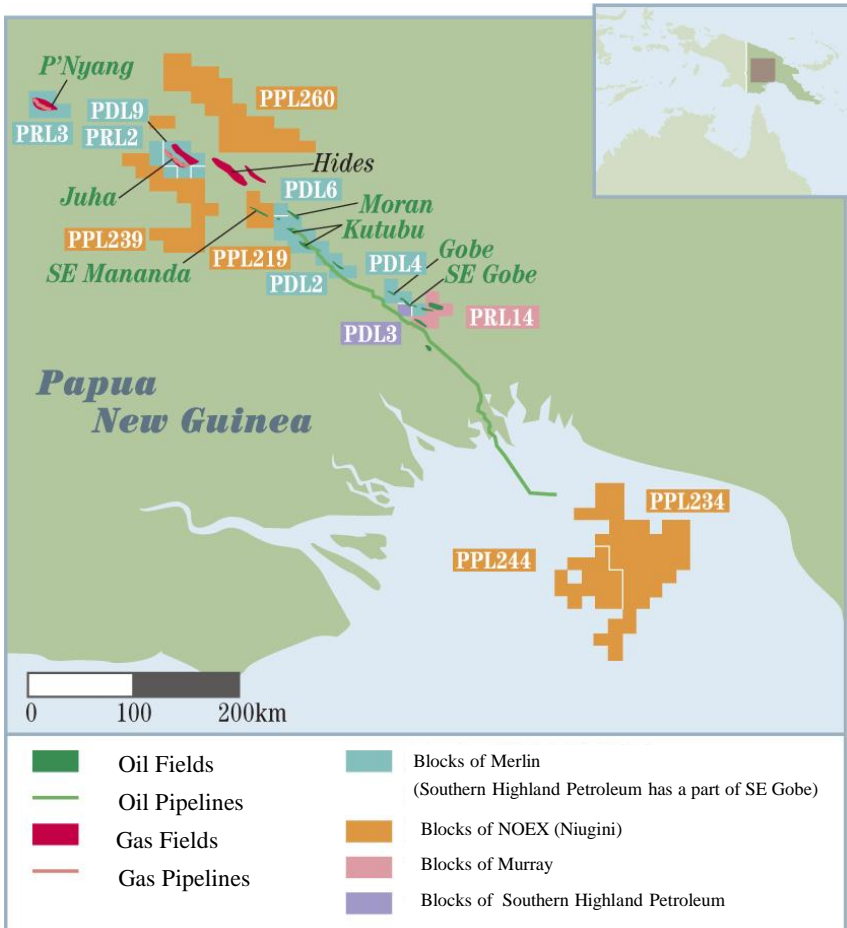
# Principal Individual E&P Project Overview (Papua New Guinea ①)

## Papua New Guinea

Production

Development

Exploration



	Kutubu, Moran, Gobe oil fields, Others	PNG LNG Project
Company Holding the Acreages	Merlin Petroleum Company (79.0%) Nippon Oil Exploration (Niugini) Pty LTD (32.5%) Southern Highland Petroleum (80.0%) Murray Petroleum (29.3%)	Nippon Papua New Guinea LNG LLC (79.0%)
Project Status	Exploration / Development / Production	Development
Interest	8.6%~73.5%	4.68%
Partners	Oil Search ExxonMobil Santos Talisman Others	ExxonMobil (33.20%) Oil Search (29.00%) Santos (13.53%) PNG Government, Landowners (19.58%)
Operator	Oil Search, ExxonMobil, Others	ExxonMobil
Sales Volume (Jan.-Jun. 2013)	5,800boed (oil 5,800b/d)	-



# Principal Individual E&P Project Overview (Papua New Guinea ②)

## Kutubu, Moran, Gobe oil fields and others

### Production

- In 1990, Japan Papua New Guinea Petroleum acquired Merlin and acquired original exploration rights of Merlin in Papua New Guinea. Subsequently, development, and production activities have been undertaken in the [Kutubu, Moran, Gobe, SE Gobe, and SE Mananda oil fields](#).
- In 2008, acquired additional equity of oil field from AGL Energy.

### Exploration

- In April 2011, excavated test well "Mananda-5" in [Block PPL219](#), and discovered oil.

## PNG LNG Project

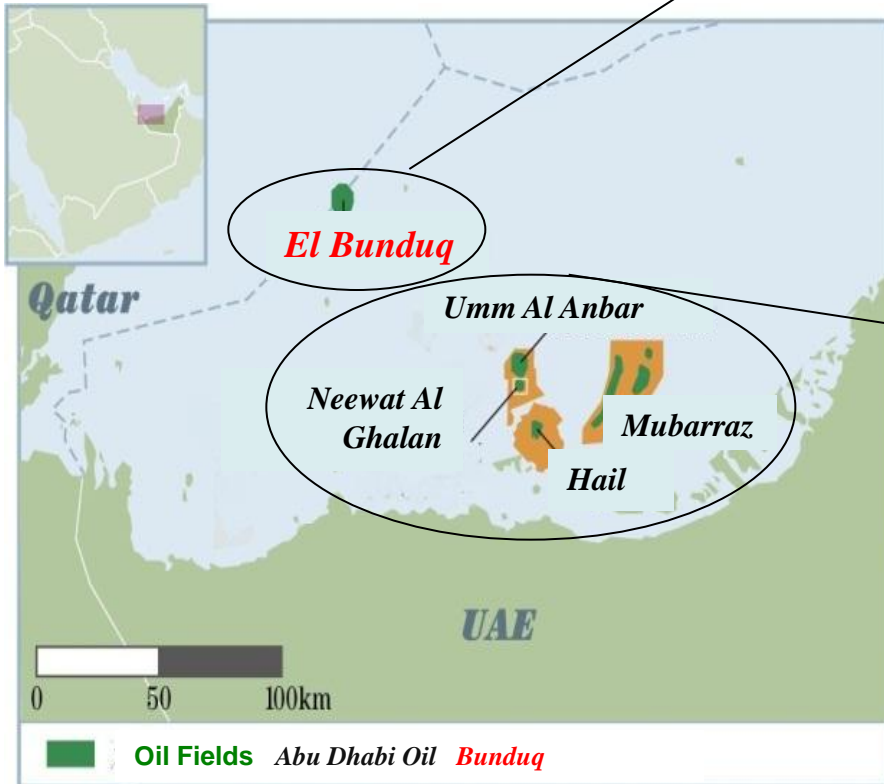
### Development

#### Project during the development PNG LNG Project

- We have been involved in PNG LNG Project since the beginning of the project. In December 2009, we made a Final Investment Decision on the Project, and the development work is in progress with the goal of starting shipments in 2014. PNG LNG Project has the full support of the PNG government, and we expect it to contribute to our revenues in the future.
- In December 2008, acquired the PNG LNG Project equity that AGL Energy owned.
  - In December 2009, PNG LNG Project was made a final investment decision to proceed with the development. Development of the project are underway to commence of production in 2014.



# Principal Individual E&P Project Overview (UAE, Qatar ①)



Company Holding the Acreages	United Petroleum Development (Bunduq Company Limited)
Partners	JX Nippon Oil & Gas Exploration (45.0%) Cosmo Oil Co., Ltd. (45.0%) Mitsui Oil Exploration Co., Ltd (10.0%)
Project Status	Exploration / Development / Production
Interest	97.0%
Partners	BP (3%)
Operator	Bunduq Company Limited
<ul style="list-style-type: none"> <li>● In 1970, United petroleum Development acquired a working interest of El Bunduque Oil Field.</li> <li>● In 1975, oil production commenced in <a href="#">El Bunduq oil field</a>.</li> <li>● In 1983, oil production was resumed by a secondary recovery scheme using water injection.</li> <li>● In 2006, El Bunduque achieved a cumulative production volume of 200 million barrels.</li> </ul>	

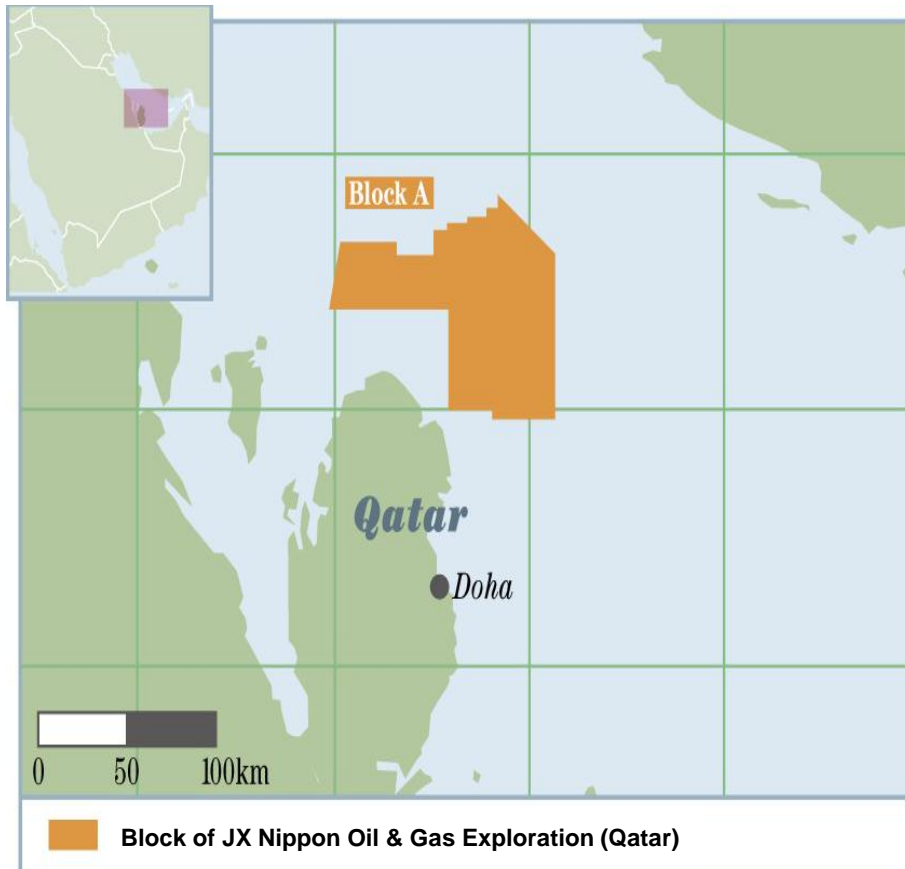
Company Holding the Acreages	Abu Dhabi Oil
Partners	JX Nippon Oil & Gas Exploration (31.5%) Cosmo Oil Co., Ltd.(63.0%) Tokyo Electric Power Co., Inc.(1.8%) Chubu Electric Power Co., Inc.(1.8%) Kansai Electric Power Co., Inc.(1.8%)
Project Status	Exploration / Development / Production
Interest	100.0%
Operator	Abu Dhabi Oil
<ul style="list-style-type: none"> <li>● In 1967, acquired a working interest in block of Mubarraz.</li> <li>● In 1973, oil production commenced in <a href="#">Mubarraz Oil Field</a>.</li> <li>● In 1989, oil production commenced in <a href="#">Umm Al Anbar Oil Field</a>.</li> <li>● In 1995, oil production commenced in <a href="#">Neewat Al Ghalan Oil Field</a>.</li> <li>● In 2009, 3 fields achieved cumulative production volume of 300 million barrels.</li> <li>● In 2011, Sign a New Concession Agreement.</li> <li>● In 2012, Effectuation of New Concession Agreement.</li> </ul>	

## Principal Individual E&amp;P Project Overview (UAE, Qatar ②)



Qatar

Exploration

**Project Company**

JX Nippon Oil & Gas Exploration (Qatar) Limited (100%)  
 (%) = JX Group Shareholding

**Interest in Individual Fields**

100%

**Operator**

JX Nippon Oil & Gas Exploration (Qatar) Limited

## Exploration

- In May 2011, acquired a working interest in [Block A](#) (Pre-Khuff), offshore Qatar .
- In March 2012, established interest in Block A (Pre-Khuff), offshore Qatar officially came into effect.



# JX Group's Reserve Standards

JX Group's criteria for evaluating reserves conforms to the PRMS (Petroleum Resources management System) Standards, drafted by the SPE (Society of Petroleum Engineers), WPC (World Petroleum Congress), AAPG (American Association of Petroleum Geologists), and SPEE (Society of Petroleum Evaluation Engineers).

JX Group's reported reserves are in line with reserves as defined by the PRMS Standards. The degree of certainty of the reserve values is categorized, in order, as either Proved, Probable, or Possible. Following trends common at other industry firms, JX Group's has used Proven and Probable reserves to arrive at its total reserves.

## **Definition of Proved Reserves:**

Reserves judged to have a high level of certainty from analysis of geoscience and production/petroleum engineering data, based on economic conditions, operational methods and laws and regulations assumed by JX Group in light of discovered reservoirs—there is at least a 90% probability that actual recovered volume will equal or exceed estimates of oil and natural gas deposits reasonably evaluated as commercially recoverable.

## **Definition of Probable Reserves:**

There is at least a 50% probability that additional oil and natural gas reserves will equal or exceed actual recovered volume of the total of estimated proved and probable reserves. While these additional reserves are evaluated in the same manner as proved reserves, the probability of recoverability of probable reserves is lower than proved reserves, but higher than possible reserves.

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# Business Environment and Data - Metals Business -

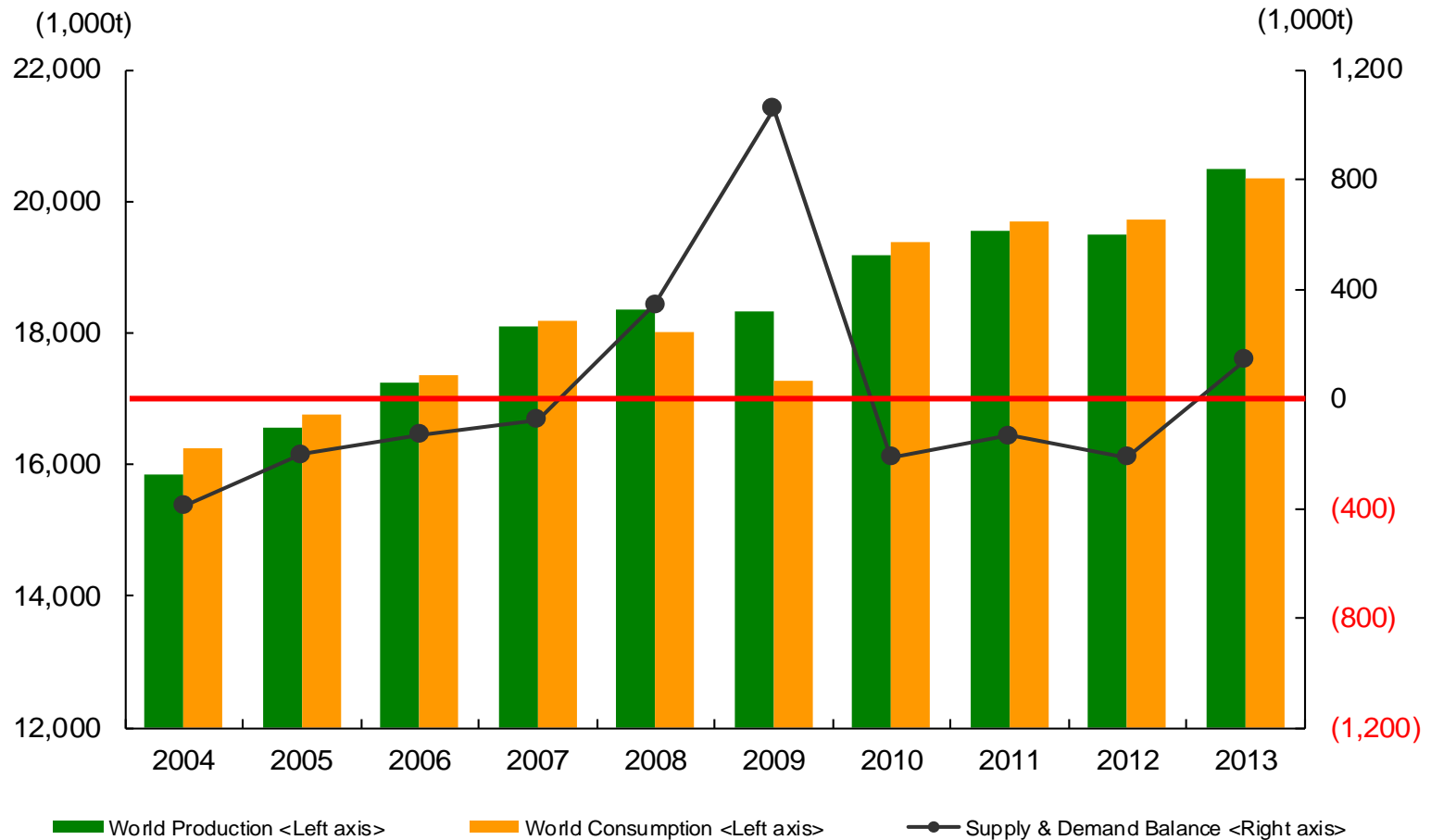
# Copper Production of the JX Group's Mines

(Thousand ton)		CY2013 1 H	CY2012	CY2013 1 H	CY2013
		Actual	Actual	Actual	Forecast #3
Caserones	SX-EW cathode	-	-	5	16
Los Pelambres	*1 Copper concentrate	197	404	204	403
	*2 Copper concentrate	127	245	137	388
Collahuasi	SX-EW copper cathode	18	37	16	43
	Total	145	282	153	431
Escondida	*1 Copper concentrate	354	740	446	871
	SX-EW copper cathode	167	310	155	305
	Total	521	1,050	601	1,176

\* 1 Payable copper contained in concentrate    \* 2 100% content in concentrate

\* 3 Estimation from disclosed numbers of the companies and others

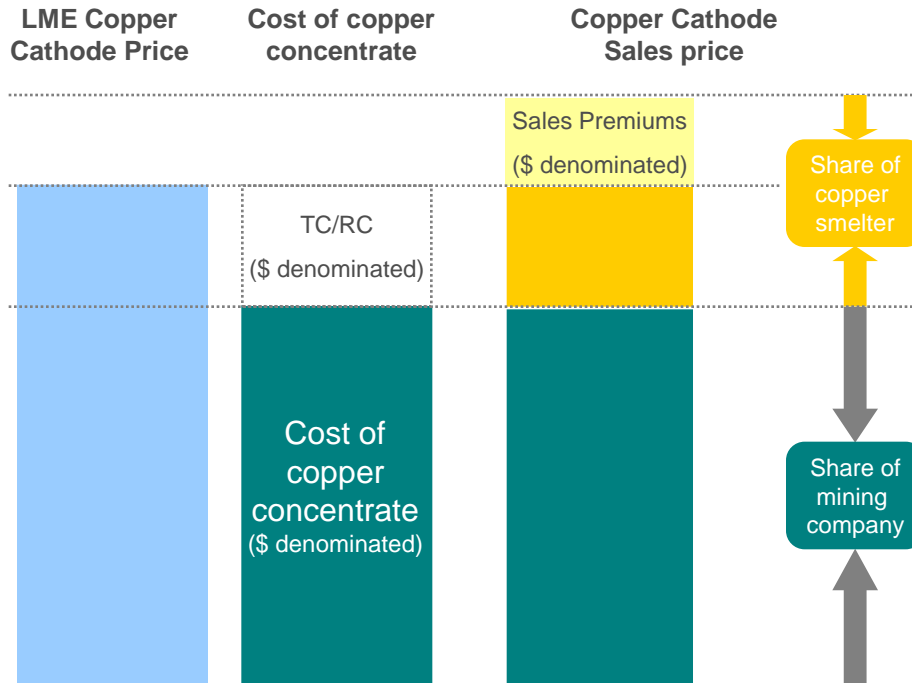
# World's Copper Cathodes Supply & Demand



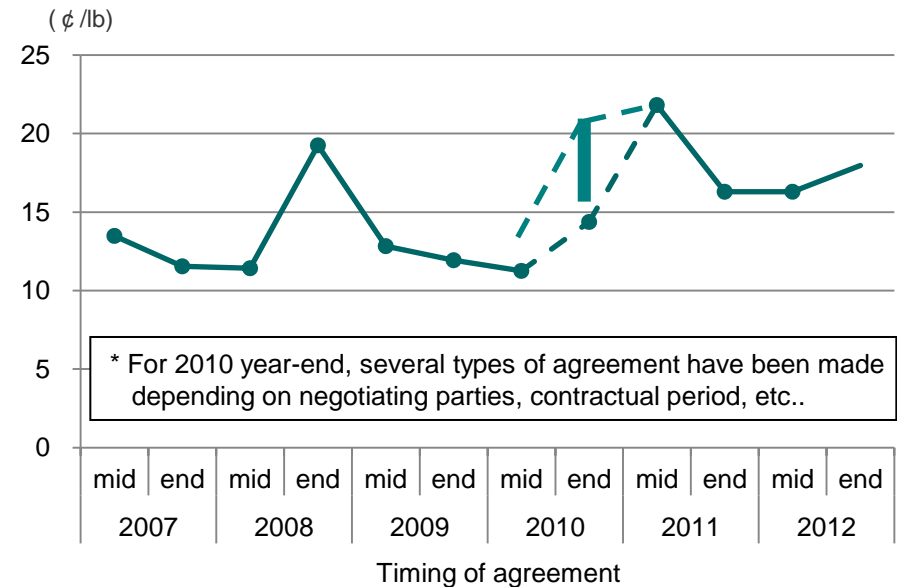


# Earnings Structure of Copper Smelting and Refining Business

## Earnings Structure of Copper Smelter & Refinery



## Trends of Base TC/RC



### Cost of copper concentrate :

The price of copper concentrate, which custom smelters pay to mining companies, is LME copper cathode price less TC/RC, which is smelting and refining margins. TC/RC under long-term contracts is normally determined through annual negotiation between copper smelters and mining companies.

### Copper cathode sales price :

Actual sales price of copper cathode produced by copper smelters is LME price plus sales premium, which is established by reference to various factors including importation costs, qualities and others.

# N-Chlo Process

## N-Chlo Process

The N-Chlo Process is a new hydro-metallurgical process that we have uniquely developed.

The process enables the effective recovery of not only copper from low-grade copper concentrate, but also such precious metals as gold and silver.

We constructed a pilot plant in Australia and have been conducting demonstration test since latter half of FY2009, and we got a good result about copper and gold recovery.

We advance an effort to commercialize the process while searching the mines to apply the process.

Pilot plant in Perth, Australia (About 100t/year Cu recovery)



## Structure of N-Chlo Process

