

Security Code

Tokyo 5020

# Supplementary Information

【Full Report】

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August 3, 2012



The Future of Energy, Resources and Materials

**JX Holdings, Inc.**

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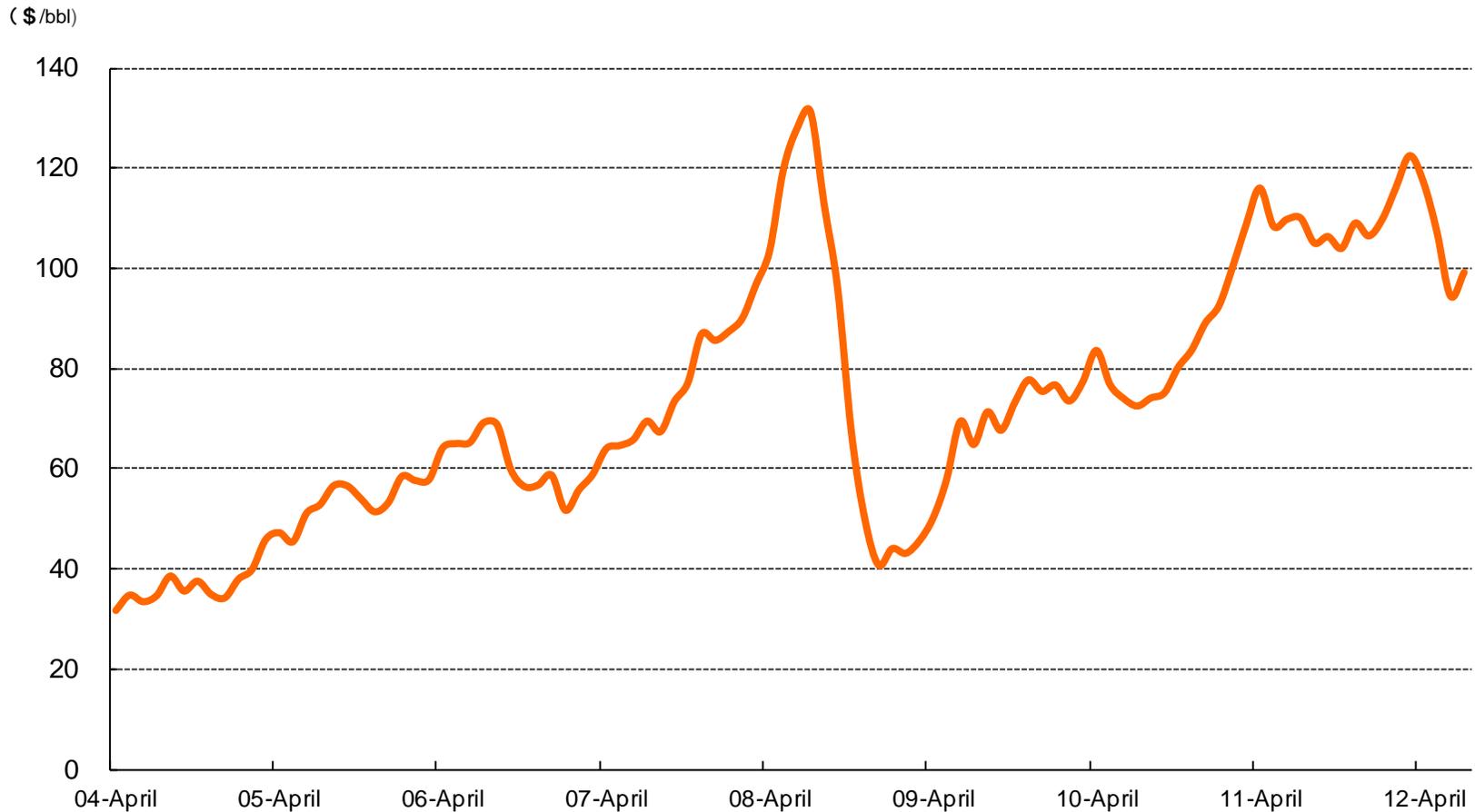
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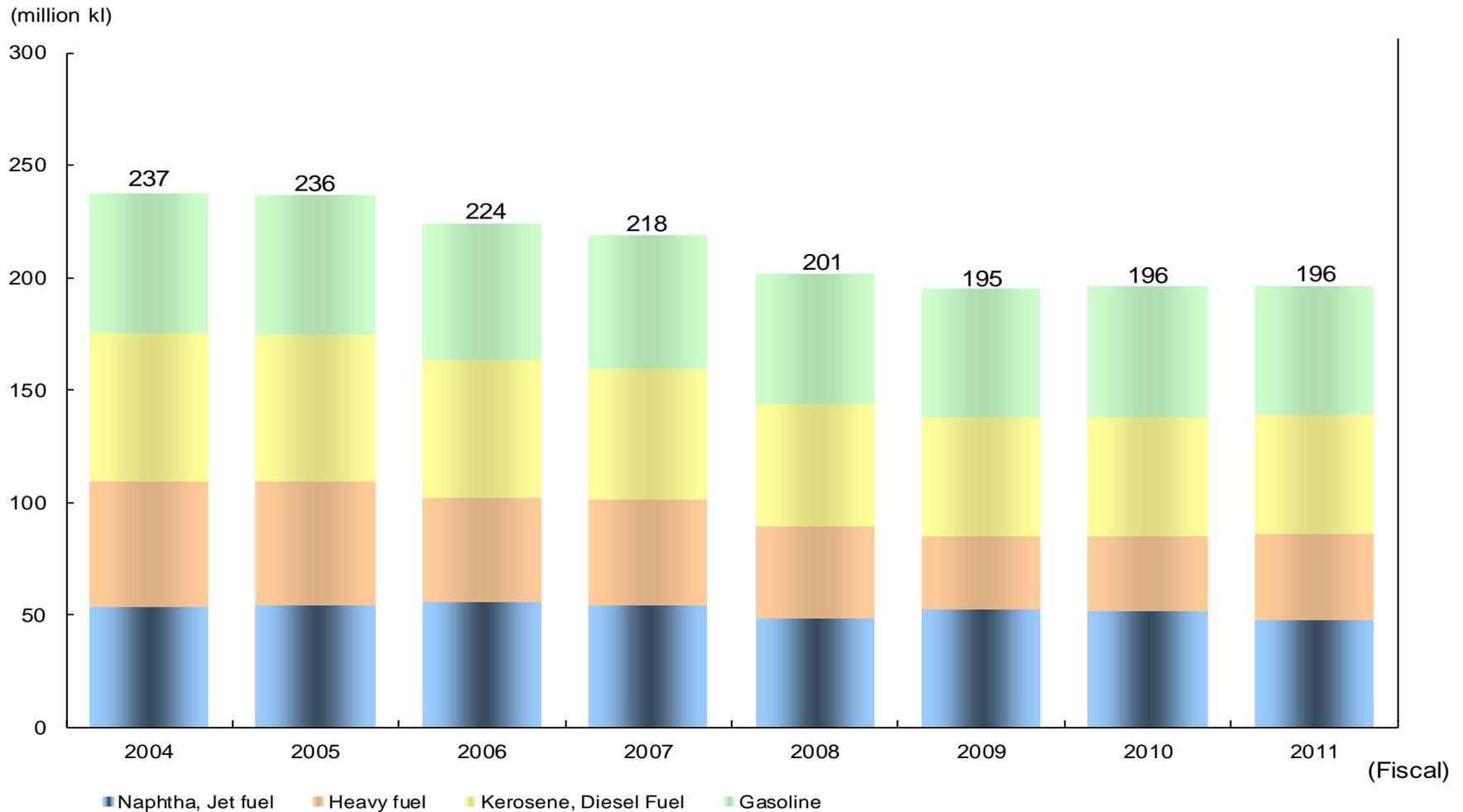


# Historical Dubai Crude Oil Price

Average Price	(\$/bbl)								
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12 1Q
Dubai Crude Oil	37	54	61	77	82	70	84	110	106



## Demand for Petroleum Products ( Japan )



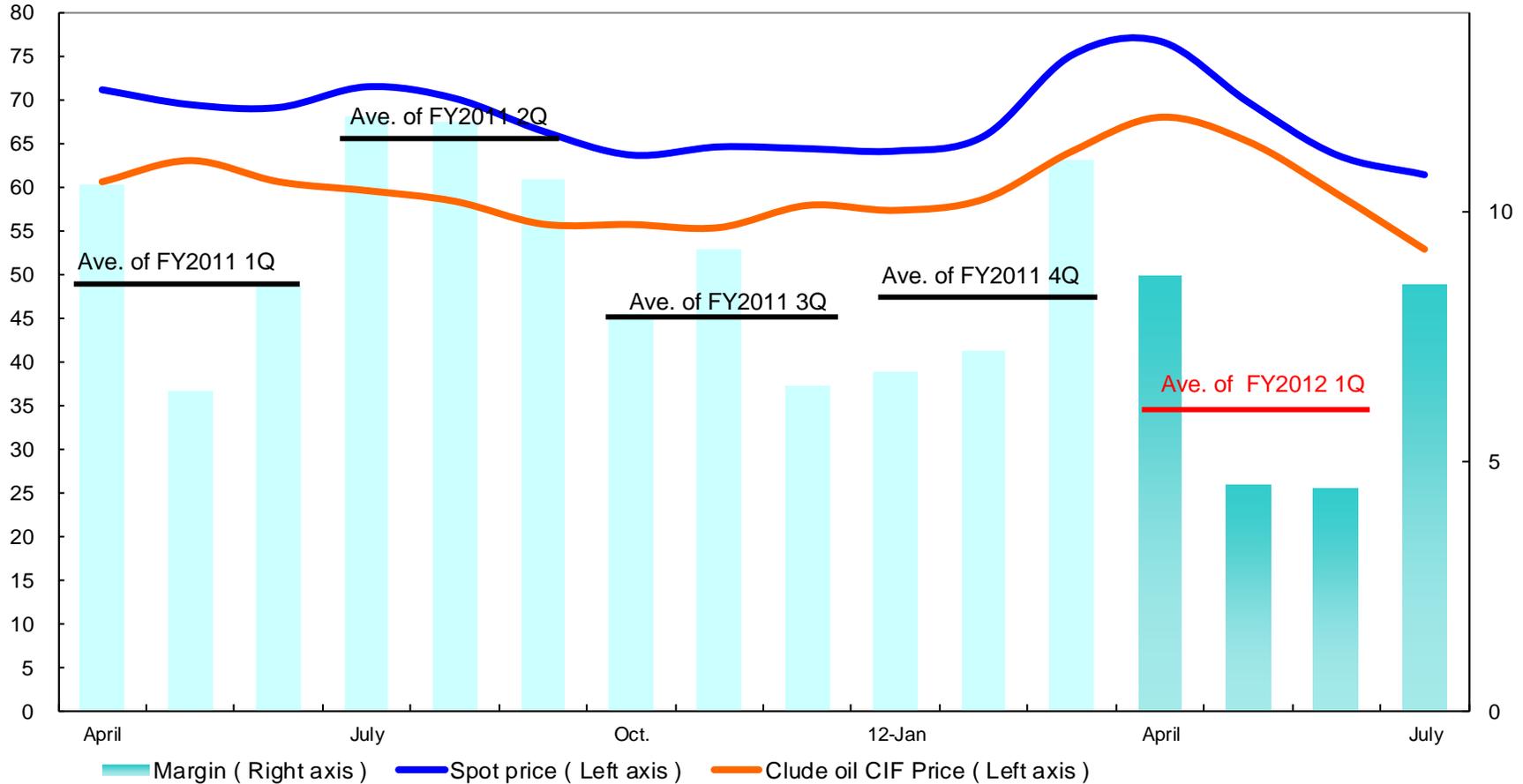
Note: Excluding Crude Oil for electric power plants.

Source: Petroleum Association of Japan and Company data

# Domestic Market Margin\* (Gasoline)



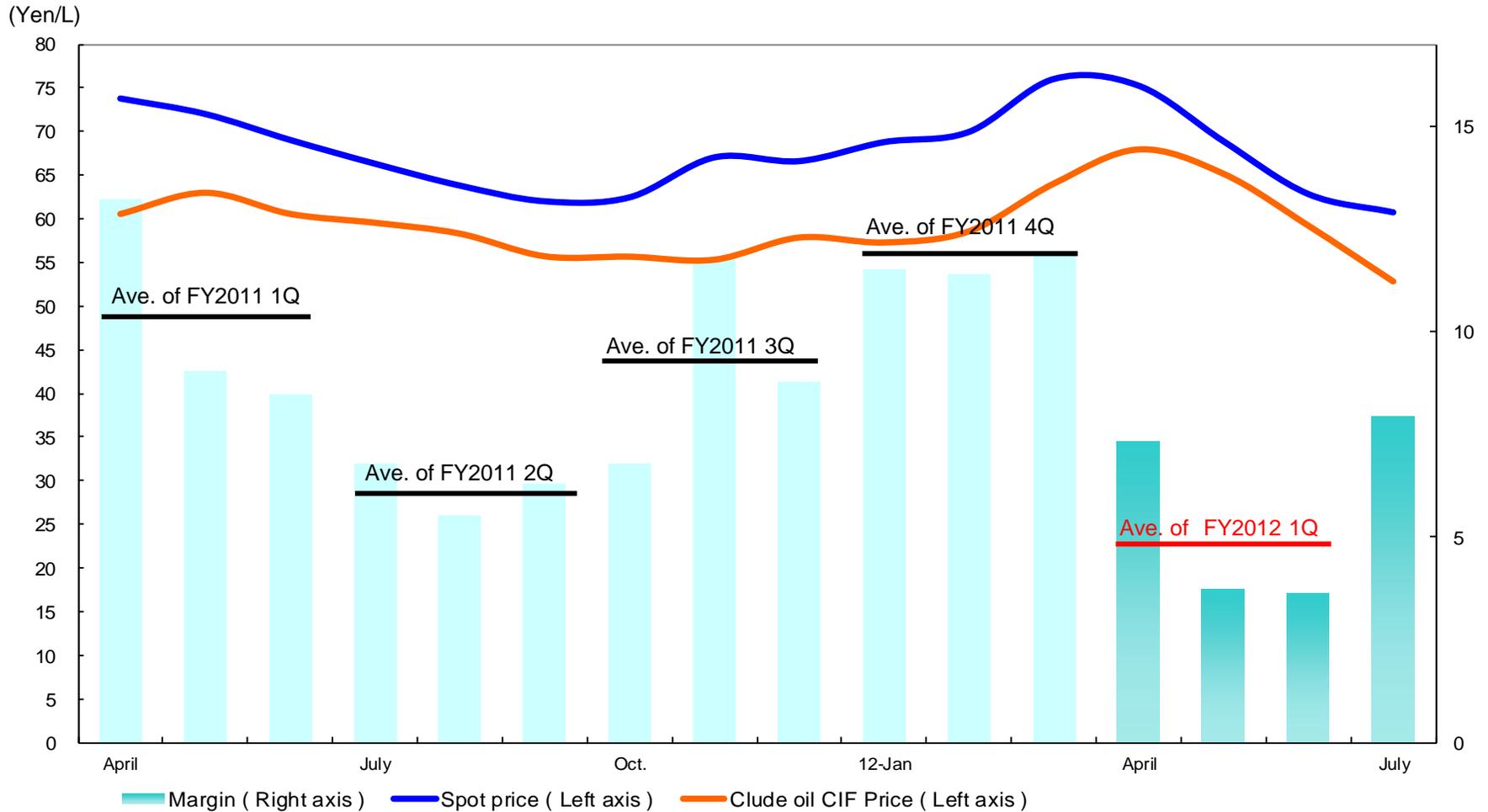
(Yen/L)



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

Source : Trade statistics (Ministry of Finance, Japan)

# Domestic Market Margin\* (Kerosene)



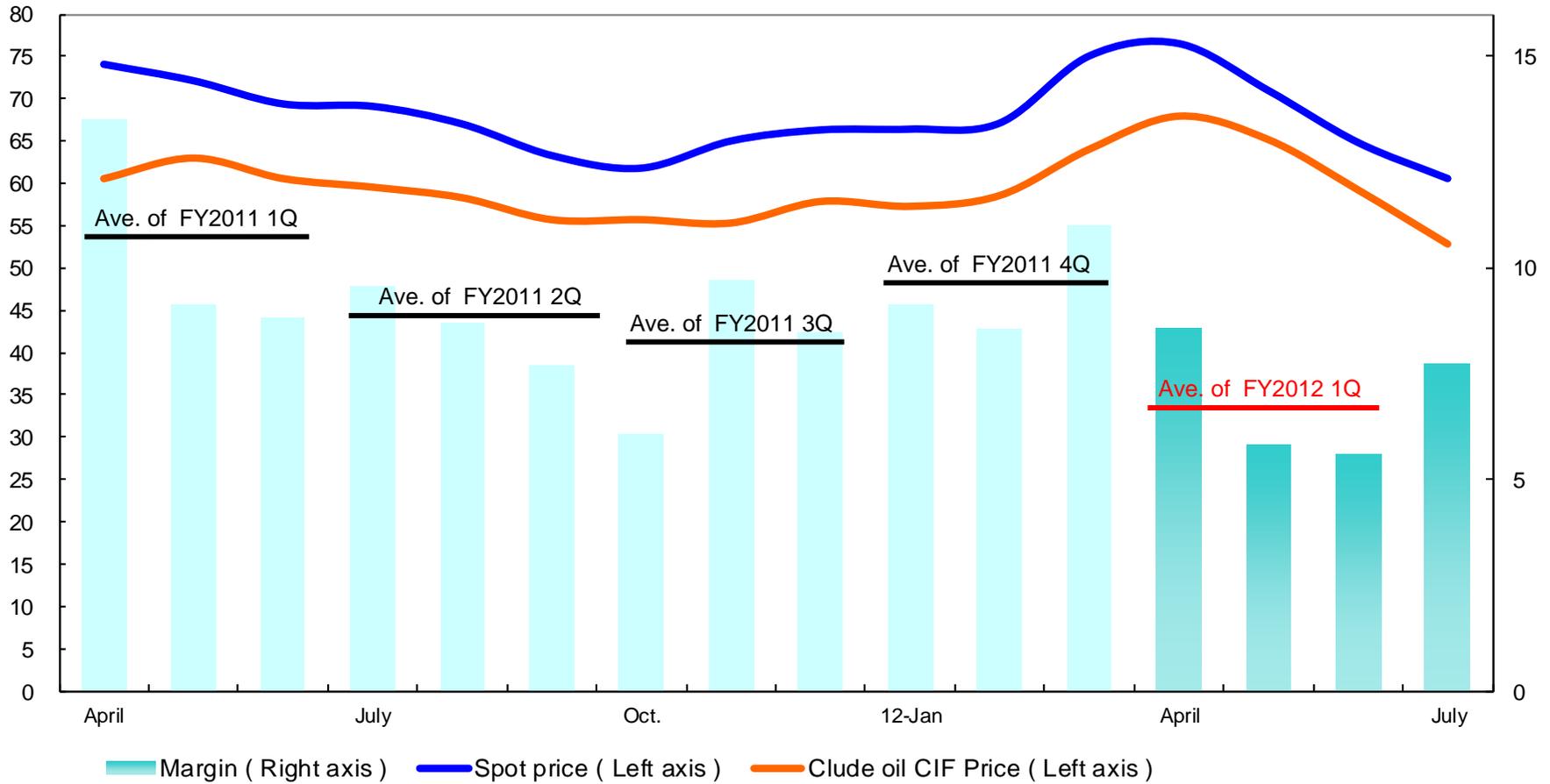
\* : Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

Source : Trade statistics (Ministry of Finance, Japan)

# Domestic Market Margin\* (Diesel Fuel)



(Yen/L)



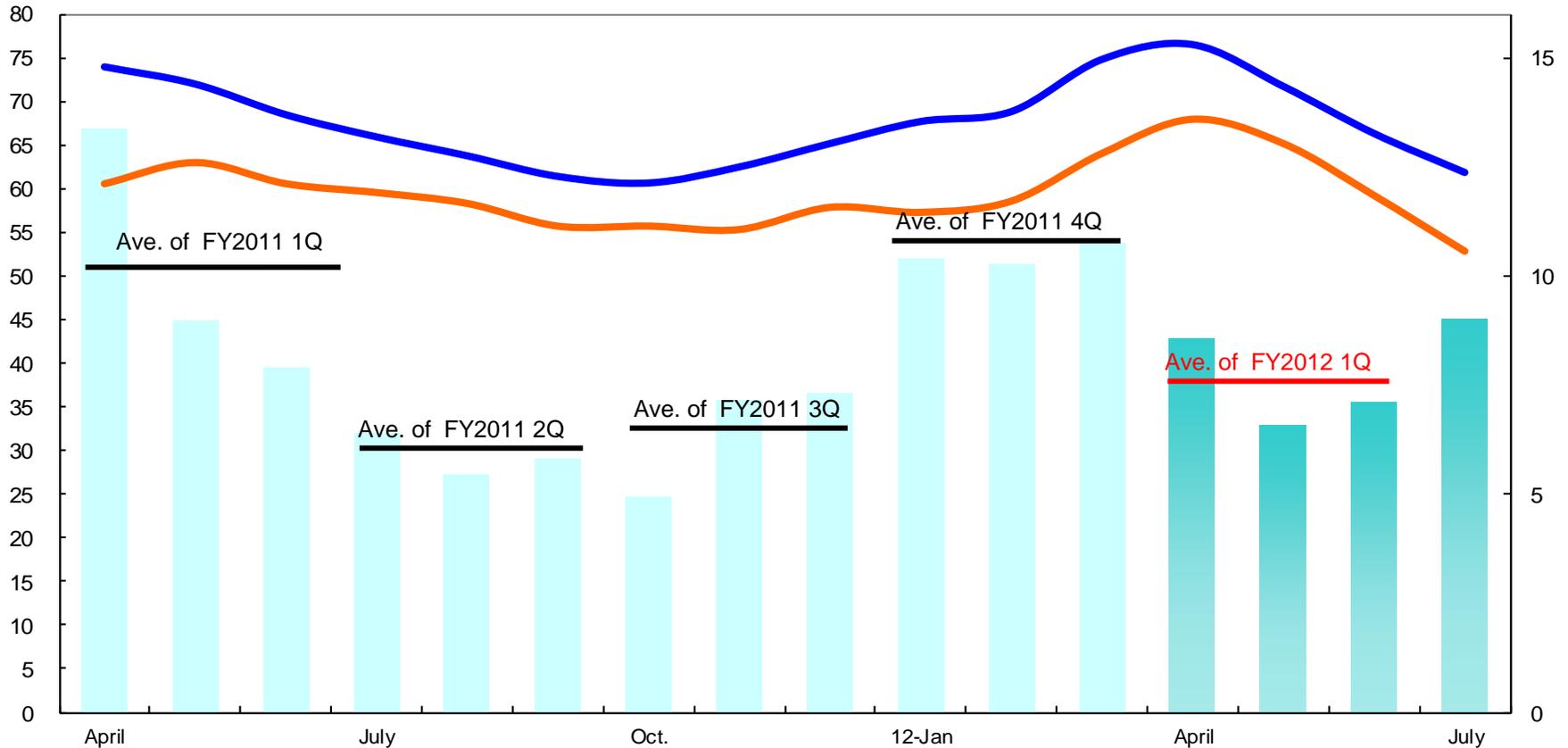
\* : Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

Source : Trade statistics (Ministry of Finance, Japan)

# Domestic Market Margin\* (Fuel Oil A)



(Yen/L)



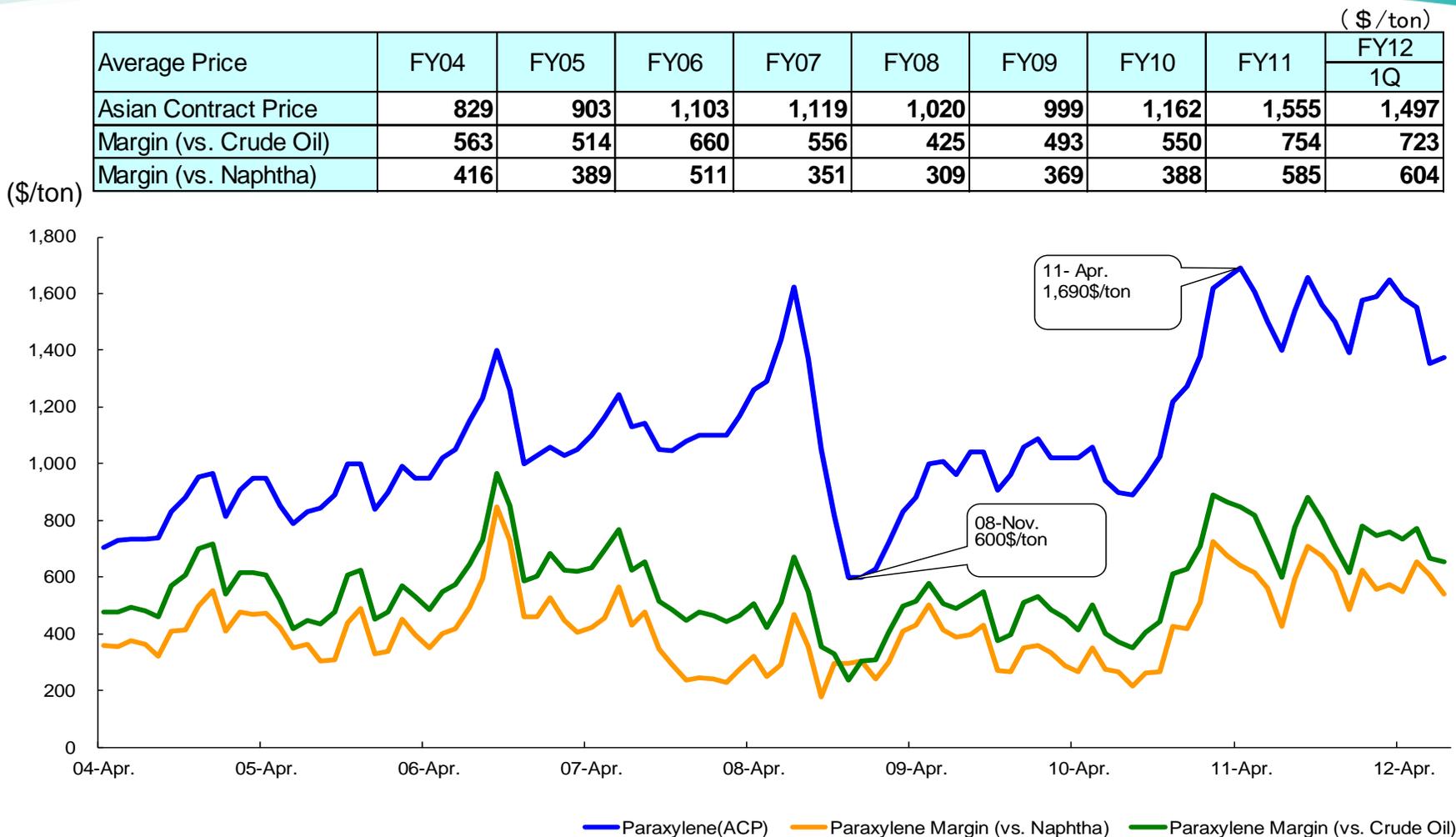
Margin ( Right axis )   Spot price ( Left axis )   Clude oil CIF Price ( Left axis )

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

Source : Trade statistics (Ministry of Finance, Japan)



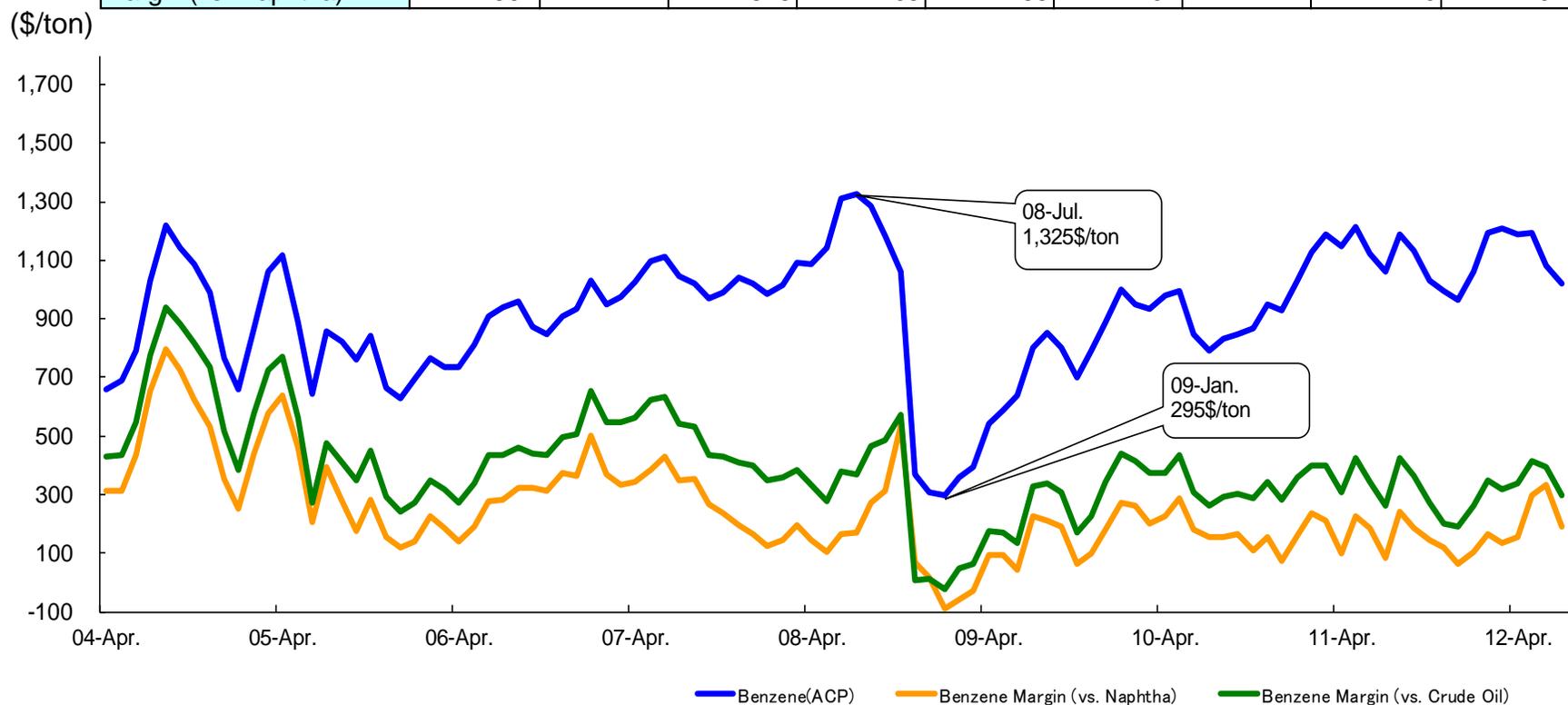
# Paraxylene Price and Margin ( vs. Crude Oil, vs. Naphtha)



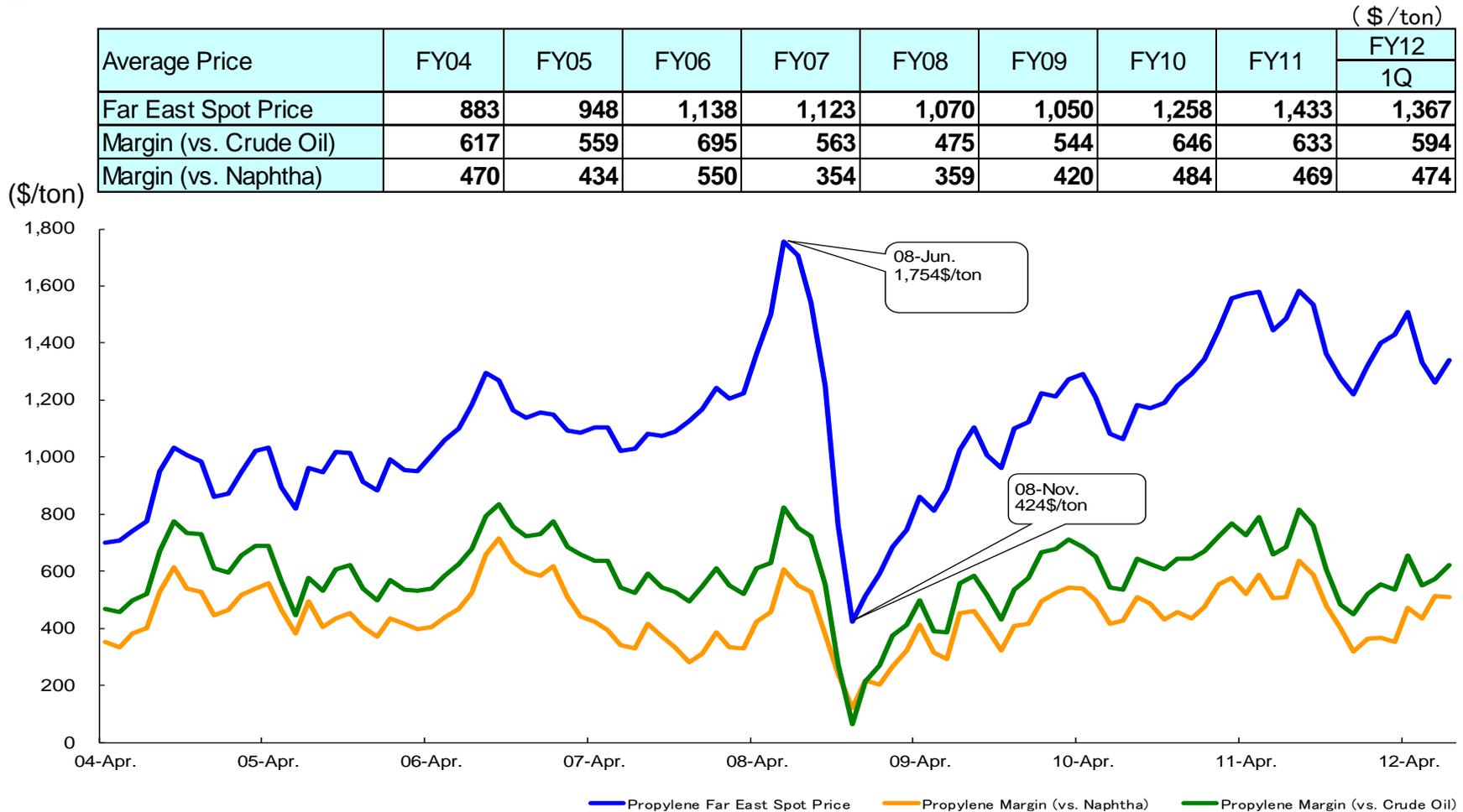
Note: In case of ACP undecided, average price of spot market is adopted.

## Benzene Price and Margin ( vs. Crude Oil, vs. Naphtha)

Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	(\$/ton)	
									FY12	1Q
Asian Contract Price	914	786	907	1,034	844	791	948	1,111	1,155	1,155
Margin (vs. Crude Oil)	648	397	464	471	249	285	336	310	382	382
Margin (vs. Naphtha)	501	271	315	265	133	161	174	146	262	262



# Propylene Price and Margin ( vs. Crude Oil, vs. Naphtha)



## Sales Volume of FY 2011 1Q, FY2012 1Q



	FY2011 1Q	FY2012 1Q	Changes vs. FY 2011
	million KL	million KL	
<b>Gasoline</b>	<b>4.48</b>	<b>4.48</b>	<b>0.0%</b>
Premium	0.61	0.57	-6.6%
Regular	3.84	3.87	0.8%
<b>Naphtha</b>	<b>0.59</b>	<b>0.96</b>	<b>62.7%</b>
<b>JET</b>	<b>0.30</b>	<b>0.33</b>	<b>10.0%</b>
<b>Kerosene</b>	<b>0.90</b>	<b>0.79</b>	<b>-12.2%</b>
<b>Diesel Fuel</b>	<b>2.76</b>	<b>2.86</b>	<b>3.6%</b>
<b>Fuel Oil A</b>	<b>1.25</b>	<b>1.24</b>	<b>-0.8%</b>
<b>Heavy Fuel Oil C</b>	<b>1.48</b>	<b>2.40</b>	<b>61.7%</b>
For Electric Power	0.84	1.79	113.1%
For General Use	0.64	0.61	-4.7%
<b>Total Domestic Fuel</b>	<b>11.77</b>	<b>13.05</b>	<b>10.9%</b>
<b>Crude Oil</b>	<b>0.58</b>	<b>1.30</b>	<b>124.1%</b>
<b>Lubricants &amp; Specialities</b>	<b>0.69</b>	<b>0.75</b>	<b>8.7%</b>
<b>Petrochemicals (million ton)</b>	<b>1.20</b>	<b>1.38</b>	<b>15.0%</b>
<b>Exported Fuel</b>	<b>1.75</b>	<b>2.60</b>	<b>48.6%</b>
<b>LPG (million ton)</b>	<b>0.04</b>	<b>0.04</b>	<b>10.0%</b>
<b>Coal (million ton)</b>	<b>0.94</b>	<b>1.21</b>	<b>28.2%</b>
<b>Total Excluding Barter Trade &amp; Others</b>	<b>16.97</b>	<b>20.33</b>	<b>19.8%</b>
<b>Barter Trade &amp; Others</b>	<b>5.40</b>	<b>3.98</b>	<b>-26.3%</b>
<b>Total</b>	<b>22.36</b>	<b>24.30</b>	<b>8.7%</b>

# Number of Service Stations (Fixed-Type)

(As of the end of fiscal years / period)

	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12 1Q
<b>JX Group</b>	14,640	14,076	13,474	13,318	12,687	12,149	11,730	11,641
EMG <sup>*1</sup>	5,837	5,426	4,911	4,489	4,199	3,979	3,773	3,773 <sup>*5</sup>
Idemitsu Kosan	5,249	5,059	4,808	4,598	4,338	4,148	3,997	3,997 <sup>*5</sup>
Showa Shell Sekiyu	4,689	4,560	4,417	4,256	4,102	3,922	3,760	3,718
Cosmo Oil	4,552	4,359	4,188	3,913	3,768	3,609	3,498	3,466
Others <sup>*2</sup>	2,066	2,006	1,935	1,257	1,245	1,194	1,160	1,162
<b>Oil Companies</b>	<b>37,033</b> (79.8%)	<b>35,486</b> (79.4%)	<b>33,733</b> (78.4%)	<b>31,831</b> (77.4%)	<b>30,339</b> (76.8%)	<b>29,001</b> (76.7%)	<b>27,918</b> (76.7%)	<b>27,757</b> (76.7%)
<b>Private Brands and Others <sup>*3</sup></b>	<b>9,367</b> (20.2%)	<b>9,214</b> (20.6%)	<b>9,267</b> (21.6%)	<b>9,269</b> (22.6%)	<b>9,161</b> (23.2%)	<b>8,799</b> (23.3%)	<b>8,482</b> (23.3%)	<b>8,443</b> (23.3%)
<b>Total <sup>*3</sup></b>	<b>46,400</b>	<b>44,700</b>	<b>43,000</b>	<b>41,100</b>	<b>39,500</b>	<b>37,800</b>	<b>36,400</b>	<b>36,200</b>

<Number of Company-Owned Service Stations>

	FY09	FY10	FY11	FY12 1Q
JX Group	2,893	2,701	2,573	2,542

<Number of Self-Service Stations>

	FY09	FY10	FY11	FY12 1Q
JX Group	2,378	2,385	2,423	2,434
Total for Japan <sup>*4</sup>	6,906	6,935	7,001	7,020 <sup>*5</sup>

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

\*2. Figures are total of Kyushu Oil, Taiyo Petroleum, Mitsui Oil & Gas and Kygnus Sekiyu (until FY 2007). After FY 2008, Figures are total of Taiyo, Mitsui and Kygnus.

\*3. Estimated by JX Holdings.

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

\*5. Data of EMG and Idemitsu Kosan are as of the end of FY11.

# JX Group's Market Share and Demand in Japan

## Historical CDU<sup>\*1</sup> Utilization Rate



### Domestic Market Share

	FY11 1Q (%)	FY12 1Q (%)
a) Gasoline	33.3	33.2
b) Kerosene	37.7	38.2
c) Diesel Fuel	35.9	36.3
d) Fuel Oil A	41.2	41.8
a+b+c+d	35.4	35.5
Total Domestic Fuel <sup>*2</sup>	33.4	35.9

### Domestic Demand

	FY11 1Q (1,000 KL)	FY12 1Q (1,000 KL)	Changes vs. FY11 (%)
a) Gasoline	13,449	13,480	100.2
b) Kerosene	2,605	2,422	93.0
c) Diesel Fuel	7,708	7,891	102.4
d) Fuel Oil A	3,036	2,959	97.5
a+b+c+d	26,797	26,752	99.8
Total Domestic Fuel <sup>*2</sup>	42,032	44,390	105.6

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

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12 1Q
	('04/4-'05/3)	('05/4-'06/3)	('06/4-'07/3)	('07/4-'08/3)	('08/4-'09/3)	('09/4-'10/3)	('10/4-'11/3)	('11/4-'12/3)	('12/4-'12/6)
<b>JX Group <sup>*3</sup></b>	<b>94%</b>	<b>93%</b>	<b>91%</b>	<b>89%</b>	<b>85%</b>	<b>78%</b>	<b>86%</b>	<b>88%</b>	<b>82%</b>

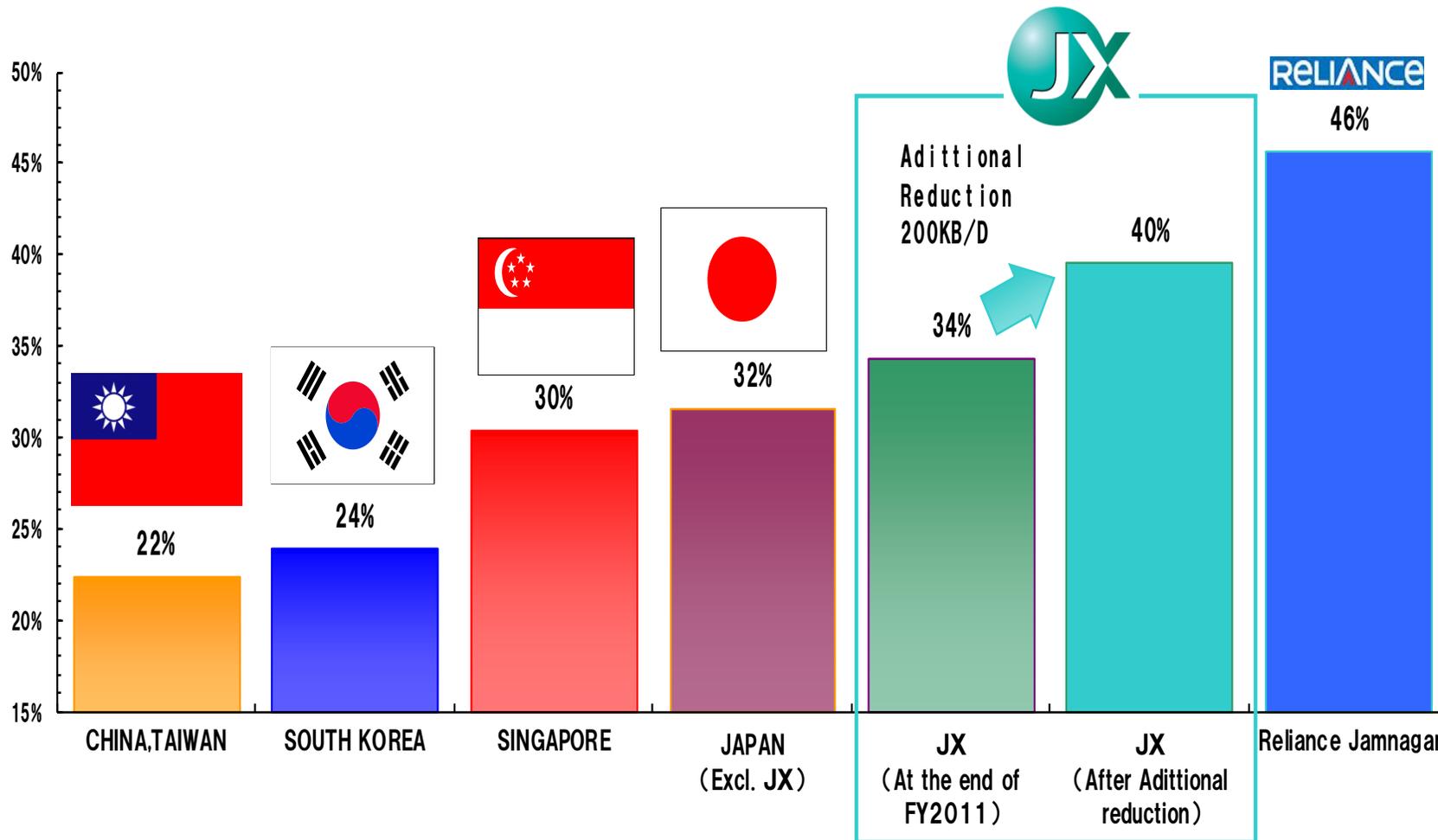
\* 1. Crude Distillation Unit

\* 2. Excluding Crude Oil for electric power plants.

\* 3. Excluding Condensate splitters of Mizushima and Kashima.

Source: Petroleum Association of Japan and Company data

# Equipment Ratio of Secondary Unit\* Against CDU

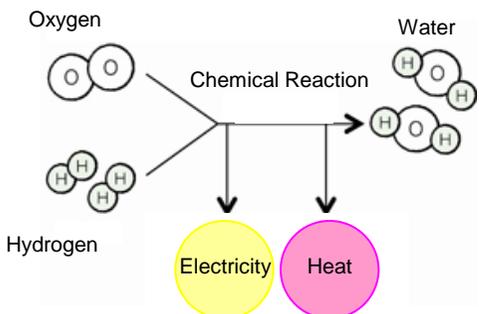


Note\*: Catalytic cracking unit, Catalytic hydrocracking unit, Thermal operation unit, Solvent De-asphalting unit, Independent power producer unit  
 Source: Oil & Gas journal, Petroleum Association of Japan and Company data

# New Energy (Residential-Use Fuel Cell : ENE·FARM)

## Merit of ENE·FARM

### Environment Friendly



The case using ENE·FARM for a year

Reduce about 43% of CO2 emission



CO2 amount that 93 Japan cedar absorb in a year

### Conservation of Energy

#### Conventional System \*1

- Power Transmission Loss 5%
- Rejection Heat Loss 55~60%

Energy Efficiency 35-40%

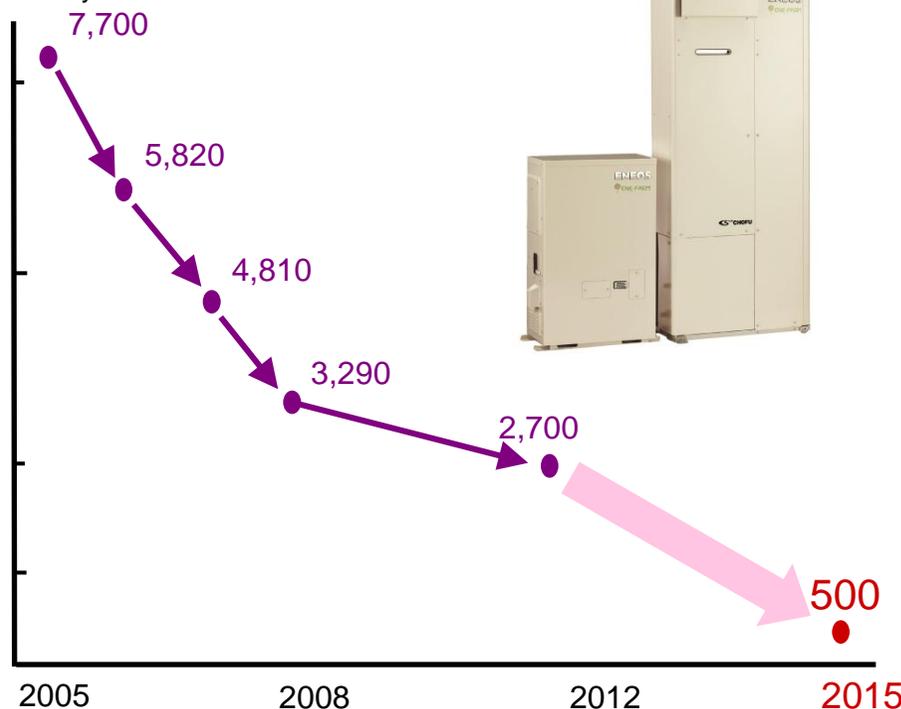
#### ENE·FARM

- Power Transmission Loss 0%
- Rejection Heat Loss 13-15%

Energy Efficiency 85~87%\*2

## Cost Down Target of ENE·FARM

(thousand yen)



\*1 Using energy of thermal power generation and boiler

\*2 In case of 100% output

# 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.



# Outline of Oil and Natural Gas E&P Projects

Project Name/Company	Sales Volume(Jan.–Mar. 2012) (1,000BOED) *1		Reserves *2 (million BOE)	Reserves *3 (million BOE)	
	Oil	Gas			
[Gulf of Mexico(U.S.A.)] JX Nippon Oil Exploration U.S.A. Limited	4	3	1	25	27
[Canada] Japan Canada Oil Company Limited	15	15	–	251	253
[North Sea, U.K.] JX Nippon Exploration and Production (U.K). Limited	9	7	2	47	20
[Vietnam] Japan Vietnam Petroleum Company, Limited	8	6	2		
[Myanmar] Nippon Oil Exploration (Myanmar) Limited	8	1	7		
[Malaysia] JX Nippon Oil & Gas Exploration (Malaysia) Limited	23	4	19		
JX Nippon Oil & Gas Exploration (Sarawak) Limited	24	2	21		
[Indonesia] Nippon Oil Exploration (Berau) Limited	22	1	21	<Sub Total> 259	<Sub Total> 319
[Papua New Guinea] Merlin • Southern Highlands Petroleum Co., Ltd.	5	5	–		
[Australia] JX Nippon Oil & Gas Exploration (Australia) Pty Ltd.	1	1	–	<Sub Total> 99	<Sub Total> 87
[United Arab Emirates, Qatar and others] Abudhabi Oil Co., Ltd., United Petroleum Development Co., Ltd. and others *4	12	12	0	69	69
Total	131	57	74	749	775

\*1 Project company basis.

\*2 Proved reserves and probable reserves as of end of Dec., 2011, including reserves from projects currently under development.

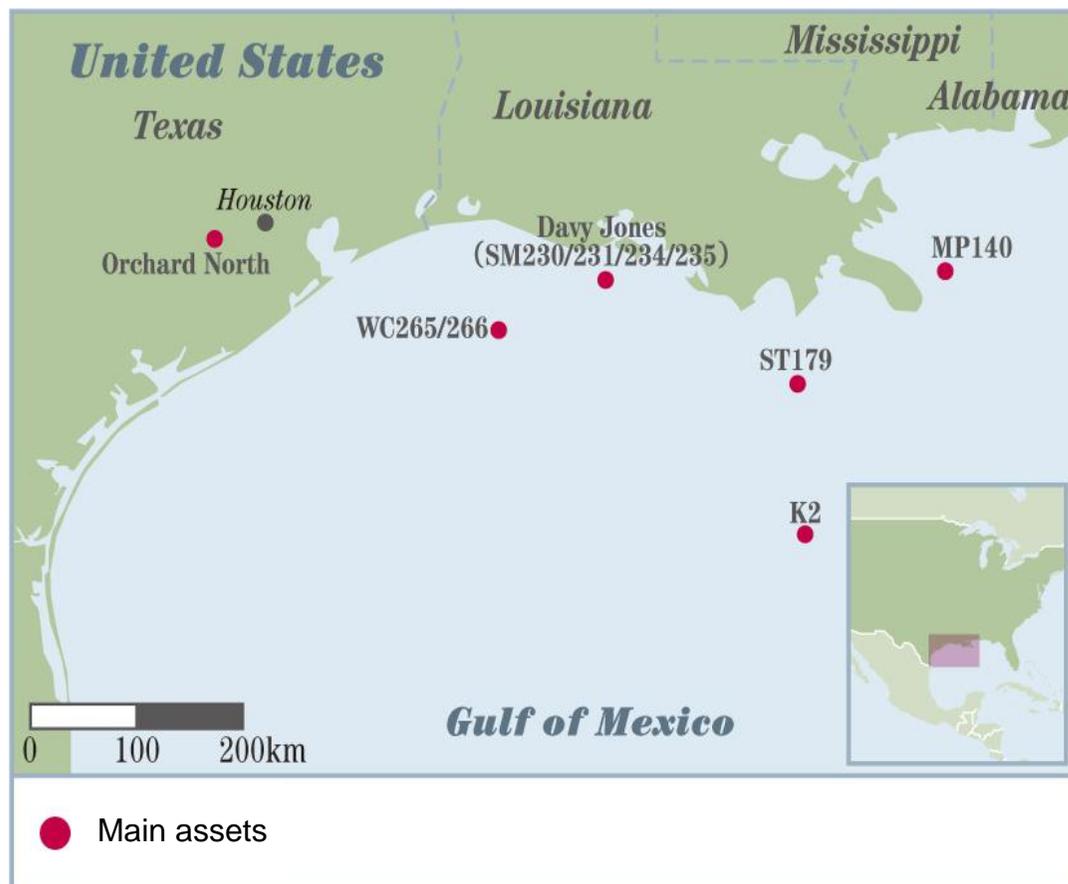
\*3 Proved reserves and probable reserves as of end of Dec., 2010, including reserves from projects currently under development.

\*4 JX Group's equity basis

## Principal Individual E&amp;P Project Overview ①



## Gulf of Mexico



## '12 Jan - Mar Sales Volume

4,400 boed  
(oil: 3,100 b/d, gas: 7.8mmcf/d)

## Project Company

JX Nippon Oil Exploration (U.S.A.) Limited.  
(JX NOEX USA)(100%)

JX Nippon Oil Exploration (Gulf) Limited.  
(100%)

(%) = JX Group Shareholding

## Range Of Interests in Individual Fields

11.6% to 100%

## Operators

JX NOEX USA, Anadarko, Hilcorp Energy, others

- 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 January 2010, made a gas discovery on the Davy Jones prospect.
- In September 2010, sold some assets of shallow water and deep water area.
- In February 2011, confirmed the spread of hydrocarbon on Davy Jones Prospect.
- In March 2012, confirmed natural gas flow from Davy Jones Prospect.

# Principal Individual E&P Project Overview ②



## Canada



### '12 Jan – Mar Sales Volume

14,700BOED  
(Oil 14,700b/d)

### Project Company

Japan Canada Oil Co., Ltd. (100%)  
(%) = JX Group Shareholding

### Interest in Individual Fields

5%

### Operator

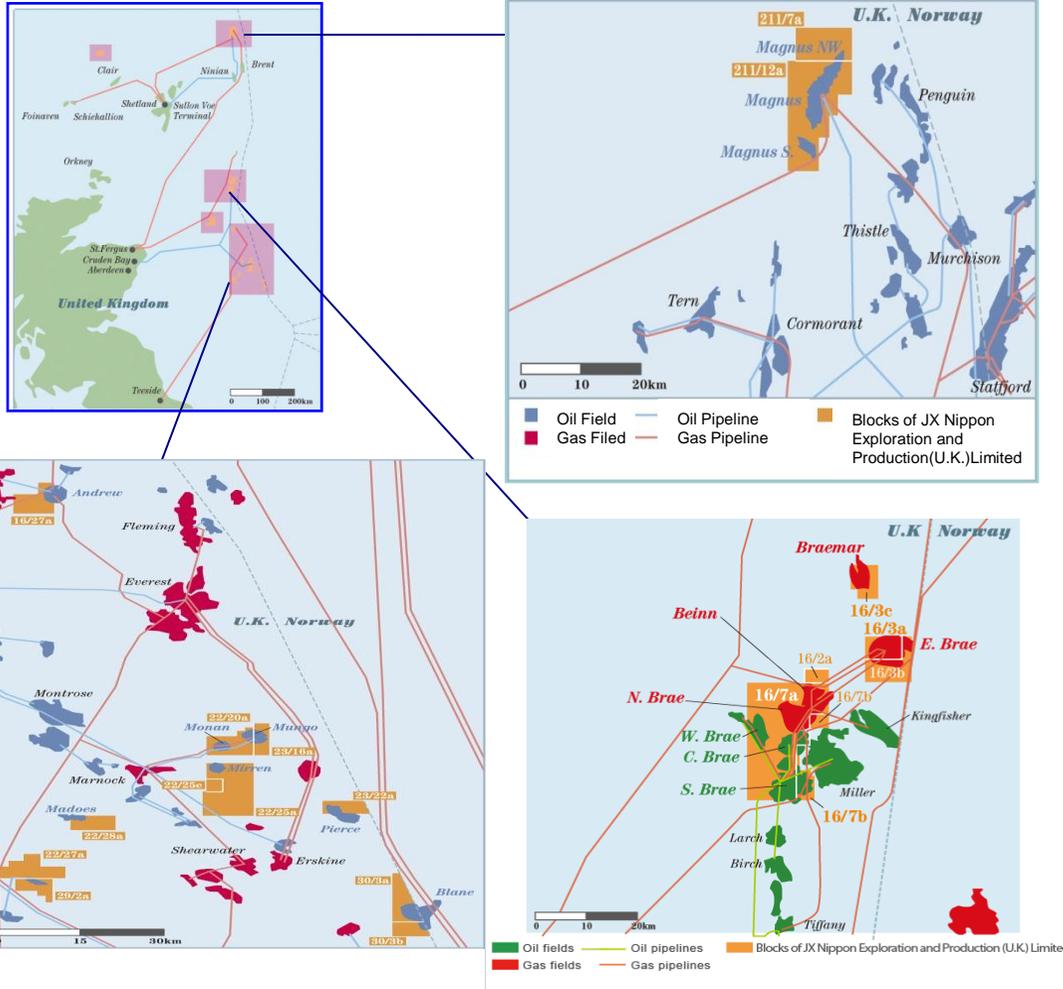
Syncrude Canada

● In 1992, acquired a stake from PetroCanada.

# Principal Individual E&P Project Overview ③



## U.K. North Sea ①



'12 Jan - Mar Sales Volume  
9,000BOED  
(oil: 7,300b/d, gas: 10.2mmcf/d)

**Project Company**  
JX Nippon Exploration and Production (U.K.) Ltd.  
(100%)  
(%) = JX Group Shareholding

**Range of Interests in Individual Fields**  
2.1% to 17.07%

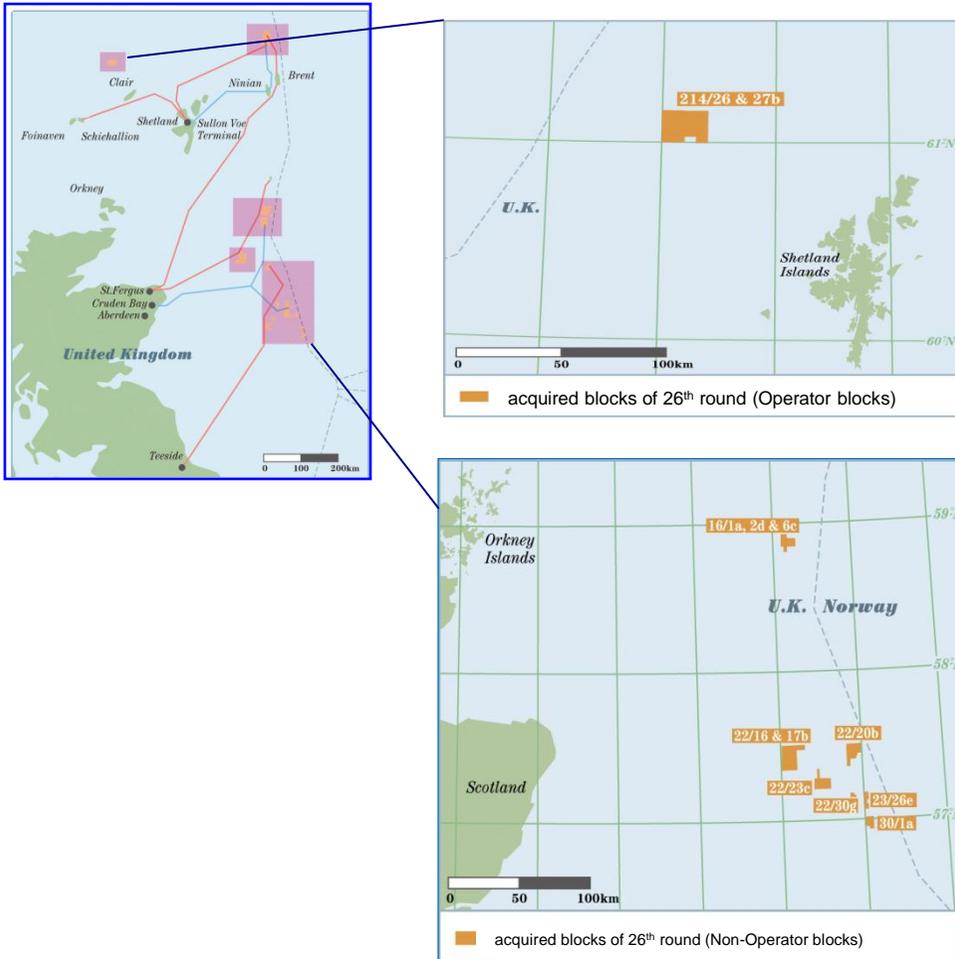
**Operators**  
BP, Shell, Marathon, others

- In 1994, acquired a working interest in blocks, including those in the Andrew Oil Field, the Mungo/Monan Oil Fields, the Pierce Oil Field, the Mirren/Madoes Oil Fields, and the Blane Oil Field. It is currently expanding its exploration, development, and production operations.
- In 1996, acquired an interest in the Magnus Oil Field, in 2002, it acquired interests in the Brae Gas Fields. Exploration, development and production activities are progressing.
- In March 2011, confirmed the presence of a significant hydrocarbon accumulation on Culzean Prospect in Block 22/25a.

# Principal Individual E&P Project Overview ④



## U.K. North Sea ②



New blocks are acquired in 2010 by 26<sup>th</sup> round of governmental open tender .

### Project Company

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

### Operator blocks

Interests of individual Fields  
40%

The west of Shetland Islands  
214/26, 214/27b

### Non-Operator blocks

Range of Interests of individual Fields  
10-25%

### Operators

GDF Suez, BP, Maersk, TAQA

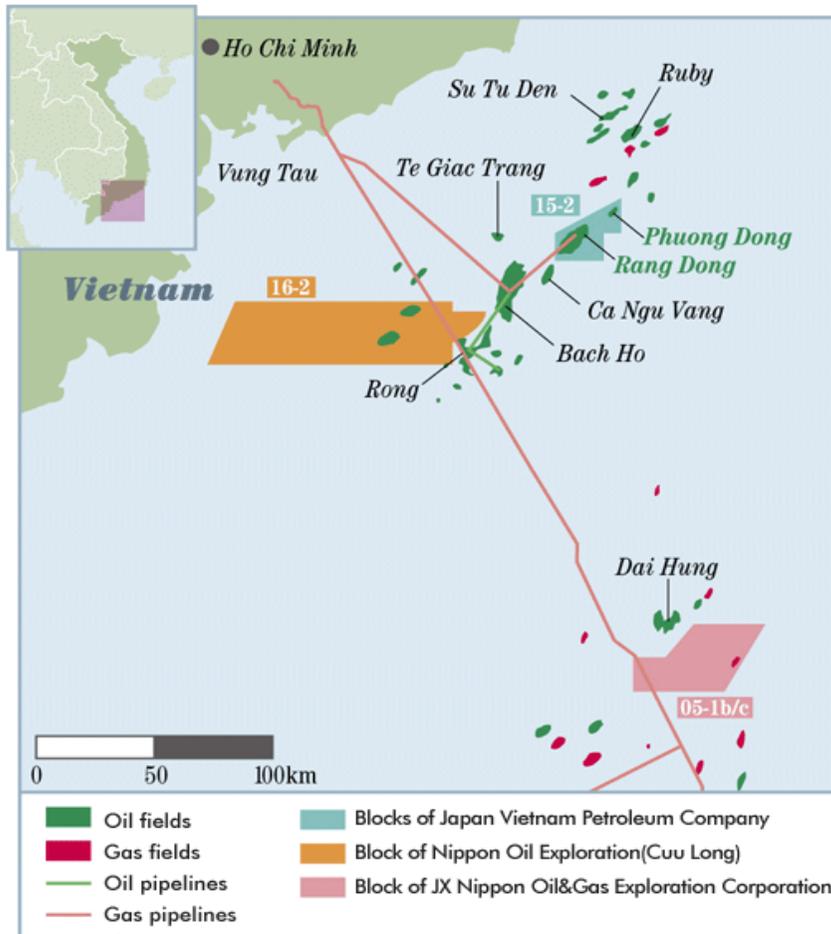
### Middle North Sea

22/16, 22/17b, 22/20b, 22/23c, 22/30g,  
23/26e, 30/1a, 16/1a, 16/2d, 16/6c

## Principal Individual E&amp;P Project Overview ⑤



## Vietnam ① (Block 15-2)



## '12Jan – Mar Sales Volume

7,800BOED

(oil: 5,900b/d, gas: 11.4mmcf/d)

## Project Company

Japan Vietnam Petroleum Co., Ltd. (JVPC)

(97.1%)

(% = JX Group Shareholding)

## Interest in Individual Fields

Rang Dong : 46.5%

Phuong Dong : 64.5%

## Operator

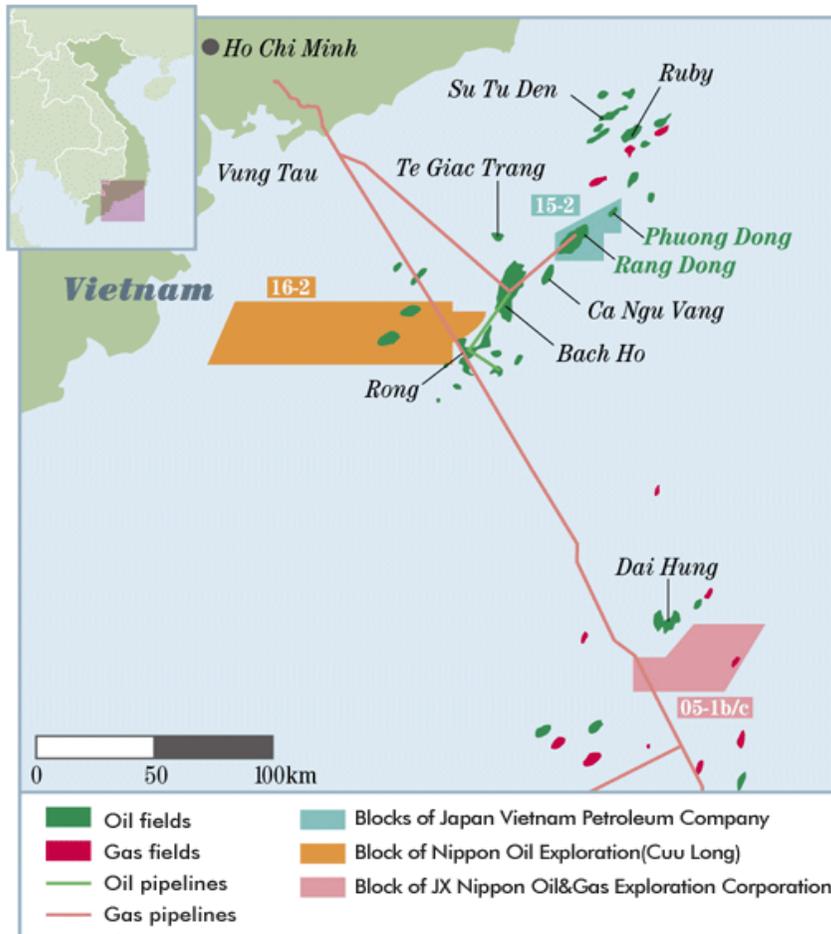
JVPC

- In 1992, JVPC acquired a working interest in block 15-2 offshore Vietnam.
- 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 Field.

## Principal Individual E&amp;P Project Overview ⑥



## Vietnam ② (Block 16-2)

**Project Company**

Nippon Oil & Exploration (Cuu Long) Co., Ltd.  
(29.5%)

(%) = JX Group Shareholding

**Interest** 40%

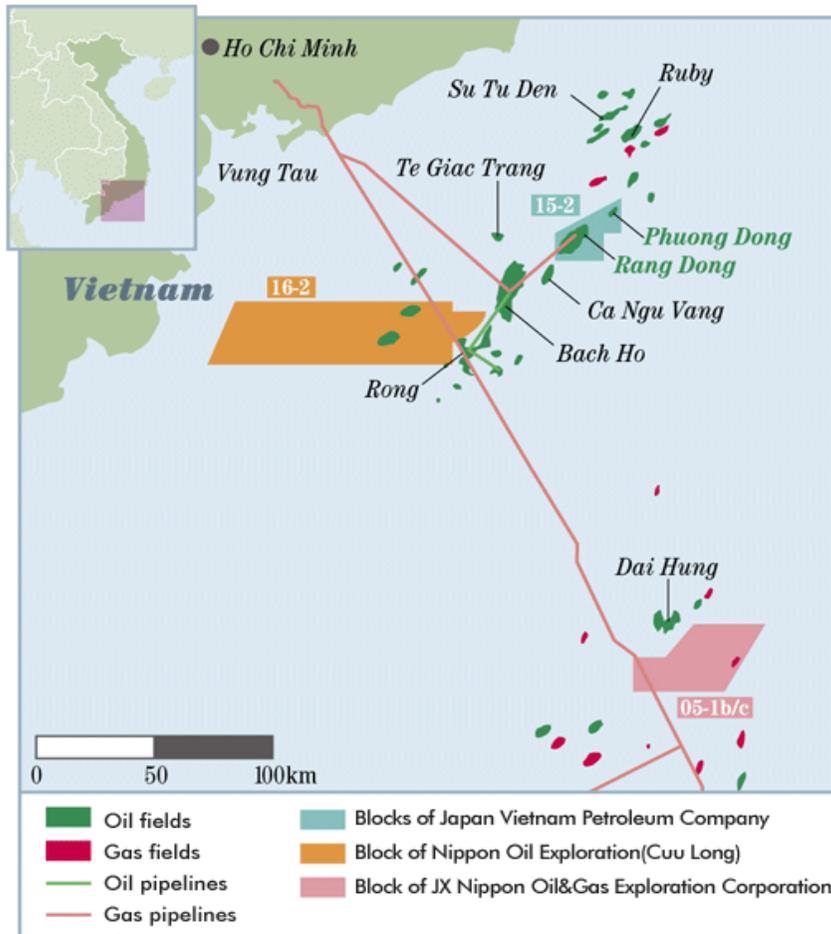
**Operator** PVEP

- In November 2007, acquired a working interest in block 16-2 offshore Vietnam.
- In November 2009, using test well No,1, made a gas and condensate discovery.
- In August 2010, using test well No,2, made a gas and condensate discovery.

## Principal Individual E&amp;P Project Overview ⑦



## Vietnam ③ (Block 05-1b/c)

**Project Company**

JX Nippon Oil & Gas Exploration Co., Ltd.  
 (100.0%)  
 (%) = JX Group Shareholding

**Interest** 35%

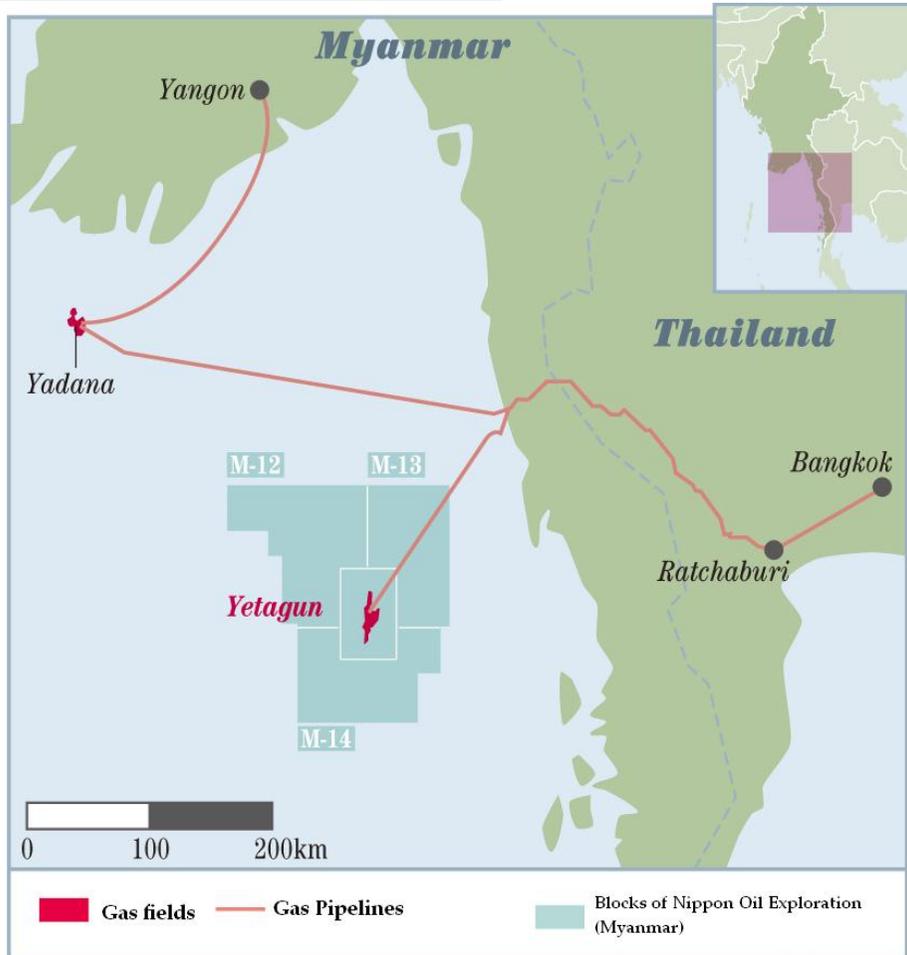
**Operator** Idemitsu Oil & Gas CO., Ltd.

- In October 2004, acquired a working interest in block 05-1b/c offshore Vietnam.
- In August 2010, using test well No,1, made a gas and condensate discovery.

## Principal Individual E&amp;P Project Overview ⑧



## Myanmar



## '12Jan - Mar Sales Volume

8,000BOED

(oil: 600b/d, gas: 44.4mmcf/d)

## Project Company

Nippon Oil Exploration (Myanmar), Limited  
(NOEX Myanmar)(50%)

(% ) = JX Group Shareholding

## Interest in Individual Fields

19.3%

## Operator

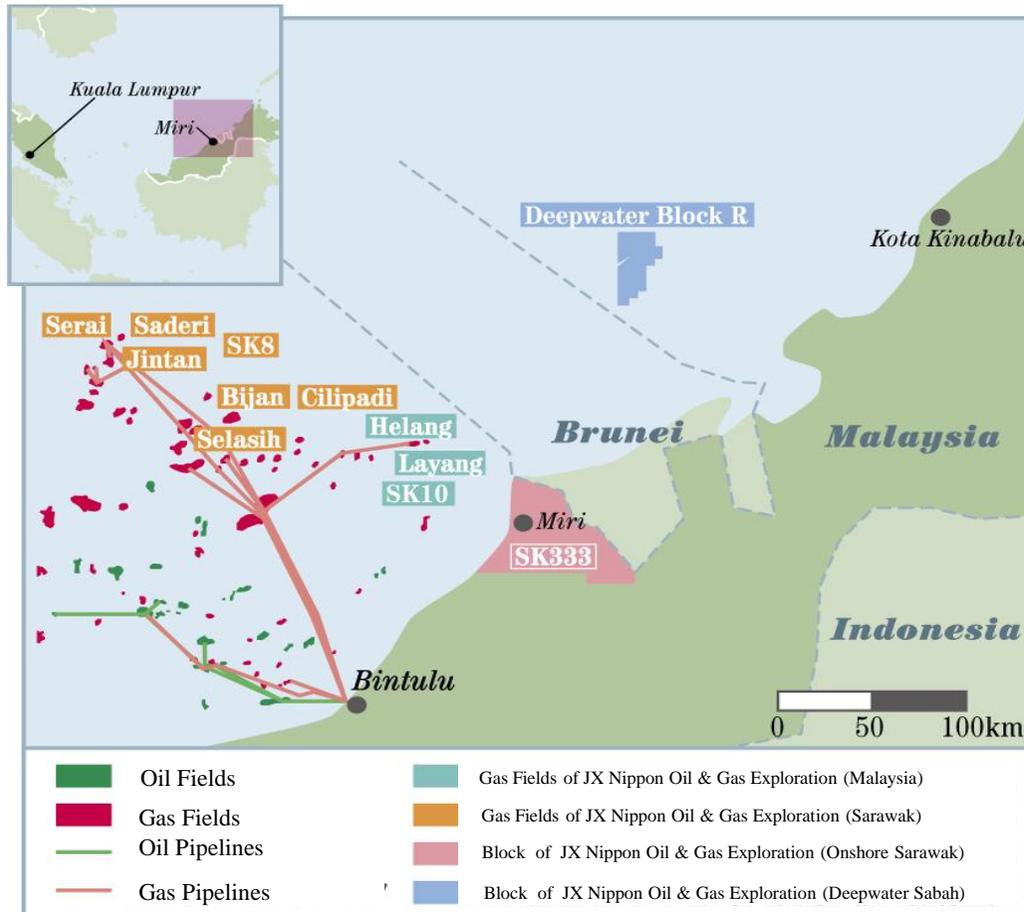
PETRONAS Carigali

- 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.

## Principal Individual E&amp;P Project Overview ⑨



## Malaysia ① (Block SK10)



## '12 Jan - Mar Sales Volume

22,700BOED

(oil: 4,200b/d, gas: 111.0mmcf/d)

## Project Company

JX Nippon Oil & Gas Exploration (Malaysia), Limited  
(78.7%)

(% ) = JX Group Shareholding

## Range of Interest in Individual Fields

75%

## Operator

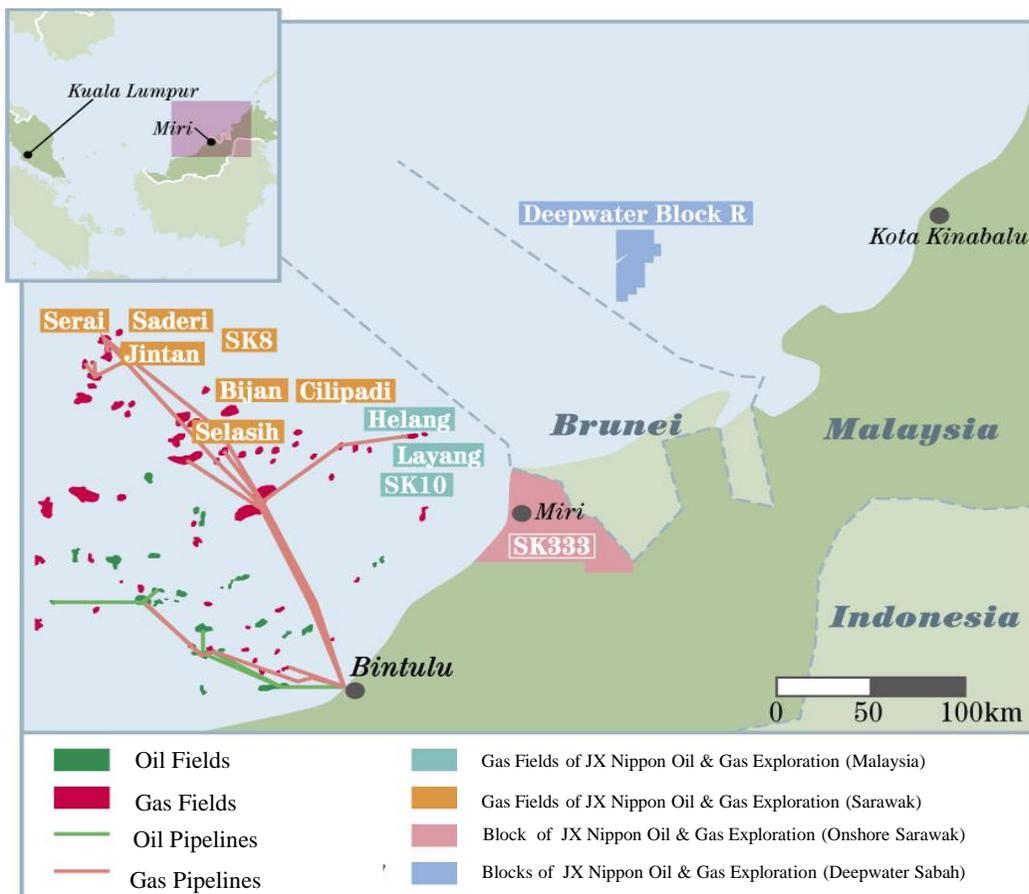
JX Nippon Oil &amp; Gas Exploration (Malaysia), Limited

- 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.

## Principal Individual E&amp;P Project Overview ⑩



## Malaysia ② (Block SK8)



## '11 Jan - Mar Sales Volume

23,600BOED

(oil: 2,400b/d, gas: 127.2mmcf/d)

## Project Company

JX Nippon Oil & Gas Exploration (Sarawak), Limited  
(76.5%)

(% ) = JX Group Shareholding

## Interest in Individual Fields

37.5%

## Operator

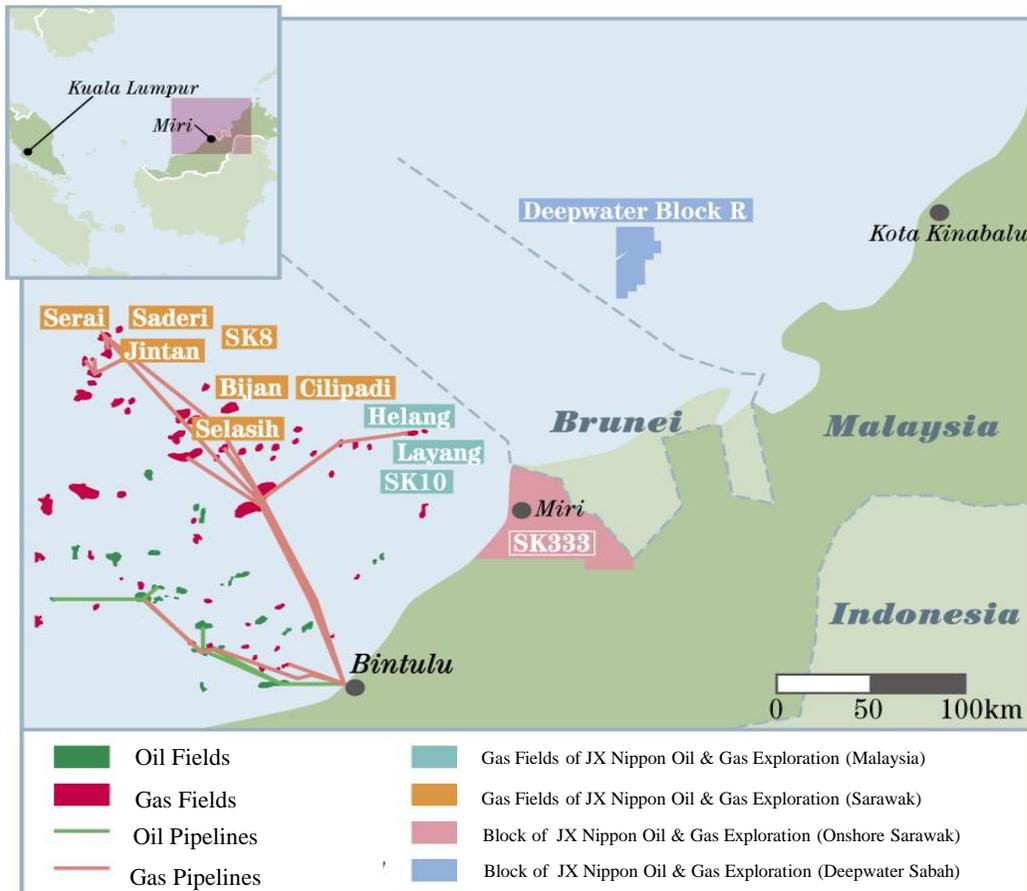
Shell

- In 1991, acquired a working interest in Block SK8 offshore Sarawak, Malaysia.
- 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.

# Principal Individual E&P Project Overview ⑪



## Malaysia ③ (Block SK333)



### Project Company

JX Nippon Oil & Gas Exploration (Onshore Sarawak) Limited

(40.5%)

(%) = JX Group Shareholding

### Interest in Individual Fields

75%

### Operator

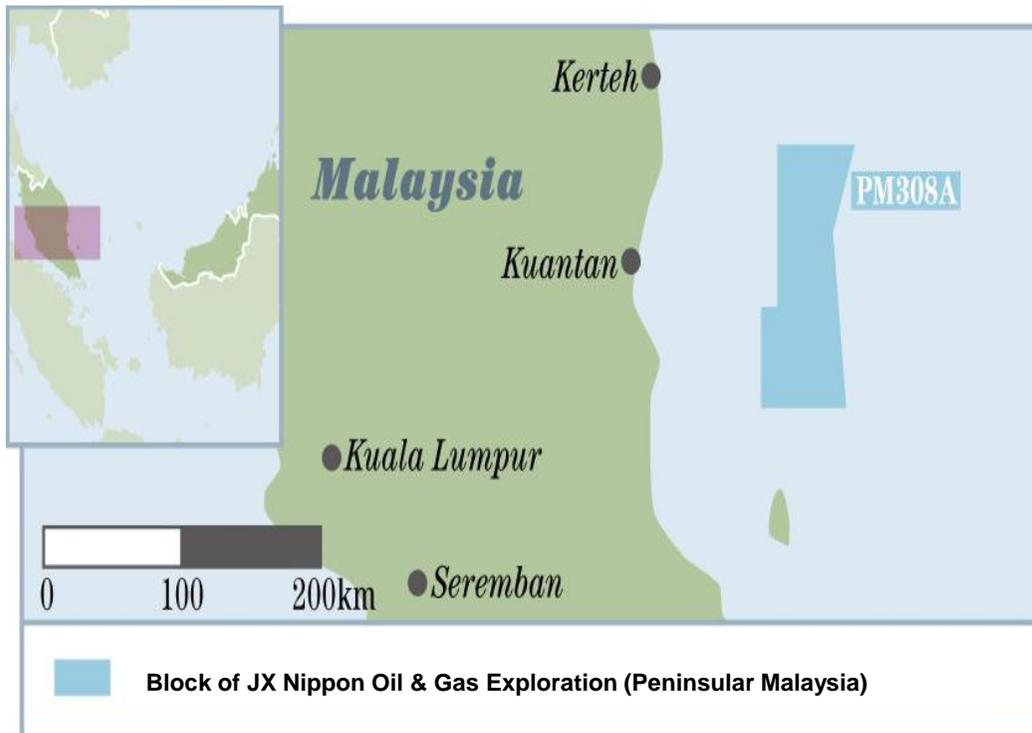
JX Nippon Oil & Gas Exploration (Onshore Sarawak) Limited

- In December 2007, acquired a working interest in Block SK333 onshore Sarawak, Malaysia.

# Principal Individual E&P Project Overview ⑫



## Malaysia ④ (Block PM308A)



### Project Company

JX Nippon Oil & Gas Exploration (Peninsular Malaysia) Limited ( 37.7%)  
(%) = JX Group Shareholding

### Interest in Individual Fields

40.0%

### Operator

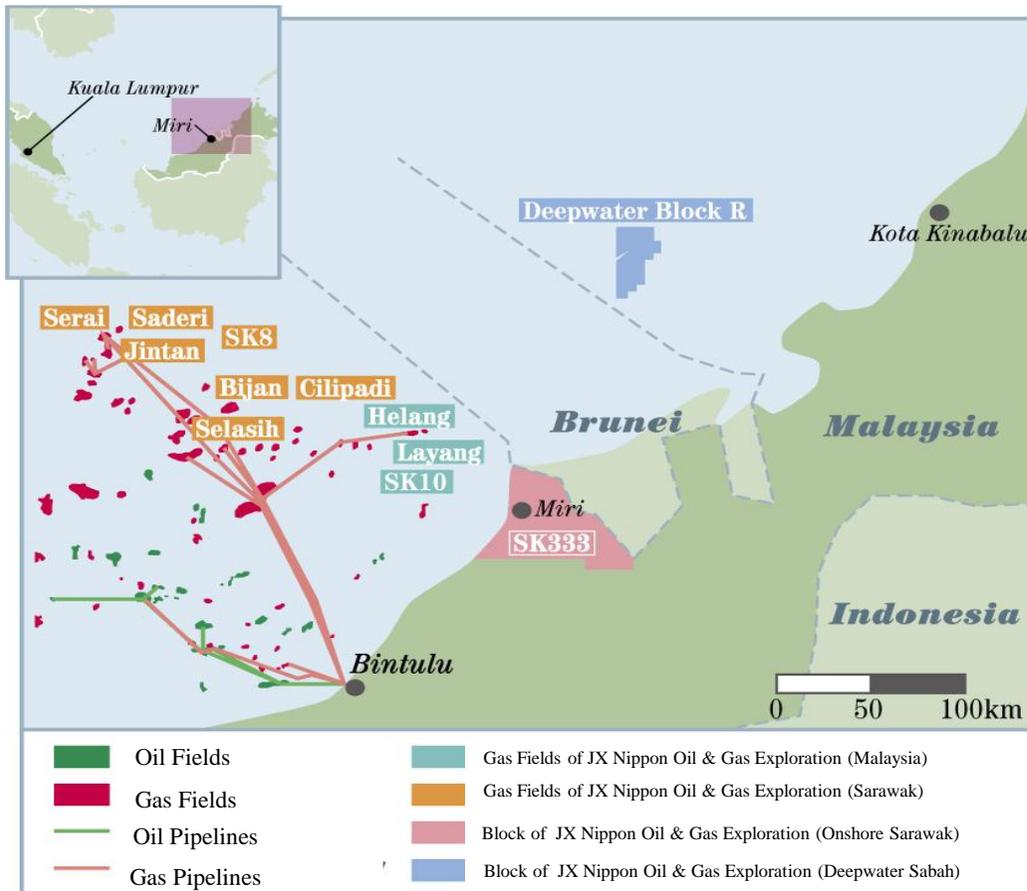
Lundin

- In April 2008, acquired a working interest in Block PM308A Sarawak, Malaysia.

# Principal Individual E&P Project Overview ⑬



## Malaysia ⑤ (Deepwater Block R)



### Project Company

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

### Interest in Individual Fields

37.5%

### Operator

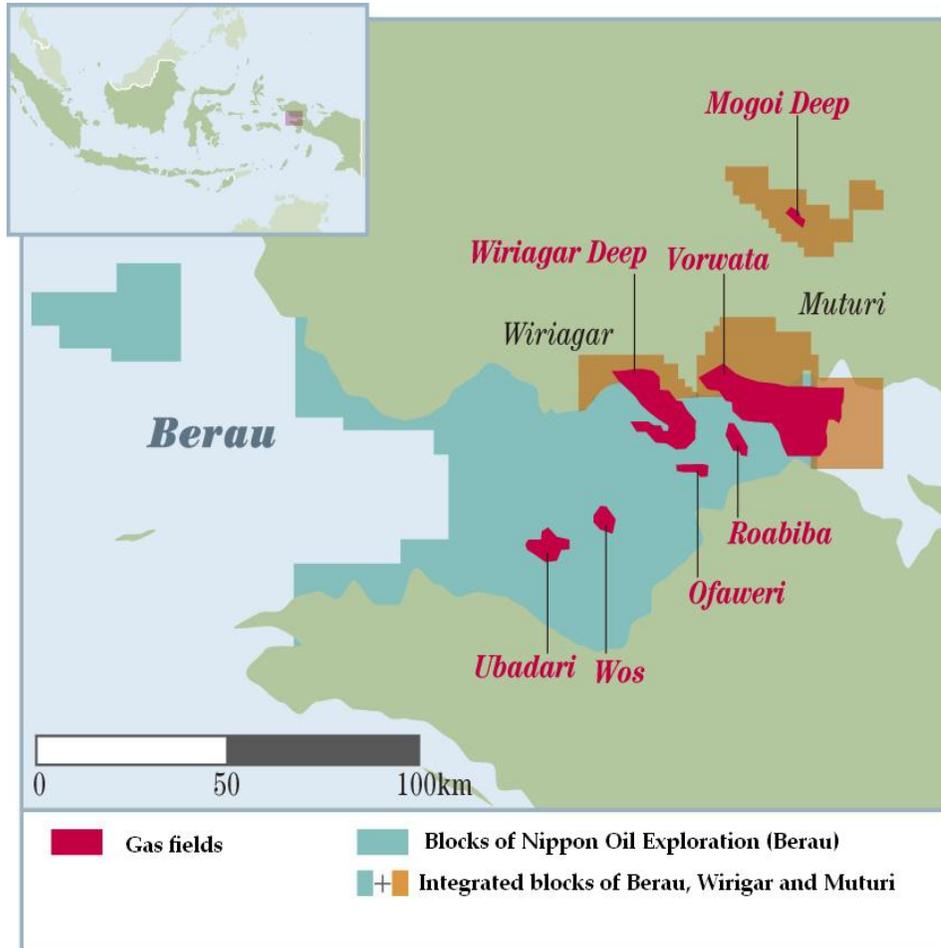
JX Nippon Oil & Gas Exploration (Deepwater Sabah) Limited

- In January 2012, acquired a working interest in Deepwater Block R offshore Sabah, Malaysia.

## Principal Individual E&amp;P Project Overview ⑭



## Indonesia



## '12 Jan - Mar Sales Volume

21,700BOED

(oil: 600b/d, gas: 126.6mmcf/d)

## Project Company

Nippon Oil Exploration (Berau), Limited  
(NOEX(Berau)) (51%)

(% = JX Group Shareholding)

## Interest in Individual Fields

12.2% (after unitization)

## Operator

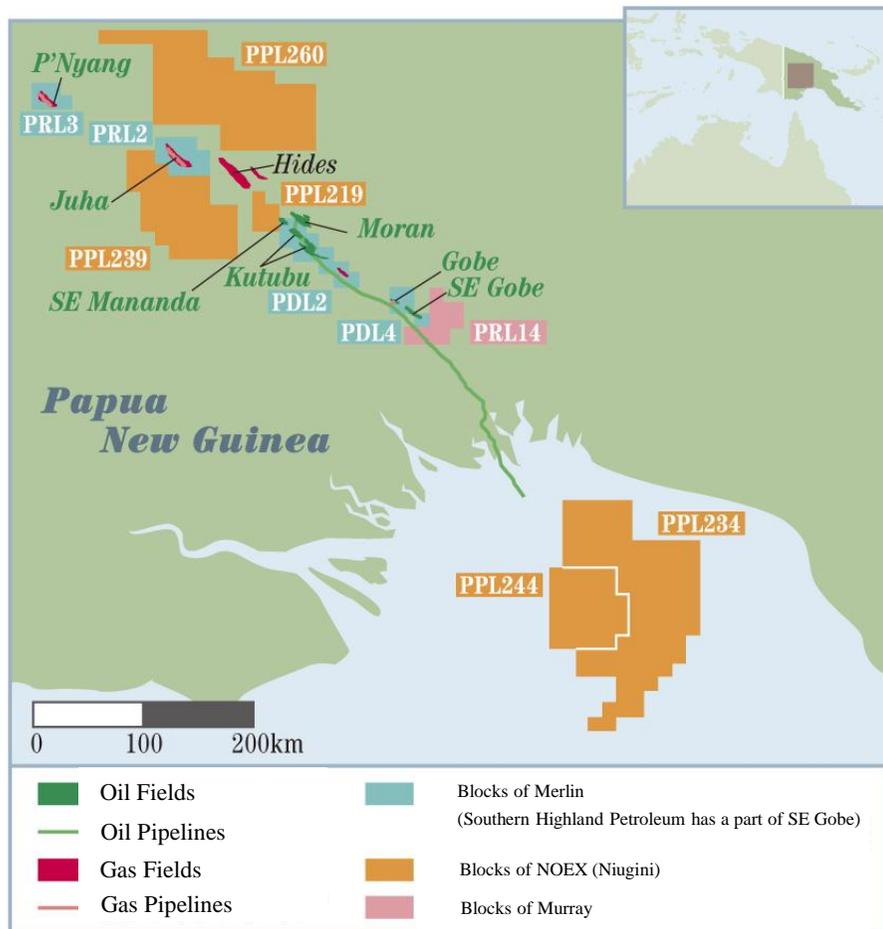
BP

- From 1990, using three test wells, natural gas was discovered in the area. Subsequently, the Vorwata Gas Field, Wiriagar Deep Gas Field, and other gas structures were discovered.
- 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.
- Production commenced in June 2009, and the first cargo of LNG lifted in July 2009.

## Principal Individual E&amp;P Project Overview ⑮



## Papua New Guinea



## '12 Jan - Mar Sales Volume

4,900BOED  
(Oil :4,900b/d)

## Project Company

Merlin Petroleum Company (79%)  
Nippon Oil Exploration (Niugini) Pty. Ltd. (25%)  
Southern Highland Petroleum Co. Ltd.(80%)  
Murray Petroleum Co., Ltd. (29.4%)  
(%) = JX Group Shareholding

## Range of Interests in Individual Fields

4.7 to 73.5%

## Operator

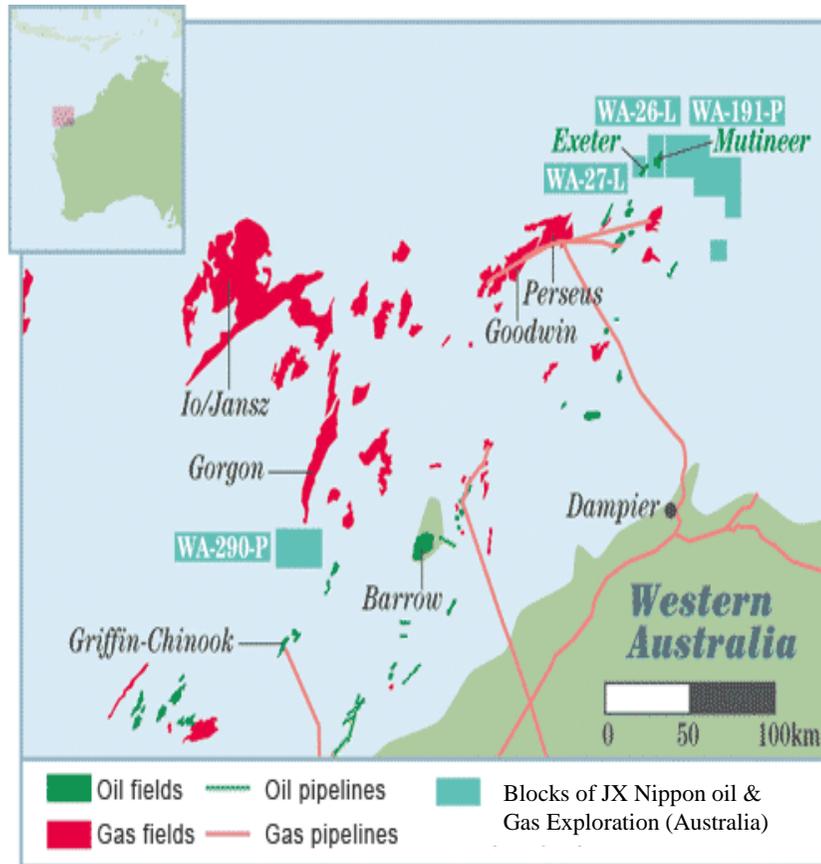
Oil Search, Exxon Mobil, others

- In 1990, Japan Papua New Guinea Petroleum acquired Merlin and acquired original exploration rights of Merlin in Papua New Guinea. Subsequently, exploration, development, and production activities have been undertaken in the Kutubu, Moran, Gobe, SE Gobe, and SE Mananda oil fields.
- In December 2008, Merlin, Japan Papua New Guinea Petroleum's 100% subsidiary, acquired the PNG LNG Project equity and oil field equity that AGL Energy owned.
- In December 2009, PNG LNG Project was made a final decision to proceed with the development.
- In April 2011, using test well "Mananda-5", made an Oil discovery in Block PPL219.

## Principal Individual E&amp;P Project Overview ①⑥



## Australia



## '12 Jan - Mar Sales Volume

1,400BOED  
(oil: 1,400b/d)

## Project Company

JX Nippon Oil & Gas Exploration (Australia) Pty Ltd  
(100%)  
(%) = JX Group Shareholding

## Interest in Individual Fields

15%-25%

## Operator

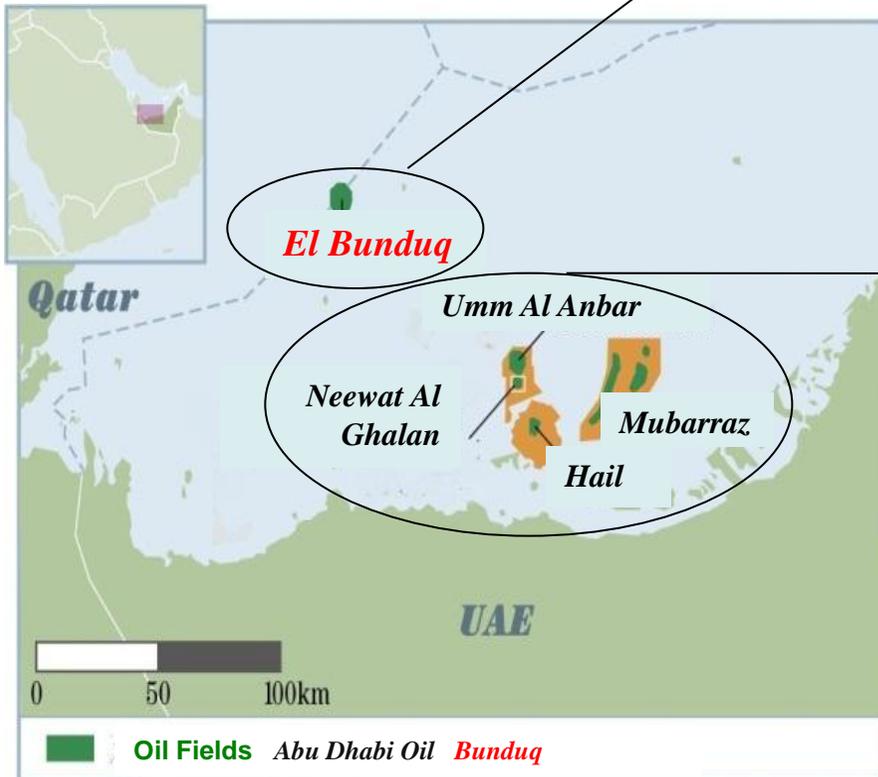
Santos (WA-26-L, WA27-L, WA-191-P)  
Apache (WA-290-P)

- In 2002, acquired a working interest in Block WA-191-P, and discovered Mutineer and Exeter Oil Field. Production of Mutineer and Exeter Oil Fields are commenced in 2005.
- In April 2011, using test well "Zola-1", made a Gas discovery in Block WA-290-P.
- In May 2011, made an Oil discovery in the Finucane South prospect in Block WA-191-P.
- In Jan 2012, Made the Final Investment Decision on the Finucane South field.

## Principal Individual E&amp;P Project Overview ⑰



UAE, Qatar

**Project Company**

United Petroleum Development Co., Ltd (45%)

(%) = JX Group Shareholding

**Interest in Individual Fields** 97%**Operator** Bunduq Co., Ltd

- In 1970, United petroleum Development acquired a working interest of El Bunduque Oil Field.
- In 1975, oil production commenced in El Bunduq oil field.
- In 1983, oil production was resumed by a secondary recovery scheme using water injection.
- In 2006, El Bunduque achieved a cumulative production volume of 200 million barrels.

**Project Company**

Abu Dhabi Oil Co., Ltd (31.5%)

(%) = JX Group Shareholding

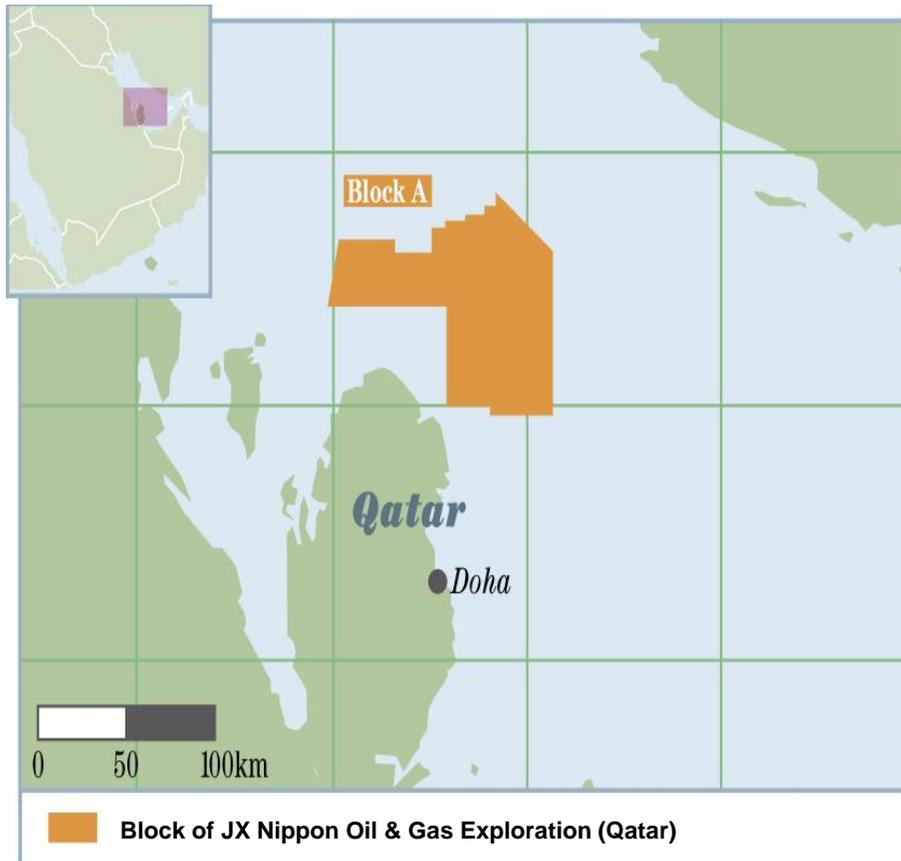
**Interest in Individual Fields** 100%**Operator** Abu Dhabi Oil Co., Ltd

- In 1967, acquired working interest in block of Mubarraz.
- In 1973, oil production commenced in Mubarraz Oil Field.
- In 1989, oil production commenced in Umm Al Anbar Oil Field.
- In 1995, oil production commenced in Neewat Al Ghalan Oil Field.
- In 2009, 3 fields achieved cumulative production volume of 300 million barrels.
- In 2011, Sign a New Concession Agreement.

## Principal Individual E&amp;P Project Overview ⑱



Qatar

**Project Company**

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

(%) = JX Group Shareholding

**Interest in Individual Fields**

100%

**Operator**

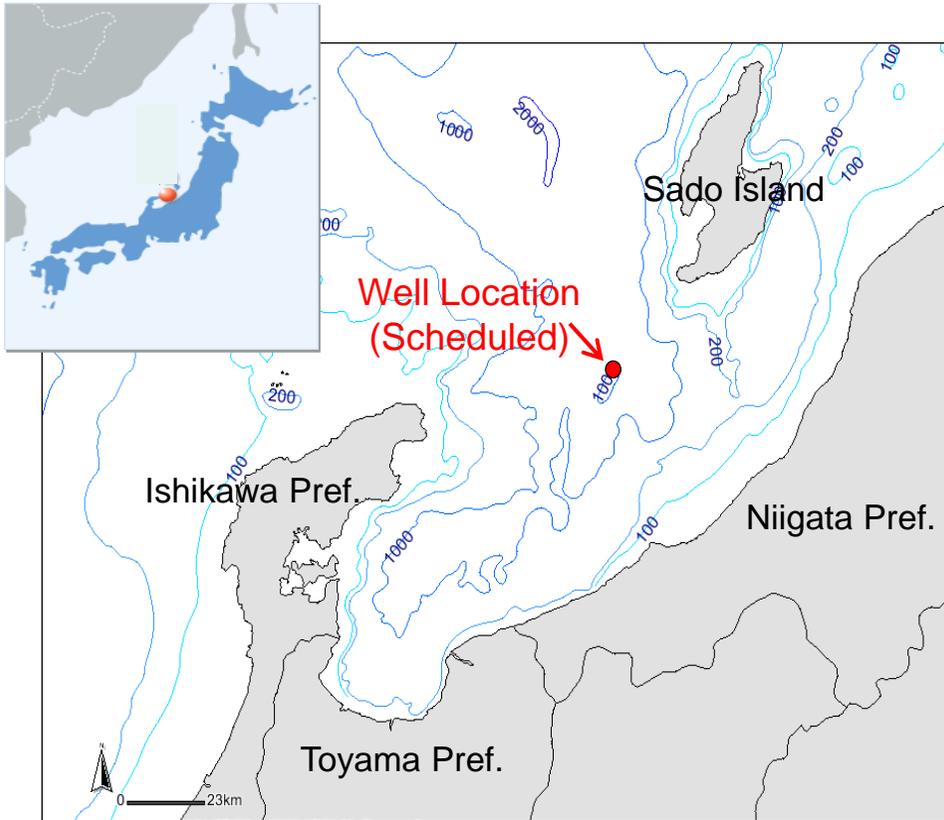
JX Nippon Oil & Gas Exploration (Qatar) Limited

- 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.

## Principal Individual E&amp;P Project Overview ①9



## Japan (Offshore Niigata)

**Project Company**

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

**Interest in Individual Fields**

**100%**

**Operator**

**JX Nippon Oil & Gas Exploration Limited**

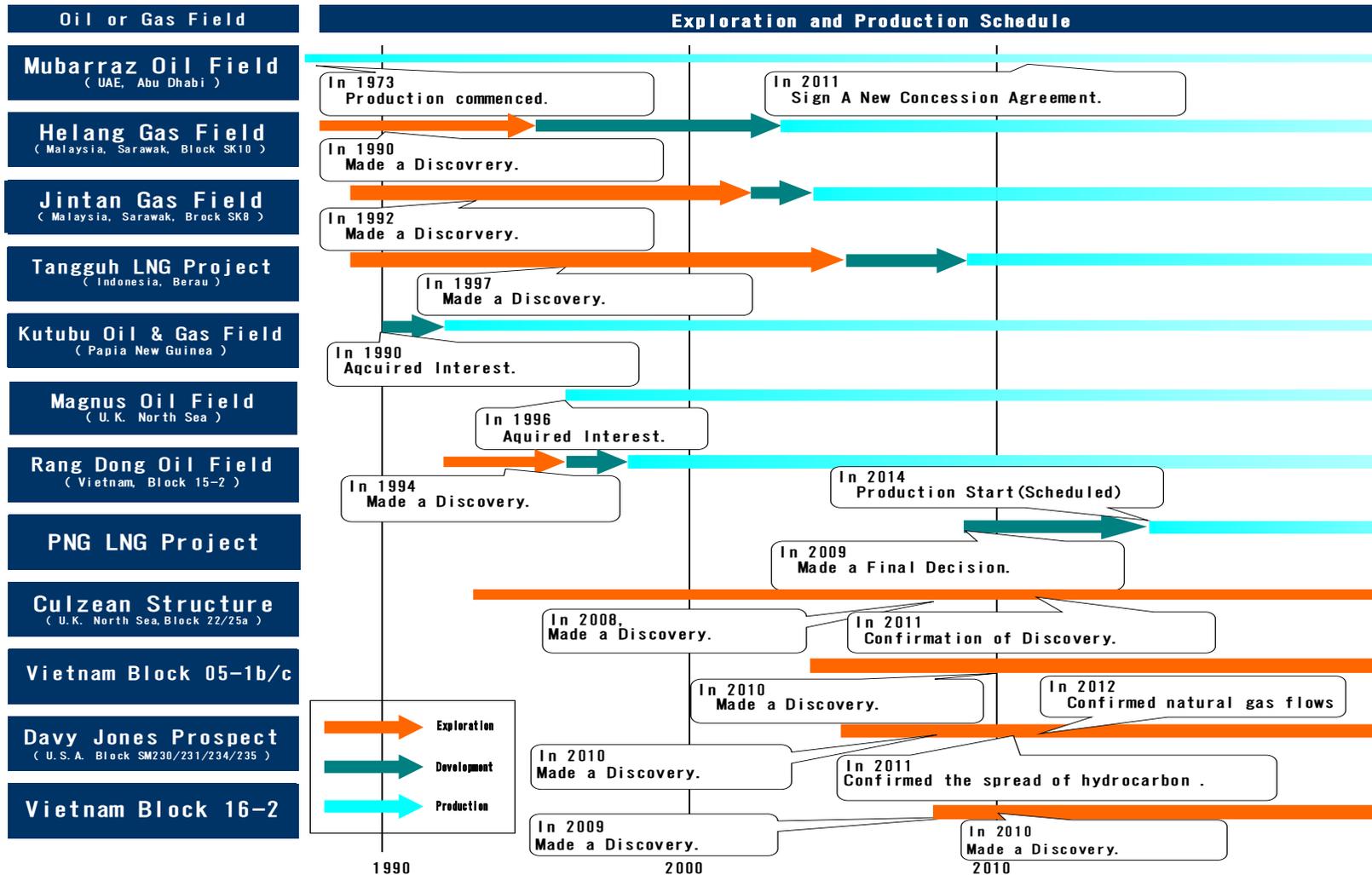
**In December 2011**

**Signed contract with METI's Agency for Natural Resources and Energy, for oil and gas research.**

**In Spring 2013**

**Scheduled to drill "METI Kisoshisui" well**

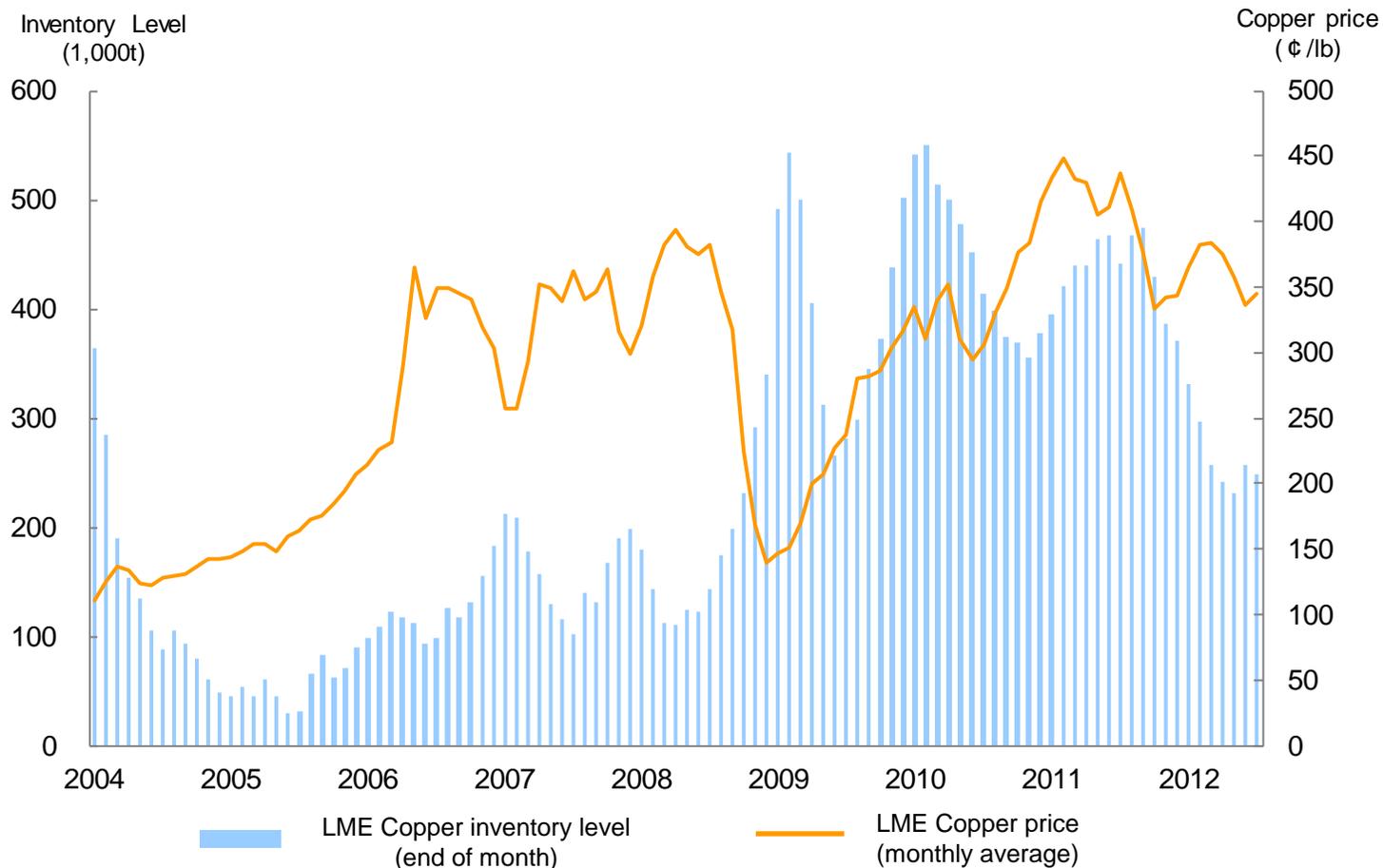
# Production Schedule of Principal E&P Projects



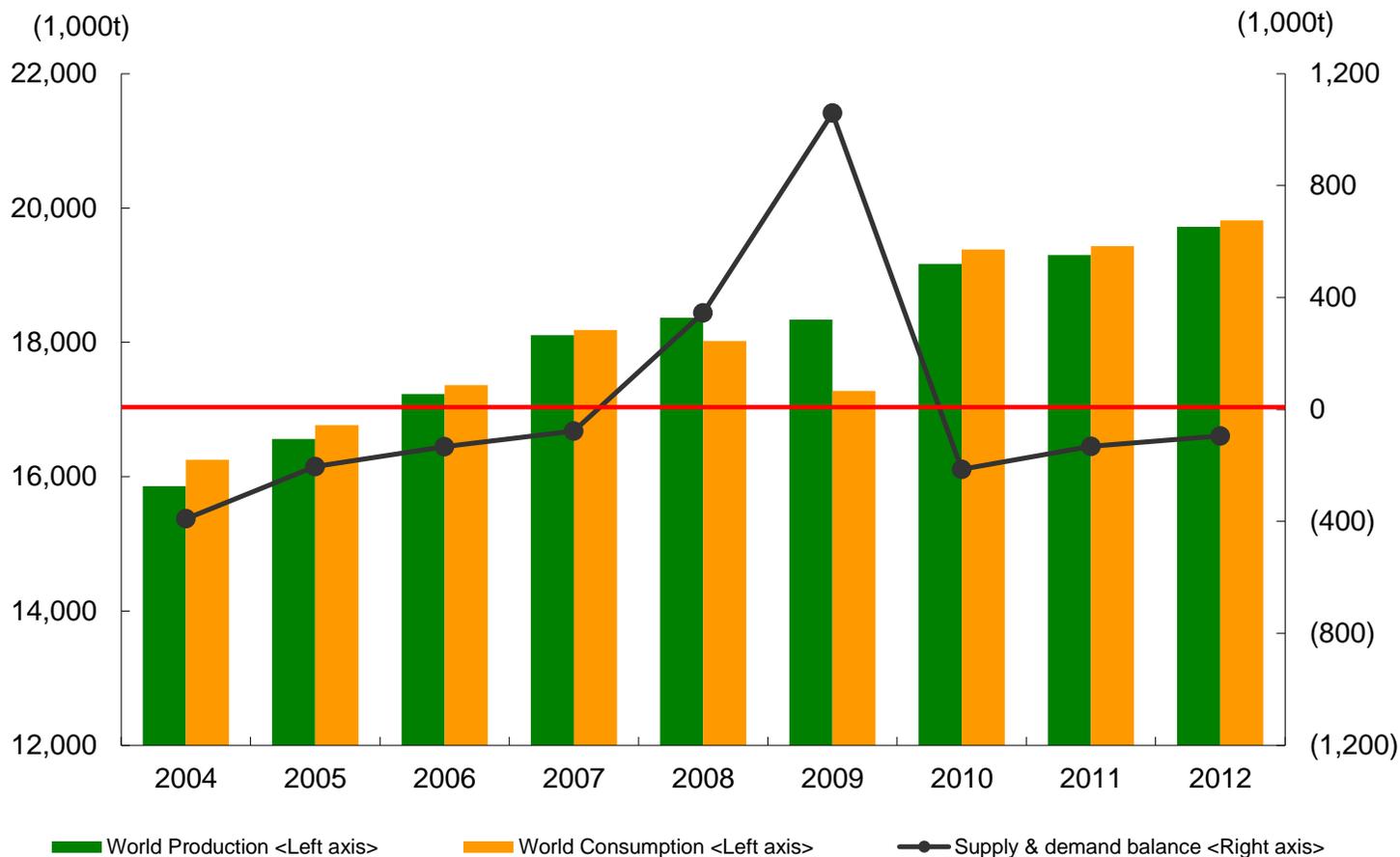
# Copper Price and Inventory Level



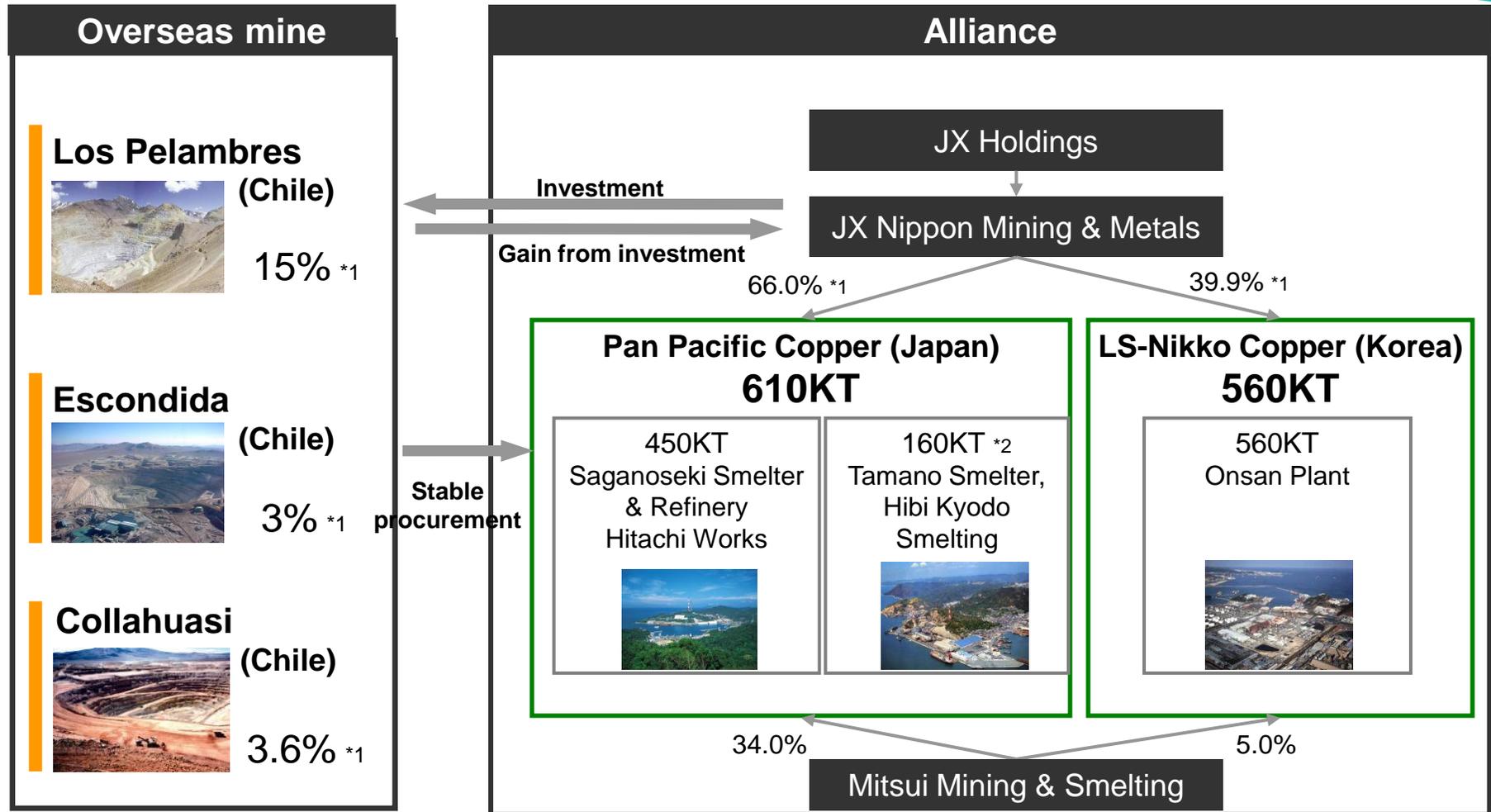
Average Price									(¢ /lb)
	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12 1Q
Copper	136	186	316	344	266	277	369	385	357



## World Copper Cathodes Supply &amp; Demand



# Copper Business



\*1. Shares held by JX Nippon Mining & Metals  
 \*2. Total Capacity is 260KT. PPC has 63.51% equity.

# Overseas Copper Mine Development

## Caserones Copper Mine (Chile)

Full-Fledged Development  
forward 2013

Acquisition  
date

May 2006

Acquisition  
price

\$137 million

Mine life

From 2013 to 2040 (28 years)

SX-EW From Jan. 2013  
Copper Concentrate From Sep. 2013



Production Plan

		Initial 10 years	28 years average	28 years total
Copper	Copper Concentrate (copper content)	150kt/y	110kt/y	3,140kt
	Copper Cathode (SX-EW process)	30kt/y	10kt/y	410kt
	Total	180kt/y	120kt/y	3,550kt
Molybdenum		3kt/y	3kt/y	87kt



Initial investment

\$ 3.00 billion  
In July 2011, Project finance(\$1.1billion) and Long-term Lone(\$0.3billion) are concluded.

Ownership

Pan Pacific Copper (PPC)\*1 75%  
Mitsui & Co., Ltd. 25%

\*1 Jointly established by JX Nippon Mining & Metals (66%) and Mitsui Mining & Smelting (34%)

# Nikko-Chloride Process (N-Chlo Process)

## N-Chlo Process

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

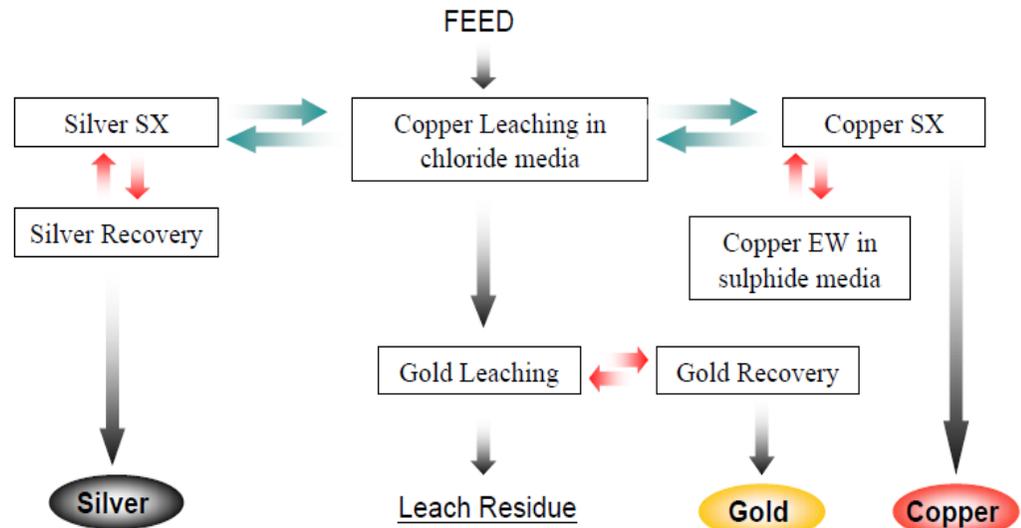
The process enables the effective recovery of not only copper from low-grade copper concentrate, but also such precious metals as gold and silver.

We constructed a pilot plant in Australia and have been conducting demonstration test since latter half of 2009, and we got a good result about copper and gold recovery. After FY 2011, we will proceed facility design for test operation on commercial basis for feasibility study.

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



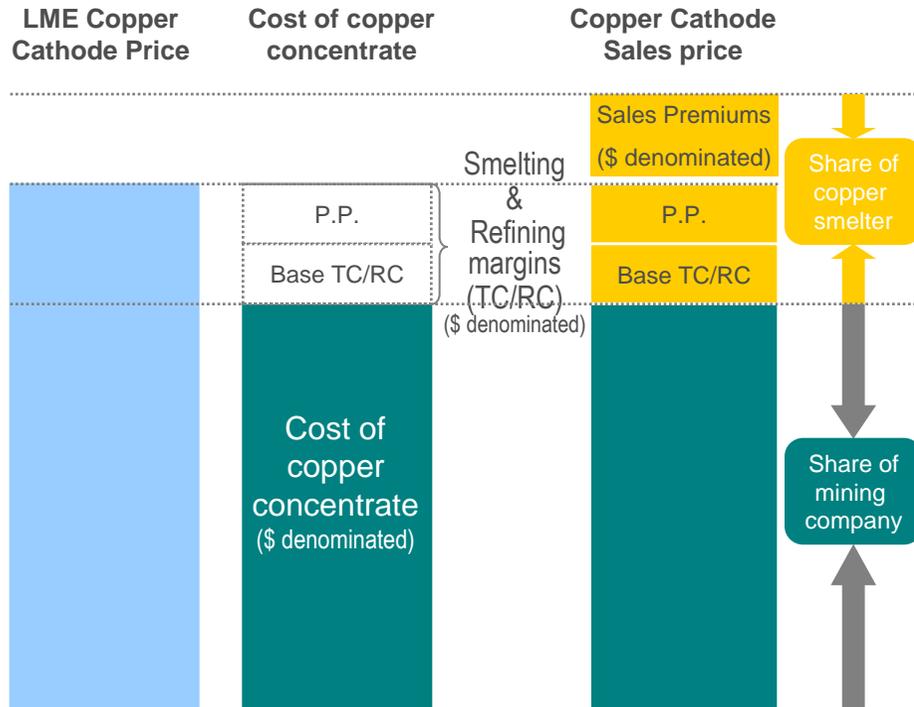
## Structure of N-Chlo Process



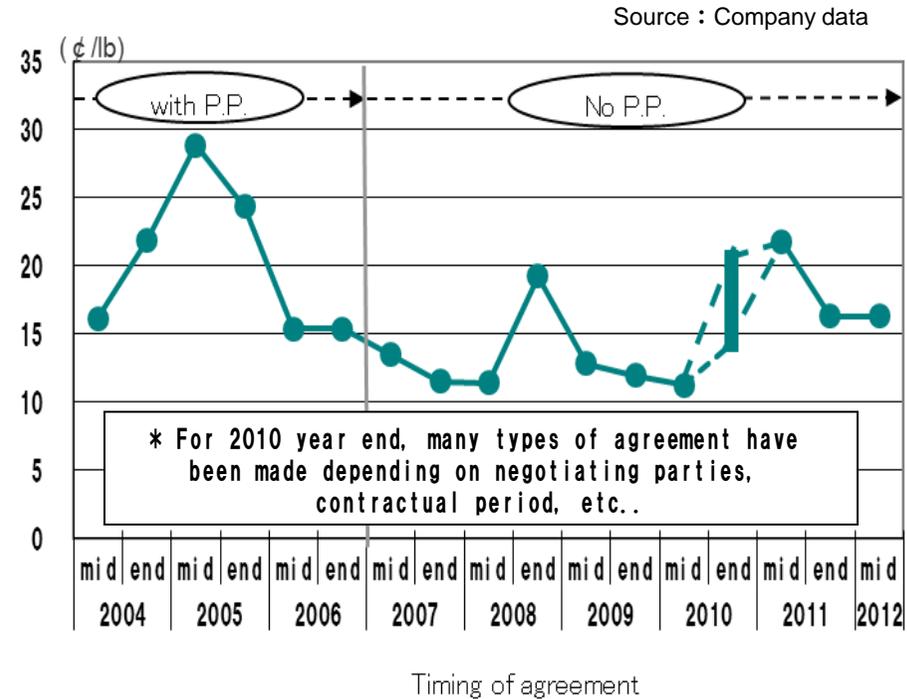


# Earnings Structure of Copper Smelter & Refinery / Trends of Base TC/RC

## 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 & refining margins.

**TC (Treatment charge) + RC (Refining charge) :** Consisting of “Base TC/RC” and “P.P.”

**P.P. (Price participation) :** The system under which mines and smelters share margins when LME copper price exceeds benchmark price.

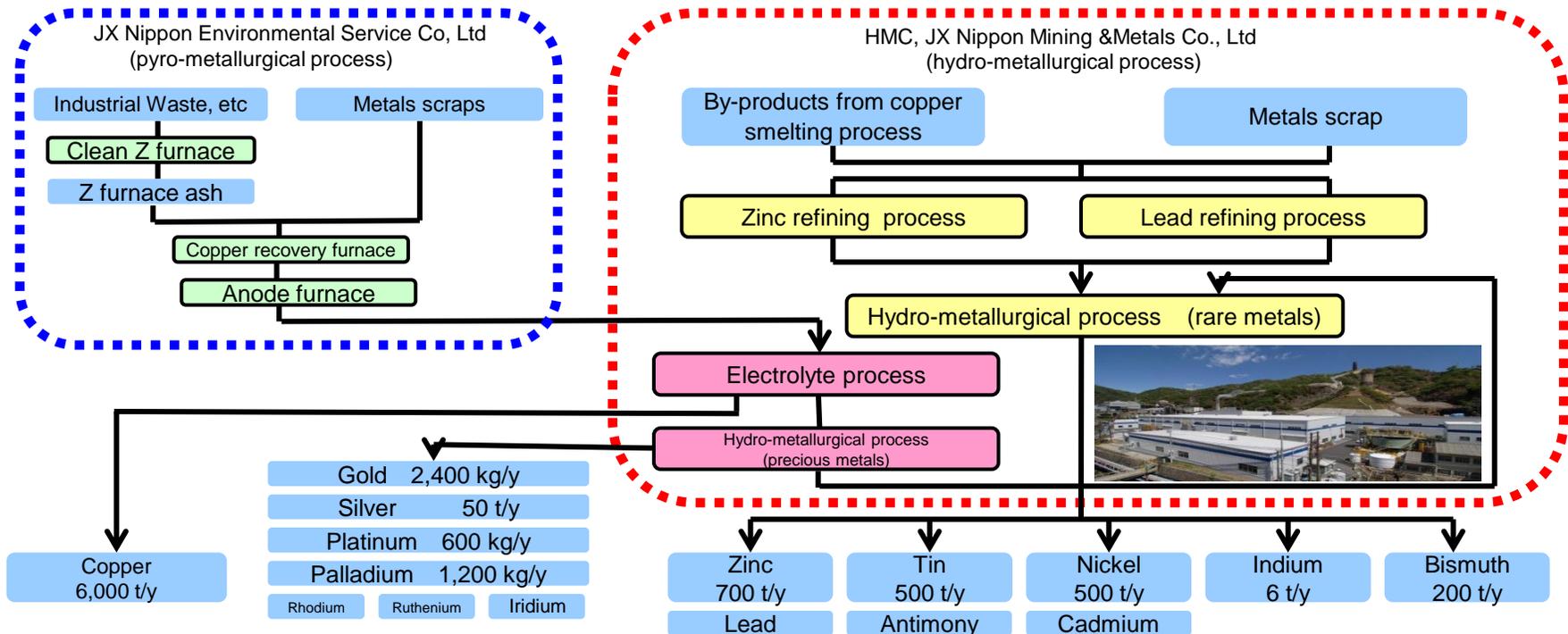
**Sales price :** LME price plus sales premiums, which is established by reference to various factors including importation costs, import tariffs, and others

# Recycling and Environmental Services Business



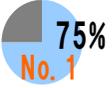
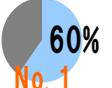
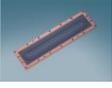
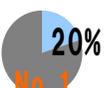
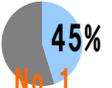
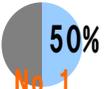
## Hitachi Metal Recycling Complex

- Recovering 16 kinds of metals efficiently by hydro-metallurgical process
- An original zero emission process that combines with pyro-metallurgical process of JX Nippon Environmental Services Co., Ltd at adjacent site.
- Favorable location adjacent to the metropolitan area – the biggest urban mine in Japan
- The role as a raw material (indium, nickel, etc.) supplier to Electronic Materials Business



## 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			○	◎	○