

Security Code

Tokyo 5020

# Supplementary Information

【Full Report】

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February 3, 2012



The Future of Energy, Resources and Materials

**JX Holdings, Inc.**

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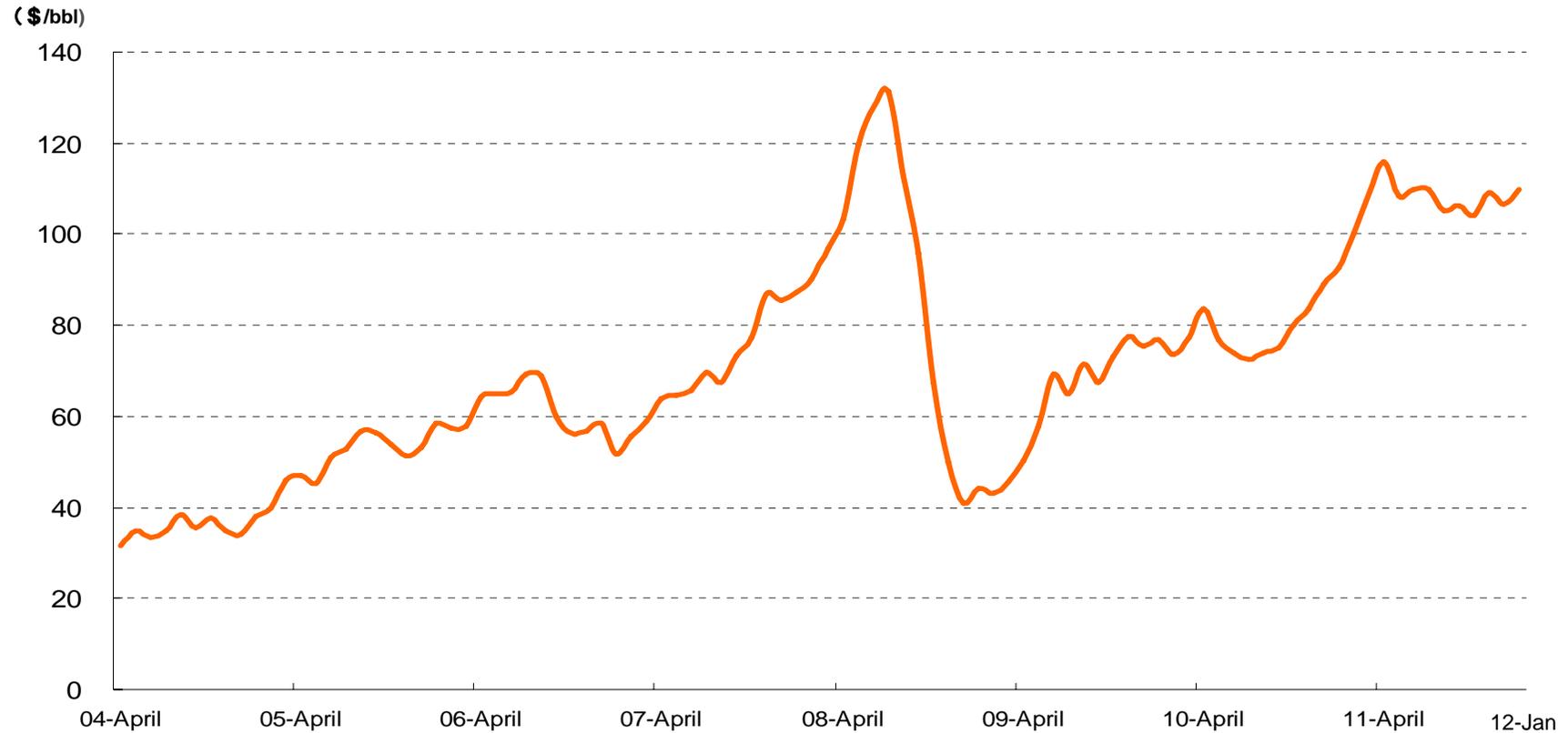
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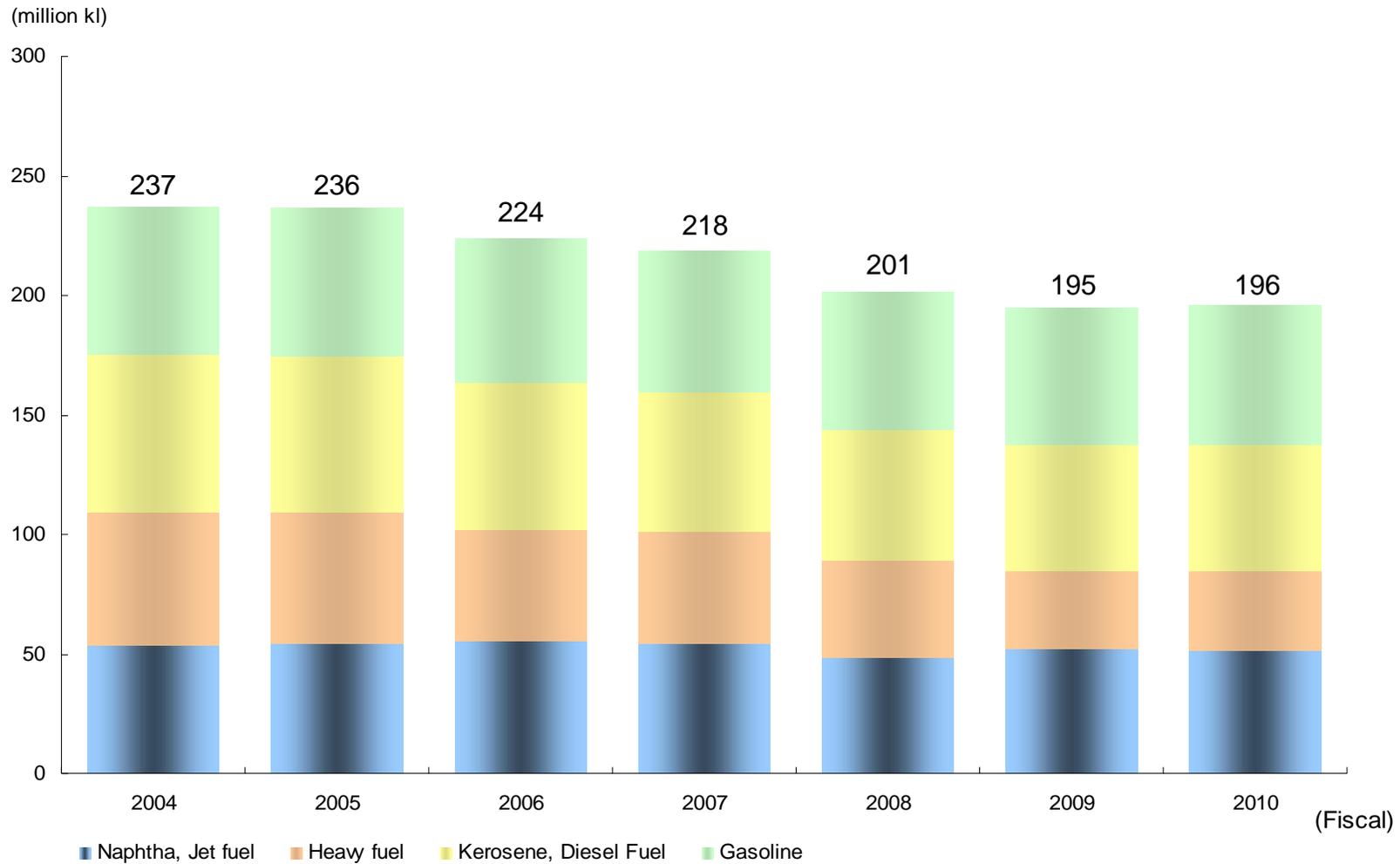


# Historical Dubai Crude Oil Price

Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11		
								1Q	2Q	3Q
Dubai Crude Oil	37	54	61	77	82	70	84	111	107	106



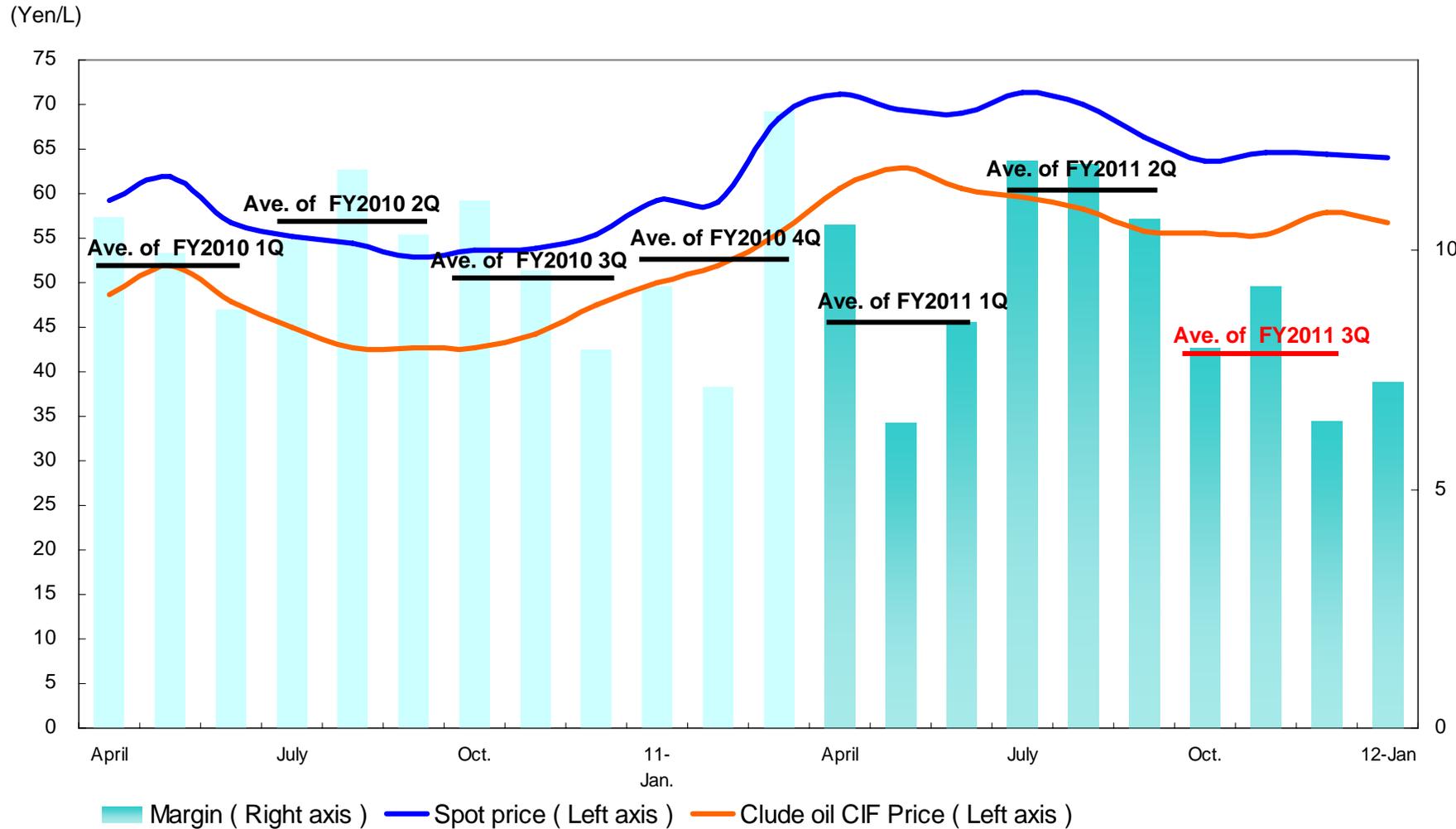
# Demand for Petroleum Products ( Japan )



Source: Petroleum Association of Japan and Company data



# Domestic Market Margin\* (Gasoline)



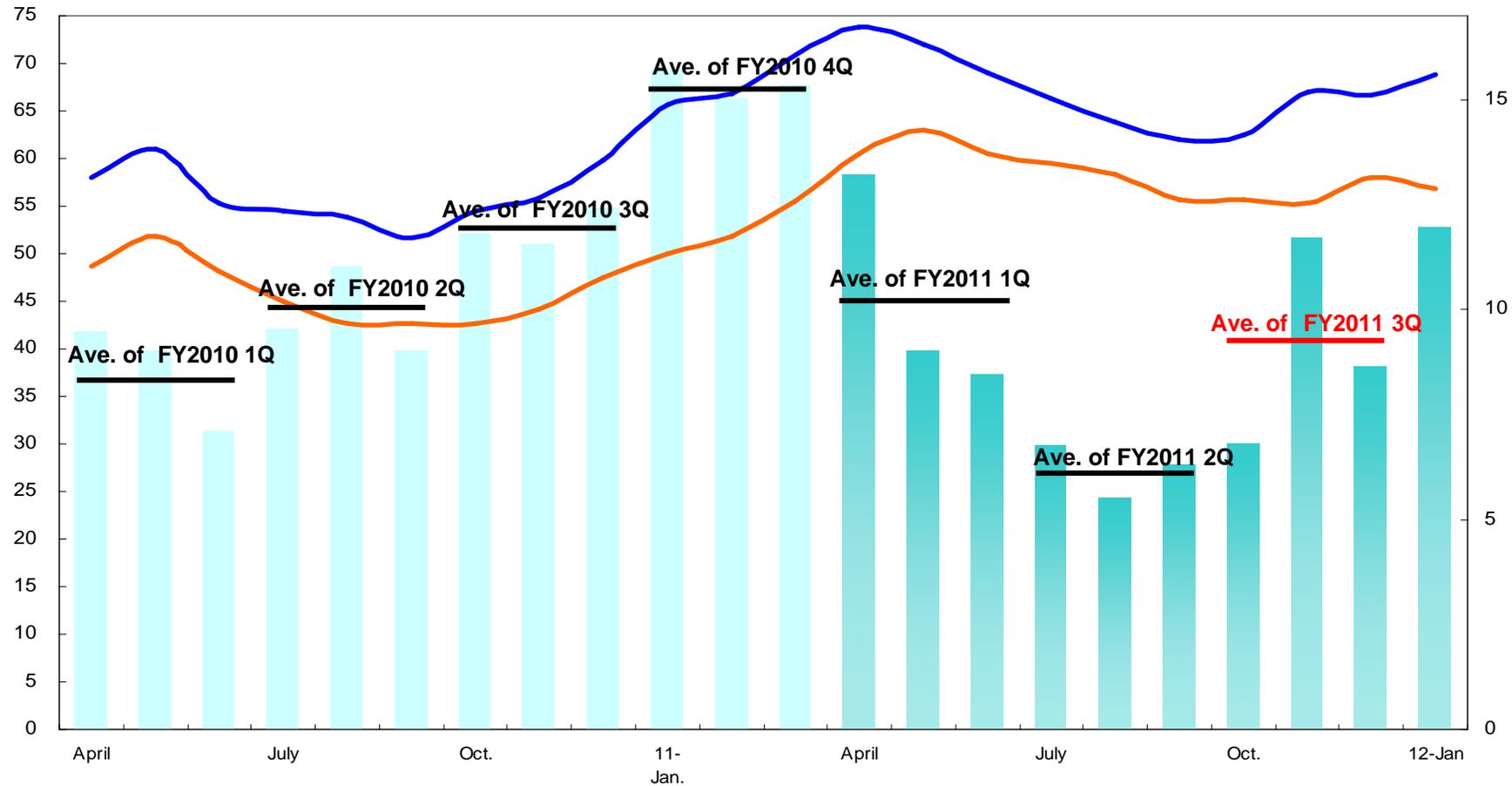
\* : Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

Source : Trade statistics (Ministry of Finance, Japan)



# Domestic Market Margin\* (Kerosene)

(Yen/L)



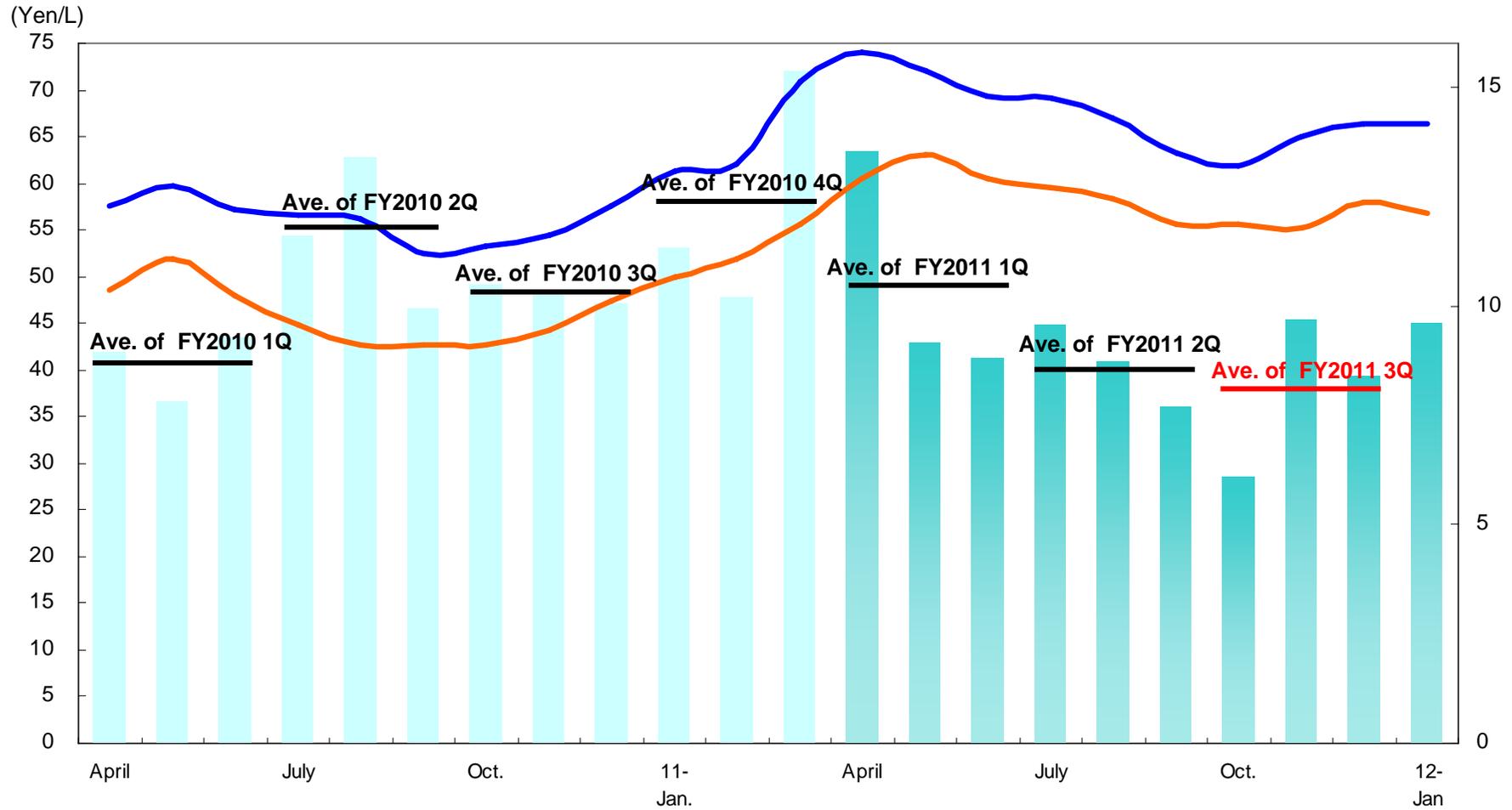
■ Margin ( Right axis )    — Spot price ( Left axis )    — Clude oil CIF Price ( Left axis )

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

Source : Trade statistics (Ministry of Finance, Japan)



# Domestic Market Margin\* (Diesel Fuel)



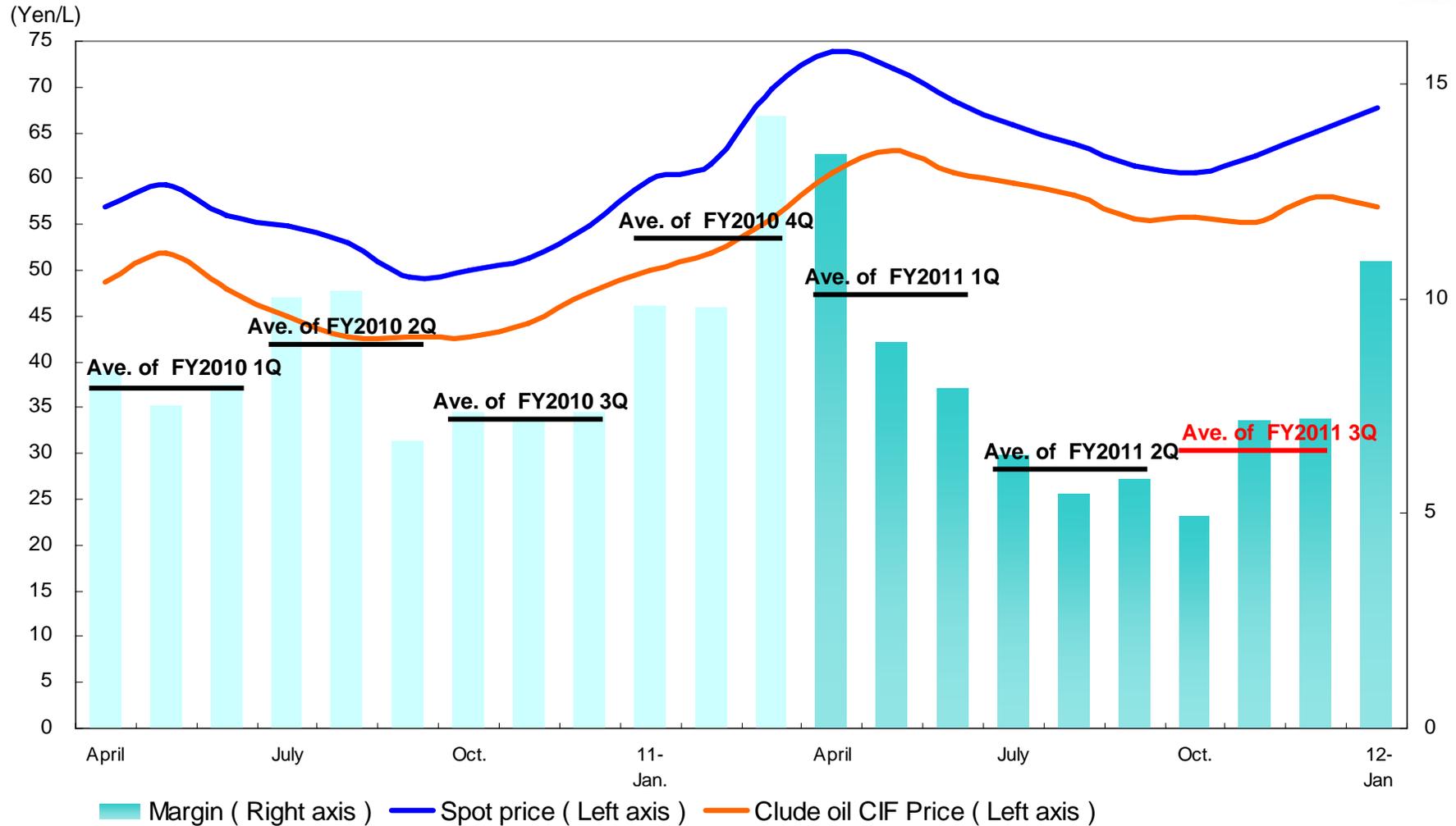
Margin ( Right axis ) Spot price ( Left axis ) Clude oil CIF Price ( Left axis )

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

Source : Trade statistics (Ministry of Finance, Japan)



# Domestic Market Margin\* (Fuel Oil A)



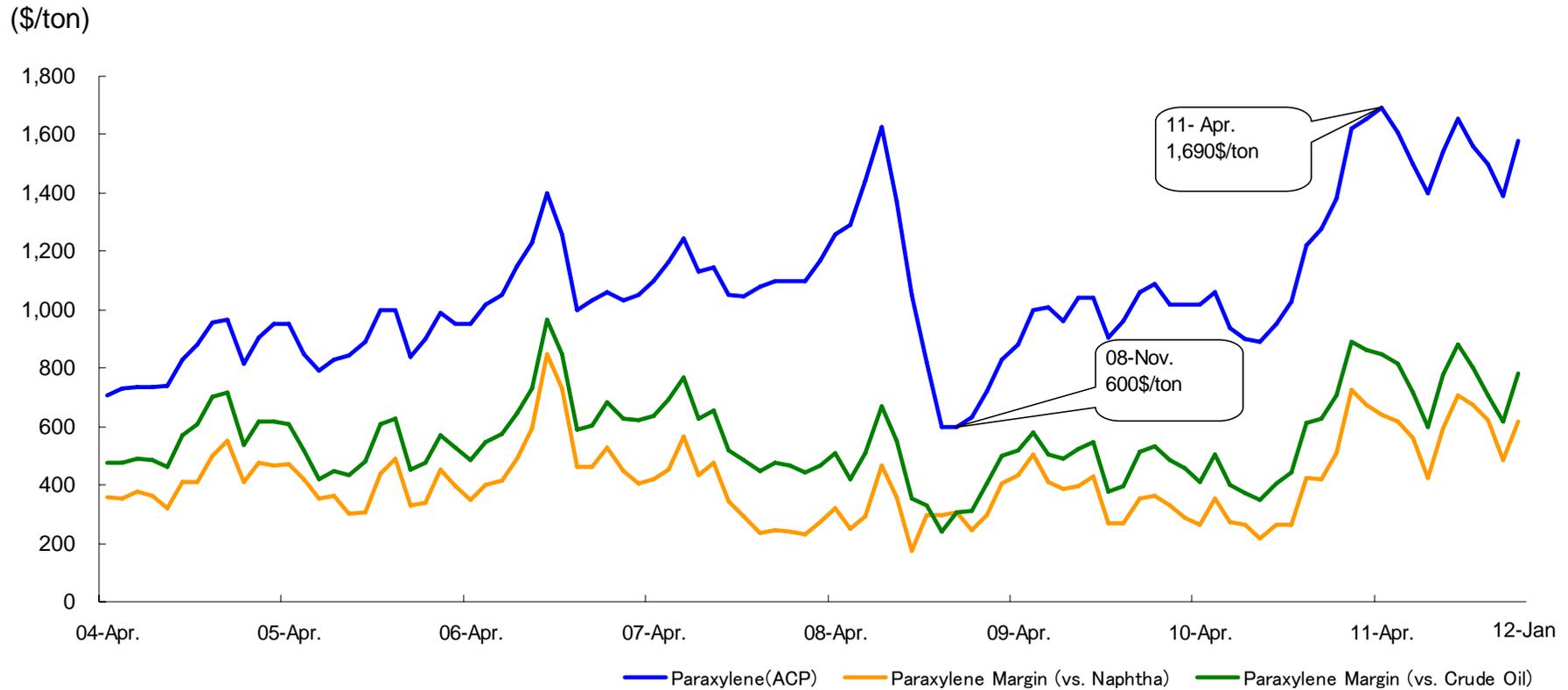
\* : Margin = Spot Price – All Japan Crude Oil CIF (including petroleum tax and interest)

Source : Trade statistics (Ministry of Finance, Japan)



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

Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11 (\$/ton)		
								1Q	2Q	3Q
Asian Contract Price	829	903	1,103	1,119	1,020	999	1,162	1,598	1,532	1,483
Margin (vs. Crude Oil)	563	514	660	556	425	493	550	793	753	708
Margin (vs. Naphtha)	416	389	511	351	309	369	388	606	576	595

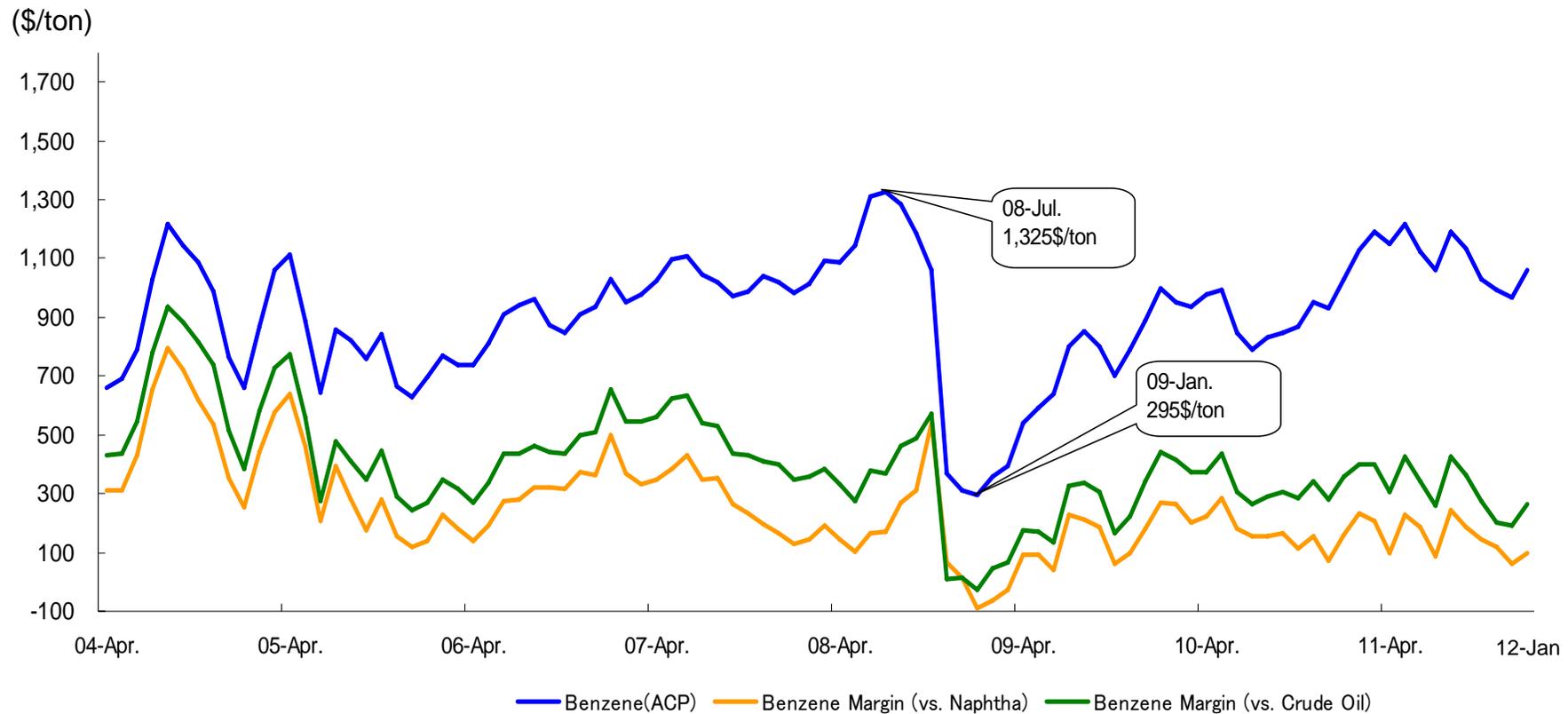


Note: In case of ACP undecided, average price of spot market is adopted.



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

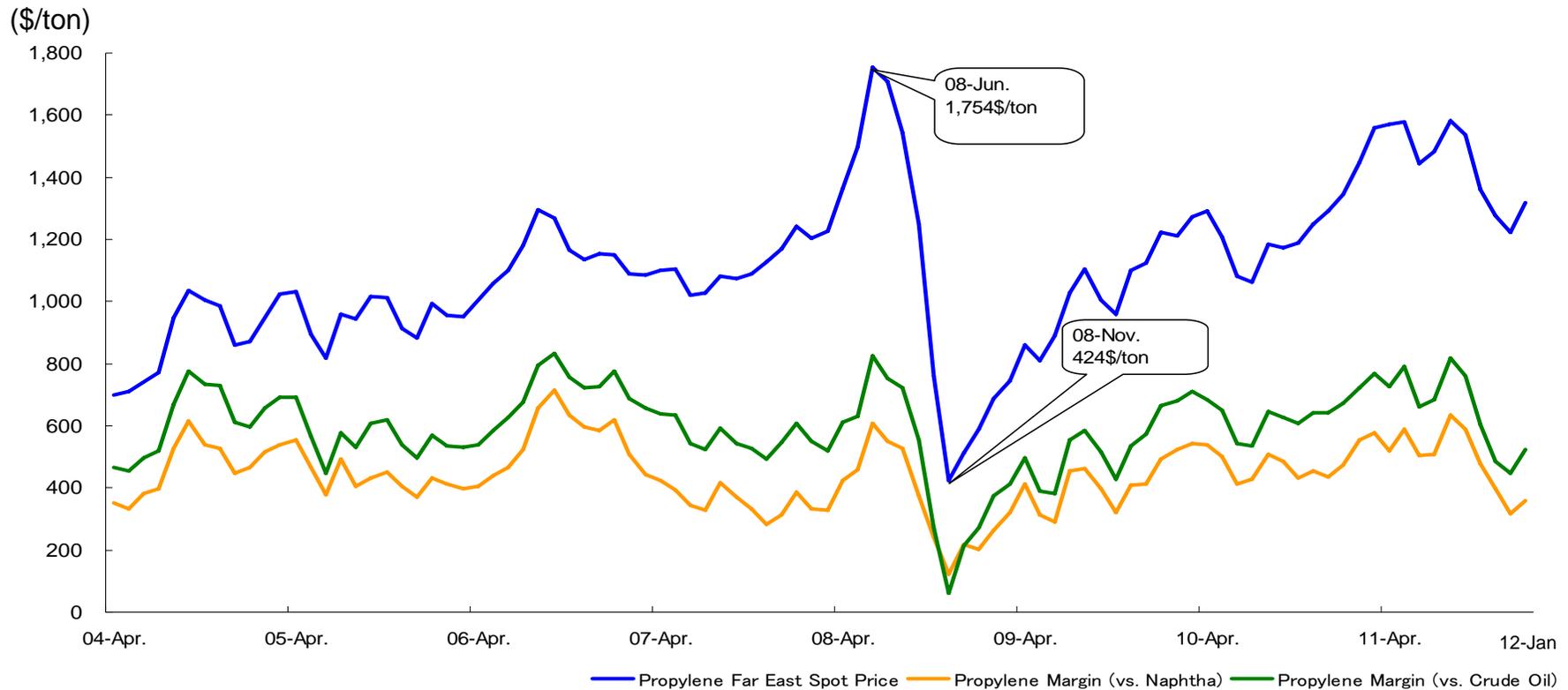
Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11 (\$/ton)		
								1Q	2Q	3Q
Asian Contract Price	914	786	907	1,034	844	791	948	1,163	1,128	997
Margin (vs. Crude Oil)	648	397	464	471	249	285	336	358	349	222
Margin (vs. Naphtha)	501	271	315	265	133	161	174	171	172	108





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

Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11 (\$/ton)		
								1Q	2Q	3Q
Far East Spot Price	883	948	1,138	1,123	1,070	1,050	1,258	1,531	1,533	1,287
Margin (vs. Crude Oil)	617	559	695	563	475	544	646	725	754	512
Margin (vs. Naphtha)	470	434	550	354	359	420	484	538	577	399



## Sales Volume of FY 2010 3Q, FY2011 3Q



	FY2010 3Q	FY2011 3Q	Changes vs. FY 2010 3Q
	million KL	million KL	
Gasoline	15.34	14.59	-4.9%
Premium	2.18	1.95	-10.6%
Regular	13.08	12.56	-4.0%
Naphtha	2.79	2.53	-9.3%
JET	1.09	1.02	-6.4%
Kerosene	4.24	4.03	-5.0%
Diesel Fuel	9.08	9.14	0.7%
Fuel Oil A	4.46	4.42	-0.9%
Heavy Fuel Oil C	4.82	6.08	26.1%
For Electric Power	2.74	3.95	44.2%
For General Use	2.08	2.13	2.4%
<b>Total Domestic Fuel</b>	<b>41.82</b>	<b>41.81</b>	<b>0.0%</b>
Crude Oil	1.02	2.86	180.4%
Lubricants & Specialities	2.65	2.44	-7.9%
Petrochemicals (million ton)	4.24	4.01	-5.4%
Exported Fuel	7.79	6.66	-14.5%
LPG (million ton)	1.46	0.21	-85.6%
Coal (million ton)	4.16	4.18	0.5%
<b>Total Excluding Barter Trade &amp; Others</b>	<b>63.14</b>	<b>62.17</b>	<b>-1.5%</b>
Barter Trade & Others	17.44	15.80	-9.4%
<b>Total</b>	<b>80.58</b>	<b>77.97</b>	<b>-3.2%</b>

Note: Figures for FY 2010 1Q are pro forma summations of Nippon Oil and Japan Energy.



# Number of Service Stations (Fixed-Type)

	FY05	FY06	FY07	FY08	FY09	FY10	FY11 3Q
<b>JX Group</b>	<b>14,640</b>	<b>14,076</b>	<b>13,474</b>	<b>13,318</b>	<b>12,687</b>	<b>12,149</b>	<b>11,855</b>
EMG *1	5,837	5,426	4,911	4,489	4,199	3,979	3,820
Idemitsu Kosan	5,249	5,059	4,808	4,598	4,338	4,148	4,057 <sup>*2</sup>
Showa Shell Sekiyu	4,689	4,560	4,417	4,256	4,102	3,922	3,782
Cosmo Oil	4,552	4,359	4,188	3,913	3,768	3,609	3,541
Others *3	2,066	2,006	1,935	1,257	1,245	1,194	1,168
<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>28,223</b> (76.7%)
<b>Private Brands and Others *4</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>8,577</b> (23.3%)
<b>Total *4</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>36,800</b>

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

\*2. Figures of Idemitsu are as of FY2011 2Q.

\*3. 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.

\*4. Estimated by JX Holdings.

\*5. This figures include only self-service retail outlets that are affiliated to oil companies.

## <Number of Company-Owned Service Stations>

	FY09	FY10	FY11 3Q
JX Group	2,893	2,701	2,626

## <Number of Self-Service Stations>

	FY09	FY10	FY11 3Q
JX Group	2,378	2,385	2,422
Total for Japan *5	6,906	6,935	

# JX Group's Market Share and Demand in Japan

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



### Domestic Market Share

	FY10 3Q (%)	FY11 3Q (%)
a) Gasoline	34.4	33.8
b) Kerosene	39.6	41.0
c) Diesel Fuel	36.8	37.6
d) Fuel Oil A	41.3	44.4
a+b+c+d	36.5	36.9
Total Domestic Fuel	32.4	35.4

### Domestic Demand

	FY10 3Q (1,000 KL)	FY11 3Q (1,000 KL)	Changes vs. FY10 3Q (%)
a) Gasoline	44,604	43,175	96.8
b) Kerosene	11,605	10,621	91.5
c) Diesel Fuel	24,860	24,362	98.0
d) Fuel Oil A	10,772	9,958	92.4
a+b+c+d	91,841	88,115	95.9
Total Domestic Fuel	143,625	140,193	97.6

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

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11 3Q
	('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-'11/12)
<b>JX Group</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>

\* 1. Crude Distillation Unit

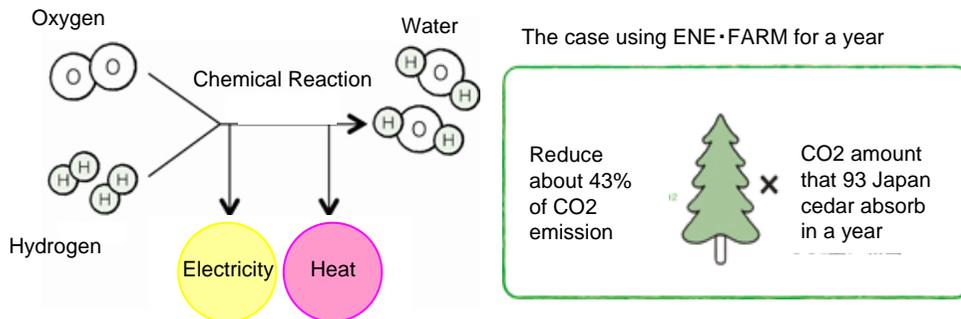
\* Excluding Condensate splitters of Mizushima and Kashima.

Source: Petroleum Association of Japan and Company data

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

## Merit of ENE·FARM

### Environment Friendly



### Conservation of Energy

#### Conventional System \*1

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

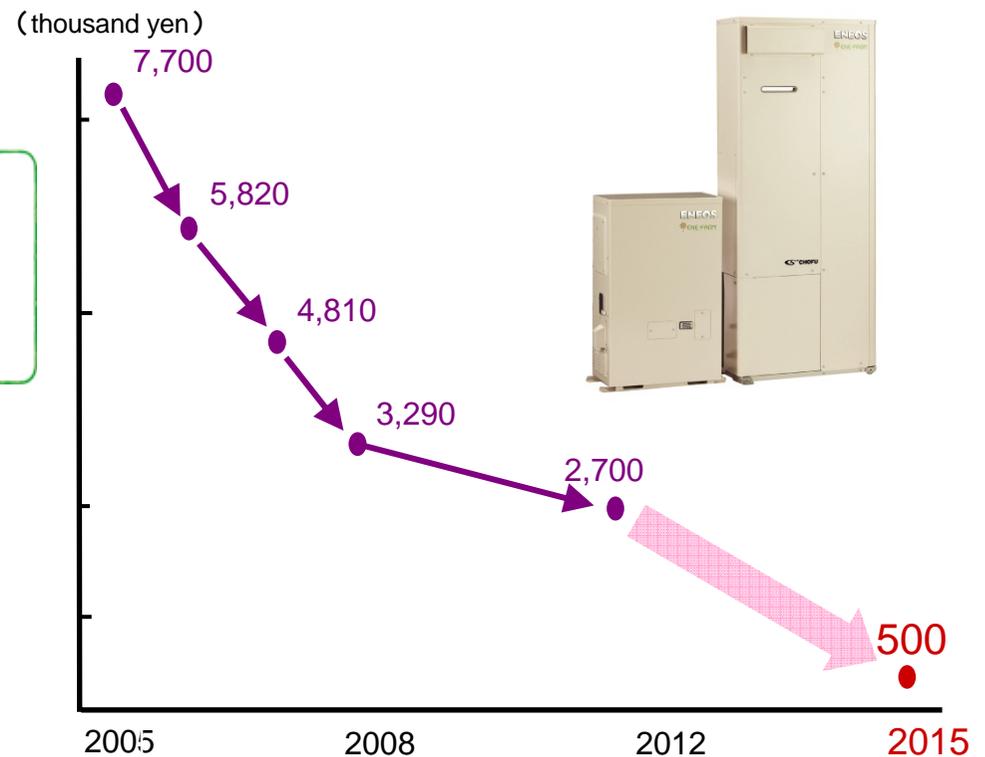
Energy Efficiency  
35-40%

#### ENE·FARM

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

Energy Efficiency  
85~87%\*2

## Cost Down Target of ENE·FARM



\*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 SPE 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) and announced in March 2007.

JX Group's reported reserves are in line with reserves as defined by the SPE 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 E&P of Oil and Natural Gas Projects

Project Name/Company	Sales Volume(Jan.-Sep. 2011) (1,000BOED) *1			Reserves *2 (million BOE)
	OIL	Gas		
[Gulf of Mexico(U.S.A.)] JX Nippon Oil Exploration U.S.A. Limited	4	3	2	27
[Canada] Japan Canada Oil Company Limited	15	15	—	253
[North Sea, U.K.] JX Nippon Exploration and Production (U.K). Limited	10	8	2	20
[Vietnam] Japan Vietnam Petroleum Company, Limited	9	6	3	
[Myanmar] Nippon Oil Exploration (Myanmar) Limited	9	1	9	
[Malaysia] JX Nippon Oil & Gas Exploration (Malaysia) Limited	20	4	16	
JX Nippon Oil & Gas Exploration (Sarawak) Limited	29	2	27	
[Indonesia] Nippon Oil Exploration (Berau) Limited	17	1	16	<Sub Total> 319
[Papua New Guinea] Merlin Petroleum Company	5	5	—	
Southern Highlands Petroleum Co., Ltd.	1	1	—	
[Australia] JX Nippon Oil & Gas Exploration (Australia) Pty Ltd.	1	1	—	<Sub Total> 87
[United Arab Emirates, Qatar and others] Abudhabi Oil Co., Ltd., United Petroleum Development Co., Ltd. and others	11	10	0	69
Total	130	56	74	775

\*3

\*1 Project company basis.

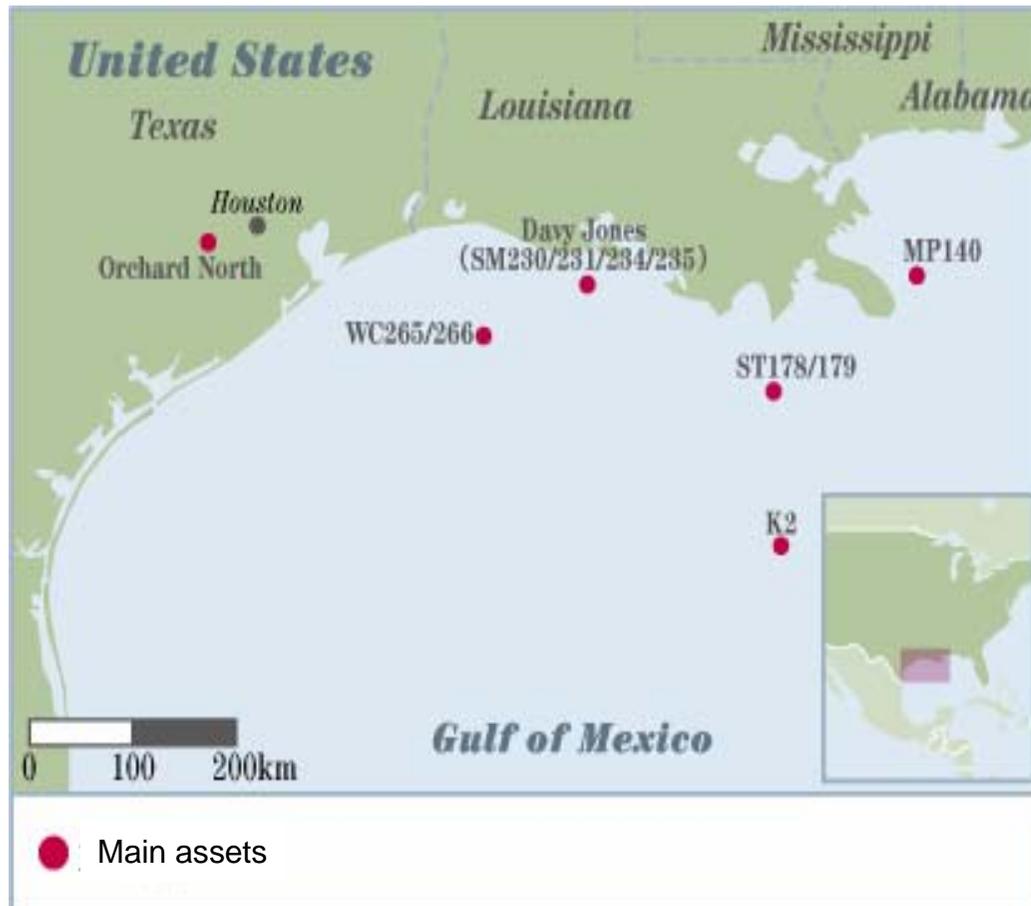
\*2 Proved reserves and probable reserves as of end of Dec., 2010, including reserves from projects currently under development.

\*3 JX Group's equity basis

# Principal Individual E&P Project Overview ①



## Gulf of Mexico



### '11 Jan - Sep Sales Volume

4,400 boed  
(oil: 2,900 b/d, gas: 9mmcf/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.

# Principal Individual E&P Project Overview ②



## Canada



'11 Jan – Sep Sales Volume  
15,000BOED  
(Oil 15,000b/d)

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

**Interest in Individual Fields**  
5%

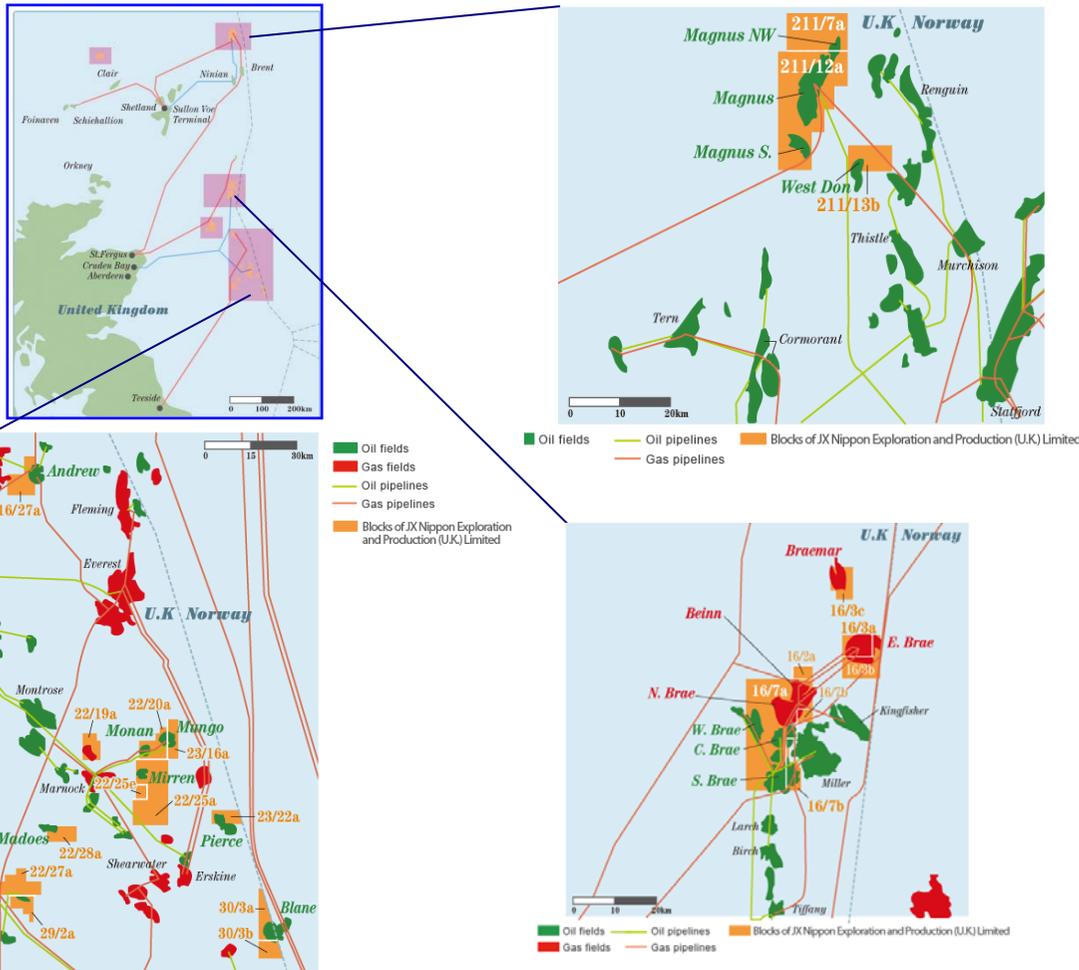
**Operator**  
Syncrude Canada

- In 1992, NOEX acquired a 5% stake in the Syncrude project from PetroCanada. Subsequently, this stake was transferred to Mocal Energy Limited (a wholly owned subsidiary of Japan Canada Oil).

# Principal Individual E&P Project Overview ③



## U.K. North Sea ①



'11 Jan - Sep Sales Volume  
 9,600BOED  
 (oil: 7,700b/d, gas: 11mmcf/d)

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

**Range of Interests in Individual Fields**  
 2.1% to 38.2%

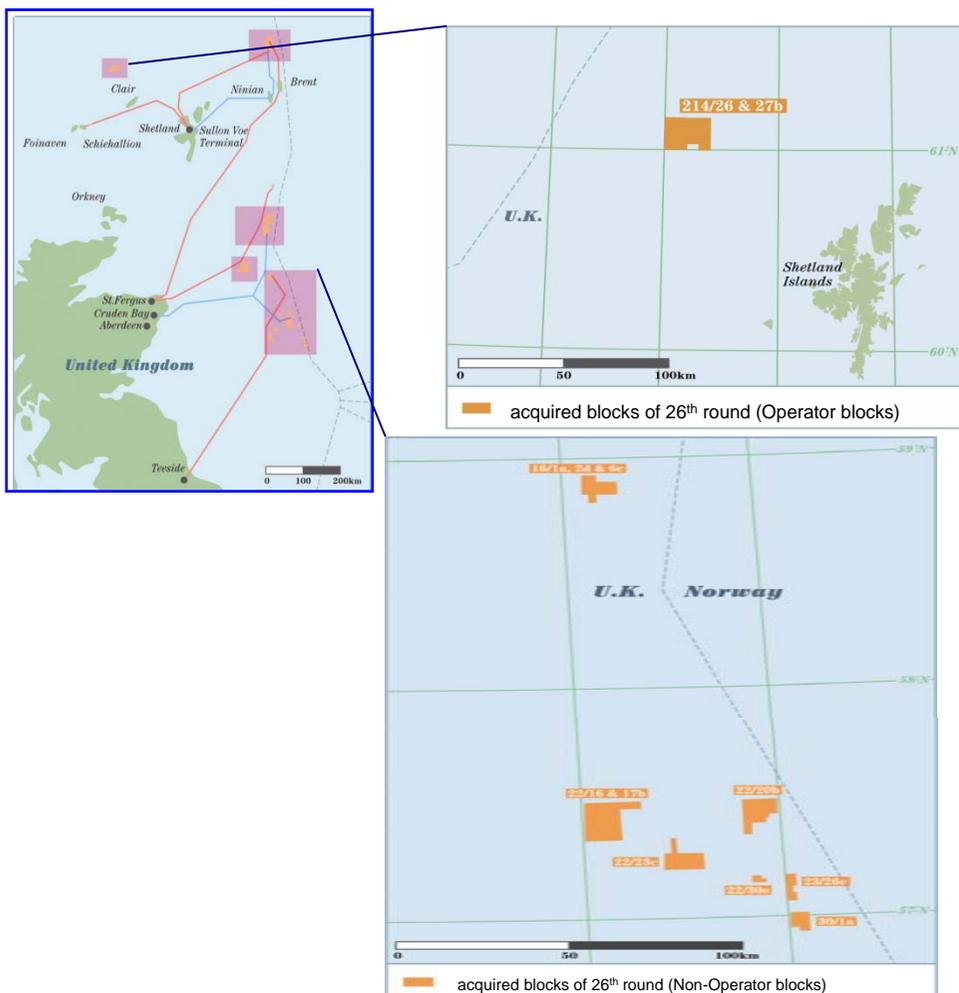
**Operators**  
 BP, Shell, Marathon, others

- 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, and it acquired an interest in the West Don oil field in 2004. 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%)**

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**

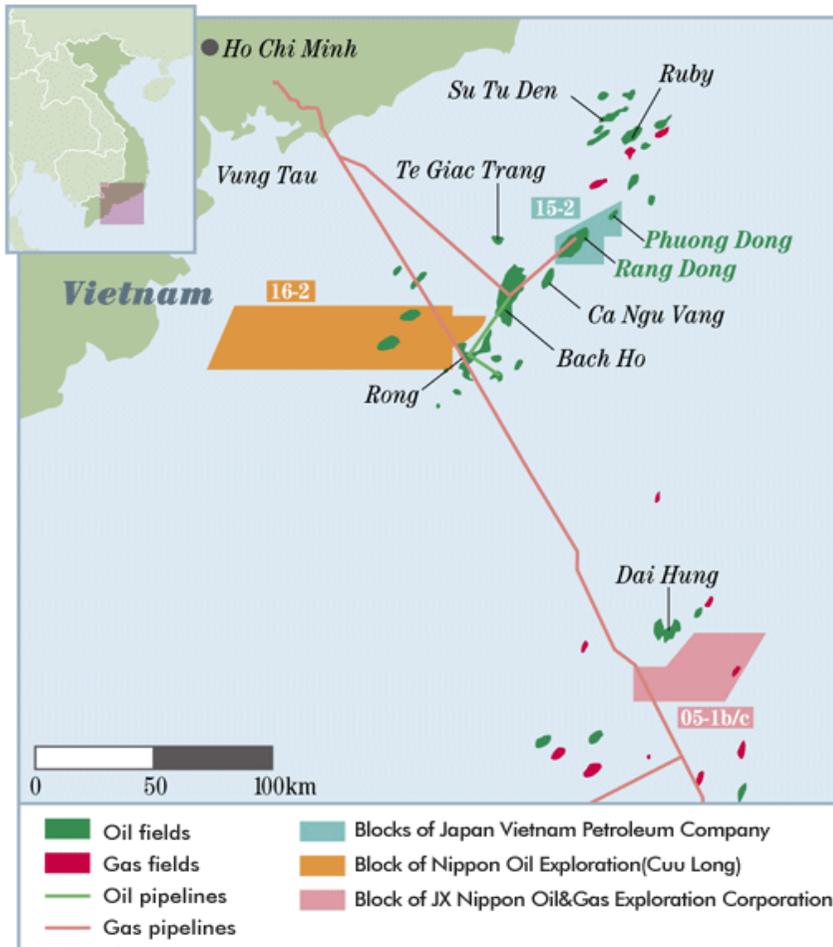
middle North Sea

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

# Principal Individual E&P Project Overview ⑤



## Vietnam ① (Block 15-2)



**'11Jan - Sep Sales Volume**  
 8,600BOED  
 (oil: 6,100b/d, gas: 15mmcf/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%

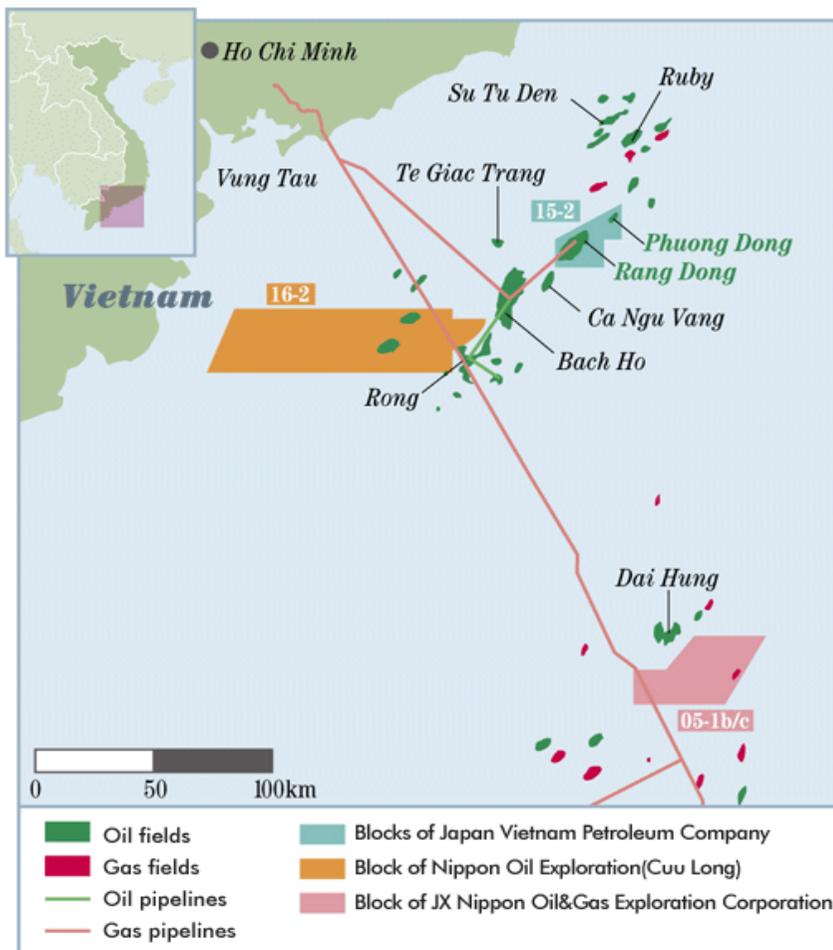
**Operator**  
 JVPC

- 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&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%

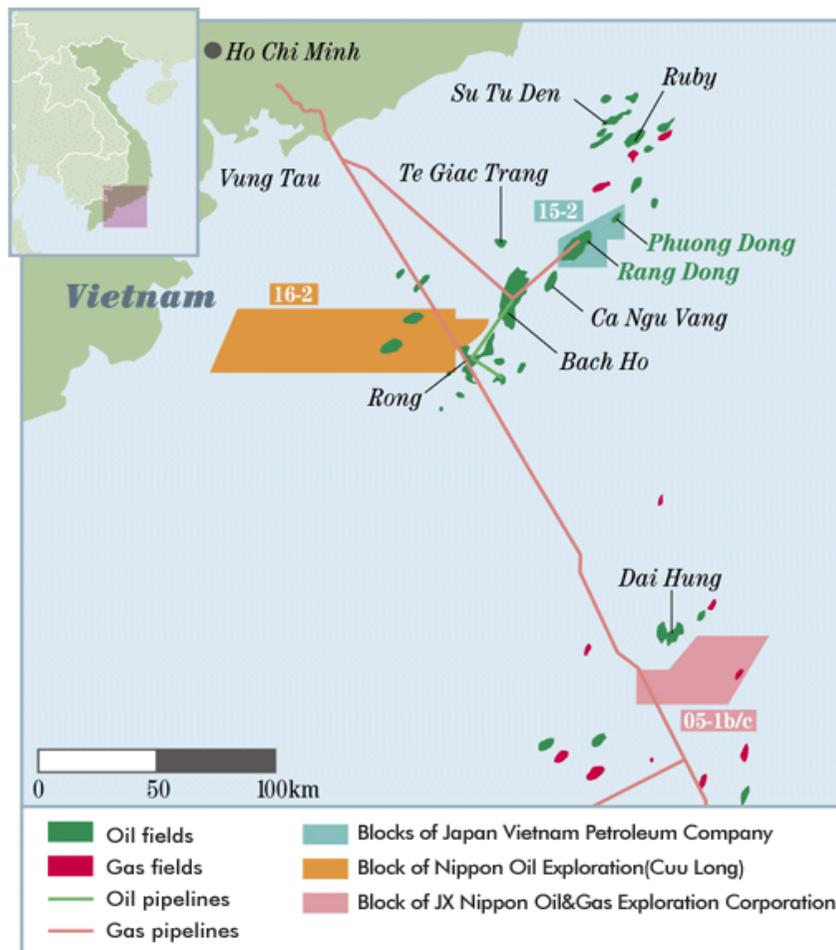
Operator PVEP

- 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&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%

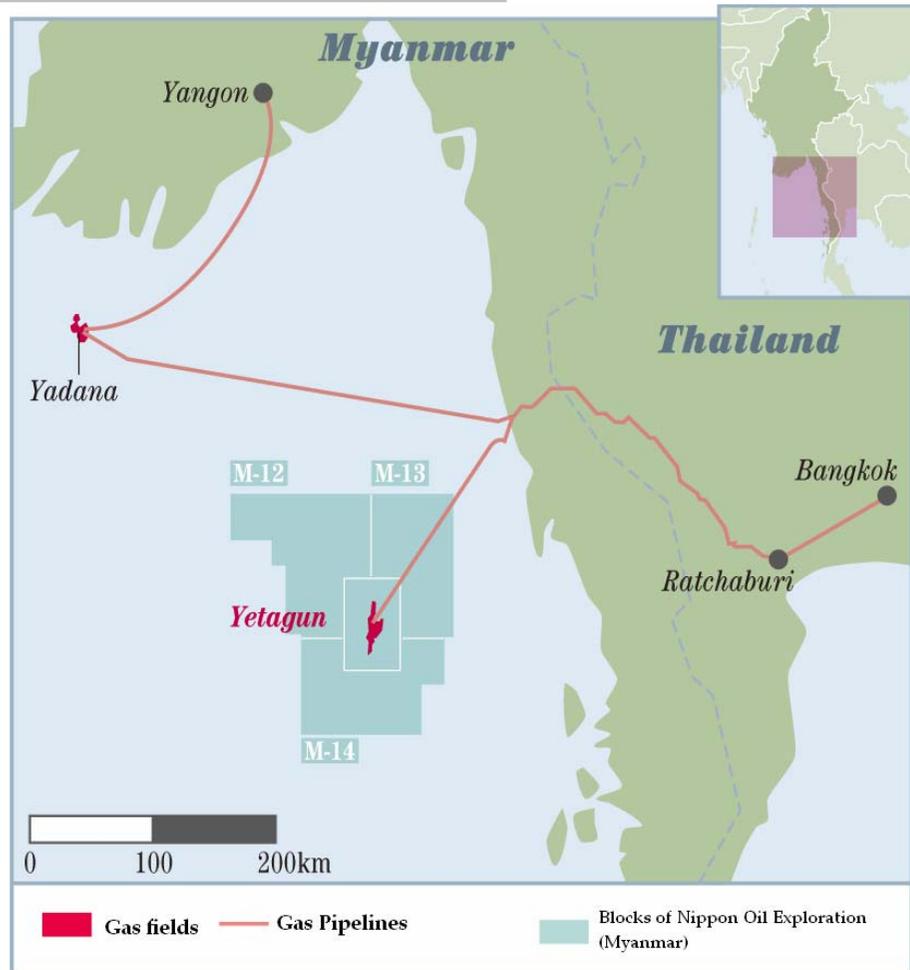
Operator Idemitsu Oil & Gas CO., Ltd.

- 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&P Project Overview ⑧



## Myanmar



### '11Jan - Sep Sales Volume

9,400BOED  
(oil: 800b/d, gas: 52mmcf/d)

### Project Company

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

(%) = JX Group Shareholding

### Interest in Individual Fields

19.3%

### Operator

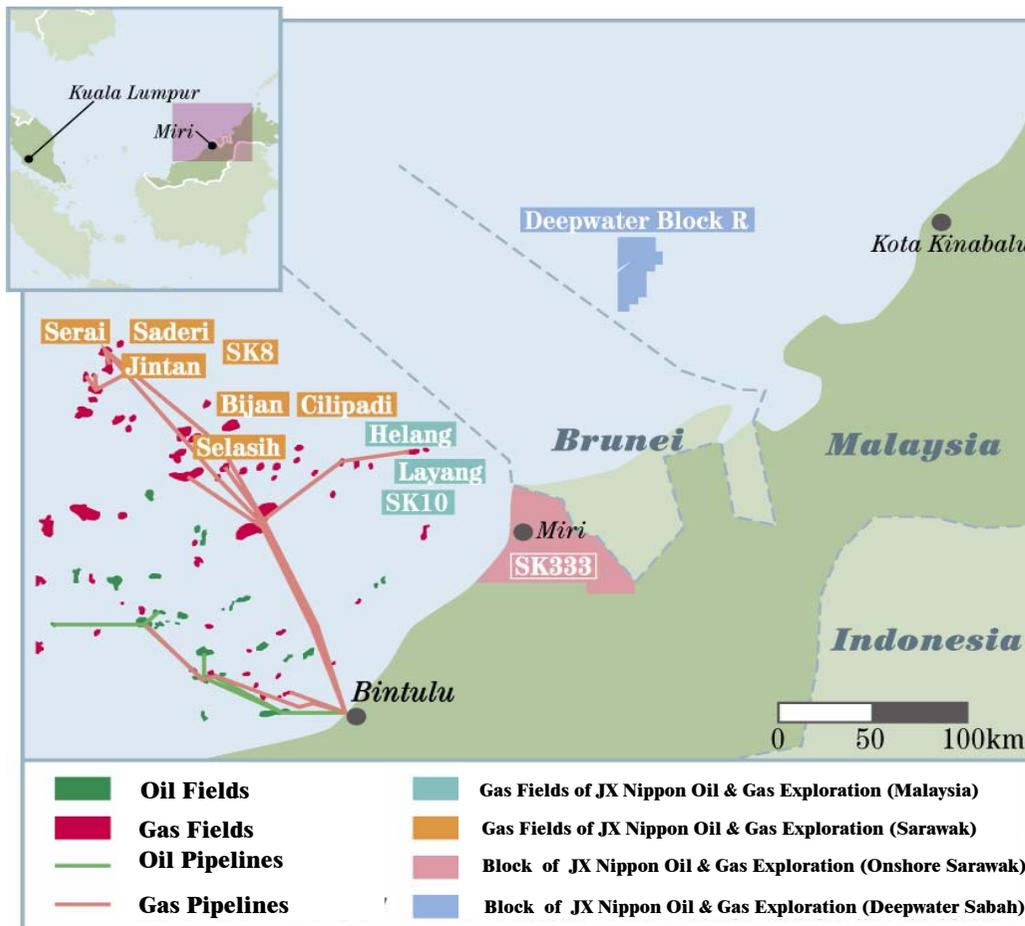
PETRONAS Carigali

- In 1991, NOEX Myanmar acquired a working interest in blocks M-13/14 offshore Myanmar.
- The following year, it 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&P Project Overview ⑨



## Malaysia ① (Block SK10)



'11 Jan - Sep Sales Volume  
 19,700BOED  
 (oil: 3,500b/d, gas: 97mmcf/d)

### Project Company

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

(%) = JX Group Shareholding

### Range of Interest in Individual Fields

75%

### Operator

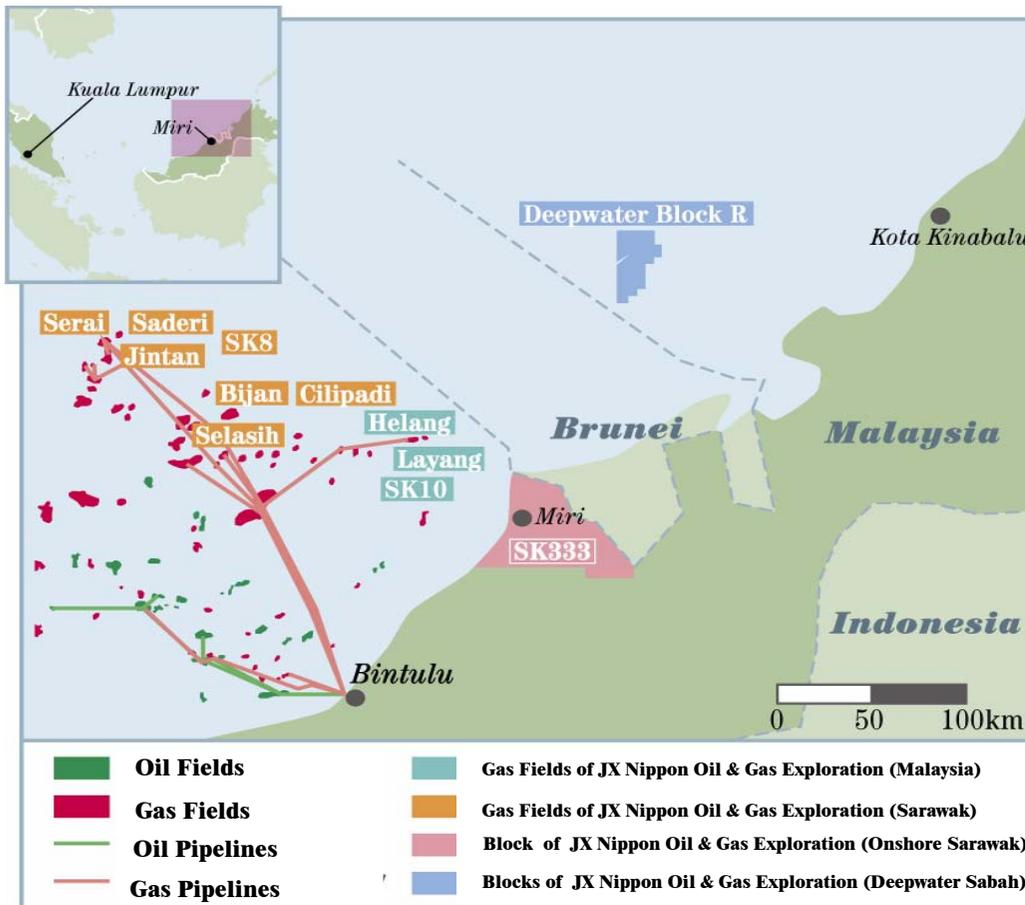
JX Nippon Oil & Gas Exploration (Malaysia), Limited

- 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&P Project Overview ⑩



## Malaysia ② (Block SK8)



### '11 Jan - Sep Sales Volume

28,900BOED

(oil: 2,100b/d, gas: 161mmcf/d)

### Project Company

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

(%) = JX Group Shareholding

### Interest in Individual Fields

37.5%

### Operator

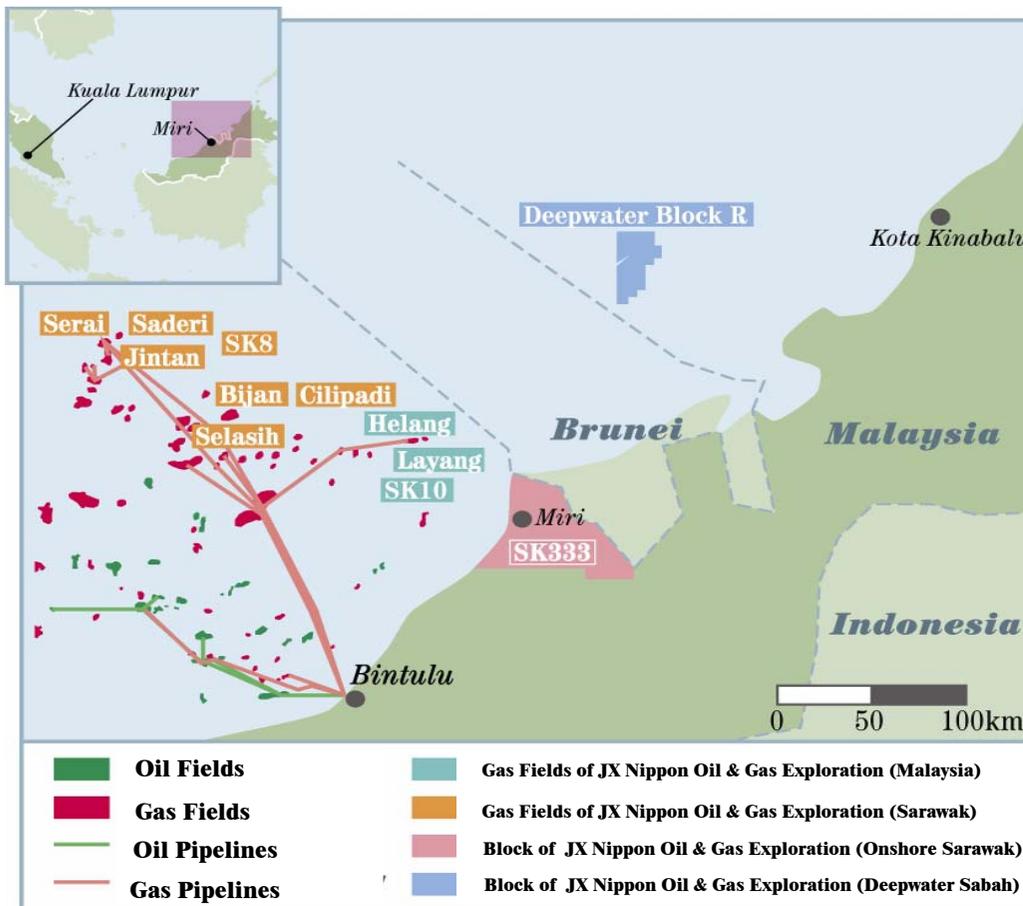
Shell

- In 1991, acquired a working interest in Block SK8 offshore Sarawak, Malaysia.
- From 1992 through 1994, the Jintan and Serai Gas Fields were discovered in that block, and production there 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

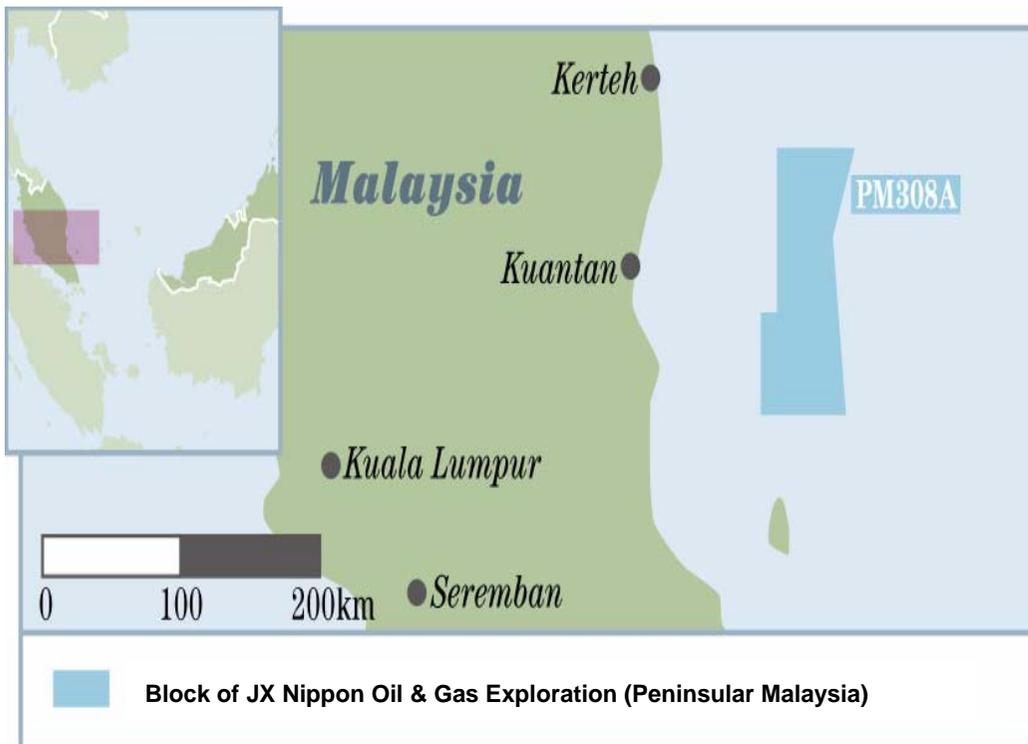
JX Nippon Oil & Gas Exploration (Onshore Sarawak) Limited

- 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

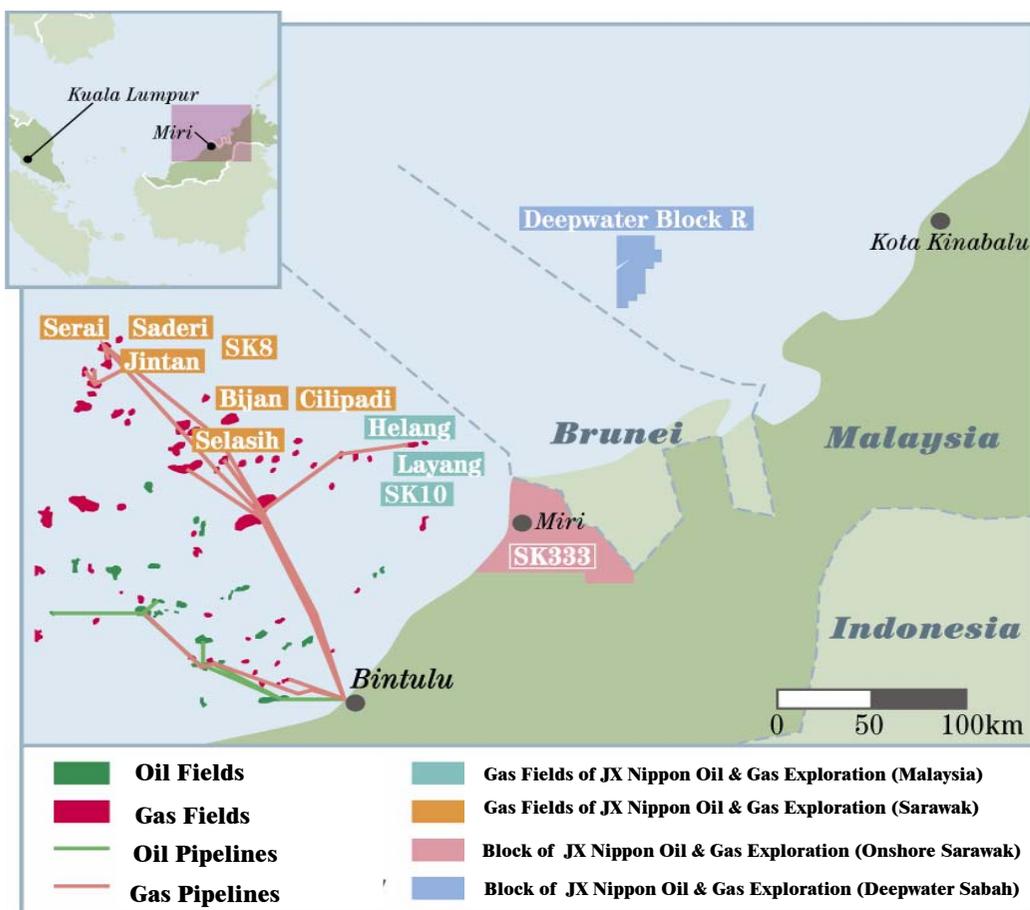
Lundin

- 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

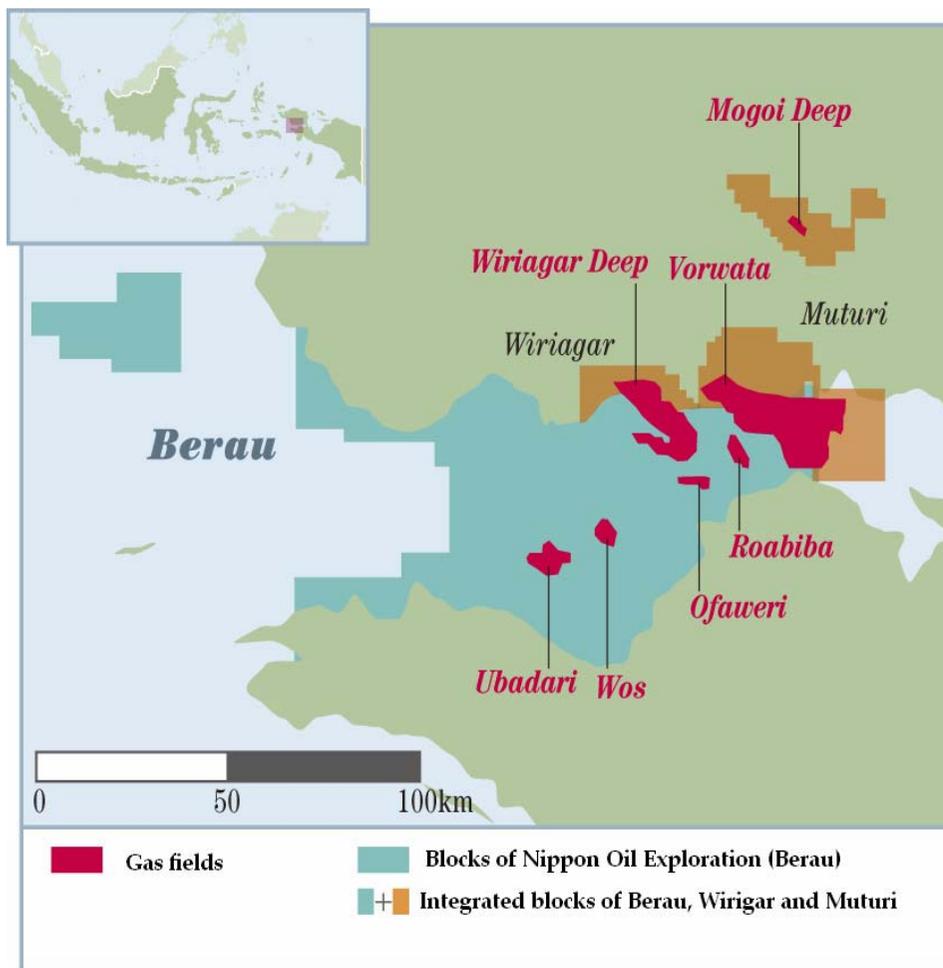
JX Nippon Oil & Gas Exploration (Deepwater Sabah) Limited

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

# Principal Individual E&P Project Overview ⑭



## Indonesia



### '11 Jan - Sep Sales Volume

16,700BOED  
(oil: 600b/d, gas: 97mmcf/d)

### Project Company

Nippon Oil Exploration (Berau), Limited  
(NOEX(Berau)) (51%)  
(%) = JX Group Shareholding

### Interest in Individual Fields

12.2% (after unitization)

### Operator

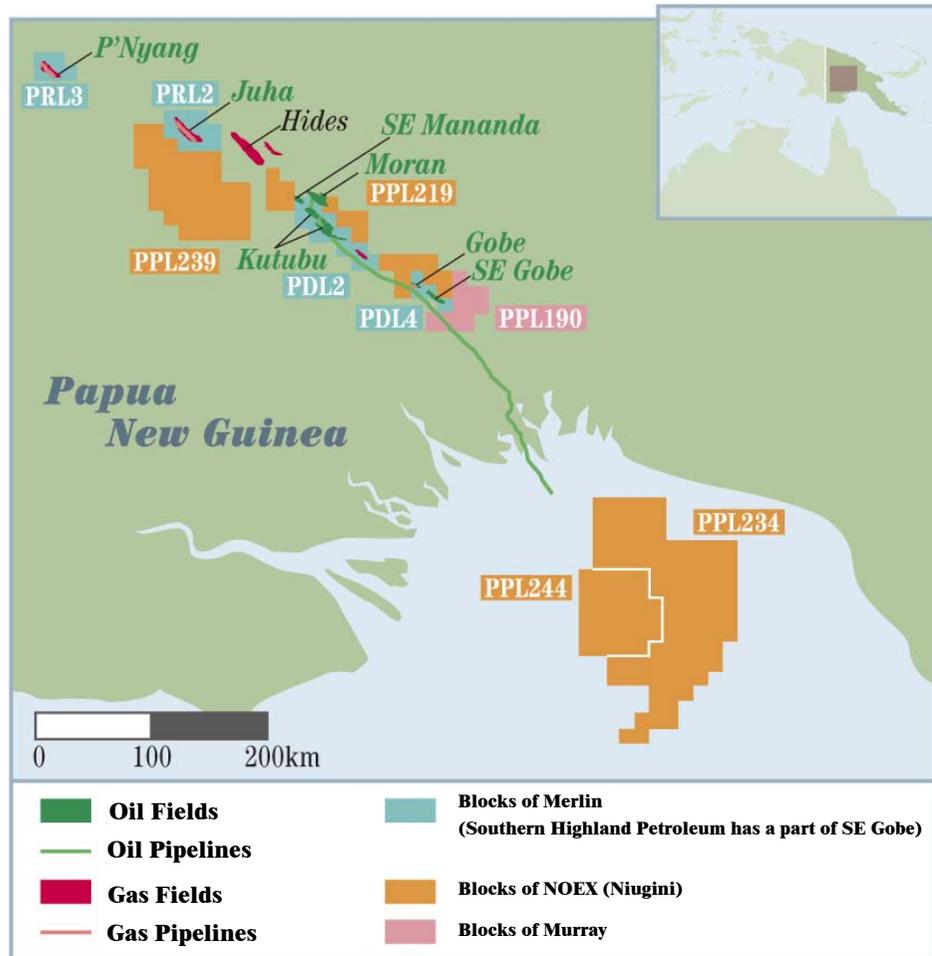
BP

- 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 has lifted in July 2009.

# Principal Individual E&P Project Overview ⑮



## Papua New Guinea



### '11 Jan - Sep Sales Volume

5,600BOED  
(Oil :5,600b/d)

### Project Company

Merlin Petroleum Company (79%)  
Nippon Oil Exploration (Niugini) Pty. Ltd. (25%)  
Southern Highland Petroleum Co. Ltd.(80%)  
Murray Petroleum Co., Ltd. (29.6%)  
(%) = JX Group Shareholding

### Range of Interests in Individual Fields

4.7 to 73.5%

### Operator

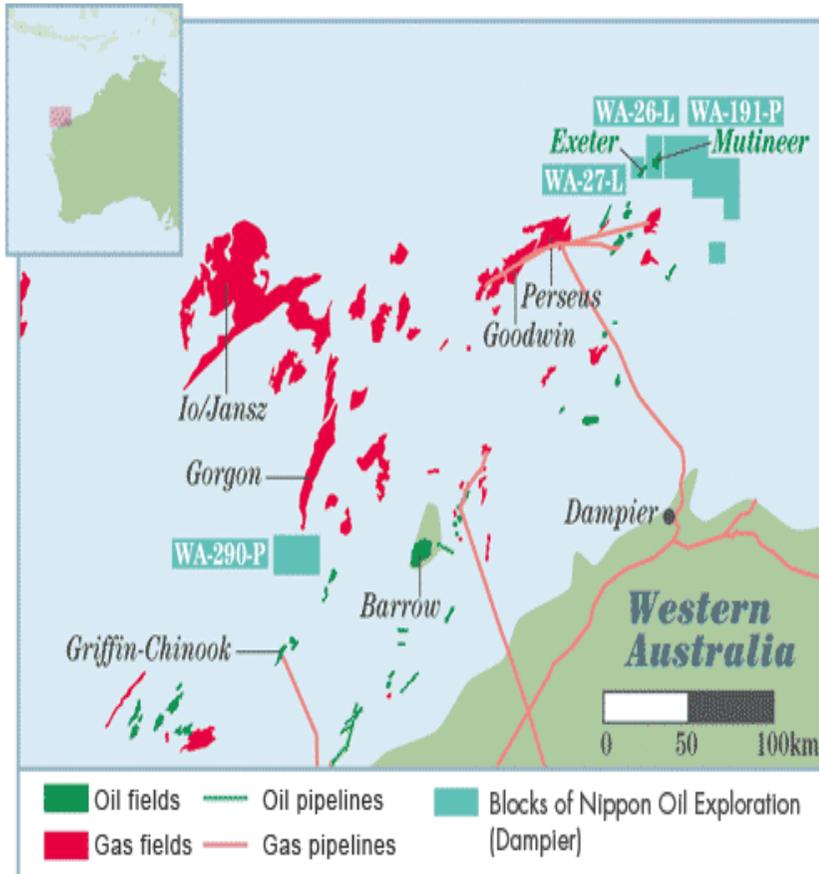
Oil Search, Exxon Mobil, others

- In 1990, Japan Papua New Guinea Petroleum acquired exploration rights in Papua New Guinea from Merlin. And, acquired original exploration rights. 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&P Project Overview ⑩



## Australia



### '11 Jan - Sep Sales Volume

1,200BOED  
 (oil: 1,200b/d)

### Project Company

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

### Interest in Individual Fields

15%-25%

### Operator

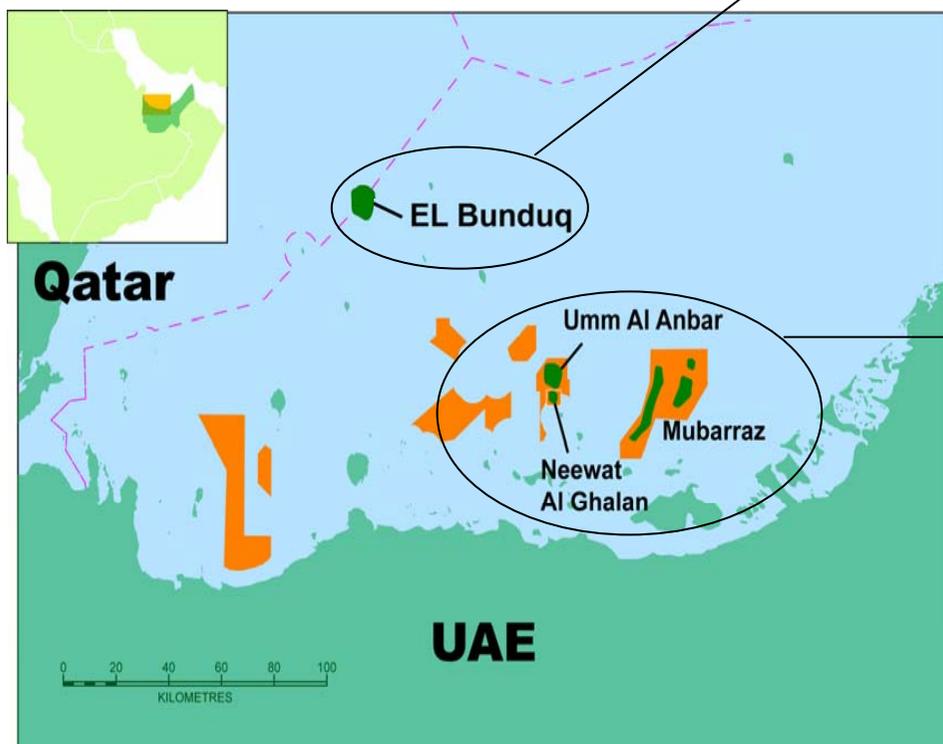
Santos (WA-26-L, WA27-L, WA-191-P)  
 Apache (WA-290-P)

- 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 Finucane South prospect, Block WA-191-P.
- In Jan 2012, Final Investment Decision on Finucane South field.

# Principal Individual E&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.

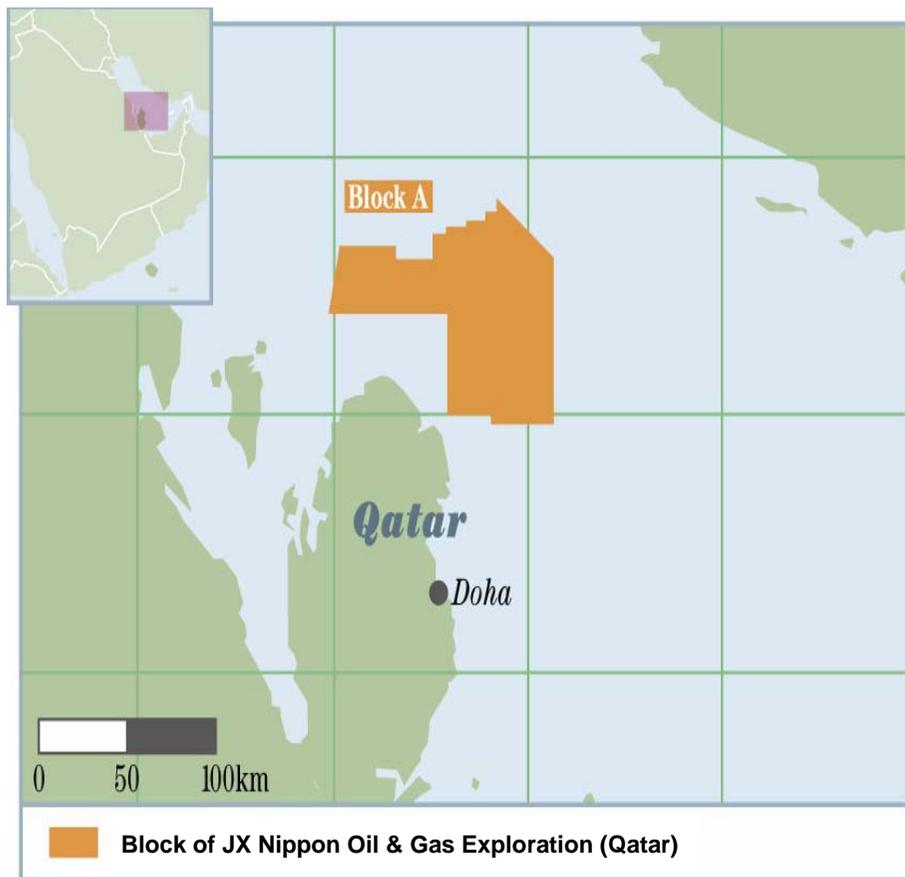
**Project Company**  
 Abu Dhabi Oil Co., Ltd (31.5%)  
 (%) = JX Group Shareholding  
**Interest in Individual Fields** 100%  
**Operator** Abu Dhabi Oil Co., Ltd

- 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&P Project Overview ⑱



## Qatar



### Project Company

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

(%) = JX Group Shareholding

### Interest in Individual Fields

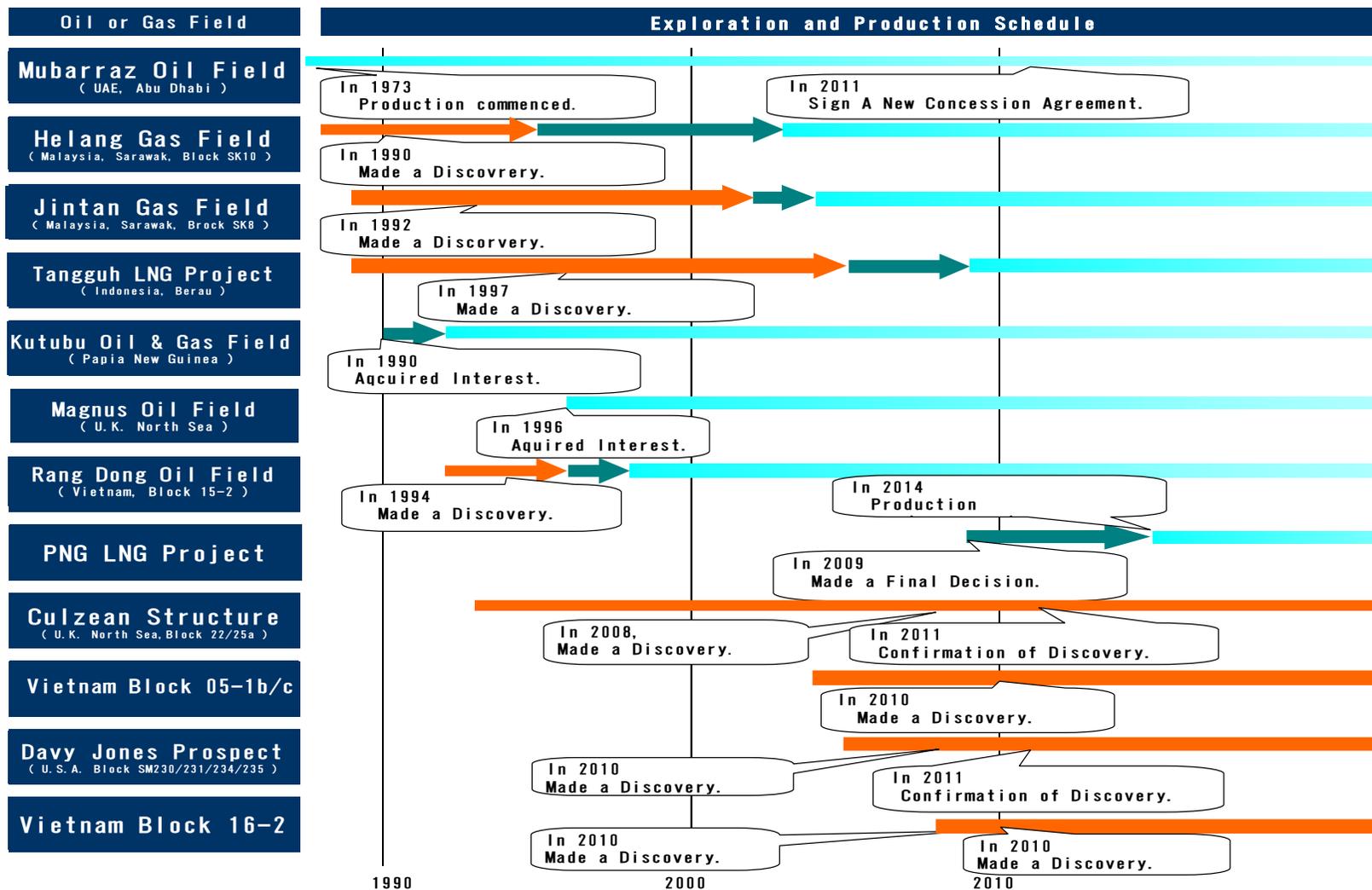
100%

### Operator

JX Nippon Oil & Gas Exploration (Qatar) Limited

- In May 2011, acquired a working interest in Block A (Pre-Khuff), offshore Qatar .

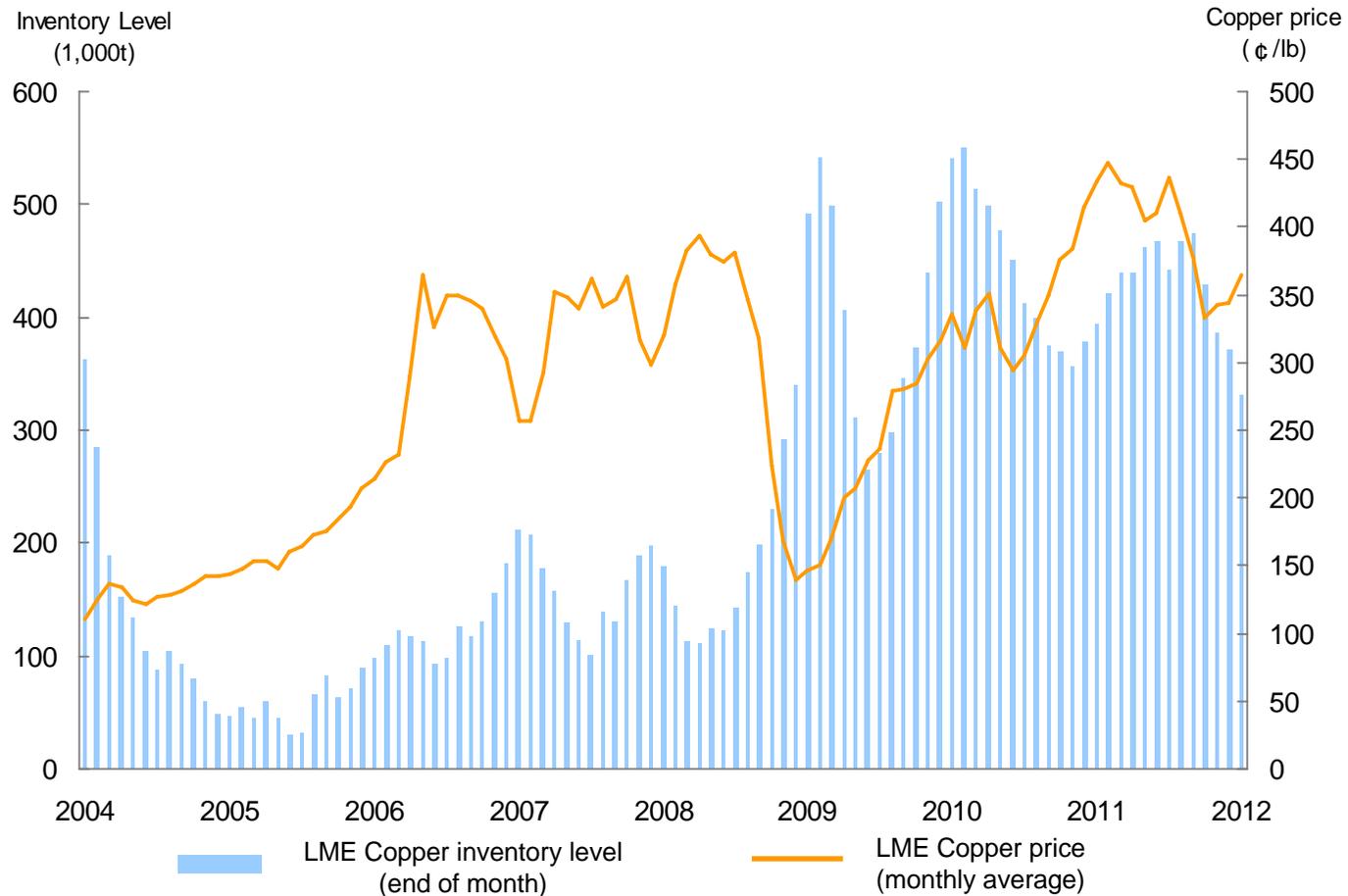
# Production Schedule of Principal E&P Projects



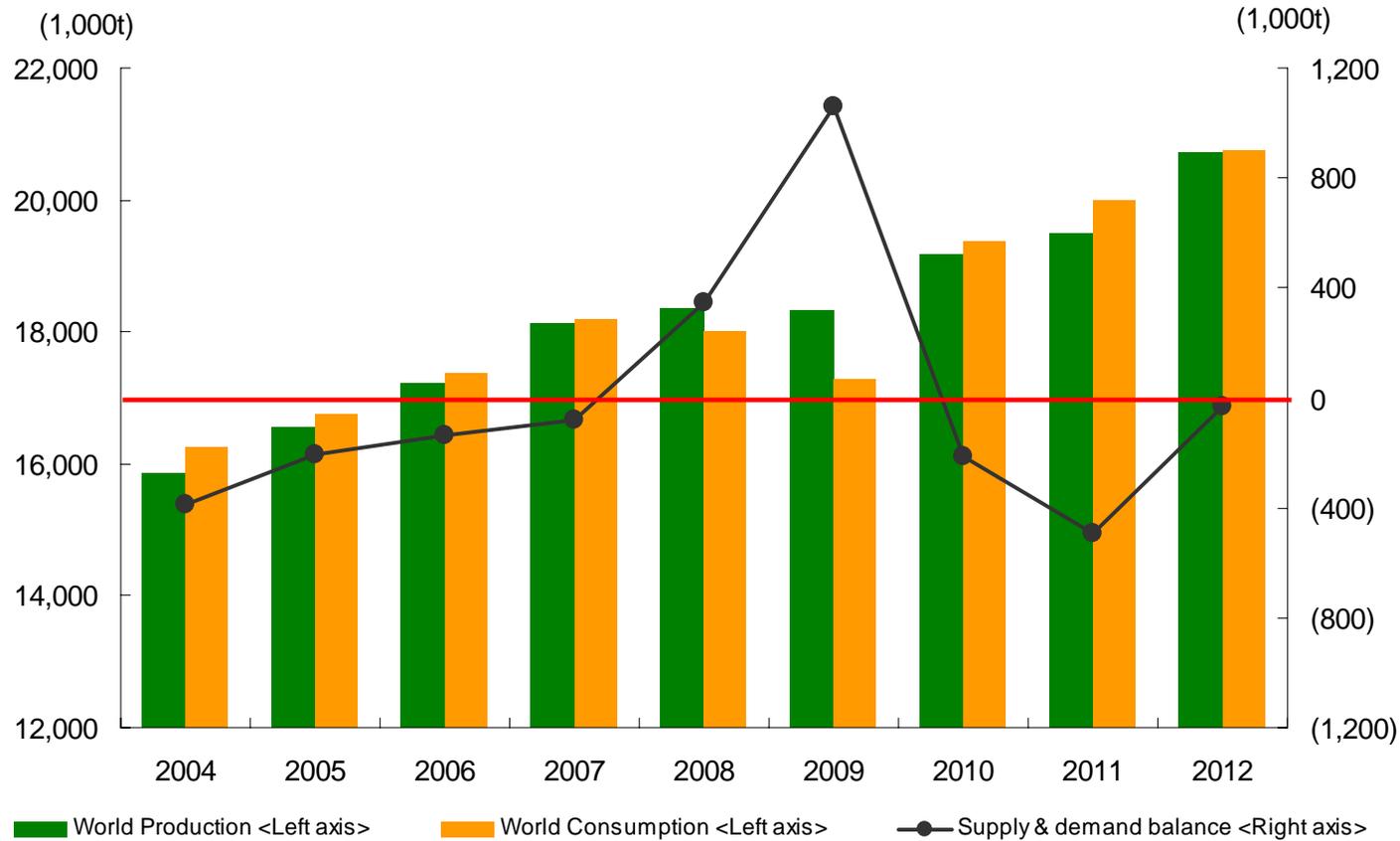
# Copper Price and Inventory Level



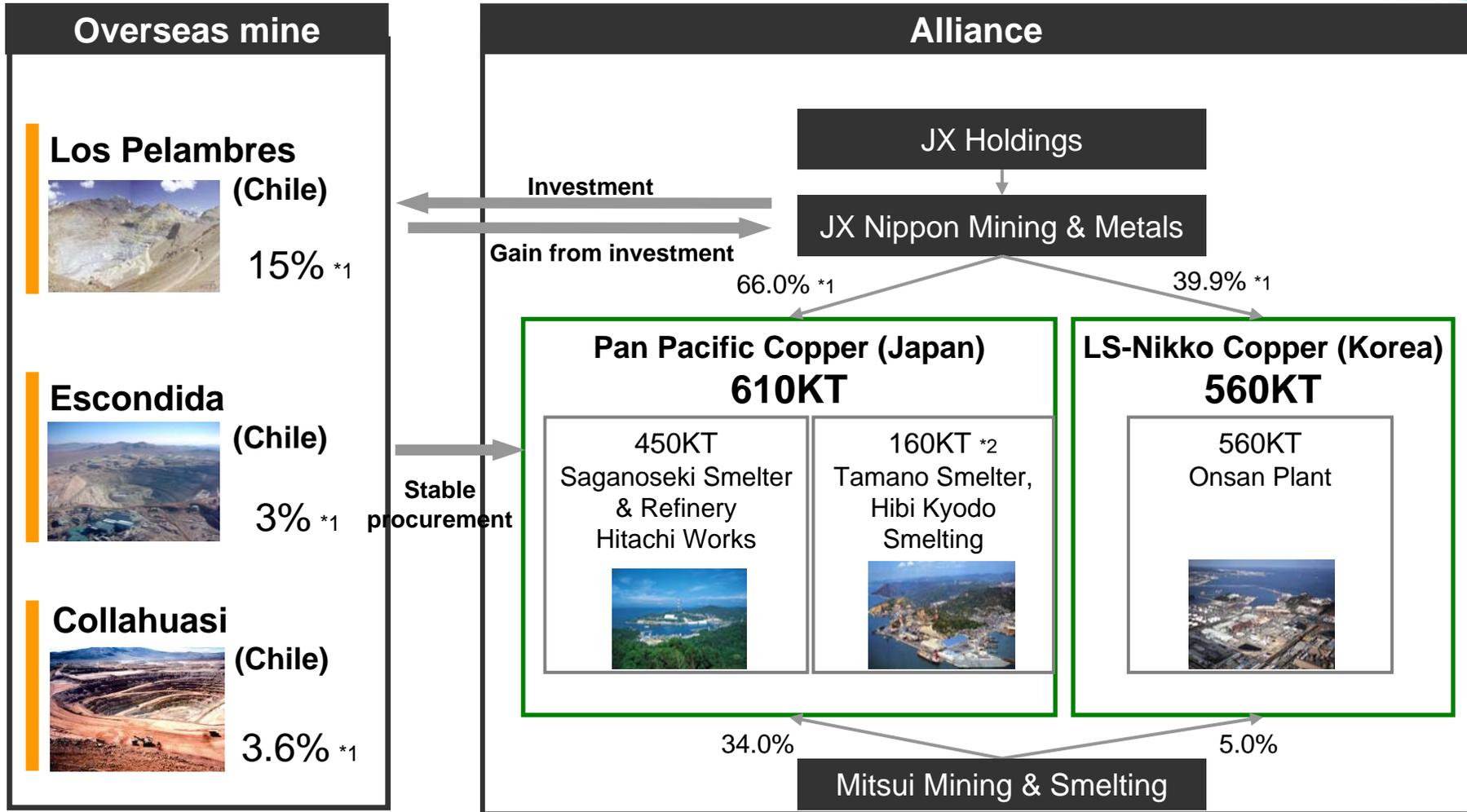
Average Price	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11 (¢/lb)		
								1Q	2Q	3Q
Copper	136	186	316	344	266	277	369	415	408	340



# World Copper Cathodes Supply & 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 .

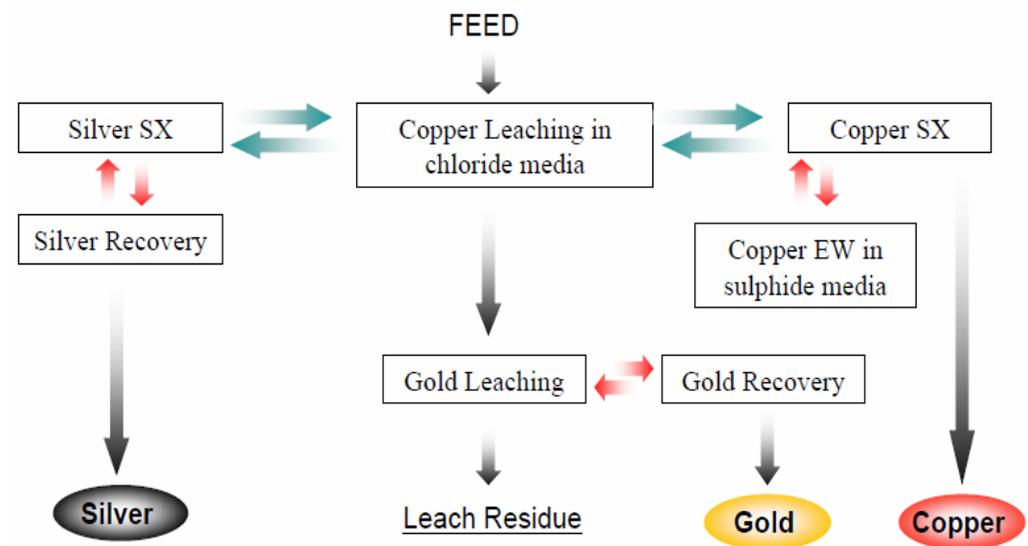
We constructed a pilot plant in Australia and have been conducting demonstration test since latter half of 2009, and we got a good result about copper and gold recovery.

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)



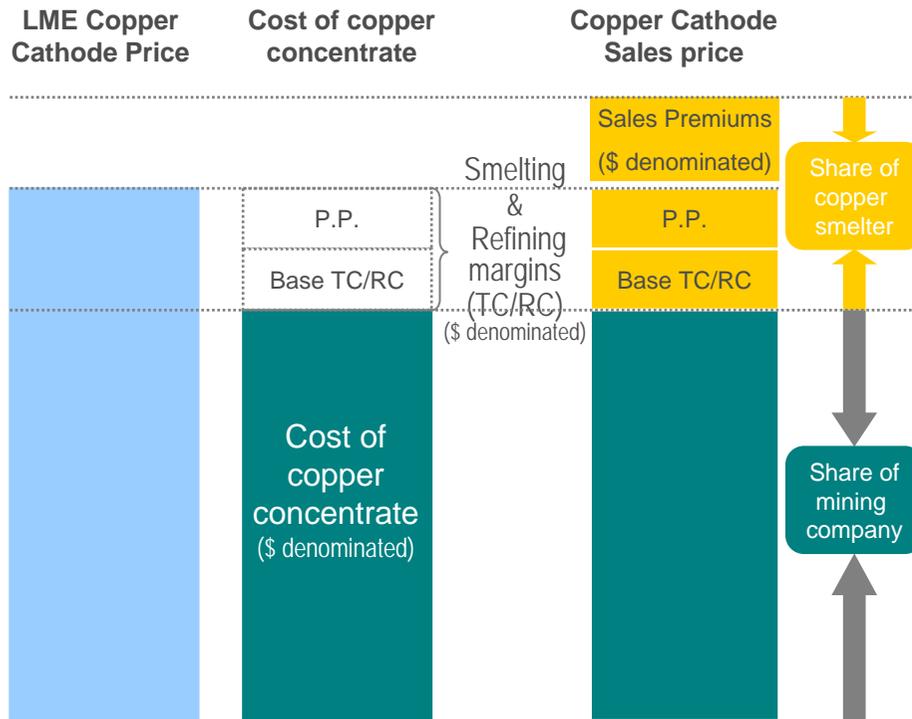
## Structure of N-Chlo Process





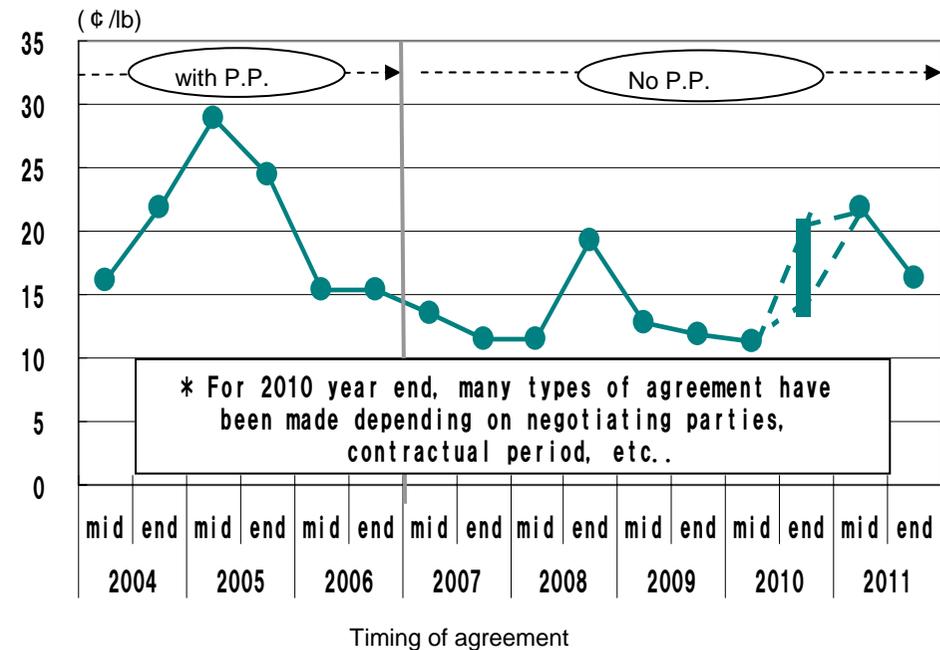
# Earnings Structure of Copper Smelter & Refinery / Trends of Base TC/RC

## Earnings Structure of Copper Smelter & Refinery



## Trends of Base TC/RC

Source : Company data



**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.

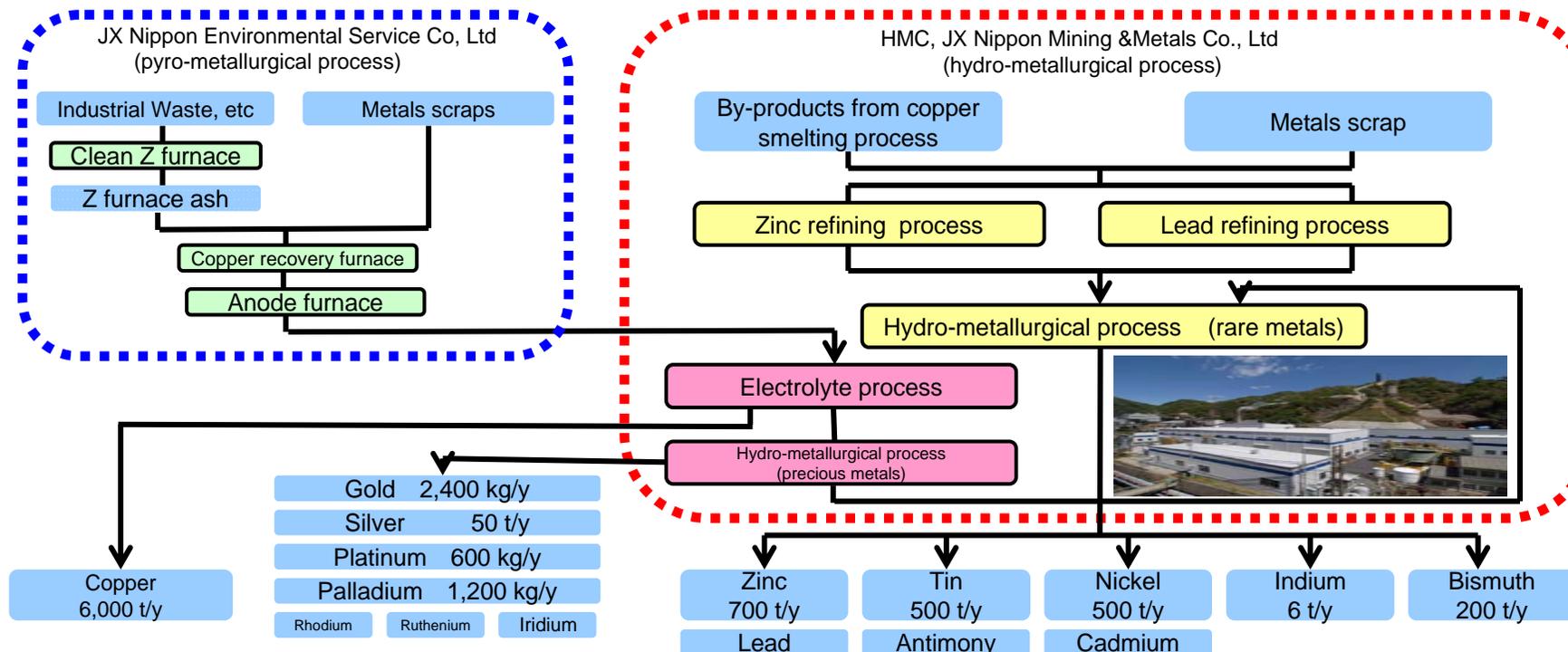
**Sales price** : LME price plus sales premiums, which is established by reference to various factors including importation costs, import tariffs, and others

# Recycling and Environmental Services Business



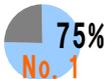
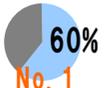
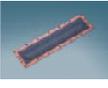
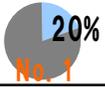
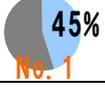
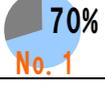
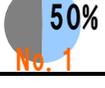
## Hitachi Metal Recycling Complex

- Recovering 16 kinds of metals efficiently by hydro-metallurgical process
- An original zero emission process that combines with pyro-metallurgical process of Nikko 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 Material Business



## Electronic Materials



Main IT-related products	Global market share	Primary applications	End-use applications				
			PCs	Mobile 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			○	⊙	○