



**Note: The following report is an English translation of the Japanese-language original.**

# **Financial Results**

**for the fiscal year ended March 31, 2019**

**May 10 , 2019**

**Japan Petroleum Exploration Co .,Ltd.**

# Agenda

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## **I . Financial Highlights, Progress of Mid-term Business Plan**

**Hideichi Okada**

**Representative Director and President**

## **II . FY3/19 Financial Results**

**Michiro Yamashita**

**Director, Managing Executive Officer**

## **III . FY3/20 Forecasts**

**Michiro Yamashita**

**Director, Managing Executive Officer**

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# **I . Financial Highlights, Progress of Mid-term Business Plan**

**Hideichi Okada**

**Representative Director and President**

# Summary

## Financial Results for FY3/19

Operating profit 2.3bn. yen (YoY -6.4bn. yen )  
Profit attributable to owners of parent 14.7bn. yen (YoY +45.7bn. yen)

- ✓ Increase in OPEX in association with full-year operation of Soma LNG Terminal, Declined in profit from diluted bitumen sales
- ✓ Improvement in equity in gains of affiliates, Dissipation of temporary loss recorded in FY3/18

## Forecasts for FY3/20

Operating profit 5.6bn. yen (YoY +3.2bn. yen)  
Profit attributable to owners of parent 11.4bn. yen (YoY -3.3bn. yen)

- ✓ Improvement in profit from diluted bitumen sales
- ✓ Decrease in equity in gains of affiliates, Increase in tax expenses

## Progress of Mid-term Business Plan

- ✓ Steadily implementing each business to achieve Mid-term Target (ROE=>5%)

## Return to Shareholders

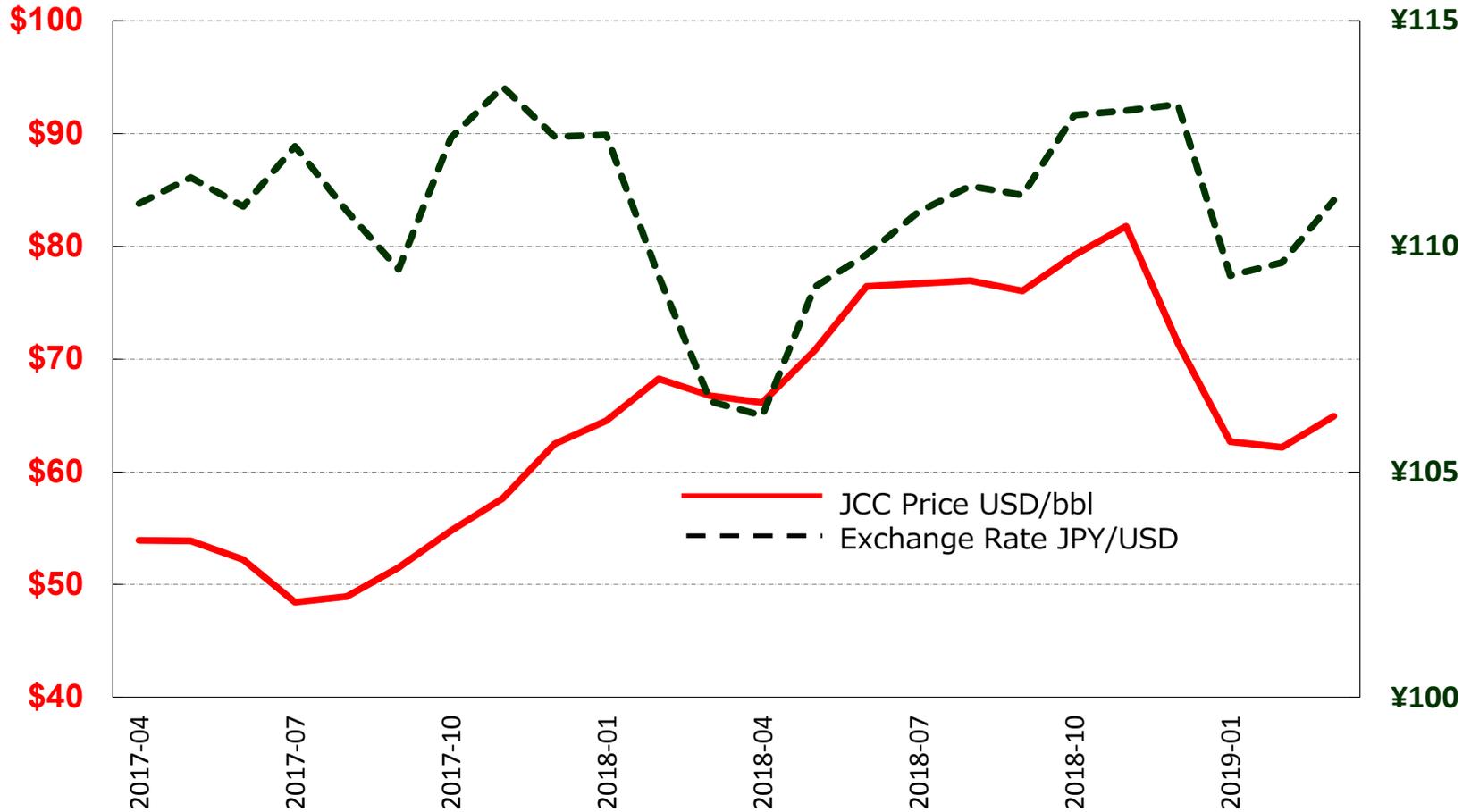
FY3/19 annual dividend of 40 yen per share (YoY +20 yen )  
FY3/20 (Forecast) annual dividend of 40 yen per share (Interim 20 yen, Year-end 20 yen)

- ✓ Maintain the policy of stable dividends to shareholders, and aim for the increase of our corporate value and the shareholders return in mid-to-long term, by the improvement of financial structure and the promotion of growth investment

# Trends in Crude Oil Price and Foreign Exchange Rate

USD/bbl

Yen/USD



**Average rate for FY3/19**

**USD 71.94/bbl    ¥110.35/USD**



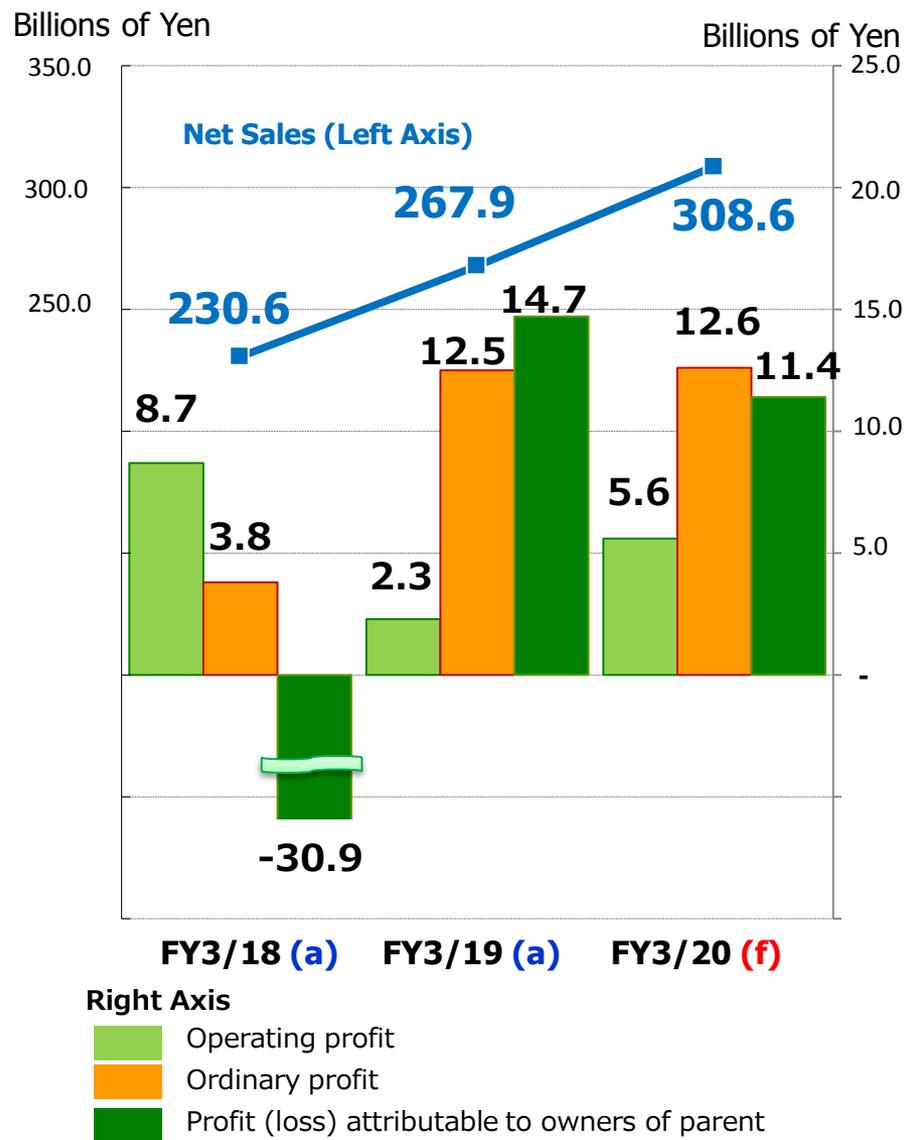
# Financial Highlights - FY3/19 Results and FY3/20 Forecasts

## ■ FY3/19 Results (YoY)

Billions of Yen	FY3/18 (a)	FY3/19 (a)	Change	
Net sales	230.6	267.9	+37.3	+16%
Operating profit	8.7	2.3	-6.4	-73%
Ordinary profit	3.8	12.5	+8.6	+227%
Profit (loss) attributable to owners of parent	-30.9	14.7	+45.7	- %
JCC (USD/bbl)	56.20	71.94	+15.74	+28%
Exchange rate (Yen/USD)	111.67	110.35	-1.32	-1%

## ■ FY3/20 Forecasts (YoY)

Billions of Yen	FY3/19 (a)	FY3/20 (f)	Change	
Net sales	267.9	308.6	+40.6	+15%
Operating profit	2.3	5.6	+3.2	+142%
Ordinary profit	12.5	12.6	+0.1	+1%
Profit (loss) attributable to owners of parent	14.7	11.4	-3.3	-22%
JCC (USD/bbl)	71.94	65.00	-6.94	-9%
Exchange rate (Yen/USD)	110.35	110.00	-0.35	-0%



# Long-term Vision and Mid-term Business Plan

## Long-term Vision 2030

“Growth to the Integrated Energy Company Utilizing Our Oil and Gas E&P and Its Supply Basis”

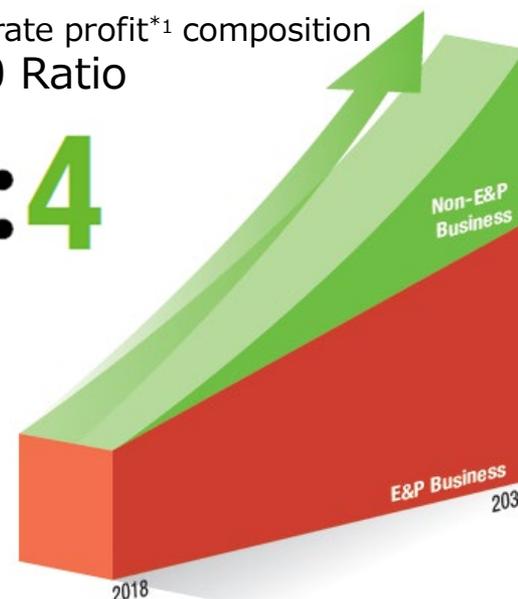
The profit composition JAPEX aims for in 2030  
E&P Business : Non-E&P Business = 6 : 4

## Mid-term Business Plan 2018-2022

Achieve ROE=>5% level with the assumption of crude oil prices of USD60/bbl

Corporate profit\*1 composition  
2030 Ratio

6:4



### Mid-Term Targets

#### E&P

Long-Term Targets  
Maintain “RRR\*2 > 1”

#### Infrastructure & Utility

Targets to 2022  
Natural gas transaction volume in Japan  
**1.6 million tons** (LNG equivalent)  
Electricity sales volume  
**2.8 bn. kWh**

#### New Business Development

Business generation by the new business model utilizing our competitive and advance resources

\*1 Operating profit + Equity method investment income/loss basis

\*2 RRR: Reserve Replacement Ratio

# Progress of Mid-term Business Plan from FY3/19 onward

Develop businesses that make use of our value chain to achieve Mid-term Business Plan

## Development Business Opportunities

- Start of internal idea sharing and examination
- Established New Business Promotion Office
- Launch of study group for LNG bunkering at Tomakomai Port

## Promotion of Electricity Business

- Established Renewable Energy Business Dept. in Soma Project & Power Business Division (May 2019)
- Commissioning of No.1 Power Facilities of the Fukushima Natural Gas Power Plant (Planned in Autumn, 2019)

## Strengthen LNG Procurement

Opened Representative Office in Singapore (April 2019)

New Business Development

Infrastructure & Utility

E&P

Identification of Business Opportunities

LNG Procurement

LNG Terminal

Acquisition of Interests/  
Exploration

Development /  
Production

CCS, MH,  
Next-Generation Technology  
for Ocean Resources Exploration

Renewable Energy

Gas Power Generation

Gas Supply Chain

Crude Oil Supply

Commercialization

Electric Power Supply

Gas Supply

## Secure Investment Resources

- Start of exploratory drilling at offshore Hidaka Area of Hokkaido (April 2019)

## Maximize Value of Resources in Japan

- Production commencement of 1,900m reservoir at Iwafune-oki Oil and Gas Field
- Development of a shallow reservoir of Yufutsu Oil and Gas Field

## Growth Investment in Overseas E&P Business

- **Canada Oil Sands Project:** Achievement to stable 20,000 bbl/d level bitumen production
- **Indonesia Kangean Project:** Production commencement at the Sirasun and Batur Gas Field (TSB Phase2)
- **U.K. North Sea Offshore Block Project:** Final Investment Decision

# Quantitative Targets of Mid-term Business Plan

## E&P

### [Long-Term Targets] Maintain "RRR > 1" \*1

- In addition to develop existing domestic and overseas projects, strengthen promotion of national offshore exploration project and efforts toward identification of new business seeds
- Proved reserves increased approx. 85 MMBOE by approval of development plan in Garraf Oil Field

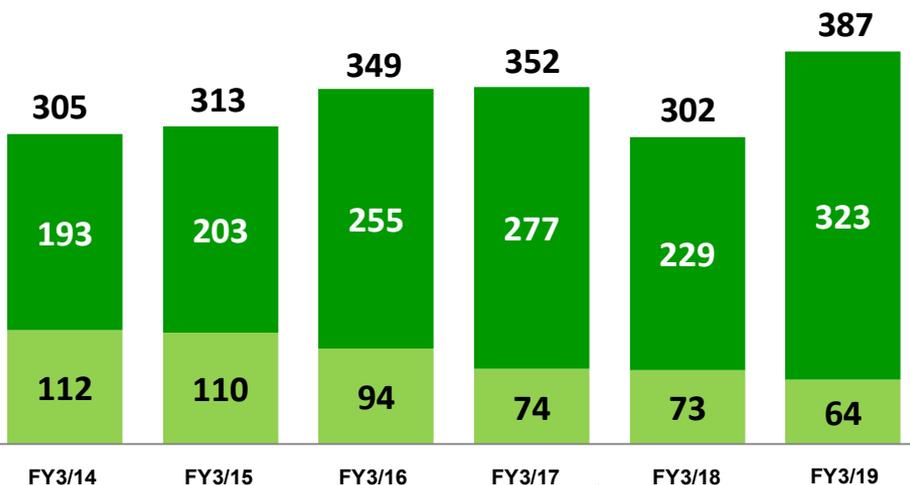
## Infrastructure & Utility

### [Target to 2022] Domestic natural gas transaction volume of 1.6million tons\*2 and Electricity sales volume 2.8 bn. kWh

- Promoting new clients acquisition to expand domestic transaction volume of natural gas
- Promoting electricity sales toward commencement of Fukushima Natural Gas Power Plant\*3
- Established Renewable Energy Business Dept. for further promotion of renewable energy development

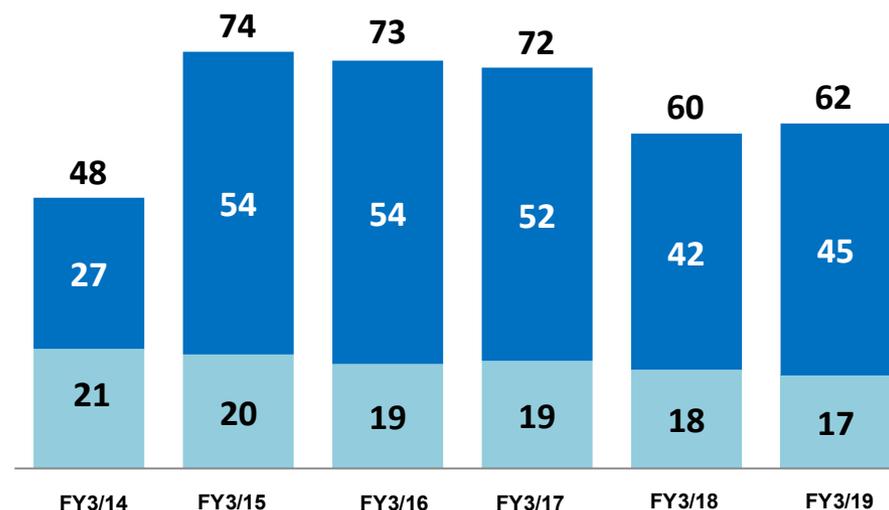
### Proved reserves (MMBOE)

■ Domestic ■ Overseas



### Production volume (MBOED)

■ Domestic ■ Overseas



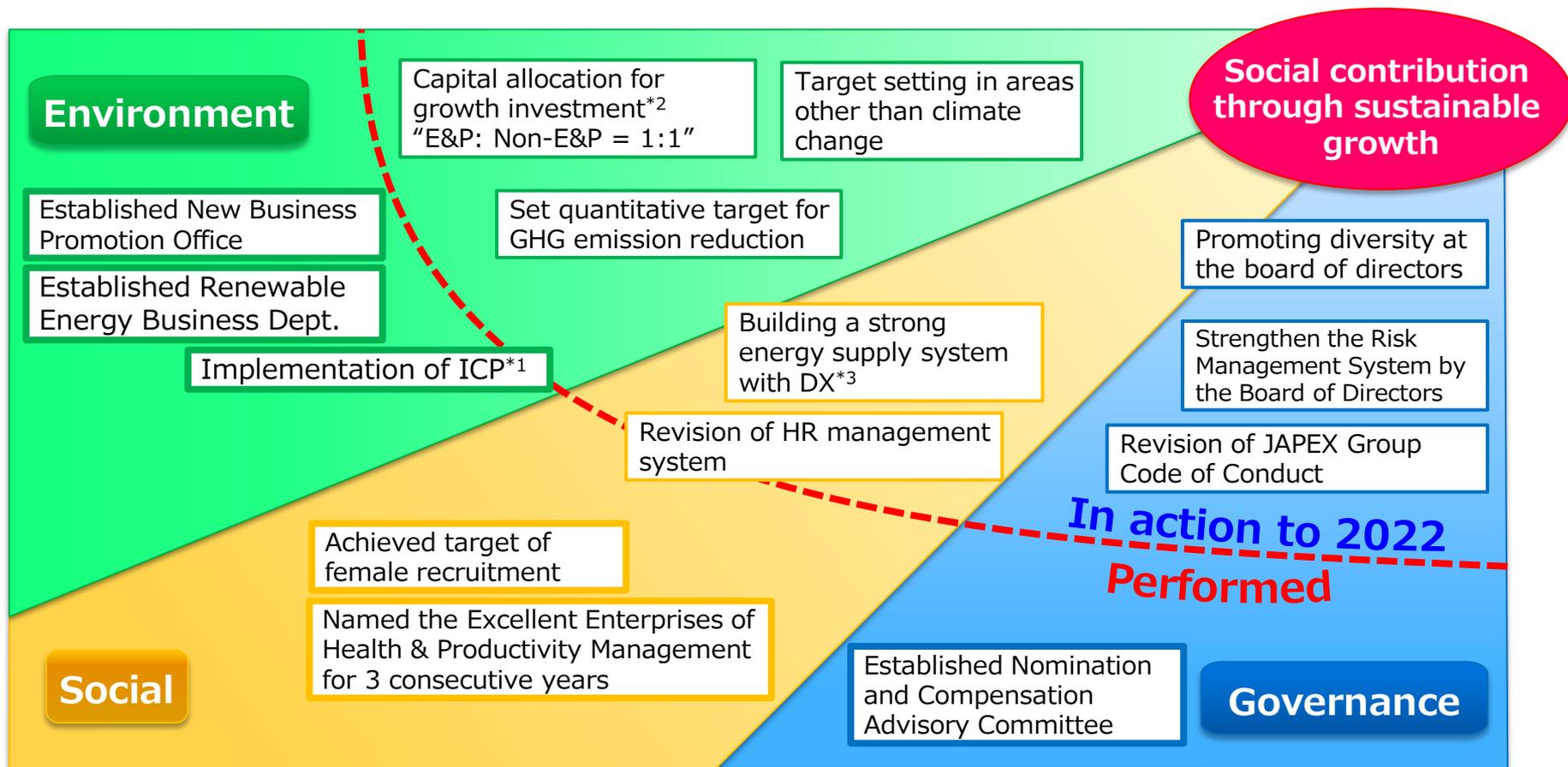
\*1 RRR= Increase in reserves (during certain period)/Production volume

\*2 LNG equivalent

\*3 Owned by Fukushima Gas Power Co., Ltd. (JAPEX investment ratio 33%)

# ESG Promotion

Accelerating concrete actions to ESG issues and improvement disclosure



\*1 Incorporate internal carbon pricing into our investment criteria

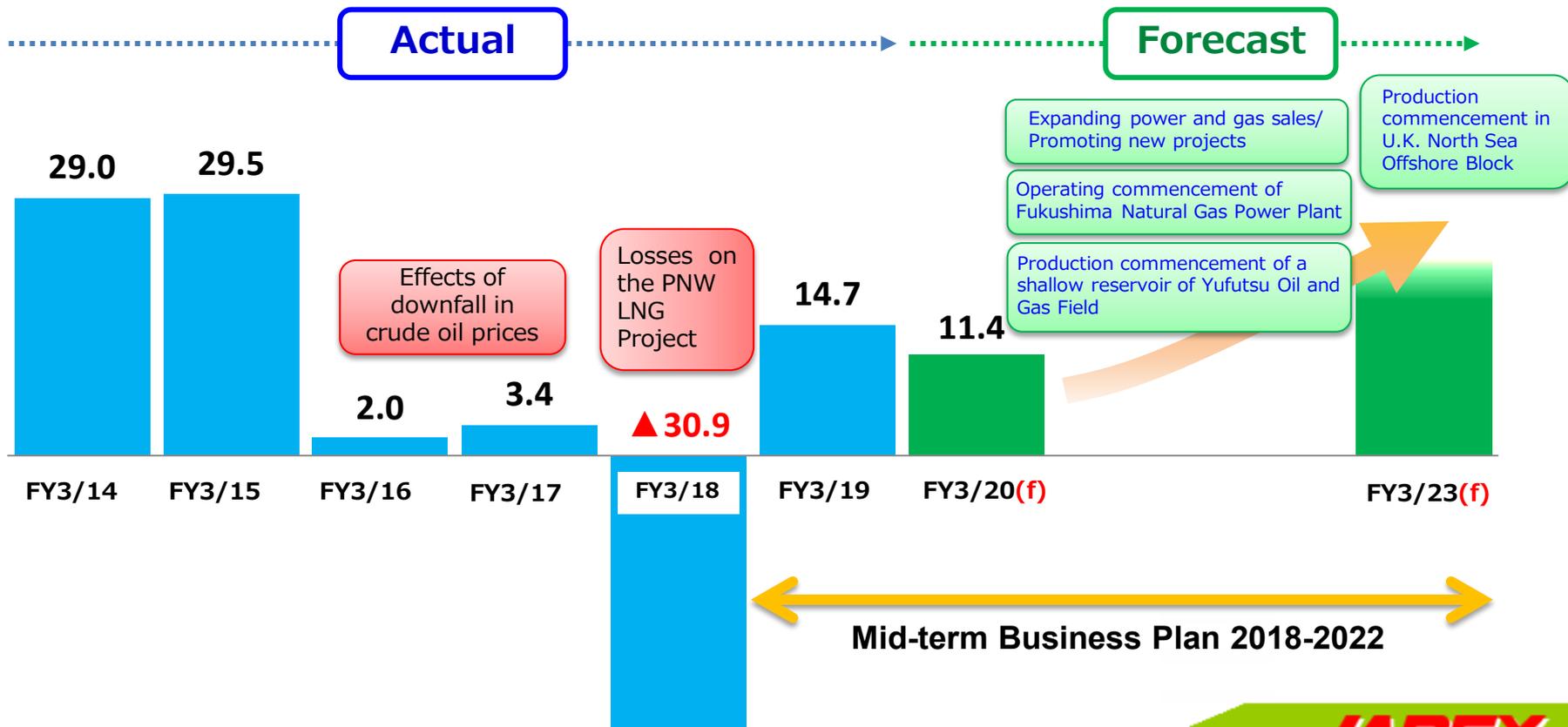
\*2 Invest about half of new investment resources in non-E&P business such as renewable energy and new business

\*3 DX: Digital transformation

# Toward Achievement of Profit Target

To achieve ROE=>5% in fiscal 2022 and "Growth to the Integrated Energy Company" stated in Mid-term business plan, further improve economic efficiency in existing projects and accelerate promotion of new business in business each areas.

## History and forecast of Profit attributable to owners of parent (Billions of Yen)



# Financial Position and Capital Allocation Policy

## Consolidated financial position as of FY3/19 end

Cash and deposits* <sup>1</sup> :	¥ 88.1bn.
Investment securities :	¥ 137.7bn.
Debt* <sup>2</sup> :	¥ 151.7bn.
EBITDA* <sup>3</sup> :	¥ 41.7bn.
Debt/EBITDA ratio :	Approx. 3.6

## 2019-2022 capital allocation

- ① Investment in existing projects\*<sup>1</sup> : Approx. ¥ 60.0bn.
- ② Debt repayment : Approx. ¥ 55.0bn.
- ③ Growth investment : Approx. ¥ 65.0bn.
- ④ Return to Shareholders\*<sup>4</sup> : Approx. ¥ 9.0bn. +a

## 2022 target

- Balance of interest-bearing debt to approx. ¥ 100 to 120 bn.
- Maintain Debt/EBITDA < 2 and promote growth investment
- Expand shareholder returns in the medium to long term

**To achieve ROE=>5%,  
promote below measures considering high volatility of oil and gas prices :**

- ① **Investment of necessary capital to improve profitability of existing projects**
  - Improvement of profitability on 2 projects in Canada as top priority, including continuous investments for production increase on shale gas project in Canada
- ② **Secure capital for new investment under financial discipline of “Debt/EBITDA < 2”**
- ③ **Growth investment with capital allocation of “E&P : non-E&P = 1 : 1”**
- ④ **Maintain the policy of stable dividends to shareholders, and aim for the increase of our corporate value and the shareholders return in mid-to-long term, by improving financial structure and promoting growth investment**
- ⑤ **Conduct verification for continuation of cross-shareholdings, in points of benefit, risks, and capital costs**
  - Considering expected return from holding stocks, and role for buffer of funds.

\*1 “Cash and deposits” and “Investment in existing projects” do not include approx. ¥ 29.3 bn. of funds reserved in Garraf project subsidiary company and the reinvestment amount to achieve 230,000 bbl/d in the Garraf Project.

\*2 Debt stated herein includes lease obligations, retirement benefit liabilities and contingent liabilities

\*3 EBITDA is the total of operating income, depreciation, interest and dividends received

\*4 Shareholder return is based on the assumption that FY3/20 dividend forecast will continue

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## **II. FY3/19 Financial Results**

**Michiro Yamashita**

**Director, Managing Executive Officer**

# FY3/19 Results Overview

Billions of Yen	FY3/19				
	Initial forecasts (May 11,2018)(f)	Revised forecasts (Aug. 8,2018)(f)	Revised forecasts (Nov. 9,2018)(f)	Revised forecasts (Feb.12,2019)(f)	(a)
<b>Net sales</b>	265.6	284.0	288.3	282.3	<b>267.9</b>
<b>Operating profit</b>	0.6	2.1	0.5	0.3	<b>2.3</b>
<b>Ordinary profit</b>	9.9	10.0	12.3	9.8	<b>12.5</b>
<b>Profit (loss) attributable to owners of parent</b>	9.4	11.0	12.3	12.4	<b>14.7</b>

## Assumptions

<b>JCC price</b> (USD/bbl)	60.00	69.50	73.75	70.45	<b>71.94</b>
<b>Exchange rate</b> (JPY/USD)	110.00	109.39	109.60	110.19	<b>110.35</b>

◆ Initial forecast (May 2018) → Revised forecast (August 2018) → Revised forecast (November 2018)

【+】 Increase in sales price, sales volume of purchased crude oil from overseas, equity in gains of affiliates

【-】 Decrease in profit from diluted bitumen sales, Fluctuation in foreign currency exchange gains/losses

◆ Revised forecast (November 2018) → Revised forecast (February 2019) → Actual result (May 2019)

【+】 Tax reduction due to application of foreign tax credit on Garraf Project, Increase in gas sales volume in Japan, Increase in sales price

【-】 Decrease in sales price, Widen the price differential of WCS to WTI, Fluctuation in foreign currency exchange gains/losses

# Natural Gas Sales for FY3/19 (year-on-year)

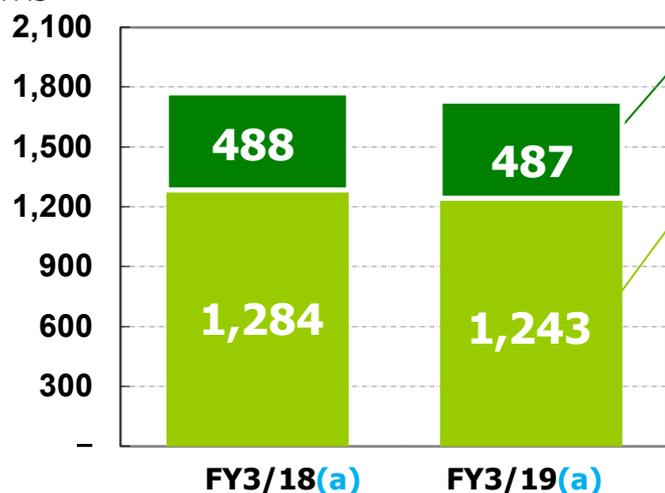
Sales volume : Million M3 Net sales : Million Yen		FY3/18 (a)	FY3/19 (a)	Change
Natural gas	Sales volume	1,773	1,731	-41
	Net sales	60,431	67,820	+7,388

Increase in sales price in Japan

## Sales volume by region

Japan	Sales volume	1,284	1,243	-40
<i>Gas produced in Japan</i>	<i>Sales volume</i>	<i>(739)</i>	<i>(630)</i>	<i>-108</i>
Overseas	Sales volume	488	487	-1

Million M3



Sales volume of overseas gas

Sales volume of gas in Japan

Temporary demand reduction due to the client's reason

Sales volume of "Overseas" stated herein are amounts of Japex (U.S.) Corp. and JAPEX Montney Ltd., overseas consolidated subsidiaries.

# Crude Oil Sales for FY3/19 (year-on-year)

Sales volume : Thousand KL Net sales : Million Yen		FY3/18(a)	FY3/19(a)	Change
Crude oil	Sales volume	<b>2,506</b>	<b>3,064</b>	<b>+558</b>
	Net sales	<b>93,685</b>	<b>124,696</b>	<b>+31,010</b>

Increase in sales price

## Equity oil sales

Crude oil produced in Japan*1	Sales volume	<b>291</b>	<b>261</b>	<b>-30</b>
	Net sales	<b>12,265</b>	<b>13,746</b>	<b>+1,481</b>
Crude oil produced in overseas*2	Sales volume	<b>991</b>	<b>366</b>	<b>-625</b>
	Net sales	<b>33,749</b>	<b>16,599</b>	<b>-17,149</b>
Diluted bitumen*3	Sales volume	<b>160</b>	<b>1,176</b>	<b>+1,015</b>
	Net sales	<b>4,512</b>	<b>30,116</b>	<b>+25,603</b>

Decrease in crude oil sales volume of Garraf Oil Field, Iraq

Commencement of diluted bitumen sales of the Hangingstone lease in 3Q of 2017

## Oil price and exchange rate assumptions

JCC	USD/bbl	<b>56.20</b>	<b>71.94</b>	<b>+15.75</b>
Diluted bitumen*3	USD/bbl	<b>39.63</b>	<b>36.67</b>	<b>-2.96</b>
Exchange rate	JPY/USD	<b>111.67</b>	<b>110.35</b>	<b>-1.32</b>

\*1 Sales volume and net sales of "Crude oil produced in Japan" stated herein do not include purchased crude oil

\*2 Sales volume and net sales of "Crude oil produced in overseas" stated herein are amounts of 3 overseas subsidiaries (Japex (U.S.) Corp., JAPEX Montney Ltd. and Japex Garraf Ltd.)

\*3 Royalty is excluded in the net sales and price of diluted bitumen

# FY3/19 Results (year-on-year)

[Million Yen]	FY3/18(a)	FY3/19(a)	Change
Net sales	230,629	267,980	+37,350
Gross profit	39,263	34,846	-4,416
Exploration expenses	1,324	788	-535
SG&A expenses	29,173	31,743	+2,570
Operating profit (loss)	8,764	2,313	-6,451
Non-operating income (expenses)	-4,936	10,209	+15,146
Ordinary income	3,828	12,523	+8,695
Extraordinary income (losses)	-73,231	550	+73,782
Income taxes	240	-1,254	-1,493
Profit (loss) attributable to non-controlling interests	-38,683	-441	+38,242
Profit (loss) attributable to owners of parent	-30,959	14,770	+45,729

Main factors for change  
Increase factor “+” / Decrease factor “( )”

## Gross profit

Domestic business (¥4.0 bn.)  
Overseas consolidated subsidiaries (¥0.4 bn.)

## SG & A expenses

Increase in transportation cost of the Hangingstone lease (¥2.3 bn.)

## Non-operating income (expenses)

Equity in earnings of affiliates + ¥15.1 bn.  
Foreign currency translation adjustments on debt, foreign currency exchange gains and losses  
(FY3/18 Gains of ¥2.7 bn. → (FY3/19) Loss of ¥5.2 bn. (¥ 8.0 bn.)  
(FY3/18) Decrease in amortization expense related to the Hangingstone DEMO area + ¥7.7 bn.

## Extraordinary income (loss)

(FY3/18) Impairment loss spikes due not proceeding LNG Project in Canada + ¥72.9 bn.  
(FY3/19) Gains on sales of real estate + ¥0.7 bn.

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## **Ⅲ. FY3/20 Forecasts**

**Michiro Yamashita**

**Director, Managing Executive Officer**

# Price Assumptions for FY3/20 Forecasts

Upper: from January 2018 to March 2019					Full year
Lower: from January 2019 to March 2020					
Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.	Jan.-Mar.	

WTI	USD/bbl	2018(a)	<b>62.87</b>	<b>67.88</b>	<b>69.50</b>	<b>58.75</b>		<b>64.75</b>
		2019(f)	<b>53.69</b>	<b>55.33</b>	<b>55.00</b>	<b>55.00</b>		<b>54.76</b>
JCC	USD/bbl	2018(a)		<b>67.95</b>	<b>76.64</b>	<b>79.05</b>	<b>65.06</b>	<b>71.94</b>
		2019(f)		<b>65.00</b>	<b>65.00</b>	<b>65.00</b>	<b>65.00</b>	<b>65.00</b>
Exchange rate	JPY/USD	2018(a)		<b>107.42</b>	<b>110.61</b>	<b>112.41</b>	<b>110.66</b>	<b>110.35</b>
		2019(f)		<b>110.00</b>	<b>110.00</b>	<b>110.00</b>	<b>110.00</b>	<b>110.00</b>

JACOS Diluted bitumen <sup>*1</sup>	USD/bbl	2018(a)	<b>33.48</b>	<b>43.05</b>	<b>41.08</b>	<b>25.76</b>		<b>36.67</b>
		2019(f)	<b>37.23</b>	<b>35.79</b>	<b>33.51</b>	<b>33.55</b>		<b>35.01</b>
JML Natural gas <sup>*2</sup>	CAD/mcf	2018(a)	<b>2.04</b>	<b>1.21</b>	<b>1.42</b>	<b>2.11</b>		<b>1.69</b>
		2019(f)	<b>1.70</b>	<b>1.70</b>	<b>1.70</b>	<b>1.70</b>		<b>1.70</b>

\*1 "JACOS Diluted bitumen" stated herein is the diluted bitumen sales price of Japan Canada Oil Sands Ltd. (Excl. Royalty).

\*2 "JML Natural gas" stated herein is the natural gas sales price of JAPEX Montney Ltd. (Excl. Royalty)

# Natural Gas Sales Forecasts for FY3/20

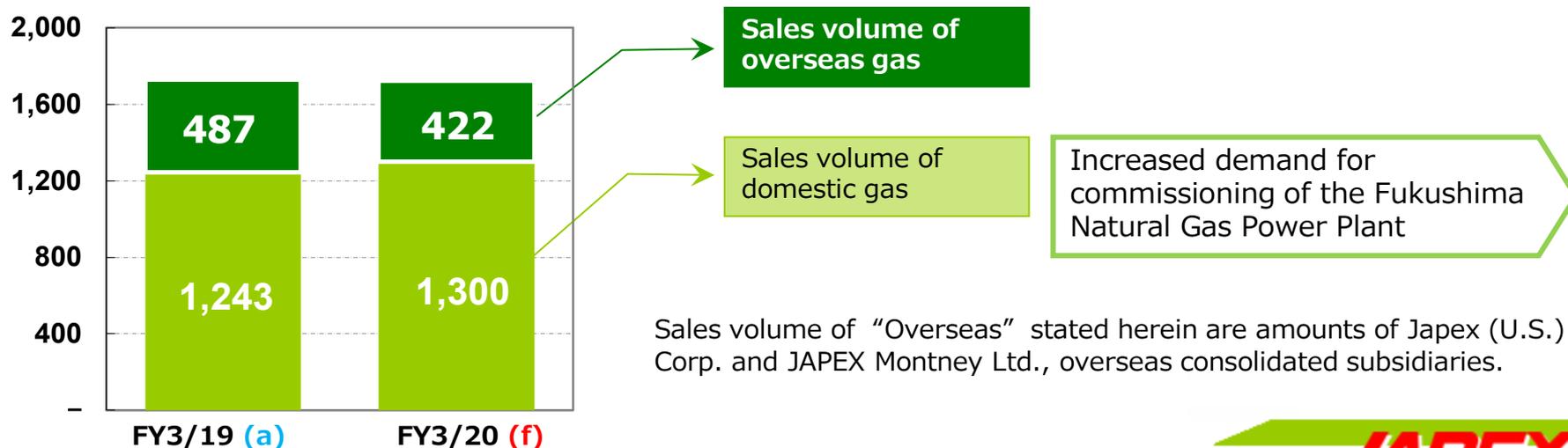
Sales volume : Million M3 Net sales : Million Yen		FY3/19 (a)	FY3/20 (f)	Change
Natural gas	Sales volume	<b>1,731</b>	<b>1,722</b>	<b>-9</b>
	Net sales	<b>67,820</b>	<b>69,531</b>	<b>+1,711</b>

Increase in sales volume in Japan

## Sales volume by region

Japan	Sales volume	<b>1,243</b>	<b>1,300</b>	<b>+56</b>
<i>Gas produced in Japan</i>	<i>Sales volume</i>	<b>(630)</b>	<b>(561)</b>	<b>-69</b>
Overseas	Sales volume	<b>487</b>	<b>422</b>	<b>-66</b>

Million M3



# Crude Oil Sales Forecasts for FY3/20

Sales volume : Thousand KL Net sales : Million Yen		FY3/19 (a)	FY3/20 (f)	Change
Crude oil	Sales volume	<b>3,064</b>	<b>4,512</b>	<b>+1,448</b>
	Net sales	<b>124,696</b>	<b>168,257</b>	<b>+43,561</b>

Increase in sales volume

## Equity oil sales

Crude oil produced in Japan*1	Sales volume	<b>261</b>	<b>265</b>	<b>+4</b>
	Net sales	<b>13,746</b>	<b>12,463</b>	<b>-1,284</b>
Crude oil produced in overseas*2	Sales volume	<b>366</b>	<b>1,339</b>	<b>+972</b>
	Net sales	<b>16,599</b>	<b>55,235</b>	<b>+38,636</b>
Diluted bitumen*3	Sales volume	<b>1,176</b>	<b>1,516</b>	<b>+340</b>
	Net sales	<b>30,116</b>	<b>36,717</b>	<b>+6,600</b>

Increase in crude oil sales volume of Garraf Oil Field, Iraq

Increase in sales volume of the Hangingstone lease

## Oil price and exchange rate assumptions

JCC	USD/bbl	<b>71.94</b>	<b>65.00</b>	<b>-6.94</b>
Diluted bitumen*3	USD/bbl	<b>36.67</b>	<b>35.01</b>	<b>-1.66</b>
Exchange rate	JPY/USD	<b>110.35</b>	<b>110.00</b>	<b>-0.35</b>

\*1 Sales volume and net sales of "Crude oil produced in Japan" stated herein do not include purchased crude oil.

\*2 Sales volume and net sales of "Crude oil produced in overseas" stated herein are amounts of 3 overseas subsidiaries (Japex (U.S.) Corp., JAPEX Montney Ltd. and Japex Garraf Ltd.).

\*3 Royalty is excluded in the net sales and price of diluted bitumen.

# FY3/20 Forecasts

[Million Yen]	FY3/19 (a)	FY3/20 (f)	Change
Net sales	267,980	308,650	+40,670
Gross profit	34,846	37,783	+2,937
Exploration expenses	788	1,054	+265
SG&A expenses	31,743	31,126	-618
Operating income (loss)	2,313	5,603	+3,289
Non-operating income (expenses)	10,209	7,067	-3,142
Ordinary income	12,523	12,670	+147
Extraordinary income (losses)	550	-78	-628
Income taxes	-1,254	1,883	+3,138
Profit (loss) attributable to non-controlling interests	-441	-704	-262
Profit (loss) attributable to owners of parent	14,770	11,413	-3,357

Main factors for change  
Increase factor “+” / Decrease factor “( )”

## Gross profit

Domestic business (¥2.9bn.)  
Overseas consolidated subsidiaries  
+¥5.8bn.

## Non-operating income (expenses)

Equity on earnings (¥5.5bn.)

Foreign currency translation adjustments on debt, foreign exchange gains and losses (FY3/19) Loss of ¥5.2bn.

→(FY3/20) Not expected  
+¥5.2bn.

(FY3/19)Gains of ARO cancellation due to selling interests of the Hangingstone lease (¥3.2bn.)

## Income taxes

(FY3/19) Application of foreign tax credit on Garraf Project (¥2.6bn.)

Tax effect of U.K. North Sea Offshore Block Project  
+¥1.7bn.

# Sensitivities Analysis on FY3/20 Forecasts basis

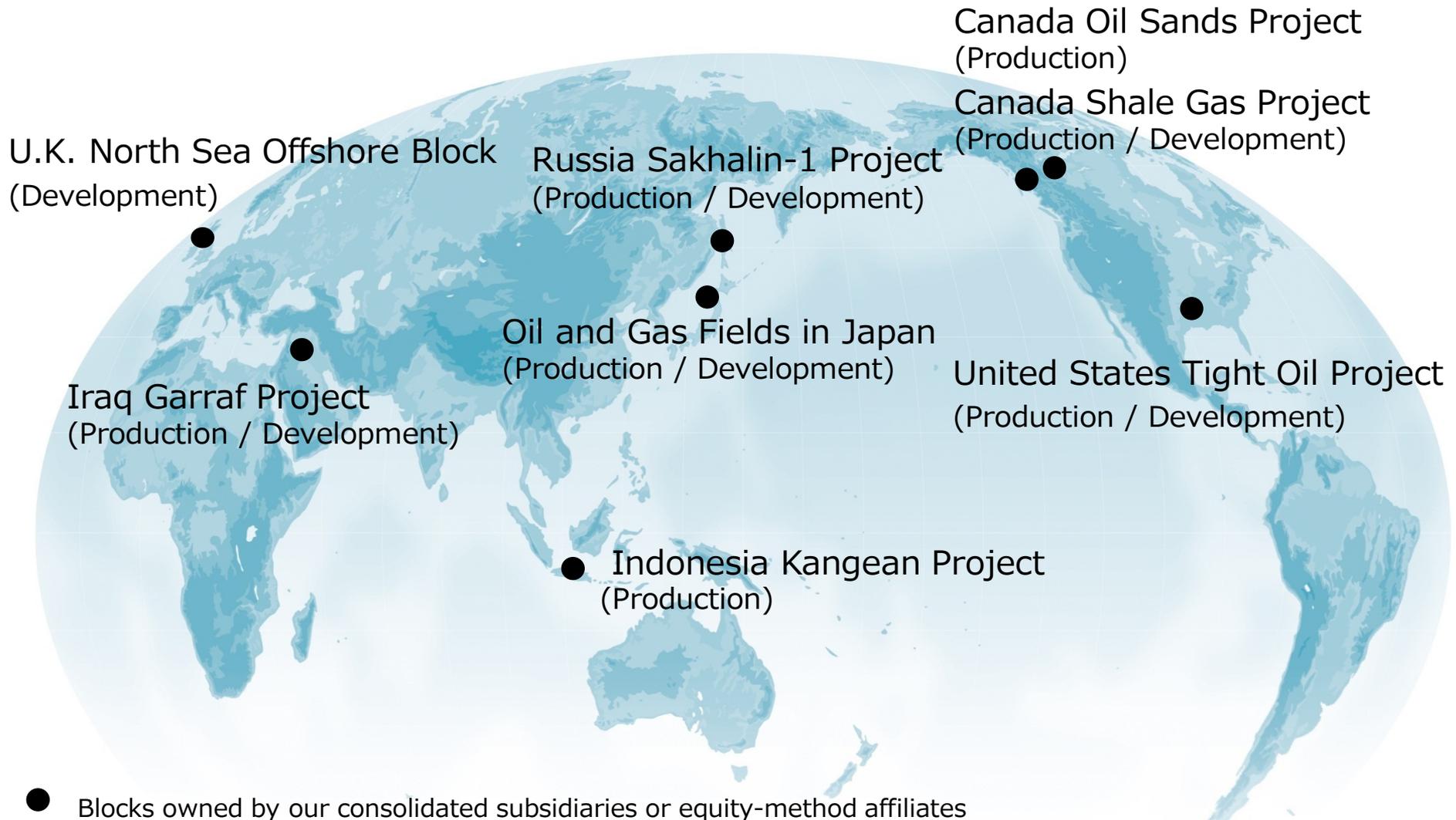
	FY3/20 Assumptions	Fluctuation	Impacts on profit (Million Yen)		Main factors for change Increase factor "+" / Decrease factor "( )"
			Operating income	Profit attributable to owners of parent	
Crude oil price	<b>JCC</b> <b>USD 65.00/bbl</b>	Increase by USD1/bbl	<b>500</b>	<b>420</b>	+ Sales of oil and gas (Increase of LNG procurement cost)
	<b>WTI</b> <b>USD 55.00/bbl</b>		263	248	+ Sales of diluted bitumen
Exchange rate	<b>¥ 110.00/USD</b>	1 weaker yen against USD	<b>360</b>	<b>200</b>	+ Sales of oil and gas (Increase of LNG procurement cost)
Natural gas price in Canada	<b>CAD 1.70/mcf</b> <b>¥ 82.00/CAD</b>	Increase by CAD1/mcf	<b>390</b>	<b>290</b>	+ Sales of shale gas in Canada (Increase of operation cost of the Hangingstone lease)

- Changes in equity method investment gain is not included in the above amount.
- In addition to the impact of exchange rate fluctuations shown on the above, translation adjustments of foreign-currency-denominated receivables and payables also occur. Actual profits are influenced by a variety of other factors besides crude oil prices and exchange rates.

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# Appendix

# <Appendix> E&P Business-1 Main Projects



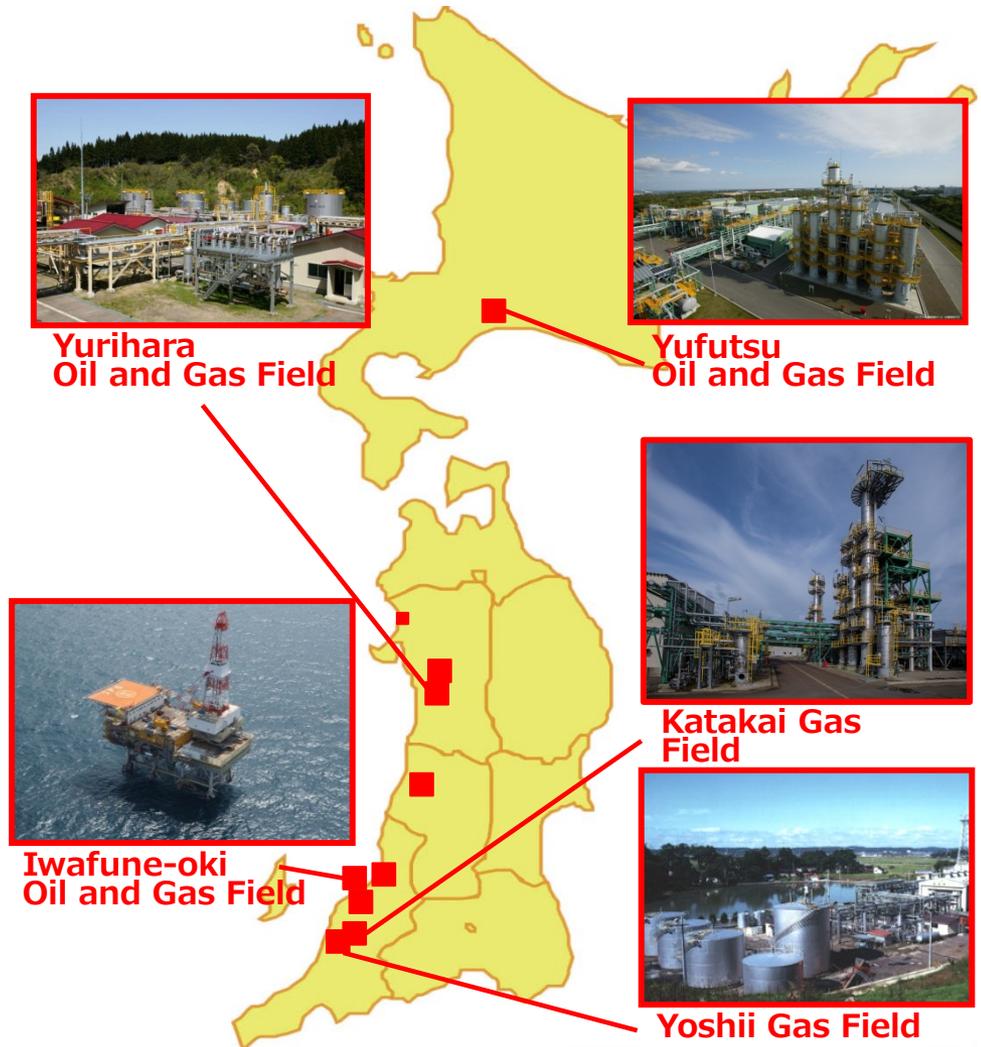
# <Appendix>

## E&P Business-2 Activities in Japan

- Operating 10 oil and gas fields in Japan
- Pursuing compensation of reserves and maintaining the production volume
- Pursuing additional E&P potential including national surveys

### ■ Major projects in progress

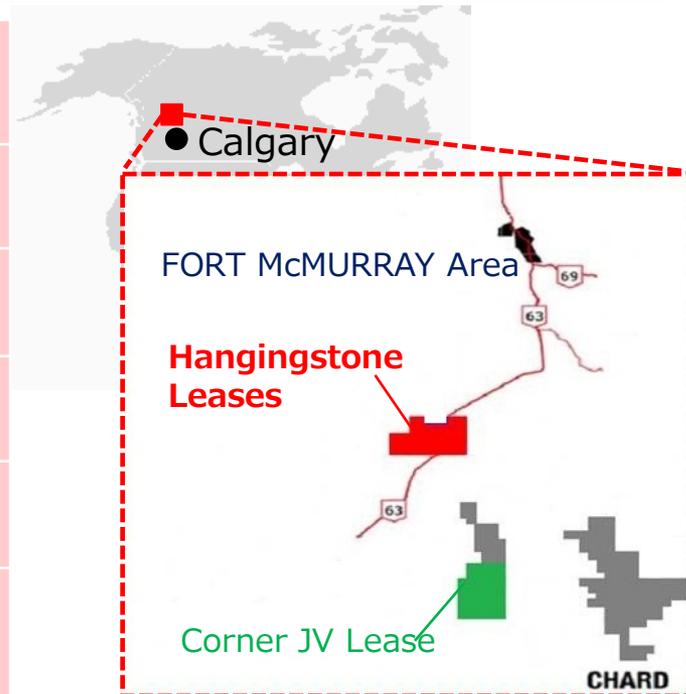
Development of a shallow reservoir of Yufutsu Oil and Gas Field	In process of development toward production commencement in fiscal 2020
1,900m reservoir at Iwafune-oki Oil and Gas Field	Completed drilling work and commenced production in late March of 2019
Exploratory Drilling as National survey in Hokkaido	Commencement of exploratory drilling at offshore Hidaka Area in April 2019



# <Appendix>

## E&P Business-3 Canada: Oil Sands Project

<b>Project company</b>	Canada Oil Sands Co., Ltd. (CANOS) Operator : Japan Canada Oil Sands Ltd. (JACOS)	
<b>Block &amp; Interest / Status</b>	Hangingsone Leases 75% interests (Operator)	In Production
	Corner JV Lease 12% interests	Undergoing appraisal
	Other bitumen leases (includes Corner & Chard)	Considering future activities
<b>Gross production rate</b>	26,000bbl/d as of March 2019	
<b>Recent activities</b>	<ul style="list-style-type: none"> <li>Relinquished 25% interests of Thornbury &amp; Chard North in January 2018</li> <li>Sold 100% interests of Hangingsone DEMO area in April 2018</li> </ul>	



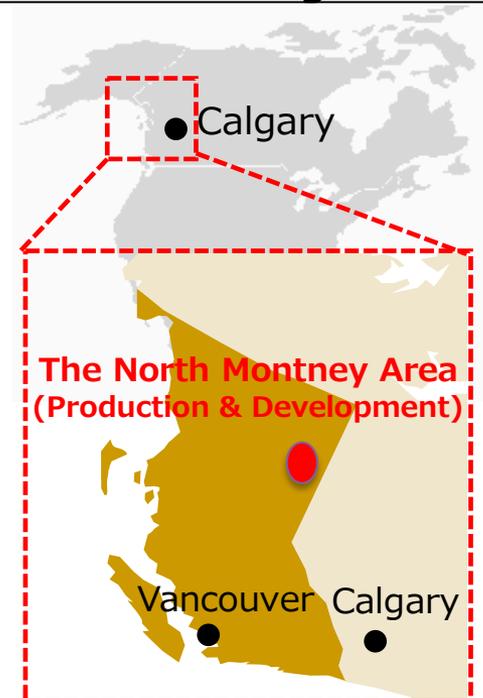
### ■ Schedule of Hangingsone Project

February 2013	Commenced development works (early civil work)
February 2017	Completed construction of facilities
April 2017	Commenced steam injection to horizontal well pairs
August 2017	Commenced production
June 2018	Transition to stable 20,000 bbl/d level bitumen production

# <Appendix>

## E&P Business-4 Canada: Shale Gas Project

Project company	<b>JAPEX Montney Ltd. (JML)</b> JAPEX's share 45%	<b>Pacific NorthWest LNG</b> JML's share 10%
	Upstream: Shale gas project	Midstream: LNG project
Block	North Montney Area	Lelu Island, the Port of Prince Rupert
Interest	10%	10%
Status	Production/Development	-
Operator	PETRONAS group	PETRONAS group
Gross production rate	12,980,000M3/d Approx. 85,000 boe/d as of March 2019	-
Recent activities	Executing the development plan prioritizing the area with high economics. Working on to maximize the value and economics of the project.	Decided not to proceed with the LNG project on July 25, 2017



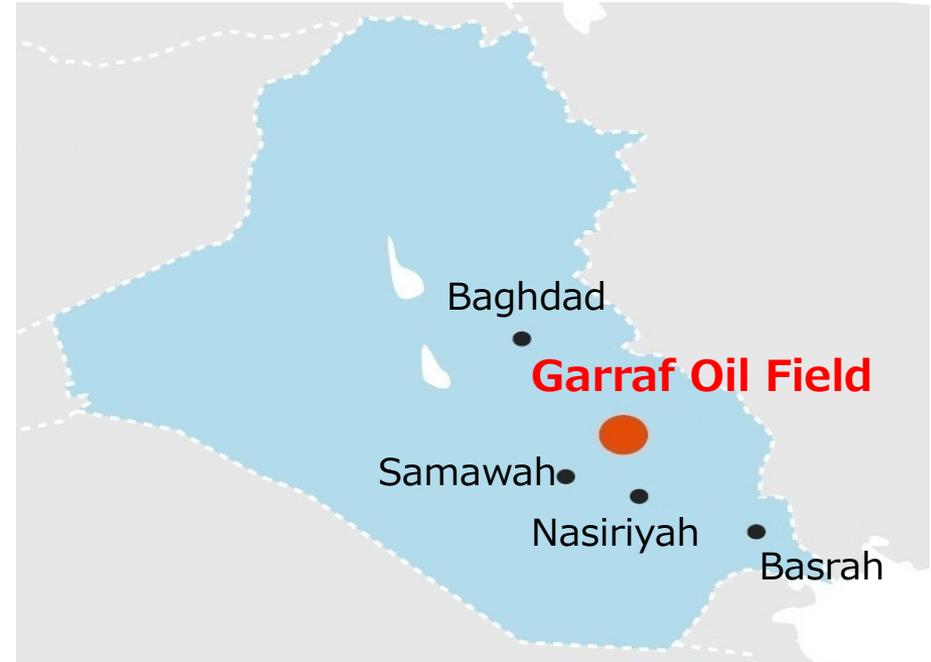
# <Appendix>

## E&P Business-5 Iraq: Garraf Project

Project company	Japex Garraf Ltd. JAPEX's share 55%
Field	Garraf Oil Field
Project share	30% (cost share 40%)
Status	Production / Development
Operator	PETRONAS group
Gross production rate	Approx. 90,000 bbl/d as of March 2019

### ■ Schedule

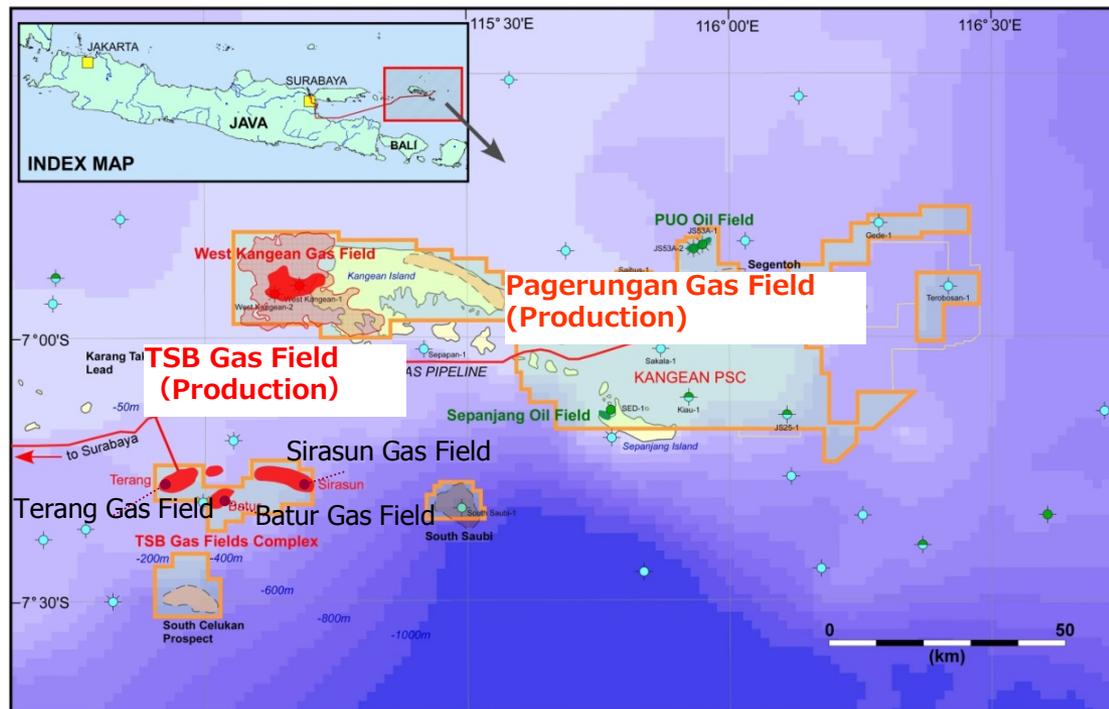
2013	First oil production
2018	Commencement of further development due to approval of the Final Development plan by the Iraqi government
2018 - 2020	Gradual increase the production rate
2020 4Q	Achievement of plateau production target of 230,000 bbl/d



# <Appendix>

## E&P Business-6 Indonesia: Kangean Project

<b>Project company</b>	<b>Energi Mega Pratama Inc.</b> JAPEX's share 25% 2 other affiliates
<b>Block</b>	Kangean Block
<b>Interest</b>	100%
<b>Status</b>	Production
<b>Operator</b>	Kangean Energy Indonesia Ltd.
<b>Gross production rate</b>	4,400,000M3/d Approx. 27,000boe/d as of March 2019



### History of TSB Gas Field Development

2012	Commencement of production at the Terang Gas Field (TSB Phase1)
March 2019	Commencement of production at the Sirasun and Batur Gas Field (TSB Phase2)

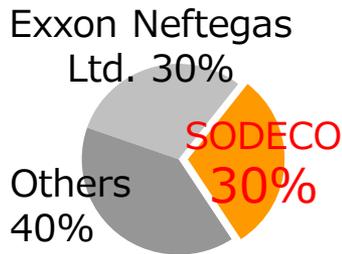


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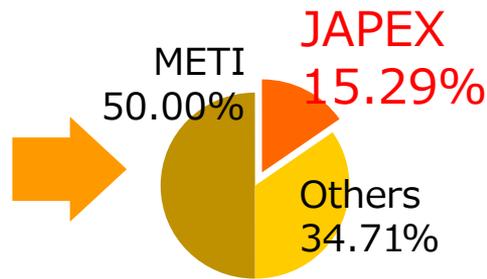
## E&P Business-7 Russia: Sakhalin-1 Project

Project company	Sakhalin Oil and Gas Development Co., Ltd. (SODECO) JAPEX's share 15.29%
Block	Chayvo, Odoptu and Arkutun-Dagi
Interest	

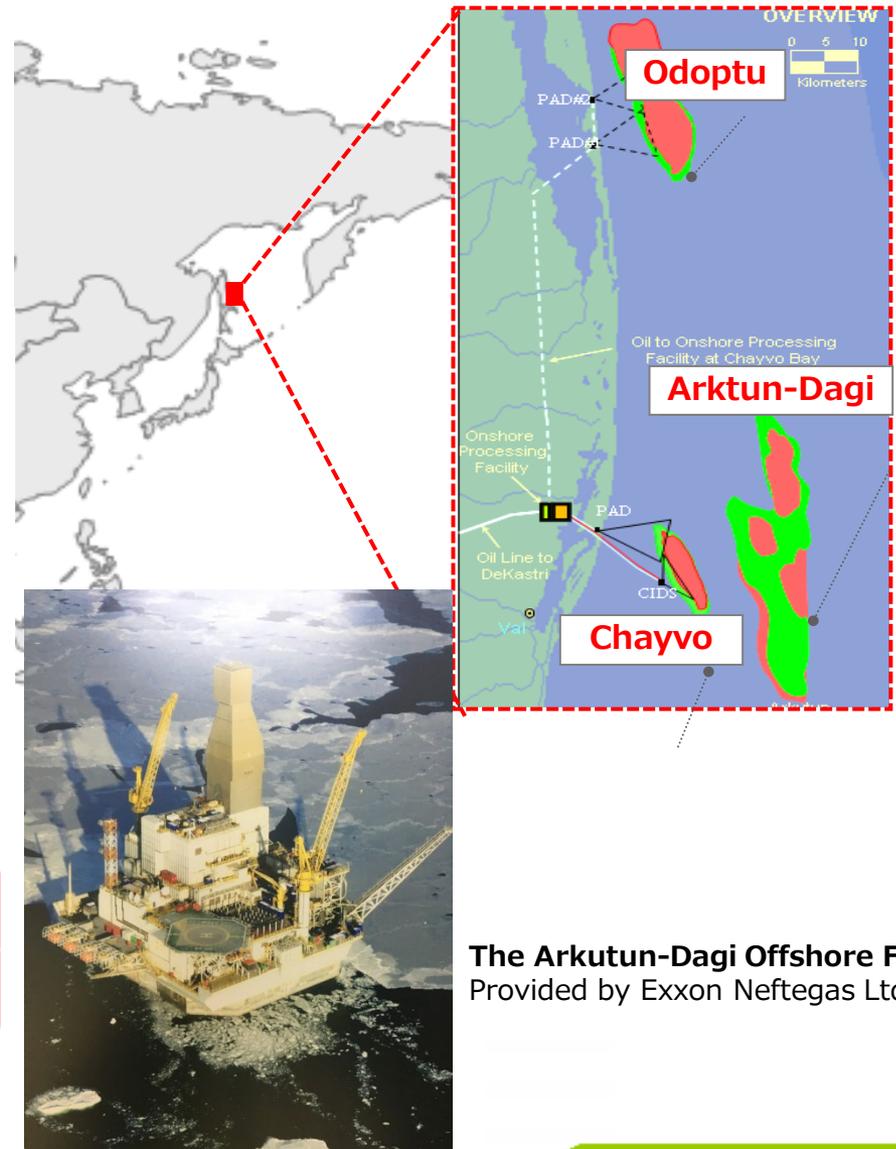
### Sakhalin 1 Consortium



### SODECO



Status	Development/ Production
Operator	Exxon Neftegas Ltd.



The Arkutun-Dagi Offshore Field Provided by Exxon Neftegas Ltd.

# <Appendix>

## E&P Business-8 U.K. North Sea Offshore Block

Project company	<b>JAPEX UK E&amp;P Ltd.</b> JAPEX's share 100%
Block	Seagull Field
Interest	15%
Status	Development
Operator	Neptune E&P UKCS Limited

### ■Schedule

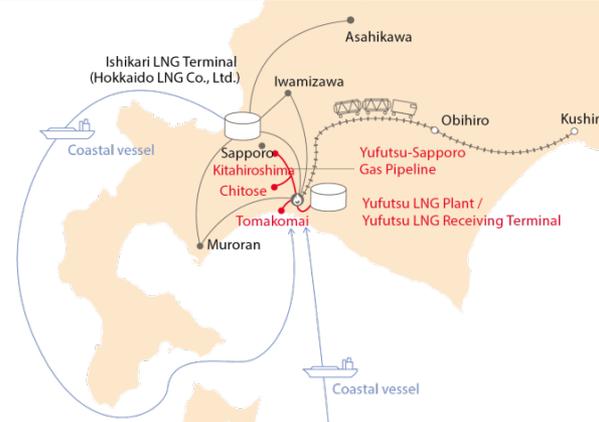
March 2014	Acquisition of interest in exploration license
November 2015	Success of flow test in appraisal well
March 2019	Final Investment Decision
By the end of 2021	Planned commencement of production



# <Appendix> Infrastructure & Utility Business-1 Natural Gas Supply Chain in Japan

JAPEX establish an integrated supply structure for natural gas (gas integration), from gas field development and production (upstream) through transportation (midstream) by pipeline and other means including railway tank containers, tank trucks and coastal tankers to supply and sale to electric power providers and local distribution companies, as well as industrial customers (downstream).

Additionally, we launch the studies concerning the implementation of LNG bunkering by utilizing pioneering expertise including Japan's first Ship-to-Ship LNG transfer experience.



LNG tank containers by railway



Ship-to-Ship work in Tomakomai



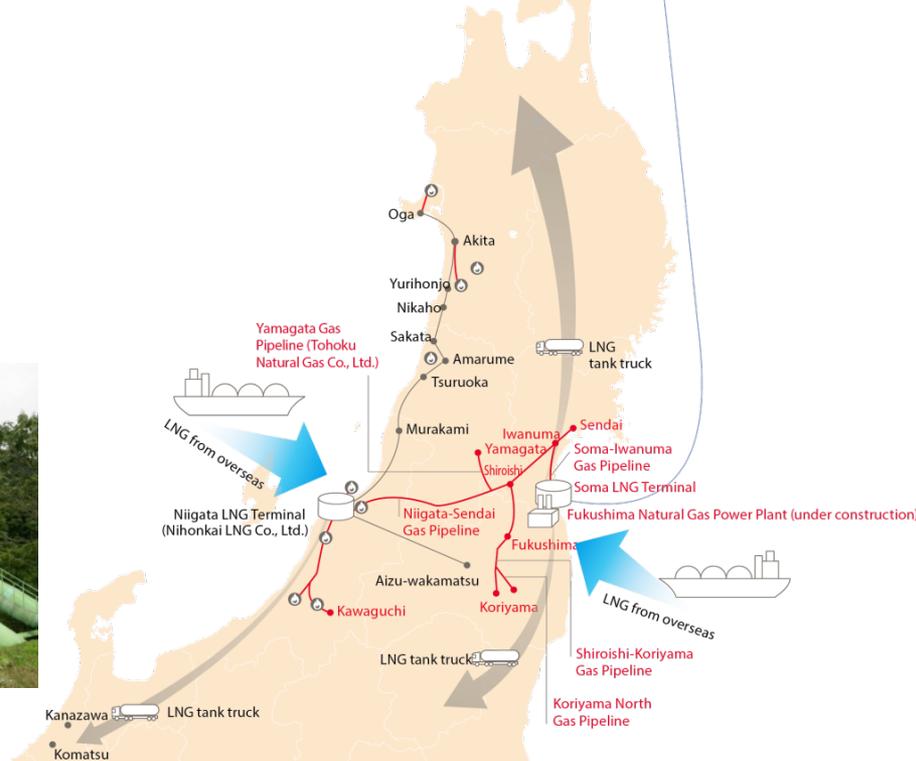
The Soma LNG Terminal and the Fukushima Natural Gas Power Plant



LNG tank truck



Arch bridge of Niigata-Sendai Gas Pipeline



# <Appendix> Infrastructure & Utility Business-2

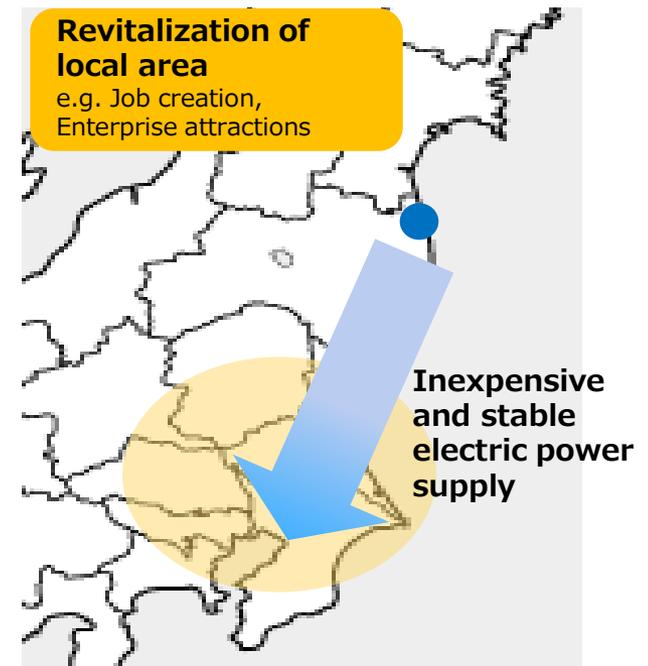
## Natural Gas-Fired Power Generation Project

### ■ The overview of Fukushima Natural Gas Power Plant

Head Office	Fukushima Gas Power Co., Ltd.* (Founded April 2015)
Method	Gas Turbine and Steam Power (Gas Turbine Combined-cycle)
Capacity	1.18 million kW (2 units of 0.59 million kW)
Fuel	Natural Gas (Vaporized LNG) Amount 700,000-1,000,000t/y (Utilization Ratio 60%-90%)
Thermal Efficiency	Sending End 60.64% (LHV, Temperature 15°C)
Gas Turbine	1,500°C Class
Steam Turbine	Steam Condition (High-pressure/ Medium-pressure/ Low-pressure) 600/600/284°C 15.6/3.34/0.5MPa
Heat Recovery Boiler	Steam Flow 370/85/50t/h NOx Emission concentration Less than 5ppm



Rendering of the Soma LNG Terminal and the Fukushima Natural Gas Power Plant



### ■ Schedule

October 2016	FID
June 2017	Approved Environmental Assessment
October 2017	Commencement of construction
2019	Commissioning of No.1 Power Facilities is planned in Q3
2020	Commencement of commercial operations planned (No.1 Gas Turbine : Q1, No.2 Gas Turbine: Q2)

\*Investment ratio: **JAPEX 33%**, Mitsui & Co., Ltd. 29%, Osaka Gas Co., Ltd. 20%, Mitsubishi Gas Chemical Co., Inc. 9%, Hokkaido Electric Power Co., Inc. 9%

# <Appendix>

## New Business Development

### CCS (Carbon Dioxide Capture and Storage)

Implementing a CCS demonstration project in the Tomakomai area of Hokkaido since April 2012, through Japan CCS Co., Ltd. (JCCS). Cumulative CO<sub>2</sub> injection was 235,598 tons as of the end of March 2019.



Photo provided by Japan CCS Co., Ltd

Ground facilities of CCS Demonstration Project at Tomakomai

### Methane Hydrate

Implemented the second offshore methane hydrate production test from 2017, through Japan Methane Hydrate Operating Co., Ltd. Currently, working on investigating, researching and developing technology for resource recovery, exploration and other areas related to shallow-type methane hydrate.



Collected deposit samples with pellets of polymetallic nodules at sea bottom of deeper than 5,000m water depth

(Cabinet Office of Japan, SIP "Innovative Technology for Exploration of Deep Sea Resources" ; News Letter Vol.6, Mar. 2019)

### Innovative Technology for Deep Sea Resources

Establishing a business model for exploration and/or development of deep sea mineral resources as a private sector through J-MARES (Research and Development Partnership for Next-Generation Technology of Marine Resources Survey)

# Abbreviations

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BOE(D)	Barrels of Oil Equivalent (per Day)
CCS	Carbon dioxide Capture and Storage
CIF	Cost, Insurance and Freight
COP	Conference Of the Parties
CSR	Corporate Social Responsibility
E&P	Exploration and Production
FID	Final Investment Decision
GHG	Greenhouse Gas
HSE	Health, Safety and Environment
IOR (EOR)	Improved (Enhanced) Oil Recovery
JCC	Japan Crude Cocktail
JOGMEC	Japan Oil, Gas and Metals National Corporation
LNG	Liquefied Natural Gas
MH	Methane Hydrate
P/L	Pipeline
ROE	Return on Equity
RRR	Reserve Replacement Ratio
SODECO	Sakhalin Oil & Gas Development Co., Ltd.
TSB	Terang, Sirasun, Batur
WCS	Western Canadian Select
WTI	West Texas Intermediate

# Cautionary Statement

This document contains future prospects such as plans, forecasts, strategies, and others which are not historical fact and these are made by the management's judgement based on the obtainable information at the time of the disclosure. Actual results may significantly differ from those future prospects due to various factors.

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Note: Abbreviations used herein are as follows:

(a) = Actual results

(f) = Forecasts

FY = Fiscal Year (FY3/19, for instance, means 12 months ended March 31, 2019)

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