



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

Financial Results

for the Six Months Ended September 30, 2018

November 12 , 2018

Japan Petroleum Exploration Co .,Ltd.

Cautionary Statement

This document contains future prospects such as plans, forecasts, strategies, and others which are not historical fact and forward-looking statements about the future performance of JAPEX. Actual results may significantly differ from those future prospects due to various factors.

This document is not intended to invite investment.

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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 ending March 31, 2019)

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Hideichi Okada, Representative Director and President

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Michiro Yamashita, Director Managing Executive Officer

I . Business Overview

Hideichi Okada
Representative Director and President

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”

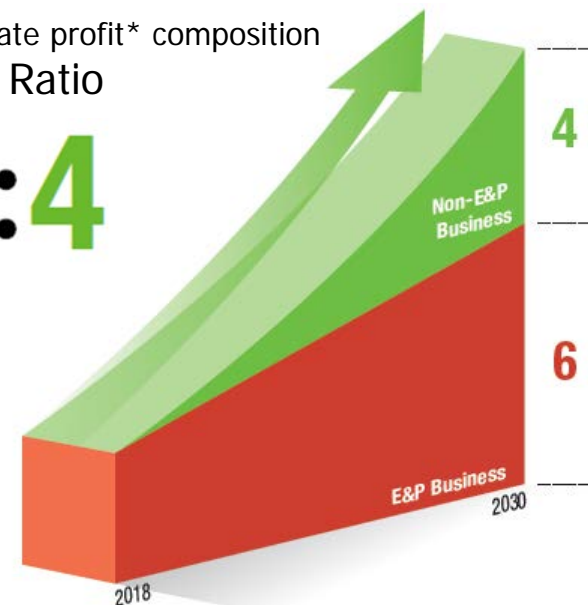
The profit composition JAPEX aims for in 2030
E&P Business : Non-E&P Business = 6 : 4

Mid-term Business Plan 2018-2022

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

Corporate profit* composition
2030 Ratio

6:4



*Operating profit + Equity method investment income/loss basis

Mid-Term Targets

E&P Business

Long-Term Targets
Maintain “RRR* >1”

*RRR: Reserve Replacement Ratio

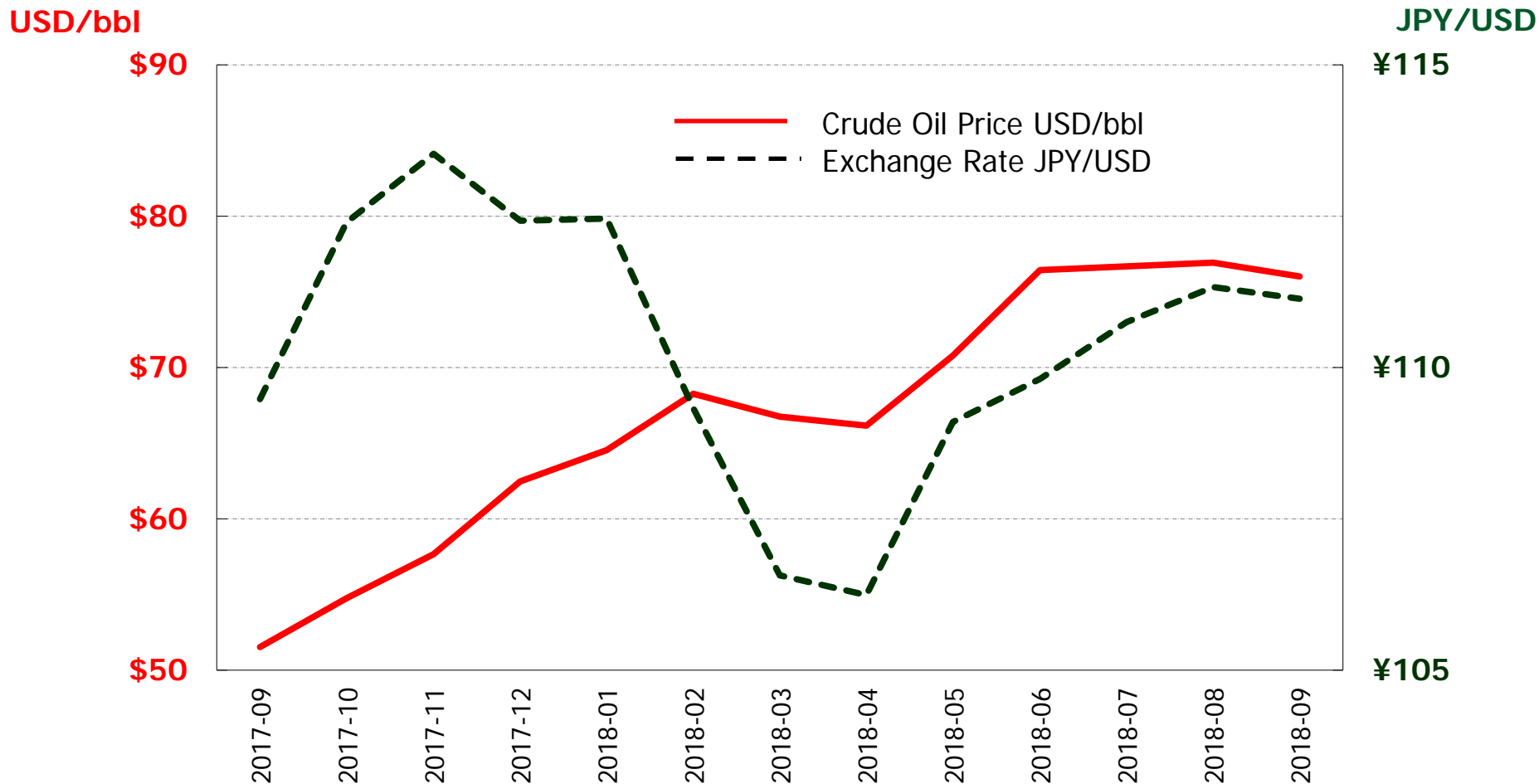
Infrastructure & Utility Business

Targets to 2022
Natural gas sales volume in Japan
1.6 million tons (LNG equivalent)
Electricity sales volume
2.8 billion kWh

New Business Development

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

Trends in Crude Oil Price and Foreign Exchange Rate



Assumption of crude oil price and exchange rate in the second half of FY3/19

USD 75.00/bbl **JPY 110.00/USD**

E&P Business

Main Project

Hokkaido: Oil Development of a Shallow Reservoir of Yufutsu Oil and Gas Field

- Under development toward gas production commencement in FY2020



Canada: Shale Gas Project

- Producing and marketing shale gas
- Executing the development plan prioritizing the area with high economics



Iraq: Garraf Project

- Under development to increase of oil production volume for 230,000 bbl/d



Indonesia: Kangean Project

- Under development of the Sirasun and Batur Gas Fields towards gas production commencement in 2Q 2019



E&P Business

Canada: Oil Sands Project

■ Production operation: Good and stable bitumen production

- Transitioned to stable operations of 20,000 bbl/d level bitumen production in June 2018
- Expecting good potential of the oil sands layer for bitumen production

■ Sales of diluted bitumen: Severe condition of business surroundings

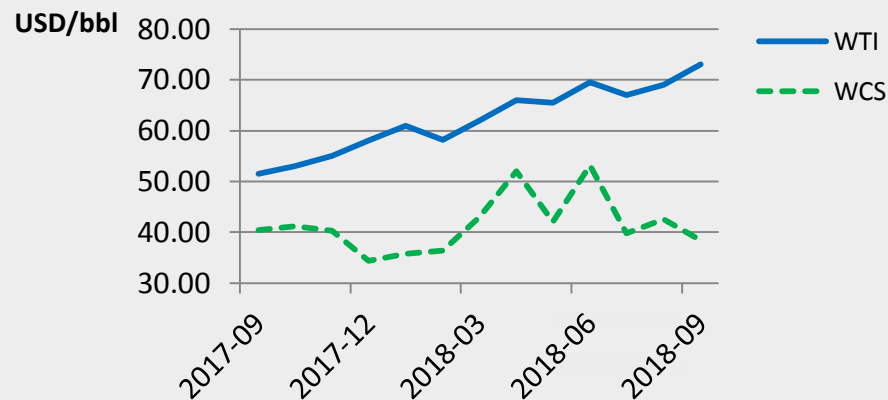
- Shortage of the pipeline transportation capacity to the United States
 - Widen the price differential of Western Canadian Select (WCS)* to WTI
- *a price index for west Canadian heavy oil

→ **Aiming to improve business balance by optimization of the production and additional investment plan as well as cost reduction**



△Central processing facility in the Hangingstone Leases

Trend in WTI and WCS (September 2017 – September 2018)



Infrastructure & Utility Business

Domestic Natural Gas Supply

- Develop new clients for increasing domestic gas sales
- Received 4 LNG cargoes at the Soma LNG Terminal including the commissioning cargo.



△Soma LNG Terminal and Fukushima Natural Gas Power Plant as of October, 2018

Power Generation and Sales

- Natural Gas-Fired Power Generation Project at Soma Port
 - Under construction of Fukushima Natural Gas Power Plant by Fukushima Gas Power Co., Ltd. (JAPEX's share: 33%)
 - Continuing sales activities of electricity toward the commercial operation commencement of the power plant in 2020
- Organization Change of Soma Project Division
 - Changed to Soma Project & Power Business Division on October 1, 2018.
 - Responsible for promoting new electricity business development including renewable energy in addition of electricity sales.

New Business Development

Accumulation of Technology through Commissioned Research

- CCS (Carbon Dioxide Capture and Storage)
- Methane hydrate
- Next-generation technology for ocean resources exploration

Identification of Business Seeds

- LNG overseas rail transport
- LNG bunkering
- CO₂-EOR
- Preparation of new organization for new business development

Transformation into a Lean and Resilient Corporation

Proactive cost reduction

Portfolio optimization
including sales of assets



**Transformation into a
Lean and Resilient
Corporation**

II . Actual Results

for the Six Months Ended September 30, 2018

Michiro Yamashita
Director Managing Executive Officer

Actual Sales of Natural Gas in 2Q FY3/19 (year-on-year)

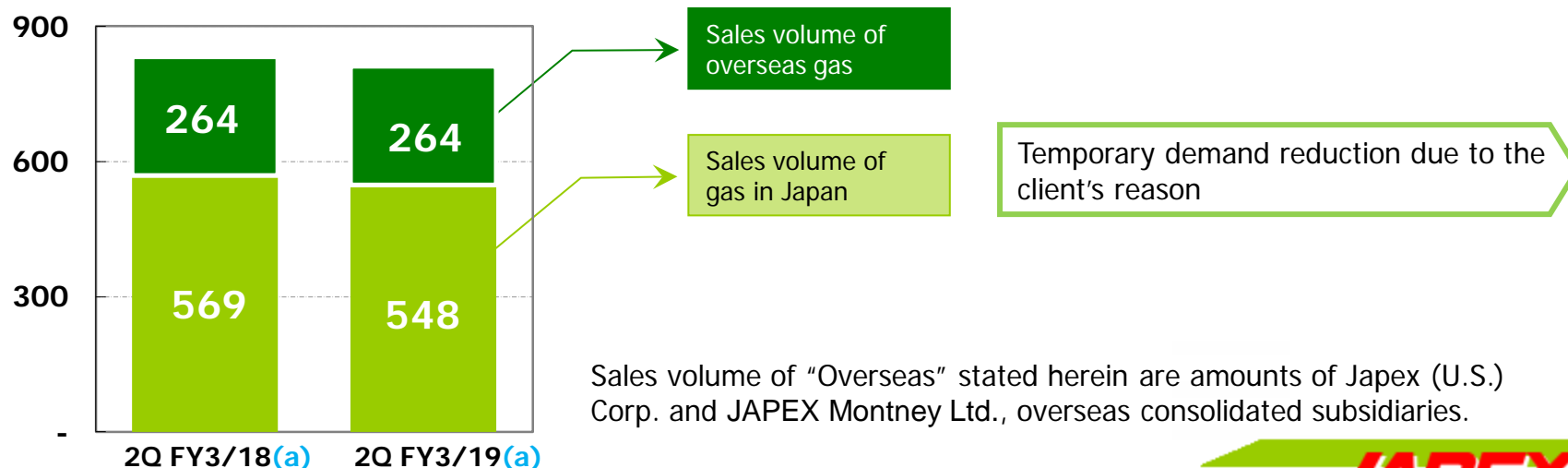
Sales volume : Million M3 Net sales : Million JPY		FY3/18 2Q (a)	FY3/19 2Q (a)	Change
Natural gas	Sales volume	833	813	(20)
	Net sales	26,839	27,835	+995

Increase in sales price

Sales volume by region

Japan	Sales volume	569	548	(20)
<i>Gas produced in Japan</i>	<i>Sales volume</i>	344	287	(56)
Overseas	Sales volume	264	264	0

Million M3



Actual Sales of Crude Oil in 2Q FY3/19 (year-on-year)

Sales volume : Thousand KL Net sales : Million JPY		FY3/18 2Q(a)	FY3/19 2Q(a)	Change
Crude oil	Sales volume	1,548	1,278	(269)
	Net sales	53,086	54,305	+1,219

Increase in sales price

Equity oil sales

Crude oil produced in Japan (*)	Sales volume	146	131	(15)
	Net sales	5,713	6,927	+1,213
Crude oil produced in overseas (**)	Sales volume	809	185	(624)
	Net sales	25,604	9,298	(16,306)
Diluted bitumen (***)	Sales volume	-	496	+496
	Net sales	-	13,257	+13,257

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	52.44	72.47	+20.03
Diluted bitumen (***)	USD/bbl	-	38.37	-
Exchange rate	JPY/USD	111.79	109.18	(2.61)

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

(**) 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.)

(***) Royalty is excluded in the net sales and price of diluted bitumen

Actual Results for 2Q FY3/19 (year-on-year)

[Million JPY]	FY3/18 2Q (a)	FY3/19 2Q (a)	Change
Net sales	112,382	115,136	+2,754
Gross profit	17,884	14,126	(3,757)
Exploration expenses	643	362	(280)
SG&A expenses	13,788	14,946	+1,157
Operating profit (loss)	3,452	(1,183)	(4,635)
Non-operating income (expenses)	5,435	2,476	(2,959)
Ordinary income	8,888	1,293	(7,594)
Extraordinary income (losses)	(12)	618	+630
Income taxes	1,108	394	(714)
Profit (loss) attributable to non-controlling interests	10	(915)	(926)
Profit (loss) attributable to owners of parent	7,756	2,433	(5,322)

Main factors for change

Increase factor "+" / Decrease factor "()"

Gross profit

Domestic business (¥2.6 billion)
Overseas consolidated subsidiaries (¥1.0 billion)

SG & A expenses

Increase in transportation cost at the Hangingstone lease (¥1.1 billion)

Non-operating income (expenses)

Equity in earnings + ¥2.1 billion

Foreign currency translation adjustments on debt, foreign currency exchange gains and losses (FY3/18 2Q)Gains of ¥0.9 billion→ (FY3/19 2Q)Loss of ¥2.9 billion (¥ 3.9 billion)

Increase in interest expenses (¥ 1.1 billion)

Ⅲ. Forecasts for the FY3/19

Michiro Yamashita
Director Managing Executive Officer

Price Assumptions for Revised Forecasts for FY3/19

			2018				2019	Full year
			Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.	Jan.-Mar.	
JCC	USD/bbl	Previous forecasts		67.95	70.00	70.00	70.00	69.50
		Revised forecasts		67.95	76.64	75.00	75.00	73.75
Exchange rate	JPY/USD	Previous forecasts		107.42	110.00	110.00	110.00	109.39
		Revised forecasts		107.42	110.61	110.00	110.00	109.60
JACOS Diluted bitumen	USD/bbl	Previous forecasts	33.48	43.19	39.48	38.04		38.64
		Revised forecasts	33.48	43.05	41.16	30.23		37.59
JML Gas	CAD/mcf	Previous forecasts	2.04	1.35	1.40	1.40		1.56
		Revised forecasts	2.04	1.21	1.64	1.90		1.65

1. "JACOS Diluted bitumen" stated herein is the diluted bitumen sales price of Japan Canada Oil Sands Ltd. (Excl. Royalty).
2. "JML Gas" stated herein is the gas sales price of JAPEX Montney Ltd. (Excl. Royalty)

Revised Forecasts Natural Gas Sales for FY3/19 (vs Previous Forecasts)

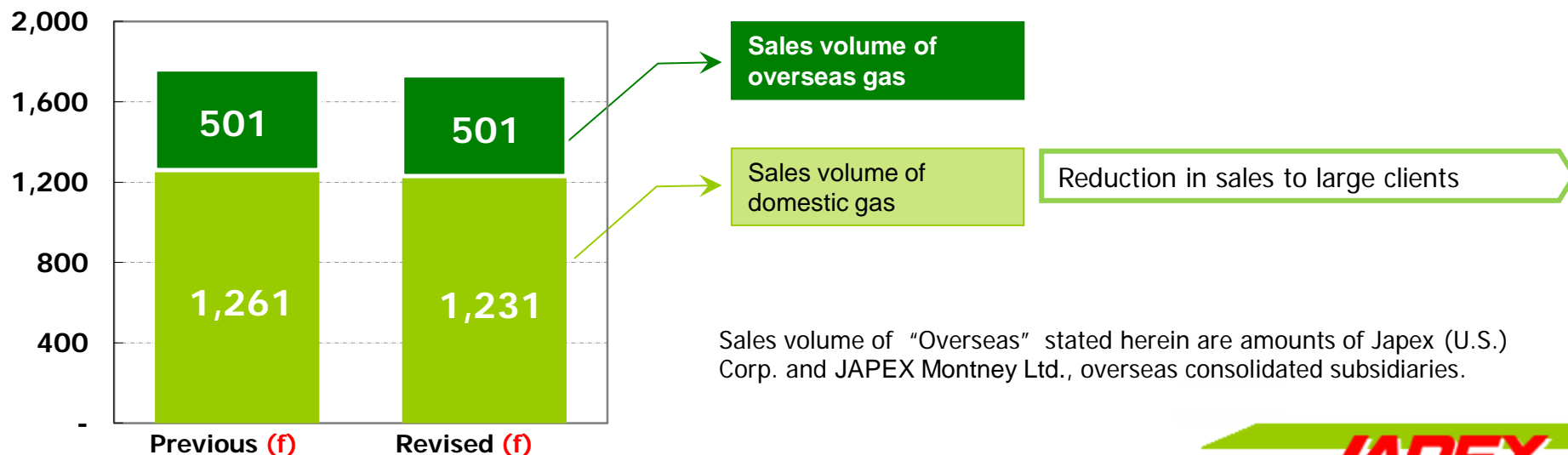
Sales volume : Million M3 Net sales : Million JPY		FY3/19 Previous forecasts Full (f) August 8, 2018	FY3/19 Revised forecasts Full (f) November 9, 2018	Change
Natural gas	Sales volume	1,762	1,731	(30)
	Net sales	66,604	66,113	(490)

Decrease in sales volume

Sales volume by region

Japan	Sales volume	1,261	1,231	(30)
<i>Gas produced in Japan</i>	<i>Sales volume</i>	632	614	(17)
Overseas	Sales volume	501	501	0

Million M3



Revised Forecasts Crude Oil Sales for FY3/19 (vs Previous Forecasts)

Revised forecasts

		FY3/19 Previous forecasts Full (f) August 8, 2018	FY3/19 Revised forecasts Full (f) November 9, 2018	Change
Sales volume : Thousand KL				
Net sales : Million JPY				
Crude oil	Sales volume	3,310	3,240	(69)
	Net sales	133,476	138,320	+4,843

Increase in sales price

Equity oil sales

Crude oil produced in Japan (*)	Sales volume	258	264	+6
	Net sales	12,986	14,093	+1,107
Crude oil produced in overseas (**)	Sales volume	720	528	(191)
	Net sales	33,447	26,149	(7,297)
Diluted bitumen (***)	Sales volume	1,284	1,183	(100)
	Net sales	34,335	30,792	(3,542)

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

Decrease in sales volume due to review of JACOS production plan/
Review sales price

Oil price and exchange rate assumptions

JCC	USD/bbl	69.50	73.75	+4.25
Diluted bitumen (***)	USD/bbl	38.64	37.59	(1.05)
Exchange rate	JPY/USD	109.39	109.60	+0.21

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

(**) 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.).

(***) Royalty is excluded in the net sales and price of diluted bitumen.

Revised Forecasts for FY3/19 (vs Previous Forecasts)

[Million JPY]	Previous forecasts Full (f) August 8, 2018	Revised forecasts Full (f) November 9, 2018	Change
Net sales	284,019	288,330	+4,310
Gross profit	34,083	32,089	(1,993)
Exploration expenses	1,055	907	(148)
SG&A expenses	30,902	30,656	(246)
Operating income (loss)	2,125	526	(1,599)
Non-operating income (expenses)	7,878	11,864	+3,985
Ordinary income	10,003	12,390	+2,387
Extraordinary income (losses)	660	613	(46)
Income taxes	968	1,454	+486
Profit (loss) attributable to non-controlling interests	(1,311)	(843)	+468
Profit (loss) attributable to owners of parent	11,007	12,393	+1,386

Main factors for change
Increase factor "+" / Decrease factor "("

Gross profit
Domestic business + ¥0.2billion
Overseas consolidated subsidiaries
(¥2.2billion)

**Non-operating income
(expenses)**
Equity on earnings + ¥2.4billion
Foreign currency translation
adjustments on debt, foreign
exchange gains and losses
(Previous) Loss of ¥3.6billion
→(Current) Loss of ¥1.9billion
+ ¥1.6billion

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

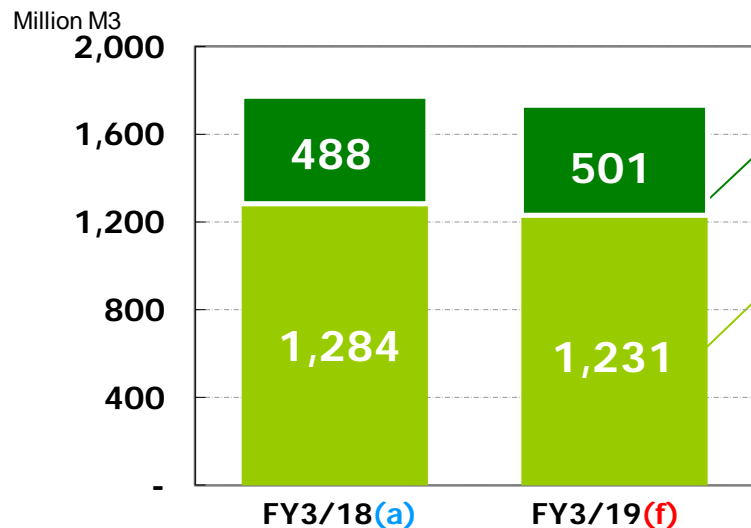
Revised forecasts

		FY3/18	FY3/19	Change
Sales volume : Million M3				
Net sales : Million JPY		Full (a)	Revised forecasts Full (f) November 9, 2018	Full
Natural gas	Sales volume	1,773	1,731	(41)
	Net sales	60,431	66,113	+5,682

Increase in sales price of gas in Japan

Sales volume by region

Japan	Sales volume	1,284	1,231	(54)
<i>Gas produced in Japan</i>	<i>Sales volume</i>	739	614	(124)
Overseas	Sales volume	488	501	+12



Sales volume of overseas gas

Increase in shale gas sales volume in Canada

Sales volume of gas in Japan

- Temporary demand reduction due to the client's reason
- Recoil reduction of increase in temporary demand from local distribution companies in previous year

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

Revised Forecasts Crude Oil Sales for FY3/19 Revised forecasts

(year-on-year)

		FY3/18	FY3/19	Change
Sales volume : Thousand KL Net sales : Million JPY		Full (a)	Revised forecasts Full (f) November 9, 2018	Full
Crude oil	Sales volume	2,506	3,240	+734
	Net sales	93,685	138,320	+44,634

Increase in sales volume,
increase in sales price

Equity oil sales

Crude oil produced in Japan (*)	Sales volume	291	264	(27)
	Net sales	12,265	14,093	+1,829
Crude oil produced in overseas (**)	Sales volume	991	528	(464)
	Net sales	33,749	26,149	(7,600)
Diluted bitumen (***)	Sales volume	160	1,183	+1,023
	Net sales	4,512	30,792	+26,280

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

Increase in sales volume of the
Hangingstone lease due to full
year production and
achievement of plateau
production

Oil price and exchange rate assumptions

JCC	USD/bbl	56.20	73.75	+17.55
Diluted bitumen (***)	USD/bbl	39.63	37.59	(2.04)
Exchange rate	JPY/USD	111.67	109.60	(2.07)

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

(**)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.).

(***)Royalty is excluded in the net sales and price of diluted bitumen.

Revised Forecasts for FY3/19 (year-on-year)

[Million JPY]	FY3/18 Full (a)	FY3/19 Revised forecasts Full (f) November 9, 2018	Change
Net sales	230,629	288,330	+57,700
Gross profit	39,263	32,089	(7,174)
Exploration expenses	1,324	907	(418)
SG&A expenses	29,173	30,656	+1,482
Operating income (loss)	8,764	526	(8,238)
Non-operating income (expenses)	(4,936)	11,864	+16,800
Ordinary income	3,828	12,390	+8,562
Extraordinary income (losses)	(73,231)	613	+73,845
Income taxes	239	1,454	+1,215
Profit (loss) attributable to non-controlling interests	(38,683)	(843)	+37,841
Profit (loss) attributable to owners of parent	(30,958)	12,393	+43,352

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

Gross profit

Domestic business (¥6.3 billion)
Overseas consolidated subsidiaries (¥0.8 billion)

SG&A expenses

Increase in transportation cost at the
Hangingstone lease due to full year production
(¥2.3 billion)

Non-operating income (expenses)

Equity in earnings of affiliates + ¥12.9 billion

Foreign currency translation adjustments on debt,
foreign currency exchange gains and losses
(FY3/18)Gains of ¥2.7 billion→(FY3/19)Gains of¥1.9 billion
(¥4.6 billion)

(FY3/18) Decrease in amortization expenses
related to the Hangingstone DEMO area
+ ¥7.8 billion

Extraordinary income (losses)

(FY3/18) Impairment loss spikes due to not
proceeding LNG Project in Canada + ¥72.9 billion

(FY3/19) Gains on sales of real estate
+ ¥0.7 billion

Assumptions and Impact on Profits [3Q-4Q]

		FY3/18	FY3/19				
		Full(a)	1Q(a)	2Q(a)	3Q(f)	4Q(f)	Full(f)
JCC	USD/bbl	56.20	67.95	76.64	75.00	75.00	73.75
Exchange rate	JPY/USD	111.67	107.42	110.61	110.00	110.00	109.60
Canadian gas	CAD/mcf	2.07	2.04	1.21	1.64	1.90	1.65

Assumptions	JCC (3Q-4Q)	Exchange rate (3Q-4Q)	Canadian gas (4Q)
	USD75.00/bbl	JPY110.00/USD	CAD1.90/mcf
			JPY85/CAD

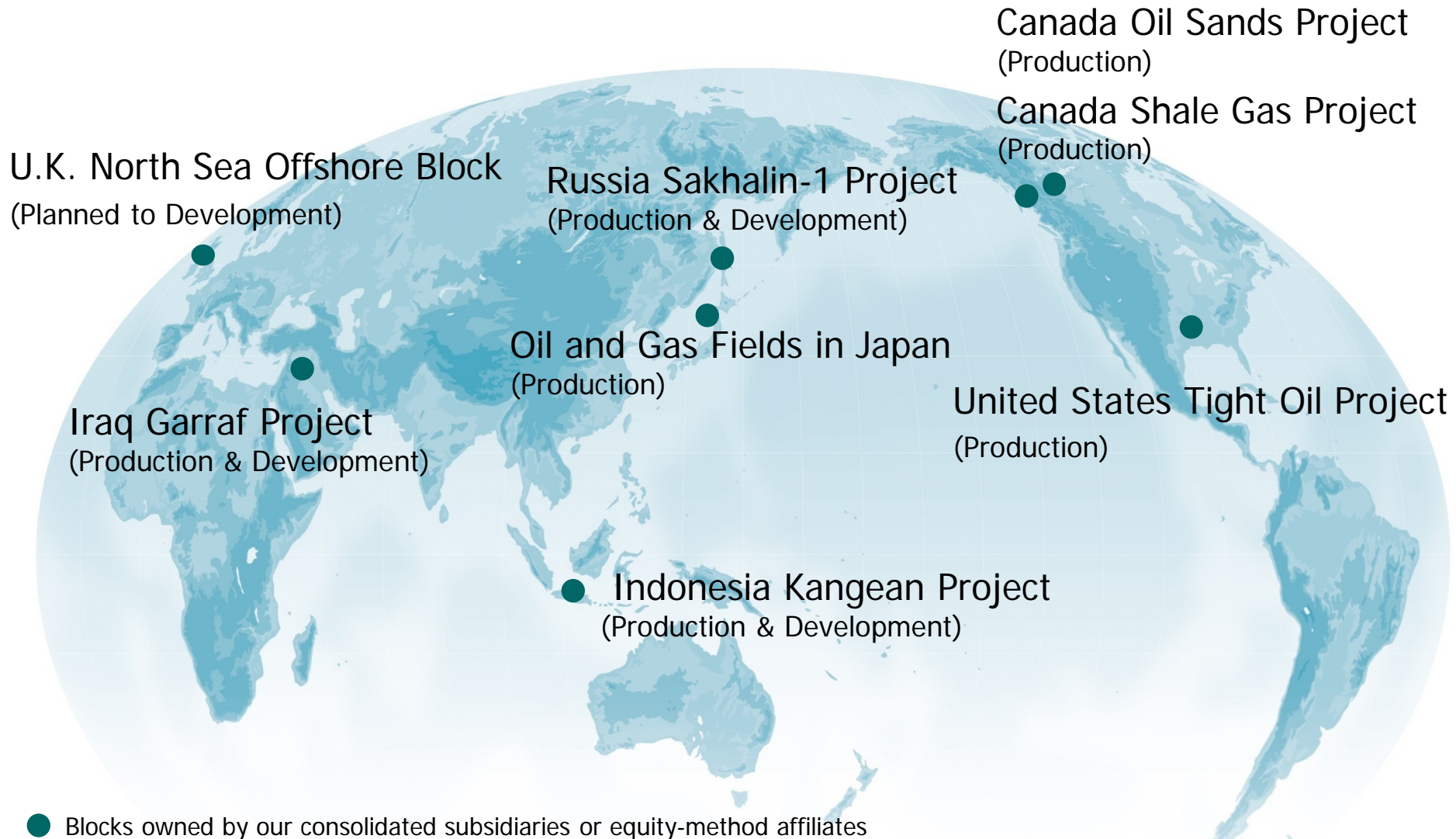
Impact on Profit	USD1/bbl increase in JCC would push profits up by...	A weakening in JPY1/USD exchange rates would push profits up by...	CAD 0.5/mcf increase in Canadian gas prices would push profits up by...
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Operating income (loss)	JPY 100million	JPY 130million	JPY 70million
Profit (loss) attributable to owners of parent	JPY 80million	JPY 70million	JPY 60million

Note: 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.

<Appendix>

E&P Business (1) Projects in Japan and Overseas



<Appendix>

E&P Business (2) Activities in Japan

- ✓ Operating 10 domestic oil and gas field
- ✓ Pursuing compensation of reserves in Japan and maintenance of the production volume
- ✓ Pursuing additional E&P potential including utilizing government basic surveys

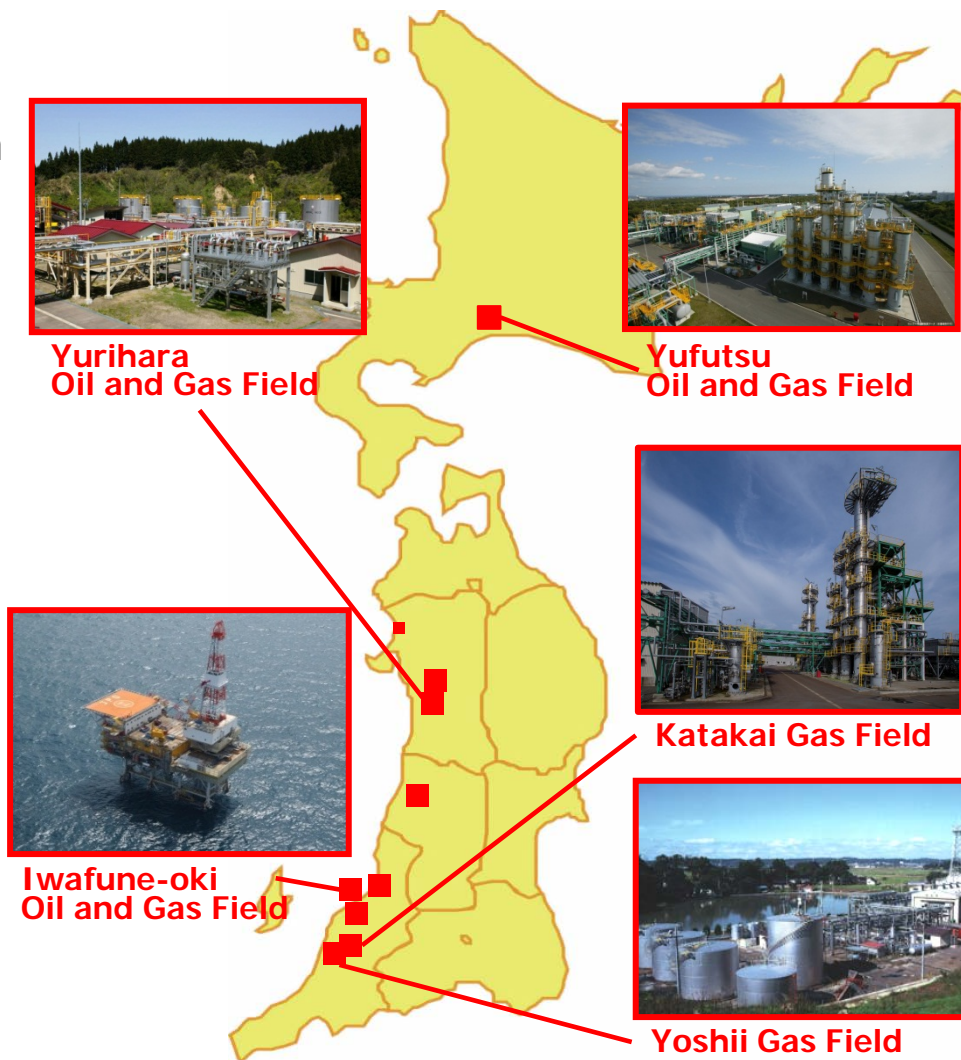
■ Major projects in progress

Development of a shallow reservoir of the Yufutsu Oil and Gas Field

In process of development toward production commencement in FY2020

Exploratory Drilling at Offshore Hidaka Area

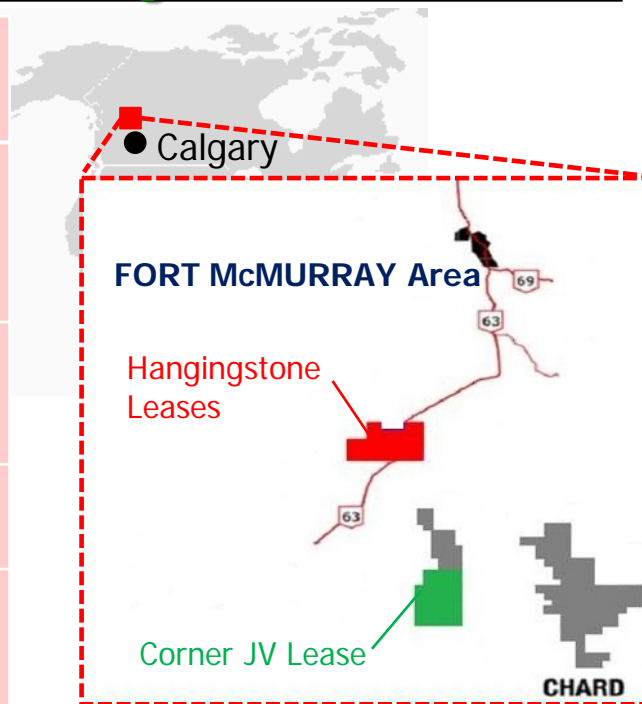
In preparation for exploratory drilling operation scheduled in 2019



<Appendix>

E&P Business (3) Canada: Oil Sands Project

Project	Canada Oil Sands Co., Ltd. (CANOS)	
Company	Operator : Japan Canada Oil Sands Ltd. (JACOS)	
Block	Hangingstone Leases 75% interests Gradual increase from 20,000 bbl/d	Ongoing Production
	Corner JV Lease 12% interests	Undergoing appraisal
	Other bitumen leases (includes Corner & Chard)	Considering future activities
	Current status January 2018; Relinquished Thornbury & Chard North (25% interests) April 2018; Sold the Hangingstone DEMO area (100% interests)	



■ Schedule of Hangingstone 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

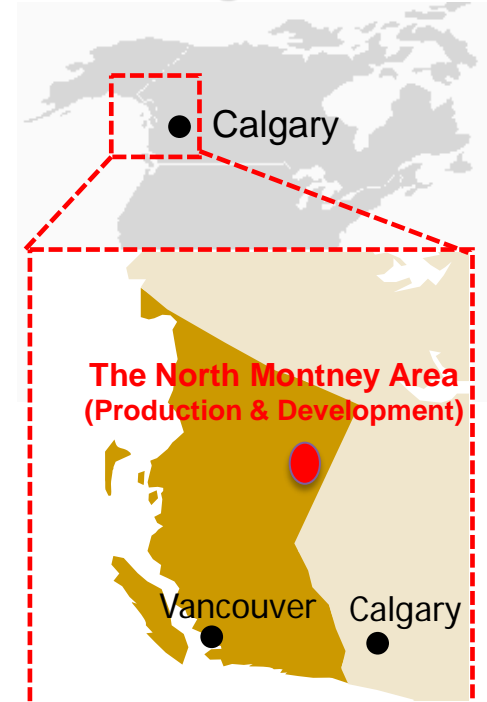


△ Rachel Notley, Premier of Alberta (second from the left) celebrating the opening ceremony of production startup

<Appendix>

E&P Business (4) Canada: Shale Gas Project

	Upstream: Shale gas project	Midstream: LNG project
Block	North Montney Area, British Columbia, Canada	Lelu Island, The Port of Prince Rupert, British Columbia, Canada
Interest	10% Interest	10% Equity
Operator	PETRONAS (Including subsidiaries)	PETRONAS (Including subsidiaries)
Current status	<ul style="list-style-type: none"> • Production and marketing gas approx. 500 mmcf/d • Executing the development plan prioritizing the area with high economics 	Decided not to proceed with the LNG project on July 25, 2017

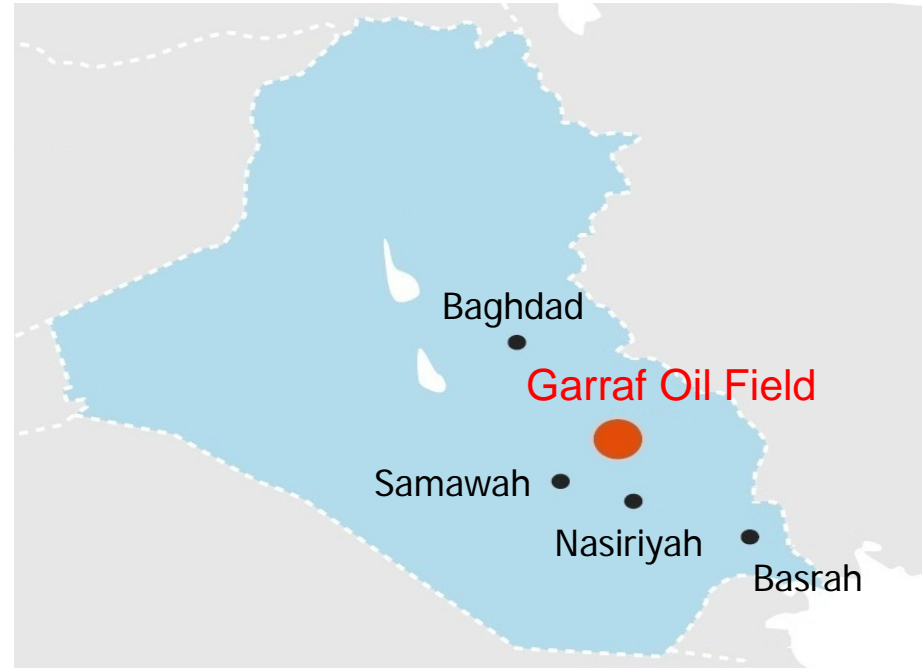


■ Schedule

April 2013	Signed a contract
July 2017	Decided not to proceed with the LNG project
Current status	Executing upstream development plan and working on to maximize the value and economics of the project

<Appendix> E&P Business (5) Iraq : Garraf Project

Project company	Japex Garraf Ltd.	
Interest	30% (cost share 40%) Operator : PETRONAS	
Field	Garraf Oil Field	In Production



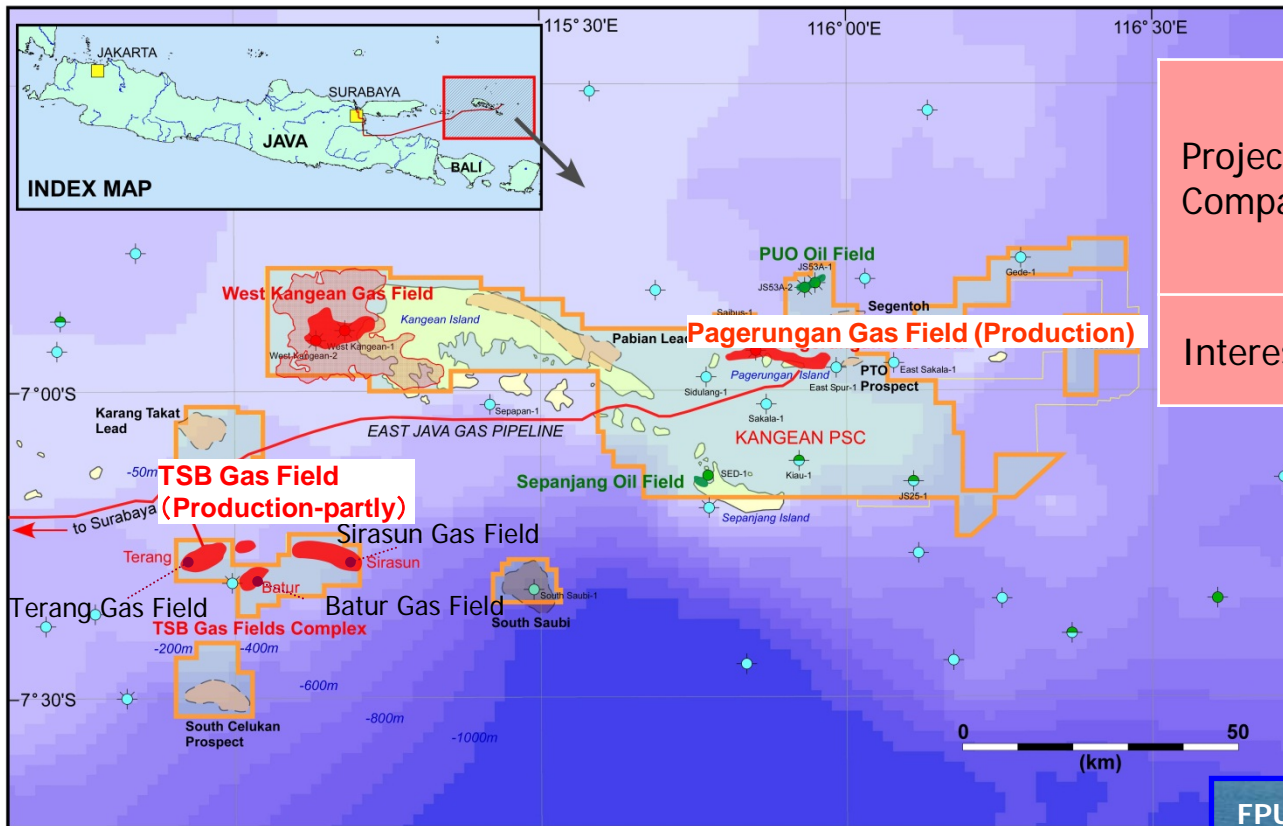
■ Schedule

2013	First oil production in August 2013 Average daily production: approx. 64,000 bbl/d
2014 -2020	Average daily production September 2018: approx. 90,000 bbl/d *Gradual increase the production rate to 230,000 bbl/d
2020 4Q	Achievement of plateau production target of 230,000 bbl/d



<Appendix>

E&P Business (6) Indonesia: Kangean Project



Project Company	Kangean Energy Indonesia Ltd. (KEI) + 2 others, Equity-method affiliate
Interest	25% (Operator : KEI)



Production volume 150 million cf/d (approx.26,000 boe/d) as of September 2018

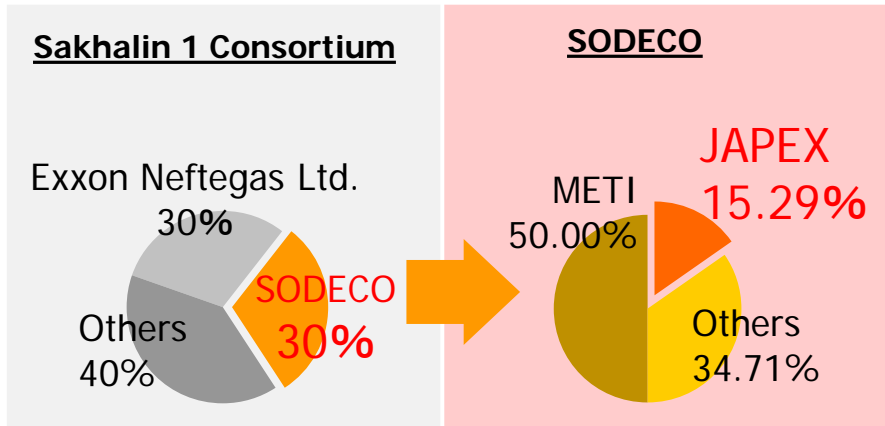
- the TSB Gas Field
 - (Phase1: Terang): Production started in May 2012
 - Production rate 140 million cf/d (approx.24,000 boe/d)
 - (Phase2: Sirasun, Batur): Under development towards gas production commencement in 2Q 2019

<Appendix>

E&P Business (7) Russia: Sakhalin-1 Project

Project Company
Sakhalin Oil and Gas Development Co., Ltd. (SODECO)
Equity-method affiliate

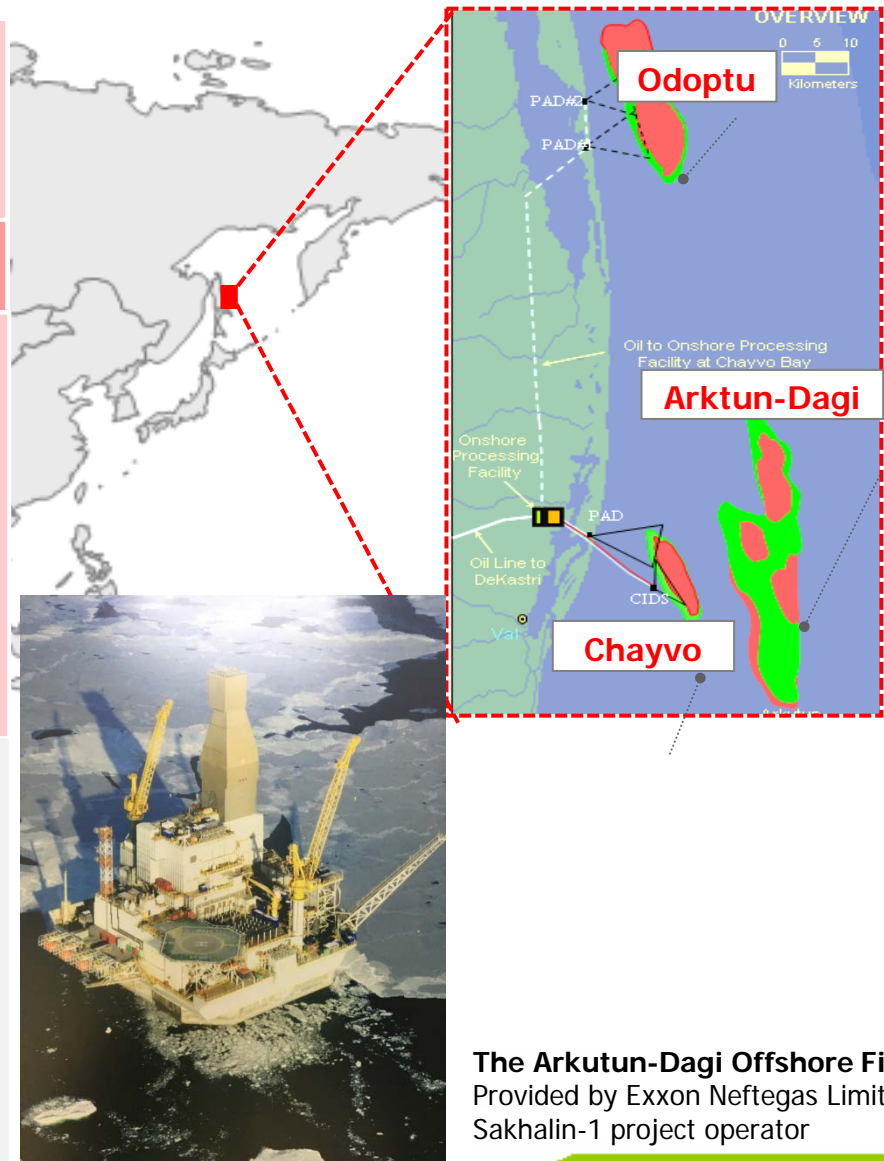
Interest



Chayvo,
Odoptu,
Arkutun-Dagi

In Production at each fields

*In 2017, the Chayvo Oil and Gas Field achieved a new world-record of extended reach drilling, at a measured depth of 15,000m



The Arkutun-Dagi Offshore Field
Provided by Exxon Neftegas Limited,
Sakhalin-1 project operator

<Appendix> Infrastructure & Utility Business (1) the Soma LNG Terminal

■ Soma LNG Terminal

Site	Shinchi-Town, Fukushima Pref. (No.4 wharf area of Soma Port)
Storage Tank	One LNG Tank of Aboveground Style/PC type containing 230,000kl
Receiving Facilities	LNG ocean-going vessel : Full set (maximum 210,000m3 class) LPG domestic vessel : Full set (maximum 2,500m3 class)
Vaporizer	Sending power : 7.0MPa 75t/h x2
Shipping Facilities	LNG domestic vessel : maximum 4,800 m3 class Tanker truck : 5 lanes, 30t/h
Commencement of Operation	March 2018

*In addition to the above, construction for another LNG tank (230,000kl) and LNG vaporization equipment is ongoing

■ Soma-Iwanuma Gas Pipeline

Starting / End point	Starting point : the Soma LNG Terminal End point : the Iwanuma Valve station
Gauge	20B
Design Pressure	6.86Mpa
Distance	Approx. 39km
Commencement of Operation from the Soma LNG Terminal	February 2018



△Bird view of the Soma LNG Terminal

<Appendix> Infrastructure & Utility Business (2)

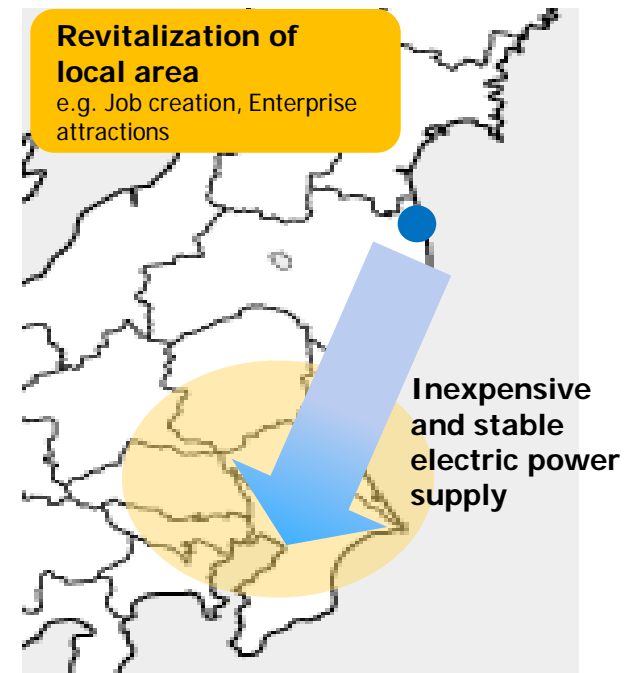
Natural Gas-Fired Power Generation Project

■ 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
2020	Commencement of commercial operations (planned)

* 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 Co2 injection was 207,000 tons as of the end of October 2018.

Methane Hydrate

Implementing 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.

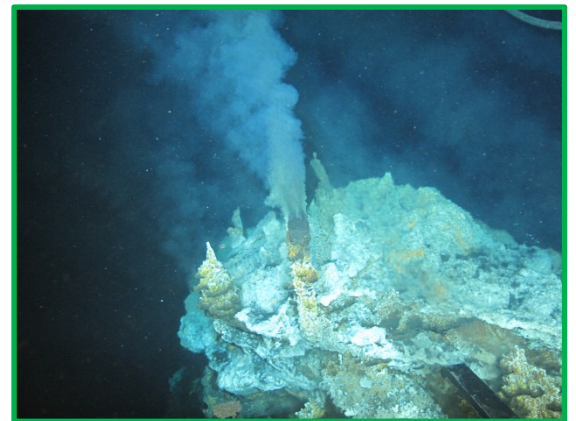
Next-Generation Technology for Ocean Resources Exploration

Developing the technology of research on mineral resources and toward creating private industries from 2014, through the Research and Development Partnership for Next-Generation Technology of Marine Resources Survey (J-MARES).



Photo provided by Japan CCS Co., Ltd

△Ground facilities of CCS Demonstration Project at Tomakomai



△Chimney (sulphide structure) formed by the eruption of hot water

<Appendix>

Abbreviation

- 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
- HE Hangingstone Expansion
- HSE Health, Safety and Environment
- IOR (EOR) Improved (Enhanced) Oil Recovery
- JCC Japan Crude Cocktail
- JOGMEC Japan Oil, Gas and Minerals National Corporation
- LNG Liquefied Natural Gas
- MH Methane Hydrate
- P/L Pipeline
- PNWL Pacific North West LNG
- ROE Return on Equity
- RRR Reserves Replacement Ratio
- SODECO Sakhalin Oil & Gas Development Co., Ltd.
- TSB Terang, Sirasun, Batur
- WTI West Texas Intermediate