



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

Financial Results

for the Six Months Ended September 30, 2019

November 8, 2019

Japan Petroleum Exploration Co., Ltd.

Agenda

I . Financial Highlights, Business Overview

Masahiro Fujita

Representative Director and President, Chief Executive Officer

II . Financial Results for the Six Months Ended September 30, 2019

Michiro Yamashita

Director, Managing Executive Officer

III . FY3/20 Forecasts

Michiro Yamashita

Director, Managing Executive Officer

I . Financial Highlights, Business Overview

Masahiro Fujita

Representative Director and President, Chief Executive Officer

Summary

1-2Q Results

Operating profit 7.7 bn. yen
(YoY +8.9 bn. yen)

Profit attributable to owners of parent 12.0 bn. yen
(YoY +9.6 bn. yen)

Forecasts for FY3/20

Operating profit 11.7 bn. yen
(Previous forecast +0.3 bn. yen / YoY +9.4 bn. yen)

Profit attributable to owners of parent 18.8 bn. yen
(Previous forecast +0.7 bn. yen / YoY +4.0 bn. yen)

Business Overview

Promoting Mid-term Business Plan, continuing investment in existing projects, and examine investment for growth

Return to Shareholders

Revised annual dividend forecast for FY3/20

50 yen per share for FY3/20 annual dividend, increased 10 yen from the latest forecast (Interim 25 yen, Year-end 25 yen)

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”

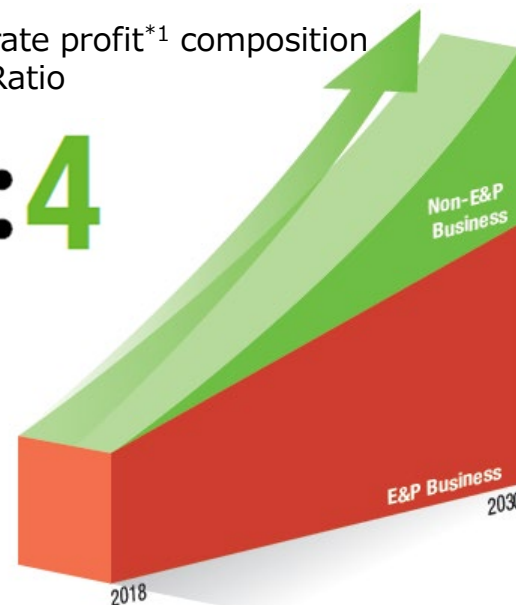
The profit composition JAPEX aims for in 2030
E&P Business : Non-E&P Business = 6 : 4

■ 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

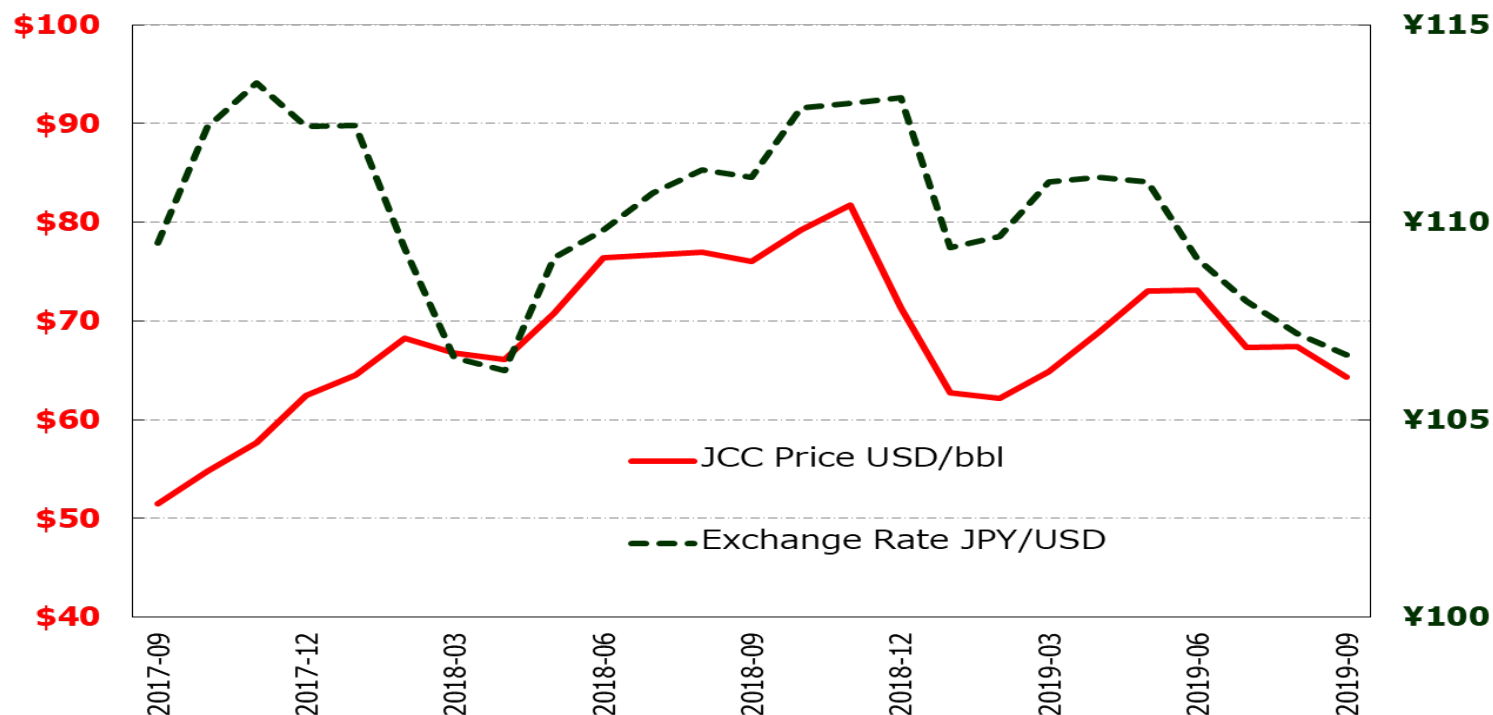
*1 Operating profit + Equity method investment income/loss basis

*2 RRR: Reserve Replacement Ratio

Trends in Crude Oil Price and Foreign Exchange Rate

USD/bbl

JPY/USD



	JCC Price (USD/bbl)	Exchange Rate (JPY/USD)
1-2Q FY3/20 (a)	69.13	109.78
First 10 days of Oct. 2019 (flash report basis)	64.52	107.84
3-4Q FY3/20 (f)	65.00	107.00

Financial Highlights : 1-2Q Results and Full Year Forecasts

Billion Yen	FY3/19		FY3/20			Change		
	1-2Q (a) ①	Full year (a) ②	1-2Q (a) ③	Full year (f) previous forecasts (Aug. 9, 2019) ④	Full year (f) Revised forecasts (Nov. 8, 2019) ⑤*	1-2Q (③-①)	Full year (⑤-②)	Full year (⑤-④)
Net sales	115.1	267.9	162.3	325.0	318.3	+47.2	+50.3	-6.6
Operating profit (loss)	-1.1	2.3	7.7	11.3	11.7	+8.9	+9.4	+0.3
Ordinary profit	1.2	12.5	13.6	20.6	21.8	+12.3	+9.3	+1.2
Profit attributable to owners of parent	2.4	14.7	12.0	18.0	18.8	+9.6	+4.0	+0.7

Assumptions

JCC (USD/bbl)	72.47	71.94	69.13	66.06	67.07	-3.34	-4.87	+1.01
Exchange rate (JPY/USD)	109.18	110.35	109.78	110.32	108.44	+0.60	-1.91	-1.88

* JAPEX announced "Revision of Financial Forecasts, Interim Dividend, and Year-end Dividend Forecast" on November 8, 2019, regarding the latest revision of consolidated financial forecasts of the fiscal year ending March 31, 2020.

Business Overview in the First Half of FY3/20

- Promoting Mid-term Business Plan, continuing investment in existing projects

E&P

Hokkaido: Development of Yufutsu Shallow Reservoir	Under development toward oil production commencement in June, 2020
Iraq: Garraf Project	Under development to increase of oil production volume toward 230,000 bbl/d scale at the end of 2020
U.K. North Sea Offshore Block Project	Under development toward oil and gas production commencement at the end of 2021
Hokkaido: Exploratory Drilling as National survey	Conducted exploratory drilling at offshore Hidaka Area from April to August, 2019

Infrastructure & Utility

Domestic Natural Gas Supply	Acquiring new clients to increase gas sales in Japan
Natural Gas-Fired Power Generation Project at Soma Port	Under construction of the Fukushima Natural Gas Power Plant* toward commercial operation commencement of No.1 Power Facilities in spring 2020 Promoting electricity sales of our share

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

Business Overview in the First Half of FY3/20

■ Examining investment for growth

E&P

Additional acquisition of interests in oil & gas properties

Examining projects or interests mainly development in overseas

Infrastructure & Utility

Renewable Energy Business

Examining opportunities including secondary market

Other New Business Seeds

LNG Bunkering

Supporting the arrangement of the study group aiming to implement the LNG Bunkering framework at Tomakomai Port, with the participation of the local government and Tomakomai Port authority

LNG Rail Transport

Adopted subsidy projects on feasibility study of LNG/energy supply business utilizing railways in overseas

Overview of Canada Oil Sand Project

■ Stable production and sales under recovering market

- Bitumen production: Operated at the maximum production capacity level in the first half of FY3/20
- Sales of diluted bitumen: Expecting significant improvement in profit over the previous year owing to improved price differential between Western Canadian Select (WCS)* and WTI

*Price index for west Canadian heavy oil

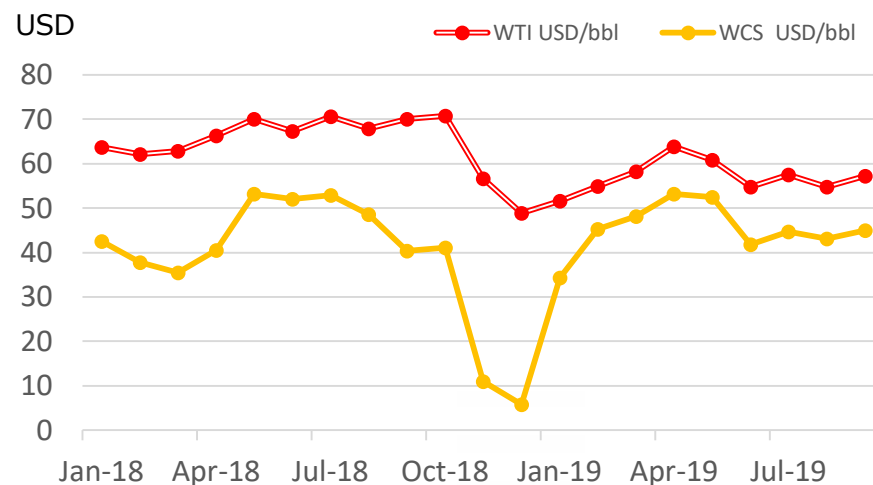
■ Current price differential worsened over the first half of 2019

- Continue to optimize production and sales

【Assumptions for FY12/19 forecasts】

	FY12/18 (a)	FY12/19 (f) (Nov.8, 2019)	Change
Annual sales forecasts (1,000 kl/y) <small>*Diluted bitumen basis</small>	1,176	1,672	+496
Outlook of annual average WTI (USD/bbl)	64.75	57.00	-7.75
Outlook of annual average the Price differential (%)	-42.30	-22.10	+20.20

Trend in WTI and WCS
(January 2018 – September 2019)



Policy on Shareholders Return, Revision of Dividend Forecast

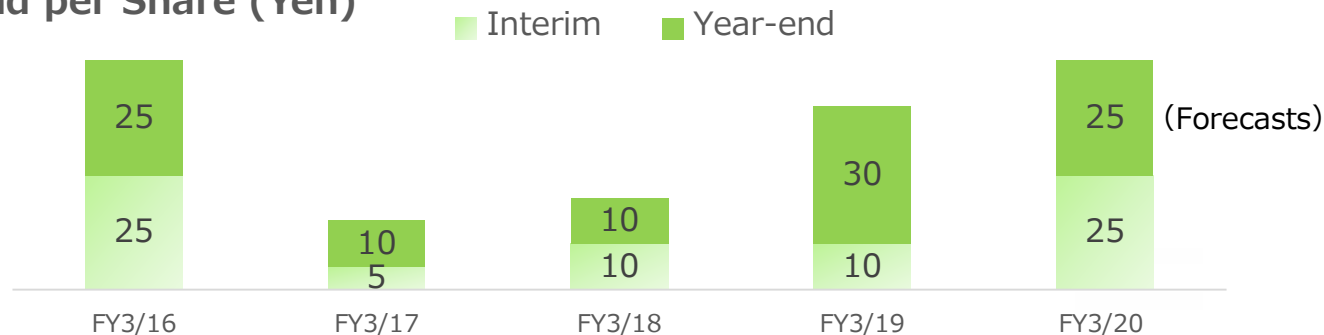
■ Maintaining long-term and stable dividend

- Based on mid-long term business outlook, JAPEX determines an amount of dividend comprehensively considering our financial plan including investments for securing oil and gas reserves in Japan and overseas, retained earnings for maintaining and expanding our supply infrastructure, as well as considering profit of each fiscal year and future capital demands.

■ Revision of Dividend Forecast for FY3/20

- Increased annual dividend per share to 50 yen from previous forecast of 40 yen (Interim 25 yen, Year-end 25 yen)

Dividend per Share (Yen)



II. Financial Results for the Six Months Ended September 30, 2019

Michiro Yamashita

Director, Managing Executive Officer

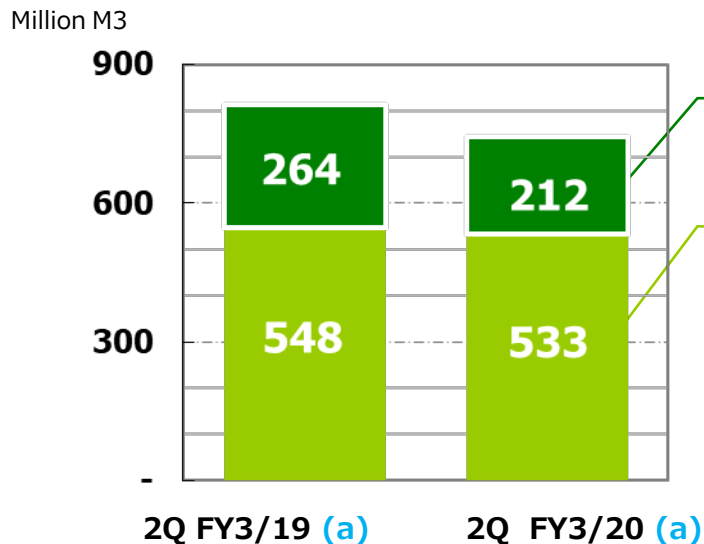
Natural Gas Sales for 1-2Q FY3/20 (Year-on-Year)

Sales volume : Million M3 Net sales : Million Yen		FY3/19 1-2Q (a)	FY3/20 1-2Q (a)	Change
Natural gas	Sales volume	813	746	-66
	Net sales	27,835	29,362	1,527

Increase in sales price in Japan

Sales volume by region

Japan	Sales volume	548	533	-15
<i>Gas produced in Japan</i>	<i>Sales volume</i>	(287)	(270)	(-17)
Overseas	Sales volume	264	212	-51



Decrease in shale gas sales volume in Canada

Sales volume of overseas gas

Sales volume of gas in Japan

Sales volume in "Overseas" which are volume of 2 overseas subsidiaries (Japex (U.S.) Corp. and JAPEX Montney Ltd.,).



Crude Oil Sales for 1-2Q FY3/20 (Year-on-Year)

Sales volume : Thousand KL Net sales : Million Yen		FY3/19 1-2Q(a)	FY3/20 1-2Q(a)	Change
Crude Oil	Sales volume	1,278	2,308	+1,029
	Net sales	54,305	92,288	+37,982

Growth in sales volume of crude oil produced in overseas, and diluted bitumen

Equity oil sales

Crude oil produced in Japan* ¹	Sales volume	131	147	+16
	Net sales	6,927	7,371	+443
Crude oil produced in overseas* ²	Sales volume	185	629	+444
	Net sales	9,298	28,719	+19,420
Diluted bitumen* ³	Sales volume	496	838	+341
	Net sales	13,257	23,385	+10,128

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

Growth in bitumen production volume of the Hangingstone lease

Sales price and exchange rate

JCC	USD/bbl	72.47	69.13	-3.34
Diluted bitumen* ³	USD/bbl	38.37	41.20	+2.83
Exchange rate	JPY/USD	109.18	109.78	+0.60

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

*2 Sales volume and net sales of "Crude oil produced in overseas" which are volume 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.

1-2Q FY3/20 Results (Year-on-Year)

Million Yen	FY3/19 1-2Q (a)	FY3/20 1-2Q (a)	Change
Net sales	115,136	162,346	+47,210
Gross profit	14,126	23,101	+8,975
Exploration expenses	362	358	-4
SG&A expenses	14,946	15,013	+67
Operating profit (loss)	-1,183	7,730	+8,913
Non-operating income	2,476	5,906	+3,429
Ordinary income	1,293	13,636	+12,342
Extraordinary income (losses)	618	-19	-637
Income taxes	394	1,512	+1,118
Profit (loss) attributable to non-controlling interests	-915	34	+950
Profit attributable to owners of parent	2,433	12,069	+9,636

Main factors for change

Increase factor “+” / Decrease factor “()”

Gross profit

Domestic business +¥ 2.3 bn.

Overseas business +¥ 6.6 bn.

Non-operating income (expenses)

Foreign currency translation adjustments on debt, foreign exchange gains and losses
(FY3/19) Loss of ¥2.9 bn. → (FY3/20) Gains of ¥1.4 bn.
+¥4.4 bn.

Equity on earnings (¥1.0 bn.)

Ⅲ. FY3/20 Forecasts

Michiro Yamashita
Director, Managing Executive Officer

Price Assumptions for FY3/20 Forecasts

2019				2020	Full year
Jan.-Mar.	Apr.-Jun.	Jul.-Sep.	Oct.-Dec.	Jan.-Mar.	

WTI	USD/bbl	Previous	54.90	59.76	55.97	55.00		56.41
		Revised	54.90	59.90	56.50	56.40		57.00
JCC	USD/bbl	Previous		68.77	65.00	65.00	65.00	66.06
		Revised		68.77	69.55	65.00	65.00	67.07
Exchange rate	JPY/USD	Previous		111.11	110.00	110.00	110.00	110.32
		Revised		111.11	108.26	107.00	107.00	108.44

JACOS Diluted bitumen ^{*1}	USD/bbl	Previous	37.98	44.23	36.21	33.60		38.08
		Revised	37.98	44.20	39.94	34.42		39.29
JML Natural gas ^{*2}	CAD/mcf	Previous	2.28	1.41	1.57	1.57		1.71
		Revised	2.28	1.33	1.57	1.75		1.74

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

*2 "JML Natural gas" which is the gas sales price of JAPEX Montney Ltd. (Excl. Royalty)

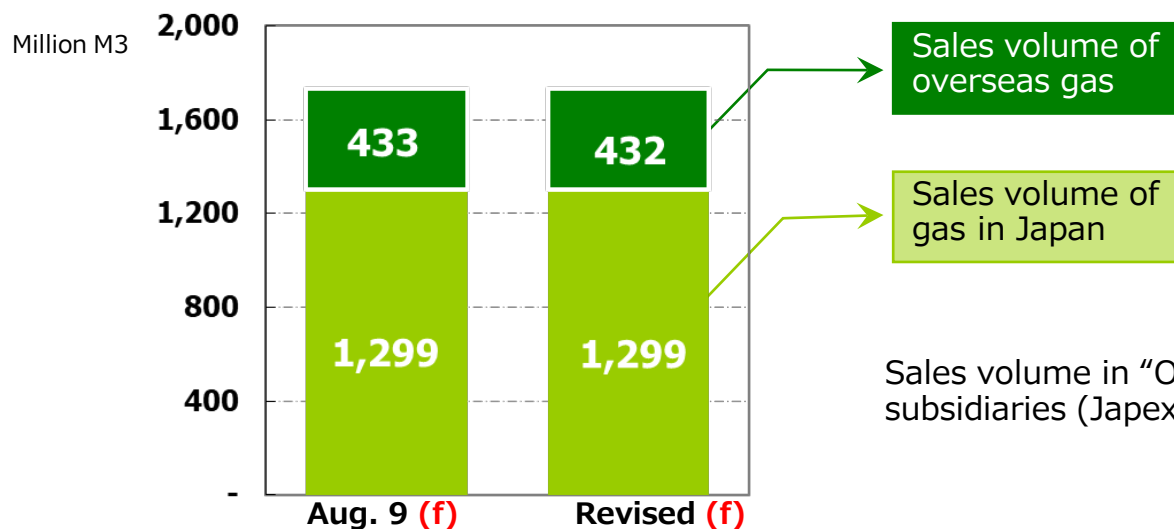
Natural Gas Sales Forecasts for FY3/20 (vs Aug. 9 Forecasts)

Sales volume : Million M3 Net sales : Million Yen		FY3/20	FY3/20	Change
		Previous (f) Aug. 9, 2019	Revised (f) Nov. 8, 2019	
Natural gas	Sales volume	1,732	1,731	-1
	Net sales	70,479	69,173	-1,306

Decrease in sales price in Japan

Sales volume by region

Japan	Sales volume	1,299	1,299	-0
Gas produced in Japan	Sales volume	(562)	(569)	(+7)
Overseas	Sales volume	433	432	-0



Sales volume in "Overseas" which are volume of 2 overseas subsidiaries (Japex (U.S.) Corp. and JAPEX Montney Ltd.,).

Crude Oil Sales Forecasts for FY3/20

(vs Aug. 9 Forecasts)

Sales volume : Thousand KL Net sales : Million Yen		FY3/20 Previous (f) Aug. 9, 2019	FY3/20 Revised (f) Nov. 8, 2019	Change
Crude Oil	Sales volume	4,662	4,536	-126
	Net sales	180,270	173,367	-6,902

Decrease in sales volume of crude oil produced in overseas

Equity oil sales

Crude oil produced in Japan*1	Sales volume	278	291	+13
	Net sales	13,392	13,904	+512
Crude oil produced in overseas*2	Sales volume	1,349	1,185	-165
	Net sales	58,959	51,453	-7,506
Diluted bitumen*3	Sales volume	1,654	1,672	+19
	Net sales	43,606	44,191	+585

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

Assumptions

JCC	USD/bbl	66.06	67.07	+1.01
Diluted bitumen*3	USD/bbl	38.08	39.29	+1.21
Exchange rate	JPY/USD	110.32	108.44	-1.88

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

*2 Sales volume and net sales of "Crude oil produced in overseas" which are volume 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 Forecast (vs Aug. 9 Forecasts)

Million Yen	FY3/20 Previous (f) Aug. 9, 2019	FY3/20 Revised (f) Nov. 8, 2019	Change
Net sales	325,014	318,351	-6,663
Gross profit	43,285	43,912	+627
Exploration expenses	1,083	969	-114
SG&A expenses	30,858	31,208	+350
Operating profit (loss)	11,344	11,735	+391
Non-operating income (expenses)	9,350	10,163	+813
Ordinary profit (loss)	20,694	21,898	+1,204
Extraordinary income (losses)	-62	-111	-49
Income taxes	2,898	3,415	+517
Loss attributable to non-controlling interests	-288	-447	-159
Profit attributable to owners of parent	18,022	18,820	+797

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

Gross profit

Domestic business (¥0.4 bn.)
Overseas business + ¥1.0 bn.

Non-operating income

Equity on earnings +¥ 1.3 bn.
Foreign currency translation adjustments on debt, foreign currency exchange gains and losses (¥ 0.4 bn.)

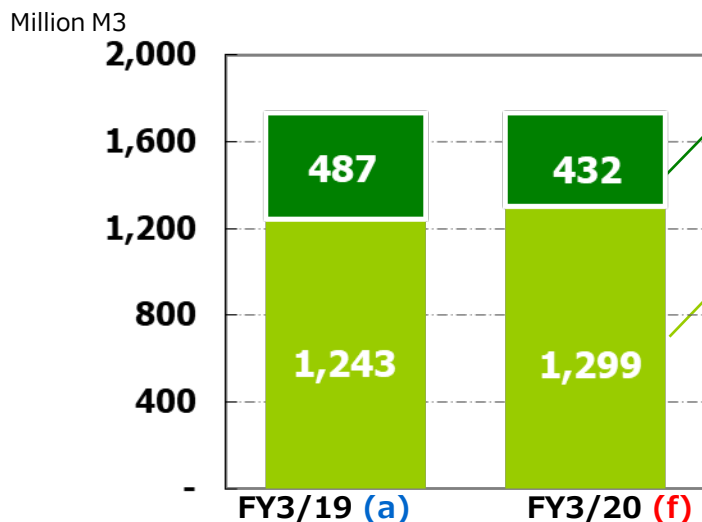
Natural Gas Sales Forecasts for FY3/20 (Year-on-Year)

Sales volume : Million M3 Net sales : Million Yen		FY3/19(a)	FY3/20 Revised (f) Nov. 8, 2019	Change
Natural gas	Sales volume	1,731	1,731	+0
	Net sales	67,820	69,173	+1,353

Growth in sales volume in Japan

Sales volume by region

Japan	Sales volume	1,243	1,299	+55
Gas produced in Japan	Sales volume	(630)	(569)	(-62)
Overseas	Sales volume	487	432	-55



Sales volume of overseas gas

Decrease in shale gas sales volume in Canada

Sales volume of gas in Japan

Growth in demand for commissioning of the Fukushima Natural Gas Power Plant

Sales volume in "Overseas" which are volume of 2 overseas subsidiaries (Japex (U.S.) Corp. and JAPEX Montney Ltd.,).

Crude Oil Sales Forecasts for FY3/20

(Year-on-Year)

Sales volume : Thousand KL Net sales : Million Yen		FY3/19(a)	FY3/20 Revised (f) Nov. 8, 2019	Change
Crude Oil	Sales volume	3,064	4,536	+1,471
	Net sales	124,696	173,367	+48,671

Growth in sales volume

Equity oil sales

Crude oil produced in Japan* ¹	Sales volume	261	291	+29
	Net sales	13,746	13,904	+158
Crude oil produced in overseas* ²	Sales volume	366	1,185	+818
	Net sales	16,599	51,453	+34,854
Diluted bitumen* ³	Sales volume	1,176	1,672	+496
	Net sales	30,116	44,191	+14,075

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

Growth in bitumen production volume of the Hangingstone lease

Assumptions

JCC	USD/bbl	71.94	67.07	-4.87
Diluted bitumen* ³	USD/bbl	36.67	39.29	+2.62
Exchange rate	JPY/USD	110.35	108.44	-1.91

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

*2 Sales volume and net sales of "Crude oil produced in overseas" which are volume 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 Forecast (Year-on-Year)

Million Yen	FY3/19(a)	FY3/20 Revised (f) Nov. 8, 2019	Change
Net sales	267,980	318,351	+50,371
Gross profit	34,846	43,912	+9,065
Exploration expenses	788	969	+180
SG&A expenses	31,743	31,208	-536
Operating profit	2,313	11,735	+9,422
Non-operating income	10,209	10,163	-47
Ordinary profit	12,523	21,898	+9,375
Extraordinary income (losses)	550	-111	-661
Income taxes	-1,254	3,415	+4,670
Loss attributable to non-controlling interests	-441	-447	-6
Profit attributable to owners of parent	14,770	18,820	+4,049

Main factors for change

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

Gross profit

Domestic business (¥1.5 bn.)

Overseas business +¥10.6 bn.

Non-operating income (expenses)

- Equity on earnings (¥ 4.4 bn.)

- Dividend income +¥2.9 bn.

- Foreign currency translation adjustments on debt, foreign exchange gains and losses

(FY3/19) Loss of ¥5.2bn. →(FY3/20) Gains of ¥0.1bn.
+¥5.4 bn.

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

- Decrease in interest income (¥0.5bn.)

- Increase in interest expenses (¥0.3bn.)

Income taxes

(FY3/19) Increase in tax expense due to absence of one-time factor incurred in precious period (¥2.8bn.)

(FY3/19) Application of foreign tax credit on Garraf Project (¥2.3bn.)

Tax expense of JACOS (¥1.0bn.)

Tax effect of U.K. North Sea Offshore Project +¥1.6bn.

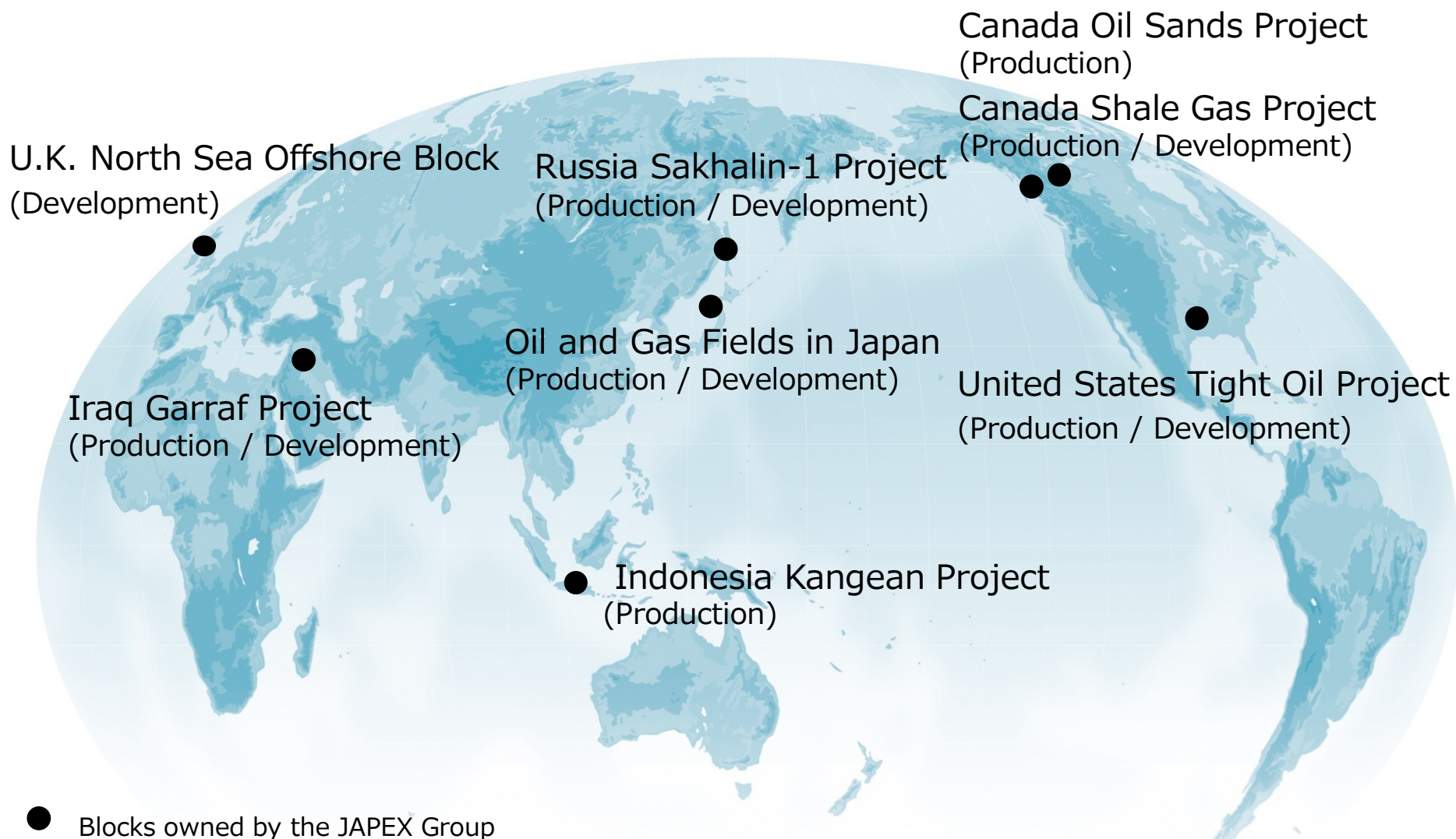
Sensitivities Analysis on FY3/20 Forecasts basis (3Q-4Q)

	FY3/20 3Q-4Q 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	JCC USD 65.00/bbl	Increase by USD1/bbl	120	90	+ Sales of oil and gas (Increase in LNG procurement cost)
	WTI USD 56.50/bbl		24	16	+ Sales of diluted bitumen
Exchange rate	¥ 107.00/USD	1 weaker yen against USD	240	170	+ Sales of oil and gas (Increase in LNG procurement cost)
Natural gas price in Canada	CAD 1.66/mcf ¥ 80.75/CAD	Increase by CAD1/mcf	90	90	+ Sales of shale gas in Canada (Increase in operation cost of the Hangingsstone lease)

- Changes in equity method investment gain are 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 various other factors besides crude oil prices and exchange rates.

Appendix

<Appendix> E&P Business-1 Main Projects



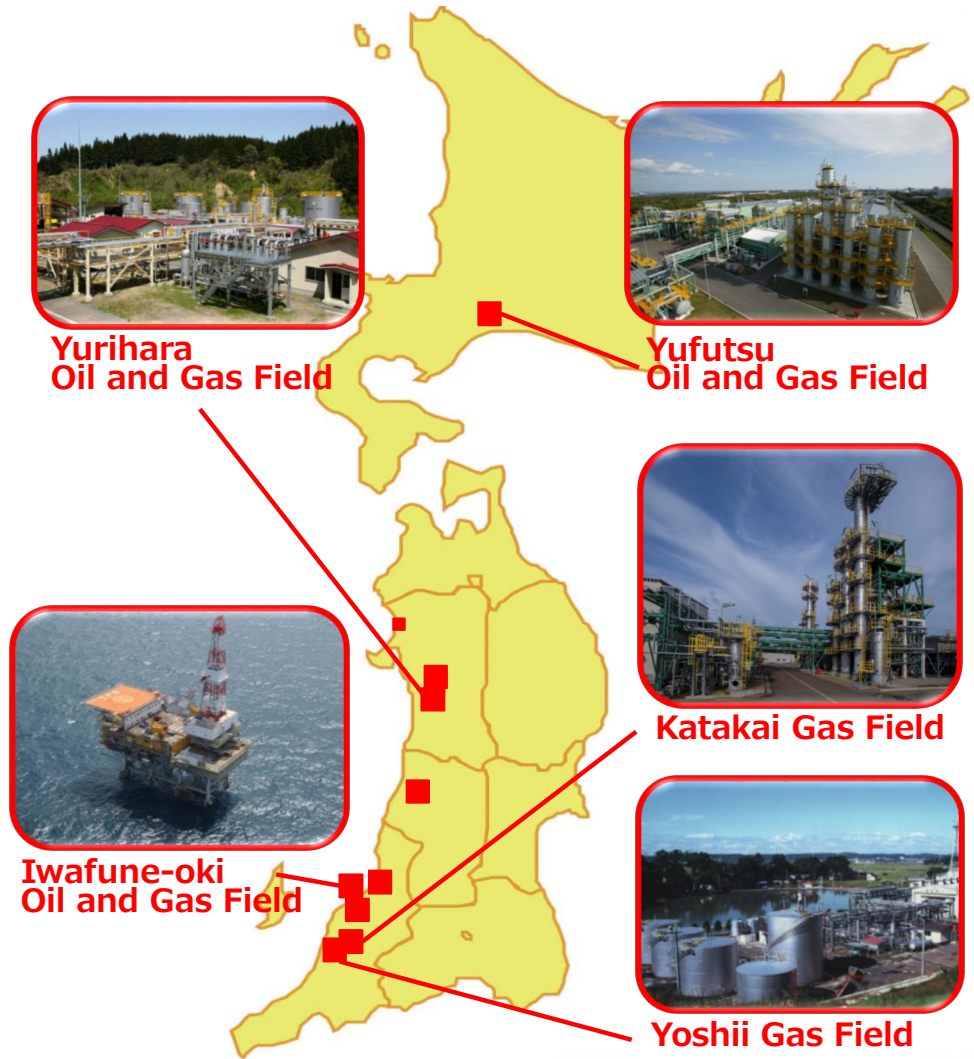
<Appendix>

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

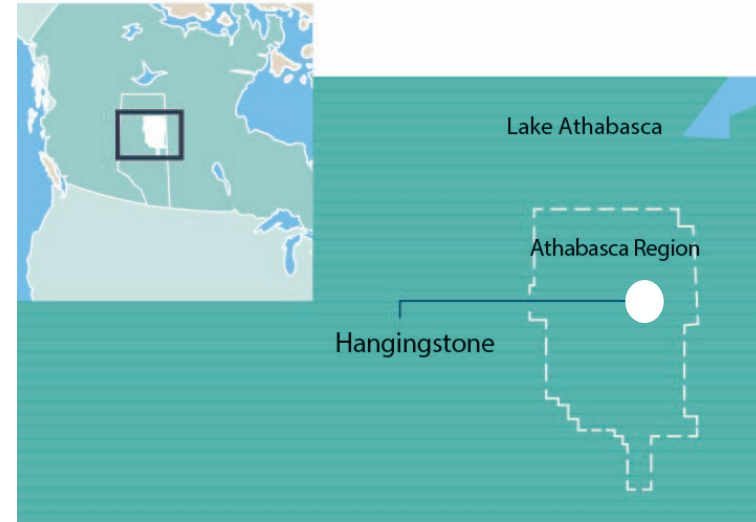
Development of a shallow reservoir of Yufutsu Oil and Gas Field	In process of development toward production commencement in fiscal 2020
Exploratory Drilling as National survey in Hokkaido	Drilled exploratory well at offshore Hidaka Area from April to August 2019



<Appendix>

E&P Business-3 Canada: Oil Sands Project

Project company	Canada Oil Sands Co., Ltd. (CANOS) JAPEX's share 94.58% Overseas subsidiary : Japan Canada Oil Sands Ltd. (JACOS)	
Block & Interest /Status	Hangingsone Leases 75% interests (Operator)	In Production
	Corner JV Lease 12% interests	Undergoing appraisal
	Other bitumen leases (includes Corner & Chard)	Considering future activities
Gross production rate	26,066bbl/d as average of September 2019	
Recent activities	<ul style="list-style-type: none"> Relinquished 25% interests of Thornbury & Chard North in January 2018 Sold 100% interests of Hangingsone DEMO area in April 2018 	



The Central Processing Facility

■ Timeline 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	JAPEX Montney Ltd. (JML) JAPEX's share 45%
Block	North Montney Area
Interest	10%
Status	Production/Development
Operator	PETRONAS group
Gross production rate	1,186M3/d Approx. 6.9Kboe/d as of September 2019
Recent activities	Executing the development plan prioritizing the area with high economics. Working on to maximize the value and economics of the project.

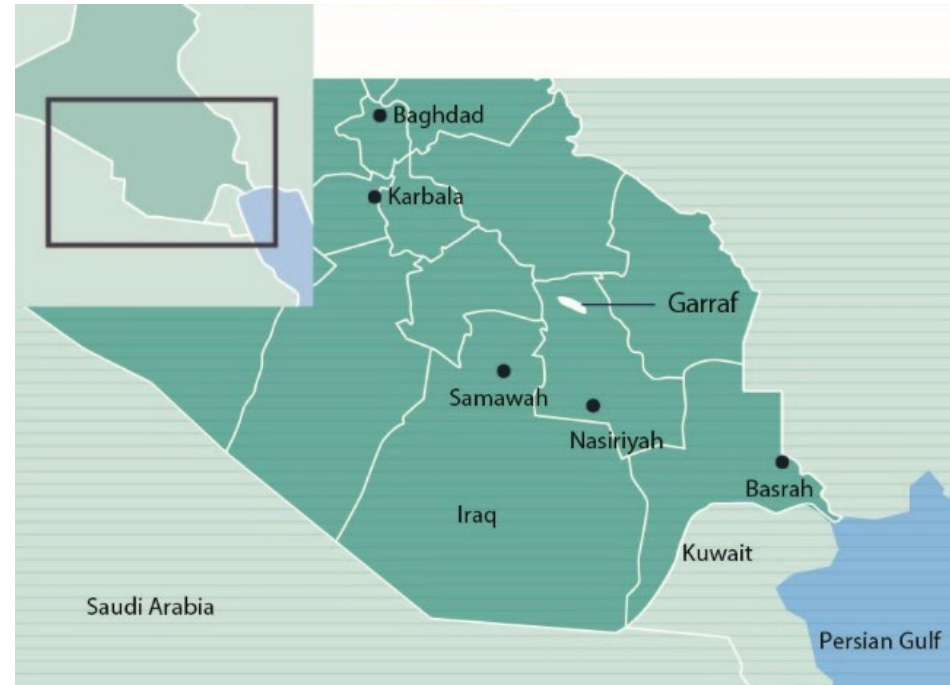


The bird's-eye View of the Plant

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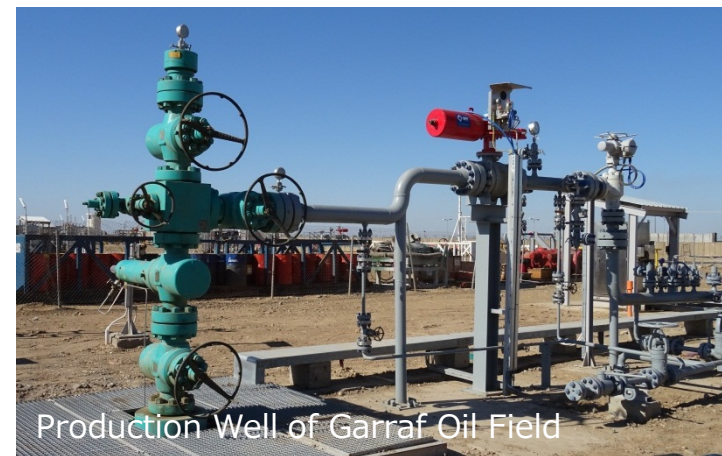
E&P Business-5 Iraq: Garraf Project

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. 97,000Kbbl/d as average of September 2019



■ Timeline of Garraf Project

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 of the production
2020 4Q	Achievement of plateau production target of 230,000 bbl/d



Production Well of Garraf Oil Field

<Appendix>

E&P Business-6 Indonesia: Kangean Project

Project company	Energi Mega Pratama Inc. JAPEX's share 25% 2 other affiliates
Block	Kangean Block
Interest	100%
Status	Production
Operator	Kangean Energy Indonesia Ltd.
Gross production rate	6,200,000M3/d Approx. 38,000 boe/d as average of September 2019



■ Timeline 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)



FPU (Floating production unit) in the TSB Gas Field

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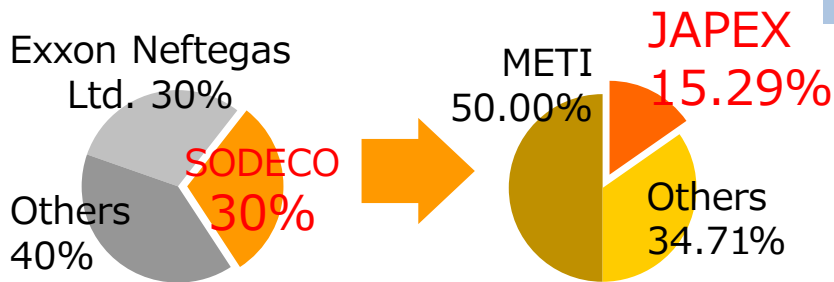
E&P Business-7 Russia: Sakhalin-1 Project

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



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

Status	Development/ Production
Operator	Exxon Neftegas Ltd.

<Appendix>

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

Project company	JAPEX UK E&P Ltd. JAPEX's share 100%
Block	Seagull Field
Interest	15%
Status	Development
Operator	Neptune E&P UK Limited



■ Timeline of Seagull Field Development

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



Production test at the Seagull Block

<Appendix> Infrastructure & Utility Business-1

Natural Gas Supply Chain in Japan

JAPEX transport and supply crude oil and natural gas through pipelines and by tank trucks and tankers. Also, we are expanding the scope of our energy business, which includes receiving imported LNG and electric power generation.



LNG tank truck



Arch bridge of Niigata-Sendai Gas Pipeline



LNG tank containers by railway



The Soma LNG Terminal and the Fukushima Natural Gas Power Plant

<Appendix> Infrastructure & Utility Business-2 Power Generation Project

Natural Gas-Fired Power Generation Project

Head Office: Fukushima Gas Power Co., Ltd.*



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

■ Power Plant Construction 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 : Spring, No.2 Gas Turbine: Autumn)

*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%

Renewable Energy Business

We aim to develop businesses in solar, biomass, wind power and geothermal, utilizing our expertise in oil and natural gas development and production operations, building good relationships with local communities, operating power generation facilities and fuel procurement in the Natural Gas-Fired Power Generation Project.



JAPEX Hokkaido District Office's mega-solar power plant site

<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 284,009 tons as of the end of September 2019.

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 sand-layer type methane hydrate.

Deep-Sea Mineral Resources Exploration

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)

Creating unique business seeds

Implementing new initiatives to identify and materialize new business seeds in the peripheral fields of existing businesses that utilize JAPEX technology and knowledge. In February, 2019, JAPEX and partners launched the study group aiming to implement the LNG Bunkering framework based on Tomakomai Port.



Ground facilities of CCS Demonstration Project at Tomakomai



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)

Abbreviations

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.

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 (FY3/20, for instance, means 12 months ending March 31, 2020)

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