



Japan Petroleum Exploration Co., Ltd.

Corporate Report

2019

For the Year Ended March 31, 2019

What JAPEX can do for a better future

In September 2015, the United Nations put forth the 2030 Agenda for Sustainable Development highlighting 17 Sustainable Development Goals (SDGs) as growth objectives common to international society to achieve a society “leaving no one behind.” Upon the November 2016 enactment of the Paris Agreement, the Japanese government pledged a long-term national target of reducing greenhouse gas emissions by 80% by the end of 2050.

JAPEX announced its “Long-term Vision 2030” in May 2018.

While contributing to the creation of a sustainable society and aiming to realize our vision for 2030, we will achieve growth as a company trusted by its stakeholders.

Corporate Vision

JAPEX contributes to society through stable supply of energy,
and solve social issues to realize sustainable development agendas.

- Explore, develop, produce and deliver oil and natural gas in Japan and overseas.
- Further enhance natural gas supply chain, consisting of our domestic infrastructures, by power supply business.
- Contribute to solve problems for sustainable society on energy and climate change, through development and commercialization of new technology utilizing our existing technology and expertise.
- Trust with stakeholder as first priority and achieve sustainable growth and maximize corporate value.

2018

2030

2050

Named the “JAPEX Jomon Forest,” these trees were planted by the JAPEX Group as part of its forest nurturing activities. (Nagaoka City, Niigata Prefecture)

JAPEX Group Code of Ethics and Conduct

To realize our Corporate Vision and sustain as a company trusted by society, we hereby establish the JAPEX Group Code of Ethics and Conduct, which provides corporate ethics standards and action principles to be adhered by all officers and employees.

- 1. Comply with applicable laws and regulations both domestically and internationally, and respect international code of conduct
- 2. Place top priority on HSE (health, safety and environment)
- 3. Strive to build trusting relationship with stakeholders and contribute to society
- 4. Respect the human rights of all people
- 5. Develop a good working environment
- 6. Engage in fair and free competition and maintain appropriate trading practices
- 7. Maintain sound and transparent relationships with politicians, political parties and government officials/agencies
- 8. Oppose to any anti-social forces with resolute attitude and be free of any relations with such forces
- 9. Handle confidential information and personal/customer data with discretion

In light of changes in the external environment and in consideration of the revisions made in the Charter of Corporate Behavior issued by the Keidanren (Japan Business Federation), we updated the JAPEX Group Code of Conduct in November 2019. Doing so entailed undertaking a comprehensive review of the previous Code of Conduct, with particular focus placed on building relationships of trust with stakeholders, respecting human rights, and developing good workplace environments. Simultaneously, we have decided to announce concrete action plans aimed at putting this Code of Ethics and Conduct into practice.

Editorial Policy

We issue our *Corporate Report* to facilitate the understanding of our economic, social and environmental activities over the most recent fiscal year as well as our business strategies, financial position and CSR activities aimed at securing corporate sustainability and growth potential. We position this report as a key communication tool with our stakeholders, and are striving to enhance its content.

Reference Guidelines

METI, "Guidance for Collaborative Value Creation"
IIRC, "International Integrated Reporting Framework"
GRI, "Sustainability Reporting Standards"

Organizations Covered by this Report

This report covers Japan Petroleum Exploration Co., Ltd. (JAPEX), and its 21 consolidated subsidiaries and other group companies. Environmental performance data (P.23, P.39, P.50-51) are for JAPEX and Japex Offshore Ltd.

Reporting Period

Fiscal 2018 started on April 1, 2018 and ended March 31, 2019. Some statements include data before March 31, 2018 or after April 1, 2019.

Issuing Date

December 2019 (Next issue: October 2020)

Disclaimer

This report includes past and current facts about JAPEX and its affiliate firms, their plans and prospects as of the issuing date, as well as forecasts based on their business plans and corporate management policies. These forecasts represent management's assumptions or decisions based on information currently available. Readers should be aware that actual results may be different from these forecasts due to changes in the business environment.

Information Disclosure Sources

This report presents important information with the aim of enhancing understanding of our company. More-detailed information is available on our website.

Financial Information



Website: IR Information
<https://www.japex.co.jp/english/ir/>

Corporate Report



Non-financial Information



Website: CSR
<https://www.japex.co.jp/english/csr/>

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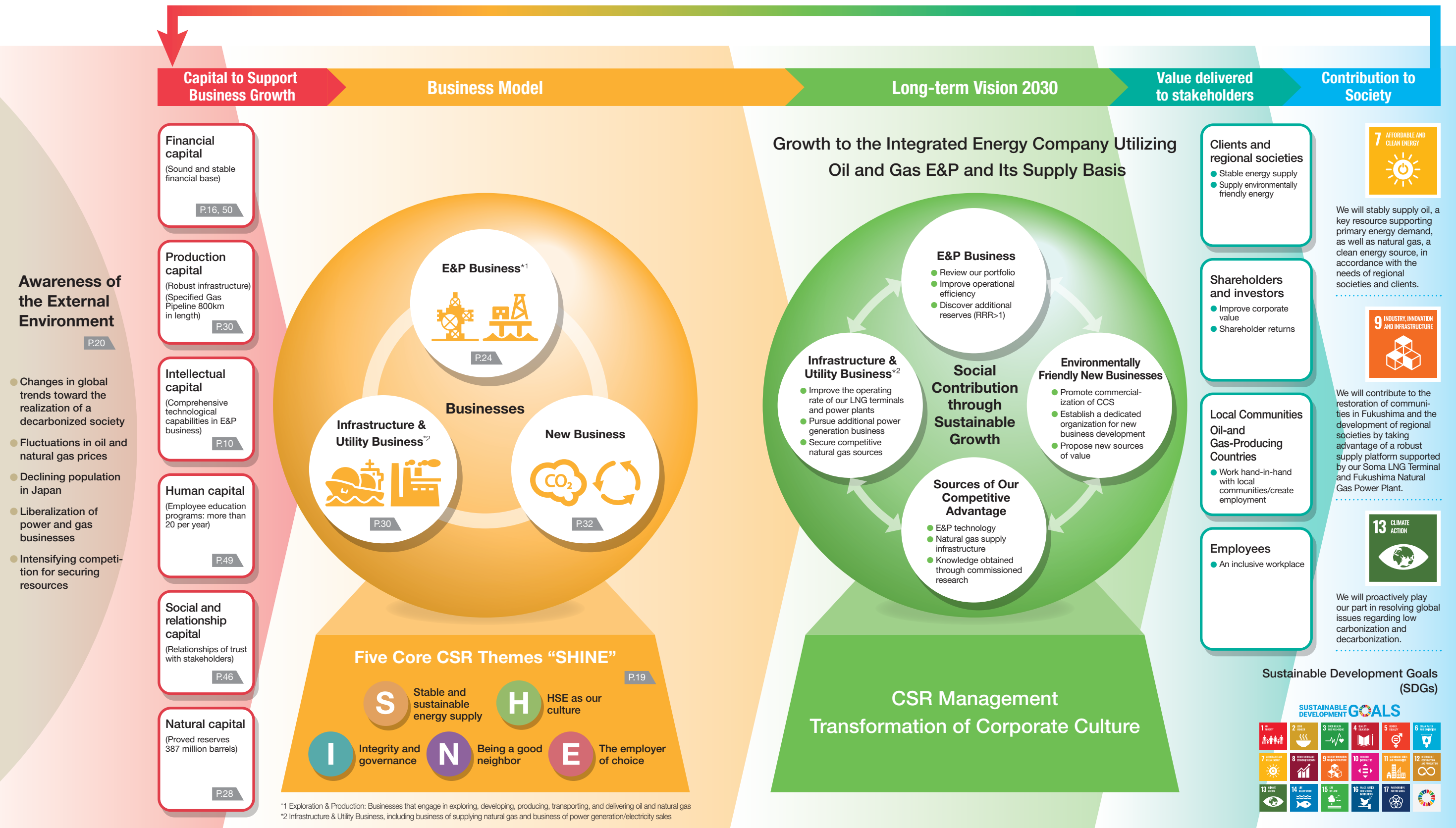
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*  Items marked by the book icon are explained in the "Oil and Gas Glossary" on page 52.

Budding leaves on a tree planted by the JAPEX Group

The JAPEX Group's Value Creation Process

Given changes in the economic and social environments, the JAPEX Group aims to contribute to all its stakeholders, achieving sustained and enhanced corporate value through business activities that take advantage of its strengths.



President's Message



I assumed the position of Representative Director, President and CEO of JAPEX in October 2019 and am pleased to extend my greetings to all of our stakeholders.

Since its foundation in 1955, JAPEX has pursued a social mission of ensuring a stable energy supply and thereby contributing to the development of Japan's oil sector. With oil and natural gas thus positioned as core businesses, we have striven to secure corporate growth and improve corporate value and, in the course of doing so, have established a solid track record and legacy.

We believe that oil and natural gas will continue to play essential roles as primary energy sources for countries around the globe. However, we are well aware of radical changes in social attitudes and the market environment surrounding oil and natural gas businesses, including an ever stronger call for countermeasures to climate change and the recent trend toward a low-carbon/decarbonized society.

Moreover, due to growing stakeholder interest in the corporate approach to environmental, social and governance (ESG) issues, companies are expected to embrace a long-term, multifaceted perspective and strengthen their focus on contributing to a sustainable society. Making such issues an essential part of corporate management and business is now a requirement.

In light of these circumstances, we formulated our "Long-term Vision 2030" and Mid-term Business Plan 2018-2022 in May 2018. We remain committed to this vision and business plan while cherishing our deep-seated corporate culture, in which the utmost priority is placed on safety. In so doing, we will take on the challenge of pursuing further corporate growth and enhancing corporate value.

We ask for our stakeholders' further understanding and continued support of these endeavors.

In the sections that follow, I wish to explain our fiscal 2018 operating results and outline the progress being made in executing our growth strategies.

Masahiro Fujita


Representative Director and President,
Chief Executive Officer

Q1

Could you outline the operating results for fiscal 2018, the first year of the Mid-term Business Plan?

A1

In fiscal 2018, profit attributable to owners of parent totaled ¥14.7 billion, a turnaround of ¥45.7 billion compared with the previous fiscal year. This caused our ROE to improve significantly from a negative 7.2% in fiscal 2017 to 3.5%.

Factors contributing to this improvement include favorable changes in the operating environment, such as an approximately 28% year-on-year rise in the Japan Crude Cocktail (JCC) price to USD71.94/bbl in fiscal 2018. We have, however, met with some negative factors, including a decline in profit from diluted bitumen sales stemming from the widening light-heavy differential (between Western Canadian Select, which is the reference price for heavy crude oil from the oil sands, and WTI, which is the reference price for light crude oil) associated with our Canada Oil Sands Project . In addition, the March 2018 commencement of

the full-year operation of the Soma LNG Terminal resulted in a rise in operating costs. The JAPEX Group was nevertheless able to record profit attributable to owners of the parent thanks mainly to an upturn in existing businesses backed by rising crude oil prices and the absence of the temporary loss recorded in the previous fiscal year.

Aiming to secure a strong financial position that is resilient against external factors, such as fluctuations in crude oil prices, we have taken an aggressive approach to promoting cost reduction. Thanks to the success of operational reviews and streamlining we have conducted at our sites around Japan, we have saved hundreds of millions of yen in costs and improved the profitability of our production operations. Looking ahead, we will continue implementing these initiatives, stepping up ongoing efforts to transform our business structure and secure future growth.

Q2

Could you elaborate on progress in the Group's initiatives in the E&P Business, the Infrastructure & Utility Business, and New Business Development?

A2

In the E&P Business, we are engaged in operational streamlining in Japan, the additional development of areas around our existing oil and gas fields, and offshore exploration under a government-commissioned project. We are also optimizing our overseas portfolio while striving to discover new investment opportunities.

Examples of our initiatives include the additional development of areas adjoining to our Iwafune-oki Oil and Gas Field in Niigata Prefecture and a government-commissioned project involving exploratory drilling operations off the coast of the Hidaka Area of Hokkaido Prefecture. We also reorganized our portfolio by, for example, divesting our ownership interest in the DEMO Area of the Hangingstone leases in the province of Alberta, Canada. On the other hand, our Canada Oil Sands Project succeeded in securing stable daily production at approximately 20,000 barrels. Meanwhile in Indonesia, the Kangean Project commenced

phase 2 production operations at the TSB Gas Field Complex. In addition, JAPEX and its partners made a final investment decision regarding the oil and natural gas development of the Seagull Project in the United Kingdom's North Sea. Moreover, we obtained government approval for a plan to boost daily production to 230,000 barrels per day at the Garraf Project in Iraq. As such, we made steady progress in the E&P Business.

In the Infrastructure & Utility Business, we strove to diversify our LNG sources in an effort to ensure a stable supply of energy not dependent solely on domestic production. We have also pushed ahead with initiatives aimed at facilitating the use of natural gas as well as developing the Renewable Energy Business while engaging in sales of electric power with an eye toward the start of commercial operations at the Fukushima Natural Gas Power Plant.

As part of efforts to strengthen our organizational structure, we opened an office in Singapore with the aim of

bolstering our LNG procurement capabilities while in Japan establishing the Renewable Energy Business Dept., an organization dedicated to promoting new projects, under the Soma Project & Power Business Division.

We also launched the New Business Promotion Office, an organization charged with creating new businesses in a flexible manner that enables JAPEX to make entries into

new fields by fully taking advantage of its technologies and expertise. This body played a key role in the launch of the study group aiming to implement the LNG Bunkering framework based on Tomakomai Port and is currently acting as the secretariat for the study group. Going forward, we will continue striving to achieve targets set for each business division.

Q3

Please explain the relationship between the Mid-term Business Plan 2018 – 2022 and the “Long-term Vision 2030.”

A3

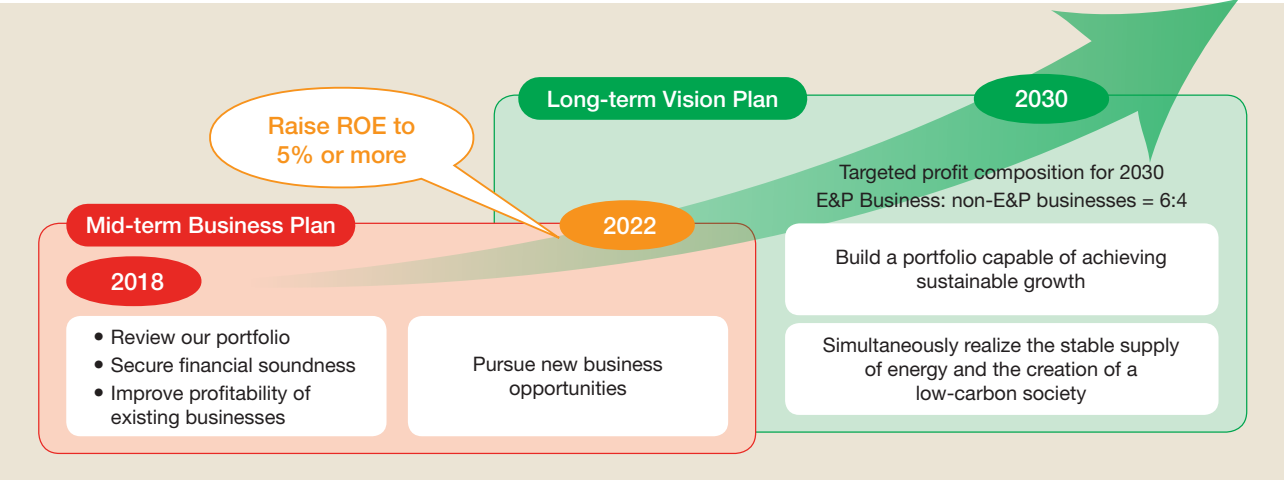
Our “Long-term Vision 2030,” established in May 2018, represents a long-term growth strategy to be implemented during the period leading up to 2030, while the Mid-term Business Plan 2018 – 2022 (hereafter the “Mid-term Business Plan”) summarizes management direction for and priority initiatives to be undertaken over a five-year course that began in fiscal 2018.

To secure sustainable growth, we must take future uncertainties into account and employ a multifaceted approach to business development. In line with the Long-term Vision 2030, we therefore aim to create new businesses that are environmentally friendly and take full advantage of our competencies, with operations other than the E&P Business accounting for 40% of the profit target set for 2030.

With this in mind, we earmarked the five-year period for the Mid-term Business Plan. This period is particularly

important in terms of the implementation of foundational measures aimed at better positioning the JAPEX Group to realize Long-term Vision targets. Over the course of this period, we will exercise solid financial discipline and maintain the Debt-to-EBITDA ratio at less than 2 times while simultaneously allocating equal resources to E&P and non-E&P businesses for growth investments. For investments outside E&P, we are looking to such areas as renewable energy, LNG bunkering, and overseas LNG transportation via railways. We also intend to improve the profitability of existing businesses and review their portfolios. These initiatives will help us establish new business models that, in turn, will yield profit even as we steadily promote existing projects and achieve our aspiration for 2030, “Growth to the Integrated Energy Company Utilizing Oil and Gas E&P and its Supply Basis.”

Relationship between the Long-term Vision and the Mid-term Business Plan



Q4

Please share your thoughts on CSR management.

A4

Our Corporate Mission states that we will “contribute to society through the stable supply of energy and address social issues toward achieving our sustainable development goals.” Accordingly, we believe that our business activities in themselves constitute CSR activities.

Since our establishment, when we started from zero, the growth of our oil and gas supply base has resulted in a significant increase in our social responsibility to provide a stable supply.

In order to achieve sustainable development and improve our corporate value, we must engage in dialogue with our stakeholders and assess their expectations and requirements. This is essential to identifying the issues we must address to promote CSR management.

We recognize that in recent years, companies have been facing growing calls from stakeholders to take concrete action to address societal issues such as those specified under the SDGs as well as climate change related issues.

Q5

Please cite some examples of initiatives undertaken by the JAPEX Group to help resolve societal issues.

A5

It has been five years since we specified the five core CSR themes to be addressed through the “SHINE” initiatives. With the aim of stepping up our CSR activities, we have reviewed the priorities of these initiatives, giving due consideration to changes in the external environment [P.18](#). As a result, the revised SHINE initiatives place greater emphasis on climate change countermeasures and corporate governance. With regard to governance in particular, we also clarified initiatives to be undertaken to enhance the Group’s overall governance systems.

With regard to our Long-term Vision, we identified the issues to be addressed in each aspect of ESG in order to increase the likelihood of resolving societal issues. In May 2019, we disclosed a roadmap for promoting our involvement in ESG initiatives. This road map indicates what the JAPEX Group must do during the period leading up to fiscal

2022. In addition, we are steadily implementing such initiatives as incorporating an internal carbon pricing system* into our investment evaluation criteria and considering targets to be set for our GHG emission reductions. Drawing lessons from the September 2018 Hokkaido Eastern Iburi Earthquake, efforts are also under way to update business continuity plans (BCPs) for the entire Group. Looking ahead, we will begin upgrading the Board of Directors’ risk management functions.

CSR management can easily lose focus and become a make-everybody-happy policy. However, JAPEX aims to remain accurately aware of key issues it must address to secure long-term growth. We will thus rally our strengths to promote CSR management, which is a cornerstone of our business expansion efforts.

*A risk management system that quantitatively evaluates the impact of CO₂ emissions from a corporation’s current or future business activities.

Q6

What are the key strengths of JAPEX in its pursuit of sustainable growth?

A6

The JAPEX Group has three sources of corporate value.

First, we have a comprehensive suite of in-house technological capabilities covering the entire spectrum of technologies necessary to undertake E&P operations, ranging from geological surveying, geophysical exploration, drilling, reservoir evaluation, and facility design and management to oil and gas production. Furthermore, we are focusing our efforts on the research of cutting-edge technologies, applying our capabilities beyond E&P to the development of carbon dioxide capture and storage (CCS) and renewable energy, technologies that contribute to mitigating global warming. We are confident these efforts will also contribute to the practical realization of new resource areas, such as methane hydrate development and next-generation marine resources.

Second, we possess a robust domestic natural gas supply infrastructure. The JAPEX Group, by way of a pipeline



network comprising a main pipeline connecting Niigata and Sendai as well as a variety of transportation methods, has supplied natural gas to meet the needs of our customers along this network. Thanks to the 2018 launch of full-scale operations at the Soma LNG Terminal, we have become capable of supplying natural gas from not only the Sea of Japan side but the Pacific Ocean as well, enhancing our gas supply capacity and stability.

Third, we have nurtured trusting relationships with our stakeholders. While placing the utmost priority on safety in our oil and gas operations and supply, we take extra care to provide our stakeholders with opportunities for obtaining detailed explanations of our ventures. We are also helping to vitalize regional economies and create employment.

I must emphasize that the foundation of these strengths are our people, who do not fear failure in challenging new fields and are able to bring about change. I believe that stepping up the development of human resources capable of adapting to a rapidly evolving business environment is key to strengthening our corporate competitiveness. I ask our employees to hone their skills in their areas of specialty and, in new areas extending beyond their expertise, to embrace a multifaceted perspective and engage in open-ended discussion, be sensitive to the external environment, be unafraid of change, and continue taking on new challenges. On the other hand, I believe it is the responsibility of senior management, including myself, to create an environment where diversity is respected, and where it is easy to work.

Going forward, we will strive to further enhance our strengths while nurturing human resources that support these strengths as we aim to realize our Corporate Mission and Long-term Vision as well as the achievement of our overarching goal of contributing to sustainable social development.

Messages from Outside Directors



Kojima, Yamashita and Ito (from left)

Outside Director **Akira Kojima**

JAPEX Should Be an Overwhelming Winner

The present is said to be a disruptive era, wherein a company's future development cannot be foreseen from an extension of its past. The same can be said for entire countries and societies. Aspects of markets (demand) are similarly undergoing structural change. For businesses to remain successful in fulfilling their social missions and roles, they must maintain an acute awareness of changes and opportunities arising not only on the supply side but the demand side as well. For JAPEX, the importance of embracing a long-term perspective and strategy is greater than it is for almost any other company. JAPEX's mission, the stable and efficient supply of energy sources is quite clear. In pursuing this mission, the perspective of social responsibility and CSR will become increasingly important. However, "sustainability" will be key, as it is a prerequisite for companies remaining strong, surviving and securing sustained profit. Undertaking CSR activities on a pro forma basis will not secure sustainability. I want JAPEX to be an overwhelming winner against market competition while maintaining strict compliance. I will harness my experience as a journalist for the *Nikkei newspaper* and as a researcher at the Japan Center for Economic Research as well as the knowledge I have gained from many people through joint academic research for the sustainable development of JAPEX.

Outside Director **Tetsuo Ito**

Determined to Fulfill a Challenging Duty Requiring Precise Analytical Skills and Decisive Boldness

It has been four years since I assumed the office of outside director at JAPEX. After serving as a prosecutor for 36 years, I went into private practice nine years ago. When I was a prosecutor, I was charged with investigating mainly corporate crime. In private practice, I have undertaken the inspection of a number of forms of corporate misconduct. This experience has afforded me a glimpse into what goes on in the course of corporate management. As I have also been appointed to such positions as outside Audit & Supervisory Board member at several corporations, I have learned quite a few things about how difficult corporate management can be. I know that handling a prosecution case is not easy; however, the level of difficulty is no comparison to that of corporate management. Furthermore, for businesses like JAPEX that are adversely affected by external factors, decision-making in situations where one seemingly can neither retreat nor advance are everyday occurrences. Extreme composure, precise analytical skills and decisive boldness are a must. My favorite motto is the words of the philosopher Shinzo Mori, "Place one eye far into history, the other eye on what you must do right away." I will keep these words strongly in mind while working to fulfill my duties as a director of JAPEX.

Outside Director **Yukari Yamashita**

Cherishing a Sincere Attitude while Making Straightforward Inquiries

I assumed the office of outside director of JAPEX in June 2019. For many decades, I worked at a think tank specializing in the energy sector, engaging in the analysis of trends, assessing future energy outlooks and making policy recommendations for domestic and international concerns. I am honored by the new duty entrusted to me by JAPEX. Today, against a backdrop of increased uncertainty and opacity due to issues like energy transformation as well as global politics and geopolitics, many companies are faced with the task of enhancing their competitiveness while managing risk. On the other hand, despite the increasing significance of decarbonization as part of long-term global warming countermeasures, the importance of oil and gas will not diminish over the next several decades. The importance of a stable energy supply is expected to intensify as emerging Asian economies become increasingly dependent on imports. JAPEX must continue to support sustainable growth by supplying energy and playing a pioneering role in technological innovation. But, maintaining solid governance and developing risk management will be more important to the global expansion of its business. As an independent outside director with a sincere attitude, I will always place importance on straightforward questions such as "why?". I will spare no effort in studying what is best for JAPEX, and assume my duties sincerely based on a long-term and global perspective.

Long-term Vision 2030

In May 2018, the JAPEX Group has identified “Growth to the Integrated Energy Company Utilizing Oil and Gas E&P and Its Supply Basis” as its vision for 2030. We will maintain stable oil and gas supply to meet the needs of regional societies and customers while also being active in helping resolve global issues calling for low carbonization and decarbonization.

Long-term Vision 2030

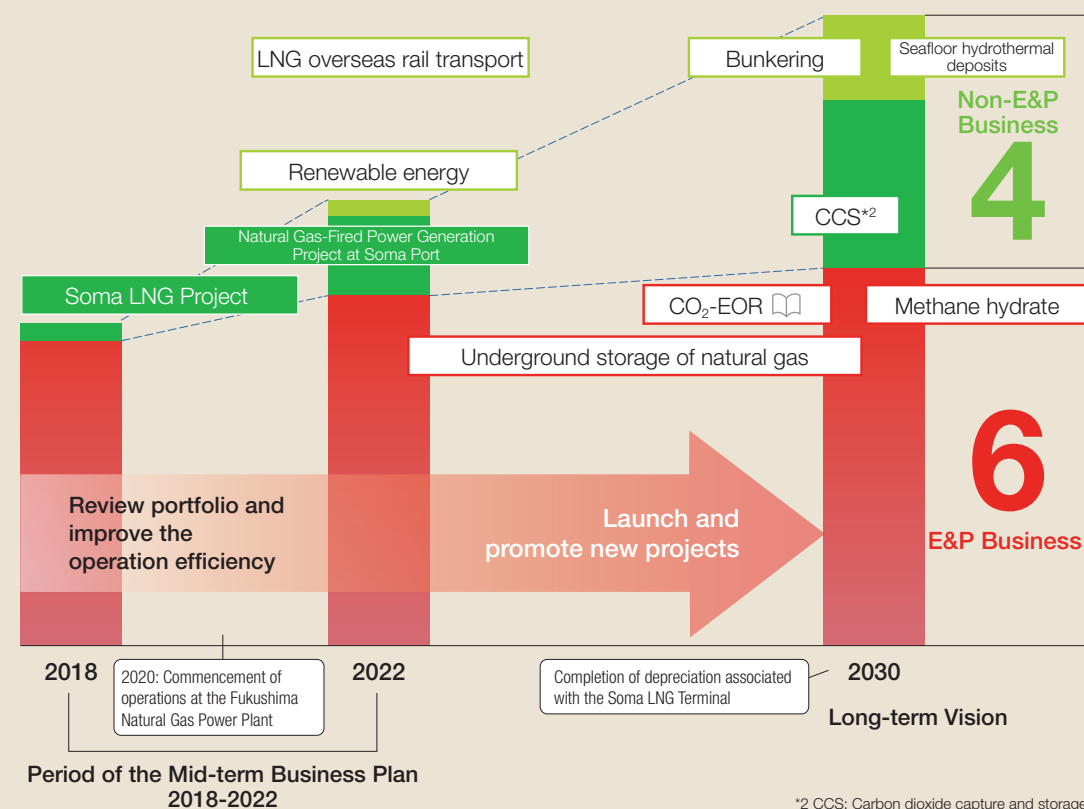
Growth to the Integrated Energy Company Utilizing Oil and Gas E&P and Its Supply Basis

<The Profit Composition JAPEX Aims for in 2030>

E&P Business: Non-E&P Business^{*1} = 6 : 4

^{*1} Infrastructure & Utility Business and New Business Development

Profit Contribution Image of Business Portfolio



Mid-term Business Plan 2018-2022

Under the Mid-term Business Plan, we have set quantitative targets and formulated business plans for each of three Business segments. With the assumed oil price of USD60 per barrel, we are thus aiming to improve our ROE to 5% or more by the end of fiscal 2022.

Mid-term Business Plan 2018-2022

Fiscal 2022 target: ROE of 5% or more

(assumed oil price: USD60/bbl)

Business Plans and Targets for Each Business Segment

E&P Business



Long-term Targets **Maintain “RRR^① > 1”**

In addition to promoting development associated with the existing projects, we are stepping up initiatives to identify potential projects.

Infrastructure & Utility Business



Natural gas transaction volume in Japan **1.6 million tons** (LNG equivalent)

Electricity sales volume **2.8 billion kWh**

We are reaching out to new clients to expand domestic gas sales while engaging in sales of electric power with an eye toward the start of commercial operations at the Fukushima Natural Gas Power Plant* in 2020. At the same time, we are promoting the development of renewable energy sources.

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

New Business Development



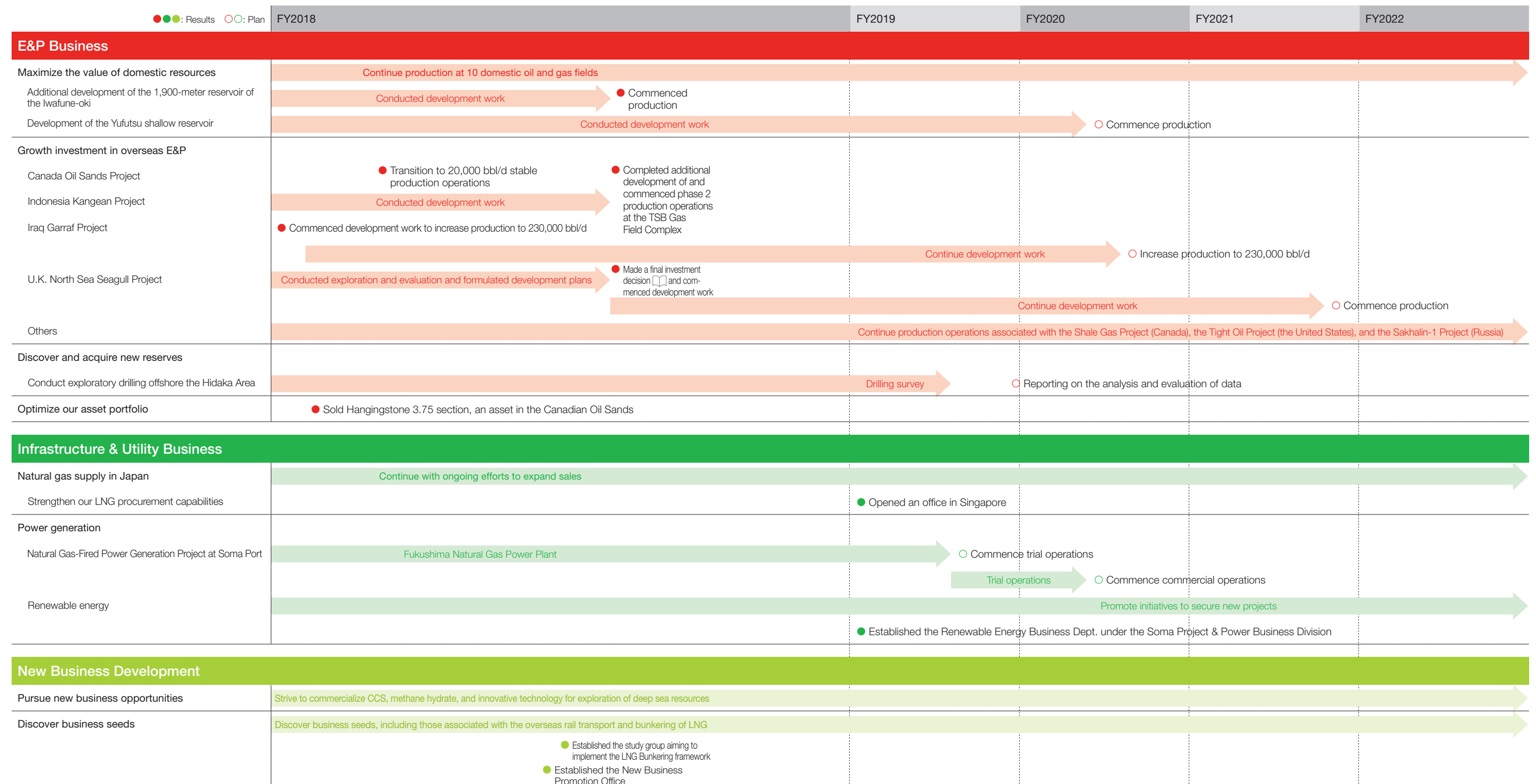
Business Generation under a New Business Model
Utilizing Our Competitive and Advanced Resources

Mid-term Business Plan 2018-2022

Toward Achieving Our Profit Targets

As we aim to improve ROE to 5% or more by the end of fiscal 2022 in line with our profit target under the Mid-term Business Plan and become a “comprehensive energy company” as stated in the Long-term Vision, we will optimize the existing projects and enhance their profitability while accelerating the development of new projects in each business field.

Forecasts of Progress in the Mid-term Business Plan by Fiscal Year



Our Financial Position and Fund Allocation Policy

During the period of the Mid-term Business Plan, we will undertake investment in our E&P operations in Japan and overseas to maintain and improve the profitability of existing businesses while repaying debt. We will also execute growth investment in both E&P and non-E&P businesses.

Consolidated financial position as of the end of fiscal 2018	Fund allocation for the fiscal 2019 – 2022 period	Fiscal 2022 targets
<ul style="list-style-type: none"> Cash and deposits*1: ¥88.1 billion Investment securities: ¥137.7 billion Interest-bearing debt*2: ¥151.7 billion EBITDA*3: ¥41.7 billion Debt-to-EBITDA ratio: Approx. 3.6 times 	<ul style="list-style-type: none"> ① Investment in existing projects*1: Approx. ¥60 billion ② Repayments of debt, etc.: Approx. ¥55 billion ③ Growth investment: Approx. ¥65 billion ④ Shareholder returns*4: ¥9 billion or more 	<ul style="list-style-type: none"> Reduce interest-bearing debt by approx. ¥100 billion to ¥120 billion Facilitate growth investment while maintaining the Debt-to-EBITDA ratio at less than 2.0 times Further enhance shareholder returns over the medium to long term

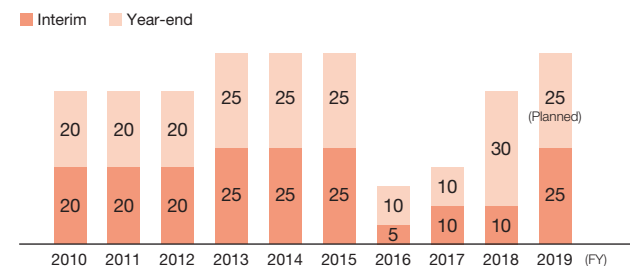
To achieve a fiscal 2022 target of raising ROE to 5% or more, we will execute the following measures, giving consideration to the impact of highly volatile oil and gas prices.

- ① Allocate necessary funds to improve the profitability of existing projects
- ② Set aside new investment funds while maintaining financial discipline aimed at maintaining the Debt-to-EBITDA ratio at less than 2 times
- ③ Place equal weight on E&P and non-E&P operations in terms of growth investment
- ④ In line with a basic policy of securing a stable stream of dividends, aim to enhance both corporate value and shareholder returns over the medium to long term via the strengthening of financial position and the facilitation of growth investment
- ⑤ Verify the propriety of our cross-shareholdings in light of their benefit, risk, capital cost and other factors

*1 Cash and deposits and investment in existing projects do not include remaining funds set aside for the Garraf Project (approx. ¥29.3 billion) as well as additional investment to be allocated to achieve the daily production of 230,000 barrels.
 *2 Interest-bearing debt includes lease obligations, retirement benefit liabilities and contingent liabilities.
 *3 EBITDA is the total of operating income, depreciation and interest and dividends received.
 *4 Funds to be allocated for shareholder returns are based on the premise that amount of dividends being paid remain unchanged from the current dividend forecasts for fiscal 2019 annual dividends.

Shareholder returns

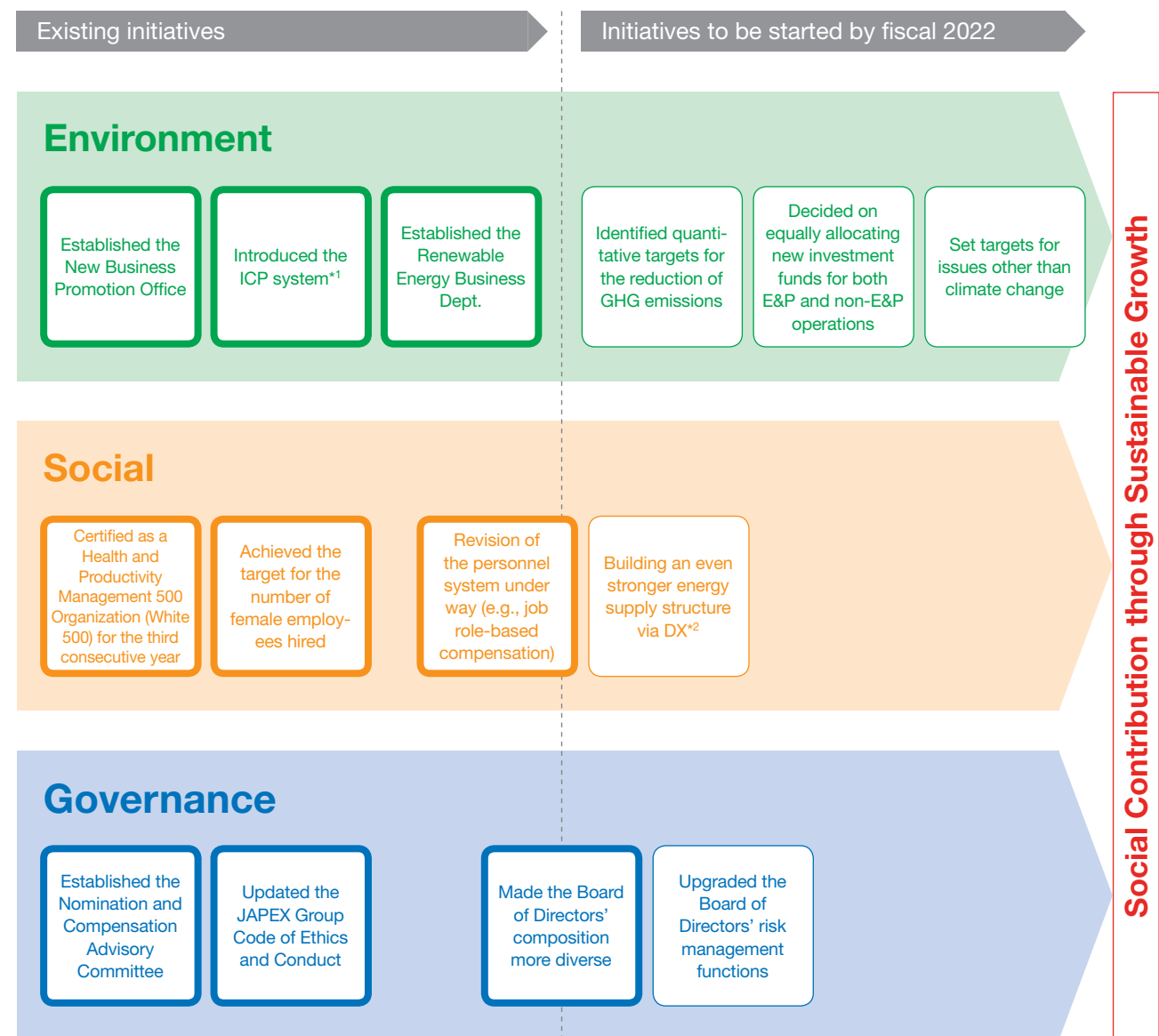
Annual dividends (yen)



In line with its basic policy of maintaining the stable payout of dividends, annual dividends paid by JAPEX for fiscal 2018 amounted to ¥40 per share, up ¥20 per share from fiscal 2017. For fiscal 2019, we aim to pay annual dividends of ¥50 per share, which comprises interim dividends of ¥25 per share and year-end dividends of ¥25 per share. Over the medium to long term, we will strive to further enhance shareholder returns by improving the soundness of our financial position and executing growth investment aimed at securing greater corporate value.

Roadmap for Promoting Our Involvement in ESG Issues

We are stepping up our involvement in environmental, social and governance (ESG) issues in line with a perspective of facilitating sustainable development and contributing to society. In addition to continuing with initiatives undertaken by the JAPEX Group thus far, we have identified core themes that have to be prioritized in environmental, social and governance fields, and are taking concrete action. Furthermore, we will enhance the content of information disclosure associated with these themes.



*1 The internal carbon pricing system being incorporated into JAPEX's investment evaluation criteria
 *2 Digital transformation

Review of Core CSR Themes

On the basis of our view that our business—the stable supply of energy—in itself conforms with our commitment to CSR activities, in fiscal 2014 we specified five core CSR themes under the name “SHINE” that comprise 14 individual issues.

Although SHINE widely encompasses the social issues of each aspect of ESG, we have revised each individual issue it covers, reorganizing the items and their relative importance in light of changes in the business environment and our core business areas.

Essentially, we recognize that we need to place greater emphasis on climate change response and corporate governance. As for climate change, we have shifted our emphasis to the pursuit of business activities that contribute to the realization of a low-carbon society in light of environmental concerns pertaining to our operations. Accordingly, we added “Climate change response” to the individual issues listed under the theme “S” (Stable and sustainable energy supply). With regard to governance, we enhanced individual items such as information management and

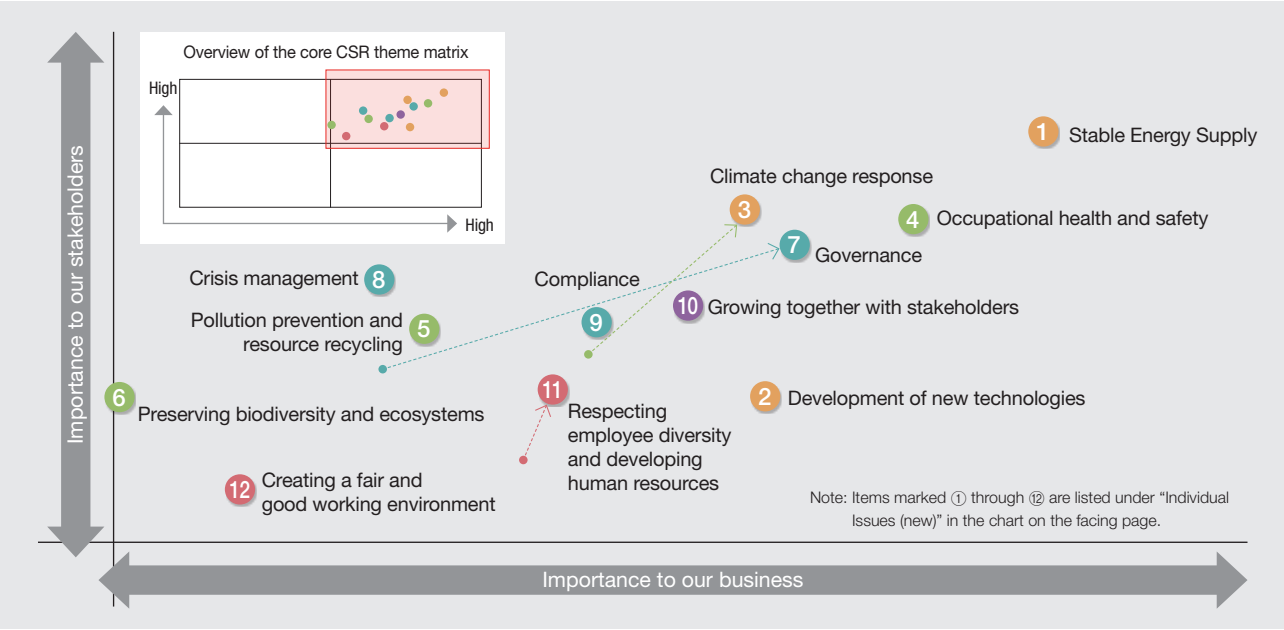
overall governance systems while placing crisis management under the theme “I” (Integrity and governance). In addition, with regard to the theme “N” (Being a good neighbor), the importance of maintaining trusting relationships with our stakeholders through various communications channels, such as co-existence and development activities with local communities, placing importance on local cultures and continued dialogue, was recognized and descriptions of the issues were revised.

Our Review Process and CSR Plans/Targets

1. Evaluating present status and identifying issues	Identify topics that may be CSR issues by taking into account to various guidelines
2. Analyze and evaluate these issues	Prioritize each issue by importance, thereby updating the core CSR theme matrix
3. Conduct in-house surveys via questionnaires	Send out and collect questionnaires targeting senior management and others in managerial positions
4. Review	Modify the matrix based on feedback from questionnaires and reorganize issues under SHINE into 12 items

Please also see the document featuring our CSR plans and targets by visiting the following URL.
https://www.japex.co.jp/english/csr/pdfdocs/JAPEX_CSRresult2017-18_e.pdf

New Core CSR Themes



Five Core CSR Themes as “SHINE” Initiatives

JAPEX Core CSR Themes	Individual Issues (hitherto)	Individual Issues (new)	SDGs	ESG
S Stable and sustainable energy supply	① Stable energy supply ② Development of new technologies	① Stable Energy Supply ② Development of new technologies ③ Climate change response	7 AFFORDABLE AND CLEAN ENERGY 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 13 CLIMATE ACTION	Environment Social
H HSE as our culture	③ Occupational health and safety ④ Crisis management ⑤ Measures to prevent global warming ⑥ Preserving biodiversity and ecosystems ⑦ Pollution prevention and resource recycling	④ Occupational health and safety ⑤ Pollution prevention and resource recycling ⑥ Preserving biodiversity and ecosystems	6 CLEAN WATER AND SANITATION 12 RESPONSIBLE CONSUMPTION AND PRODUCTION 13 CLIMATE ACTION 15 LIFE ON LAND	
I Integrity and governance	⑧ Governance ⑨ Compliance	⑦ Governance ⑧ Crisis management ⑨ Compliance	10 REDUCED INEQUALITIES 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Governance Social
N Being a good Neighbor	⑩ Growing together with local communities ⑪ Building good relationships with stakeholders	⑩ Growing together with stakeholders	4 QUALITY EDUCATION 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 17 PARTNERSHIPS FOR THE GOALS	
E The Employer of choice	⑫ Respecting employee diversity ⑬ Creating a fair and rewarding workplace ⑭ Human resources development and training	⑪ Respecting employee diversity and developing human resources ⑫ Creating a fair and good working environment	5 GENDER EQUALITY 8 DECENT WORK AND ECONOMIC GROWTH	Social

Aiming for the Sustainable Development of the JAPEX Group and Society

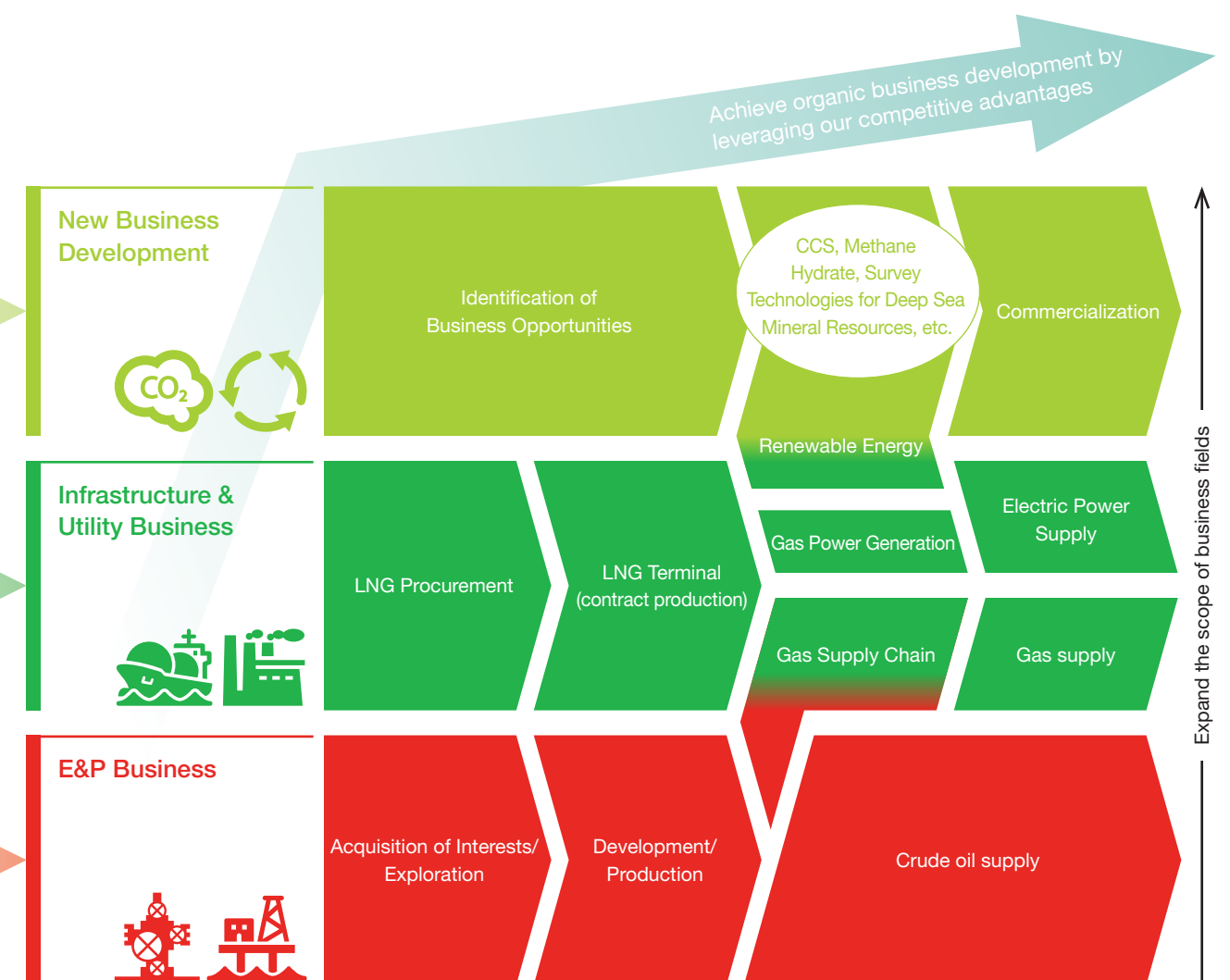
The Risks, Opportunities and Value Chain of the JAPEX Group

While uncertainties associated with changes in the external environment are risks that pose a threat to the JAPEX Group's operations, such changes may also lead to the creation of new opportunities for expanding our business scope. Accordingly, we are working to predict and assess changes in the operating environment and specify risks and opportunities arising from such changes, in order to formulate our business strategies. We are thus planning our business strategies with an eye to pushing ahead with organic business development that leverages our advantages via the shift in the business portfolio and transcends the scope of our value chain.

Risk Management and the Creation of Business Opportunities

Awareness of the external environment	Business risks	Our response to business opportunities and risks
Changes in global trends toward the realization of a decarbonized society	Growing call for withdrawal from investment in and financing for fossil fuel businesses	<ul style="list-style-type: none"> Shift in the business portfolio to help create a low-carbon society while continuously pushing ahead with the E&P Business <ul style="list-style-type: none"> Promote renewable energy development Develop CCS technologies to achieve commercialization
Fluctuations in oil and natural gas prices	Fluctuations in procurement costs/sales prices of oil and gas	<ul style="list-style-type: none"> Shift to a new portfolio that is resilient against fluctuations in oil prices, etc. <ul style="list-style-type: none"> Strengthen the power generation business, including the renewable energy business
Declining population in Japan	A decrease in sales volume in step with shrinking domestic demand	<ul style="list-style-type: none"> Strengthen market competitiveness in Japan <ul style="list-style-type: none"> Expand sales of natural gas Procure competitively priced LNG Advance "smart community" and "compact city" business
Liberalization of power and gas businesses	Intensifying market competition in Japan	<ul style="list-style-type: none"> Expand our scope of services <ul style="list-style-type: none"> Cultivate new clients in the power generation business Engage in commissioned businesses that take advantage of existing infrastructure Expand globally by leveraging our strengths in domestic operations
Intensifying competition for securing resources	<ul style="list-style-type: none"> Growing difficulties in acquisition of interests Rising cost of exploration and development 	<ul style="list-style-type: none"> Pursue opportunities that will better position us to employ our technologies and expertise Exploit the remaining potential of our domestic reserves

Value chain



Recognition of and Response to Climate Change

Our Recognition of Climate Change

In 2017, following the 2016 enactment of the Paris Agreement, the Task Force on Climate-related Financial Disclosures (TCFD) was established by the Financial Stability Board, which consists of central bank representatives and financial authorities from major economic powers. The TCFD in turn issued recommendations aimed at facilitating information disclosure with regard to the financial impact of climate change. At the same time, with growing public awareness of the need for international collaboration aimed at creating a sustainable society, businesses are being called upon to help resolve global issues arising from climate change and to disclose information on what they

are doing to this end. Having identified “SDGs 13: Climate Action” as a priority issue, the JAPEX Group is striving to reduce CO₂ emissions from facility operations. Simultaneously, we are pushing ahead with the commercialization of technologies aimed at offsetting CO₂ emissions via the application of technical expertise we have nurtured in the course of the E&P business while endeavoring to create environmentally friendly new businesses, such as those associated with renewable energy. In addition, we are developing a process for managing risks that the Group may confront due to climate change.

Our Response to the TCFD Recommendations

The TCFD recommendations provide businesses with a voluntarily framework for information disclosure on risks and opportunities arising from climate change and require the disclosure of information regarding four core elements, namely: Governance; Strategy; Risk Management; and Metrics and Targets. Moreover, Japan’s Ministry of Economy, Trade and Industry announced the Guidance for

Climate-related Financial Disclosure, which includes recommended disclosure items by industry, in December 2018. The TCFD recommendations include undertaking a number of initiatives over the medium to long term and we will adapt our in-house structure to maintain appropriate disclosure practices to conform.

Governance	The organization’s governance around climate-related risks and opportunities
Strategy	The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy, and financial planning
Risk Management	The processes used by the organization to identify, assess, and manage climate-related risks
Metrics and Targets	The metrics and targets used to assess and manage relevant climate-related risks and opportunities

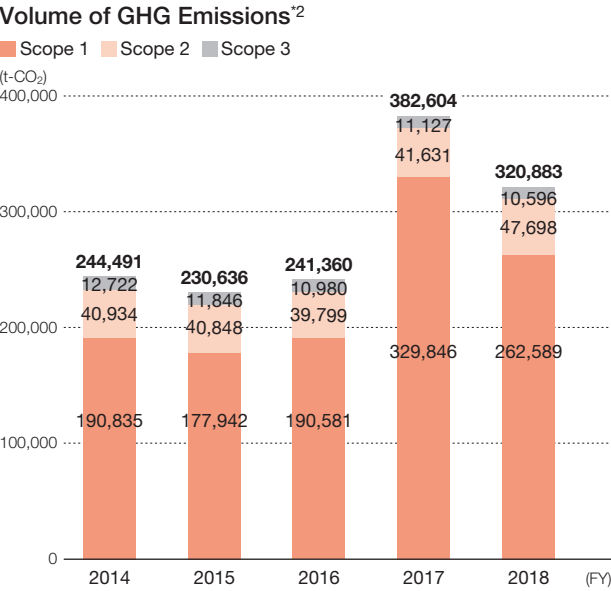
The Introduction of an ICP System

As part of our structure aimed at managing business risks arising from climate change, we have engaged in intensive discussion regarding the inclusion of an internal carbon pricing (ICP) system into our investment evaluation criteria and, in fiscal 2019, began introducing this ICP system in a phased manner. ICP is the voluntary pricing of CO₂ emissions on a managerial accounting basis, taking into account both costs associated with and opportunities arising from responses to climate change. Therefore, the use of ICP systems is expected to assist corporations in their strategic decision-making via quantitative assessments of

the impact of climate change on their current and future business activities. Through the utilization of the ICP system, which will make it easier to assess costs associated with CO₂ emissions, we will curb the volume of CO₂ emissions from our operations. With regard to climate change countermeasures, we also recognize the importance of constantly reducing greenhouse gas (GHG) emissions, formulating emission targets and providing officers and employees with environmental education. Accordingly, we are simultaneously implementing these activities.

Reducing Greenhouse Gas (GHG) Emissions

The majority of GHG emissions from JAPEX’s operations are accounted for by its E&P business sites. We have been working to reduce these emissions since 2013 as a participant in the Japan Business Federation’s Commitment to a Low Carbon Society initiative. Furthermore, in line with the industry reduction targets set by the Japan Petroleum Development Association for 2020 and 2030, we are striving to meet our GHG reduction quota. Specifically, we annually set reduction targets based on our medium- to long-term targets and incorporate them into our CSR action plans and targets as well as the Mid-term HSE Plan [P.36](#). To achieve these targets, we are promoting energy saving, flaring emitted gas and effectively utilizing excess low-pressure gas at in-house facilities. The status of these initiatives is being reported to the HSSE Committee chaired by the executive in charge of HSE to formulate action plans for the subsequent fiscal year. In addition, please also refer to [P.32, 33](#) for our initiatives to create environmentally friendly businesses, such as those related to CCS and renewable energy.



In fiscal 2018, the volume of GHG emissions (excluding Scope 3) totaled 310,000 t-CO₂, down 61,000 t-CO₂ (16.5%) from the previous fiscal year. This reduction was mainly attributable to the lower volume of emissions from the Soma LNG Terminal, which released gas from its vent and flare equipment in the previous year as part of trial operations.

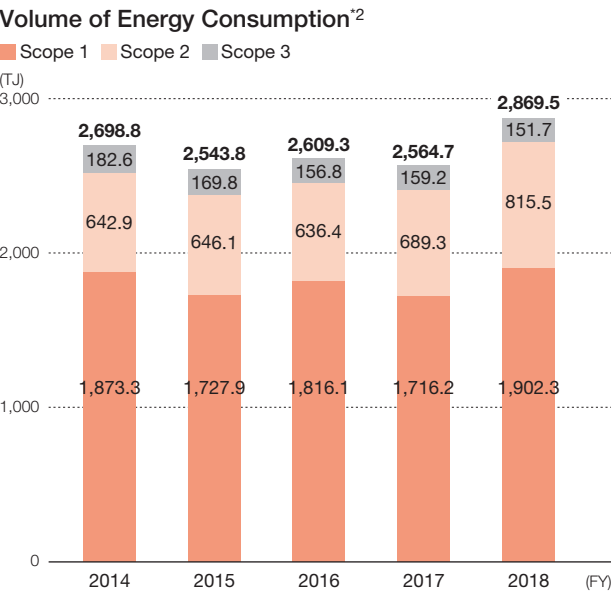
Scope 1: Direct GHG emissions arising from the use of fuel by the company or its own process
Scope 2: Indirect GHG emissions arising from the use of electricity or heat purchased by the company from other companies
Scope 3: Of other indirect emissions, emissions associated with transportation commissioned to third parties by the company as a cargo owner

Energy Saving Activities

Currently, approximately 60% of GHG emissions from JAPEX’s E&P business sites are accounted for by emissions associated with energy consumption. With this in mind, we have positioned curbing energy consumption as an important initiative in terms of GHG emissions reduction and are pushing ahead with energy saving.

Specifically, we have made it a rule for our energy-intensive bases to compile concise monthly reports on their energy consumption so that we may analyze year-on-year differences and confirm any abnormalities. Moreover, we conduct exergy*1 analyses at our energy-intensive facilities to determine and quantitatively assess the existence of redundant energy use, verify the effect of the energy-saving measures in place and optimize such measures. In these ways, we are striving to promote the efficient use of energy.

In fiscal 2018, we introduced nine measures aimed at saving energy. The introduction of these measures, which are focused on enhancing operational efficiency for existing facilities without additional investment, helped us save more than ¥40 million in costs through a significant cut in energy consumption while resulting in approximately 2,400 ton reduction in the volume of annual CO₂ emissions.



In fiscal 2018, the volume of energy consumption (excluding Scope 3) totaled approximately 2,718TJ, up 312TJ (13.0%) from the previous fiscal year. This rise was mainly attributable to increases in energy and natural gas consumption at the Soma LNG Terminal due to its commencement of full-scale operations.

*2 The JAPEX Group calculates and discloses the volume of GHG emissions and energy consumption in accordance with classifications under the GHG Protocol Corporate Standard, which represents an international standard for the calculation and reporting of GHG emissions.

*1 Exergy is an indicator based on the assessment of energy inputs that quantitatively determines the volume of energy being utilized for intended purposes and the volume of energy lost.

Stable and Sustainable Energy Supply

S H I N E

E&P Business



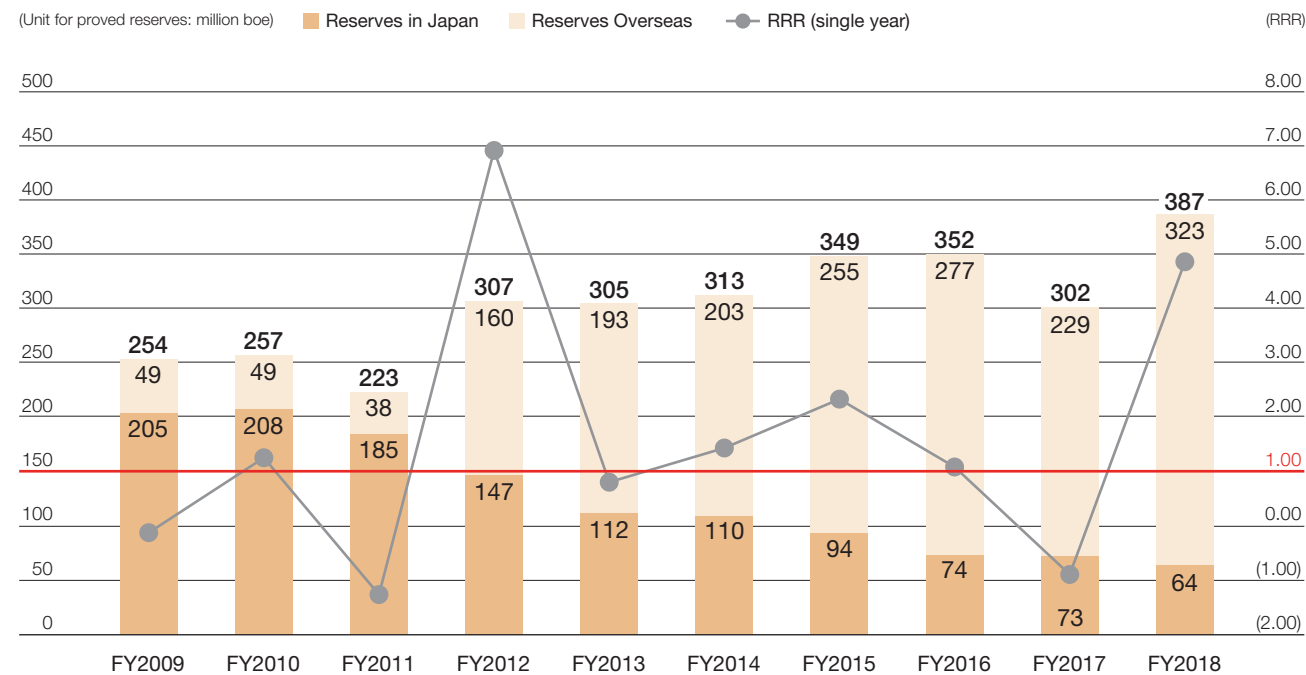
Long-term Target

Maintain “RRR>1”

To achieve our target of maintaining our reserve-replacement ratio (RRR) at 1 or higher over the medium to long term, it will be important to maintain and increase our reserves. In fiscal 2018, due in part to receiving approval for a plan to increase daily production to 230,000 barrels per day at the

Garraf Project in Iraq, our proved reserves increased around 85 million barrels year on year to 387 million barrels, and our RRR was around 5 on a single year basis. We will continue working to acquire new reserves over the medium to long term to offset declines in reserves due to production.

Proved Reserves and RRR



RRR Policy

Regarding our long-term vision and RRR target as outlined in the Mid-term Business Plan, we have refrained from fixing the number of years used for the RRR calculation period. Because the periods needed for exploration and production in the E&P business vary wildly, ranging between a few years and a few decades, it is

difficult to specify a standard period. In addition, our target of maintaining an RRR of at least 1 is not meant to be achieved during the Mid-term Business Plan; we aim to achieve it over the medium to long term and hold it steady.

E&P Business

● Main Blocks Owned by the JAPEX Group



FY2018 Highlights in the E&P Business in Japan

July 2017	Commenced development work on oil production from shallow reservoir of the Yufutsu Oil and Gas Field in Hokkaido Prefecture
March 2019	Commenced production at an additional development of the 1,900-meter reservoir of the Iwafune-oki Oil and Gas Field in Niigata Prefecture
April 2019	Commenced a drilling survey offshore the Hidaka Area of Hokkaido Prefecture

Yufutsu Oil and Gas Field in Hokkaido Prefecture

Commencement of Development Work on Oil Production from Shallow Reservoir

At the Yufutsu Oil and Gas Field, we started development work in 2017 on the Takinoue formation, which is a proved but undeveloped shallow reservoir that lies above the current oil and natural gas production reservoir. We aim to commence production of crude oil (heavy oil) in the first half of 2020. In fiscal 2018, we conducted a workover of the existing wells and commissioned work on the aboveground facilities, including crude oil processing facilities.



The Yufutsu Plant

Iwafune-oki Oil and Gas Field in Niigata Prefecture

An Additional Development of the 1,900-meter Deep Reservoir

At the Iwafune-oki Oil and Gas Field, we drilled one additional development well into the 1,900-meter deep reservoir currently producing crude oil. We started drilling operations in December 2018 and began producing 100 kiloliters of crude oil per day in March 2019.



Drilling operations at the Iwafune-oki Oil and Gas Field

Exploration Project Offshore the Hidaka Area of Hokkaido Prefecture

JAPEX was commissioned by the government to conduct exploratory drilling operations to confirm the hydrocarbons initially in place (HCIIIP) around 50 kilometers offshore the Hidaka Area of Hokkaido Prefecture.

FY2018 Highlights in the Overseas E&P Business

April 2018	Commenced development work to increase oil production at the Garraf Oil Field in Iraq
June 2018	Transitioned to stable production operations of 20,000 barrels per day at the Oil Sands Project in Canada
March 2019	Commenced Phase 2 production operations at the TSB Gas Field Complex in the Kangean block in Indonesia Made a final investment decision regarding development at the Seagull Project in the U.K. North Sea

Iraq Garraf Project

Commencement of Development Work to Increase Oil Production

In February 2018, the Iraqi government approved the Final Development Plan aimed at increasing crude oil production at the Garraf Oil Field to 230,000 barrels per day, and we started development work on this plan in April 2018. The production volume will be gradually ramped up to the production target of 230,000 barrels per day by the end of 2020.

For the project, we produce oil from the field based on a service contract with the Iraqi government and receive remuneration fees based on the amount of oil produced. In addition, we are responsible for funding the development of the field and periodically recoup an amount equivalent to our investment in the form of crude oil.

Project Company	Japex Garraf Ltd. (JAPEX's investment ratio: 55%)		
Field	Garraf Oil Field	Percentage of Interest*	30% (responsible for 40% of funding)
Status	Production and development under way	Operator	The PETRONAS Group
Gross Production Volume	92,000 bbl/d (as of March 2019)		



Production equipment



Indonesia Kangean Project

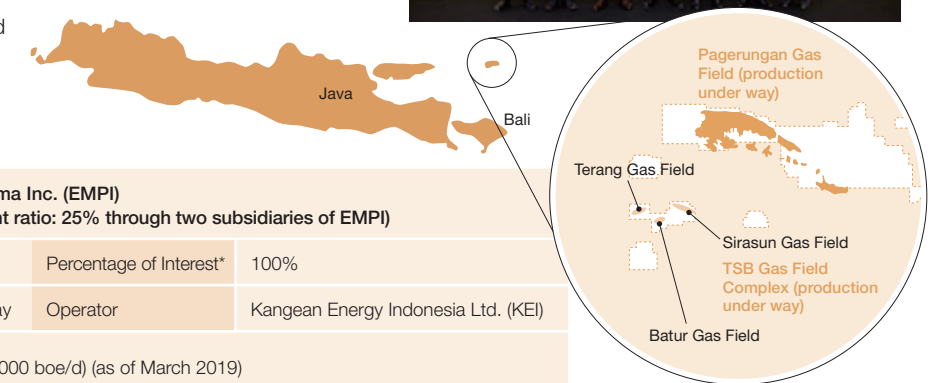
Commencement of Phase 2 Production Operations at the TSB Gas Field Complex

The TSB Gas Field Complex comprises the three gas fields of Terang, Sirasun, and Batur in the Kangean Block. We moved ahead with development in the Sirasun and Batur Gas Fields from 2014 in what we refer to as TSB Phase 2, and production of natural gas started in March 2019. Water and other superfluous components of the natural gas produced from these fields are removed at a floating production unit (FPU). The gas is then supplied via pipelines to a state-owned fertilizer plant, an electric power company, and other local clients in the area surrounding Surabaya in the province of East Java.

Project Company	Energi Mega Pratama Inc. (EMPI) (JAPEX's investment ratio: 25% through two subsidiaries of EMPI)		
Block	Kangean Block	Percentage of Interest*	100%
Status	Production under way	Operator	Kangean Energy Indonesia Ltd. (KEI)
Gross Production Volume	4,400,000 m³/d (27,000 boe/d) (as of March 2019)		



TSB Phase 2 gas distribution ceremony



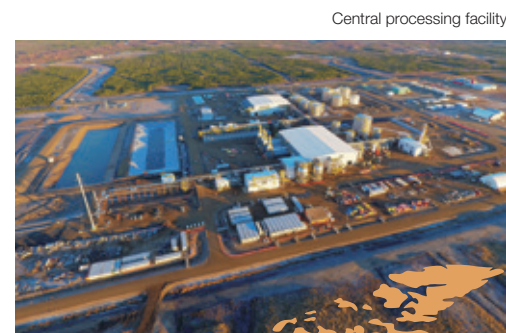
Canada Oil Sands Project

Transition to Stable Production Operations of 20,000 Barrels per Day

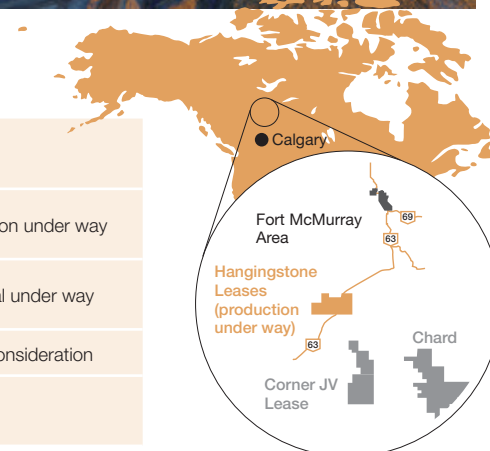
We transitioned to stable bitumen production operations of 20,000 barrels per day at Hangingstone in June 2018. The bitumen produced is diluted to the equivalent viscosity of heavy oil and is sold via pipeline within Canada as well as to the Midwestern United States.

Although we have confirmed that the maximum daily production capacity of the oil sands layer is around 30,000 barrels per day, we flexibly adjust production volume in line with the conditions of the local market, such as the mandate to curtail production in the province of Alberta beginning in January 2019.

Project Company	Canada Oil Sands, Ltd. (CANOS) (JAPEX's investment ratio: 94.58%) Japan Canada Oil Sands Ltd. (JACOS), an overseas subsidiary	
Block, Percentage of Interest*, and Status	Hangingstone Leases Percentage of Interest: 75% (operator)	Production under way
	Corner JV Lease Percentage of Interest: 12%	Appraisal under way
	Other bitumen leases (including Corner and Chard)	Under consideration
Gross Production Volume	26,000 bbl/d (as of March 2019)	



Central processing facility



U.K. North Sea Seagull Project

A Final Investment Decision

JAPEX and its partners made a final investment decision in March 2019 regarding oil and natural gas development in the offshore Seagull Project. We are currently moving ahead with development operations with the aim of starting production by the end of 2021.

We will commission the processing of the oil and gas produced at the Seagull Project to the central processing facility (CPF) of the Eastern Trough Area Project (ETAP). The oil will then be transported to the Kinneil Terminal in Grangemouth in eastern Scotland via the Forties pipeline system, and the gas will be transported to the Central Area Transmission System (CATS) processing terminal in Teesside in northern England.

Project Company	JAPEX UK E&P Ltd. (JAPEX's investment ratio: 100%)		
Block	Seagull Discovery	Percentage of Interest*	15%
Status	Development under way	Operator	Neptune E&P UK Limited



A production test under way at the Seagull Project



* The ratio of ownership interest held via a project company

Proved Reserves

Proved reserves owned by JAPEX and its consolidated subsidiaries as of March 31, 2019, along with our investment equivalent in proved reserves of equity-method affiliates are presented in the following table.

Proved Reserves of JAPEX

Proved Reserves	JAPEX and Consolidated Subsidiaries								Equity-Method Affiliates		Total		
	Japan		Overseas			Subtotal							
	Crude oil	Natural gas	Crude oil	Bitumen	Natural gas	Crude oil	Bitumen	Natural gas	Crude oil	Natural gas	Crude oil	Bitumen	Natural gas
	Thousand kL	Million m³	Thousand kL	Thousand kL	Million m³	Thousand kL	Thousand kL	Million m³	Thousand kL	Million m³	Thousand kL	Thousand kL	Million m³
As of March 31, 2018	2,802	9,105	1,612	20,952	7,357	4,415	20,952	16,462	4,350	2,498	8,764	20,952	18,960
Increase due to expansion or discovery	—	—	15,000	—	815	15,000	—	815	—	—	15,000	—	815
Change due to revision of evaluation standard	(30)	(517)	254	979	19	223	979	(497)	1,174	(726)	1,397	979	(1,223)
Change due to acquisition and/or divestiture	—	—	(1)	—	4	(1)	—	4	1	(1)	(1)	—	3
Decrease due to production	(264)	(726)	(363)	(778)	(466)	(627)	(778)	(1,192)	(538)	(493)	(1,165)	(778)	(1,685)
As of March 31, 2019	2,508	7,862	16,502	21,153	7,729	19,009	21,153	15,591	4,986	1,278	23,995	21,153	16,869

- Proved reserves of the following consolidated companies include reserves held by non-controlling interests. (Figures in parentheses are non-controlling interests' percentage)
Japan: Japex Offshore Ltd. (29.39%)
Overseas: Canada Oil Sands Co., Ltd. (5.42%), JAPEX Montney Ltd. (55.00%), Japex Garraf Ltd. (45.00%)
- Reserves of consolidated subsidiaries and equity-method affiliates whose fiscal year-ends differ from that of the Company are accounted for on the basis of the entity's respective fiscal year-end.

Proved Reserves of JAPEX: Crude Oil Equivalent (For Reference)

Proved Reserves		JAPEX and Consolidated Subsidiaries							Equity-Method Affiliates		Total			
		Japan		Overseas			Subtotal							
		Crude oil	Natural gas	Crude oil	Bitumen	Natural gas	Crude oil	Bitumen	Natural gas	Crude oil	Natural gas	Crude oil	Bitumen	Natural gas
		Million bbl	Million boe	Million bbl	Million bbl	Million boe	Million bbl	Million bbl	Million boe	Million bbl	Million boe	Million bbl	Million bbl	Million boe
As of March 31, 2018		18	55	10	132	45	28	132	100	27	15	55	132	115
		302												
	Increase due to expansion or discovery	—	—	94	—	5	94	—	5	—	—	94	—	5
	Change due to revision of evaluation standard	(0)	(3)	2	6	0	1	6	(3)	7	(4)	9	6	(7)
	Change due to acquisition and/or divestiture	—	—	(0)	—	0	(0)	—	0	0	(0)	(0)	—	0
	Decrease due to production	(2)	(4)	(2)	(5)	(3)	(4)	(5)	(7)	(3)	(3)	(7)	(5)	(10)
As of March 31, 2019		16	48	104	133	47	120	133	95	31	8	151	133	103
		387												

Conversion Factors and Units:
Crude oil 1 kL = 6.29 bbl
Crude oil 1 kL = Natural gas 1,033.1 m³
boe: barrels of oil equivalent
boe/d: barrels of oil equivalent per day

Definitions Used for JAPEX's Reserves

The proved reserves detailed in the table on the previous page represent the amount of oil and gas that is projected to be economically and feasibly extractable based on geophysical and engineering data taken from the currently known hydrocarbon layers at the time of evaluation. The figures do not include previous production volumes or resource volumes related to undiscovered mineral deposits.

As for the definition of reserves, we apply the Petroleum Resources Management System (PRMS), a widely accepted international standard established by the Society of Petroleum Engineers (SPE), the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), and the Society of Petroleum Evaluation Engineers (SPEE).

Figures presented in the tables on the previous page are based on JAPEX's own evaluations in line with the PRMS definition of proved reserves, which was revised in 2018. The figures do not include probable or possible reserves, i.e., reserves that have higher uncertainty regarding future extractability than proved reserves. Further, under the same definition, confirmed hydrocarbon resources for which no commercial development plan has been devised are classified as contingent resources—not reserves. Accordingly, the figures presented on the previous page do not include the Group's contingent resources in areas lacking defined development plans.

We acknowledge that the definition of proved reserves used by the U.S. Securities and Exchange Commission (SEC) is also widely accepted, especially among U.S. investors; however, as it is fundamentally the same as the PRMS, we have opted to use the latter.

JAPEX discloses figures based on its own assessments in line with the PRMS definition of proved reserves. In addition, regarding the reserves owned by overseas subsidiaries and equity-method

affiliates, we disclose figures based on the percentage of ownership as specified in contracts for each company and the local government or other authorities.

In addition, Ryder Scott Company, L.P. has been commissioned by the Company to conduct third-party assessments and appraisals of the fairness of its evaluations and determinations regarding an amount equivalent to around 66% of the proved reserves*¹ of JAPEX and its consolidated subsidiaries in Japan as of March 31, 2019, as disclosed on the previous page. Overseas, Japan Canada Oil Sands Limited similarly commissioned GLJ Petroleum Consultants Ltd. to conduct a third-party assessment*² of its bitumen reserves. In addition, JAPEX Montney Ltd., Japex (U.S.) Corp., and Kangean Energy Indonesia Ltd. also commissioned third-party assessments of their reserves. Third-party assessments were thus conducted for an amount equivalent to around 61% of the total proved reserves*³ as of March 31, 2019, listed on the previous page.

Reserves are ultimately a projection of future production capacity shrouded in uncertainty. Nevertheless, JAPEX strives to secure accurate assessments based on currently available scientific evidence, including geophysical and engineering data. Despite these efforts, our figures may need to be later revised upward or downward, depending on a host of factors, including projections based on newly available data, fluctuations in economic conditions, and changes in internationally accepted definitions for reserves.

*¹ We calculate 1 kiloliter of crude oil or bitumen as 1,033.1 cubic meters of natural gas.
*² The assessment was conducted based on the Canadian Oil and Gas Evaluation Handbook published by the Society of Petroleum Evaluation Engineers (Calgary Chapter) and other organizations.
*³ Same as note 1.

Infrastructure & Utility Business



Target to 2022

**Natural gas transaction volume
in Japan**

1.6 million tons
(LNG equivalent)

Electricity sales volume

2.8 billion kWh

We are working to increase sales of natural gas in Japan mainly by acquiring new industrial customers. Our target figures include a transaction volume of domestic natural gas and regasified LNG provided through our pipelines as well as sales through our LNG satellite system. In fiscal 2018, we sold around 1,130,000 tons of natural gas (LNG equivalent) in Japan.

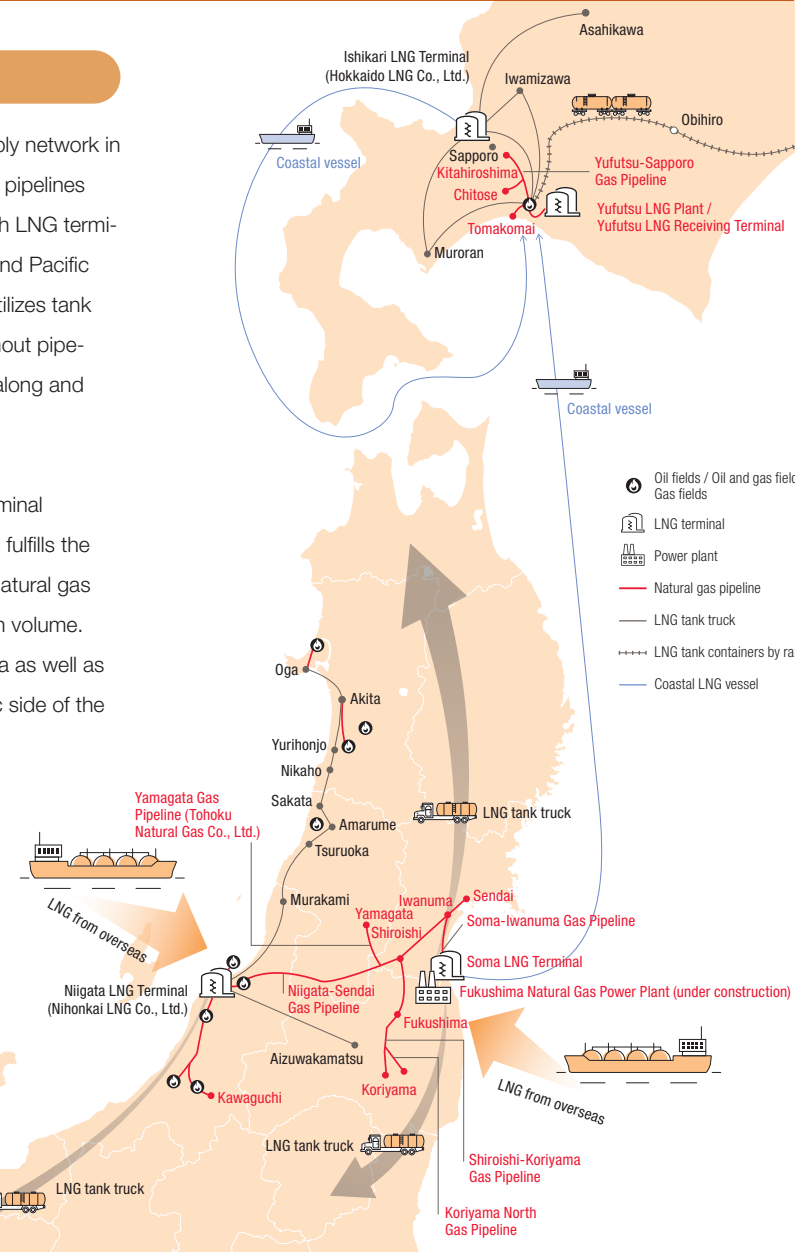
As for sales of electric power, we are promoting sales activities with an eye toward the start of commercial operations at

the Fukushima Natural Gas Power Plant in spring 2020. In addition, we established an office in Singapore with the aim of bolstering our capabilities regarding the procurement of LNG, including LNG as a fuel for power generation. In May 2019, we established an organization dedicated to the development of the renewable energy business. In this and other ways, we are strengthening our framework related to gas and electricity.

Natural Gas Supply Chain

JAPEX has constructed a proprietary natural gas supply network in Japan. It includes a network of over 800 kilometers of pipelines connecting natural gas production bases in Japan with LNG terminals on the country's coasts along the Sea of Japan and Pacific Ocean. It also includes an LNG satellite system that utilizes tank trucks and rail transport tank containers for areas without pipelines. We sell natural gas and LNG to clients in areas along and surrounding our network.

The Soma LNG Terminal has one of Japan's largest aboveground LNG tanks at 230,000 kiloliters. The terminal commenced operations in March 2018 as a base that fulfills the important roles of enhancing the stability of JAPEX's natural gas network in Japan and increasing sales and transaction volume. This terminal enables us to supply LNG to a wider area as well as to receive and store LNG from overseas on the Pacific side of the country in addition to the Sea of Japan side. Furthermore, by transporting LNG between the Soma LNG Terminal and the Yufutsu LNG Receiving Terminal via coastal vessels, we have optimized the balance of supply and demand.



Electric Power Business

Natural Gas-Fired Power Generation Project at Soma Port

JAPEX participates in the natural gas-fired power generation project at Soma Port in Fukushima Prefecture through investment in Fukushima Gas Power Co., Ltd. (FGP), the operator of the project.

The project's core is the Fukushima Natural Gas Power Plant, which will comprise two 590,000 kW gas turbine combined-cycle (GTCC) power generation units. The plant will be fueled by regasified LNG, which has the lowest environmental burden among fossil fuels. Also, the plant's systems for the intake and discharge of seawater are designed in consideration of the impact on the surrounding environment.

In addition, this project uses a tolling model involving five business partners, including JAPEX. Each partner company will receive electricity from FGP in exchange for self-procured LNG sufficient to meet its electric power needs and sell it themselves.

The power plant is currently under construction with the first power generation unit slated to come on line in spring 2020 and the second in summer 2020. In addition, with the aim of commencing operations when the power plant comes on line, we are constructing an additional vaporizer facility and a second LNG tank at the Soma LNG Terminal.

FGP plans to commission JAPEX to store and regasify the LNG procured by each business partner as well as pipe it to the power plant.

Moreover, we are steadily pursuing sales activities for our portion of the electric power. We will continue striving to establish this power generation project as a new business foundation that will ensure our growth as an integrated energy company.



The Soma LNG Terminal and the Fukushima Natural Gas Power Plant, which is currently under construction

Renewable Energy Business

We are working on developing renewable energy as a new environmentally friendly business that contributes to solutions to global-scale issues, namely the realization of a low-carbon and decarbonized society.

We aim to develop solar, biomass, wind, and geothermal power businesses, leveraging technologies we have acquired through the development and production operations of our mainstay petroleum

and natural gas businesses, the strong relationships we have built with regional communities, and the experience we have gained by procuring fuel and operating power generation equipment in natural gas-fired power generation projects.

Furthermore, in May 2019, we established an organization dedicated to promoting the renewable energy business.

New Business Development



Business Generation under a New Business Model Utilizing Our Competitive and Advanced Resources

We established the New Business Promotion Office in December 2018. The office identifies new business seeds in fields adjacent to our existing business that leverage our technologies and experience in E&P, natural gas supply, and other areas. The office also promotes initiatives to develop

those seeds.

We aim to create and expand new businesses in non-E&P areas with the aim of achieving a profit composition that has the E&P business and non-E&P businesses in approximately a 6:4 proportion by 2030.

Business Seed Identification

Reorganizing the Technical Division, we established an organization dedicated to the continual and dynamic pursuit of new businesses with a focus on the creation and expansion of new environmentally friendly businesses. The purpose of this move was to better position JAPEX to play an active role in solving global-scale issues, such as the realization of a low-carbon and decarbonized society, by utilizing the knowledge acquired through its oil and natural gas

● Establishment of New Business Promotion Office

In December 2018, we established the New Business Promotion Office independently of existing departments with a mission to actively pursue new business with an eye toward the transformation of JAPEX's business structure over the medium to long term. The office promotes the Company's new business creation cycle and is responsible for identifying new business seeds as well as

● Reorganization Technology Fields

In June 2019, with the aim of unifying processes implemented in technological development related to new businesses, we integrated the Environmental and Innovative Technology Projects Division with the Technical Division, reorganizing the internal structure of the Technical Division. The former division's processes for studying

● System for Soliciting Ideas

In June 2018, we established the internal website JEN (E) B (JAPEX's Engine for New Era Business) and started soliciting ideas unencumbered by conventional ideas from across the Company. Since launching the site, we have received a multitude of ideas.

E&P and domestic natural gas supply businesses.

Regarding new projects that are now ready for commercialization owing to these initiatives, we aim to establish them as fully realized businesses by transferring them to pertinent existing departments or to newly established organizations to promote the business.

drafting and studying business plans. It also solicits ideas Companywide for businesses in new fields where the JAPEX Group's technologies and knowledge can be leveraged. In short, the office's primary purpose is to examine new business prospects, study the commercial feasibility of interdepartmental initiatives and business alliances, and construct business models.

and developing applied environmental technologies as well as its associated business planning functions were absorbed by the latter. This optimization further strengthens our new business development framework.

These include everything from specific business ideas in new business fields utilizing our strengths to proposals for expanding existing businesses through operational improvements and techniques discovered in the course of daily work.

LNG Bunkering

Owing to its low emissions of greenhouse gases and sulfur oxides, expectations of rapid market growth in LNG's popularity as bunker fuel are mounting. This is in part due to such global developments as the International Maritime Organization's Marine Environment Protection Committee's decision to enact stricter limits on the sulfur content of fuels used on the open ocean and its adoption of a GHG reduction strategy, which is a comprehensive set of goals for reducing GHG emissions from international shipping as well as countermeasures to achieve those goals. Therefore, a growing number of LNG-fueled vessels are making their debut in Europe along with a supply of LNG for these ships (LNG bunkering), and feasibility studies on similar measures are accelerating across Japan as well.

Tomakomai Port, which is the site of the Company's Yufutsu LNG Receiving Terminal, fulfills important roles both as the largest trading port in northern Japan and as the country's leading hub port in terms of volume. Given the recent trend toward lower environmental impact bunker fuel, in February 2019, JAPEX and the Tomakomai Port Authority launched a study group aiming to implement the LNG Bunkering framework based on Tomakomai Port. JAPEX serves as the organizer, facilitating discussions and studies

of issues related to operations and applicable regulations, facility upgrades, and countermeasure formulation.

To meet demand for natural gas in Hokkaido Prefecture during the 2011–2012 winter, the Company conducted Japan's first ship-to-ship transfer of LNG in liquid form, from an ocean-going LNG vessel to the coastal LNG vessel *Akebono Maru* in Tomakomai Port harbor. With this experience under our belts, we have proceeded with efforts aimed at the early realization of LNG bunkering at Tomakomai Port as we continue pursuing the possibility of conducting similar operations at other locations in Japan and around the world.



LNG being transferred from an ocean-going LNG vessel (background) to the domestic LNG vessel *Akebono Maru* (foreground)

Carbon Dioxide Capture and Storage (CCS)

CCS is a technology involving directly injecting CO₂ into depleted oil and gas fields, deep coal reservoirs, deep saline aquifers, and other such areas for storage. It is garnering international attention as an innovative technology that significantly reduces atmospheric emissions of CO₂—the primary driver of climate change. According to the International Energy Association (IEA), CCS is expected to account for 14% of total CO₂ reductions by 2060 that will make the achievement of the 2°C temperature reduction goal of the Paris Agreement possible, so it seems the latent market for CCS is very large. In addition, if CCS can be commercialized, it could be used to offset CO₂ emitted through business processes as well as CO₂ emitted when customers combust petroleum and natural gas.

With the aim of commercializing CCS technology, JAPEX established Japan CCS Co., Ltd. (JCCS) with other private-sector companies in May 2008. The Japanese government's Basic Energy Plan of 2018, taking into consideration the likelihood that CCS technology will be commercialized around 2020, stated that it would steadily promote measures to demonstrate the CCS process and to survey suitable storage sites. JCCS has been commissioned since FY2012 by the Ministry of Economy, Trade and Industry (METI), and since April 2018 by the New Energy and Industrial Technology Development Organization (NEDO) to implement a CCS demonstration project in the Tomakomai area of Hokkaido. The injection of CO₂ was begun in April 2016, and as of

the end of March 2019, a cumulative total of 235,000 tons has been injected.

In April 2016, JAPEX also established the Geological Carbon Dioxide Storage Technology Research Association jointly with the Research Institute of Innovative Technology for the Earth (RITE), the National Institute of Advanced Industrial Science and Technology (AIST) and three private-sector companies. Commissioned by METI, this association has engaged in the development of safety management technology for large-scale CO₂ injection and storage as well as the development of effective injection technology utilizing micro-bubble techniques.



Aboveground facilities for the Tomakomai pilot project (Photograph provided by Japan CCS Co., Ltd.)

Methane Hydrate

Methane hydrate is an ice-like crystalline solid formed by methane and water and exists only in high-pressure and low-temperature environments, such as below the seabed in deep waters or below permafrost in the polar regions. Due to these characteristics, methane gas cannot be easily produced from methane hydrate. There are two types of methane hydrate beneath the sea bed: “pore-filling type in sand” and “shallow type.” The original gas-in-place for pore-filling type methane hydrate in the eastern Nankai Trough region was evaluated as being around 1.1 trillion cubic meters of methane.*¹ As for the shallow type methane hydrate in the Sea of Japan, 1,742 gas chimney structures where methane hydrate may exist were confirmed. The Umitaka Spur, which is one of these structures, has been evaluated as containing 600 million cubic meters of methane.*²

In March 2013, the world’s first offshore production test of pore-filling type methane hydrate was conducted by the Ministry of Economy, Trade and Industry (METI) at the Daini Atsumi Knoll, off the coast of central Japan. Continuous gas production was successfully confirmed by this production test.*³

In 2017, the second offshore production test was conducted at the same place. 263,000 cubic meters of gas were produced over 36 days through the two wells.*⁴

Based on these results, the government is proceeding with a private-sector led R&D project between FY2023 and FY2027, aiming for commercialization thereafter.*⁵

In October 2014, JAPEX established Japan Methane Hydrate

Operating Co., Ltd. (JMH) together with Japanese E&P companies and engineering companies.

In April 2015, JMH was assigned as an operator to conduct a second offshore production test by Japan Oil, Gas and Metals National Corporation (JOGMEC).

In April 2019, the MH21-S R&D Consortium was formed by JOGMEC and the National Institute of Advanced Industrial Science and Technology and JMH, and was assigned to conduct R&D by METI.

Taking notice of the potential of methane hydrate earlier than others, JAPEX has been taking the initiative with R&D by providing its technologies, experience and knowledge acquired through E&P to academic researchers and will continue actively contributing to R&D to ensure that methane hydrate will be one of clean energy resources in Japan.

*¹ MH21 Research Consortium pamphlet published in March 2014

*² News release from the Ministry of Economy, Trade and Industry on September 16, 2016

*³ News release from JOGMEC on March 19, 2013

*⁴ The offshore production test page of MH21 Research Consortium’s website and materials distributed at the 33rd Methane Hydrate Development Committee convened on March 26, 2018

*⁵ The Offshore Energy and Mineral Resource Development Plan revised by the Ministry of Economy, Trade and Industry on February 15, 2019

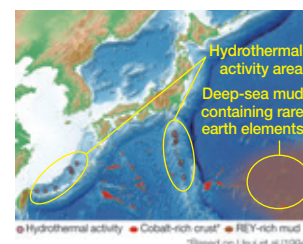
Survey Technologies for Deep Sea Mineral Resources

The existence of useful ocean mineral resources within Japan’s exclusive economic zone (EEZ) has been confirmed. In 2014, the government selected “Next-Generation Technology for Ocean Resources Exploration” as one program of focus for its Cross-ministerial Strategic Innovation Promotion Program (SIP)* with the aim of establishing the world’s first technologies for surveying these deep sea mineral resources with high efficiency and at low cost and then transferring the technologies to private corporations under SIP phase 1.

JAPEX and three other private corporations established the Research and Development Partnership for Next-Generation Technology of Marine Resources Survey (J-MARES). In fiscal 2018, J-MARES succeeded in using its proprietary technologies in exploration efforts that led to the discovery of new ocean mineral deposits. This achievement was confirmed through a sampling of rock from the seabed 1,600 meters below sea level. In addition, the government selected “Innovative Technology for Exploration of Deep Sea Resources” as one program of focus for SIP Phase 2, which began in fiscal 2018. The aim is to be the first in the world to

establish and test technology for surveying and collecting deep sea resources at 2,000 meters or deeper. J-MARES is the only private organization chosen to participate in this technological development due to its solid track record during SIP Phase 1.

*⁶ A cross-organizational program that extends beyond the bounds of individual ministries and sectors. SIP was established to achieve scientific and technological innovation based on the “Comprehensive Strategy on Science, Technology and Innovation” and the “Japan Revitalization Strategy,” which are major government policies.



Distribution of deep sea mineral resources around Japan (image provided by JAMSTEC (Items in boxes added by JAPEX))



Collected sediment samples in EEZ waters around Minamitori-shima Island (spherical materials are manganese nodules containing copper and nickel).

→ CLOSE UP

JAPEX Research Center Initiatives

From the laboratory to the field—JAPEX is commercializing technology

The JAPEX Research Center is working to develop well stimulation technology that improves the flow of oil and gas from the reservoir to the wellbore. This technology is indispensable to extracting oil and gas trapped in shale at our shale oil and gas projects in North America and our tight oil and gas projects in Japan.

Hydraulic fracturing is one method of well stimulation. In hydraulic fracturing, first a fluid is injected into a well to create and extend fractures around the wellbore. Then, to prevent the fractures from closing, particles of sand or other material called proppant is used to fill the fractures. This method creates a highly permeable series of fractures that function as channels for the fluid to flow through from the reservoir to the wellbore. Since around 2010, shale oil and gas businesses have expanded rapidly all over North America. A huge number of wells have undergone hydraulic fracturing, and the E&P industry as a whole has incorporated various technological methods and improvements.

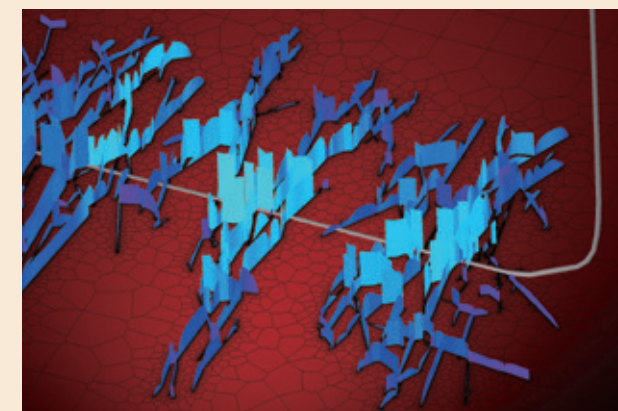
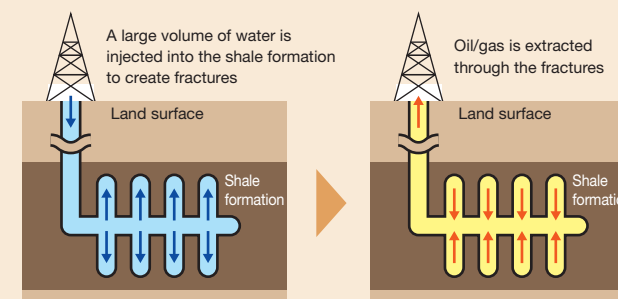
Before the North American shale oil and gas businesses started in earnest, JAPEX had been conducting hydraulic fracturing in the development of its oil and gas fields in Japan as well as its

geothermal projects. As we incorporate the latest technological trends with our know-how, we are moving ahead with R&D related to the commercialization of tight oil and gas in Japan and the enhancement of profitability of North American shale oil and gas projects.

To enhance the profitability of our projects, we need to maximize the efficiency and results of hydraulic fracturing. Japex Research Center conducts indoor rock mechanics testing using rock samples collected from wellbores. We also analyze well-logging data and seismic data. After studying the mechanical properties of each reservoir (including its fracability, deformability, in-situ stress, and distribution of faults), they construct a model of the strata. Based on numerical simulations of mechanics and fluid flow interaction, the Research Center studies and proposes specifications for the hydraulic fracturing operation, for example, the viscosity of the injection fluid, the amount to be injected, or a variety of other parameters. In addition, by monitoring the process of fracture extension during the hydraulic fracturing, we can help improve specifications for and examine the results of the hydraulic fracturing. We are therefore also engaged in R&D of reservoir monitoring technologies, such as microseismic technology.

Through R&D focused on hydraulic fracturing methods, we have advanced the technologies and know-how needed for reservoir monitoring and analysis of mechanics and fluid flow interaction. JAPEX is planning to apply these technologies in new business areas, including CCS and the extraction of methane hydrates, as well as in external technical consulting.

Overview of shale gas extraction (hydraulic fracturing)



Numerical simulation of fluid flow interaction



Rock mechanics testing equipment

HSE as Our Culture

Our Basic Policy

The JAPEX Group declared its intention to secure occupational health and safety and conserve the natural environment in its business activities and formulated JAPEX HSE*1 Policy. In order to put the policy into action, we have implemented the HSE Management System (“HSE-MS”) at our domestic operations and JACOS since 2014. We strive for the continuous improvement of the System through PDCA cycles.

*1 Health, Safety, and Environment

Our Approach

Social Background and Issue Recognition

- Due to the nature of our business, any incident in our facilities could have a huge impact on the environment and society. For that reason, we prioritize safe and stable operations, and place great importance on risk management for controlling major accidents or disasters.

Present Focus and Goal Achievement

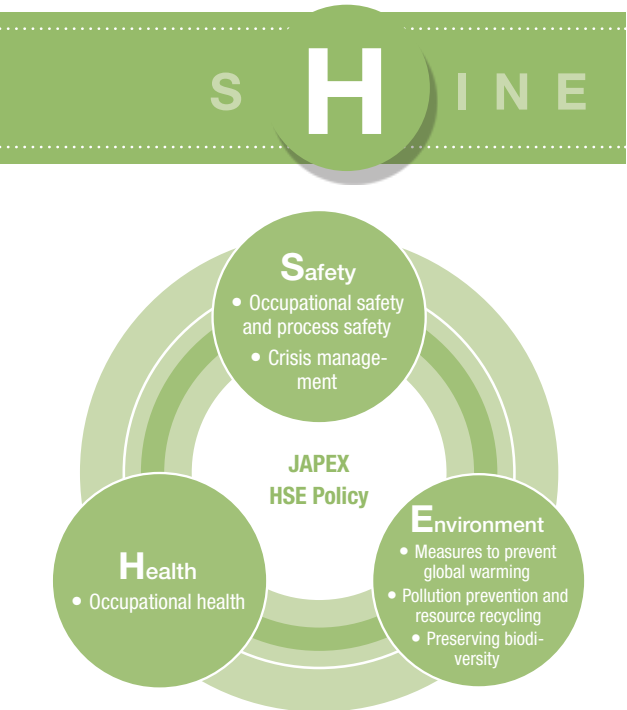


Progress of Mid-term HSE Plan

In fiscal 2018, the first year of the JAPEX Mid-term HSE Plan (2018–2020), we focused on taking measures that will form the basis for activities in fiscal 2019 and beyond. Specifically, we introduced international standards for injury frequency indicators, (e.g., LTIF*2 and TRIR*3), enhanced our HSE training programs, deliberated the manner of managing contractors’ HSE, and created a GHG emission reduction roadmap.

In fiscal 2019, we will roll out effective activities for each item and work across the Company to achieve the Mid-term HSE Plan. Turn to [P.23](#) for information regarding our initiatives to reduce GHG emissions.

In addition, the HSSE Committee,*4 which is chaired by the Senior Managing Director in charge of HSE and attended by the president, received reports on the progress of HSE activities carried out under the Mid-term Plan in fiscal 2018. Management decisions have been reflected in the HSE planned activities for fiscal 2019, and the committee is working to continuously improve activities in order to achieve the mid-term goals.



Main Measures

- The health and safety of our employees are among our top priorities. We use the PDCA cycle to continuously improve our HSE-MS and minimize risks. Also, we undertake efforts to improve and develop an HSE culture and promote healthy lifestyle among our employees.
- In the regions where we operate, we will conduct self-assessment and other activities in addition to the environmental impact assessments required by law in an effort toward the conservation of biodiversity.

Overview of the Mid-term HSE Plan (2018–2020)

- To achieve continuous reduction of the LTIF and TRIR. The incident classification used in the domestic operations will be aligned with the international standards.
- To maintain necessary HSE resources and organization to implement HSE-MS and other HSE activities.
- To enhance HSE awareness among employees and improve the company’s HSE culture.
- To develop new HSE training programs to increase HSE competency.
- To introduce process safety approaches to prevent major accidents. The concepts and methodology will be inculcated throughout the company.
- To fully operationalize the contractor HSE management element to reduce contractors’ incidents.
- To improve HSE governance in the JAPEX subsidiary companies by providing support to introduce HSE-MS or equivalent systems.
- Regarding GHG emissions, implement more detailed monitoring and intensify reduction measures.

*2 Lost Time Injury Frequency: The number of lost time injuries (fatalities + lost work day cases) per 1,000,000 work hours.

*3 Total Recordable Injury Rate: The number of recordable injuries (fatalities + lost work day cases + restricted work day cases + medical treatment cases) per 1,000,000 hours worked.

*4 Health, Safety, Security, and Environment Committee: A committee that discusses issues related to security in addition to health, safety, and the environment

HSE Audits

Our HSE-MS stipulates that HSE audits be conducted every fiscal year, and HSE audits were conducted at each workplace in Japan and overseas in fiscal 2018. Under these audits, JAPEX auditors who have received specialized training assure appropriate and effective operations at each workplace in line with the HSE-MS. Not only do the audits focus on highlighting items of non-compliance, they also recognize the beneficial efforts of each workplace as best practices. This method has been rolled out across the Company and is now established.

In fiscal 2018, we launched the HSE Smile Award program to provide Companywide recognition to outstanding HSE initiatives. The program also focuses on best practices highlighted in the HSE audits and promotes them to other workplaces so that HSE auditing activities can help enhance our HSE culture.

In addition to the HSE audits, HSE patrols are conducted at each workplace by each HSE department, and we will maintain efforts to reduce HSE risks at workplaces with relatively high risks.

With the establishment of the HSE-MS being confirmed via conventional HSE audits, in fiscal 2019 we upgraded our audit practices to assess whether the HSE-MS is effectively utilized and functioning in workplaces.

HSE Training and Efforts to Improve HSE Culture

We provide planned and structured HSE training programs for all the employees with an aim to create healthy and safe working environments. The competency requirements are identified by laws or company rules for HSE critical positions such as HSE administrators, supervisors, and workers in oil and gas fields. Hence, we have established an incentive system to encourage employees to participate in internal and external training and get certifications required for the positions.

In addition, to ensure that training is systematically provided for all employees, we started formulating an HSE training program in fiscal 2018. We selected topics for the program, revised HSE texts for new hires, appointed and developed HSE lecturers, and raised awareness of the program Companywide. In fiscal 2019, we are continuing to develop HSE texts and lecturers with the aim of enhancing the program.

We are working hard to foster a corporate culture that puts the highest priority on HSE. To this end, we hold lectures led by in-house and external instructors to educate executives and we promote HSE Moments, which are short HSE-related talks held at the start of meetings. We will continue to further enhance these activities to improve our HSE culture.

Other Activities to Improve HSE Culture

- Set a goal for all departments to introduce “refresh time” as a way of preventing people from sitting for too long
- Shared accident information using the intranet
- Solicit HSE slogans, including from Group companies, and select one
- Promoted a series of HSE essays to raise awareness of each workplace’s HSE activities
- Promoted a series of HSE messages in the form of interviews with executives
- Sent out the internal email newsletter called *The HSE Kawaraban*

Occupational Health and Safety Initiatives

In fiscal 2018, we endeavored to align the incident classifications and calculation methods used in domestic operations with international standards and to maintain the HSE resources organization needed to implement HSE-MS and other HSE activities. As for aligning our classifications and methods, we amended our calculation methods, which had included only JAPEX workers in oil and gas fields, to include all workers, including office workers and contractors. We also began collecting Companywide working hour data. In addition, we amended the HSE-MS documentation to reflect changes in incident classifications. These efforts have improved the accuracy of our calculations for Companywide injury frequency indicators, made it easier to compare our data with those of other companies, and clarified our target HSE levels and benchmarks.

In addition, we aim to maintain the HSE resources and organization needed to implement HSE-MS and other HSE activities as outlined in the Mid-term HSE Plan. To this end, we need to thoroughly manage HSE for not only JAPEX employees but also contractors. We introduced a new framework that places a “HSE Officer” from JAPEX in charge of managing HSE issues in contract construction projects. The framework came into effect in April 2019.

Initiatives to Strengthen the HSE Management of Contractors

In the promotion of its businesses, JAPEX works hard to ensure safe operations in collaboration with a large number of other companies. With regard to contracts for commissioned work, we request contractors carry out HSE management, primarily to comply with laws and regulations. In fiscal 2018, we created the Contractor Management Guidelines, which spell out specific HSE-related management actions regarding contractors, with the aim of clarifying our method for managing contractors’ HSE. This was done in line with JAPEX’s policy of putting the highest priority on HSE, the Company’s ethical obligation as the commissioning party, and efforts to further improve work environments. The guidelines were formally introduced in fiscal 2019. Regarding contracts concluded based on these guidelines, we aim for the smooth promotion of accident-free business that includes contractors while cooperating with the business departments, procurement departments and the aforementioned HSE officers.

Crisis Management

Safety assurance and crisis management are our top priorities when developing our business activities in Japan and overseas. At JAPEx, the HSSE Committee formulates the basic policies for security measures and crisis management and deliberates material matters. In addition, we are working to strengthen our crisis management capabilities through a variety of measures and drills.

Revisions to Our Business Continuity Plans (BCPs)

After the 2018 Hokkaido Eastern Iburi Earthquake, the Japan Natural Gas Association, which JAPEx is a member of, formed the BCP Guideline Creation Working Group. JAPEx participates in the working group. In addition, we have begun revising the crisis preparedness rules of our workplaces to reflect the guidelines. In fiscal 2019, we are working to ensure the soundness of our BCPs, including recovery plans in case of an earthquake or tsunami.

We have compiled a set of responses for the headquarters to specify what must be done in the first week after a crisis situation caused by an earthquake with a seismic intensity of lower 6 and above or other large-scale natural disaster. This set of responses is treated as an earthquake initial response manual with the aim of assuring physical safety, alleviating damage, and recovering, maintaining, and continuing key operational activities.

In April 2019, we established the new Disaster Prevention Planning Group within the HSE Department. In addition, we strove to improve crisis management awareness by regularly holding various drills, including instruction on walking home and safety confirmation drills, as well as holding comprehensive disaster preparedness drills (conducted by the secretariat) in line with the earthquake initial response manual, including earthquake BCPs.



A walk-home drill under way

Overseas Security Initiatives

In consideration of recent international developments, we are focusing on bolstering employee security overseas from a multifaceted approach. In fiscal 2018, we conducted overseas emergency response training with a focus on confirming and mastering the protocol to follow directly after an emergency overseas, with the aim of developing organizational crisis management capabilities. We upgraded the style of drills from simply following a set routine in the face of a prepared scenario on the day of the drill to assigning scenarios after the drill begins so people have to think about responding on the spot as they would in a real incident. This has helped with uncovering issues and problem solving. The drill for initializing the overseas emergency contact network involves overseas offices, the relevant department at the headquarters, and executives. It is conducted twice, once in the early morning and once on a weekend in Japan. This ensures the drill is practical and very similar to real world conditions.

In addition, to enhance crisis response capabilities on the individual level, external experts and specialized operators provide instruction for business travelers and those slated to be stationed overseas. This includes overseas travel security classes and workshops to explain the content of overseas medical assistance contract services. In fiscal 2018, amid the growing participation of women in the workforce, we held a special lecture on overseas security specifically geared toward women.



A lecture on overseas security for women

We also held specialized overseas security drills to provide hands-on experience for people traveling to high-risk regions and countries, such as Iraq. Our unique drills simulate active shooters, terrorist bombings, muggings, abductions, confinement, and other harsh scenarios so that the participants can practice responses in real time while physically moving their bodies.

The foundation of overseas security is obviously the steady implementation of intelligence activities, namely the collection, analysis, and evaluation of information. This does not stop at analysis and evaluation behind a desk. We regularly conduct on-the-ground surveys, including checking public safety conditions and security systems, with a focus on uncovering and solving problems.

In this way, JAPEx is working hard to comprehensively strengthen its overseas security framework through various drills and measures.

Initiatives to Preserve Biodiversity and Ecosystems

JAPEx conducts voluntary environmental impact assessments that go beyond the legally required investigations when beginning a project, regardless of the business content or whether it is in Japan or overseas. The assessments are appropriate for the specific conditions in the environment surrounding the project, such as the existence of vulnerable species and the type of ecosystem. In addition to formulating development plans based on the results of the assessments, we conduct monitoring and take precautions as necessary after the development stage concludes. We are thereby striving to reduce the impact of our business activities on biodiversity.

In fiscal 2018, at the Canada Oil Sands Project, we cooperated with the Indigenous Advisory Group and sub-committees consisting of local indigenous stakeholders to monitor wildlife, undertake marshland rehabilitation projects, and assess reclamation activities in the operational area.



Reclamation work under way in the operational area (JACOS)

Initiatives to Prevent Pollution and Recycled Resources

We established “preventing pollution and minimizing the environmental impact of our business activities” as part of the JAPEx HSE Policy. We recognize the importance of initiatives to prevent pollution. At each operation field, we identify pollution risks for the soil, water, and air and take measures to prevent pollution as necessary. In addition, from the perspective of recycling resources, we strive to protect and effectively use water resources because we utilize a large quantity due to the unique characteristics of our businesses.

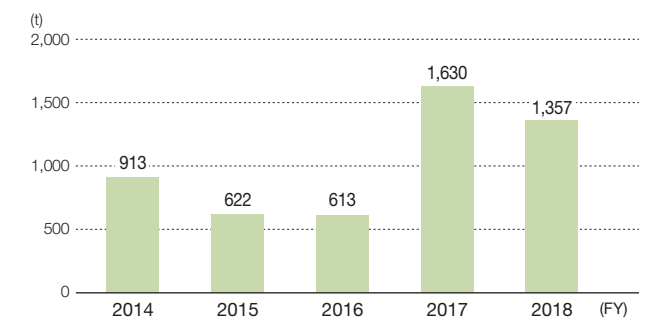
Initiatives to Reduce VOC Emissions

Volatile organic compounds (VOCs) are one cause of air pollution, including PM 2.5 and other suspended particulate matter (SPM). The primary source of emissions for our businesses is the release of volatile hydrocarbons, including the Pollutant Release and Transfer Register (PRTR) substances benzene, toluene, and xylene (BTX), but excluding methane.

We have been participating in a voluntary action plan to reduce VOC emissions as a member of the Japan Natural Gas Association since fiscal 2005. As part of our ongoing drive to reduce VOC emissions, we are working to seal crude oil storage tanks better

and incinerate VOCs that would otherwise be emitted from gas processing facilities. Fiscal 2018 VOC emissions totaled 1,357 tons, a year-on-year decrease of 273 tons. The main factor behind the decline was a reduction in the release of natural gas into the air.

Emissions of VOCs



Initiatives to Preserve the Quality of Wastewater

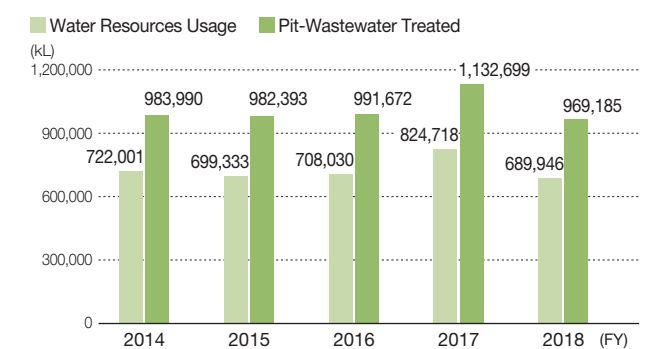
JAPEx appropriately disposes of the water resources it uses in its business activities. Regarding water used in the production of oil and gas as well as pit water collected in the course of mining, we either inject it back underground or, after purifying it to meet wastewater standards set by laws and regulations, expel it into public waterways.

Initiatives to Effectively Use Water

At our domestic production plants, we are striving to use water more effectively by promoting the recycling and reuse of water used as a coolant in processing facilities and water used as boiler water. In fiscal 2018, the amount of water we used in Japan amounted to 689,946 kiloliters, a decrease of 134,772 kiloliters year on year. The main factor behind the drop was our effort to reduce the amount of water used in the production of oil and gas.

In addition, for the Canada Oil Sands Project, we use the SAGD bitumen recovery process, which has been reported to impose fewer environmental burdens in comparison with open-pit mining. The steam injected underground exchanges heat with the oil sands reservoir. Along with the bitumen that has become liquid upon heat exchange, the condensed water is recovered and sent to the central processing facility. More than 90% of the overall recovered water is recycled into fresh water for the steam and injected underground once again.

Amount of Water Resources Usage and Pit-Wastewater Treated



Integrity and Governance

S H I N E

Basic Policy

JAPEX recognizes contributing to society through the provision of a stable energy supply as its mission and helping to realize the sustainable development goals by addressing social issues as its Corporate Vision. To achieve its Corporate Vision and maximize its corporate value from both the medium and long term perspectives, efficient and transparent corporate management and the building of relationships of mutual trust with stakeholders, including shareholders, by ensuring its accountability are required. Therefore, sound corporate governance, which is foundational to the company, is one of its most important challenges.

Corporate Governance

Corporate Governance Structure

JAPEX has an Executive Officer System. The representative directors and Board of Directors appoint the directors as well as executive officers, defining their responsibilities and charging the latter with business execution duties. The Board of Directors and the Audit & Supervisory Board supervise said business execution.

To strengthen the supervisory functions of the Board of Directors, highly knowledgeable and independent outside directors are appointed. These outside directors and Audit & Supervisory Board members, being independent from the management team, actively

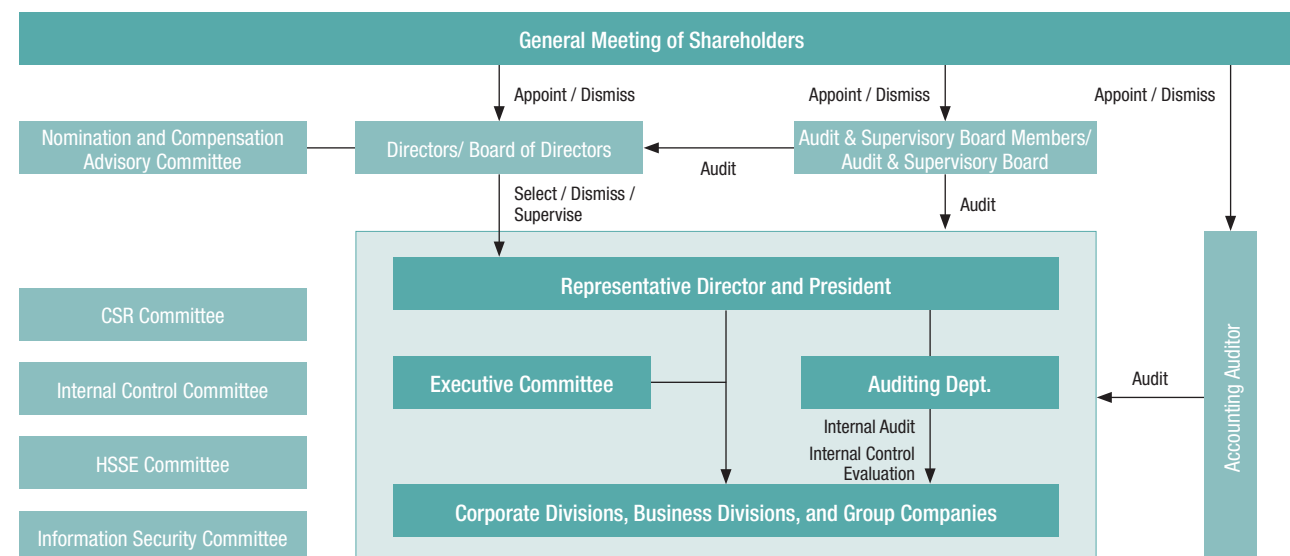
Corporate Governance Overview (As of November 5, 2019)

Organizational Design	Company with Audit & Supervisory Board
Executive Officer System	Yes
Number of Directors Provided for Under Articles of Incorporation	18
Number of Directors	12 (includes 3 outside directors)
Chairman of the Board of Directors	President
Number of Audit & Supervisory Board Members Provided for Under the Articles of Incorporation	4
Number of Audit & Supervisory Board Members	4 (includes 2 outside members)

provide opinions and advice that support lively debate in the Board of Directors. Contrasting with the type of management carried out by business executives, this framework of independent directors and an Audit & Supervisory Board in which members provide opinions and supervision is, we believe, well-configured to provide decision making that is sufficiently objective and appropriate.

In March 2019, we established the Nomination and Compensation Advisory Committee under the Board of Directors to strengthen the supervisory functions of the Board of Directors by enhancing the fairness, transparency, and objectivity of processes related to determining the nomination and compensation of directors.

Corporate Governance and Internal Control Structure (As of November 5, 2019)



Evaluation of the Overall Effectiveness of the Board of Directors

With the aim of maximizing our medium-to-long term corporate value, we evaluate the effectiveness of the Board of Directors regularly, especially with regard to how it supervises the management and makes improvements.

In fiscal 2018, we considered responses to and planned improvements addressing issues identified in fiscal 2017 through an evaluation process entailing discussions of management strategy and business plans. We also considered responses to and planned improvements addressing issues identified in the course of day-to-day operations, such as the content of materials and appropriate time management.

In addition, we conducted a survey of all directors and Audit & Supervisory Board members in February and March 2019 as a regular assessment. Based on the results, we conducted discussions and analyses of the following points.

1. The diversity, knowledge, experience, and abilities of the members comprising the Board of Directors
2. The state of operations of the Board of Directors, such as the frequency of meetings and time allotted for deliberation
3. The state of discussions at Board of Directors meetings

Each item received a generally positive evaluation, and we determined that the effectiveness of the Board of Directors had been secured. However, we acknowledge that there is room for improvement in the regular discussion of periodic reports, management strategies, and business plans at Board of Directors meetings. Going forward, we will look for ways to improve the problems discovered and strive to enhance the functionality of the Board of Directors.

Risk Management Structure

JAPEX has mechanisms in place to identify and manage business risks that are utilized in the investment decision and project execution phases.

For important investment projects, we introduced the decision gate (DG) process. At each stage of a project, a decision gate

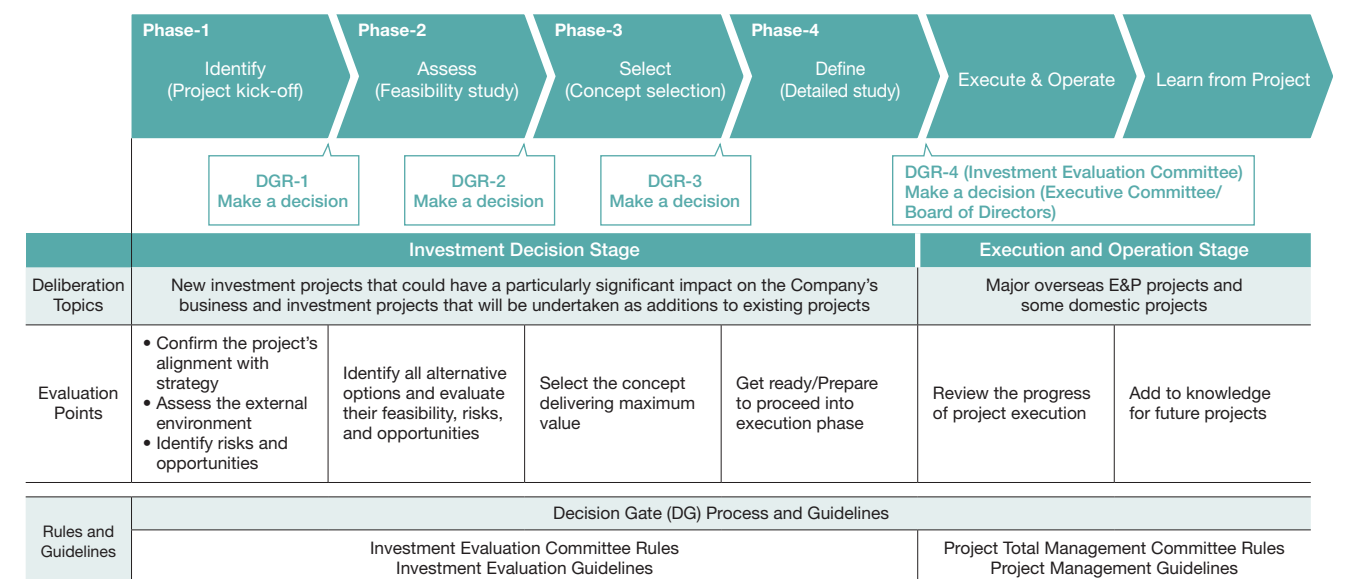
review (DGR) is conducted that evaluates business opportunities and risks from all angles—technical, economic, commercial, organizational, environmental, and social. The Investment Evaluation Committee, which corresponds to DGR-4, assesses the risks and appropriateness of the investment. The committee then reports its opinions regarding all these factors, whether to approve the project, and other matters to the Executive Committee, which is the final decision-making authority, and, when necessary, to the Board of Directors. As for other investments, the director or the executive officer responsible for each department verifies the risks related to business planning, strategy, financing, and credit as well as risks related to the environment and community of the relevant business area. A decision is then made.

As for businesses that are at the execution and operation stage (following the decision to proceed), the Project Total Management Committee manages their progress, monitoring risks that could develop into serious problems. The committee also supports problem-solving efforts by departments in charge of projects and considers comprehensive and Companywide responses that encompass multiple projects.

Regarding other risks, we are working to strengthen risk management through deliberations by Companywide and cross-departmental committees, namely the Internal Control Committee, the HSSE Committee [P.36](#), and the Information Security Committee.

Committee	Overview
Investment Evaluation Committee	This committee comprehensively evaluates important investment projects based on the Company's rules and reports its findings to the Executive Committee (and the Board of Directors as necessary). The chair is appointed by the president from among the full-time executives, and, currently, the executive of the Corporate Strategy Dept. serves in this position.
Project Total Management Committee	This committee manages the progress of major projects as well as studies and deliberates issues related to them. The committee meets once a month. The chair is appointed by the president from among the full-time executives, and, currently, the president serves in this position.

Risk Management Structure



Internal Audits and Audits Performed by Audit & Supervisory Board Members

Internal Audits

The scope of our internal audits encompasses a wide range of business activities. Responsibility for the internal auditing team, which is a part of the Auditing Department, rests solely with the President. The team reports to the President its findings of each internal audit done with regard to and in accordance with internal and public laws/regulations, and provides feedback in the form of opinions to the various audit departments, including recommendations and necessary advice.

Audits Performed by Audit & Supervisory Board Members

Audit & Supervisory Board members, based on the audit policies determined by the Audit & Supervisory Board and in line with their designated duties, attend and collect information for the meetings

Compliance

The JAPEX Group complies with all applicable laws and regulations, conventional wisdom, social norms, and its own in-house rules with the aim of realizing its Corporate Vision. To ensure that compliance is firmly entrenched in its corporate culture, all directors, officers, and employees are expected and directed to act ethically and with integrity.

Systems for Promoting Compliance and Education

JAPEX has established an Internal Control Committee to deliberate policies for systems to ensure the appropriate conduct of business and to investigate facts related to compliance violations. Additionally, the JAPEX Group strives to heighten awareness of compliance among its directors, officers, and employees. To that end, the Group has created a compliance manual that summarizes key matters and standards to be observed on a daily basis with the aim of ensuring that business duties are carried out in accordance with the JAPEX Group Code of Ethics and Conduct.

In the manual, key matters to be observed are categorized by type and the contact details for consultations and reports are listed. In addition, to ensure that employees pay careful attention during operations, we publish a compliance manual case study collection that lists specific instances of violations for each matter.

Furthermore, for in-house training, we position CSR, compliance, and insider trading prevention as fundamental matters that employees must be especially aware of during their daily operations. These three matters are mandatory subjects for training programs for new hires and mid-career training programs.

Compliance Matters to Be Observed (Excerpt)

- Prohibition of actions that conflict with the Company's interests
- Appropriate accounting procedures and tax reporting
- HSE • Respect for human rights • Fair procurement and trade
- Maintenance of sound and proper relationships with politicians and government officials
- Prohibition of providing benefits to antisocial forces
- Prohibition of insider trading

of the Board of Directors, the Executive Committee, and other important committees. They review requests for management approval documents and undertake audits to ensure that directors comply with the relevant laws and the Articles of Incorporation in the execution of their duties. Audit & Supervisory Board members also hold regular meetings to exchange information and views with Audit & Supervisory Board members of major subsidiaries.

Audit & Supervisory Board members also seek to raise the efficiency of audits based on reports on internal audits undertaken by the Auditing Dept. and information provided periodically by Accounting Auditors and the Auditing Department. They also coordinate closely with outside directors through a special committee established for the purpose of providing information to, and exchanging information with, outside directors and outside Audit & Supervisory Board members, and explaining proposals submitted to the Board of Directors ahead of the meetings.

Prevention of Bribery and Corruption

In recent years, countries in North America and Europe have been taking an increasingly strict approach to the prevention of bribery. In tandem with economic growth, newly developing countries also have been introducing and tightening related laws and regulations.

In light of these trends, the Group established the Anti-Bribery Guidelines in 2016 with the aim of preventing violations of bribery-related laws and regulations in Japan and overseas while ensuring the steady expansion of business. We are working hard to raise awareness within the Group of the basic principles behind the prohibition of bribery; how to conduct risks assessments and take precautions in high-risk countries; and the need for periodic monitoring. We hold training sessions on bribery prevention led by experts for our directors and officers. We also hold training sessions for employees of relevant departments, worksites, and subsidiaries in Japan and overseas, including employees assigned to overseas operations with high bribery risks. We also conduct annual surveys aimed at assessing the status of and ensuring compliance with the aforementioned guidelines.

There were no incidents or reports involving bribery in fiscal 2018. Besides, we do not make any political contributions.

Respect for Human Rights

Policy on Respect for Human Rights

The Company has established the JAPEX Group Code of Ethics and Conduct, which provides corporate ethics standards to be adhered to by all officers and employees. Regarding respect for human rights, including the prevention of slave labor and human trafficking, the code requires behavior that respects the human rights of all people. Furthermore, the compliance manual, which is based on the code, outlines compliance with respect for human rights in line with such international standards as the Universal Declaration of Human Rights, the International Covenant on Human Rights, and the ILO's International Labour Standards.

Initiatives Related to Preventing Slave Labor, Preventing Human Trafficking, and Protecting the Rights of Indigenous Peoples

In our Basic Procurement Policy, we clarify our reasons for requiring our business partners' compliance with relevant laws and regulations, the spirit of said laws and regulations, and social mores and norms. We strive to avoid transactions that debase the trust society has placed in us.

In the process of evaluating investments and operating projects, we work to identify not only problems related to profitability and technology but also explicit and implicit problems related to the environmental and social characteristics of the area in which said business is being pursued. After evaluating the risks and potential solutions, we take appropriate action, such as conducting monitoring in line with in-house rules.

In our overseas businesses, we regard the rights of indigenous peoples, respect for their cultures and customs, and concern for human rights as extremely important. For the Canada Oil Sands Project, we have put in place a system that incorporates the views of local indigenous people and pursue business in cooperation with them. In line with the UK Modern Slavery Act 2015, which was enacted with the aim of requiring companies to identify and eradicate any and all instances of slave labor and human trafficking across their supply chains, the JAPEX Group releases a statement on its website every year detailing its relevant policies and initiatives.

For details on how we comply with the UK Modern Slavery Act, refer to the following URL.
<https://www.japex.co.jp/english/csr/slaveryactstatement.html>

Initiatives to Foster Workplaces Free of Harassment

Since fiscal 2016, we have been continuously conducting Companywide training programs and daily educational activities designed to foster a better understanding of workplace harassment. In addition to the training we held for all employees in fiscal 2016, we held training for directors, officers and other managers between fiscal 2017 and 2018. Such initiatives are carried out not just at

headquarters; they are also rolled out to each district office and affiliate.

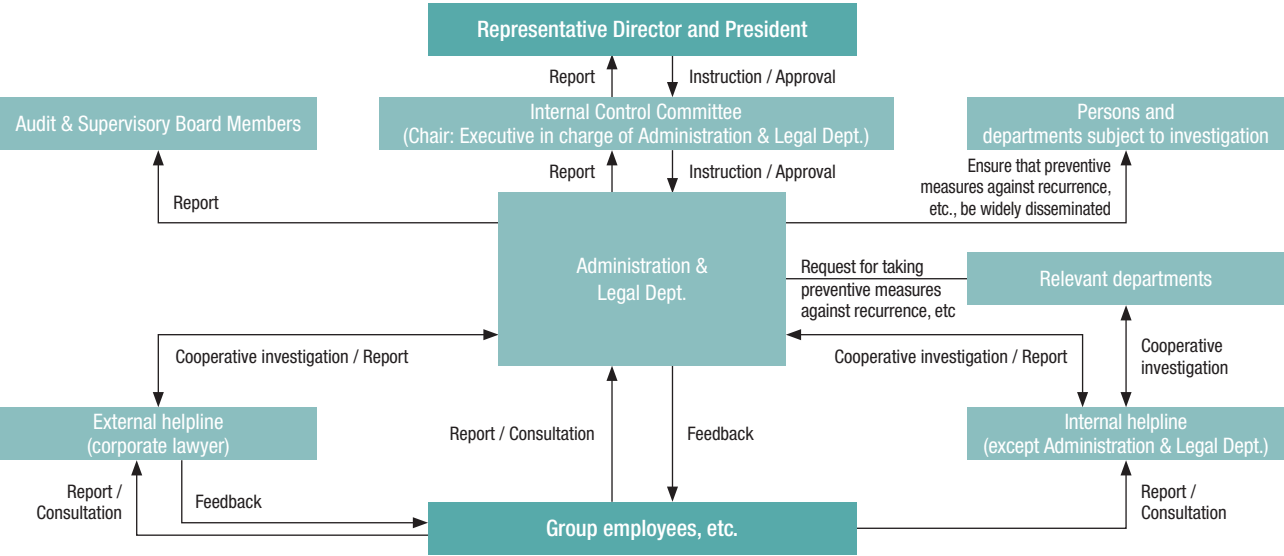
Moreover, we also distribute a monthly e-mail magazine as a means of building awareness on a daily basis. Reflecting the rising attention being given to harassment, especially recently, the magazine has been introducing personal cases and sharing information on legal revisions in light of recent developments.

In the event an individual consults it, the harassment hotline serving headquarters or the relevant district office takes quick action. When an instance of harassment occurs (as defined by internal rules), we implement a harsh response based on said internal rules and notify all employees of the incident to prevent a recurrence.

Compliance Reporting and Consulting System

JAPEX has established a system for reporting to and consulting with relevant departments as listed in the compliance manual through the normal chain of command (line of reporting) in the event that a problem related to a compliance matter or the suspicion of such a problem arises. In addition, to ensure readiness in the event a line of reporting fails for whatever reason, we have established the Compliance Reporting and Consulting System, which stands independent from internal lines of reporting. Because it is designed to allow users to report or solicit consultation anonymously, Group employees can be confident in using this system. Anyone who makes a report or receives a consultation is protected from unfair treatment for doing so. Moreover, the people in charge of the reporting and consulting system, including the corporate lawyer of JAPEX who serves as an external helpline, are prohibited when conducting an investigation from leaking any information gained to an unaffiliated third party or from formulating retaliatory measures against the complainant.

Organization Chart of the Compliance Reporting and Consulting System









Directors and Audit & Supervisory Board Members

(As of November 1, 2019)

* () indicate date appointed

Position, Name and Duties	Brief History	Reasons for Appointment	Attendance at the Board of Directors Meetings	Years in Office
Directors				
 <div>Representative Director and Chairman Osamu Watanabe</div>	He joined the Ministry of International Trade and Industry (MITI) in 1964, and later became Vice Minister of International Trade and Industry. He has also served as Chairman of Japan External Trade Organization (JETRO). Since joining JAPEX in 2007, he has served as Executive Vice President and President. He has been in his current position since June 2016.	He possesses a unique level of insight derived from extensive administrative experience encompassing energy administration in government agencies and other bodies as well as service as Executive Vice President and President at JAPEX in the period between 2007 and 2016. Accordingly, he has been appointed on the basis of having greatly contributed to the JAPEX Group's business development, and as a result of having appropriately provided managerial guidance from a broad perspective since assuming the position of Chairman.	14 out of 14 meetings	12 years (June 2007)
 <div>Representative Director and President Chief Executive Officer Masahiro Fujita</div>	He joined the Ministry of International Trade and Industry (MITI) in 1977 and later became the head of the Trade and Economic Cooperation Bureau at the Ministry of Economy, Trade and Industry (METI). He has also served as Sumitomo Corporation's representative director, vice president and executive officer as well as the assistant to the representative director and president. Having joined JAPEX in 2019, he served as Representative Director and Executive Vice President and then assumed his current position in October 2019.	He possesses a unique level of insight regarding international resources and energy business derived from extensive administrative experience encompassing energy administration in government agencies and managerial experience otherwise in private sector companies. Accordingly, he has been appointed because we expect JAPEX management will benefit from his knowledge and experience.	Newly appointed	—
 <div>Representative Director Executive Vice President Yosuke Higai</div> <div>Advisor to President President of the Marketing & Sales Division; In Charge of the LNG Marketing and Procurement Dept. and the Secretary Office and the Procurement Dept.</div>	Since joining JAPEX in 1978, he has served as General Manager of Procurement Dept., General Manager of Administration Dept., President of Marketing & Sales Division, Vice President of Soma Project Division, Executive in charge of Secretary Office, and Executive in charge of Procurement Dept. He has been in his current position since June 2019.	He has extensive experience in and knowledge of operations in the areas of our procurement, administration, and marketing & sales divisions, and currently serves as Director and Executive Vice President. Accordingly, he has been appointed on the basis of having significantly contributed to the appropriate operation and management of JAPEX and the JAPEX Group's business development by undertaking duties that involve serving as President of the Marketing & Sales Division and being in charge of the LNG Marketing and Procurement Dept., the Secretary Office and the Procurement Dept.	14 out of 14 meetings	6 years (June 2013)
 <div>Director Senior Managing Executive Officer Takahisa Inoue</div> <div>In Charge of the HSE Dept., President of the Domestic Project Division</div>	Since joining JAPEX in 1980, he has served as General Manager of Operations Dept., Development Division, Vice President of Development Division, General Manager of Hokkaido District Office, Domestic Project Division, President of Domestic Project Division, and Vice President of Soma Project Division. He has been in his current position since June 2018.	He specializes in oil and gas field development and production and operations management in Japan and overseas, and has extensive experience in and knowledge of our domestic project divisions. Accordingly, he has been appointed on the basis of having greatly contributed to the JAPEX Group's business development by undertaking duties that involve being in charge of HSE Dept. and serving as President of Domestic Project Division. He is currently serving as Director and Senior Managing Executive Officer.	14 out of 14 meetings	3 years (June 2016)
 <div>Director Managing Executive Officer Kazuhiko Ozeki</div> <div>Responsible for Overseas Projects; In Charge of the Commercial Office for Overseas Projects, the Corporate Strategy Dept., and the New Business Promotion Office</div>	Since joining JAPEX in 1980, he has served as General Manager of Iraq Project Dept., International Oil & Gas Division, Vice President of Iraq Project Division, Vice President of Middle East, Africa & Europe Project Division, President of Environment and Innovative Technology Projects Division, Executive in charge of Commercial Office for Overseas Projects, Executive in charge of Corporate Strategy Dept., and Executive in charge of Media & Investor Relations Dept. He has been in his current position since June 2018.	He has extensive experience in and knowledge of management in such areas as our overseas projects as well as environmental and innovative technology projects and divisions. Accordingly, he has been appointed on the basis of having greatly contributed to the appropriate operation and management of JAPEX by undertaking duties that involve being responsible for overseas projects overall, being in charge of Commercial Office for Overseas Projects, being in charge of Corporate Strategy Dept., and being in charge of New Business Promotion Office. He is currently serving as Director and Managing Executive Officer.	14 out of 14 meetings	4 years (June 2015)
 <div>Director Managing Executive Officer Hajime Ito</div> <div>President of the Americas & Russia Project Division</div>	He joined the Ministry of International Trade and Industry (MITI) in 1980, and later became Deputy Director-General of the Ministry of Economy, Trade and Industry (METI). Since joining JAPEX in 2010, he has served as President of Americas & Russia Project Division. He has been serving in his current position since June 2018. He concurrently serves as President of JAPEX Montney Ltd.	He has international experience in government positions, as well as extensive experience in and knowledge of energy administration in government offices and our overseas project divisions. Accordingly, he has been appointed on the basis of having greatly contributed to the JAPEX Group's business development by undertaking duties of the President of Americas & Russia Project Division. He is currently serving as Director and Managing Executive Officer.	14 out of 14 meetings	3 years (June 2016)
 <div>Director Managing Executive Officer Toshiyuki Hirata</div> <div>Canada Oil Sands Project Dept.</div>	Since joining JAPEX in 1981, he has served as President of Canada Oil Sands Co., Ltd., Executive in charge of the Canada Oil Sands Project. He has been in his current position since June 2018. He concurrently serves as Chairman of Japan Canada Oil Sands Limited and President of Canada Oil Sands Co., Ltd.	He specializes in oil and gas field development and production and operations management in Japan and overseas, and has extensive experience in and knowledge of the oil sand business. Accordingly, he has been appointed on the basis of having greatly contributed to the JAPEX Group's business development by undertaking duties that include being in charge of the Canada Oil Sands Project Dept., He is currently serving as Director and Managing Executive Officer.	14 out of 14 meetings	2 years (June 2017)
 <div>Director Managing Executive Officer Michiro Yamashita</div> <div>Finance & Accounting Dept.</div>	Since joining JAPEX in 1982, he has served as General Manager of Corporate Planning Dept., Vice President of Environment and Innovative Technology Projects Division, and Executive in charge of Finance & Accounting Dept. He has been in his current position since June 2018.	He has extensive experience in and knowledge of operations in our finance and accounting divisions. Accordingly, he has been appointed on the basis of having greatly contributed to the appropriate operations and management of JAPEX by undertaking duties in the Finance & Accounting Dept. He is currently serving as Director and Managing Executive Officer.	10 out of 10 meetings	1 year (June 2018)

Position, Name and Duties	Brief History	Reasons for Appointment	Attendance at the Board of Directors Meetings	Years in Office
Directors				
 <div>Director Managing Executive Officer Yoshitaka Ishii</div> <div>In Charge of the Gas Pipeline Transportation Dept., President of the Inter-regional Gas Supply Division, President of the Soma Project & Power Business Division</div>	Since joining JAPEX in 1981, he has served as General Manager of Technical Dept., Nagaoka District Office, General Manager of Nagaoka District Office, Domestic Project Division, Vice President of Inter-regional Gas Supply Division, and President of Soma Project Division. He has been in his current position since October 2018.	He specializes in drilling technology in the oil and mining industries, and has extensive experience in and knowledge of our domestic project divisions. Accordingly, he has been appointed on the basis of having greatly contributed to the JAPEX Group's business development by undertaking duties that include being in charge of Gas Pipeline Transportation Dept., and serving as President of Inter-regional Gas Supply Division and President of Soma Project & Power Business Division. He is currently serving as Director and Managing Executive Officer.	10 out of 10 meetings	1 year (June 2018)
 <div>Outside Director Akira Kojima</div>	He joined Nikkei Inc. in 1965 and served as its Director, Chief Editor and Senior Managing Director. He later served as Chairman at Japan Center for Economic Research and Adjunct Professor at National Graduate Institute for Policy Studies. He has been in his current position at JAPEX since June 2015. He concurrently serves as a member of the Board of Trustees and Adjunct Professor at National Graduate Institute for Policy Studies.	He has extensive experience and distinguished insights gained through his career in a newspaper company and other entities. Accordingly, he has been appointed because he supervises and provides wide-ranging proposals for JAPEX management. He is currently serving as Outside Director.	13 out of 14 meetings	4 years (June 2015)
 <div>Outside Director Tetsuo Ito</div>	Having been appointed as a prosecutor in 1975, he served as Head of Special Investigation Force, Tokyo District Public Prosecutors Office, and as Deputy Prosecutor-General, Supreme Public Prosecutors Office. He has been in his current position at JAPEX since June 2016. He concurrently serves as a Recorded Attorney (Daiichi Tokyo Bar Association), Of Counsel at Nishimura & Asahi, Outside Auditor at Unizo Holdings Company, Outside Auditor at Takasago Thermal Engineering Co., Ltd., and Outside Auditor at Asahi Kasei Corporation.	Although he does not have direct experience in corporate management, he has extensive knowledge and experience as a legal specialist. Accordingly, he has been appointed because he supervises and provides wide-ranging proposals for JAPEX management. He is currently serving as Outside Director.	13 out of 14 meetings	3 years (June 2016)
 <div>Outside Director Yukari Yamashita</div>	She joined the Institute of Energy Economics, Japan in 1985. After reaching the position of Director and Head of the Climate Change and Energy Efficiency Unit, she more recently became a Board Member at the Institute and Director in Charge of the Energy Data and Modelling Center.	Over the years and through focused research activities, she acquired an extensive knowledge of energy economics and energy-and environment-related public policy. Although without explicit experience in corporate management, JAPEX appointed her as an Independent Director in June 2019 and expects to greatly benefit from her guidance and wide-ranging suggestions.	Newly appointed	—

Position and Name	Brief History	Reasons for Appointment	Attendance at the Meetings
Audit & Supervisory Board Members			
 <div>Audit & Supervisory Board Member Kenji Uchida</div>	Since joining JAPEX in 1979, he has served as General Manager of Technical Dept., Iraq Project Division, General Manager of Iraq Project Dept., Middle East, Africa & Europe Project Division, Advisor to President of Middle East, Africa & Europe Project Division, and Chief of Dubai Representative Office, Middle East, Africa & Europe Project Division. He has been in his current position since June 2017.	He specializes in oil and gas field development and production and operations management in Japan and overseas, and has extensive experience in and knowledge of our overseas project divisions. Accordingly, he has been appointed after we deemed that he appropriately conducts audits related to the directors' execution of duties and fulfills his responsibilities.	Board of Directors meetings: 14 out of 14 meetings Board of Corporate Auditors meetings: 12 out of 12 meetings
 <div>Audit & Supervisory Board Member Koichi Shimomura</div>	Since joining JAPEX in 1982, he has served as General Manager of the Media & Investor Relations Dept., General Manager of International Planning Dept., International Oil & Gas Division, General Manager of First Project Dept., International Oil & Gas Division, General Manager of Canada Oil Sands Project Dept., Americas & Russia Project Division, Advisor to President of America & Russia Project Division, Advisor to President of Middle East, Africa & Europe Project Division. He has been in his current position since June 2018.	He has been appointed upon our having deemed that he appropriately conducts audits related to the directors' execution of duties and fulfills his responsibilities by tapping into his extensive experience in project management in our overseas project divisions.	Board of Directors meetings: 10 out of 10 meetings Board of Corporate Auditors meetings: 10 out of 10 meetings
 <div>Outside Audit & Supervisory Board Member Hiroyasu Watanabe</div>	He joined the Ministry of Finance in 1969 where he served as Director-General of the National Tax Agency, and also served as Professor of Graduate School of Finance, Accounting and Law, Waseda University. He has been in his current position at JAPEX since June 2015. He concurrently serves as Advisor of Hibiya Park Law Offices.	He has been appointed upon our having deemed that he appropriately conducts audits related to the directors' execution of duties and fulfills his responsibilities since becoming a member of JAPEX's Audit & Supervisory Board in 2015 and that, although he does not have direct experience in corporate management, he has distinguished insights gained from his extensive experience as a graduate school professor and in government administration of the Ministry of Finance and other such entities.	Board of Directors meetings: 13 out of 14 meetings Board of Corporate Auditors meetings: 12 out of 12 meetings
 <div>Outside Audit & Supervisory Board Member Norio Nakajima</div>	He joined the Industrial Bank of Japan, Limited (IBJ) in 1970, where he served as its Managing Executive Officer and later in the same position at Mizuho Corporate Bank, Ltd. He then served as President & CEO of DIAM Co., Ltd. He has been in his current position at JAPEX since June 2014.	He has been appointed upon our having deemed that he appropriately conducts audits related to the directors' execution of duties and fulfills his responsibilities since becoming a member of JAPEX's Audit & Supervisory Board in 2014 and that he has distinguished insights gained from his extensive managerial experience with financial institutions.	Board of Directors meetings: 14 out of 14 meetings Board of Corporate Auditors meetings: 12 out of 12 meetings

Being a Good Neighbor

S H I N E

Basic Policy

We believe that the maintenance of safe and stable business operations depends on our accurately understanding the requirements society places on the JAPEX Group as well as building relationships of understanding and trust with our stakeholders.

With this in mind, we will strive to respect the cultures and customs of the regions in which we operate while complying with various international regulations and engaging in a variety of social contribution activities aimed at helping to ensure the sustainable development of local communities and win their trust. In addition, we will develop favorable relationships with the communities in which we operate through constructive dialogue and the timely and appropriate disclosure of information.

Our Approach

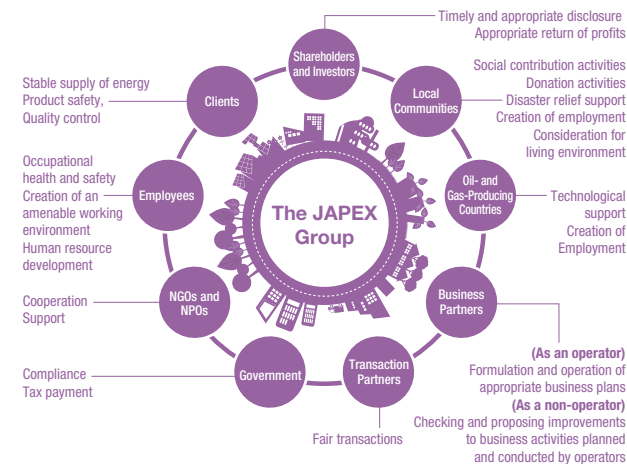
Social Background and Issue Recognition

- Continued engagement in the provision of a stable supply of energy, a business that entails a substantial social mission and significantly impacts the economy and society requires building relationships of understanding and trust with our stakeholders.
- We must address expectations regarding our contribution to job creation and the development of local industries in the regions in which we operate.
- Problems with product quality could significantly harm various stakeholders. We recognize that quality control and product safety are extremely important.

Dialogue with Shareholders and Investors

We believe that establishing relationships of trust with our shareholders and investors is crucial to achieving sustainable growth over the medium to long term and increasing our corporate value. Accordingly, we actively arrange opportunities for dialogue to facilitate a deeper understanding of our business and strive to disclose corporate information in a timely, appropriate and fair manner. Opinions and information received through IR and SR activities are appropriately communicated to senior management.

Expectations and Requests from Stakeholders



Main Measures

- Through dialogue with various stakeholders, we are striving to understand their diverse needs and be a company that earns the trust of society.
- We promote the local production and consumption of energy and establishment of towns resistant to disaster and help address such issues as infrastructure support, job creation, environmental protection, social exchange and donation activities.
- We are committed to safety, quality control, and the appropriate provision of information as well as to building good relationships with our stakeholders so that they can utilize our oil and natural gas products with peace of mind.

Fiscal 2018 Accomplishments

- Held financial results briefings for institutional investors and securities analysts
- Held interviews with institutional investors and securities analysts
- Participated in IR conferences for overseas institutional investors
- Participated in briefings hosted by securities companies for individual investors
- Hosted facility tours for shareholders

Relationships with Local Communities

Helping a “Smart Community” Initiative—Shinchi, Fukushima Prefecture

The Soma Project supports a “Smart Community” initiative led by Shinchi Town. This initiative aims to redevelop the area around JR Shinchi Station where there is damage from the Great East Japan Earthquake. Natural gas from Soma LNG terminal will be supplied to public infrastructure, hotels and bathing facilities that are currently being constructed in the area. These initiatives are expected to reduce CO₂ emissions from the communities and help curb energy consumption.

In addition, we sponsor a local summer festival and an industrial festival held every August and November, respectively, in Shinchi Town, and participate in the Soma Citizens' Festival each November. Also, last December, we invited elementary school students from local communities to take a site tour of our LNG tank and related facilities. Through these activities, we interact with local communities to promote an understanding of our operations and raise awareness of the importance of efficient energy use and protecting the environment.

In October 2018, we held a promotional event featuring Shinchi Town specialties, such as fresh agricultural and marine products as well as prepared foods, at our headquarters building, thereby introducing the attractiveness of the community to a number of visitors from the Marunouchi and neighboring Yaesu districts.



A promotional event featuring the specialties of Shinchi Town (JAPEX's headquarters building)

Contributing to Education and Social Welfare—Iraq

In Iraq, we are engaged in the Garraf Project. Residents in the area surrounding our petroleum facilities number in the several tens of thousands, and we are cognizant of the critical importance of building favorable relationships with local communities. Accordingly, with particular emphasis placed on providing educational assistance and enhancing social welfare, JAPEX and PETRONAS (the project operator) are working in tandem to contribute to the local communities in various ways. With regard to education, we help repair and maintain primary and secondary school facilities. We also dispatch medical personnel to conduct eyesight checks for children and provide corrective lenses where needed in addition to distributing educational equipment. Our educational support activities also include hosting science and math classes for primary school students. With regard to social welfare, JAPEX and PETRONAS have donated small-scale water purification facilities, helping resolve issues arising from poor access to good water.

We also provide low-income households with food and fresh meat during the month of Ramadan. As such, we are striving to ensure that our presence in the region helps build a harmonious community.



Distributing food during Ramadan

Facilitating Mutual and Sustainable Prosperity with Indigenous Communities—Canada

For more than 40 years, JAPEX has been engaged in the Canada Oil Sands Project. Having worked for so long hand in hand with local communities in a broad range of fields, including environmental preservation, social development, and economic vitalization, partnerships between JAPEX and such communities have become an integral component of the project. Examples of collaboration include the establishment of the Indigenous Advisory Group (IAG) by indigenous residents under the initiative of subsidiary Japan Canada Oil Sands Limited (JACOS) at the time of commencement of oil sands development at the Hangingstone Block. JACOS and the IAG are engaged in a longstanding ongoing discussion aimed at sharing expertise in and ideas for environmental preservation and to put these insights into practice. In fiscal 2018, the IAG and JACOS held quarterly meetings in addition to hosting various events, with representatives from both sides participating in facility tours, cultural exchange ceremonies and environmental monitoring activities. Thanks to this approach, JACOS has been highly evaluated by the Canadian Association of



A quarterly meeting with IAG members

Building Favorable Relationships with Residents of Remote Islands—Indonesia

In the Kangean Project, through indirect investment in Kangean Energy Indonesia Ltd. (KEI) we are engaged in various activities aimed at contributing to the well-being of the inhabitants of Pagelungan Island and of other islands in the surrounding waters.

We have been voluntarily providing electricity and water from the terminal's power generation equipment to approximately 6,000 residents of Pagerungan Island. In addition, we dispatch doctors employed at the terminal to local clinics at no cost. We are also committed to annually donating a fixed amount to island communities, thereby providing financial support for the construction and repair of school buildings, establishment of ice-making facilities for the fishery industry, and development of a soccer field for recreation.

In 2018, our donations aided local communities by easing the financial burdens of impoverished households, supporting infrastructure development, funding the repair and construction of piers and roads, assisting mangrove tree planting, furnishing scholarships and other educational assistance, and enabling the purchase of nutritional supplements for infants.

In 2019, we are planning to maintain donations at the 2018 level. We will remain committed to helping the communities in which we operate thrive by providing ongoing assistance to aspects of education, health-care, economic vitalization, environmental protection, and infrastructure development.



Assisting in mangrove tree planting on Raas Island

The Employer of Choice

SHINE

Basic Policy

We believe that in order for JAPEX to achieve sustainable growth and enhance its corporate competitiveness, it must encourage its officers and employees to realize their creativity and take on challenging goals. At the same time, JAPEX must continue to transform itself into a more flexible organization supported by a diverse workforce. Therefore, JAPEX supports its employees in their autonomous and ongoing pursuits of career development and personal growth, believing that allowing them to enjoy professional success, regardless of gender, age, nationality, job category, or workstyle, is essential.

To this end, we are proactively revising our personnel systems while hosting seminars and other educational events on diversity, work-life balance and career development, with the aim of fostering a corporate culture that respects diversity and is capable of realizing the potential of diverse workers.



Our Approach

Social Background and Issue Recognition

- With a declining birthrate and aging population, Japan is facing a labor shortage. Therefore, it is important to empower women to take on more active roles while respecting the needs of different generations and work styles.
- Honoring and making full use of the different personal attributes of our employees is not only a key to meet social demands but also indispensable to creating new corporate value.
- We believe that a fair working environment where human rights are respected is essential to ensure every employee is able to work with confidence and passion.

Main Measures

- We acknowledge that each employee is unique in both tangible (gender, nationality, career track, work style) and intangible ways. Thus, we have mechanisms in place that enable each employee to work as an autonomous professional.
- We have been reforming work styles and establishing personnel systems to honor each person's roles and responsibilities and to allow them to realize their capabilities more efficiently. In addition, we have been striving to enhance employee training and strengthen communication between management and employees.
- Furthermore, looking to boost labor productivity, we have been making efforts to reduce the need for overtime while striving to maintain and promote employee health.

Create a Fair and Rewarding Workplace

Allowing General Staff and Career Track Employees to Switch Job Categories

We are engaged in work style reforms aimed at ensuring that all employees stay highly motivated and realize their full potential. As part of these reforms, in April 2019 we revised our conventional job categories, abolishing the designation associate staff (AS), a type of general staff charged solely with administrative assistance that had been accounting for approximately 50% of our female employees. Those formerly categorized as AS have been reclassified as business staff (BS) and folded into the career track category.

In conjunction with this shift, each employee has been granted a career interview with their direct supervisor and staff from the HR department. They are also being given opportunities to sign up for training aimed at helping them formulate 10-year career plans, develop a spontaneous working attitude, and enhance their job skills. As such, we are painstakingly striving to ensure smooth transition. Furthermore, the abolishment of AS resulted in the reallocation of administrative operations, and JAPEX has rallied its strengths to streamline these operations and redefine the roles of each employee. In particular, we expect this change in job categories to help raise the proportion of women in management positions.

Revising Personnel Systems

In April 2019, JAPEX revised its personnel systems, doing away with conventional seniority-based practices. In line with the policy of helping each employee enhance their skills and develop a healthy level of competitiveness, our revised personnel systems place a stronger focus on the role of the individual. The revisions also helped JAPEX secure conformity with the Equal Pay for Equal Work Guidelines announced by the Ministry of Health, Labour and Welfare in December 2018. This move is intended to make it easier for employees to understand their roles and responsibilities and encourage them to pursue higher accomplishments and acquire robust skills.

We expect the revised personnel systems to raise employee awareness of their responsibilities while better positioning JAPEX to acquire and develop human resources who can flexibly support a variety of projects.

Health Management

JAPEX was certified as one of the Health and Productivity Management 500 Organizations (White 500) under a program co-sponsored by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi Health Promotion Association with the aim of

commending large companies that implement outstanding health management. This is JAPEX's third such certification since 2017. In line with the JAPEX Group Code of Ethics and conduct, we "place top priority on HSE (health, safety and environment)" while developing an inclusive workplace environment. We are thus rallying our entire strength to promote various initiatives to create a working environment in which all employees can vibrantly work with confidence.

In terms of employee health management, we offer follow-up counseling after in-house health checkups and stress checks. We also provide smokers with a program aimed at helping them quit smoking while hosting various in-house events to enhance employee health literacy. In these ways, we are extending ongoing assistance to employees' health improvement efforts, with the hope that such activities help them maintain good health even after retirement. In addition, we are striving to raise employee awareness of lifestyle-related diseases by, for example, implementing annual "JAPEX Diet Campaigns," which aim to assist those who have weight issues in their efforts to lose weight and help them to change their eating habits in a systematic and smooth manner.

Respect Employee Diversity

Work-Life Balance

Since fiscal 2016, we have been engaged in the "Summer Work Style Reform Campaign," a program held each year over the July–September period aimed at improving work-life balance through the trial implementation of various programs. For the fiscal 2018 campaign, we implemented a staggered lunch break and allowed eligible employees to work at home.

Specifically, the staggered lunch break allowed employees to take one-hour breaks at any time between 11:45 and 13:15, extending the conventional lunch hour time by 15 minutes in both directions. Employee questionnaires issued after the introduction of this program furnished mostly positive feedback, with some citing the ability to beat the crowds at restaurants and thus more effectively utilize break time as a deciding factor. Having thus confirmed the benefits of a staggered lunch break, we continued this program past the end of the campaign period, officially adopting it at the beginning of fiscal 2019.

The work at home program for eligible employees also ran over July and August on a trial basis in line with our participation in the government-sponsored "TELEWORK DAYS 2018" campaign. Although we were able to confirm the benefits of this program in terms of an improved work-life balance achieved through, for example, a reduction in hours spent commuting and higher operational efficiency, we have also identified multiple system- and facility-related issues that must be overcome. We will continue striving to fully accommodate this work style and, to this end, are taking steps to address these issues.

Efforts to Recruit Women to Management Positions

In October 2014, we set a goal to triple the percentage of women in management positions from 3.4% as of October 2014 to 10.2% by 2020. As of April 1, 2019, however, the percentage of female managers had reached only 4.9%. Going forward, we will place stronger emphasis on creating a fair and rewarding workplace by, for example, holding in-house seminars aimed at helping all managers who supervise female employees raise their awareness. In this

way, we will strive to eliminate the gender gap in our workplaces.

As another voluntary action, we have also been promoting human resources development toward the goal of appointing female general managers by 2020 while striving to maintain the ratio of women to the number of new recruits from university graduates at 30% or more.

Personnel Development

In fiscal 2014, we launched the Career Development Plan, which is aimed at encouraging employees to strive for a fulfilling work life and to pursue their career goals. This plan defines three distinct career paths for key individuals expected to play crucial roles in JAPEX's business operations: "global leaders," individuals charged with strategic planning and business promotion; "business leaders," individuals who manage functionally separate business units; and "specialists," individuals who bring to bear highly specialized skills. Having formulated our Career Development Guidelines in line with these definitions, we are currently implementing various human resource development programs. These include the Career Design Training Program, which helps each employee design their future career goals themselves, and the Job Level-Based Training Program, which aims to help raise employees' awareness of the roles and responsibilities commensurate with job level.

In fiscal 2018, we expanded the scope of employees subject to the latter program to include general managers. This move is intended to help employees who are expected to become senior management candidates understand the competencies they are expected to acquire in the face of an evolving business environment that will, in turn, make their duties more challenging. More specifically, the Job Level-Based Training Program for general managers is focused on ensuring that participants adopt an approach that looks to optimize overall operations, learn how make responsible decisions, and be acutely aware of the beliefs, motives, and standards they must uphold.

We provide overseas study and training programs aimed at nurturing human resources capable of handling business operations in countries abroad, with a number of employees undergoing hands-on business training at overseas business bases or being dispatched to educational institutions in Europe and the United States. In fiscal 2017, we also launched the Overseas Business Skills Training Program focused on instilling project management and other commercial skills. Currently, employees ranging from new recruits to mid-level managers are benefiting from this program thanks to the well-organized content it provides.

Furthermore, we held in-house seminars titled "Introductory Skill Training by Specialists" in fiscal 2018, with senior specialists and specialists at JAPEX serving as lecturers.

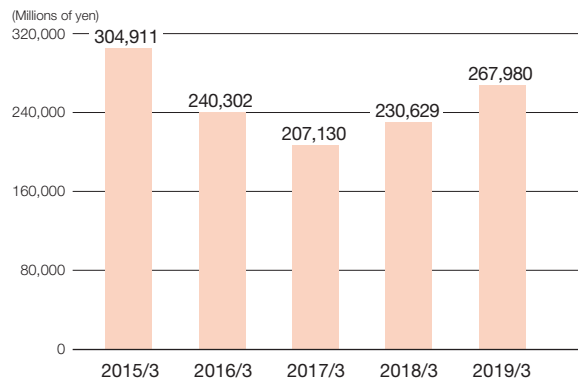


Participants in the Overseas Business Skills Training Program

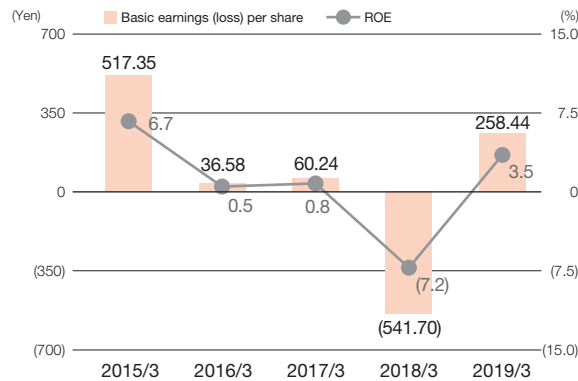
Financial and Non-financial Highlights

(Fiscal years ended March 31)

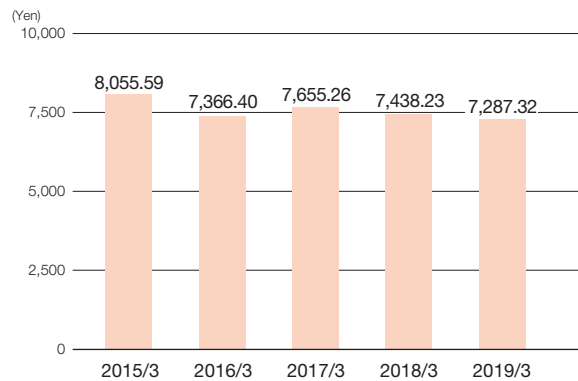
Net sales



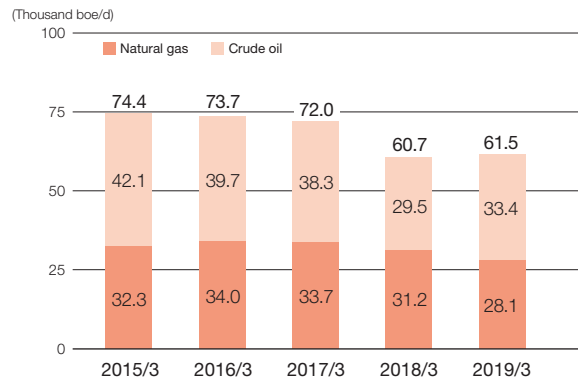
Basic earnings (loss) per share/ROE



Net assets per share



Production volume



	2010/3	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3	2019/3
For Fiscal Year (Millions of yen)										
Net sales	179,752	199,651	230,638	231,086	276,588	304,911	240,302	207,130	230,629	267,980
Cost of sales	125,467	144,919	174,359	172,075	210,460	234,649	193,022	174,957	191,366	233,133
Exploration expenses	10,396	9,798	7,805	13,086	9,800	4,489	6,516	1,512	1,324	788
Selling, general and administrative expenses	30,769	31,084	33,426	32,017	31,692	33,625	32,426	29,975	29,173	31,743
Operating income	13,119	13,849	15,045	13,906	24,634	32,146	8,336	685	8,764	2,313
Profit (loss) attributable to owners of parent	17,939	10,010	17,027	(865)	29,015	29,567	2,090	3,443	(30,959)	14,770
Cash flows from operating activities	38,948	34,284	37,172	34,254	45,226	78,666	57,659	43,672	52,881	30,970
Cash flows from investing activities	(29,300)	(24,282)	(13,950)	(14,836)	(131,600)	(63,031)	(125,771)	(84,686)	(54,218)	(13,969)
Cash flows from financing activities	(4,054)	(521)	9,856	(7,177)	71,680	18,475	54,816	18,360	(1,196)	(15,493)
Cash and cash equivalents at end of period	57,645	66,826	99,803	112,639	102,830	142,657	126,570	103,630	99,892	100,633

At Fiscal Year-End

Total assets	521,009	516,098	532,890	525,172	663,038	736,862	707,601	746,739	699,536	655,288
Net assets	398,747	393,689	406,773	403,625	496,915	540,647	495,317	510,609	459,255	450,156
Long-term loans payable	24,471	26,898	26,198	24,197	21,636	20,726	130,030	141,903	135,959	127,715

Financial Ratios (Yen, %)

Net assets per share	6,839.05	6,743.83	6,869.27	6,691.58	7,389.62	8,055.59	7,366.40	7,655.26	7,438.23	7,287.32
Basic earnings (loss) per share	313.88	175.16	297.92	(15.14)	507.68	517.35	36.58	60.24	(541.70)	258.44
Return on Equity	4.7	2.6	4.4	(0.2)	7.2	6.7	0.5	0.8	(7.2)	3.5
Cash dividends per share (full-year)	40.00	40.00	40.00	40.00	50.00	50.00	50.00	15.00	20.00	40.00

Production Volume in the Fiscal Year (daily)*1

Production volume	Natural gas	21.5	25.5	22.8	23.3	26.4	32.3	34.0	33.7	31.2	28.1
	Crude oil	17.6	15.0	15.8	13.3	21.8	42.1	39.7	38.3	29.5	33.4
	Total	39.1	40.6	38.6	36.6	48.3	74.4	73.7	72.0	60.7	61.5

Proved Reserve Volume at Fiscal Year-End

Proved reserves	Overseas	49	49	38	160	193	203	255	277	229	323
	Japan	205	208	185	147	112	110	94	74	73	64
	Total	254	257	223	307	305	313	349	352	302	387

Non-financial Data

HSE*2	Occupational safety	Frequency rate*3	1.41	1.59	0.80	0.00	0.84	1.02	1.15	3.53	0.00	0.00
		Severity rate*4	0.00	0.00	0.00	0.00	0.10	0.03	0.02	0.18	0.00	0.00
	Greenhouse gas emissions (t-CO ₂)		324,714	303,146	256,561	267,446	251,121	244,491	230,636	241,360	382,604	320,883
	Energy consumption (TJ)		3,566.5	3,475.7	3,329.3	3,168.0	2,975.1	2,698.8	2,543.8	2,609.3	2,564.7	2,869.5
Human resources	Number of employees	Consolidated	1,735	1,728	1,743	1,747	1,782	1,818	1,847	1,825	1,788	1,741
		Non-consolidated	869	867	880	882	874	886	902	897	920	904
	Ratio of female managers (%)*5		1.4	2.1	2.0	3.3	2.9	4.1	4.5	4.5	5.4	4.9
	Employees with disabilities (%)*6		1.65	1.53	1.89	1.75	1.57	2.03	2.21	2.01	1.97	2.75

*1 Figures for crude oil include bitumen (an extra-heavy crude oil extracted from oil sands). These figures include production volumes of equity-method affiliates.

*2 Applies to JAPEX and Japex Offshore Ltd.

*3 Frequency rate = (Number of deaths and injuries caused by occupational accidents/ Number of hours worked) x 1,000,000

*4 Severity rate = (Number of days of work lost/Number of hours worked) x 1,000

*5 Figures based on non-consolidated operations. Figures for the fiscal year ended March 31, 2014 and subsequent years are stated as of April 1 of the respective subsequent fiscal year.

*6 Figures based on non-consolidated operations.

Conversion Factors and Units:

Crude oil 1 kL = 6.29 bbl

Crude oil 1 kL = Natural gas 1,033.1 m³

boe: barrels of oil equivalent

boe/d: barrels of oil equivalent per day

Oil and Gas Glossary

Enhanced/Improved oil recovery (EOR/IOR)	EOR, also known as tertiary recovery, involves the injection of heat, gaseous carbon dioxide or other chemicals into the reservoir. While secondary recovery increases the volume of oil recovered by maintaining or raising pressure in the oil sands layer, EOR alters the physical or chemical behavior of the residual crude oil, thereby enhancing oil recovery. IOR is a broader term referring to a range of methods aimed at improving oil recovery, including secondary recovery.
Exploration & production (E&P)	Businesses that engage in the exploration, development, production, transportation and sale of oil and natural gas
Final investment decision (FID)	In the context of oil and gas projects, FID often refers to the final decision regarding investment before entering the development phase (i.e., facility design, procurement and construction). Prior to FID, relevant parties must meet all requirements, such as formulating robust plans for development, marketing and fundraising; signing necessary contracts; obtaining approval from authorities; and securing sufficient human resources.
Japan crude cocktail (JCC)	The average price of crude oil imported by Japan and determined in reference to cost, insurance and freight (CIF).
Oil sand	Oil sands refer to sandstones containing crude oil that is extremely viscous like tar and lacking in fluidity, unlike the crude oil typically found in reservoirs. Crude oil recovered from oil sands is generally referred to as bitumen or extra-heavy crude oil in accordance with its viscosity.
Operator	A contractual term used in the exploration, development and production of oil via collaboration between multiple partners; the “operator” is the partner commissioned to handle and manage actual operations. Any partner to the contract other than the operator is a “non-operator.” Signing a joint operation contract, both the operator and non-operator determine methods for making operational decisions and raising necessary funds before they launch the project.
Production sharing contract (PSC)	A contract signed by an oil-producing country, which exercises overall management over oil development and production, and a foreign oil company, which invests in exploration, development and production. The PSC determines proportions of oil to be shared between the two parties after the latter has recovered its investment from oil marketing revenues.
Reserve replacement ratio (RRR)	RRR is the ratio of growth in volume of proved reserves against production volume in a single fiscal year or other specific period of time. As a numerical indicator for measuring business performance in terms of oil and gas exploration and development, RRR is calculated by dividing growth in the volume of proved reserves by the production volume.
Service contract	Signed by an oil-producing country and a foreign oil company, the service contract usually details the retention of ownership by the government of the former of any oil produced while placing responsibility on the latter, which handles exploration, development and production, for fund raising for and bearing risks arising from these operations. As the remuneration fee for these operations, the latter is entitled to a fixed proportion of the oil produced or revenues from said oil commensurate with production volume.
Ship-to-ship (STS)	An LNG bunkering method, STS involves bringing an LNG bunker ship alongside a natural gas powered vessel berthing or anchoring at a quay or pier and directly providing it with LNG fuel.
Steam assisted gravity drainage (SAGD)	An EOR technology that employs a pair of horizontal wells, one set five meters above the other, drilled into an oil sands layer located around 300 meters below the ground surface, with their horizontal lengths ranging from 500 to 1,000 meters. A continuous injection of steam into the oil sands layer via the upper well (the injection well) heats the bitumen and increases its fluidity, enabling it to flow down into the lower well (the bitumen production well) assisted by gravity. Bitumen is thus recovered to the above-ground production facilities along with heated water.
Western Canadian Select (WCS)	Heavy oil produced in western Canada.

Corporate Data

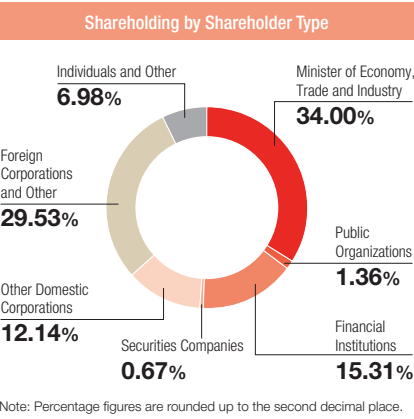
Corporate Profile (As of March 31, 2019)			
Company Name	Japan Petroleum Exploration Co., Ltd. (JAPEX)	Main Businesses	Exploration, development, production, and sales of oil, natural gas, and other energy resources, and contract service-related operations such as drilling
Established	April 1, 1970		
Paid-in Capital	JPY 14,288,694,000	Main Offices	Headquarters (see below), Hokkaido, Akita, Nagaoka, Soma, Sendai, JAPEX Research Center (Chiba), Houston, Jakarta, Aberdeen, Dubai, Singapore (as of April 2019)
Fiscal Year	April 1 to March 31 of the following year		
Number of Employees	1,741 (Consolidated basis)	Headquarters	SAPIA Tower, 1-7-12 Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan TEL: +81-3-6268-7000

Executives (As of November 1, 2019)					
Representative Director and Chairman	Osamu Watanabe	Outside Audit & Supervisory Board Members	Hiroyasu Watanabe*2 Norio Nakajima*2	Fellows	Satoru Yokoi*4 Amane Waseda
Representative Director and President, Chief Executive Officer	Masahiro Fujita	Special Advisor to President	Ajay Singh*3		
Representative Director Executive Vice President	Yosuke Higai	Senior Managing Executive Officer	Tsuyoshi Suga		
Director, Senior Managing Executive Officer	Takahisa Inoue	Managing Executive Officer	Yasushi Hamada		
Director, Managing Executive Officers	Kazuhiko Ozeki Hajime Ito Toshiyuki Hirata Michiro Yamashita Yoshitaka Ishii	Executive Officers	Ryuhei Murayama Senichiro Kaku Minoru Kuniyasu Junichiro Ando Tadashi Matsunaga Ryohei Wakishima Tsuneta Nakamura Masanori Amano Takamasa Miyadai Yoshihiko Motoyama Shinichi Takahata Toshiaki Nakajima		
Outside Directors	Akira Kojima*1 Tetsuo Ito*1 Yukari Yamashita*1				
Audit & Supervisory Board Members	Kenji Uchida Koichi Shimomura				

Stock Information (As of March 31, 2019)			
Exchange Listing	Tokyo Stock Exchange, First Section (Securities Code Number: 1662)	Number of Shareholders	11,878
Common Stock (Authorized)	120,000,000 shares	Transfer Agent and Registrar	Mizuho Trust & Banking Co., Ltd.
Common Stock (Issued)	57,154,776 shares	Inquiries	Mizuho Trust & Banking Co., Ltd., Stock Transfer Agency Division 8-4 Izumi 2-chome, Suginami-ku, Tokyo 168-8507, Japan TEL: 0120-288-324 (Toll-free in Japan)

Major Shareholders

Shareholder Name	Number of Shares	Voting Rights (%)
Minister of Economy, Trade and Industry	19,432,724	34.00
OASIS INVESTMENTS II MASTER FUND LTD.	2,856,240	5.00
INPEX CORPORATION	2,852,212	4.99
ORBIS SICAV	1,981,704	3.47
JFE Engineering Corporation	1,848,012	3.23
The Master Trust Bank of Japan, Ltd. (Trust)	1,699,800	2.97
Japan Trustee Services Bank, Ltd. (Trust)	1,556,100	2.72
SSBTC CLIENT OMNIBUS ACCOUNT	1,457,157	2.55
THE BANK OF NEW YORK MELLON 140051	1,235,600	2.16
Japan Trustee Services Bank, Ltd. (Trust 5)	765,300	1.34



Inquiries:

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