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.
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.

Reference Guidelines
METI, “Guidance for Collaborative Value Creation”
IRC, “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.
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 and continued support of these endeavors. We ask for our stakeholders’ further understanding of corporate value.

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

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.

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

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 Hwanye-Čí Oil and Gas Field in Nigata 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 strive 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.


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 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.”

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 E3A. As a result, the revised SHINE initiatives place greater emphasis on climate change countermmeasures 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.

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.
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

Qojima, Yamashita and Itō (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 Akita 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 Itō

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 38 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 believe 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.
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>*

\[
\text{E&P Business: Non-E&P Business}^*1 = 6 : 4
\]

*1 Infrastructure & Utility Business and New Business Development

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**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.

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**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**”

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

**Infrastructure & Utility Business**

**Targets to 2022**

- 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*
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.

**Toward Achieving Our Profit Targets**

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

#### E&P Business

- **Maximize the value of domestic resources**
  - Continue production at 19 domestic oil and gas fields
  - Additional development of the 1,900-meter reservoir of the Futatsu-oki
  - Development of the Yubetsu shallow reservoir

- **Growth in investment overseas E&P**
  - Canada Oil Sands Project
    - Transition to 20,000 bbl/d stable production operations
  - Indonesia Kangean Project
    - Conducted development work
  - Iraq Ganjal Project
    - Commenced development work to increase production to 3,300,000 bbl/day
  - U.K. North Sea Seagull Project
    - Conducted exploration and evaluation and formulated development plans

- **Discover and acquire new reserves**
  - Conduct exploratory drilling offshore the Hidaka Area
  - Optimize our asset portfolio
    - Sold Hangingstone 3.75 section, an asset in the Canadian Oil Sands

#### Infrastructure & Utility Business

- **Natural gas supply in Japan**
  - Continue with ongoing efforts to expand sales
  - Strengthen our LNG procurement capabilities
    - Opened an office in Singapore

- **Power generation**
  - Natural Gas-Fired Power Generation Project at Soma Port
    - Fukushima Natural Gas Power Plant
  - Renewable energy
    - Promote initiatives to secure new projects
      - Established the Renewable Energy Business Dept. under the Soma Project & Power Business Division

#### New Business Development

- **Pursue new business opportunities**
  - Strive to commercialize CCS, methane hydrates, and innovative technology for exploration of deep sea resources

- **Discover business seeds**
  - Discover business seeds, including those associated with the overseas rail transport and bunkering of LNG
    - Established the study group aiming to implement the LNG bunkering framework
    - Established the New Business Promotion Office
Mid-term Business Plan 2018-2022

Our Financial Position and Fund Allocation Policy

During the period of the Mid-term Business Plans, 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**
- Cash and deposits*: ¥88.1 billion
- Investment securities: ¥137.7 billion
- Interest-bearing debt*: ¥151.7 billion
- EBITDA*: ¥47.1 billion
- Debt-to-EBITDA ratio: Approx. 3.6 times

**Fiscal 2022 targets**
- 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

**Shareholder returns**
- Investment in existing projects: Approx. ¥60 billion
- Repayments of debt, etc.: Approx. ¥55 billion
- Growth investment: Approx. ¥65 billion
- Shareholder returns*: ¥9 billion or more

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

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.

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Mid-term Business Plan 2018-2022

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.

**Existing initiatives**
- Established the New Business Promotion Office
- Introduced the ICP System
- Established the Renewable Energy Business Dept.
- Decided on equally allocating new investment funds for both E&P and non-E&P operations

**Initiatives to be started by fiscal 2022**
- Set targets for issues other than climate change

**Environment**
- Identified quantitative targets for the reduction of GHG emissions
- Decided on equally allocating new investment funds for both E&P and non-E&P operations

**Social**
- Certified as a Health and Productivity Management 500 Organization (White 500) for the third consecutive year
- Achieved the target for the number of female employees hired
- Revision of the personnel system under a strong energy supply structure via DX

**Governance**
- Identified quantitative targets for the reduction of GHG emissions
- Decided on equally allocating new investment funds for both E&P and non-E&P operations

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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 100,000 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.

**Table: Shareholder returns**

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual dividends</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>20</td>
</tr>
<tr>
<td>2017</td>
<td>20</td>
</tr>
<tr>
<td>2018</td>
<td>20</td>
</tr>
<tr>
<td>2019</td>
<td>20</td>
</tr>
</tbody>
</table>

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

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Bottom of page
Aiming for the Sustainable Development of the JAPEX Group and Society

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 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.japec.co.jp/eng/corporateinfo/CSR2019/CSR19_Eng.pdf

New Core CSR Themes

Five Core CSR Themes as “SHINE” Initiatives

<table>
<thead>
<tr>
<th>JAPEX Core CSR Themes</th>
<th>Individual Issues (hitherto)</th>
<th>Individual Issues (new)</th>
<th>SDGs</th>
<th>ESG</th>
</tr>
</thead>
</table>
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

<table>
<thead>
<tr>
<th>Awareness of the external environment</th>
<th>Business risks</th>
<th>Our responses to business opportunities and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in global trends toward the realization of a decarbonized society</td>
<td>Growing call for withdrawal from investment in and financing for fossil fuel businesses</td>
<td>• Shift in the business portfolio to help create a low-carbon society while continuously pushing ahead with the E&amp;P Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Promote renewable energy development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Develop CCS technologies to achieve commercialization</td>
</tr>
<tr>
<td>Fluctuations in oil and natural gas prices</td>
<td>Fluctuations in procurement costs/sales prices of oil and gas</td>
<td>• Shift to a new portfolio that is resilient against fluctuations in oil prices, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Strengthen the power generation business, including the renewable energy business</td>
</tr>
<tr>
<td>Declining population in Japan</td>
<td>A decrease in sales volume in step with shrinking domestic demand</td>
<td>• Strengthen market competitiveness in Japan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Expand sales of natural gas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Procure competitively priced LNG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Advance “smart community” and “compact city” business</td>
</tr>
<tr>
<td>Liberalization of power and gas businesses</td>
<td>Intensifying market competition in Japan</td>
<td>• Expand our scope of services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Cultivate new clients in the power generation business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Engage in commissioned businesses that take advantage of existing infrastructure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Expand globally by leveraging our strengths in domestic operations</td>
</tr>
<tr>
<td>Intensifying competition for securing resources</td>
<td>Growing difficulties in acquisition of interests</td>
<td>• Pursue opportunities that will better position us to employ our technologies and expertise</td>
</tr>
<tr>
<td></td>
<td>Rising cost of exploration and development</td>
<td>• Exploit the remaining potential of our domestic reserves</td>
</tr>
</tbody>
</table>

Value chain

Achieve organic business development by leveraging our competitive advantages

New Business Development

Identification of Business Opportunities

CCS, Methane Hydrate, Survey Technologies for Deep Sea Mineral Resources, etc.

Commercialization

Renewable Energy

Electric Power Supply

Gas Power Generation

Gas Supply Chain

Gas supply

E&P Business

Acquisition of Interests/Exploration

Development/Production

Crude oil supply

Infrastructure & Utility Business

LNG Procurement

LNG Terminal (contract production)

The Risks, Opportunities and Value Chain of the JAPEX Group

Aiming for the Sustainable Development of the JAPEX Group and Society

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

<table>
<thead>
<tr>
<th>Awareness of the external environment</th>
<th>Business risks</th>
<th>Our responses to business opportunities and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in global trends toward the realization of a decarbonized society</td>
<td>Growing call for withdrawal from investment in and financing for fossil fuel businesses</td>
<td>• Shift in the business portfolio to help create a low-carbon society while continuously pushing ahead with the E&amp;P Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Promote renewable energy development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Develop CCS technologies to achieve commercialization</td>
</tr>
<tr>
<td>Fluctuations in oil and natural gas prices</td>
<td>Fluctuations in procurement costs/sales prices of oil and gas</td>
<td>• Shift to a new portfolio that is resilient against fluctuations in oil prices, etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Strengthen the power generation business, including the renewable energy business</td>
</tr>
<tr>
<td>Declining population in Japan</td>
<td>A decrease in sales volume in step with shrinking domestic demand</td>
<td>• Strengthen market competitiveness in Japan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Expand sales of natural gas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Procure competitively priced LNG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; Advance “smart community” and “compact city” business</td>
</tr>
<tr>
<td>Liberalization of power and gas businesses</td>
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<td>• Exploit the remaining potential of our domestic reserves</td>
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</tbody>
</table>
Aiming for the Sustainable Development of the JAPEX Group and Society

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 regarding the financial impact of climate change. With the same aim, growing public awareness of the need for international collaboration is 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 incorporating them into 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.

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-term targets and incorporate them into our CSR action plans and targets as well as the Mid-term HSE Plan 2018. To achieve these targets, we are promoting energy saving, finding emitted gas and effectively utilizing excess low-pressure gas in on-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.

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 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 2019, 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 ¥400 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.

1) Energy is an indicator based on the assessment of energy inputs that quantitatively determines the volume of energy being utilized or intended purposes and the volume of energy lost.

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.

Table 1: Volume of GHG Emissions

Table 2: Volume of Energy Consumption

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.

In fiscal 2018, the volume of energy consumption (excluding Scope 3) for the activities of the company as a cargo owner and providing officers and employees with environmental education. Accordingly, we are simultaneously implementing these activities.

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E&P Business

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.

Stable and Sustainable Energy Supply

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.

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.

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.

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 (HCIIP) around 50 kilometers offshore the Hidaka Area of Hokkaido Prefecture.

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.
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.

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 the Oil Sands Project in Canada and started development work on this plan 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.

Made a final investment decision regarding development at the Seagull Project in the U.K. North Sea

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 other local clients in the area surrounding Surabaya in the province of East Java.

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 northeast England.

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.
## 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

<table>
<thead>
<tr>
<th>Proved Reserves of JAPEX</th>
<th>Japan</th>
<th>Overseas</th>
<th>Subtotal</th>
<th>Equity-Method Affiliates</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Crude Oil Equivalent</strong></td>
<td><strong>Natural gas</strong></td>
<td><strong>Crude oil</strong></td>
<td><strong>Natural gas</strong></td>
<td><strong>Crude oil</strong></td>
<td><strong>Natural gas</strong></td>
</tr>
<tr>
<td><strong>Million bbl</strong></td>
<td><strong>Million m³</strong></td>
<td><strong>Million bbl</strong></td>
<td><strong>Million m³</strong></td>
<td><strong>Million bbl</strong></td>
<td><strong>Million m³</strong></td>
</tr>
<tr>
<td><strong>As of March 31, 2018</strong></td>
<td>2,802</td>
<td>9,105</td>
<td>1,612</td>
<td>20,952</td>
<td>7,307</td>
</tr>
<tr>
<td>Increase due to expansion or discovery</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>15,000</td>
<td>-</td>
</tr>
<tr>
<td>Change due to revision of evaluation standard</td>
<td>(35)</td>
<td>(517)</td>
<td>254</td>
<td>979</td>
<td>19</td>
</tr>
<tr>
<td>Change due to acquisition and/or divestiture</td>
<td>-</td>
<td>-</td>
<td>(1)</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Decrease due to production</td>
<td>(294)</td>
<td>(726)</td>
<td>(363)</td>
<td>(778)</td>
<td>(466)</td>
</tr>
<tr>
<td><strong>As of March 31, 2019</strong></td>
<td>2,508</td>
<td>7,662</td>
<td>16,502</td>
<td>21,153</td>
<td>7,729</td>
</tr>
</tbody>
</table>

### 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 high 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 61% of the total proved reserves*2 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, Chapters) and other organizations.
*3 Same as note 1.

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Concentration Factors and Units:
- Crude oil: 1 bbl = 6.29 m³
- Natural gas: 1,033.1 m³
- boe: barrels of oil equivalent
- bbl: barrels of oil equivalent per day
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.

**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.
Since launching the site, we have received a multitude of ideas unencumbered by conventional ideas from across the Company. (JAPEX’s Engine for New Era Business) and started soliciting ideas in June 2018, we established the internal website JEN (E) B and tasked the Technical Division. The former division’s processes for studying E&P and 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.

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 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.

Reorganization Technology Fields
In June 2018, 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 technologies 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.

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. 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. (JAPEX’s Engine for New Era Business)

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 technologies and experience in E&P, 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 2030, 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 Capture and Storage Technology Research Association jointly with the Research Institute of Innovative Technology for the Earth (RITIE), 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.

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 countermeasures 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.
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 to be around 1.1 trillion cubic meters of methane.1 As for the shallow type methane hydrates in the Sea of Japan, 1.742 gas chimney structures where methane hydrate may exist were confirmed. The Umtatakuro Spur, which is one of these structures, has been evaluated to contain 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 Dairi 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 FY2013 and FY2017, 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-B 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.

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 “Nansei-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 those 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 1,800 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.

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 wellhead. 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, 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 wells. We also analyze well-logging data and seismic data. After studying the mechanical properties of each reservoir (including its in-cavity 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 those 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)

A large volume of water is injected into the shale formation to create fractures. 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.

Numerical simulation of fluid flow interaction

Rock mechanics testing equipment
HSE as Our Culture

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

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

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.

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 audit- ing 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.

**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 and out of gas fields, to include all workers, including office workers and contractors. We furthered aligning in fiscal 2018.

In addition, we revised the HSE-MS documentation to reflect changes in incident classifications. These efforts have improved the accuracy of our calculations for Companywide Incident Frequency indicators, making it easier to compare our data with that 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 indaughter construction projects.

**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 include contractors and contractors dealing with 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 satisfy 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 disasters. This set of responses is treated as an earthquake initial response manual with the aim of ensuring physical safety, alleviating damage, and recovering, maintaining, and continuing 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.

Overseas Security Initiatives

In consideration of recent international developments, we are focusing on bolstering employee security overseas from a multilayered approach. In fiscal 2019, 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 assign 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, amidst the growing participation of women in the workforce, we held a special lecture on overseas security specifically geared toward 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.

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.

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 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 (steam-assisted gravity drainage) bitumen recovery process, which has been reported to impose fewer environmental burdens in comparison with open-pit mining. The steam injected underground excavates bitumen from the oil sands reservoir. Along with the bitumen that has become liquid upon heating 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 Treatment

<table>
<thead>
<tr>
<th>Year</th>
<th>Water Resources Usage</th>
<th>Pit-Wastewater Treated</th>
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</thead>
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<tr>
<td>2014</td>
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<td>1,322,096</td>
</tr>
<tr>
<td>2015</td>
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<td>2016</td>
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<tr>
<td>2017</td>
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<tr>
<td>2018</td>
<td>0</td>
<td>1,322,096</td>
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</tbody>
</table>
**Integrity and Governance**

**Basic Policy**

JAPEX recognizes the importance of maintaining a high-level of corporate governance in order to achieve the sustainable development goals of the company and to maximize its corporate value by providing a level of transparency and accountability that is in line with social expectations.

**Corporate Governance**

In March 2019, we established the Nomination and Compensation Advisory Committee to provide opinions and advice that support the Board of Directors in making decisions. The committee is comprised of independent directors, ensuring that the committee is well-equipped to provide independent and objective advice.

**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)

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

- **Nomination and Compensation Advisory Committee**
- **Audit & Supervisory Board Members/Supervisory Board**
- **Corporate Divisions, Business Divisions, and Group Companies**

**Risk Management Structure**

JAPEX has established a Risk Management Structure to ensure that the company is prepared to handle any potential risks and to ensure the company's sustainability.

**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
4. The fairness, transparency, and objectivity of processes related to 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.

For important investment projects, we introduced the decision gate (DGR) 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. 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 Company-wide responses that encompass multiple projects.

Regarding other risks, we are working to strengthen risk management through deliberations by Company-wide and cross-departmental committees, namely the Internal Control Committee, the HSSE Committee, and the Information Security Committee.

**Risk Management Structure**

- **Investment Evaluation Committee**
  - Overview
    - This committee comprehensively evaluates important investment projects based on the company's rules and reports its findings to the Executive Committee, and, when necessary, to the Board of Directors.
    - The chair is appointed by the president from among the full-time executives, and, currently, 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.

- **Project Total Management Committee**
  - Overview
    - 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.

**Mission and Purpose**

- **Strategy Value Creation Through Business Activities**
  - Initiatives to Support Value Creation
  - Financial and Other Information

**Evaluation Decision Stage**

**Risk Management Decision Gate (DGR) Process and Guidelines**

**Investment Evaluation Committee Rules**

**Project Total Management Committee Rules**

**Project Management Guidelines**

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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 our 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 sustainable 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 acts 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

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, to ensure that employees are 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 2016. 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 socially 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 released 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.japeco.co.jp/english/social/economy/statements.html

Initiatives to Foster Workplaces Free of Harassment

Since fiscal 2016, we have been continuously conducting Company-wide 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 affiliated. 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 us, the harassment hotline serves corporate 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

Position, Name and Duties

Representative Director and President
Osamu Watanabe

He joined the Ministry of International Trade and Industry (MITI) in 1971 and had been Deputy Director-General of the Ministry of International Trade and Industry. He has also served as Chairman of Japan External Trade Organization (JETRO). Since joining JETRO in 1976, he has served as Executive Vice President and President, and has been in his current position since June 2016.

He possesses a unique level of insight derived from his role as an expert on foreign trade and economic administration in government agencies and regulatory bodies. He has been in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

14 out of 14 meetings (June 2021)

1 year (June 2022)

Representative Director and President
Chief Executive Officer
Masahito Fujita

He joined the Ministry of International Trade and Industry (MITI) in 1971 and has been working for the Trade and Economic Cooperation Bureau at the Ministry of Economics, Trade and Industry (METI). He has also served as Santonio Corporation's representative director, and president and executive director of the Technology Project Division. He was appointed as the JAPEX Group's Business Development President and Managing Director and President, having joined JAPEX in 2018, he has served as Representative Director and Executive Vice President and President since assuming his current position in October 2016.

He possesses a unique level of insight regarding international trade, technology and political economy. He has been assigned an extensive administrative function encompassing energy administration, energy administration in government agencies and overseas management experience, and management philosophy in private sector companies. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

Newly appointed –

Director
Senior Managing Executive Officer
Takahisa Inoue

He has served as JAPEX's Finance & Accounting Dept. Managing Executive Officer, Director of the Project Management Dept., and Deputy Director of the Secretariat Office. Since joining JAPEX in 1981, he has been JAPEX's Finance & Accounting Dept. Managing Executive Officer, Director of the Project Management Dept., and Deputy Director of the Secretariat Office.

He has extensive experience in the financial management of the Group's overseas subsidiaries, heading up and optimizing global headquarters, and currently serves as Director and Executive Vice President. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Kazuhiko Ozeki

He has served as JAPEX's Senior Managing Executive Officer in the Finance & Accounting Dept., and as Managing Executive Officer in the Total Management Dept. Since joining JAPEX in 1989, he has been JAPEX's Senior Managing Executive Officer in the Finance & Accounting Dept., and as Managing Executive Officer in the Total Management Dept.

He has extensive experience in strategic management and production and operation management in Japan and overseas, and has extensive experience in and knowledge of our domestic project divisions. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Hajime Itô

He has served as JAPEX's Senior Managing Executive Officer in the Technology Project Division. Since joining JAPEX in 1989, he has been JAPEX's Senior Managing Executive Officer in the Technology Project Division.

He has international experience in government positions, as well as extensive experience in technology, energy management, administration in government offices, and overseas project development. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in June 2016.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Toshikiyo Hirata

He has served as JAPEX's Managing Executive Officer in the Canada Oil Sands Project. Since joining JAPEX in 1987, he has been JAPEX's Managing Executive Officer in the Technology Project Division.

He possesses international experience in strategic management and production and operation management in Japan and overseas, and has extensive experience in and knowledge of our overseas projects. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Michiro Yasutake

He has served as JAPEX's Managing Executive Officer in the Corporate Planning Dept. Since joining JAPEX in 1982, he has been JAPEX's Managing Executive Officer in the Corporate Planning Dept.

He possesses international experience in strategic management and production and operation management in Japan and overseas, and has extensive experience in and knowledge of our overseas projects. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

10 out of 10 meetings (June 2016)

1 year (June 2017)

Director
Managing Executive Officer
Hirokazu Tobita

He has served as JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept. Since joining JAPEX in 1982, he has been JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept.

He possesses international experience in strategic management and production and operation management in Japan and overseas, and has extensive experience in and knowledge of our overseas projects. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

10 out of 10 meetings (June 2016)

1 year (June 2017)

Director
Managing Executive Officer
Kenji Uchida

He has served as JAPEX's Outside Director, Managing Executive Officer, Director of Marketing and Procurement Dept., and Senior Managing Executive Officer. Since joining the Industrial Bank of Japan, Limited in 1978, he has been the Managing Executive Officer, Director of Marketing and Procurement Dept., and Senior Managing Executive Officer.

He possesses extensive experience in and knowledge in the field of marketing and sales divisions, and currently serves as Director and Executive Vice President. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Yusuke Morita

He has served as JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept. Since joining JAPEX in 1987, he has been JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept.

He possesses extensive experience in and knowledge of logistics, and currently serves as Executive Officer. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Koichi Shimonura

He has served as JAPEX's Managing Executive Officer in the Technology Project Division. Since joining JAPEX in 1985, he has been JAPEX's Managing Executive Officer in the Technology Project Division.

He possesses extensive experience in and knowledge in the field of energy administration in government offices and energy administration in government agencies, and currently serves as Executive Director. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Hiroyasu Watanabe

He has served as JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept. Since joining JAPEX in 1985, he has been JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept.

He possesses extensive experience in and knowledge in the field of energy administration in government offices and energy administration in government agencies, and currently serves as Executive Director. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Director
Managing Executive Officer
Norio Nakajima

He has served as JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept. Since joining JAPEX in 1982, he has been JAPEX's Managing Executive Officer in the Manufacturing & Logistics Dept.

He possesses international experience in and knowledge in the field of energy administration in government offices and energy administration in government agencies, and currently serves as Executive Director. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016. He currently serves as Director and Managing Executive Officer.

14 out of 14 meetings (June 2022)

1 year (June 2023)

Directors
Position, Name and Duties

Audit & Supervisory Board Members

CEO

Chairman

Managing Director

General Manager

Executive Officer

Director

Senior Managing Executive Officer

Managing Executive Officer

Visiting Advisor

Visiting Advisor

Visiting Advisor

Board of Directors

Directors

Audit & Supervisory Board Members

Kenji Uchida

President of the Americas & Russia Project Division

He joined Nikkei Inc. in 1965 and served as its Director of Marketing and Sales Division, Advisor to President of America & Russia Project Division, Advisor to President of Energy Efficiency Unit, she more recently became a Visiting Advisor to JAPEX and has served as Visiting Advisor to the Audit & Supervisory Board since 2015.

He possesses international experience in government positions, as well as extensive experience in technology, energy management, administration in government offices, and overseas project development. Accordingly, he has been appointed, in charge of the JAPEX Group's business development, and as a result of having comparatively provided guidance from a broad perspective since assuming his current position in October 2016.

10 out of 10 meetings (June 2016)

1 year (June 2017)

Sleepless in Japan

The information provided in the document is not directly relevant to the question. It is a book about Japan and includes various topics such as travel, culture, and society. The document contains text in Japanese and appears to be a guidebook for travelers interested in visiting Japan. The main focus is on providing practical information and insights into the country, including its history, culture, and modern-day life. The content is written in an easy-to-read style, with sections dedicated to different aspects of Japan, from its cuisine to its transportation systems. The book also includes personal anecdotes and interviews with locals, offering a unique perspective on the country. Overall, the book serves as a comprehensive resource for those planning to visit Japan, providing both practical advice and a deeper understanding of the culture.
Being a Good Neighbor

Basic Policy
We believe that the maintenance of safe and stable business operations depends on our accurately understanding the requirements of our stakeholders, which includes the local communities where we operate. In addition, we will strive to respect the cultures and customs of the regions in which we operate while partnering with various international organizations and engaging in activities that contribute to the sustainable development of local communities and win their trust. In addition, contribution activities aimed at helping to ensure the sustainable development of local communities depend on our accurately understanding the requirements of the local 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 our stakeholders. We recognize that quality control and product safety are extremely important.

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 resilient 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.

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 SRI activities are appropriately communicated to senior management.

Expectations and Requests from Stakeholders
- Fair transactions
- Fair treatment
- Protecting the environment
- Effective management of social and economic development
- Availability of a diverse range of products
- Transparency in business structure
- Efficient management of operations
- Providing social welfare
- Ensuring the safety and health of our employees
- Providing a workplace conducive to the personal development of employees
- Providing equal employment opportunities
- Ensuring a favorable business environment
- Strengthening the social and economic fabric of the local community
- Protecting and preserving natural resources and forested areas
- Enhancing the quality of life of local residents
- Ensuring social welfare
- Providing social welfare
- Implementing appropriate business plans (as a non-operator)
- Checking and proposing improvements in business activities proposed and conducted by others

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

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 at the initiative of subsidiary Japan Canada Oil Sands Limited (JACOS) at the time of commencement of oil sands development at the Hangerstone 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 those 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 Petroleum Producers as an exemplar of a locally-rooted, unique and proactive approach to community partnership.

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 Pagurangan Island and 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 Pagurangan 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 on maintaining 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.

Helping a “Smart Community” Initiative—Shinchi, Fukushima Prefecture
The Shinchi Project was initiated in 1979 by Shinchi Town. This initiative aims to revitalize the area around JR Shinchi Station where there is damage due to the Great East Japan Earthquake. Natural gas from the Shinchi 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 Shinchi Citizen’s 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 Yasukuni districts.

Contributing to Education and Social Welfare—Iraq
In Iraq, we are engaged in the Garmal 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 eye and check 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.
In conjunction with this shift, each employee has been granted a work style reform campaign, allowing General Staff and Career Track Employees to acquire and develop human resources who can flexibly support work with confidence and passion.

**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 to 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 work style reform seminars 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.

**Revising Personnel Systems**

In April 2019, JAPEX revised its personnel systems, doing away with conventional seniority-based personnel policies while striving to maintain their fair and merit-based spirit. By following these policies, we can manage the roles and responsibilities of each employee more efficiently. The revised systems bring new opportunities for existing employees to take on new roles and responsibilities.

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 noting the ability to eat a good meal and the benefit of a more relaxed atmosphere.

Furthermore, allowing employees to take one-hour breaks at any time between 11:45 and 13:15, we have been working to reduce the need for overtime while striving to maintain and promote employee health.

**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 the Nippon Kanko Kaigi Health Promotion Association with the aim of commanding 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 designing an inclusive workplace environment. We are thus relying on 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.

**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 direct 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.

In fiscal 2014, 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 to manage resource decisions, and be acutely aware of the benefits, 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 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 focusing on instilling project management and other commercial skills. Currently, employees ranging from new recruits to mid-level managers are benefiting from the 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.

**Conclusion**

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 a true gender reconciliation by taking the necessary steps to ensure that JAPEX’s business operations are managed by professionals of all genders.
### Financial and Non-financial Highlights

#### Net sales

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net sales</td>
<td>340,011</td>
<td>347,352</td>
<td>340,829</td>
<td>267,800</td>
<td>267,980</td>
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</table>

### Basic earnings (loss) per share/ROE

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic earnings (loss) per share</td>
<td>313.88</td>
<td>175.16</td>
<td>297.92</td>
<td>(15.14)</td>
<td>507.68</td>
</tr>
<tr>
<td>ROE (%)</td>
<td>74.4</td>
<td>73.7</td>
<td>72.0</td>
<td>60.7</td>
<td>61.5</td>
</tr>
</tbody>
</table>

### Net assets per share

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net assets per share</td>
<td>6,839.05</td>
<td>6,743.83</td>
<td>6,869.27</td>
<td>7,389.62</td>
<td>7,287.32</td>
</tr>
</tbody>
</table>

### At Fiscal Year-End

<table>
<thead>
<tr>
<th>Category</th>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net assets</td>
<td>398,747</td>
<td>403,625</td>
<td>406,773</td>
<td>403,024</td>
<td>406,915</td>
<td>406,400</td>
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<tr>
<td>Long-term loans payable</td>
<td>24,711</td>
<td>24,911</td>
<td>26,198</td>
<td>26,636</td>
<td>27,186</td>
<td>27,736</td>
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<tr>
<td>Net assets per share</td>
<td>8,055.59</td>
<td>8,142</td>
<td>8,239</td>
<td>8,336</td>
<td>8,433</td>
<td>8,530</td>
</tr>
<tr>
<td>Financial Ratios (Yen, %)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net assets per share</td>
<td>6,839.05</td>
<td>6,743.83</td>
<td>6,869.27</td>
<td>7,389.62</td>
<td>7,287.32</td>
<td>7,184.92</td>
</tr>
<tr>
<td>Basic earnings (loss) per share</td>
<td>313.88</td>
<td>175.16</td>
<td>297.92</td>
<td>(15.14)</td>
<td>507.68</td>
<td>502.00</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>74.4</td>
<td>73.7</td>
<td>72.0</td>
<td>60.7</td>
<td>61.5</td>
<td>59.9</td>
</tr>
<tr>
<td>Cash dividends per share (full-year)</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Cash flows from operating activities</td>
<td>38,948</td>
<td>34,284</td>
<td>37,172</td>
<td>35,245</td>
<td>36,567</td>
<td>32,095</td>
</tr>
<tr>
<td>Cash flows from investing activities</td>
<td>(29,300)</td>
<td>(24,282)</td>
<td>(13,950)</td>
<td>(14,836)</td>
<td>(131,600)</td>
<td>(63,031)</td>
</tr>
<tr>
<td>Cash flows from financing activities</td>
<td>(4,054)</td>
<td>(5,000)</td>
<td>(7,500)</td>
<td>(9,250)</td>
<td>(9,250)</td>
<td>(9,250)</td>
</tr>
<tr>
<td>Cash and cash equivalents at end of period</td>
<td>57,645</td>
<td>66,826</td>
<td>99,803</td>
<td>112,639</td>
<td>112,639</td>
<td>112,639</td>
</tr>
<tr>
<td>Cash dividends per share (full-year)</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
<td>40.00</td>
</tr>
</tbody>
</table>

### Production Volume in the Fiscal Year (daily)

<table>
<thead>
<tr>
<th>Category</th>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas</td>
<td>7,287.32</td>
<td>7,366.40</td>
<td>7,438.23</td>
<td>7,438.23</td>
<td>7,438.23</td>
<td>7,438.23</td>
</tr>
<tr>
<td>Crude oil</td>
<td>7,287.32</td>
<td>7,366.40</td>
<td>7,438.23</td>
<td>7,438.23</td>
<td>7,438.23</td>
<td>7,438.23</td>
</tr>
</tbody>
</table>

### Non-financial Data

<table>
<thead>
<tr>
<th>Category</th>
<th>Fiscal Year</th>
<th>2015/3</th>
<th>2016/3</th>
<th>2017/3</th>
<th>2018/3</th>
<th>2019/3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenhouse gas emissions (t-CO₂)</td>
<td>324,714</td>
<td>323,133</td>
<td>322,814</td>
<td>322,814</td>
<td>322,814</td>
<td>322,814</td>
</tr>
<tr>
<td>Energy consumption (T)</td>
<td>3,266.5</td>
<td>3,339.5</td>
<td>3,339.5</td>
<td>3,339.5</td>
<td>3,339.5</td>
<td>3,339.5</td>
</tr>
<tr>
<td>Number of emplyess</td>
<td>1,739</td>
<td>1,743</td>
<td>1,743</td>
<td>1,792</td>
<td>1,816</td>
<td>1,875</td>
</tr>
<tr>
<td>Ratio of female managers (%)</td>
<td>1.4</td>
<td>2.1</td>
<td>2.0</td>
<td>3.3</td>
<td>2.9</td>
<td>4.1</td>
</tr>
<tr>
<td>Employees with disabilities (%)</td>
<td>1.65</td>
<td>1.65</td>
<td>1.65</td>
<td>1.65</td>
<td>1.65</td>
<td>1.65</td>
</tr>
</tbody>
</table>

### Note

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. Conversion Factors and Limits: Crude of 1 L = 0.39 bbl Crude of 1 L = Natural gas 1,033.1 m³ basic barrels of oil equivalent
4. Severity rate = (Number of deaths and injuries caused by occupational accidents/Number of hours worked) x 1,000
5. Figures based on non-consolidated operations.
6. Figures based on non-consolidated operations.
Oil and Gas Glossary

**Enhanced/improved oil recovery (EOR/IOIR)**

EOR, also known as tertiary recovery, involves the injection of heat, gas, chemical detergents 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. EOR is a broader term referring to a range of methods aimed at improving oil recovery, including secondary recovery.

**Western Canadian Select (WCS)**

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.

**Oil and Gas Glossary**

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

A contractual term used in the exploration, development, and production of oil via collaboration between multiple parties; the "operator" is the partner commissioned to handle and manage actual operations. Any partner in the contract is further divided into the operator and a "non-operator." Signing a joint contract operation, 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.

**Final investment decision (FID)**

Final investment decision (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.

**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.

**Operator**

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.

**Service contract**

Service contract

Signed by an oil-producing country and a foreign oil company, the service contract usually details the retention or 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 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)**

Ship-to-ship (STS)

An LNG bunkering method, STS involves bringing an LNG bunker ship alongside a natural gas power vessel for anchoring or anchoring at a quay or pier and directly providing it with LNG fuel.

**Steam assisted gravity drainage (SAGD)**

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.
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