



The Legal 500 Country Comparative Guides

Japan

ENERGY - OIL & GAS

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This country-specific Q&A provides an overview of energy - oil & gas laws and regulations applicable in Japan.

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JAPAN

ENERGY - OIL & GAS



1. Does your jurisdiction have an established upstream oil and gas industry? What are the current production levels and what are the oil and gas reserve levels?

Japan's domestic oil and gas production industries are predominantly derived from:

- in the case of oil, oil fields located in Niigata, Akita and Hokkaido prefectures; and
- in the case of gas, gas fields located in Niigata, Chiba and Hokkaido prefectures.

As a country with limited natural energy resources, Japan is significantly reliant on imports of energy fuels (including oil and gas). Therefore, while Japan does have an oil and gas industry, its domestic upstream activities are limited due to natural resource constraints. However, on January 17, 2022, Inpex Corporation announced it would conduct exploratory drilling to assess the viability of commercial production of an offshore natural gas site in the Sea of Japan, approximately 100 kilometres from Yamaguchi and Shimane prefectures. This project would be the first attempt to develop a gas field in Japan in approximately 20 years.

In 2019, according to the Japan Statistical Yearbook 2022 of the Statistics Bureau of the Ministry of Internal Affairs and Communications, domestic production of oil and gas comprised of:

- in the case of oil, 524 thousand kilolitres; and
- in the case of gas, 2.467 billion cubic metres.

As of January 2020, according to the Oil & Gas Journal, Japan had oil and gas reserves comprised of:

- in the case of oil, 6995.4 thousand kilolitres; and
- in the case of gas, 20.9 billion cubic metres.

2. How are rights to explore and exploit oil and gas resources granted? Please provide

a brief overview of the structure of the regulatory regime for upstream oil and gas. Is the regime the same for both onshore and offshore?

Oil and gas are deemed to be "specific minerals" under the Mining Act of 1950 (**Mining Act**), which governs, among other things, the exploration and exploitation of oil and gas resources (both onshore and offshore) in Japan. The Mining Act provides that such resources are controlled by the Japanese nation and not the owner of the land over which the resources are located.

To prospect for and extract oil and gas resources in Japan, a Japanese citizen or company (and only such Japanese citizens or companies may prospect/extract) will need to apply for the following from the Ministry of Economy, Trade and Industry (**METI**):

- prospecting rights to explore for such resources; and
- digging rights to dig for such resources.

The grant of prospecting and digging rights for oil and gas resources in Japan is regulated by METI, where METI will run public tenders for upstream activities for oil and gas resources. As part of the tender process, METI will assess each tenderer's pitch for such rights, taking into consideration factors such as:

- the financial position of the tenderer;
- the merits of the tenderer's project plan;
- the technical ability of the tenderer to carry out the exploration and/or exploitation activities;
- the track record of the tenderer;
- whether the tenderer is a credible social enterprise;
- whether it would be appropriate to award such rights to the tenderer in light of socioeconomic factors within and outside Japan; and
- whether the award of such rights to the tenderer would be contrary to the Japanese

public interest.

3. What are the key features of the licence/production sharing contract/concession/other pursuant to which oil and gas companies undertake oil and gas exploration and exploitation?

Typically, for oil and gas exploration and exploitation licences and concessions, the following apply:

- a right to search for oil and gas resources is conferred on the operator over a particular geographic area and depth (in the case of offshore exploration);
- a validity period applies;
- work programs for each phase of exploration or exploitation may apply; and
- drilling activities may be subject to METI's further consent; and
- no licence or concession transferability will be granted without the consent of METI.

Production sharing contracts are not a typical feature of the Japanese oil and gas exploration and exploitation system.

4. Are there any unconventional hydrocarbon resources (such as shale gas) being exploited and is there a separate regulatory regime for unconventional?

The Japanese government has been encouraging, through various initiatives, the development of technologies and industry for the commercial extraction of methane hydrate deposits in the deep sea bed around Japan. Methane hydrate is a crystalline solid comprising of a methane molecule being encased in water molecules (an ice-like substance). Where the temperature in the deep sea bed is low enough, such solid methane hydrate deposits may form. Methane hydrate is seen as an alternative hydrocarbon resource with high energy potential as compared with conventional fossil fuels. However, due to methane hydrate being temperature and pressure sensitive, difficulties exist with respect to its extraction, particularly on an industrial scale.

Other than the Mining Act, there is no separate and specific Japanese regulatory regime for the exploitation of unconventional hydrocarbon resources, including methane hydrate.

5. Who are the key regulators for the upstream oil and gas industry?

METI is the key regulator for the upstream oil and gas industry in Japan.

6. Is the government directly involved in the upstream oil and gas industry? Is there a government-owned oil and gas company?

The Japanese government is not directly involved in the upstream oil and gas industries in Japan. Rather, upstream oil and gas activities are conducted by private enterprises which have been granted rights by METI to explore for or exploit such resources pursuant to the Mining Act.

However, the Japan Oil, Gas and Metals National Corporation (**JOGMEC**) is a Japanese government "independent administrative institution" (meaning that its operational functions are distinct from the planning functions of Japanese government ministries and agencies). JOGMEC is active in the exploration of Japanese territorial waters for the increase of oil and gas upstream activities in Japan. Where such exploration activities are successful in identifying viable oil and gas locations, JOGMEC will typically provide financial assistance to private sector operators for such resources.

There is no Japanese government owned oil and gas company, per se.

7. Are there any special requirements for or restrictions on participation in the upstream oil and gas industry by foreign oil and gas companies?

As stated in response to Question 2, only Japanese citizens or companies may hold mining rights for upstream oil and gas activities.

However, in certain instances approved by Cabinet Order, non-Japanese investors may acquire interests in Japanese upstream oil or gas interests through its Japanese entity by prior notification to METI of the acquisition under the Foreign Exchange and Foreign Trade Act. Such notifications will generally be cleared by METI within 30 days after notification, but METI has discretion to approve or reject any proposed acquisition in national interests grounds (subject to appeal in Japanese courts).

8. What are the key features of the environmental and health and safety regime that applies to upstream oil and gas activities?

Health and Safety

The Mine Safety Act (**MS Act**) regulates the health and safety for employees in upstream oil and gas activities. The MS Act imposes the following obligations, among others, on:

- holders of mining rights to:
 - take necessary measures regarding pertinent issues of mine safety (e.g. cave-ins, floods, spontaneous ignition, etc);
 - provide mining workers with safety education necessary for their work;
 - inspect the performance of the mine; and
 - notify the Director-General of the “Industrial Security Supervisory Departments” of the construction plan when they intend to carry out construction work for mining; and
- mining workers: to observe necessary safety and security issues.

Environmental

- Permits – where an oil or gas development is:
 - located in certain nature conservation areas specified under the Natural Conservation Act, the development requires the approval of the Minister of Environment; and
 - located in nature conservation areas that are not specified as a special zone or marine special zone under the Natural Conservation Act, the Minister of Environment must be notified of the development.
- Air pollution – exhaust gases from vents in an oil or gas development are subject to requirements set out in the Air Pollution Control Act.
- Soil contamination – hazardous

substances from oil or gas developments which pose soil contamination risks are subject to requirements set out in the Soil Contamination Countermeasures Act

- Water pollution – water discharged from oil or gas developments which pose water pollution risks due to harmful substances are subject to requirements set out in the Water Pollution Prevention Act

9. How does the government derive value from oil and gas resources (royalties/production sharing/taxes)? Are there any special tax deductions or incentives offered?

Holders of prospecting and digging rights for oil and gas resources in Japan must pay the following fees/taxes:

Registration Fee

Payable upon the application for registration of the creation of such rights, being:

- for prospecting rights, 90,000 yen; and
- for digging rights, 180,000 yen.

Mining Area Tax (*koku-zei*)

Payable each year to the prefecture where upstream activities are taking place:

- For prospecting rights: 200 yen x 2/3 per 10,000 m² of mining area designated by METI; and
- For digging rights: 400 yen x 2/3 per 10,000 m² of mining area designated by METI.

Mining Tax (*kosan-zei*)

Payable

- where the mine earns more than 2 million yen per month: 1% (standard rate) of the sale price of oil or gas extracted (1.2% maximum rate); and
- where the mine earns 2 million yen or less per month: 0.7% (standard rate) of the sale price of oil or gas minerals extracted) (0.9% maximum rate).

No other amounts in the nature of taxes, royalties or similar are applicable.

No special tax deductions or incentives are applicable.

10. Are there any restrictions on export, local content obligations or domestic supply obligations?

Restrictions

There are no restrictions on the export of oil and gas from Japan.

Local content obligations

There are no obligations for local content for oil and gas resources in Japan.

Domestic supply obligations

There are no obligations for minimum supply of oil and gas resources in the Japanese domestic market. However, the Petroleum Supply and Demand Optimisation Act requires oil importers and refiners, along with certain oil distributors to prepare and submit oil and gas production plans to METI. METI may also require that certain changes to production plans are made. The aim of this law is to facilitate the sufficient supply of oil and gas resources in Japan, particularly in the event of natural disasters.

11. Does the regulatory regime include any specific decommissioning obligations?

The Mining Act requires an oil or gas mining operator to prepare and comply with an operational plan (which must be approved by METI) for the purposes of the oil or gas operations. The operational plan must set out details around decommissioning of facilities.

While there are no specific regulatory requirements for such decommissioning plans, they are subject to METI's approval and METI can require the relevant oil or gas mining operator to provide cash deposits based off the oil or gas facility's prior year extracted value, as security for pollution from the facility (see Article 117(3) of the Mining Act). Moreover, during the 5 year period after decommissioning of a facility, the Director General of the Industrial Safety and Inspection Department can require a mining right holder to build infrastructure to prevent danger or environmental pollution derived from the right holder's mining activities (see Article 39 of the Mining Safety Act of 1949).

12. What is the regulatory regime that

applies to the construction and operation of offshore and onshore oil and gas pipelines?

Oil

The Oil Pipeline Business Law regulates the construction and operation of onshore and offshore oil pipelines. Under that regime, METI must prepare a basic plan for the installation of the oil pipeline and the transmission of oil through it. An operator approved by METI must then obtain METI's approval for:

- the specific construction plan for the pipeline's installation; and
- the specific procedures under which oil will be carried through the pipeline.

Gas

The Gas Business Act regulates the construction and operation of onshore and offshore gas pipelines. Under that regime, the pipeline operator must obtain METI's approval for:

- the installation of the pipeline at a given location; and
- the operator to transport the pipeline.

13. What is the regulatory regime that applies to LNG liquefaction and LNG receiving terminals? Are there any such terminals in your jurisdiction?

The principal regulatory regime for LNG liquefaction and LNG receiving terminals is the Gas Business Act and the High Pressure Gas Safety Act. As LNG facilities are often located at harbours, the Ports and Harbours Act and the Act on Port Regulations also apply to the construction and maintenance of such LNG facilities. Under those regimes, a party wishing to build such LNG facilities needs to provide METI with a development plan and notify the local prefectural government of the construction under the Factory Location Act. Where the LNG facility is built at a harbour, the facility operator also needs to notify and obtain the approval of the harbour manager to build such harbour facilities.

There are over 35 LNG receiving terminals in Japan, which are concentrated in the central part of the country and which together have over 220 mmtpa of nominal capacity.

Notwithstanding the above, Japan does not currently operate LNG liquefaction terminals.

14. What is the regulatory regime that applies to gas storage (not LNG)? Are there any gas storage facilities in your jurisdiction?

The High Pressure Gas Safety Act of Japan regulates the storage of compressed gases in Japan at the wholesale and distribution levels. This law stipulates certain technical requirements for the storage of such compressed gases, such as manufacturing standards of storage infrastructure complying with technical standards provided for by METI.

In addition, the LPG Act regulates the storage of LPG at the general end user level.

Japan has five underground natural gas storage facilities, which are depleted gas fields and serve to balance availability of supply during periods of peak demand (e.g. winter season). Natural gas produced in other areas (such as through regasification of LNG after import into Japan at LNG terminals) is delivered via pipeline and injected into such storage facilities.

Japan also has LPG fuelling stations through its various regions, at which LPG is loaded and stored:

- for distribution to smaller end users, in smaller cylinders or tanks; and
- for distribution to larger end users, in large coastal tankers or tanker trucks.

15. Is there a gas transmission and distribution system in your jurisdiction? How is gas distribution and transmission infrastructure owned and regulated? Is there a third party access regime?

LNG and natural gas

- LNG that is imported into Japan is received and generally regasified at LNG regasification terminals located throughout various regions in Japan. Once regasified, the gaseous natural gas is transmitted via regional pipelines networks. Trunk-line pipeline networks are not necessarily connected to each other (although there are some interconnection points), and there is no single operator of a national gas transmission system in Japan, which are instead owned and operated by natural gas-related businesses separately.
- Through the Gas Business Act, the Japanese Government is able to require natural gas business operators to consult and arbitrate

disputes among themselves regarding pipeline development, for the purposes of encouraging interconnectedness of trunk-line pipeline networks.

- Third party access to pipelines is negotiated between commercial parties. However the Gas Business Act requires that a pipeline owner must not refuse access to its pipeline for a demand for service in a given area without justifiable grounds. The Gas Business Act also regulates fees for third party access to the pipeline network.

LPG

- LPG that is imported into Japan is received at receiving stations in Japan. From there, the LPG is distributed via coastal tanker to secondary stations located in Japan. Thereafter, LPG is distributed via tanker trucks or other land transportation vehicles to local LPG fuelling stations. Afterwards, the LPG is transferred:
 - for distribution to smaller end users, into smaller cylinders or tanks; or
 - for distribution to larger end users, to large coastal tankers or tanker trucks.
- The LPG Act regulates the sale of LPG in Japan, where approval from:
 - METI is required when establishing sales offices serving two or more prefectures; or
 - the relevant prefectural governor when distributing only to one prefecture.
- Given LPG is not distributed by pipeline, there is no third party access regime per se in Japan for LPG.

16. Is there a competitive and privatised downstream gas market or is gas supplied to end-customers by one or more incumbent/government-owned suppliers? Can customers choose their supplier?

The Japanese downstream gas market is serviced by a large range of gas utility operators and trading houses who operate vertically integrated positions in the market. Due to the large array of industry players, customers have a competitive choice of supplier for gas for consumption.

17. How is the downstream gas market regulated?

We refer to the response to Question 15.

18. Have there been any significant recent changes in government policy and regulation in relation to the oil and gas industry?

We refer to the response to Question 19.

19. What key challenges have been identified by the government and/or industry in relation to your jurisdiction's oil and gas industry? In this context, for example, has the Russia/Ukraine war had an impact on the oil and gas industry and if so, how has the government and/or industry responded to it?

General

The key challenge identified by the Japanese Government has been its pledge to achieve a net zero CO2 emissions target by 2050. On October 22, 2021, the Japanese Government approved its Sixth Strategic Energy Plan (**6th Energy Plan**), which sees a substantial decrease of LNG, coal and oil consumption in Japan in favour of emission-free power sources.

In light of Japan's energy consumption needs and its reliance on, in particular, LNG imports to fuel such consumption, it remains to be seen whether energy industry stakeholders can upscale emission-free energy production infrastructure (including the development of commercially-viable technologies and increase of grid capacity) to reduce Japan's dependence on carbon-emitting energy sources over the medium term.

Complementary to that end however, METI has announced the Japanese Government's "Green Growth Strategy" in December 2020 (**Green Growth Strategy**), which aims to promote the development of renewable energy production in Japan. That initiative entails:

- funding for companies which develop such renewable technologies, including an innovation fund of ¥2 trillion over a 10 year period;
- introducing tax incentives to induce private sector investment towards decarbonisation;

- formulating a finance policy to attract global environmental, social and governance investment;
- introducing regulatory reforms for renewable energy sectors (such as, offshore wind, hydrogen and mobility and battery storage); and
- increasing collaboration with developed and developing nations.

COVID-19

There have been various States of Emergency declared throughout Japan since the COVID-19 pandemic began. The Japanese Government has instituted various measures to curb the spread of the COVID-19 disease to mitigate its effect on various industries. However, no specific measures have been instated for the oil and gas industry.

20. Are there any policies or regulatory requirements relating to the oil and gas industry which reflect/implement the global trend towards the low-carbon energy transition? In particular, are there any (i) requirements for the oil and gas industry to reduce their carbon impact; and/or (ii) strategies or proposals relating to (a) the production of hydrogen; or (b) the development of carbon capture and storage facilities?

Low-carbon energy transition

- Policy: we refer to our response to Question 19.
- Regulatory requirements: the government declares to achieve GHG net carbon zero by amending the Act on the Promotion of the Measures to Cope with Global Warming.

Requirements for oil and gas industry to reduce carbon impact: none applicable, but (as per our response to Question 19) the Japanese Government is instituting various policy incentives to promote a transition to a low-carbon energy economy.

Strategies or proposals

- Hydrogen production

Under the 6th Energy Plan, the Japanese Government predicts that Japan's overall power source composition will be comprised of 1% hydrogen and/or ammonia by 2030. This was the first time hydrogen (or ammonia) has

been formally predicted as being in Japan's energy mix for its previous strategic energy plans. The Green Growth Strategy (as per our response to Question 19) complements the 6th Energy Plan.

In addition, METI released a "Basic Hydrogen Strategy" in December 2017, which aims to see (among other things):

- relevant Japanese government organisations implementing individual hydrogen production projects;
- the sharing of information related to hydrogen-based energy with the Japanese populace by cooperation with local governments and industry;
- Japan attempt to develop cost-effective water electrolysis technologies; and
- Japan developing a commercial-scale hydrogen supply chain by 2030 which will see the procurement of 300,000 tons of hydrogen annually with a cost of 30 yen/Nm³ or less (with lower targets costs progressively thereafter to compete with traditional energy sources).

The building of a cost-effective hydrogen supply chain

(particularly a low-carbon one) will be key to seeing the realisation of Japan's ambitions of becoming a "hydrogen society" and it remains to be seen how this space will develop. However, inroads into the hydrogen production space have been made in Japan, such as the commencement of operations of the Fukushima Hydrogen Energy Research Field in March 2020, being the world's largest solar-to-hydrogen production plant.

- Carbon capture, utilisation and storage facilities

Japan considers the use of carbon, capture, utilisation and storage (**CCUS**) a key technology for meeting its net zero 2050 target, due to carbon-emitting fuels taking up a substantial share of its domestic power consumption. Its importance is recognised in Japan's 6th Energy Plan.

Japan is a leader in CCUS technology, fostering a network of both public and private organisations, which has resulted in the development of a number of CCUS demonstration projects. While Japan has undertaken test projects for various CCUS technologies, most are still in the developmental or demonstrational stages. However, for example for carbon capture, some technologies have already been deployed in industrial applications for decades, but its commercial use remains expensive and energy intensive.

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