



Fossil fuel exploration subsidies: Japan

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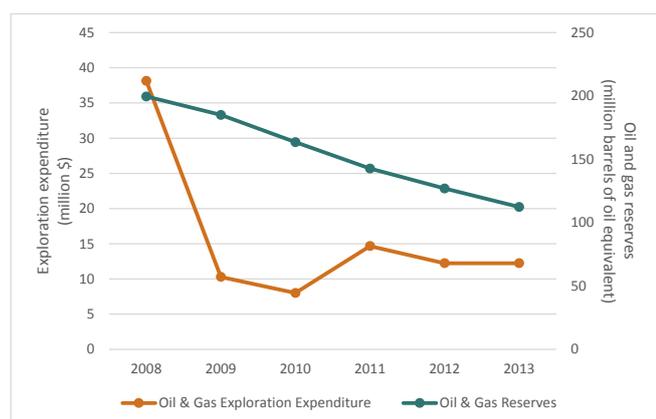
This country study is a background paper to the report **The fossil fuel bailout: G20 subsidies for oil, gas and coal** by Oil Change International (OCI) and the Overseas Development Institute (ODI).

For the purpose of this report, exploration subsidies include: national subsidies (direct spending and tax expenditures), investment by state-owned enterprises and public finance. The full report provides a detailed discussion of technical and transparency issues in identifying exploration subsidies, and outlines the methodology used in this desk-based study.

The authors would welcome feedback on the full report and on this country study, to improve the accuracy and transparency of information on G20 government support to fossil-fuel exploration.

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China
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Italy
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Russia
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Turkey
United Kingdom
United States

Figure 1. Oil and gas exploration expenditure and reserves in Japan



Source: Rystad Energy, 2014

Background

With scarce and rapidly dwindling fossil-fuel resources of its own, Japan engages in only a small amount of domestic oil and gas exploration and relies heavily on fossil-fuel imports to meet its energy needs, particularly since the accelerated phase-out of nuclear power following the Fukushima disaster in 2011. Public and private oil and gas exploration expenditure within Japan are declining alongside Japan's oil and gas reserves (Figure 1) (Rystad Energy, 2014). However, growing interest in offshore methane-hydrates resources in the South China Sea (disputed by China) could result in increased exploration in Japan in future years.

The Japanese Government is actively involved in promoting oil, gas and coal exploration and extraction overseas to secure energy resources. Overseas oil and gas exploration expenditure by Japanese companies increased by more than five times since 2000 to reach \$1.4 billion in 2013 (Figure 2) (Rystad Energy, 2014).

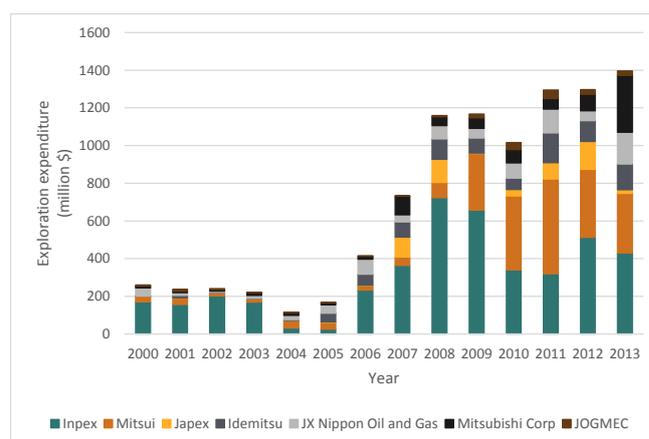
Table 1. Japan's national subsidies

Subsidy	Subsidy type	Targeted fossil-fuels	Estimated annual amount (million \$)	Timeframe for subsidy-value estimate	Stage
Direct spending					
Japan Oil, Gas and Metals National Corporation (JOGMEC) (JOGMEC, 2013a)	Direct spending	Oil and gas	\$23	2013	Exploration
Other					
Natural Gas Exploration Subsidy (JOGMEC, 2013a)	Unclear**	Gas	\$400	2011	Exploration
Oil Prospecting Subsidy (JOGMEC, 2013a)	Unclear**	Oil	\$301	2011	Exploration
Total annual national subsidies			\$724		Exploration

*Subsidy estimate not available.

**Subsidy information from OECD; subsidy type not identified.

Figure 2. Overseas oil and gas exploration expenditure by Japanese companies



Source: Rystad Energy, 2014

National subsidies

Japan provides major national subsidies to promote oil and gas exploration by Japanese companies overseas and, to a smaller extent, domestically. These subsidies currently total \$724 million, down from a high of over \$2.5 billion in 2007 (Table 1) (OECD, 2013).

The Japan Oil, Gas and Metals National Corporation (JOGMEC) conducts geological surveys and exploratory oil and gas drilling both in Japan and overseas, and provides this data to Japanese exploration and production companies. In addition, JOGMEC provides technical support and develops new exploration technologies to assist companies in their exploration activities (JOGMEC, 2013a). Exploration expenditure by JOGMEC was \$23 million in 2013 (Rystad Energy, 2014).

Based on the preliminary English-language research conducted for this analysis, there is relatively little detail available on the nature of additional national subsidies

provided by the Japanese Government. However, OECD data show that these national subsidies are substantial.

Public finance

Through financing by JOGMEC, the Japan Bank for International Cooperation (JBIC), and Nippon Export and Investment Insurance (NEXI), Japan provided \$21.1 billion in public finance for fossil-fuel exploration from 2010 to 2013 – an annual average of \$5.3 billion – for projects overseas.

Domestic

Ensuring the stable supply of energy resources for Japan, including by supporting resource development and constructing oil storage facilities, is one of several lending sectors for the Development Bank of Japan, a state-owned bank. However, English-language project details and lists were not readily available (Development Bank of Japan, 2014).

International

Because most of Japan's fossil-fuel interests are overseas, the Government provides favourable financing for exploration for both Japanese and foreign companies through many different channels, including JOGMEC, JBIC, and NEXI.

As a result of its particular focus on oil and gas development, JOGMEC provides extensive, targeted financing for fossil-fuel exploration through liability guarantees and equity (Table 2) (JOGMEC, 2013b). The total estimate of \$5 billion in JOGMEC overseas exploration financing (for projects active as of March 2013) is likely to be an underestimate, given the lack of data for several projects. In recent years, JOGMEC appears to be shifting its focus to financing projects in other industrialised countries, notably Australia and Canada.

JBIC also provides extensive financing for oil, gas and coal projects overseas – \$16 billion from 2010 to 2013. This includes billions of dollars in financing for coal mines, by far the largest amount of coal financing provided by any export credit agency. These projects are likely to include exploration and expansion components and are, therefore, included in the financing total for Japan (Table 3).

Project details for NEXI were less readily available, but NEXI has provided financing for two coal mining projects since 2010 (Table 4).

Japan also contributed an annual average of \$45.5 million to fossil-fuel exploration projects from 2010 to 2013 through its shares in the World Bank Group, European Bank for Reconstruction and Development, and Asian Development Bank, which range from 5.1%

Box 1. The role of the Japanese Government in Japex exploration

Through the Ministry of Economy, Trade and Industry (METI), the Japanese Government owns a 34% stake in Japex, a major Japanese exploration and production company. In 2003, METI sold off shares to reduce its stake in Japex from a majority share (66%) to 49.9%. A further sell-off in 2007 brought the Government's share to its current level in 2014 (Reuters, 2007).

Japex exploration fluctuates from year to year, with a recent high of \$148 million in 2012. In addition to some domestic activities within Japan, Japex has overseas oil and gas exploration and production activities in Indonesia, Iraq, Russia (through the Sakhalin project), the U.S., and in the Canadian tar sands (Japex, 2014).

to 15.7% depending on the institution (Oil Change International, 2014).¹

Major companies

Oil and gas

In 2013, oil and gas companies made \$1.5 billion in revenue from upstream operations in Japan. The net income for the Japanese industry totaled \$432 million that year, and when companies that experienced losses are excluded, the profit amount increases to \$446 million.

Of the \$1.5 billion in revenue, the Japanese Government received \$497 million through income tax payments (and just over \$100 million in royalty payments), resulting in an income tax share of revenue of 34%.² Table 5 displays these figures for the active oil and gas producers in Japan in 2013.

At the start of 2014, Japan had 105 million barrels of oil equivalent (BOE) of oil and gas reserves. Two companies, Japex and Inpex, held 80% of these reserves (Figure 3).

Exploration expenditure in Japan has varied over the past several years, and is down from a high of \$36.9 million in 2008 to stand at \$7.9 million in 2013 (Figure 4).

Japan's relatively small oil and gas industry is completely dominated by Japanese companies, which control virtually all of the country's limited production, reserves base, and exploration expenditure. These companies, led by Inpex and Japex, are therefore likely to be the major beneficiaries of government support, in addition to benefitting from the Japanese Government's financing of exploration projects overseas.

1 Data are based partly on shares of multilateral development banks (MDBs) held by each G20 country sourced from the respective MDB annual reports and replenishment agreements.

Coal

There are no active coal mines in Japan.

Table 2. JOGMEC oil and gas exploration financing, 2010 to 2013

Company	Country	Fossil-fuel	Year	Financing type	Amount (million \$)	Stage
Cutbank Dawson Gas Resources Ltd.	Canada	Oil and gas	2013	Liability guarantee	\$2,000	Extraction (including exploration)
JAPEX Montney Ltd.	Canada	Oil and gas	2013	Equity	\$220	Extraction (including exploration)
INPEX Gas British Columbia Ltd.	Canada	Oil and gas	2012	Equity	\$400	Extraction (including exploration)
Greenland Petroleum Exploration Co., Ltd.	Greenland	Oil and gas	2012	Equity	N/A*	Exploration
Cordova Gas Resources Ltd.	Canada	Oil and gas	2011	Liability guarantee	\$750	Extraction (including exploration)
INPEX Babar Selaru, Ltd.	Indonesia	Oil and gas	2011	Equity	\$160	Exploration
Diamond Resources Exmouth Pty. Ltd.	Australia	Oil and gas	2011	Equity	\$120	Exploration
Shale Gas Investment B.V.	Canada	Oil and gas	2011	Equity	\$120	Extraction (including exploration)
Japan Energy E&P Australia Pty. Ltd.	Australia	Oil and gas	2011	Equity	\$100	Exploration
JX Nippon Oil & Gas Exploration (Onshore Sarawak) Ltd.	Malaysia	Oil and gas	2011	Equity	\$100	Exploration
INPEX Gulf of Mexico Co., Ltd.	United States	Oil and gas	2011	Equity	\$70	Exploration
MOECO Tuna E&P Co., Ltd.	Indonesia	Oil and gas	2011	Equity	\$20	Exploration
INPEX Masela Ltd.	Indonesia	Oil and gas	2011	Equity	N/A*	Extraction (including exploration)
Sakhalin Oil and Gas Development Co., Ltd.	Russia	Oil and gas	2010	Liability guarantee	\$360	Extraction (including exploration)
Japan Carabobo Ltd.	Venezuela	Oil and gas	2010	Equity	\$300	Extraction (including exploration)
JAPEX Garraf Ltd.	Iraq	Oil and gas	2010	Equity	\$160	Extraction (including exploration)
NOEX (Cuu Long) Ltd.	Viet Nam	Oil and gas	2010	Equity	\$50	Exploration
INPEX West Congo Petroleum Ltd.	Democratic Republic of Congo	Oil and gas	2010	Equity	\$30	Exploration
CIECO Exploration and Production (UK) Ltd.	Denmark	Oil and gas	2010	Liability guarantee	\$20	Exploration
Total JOGMEC oil and gas exploration financing, 2010 to 2013					\$4,980	Extraction (including exploration)
Average annual JOGMEC oil and gas exploration financing					\$1,245	Extraction (including exploration)

*Information not available.

Source: JOGMEC, 2013b

2 Income tax share calculated by dividing income tax by revenue, excluding royalties, bonuses, and government profit.

Table 3. JBIC fossil-fuel exploration financing, 2010 to 2013

Project	Country	Fossil-fuel	Company	Year	Amount (million \$)	Stage
Eagle Ford Shale Acquisition	United States	Oil and gas	Mitsui	2014	782	Extraction (including exploration)
Oil and gas development	United Arab Emirates	Oil and gas	Abu Dhabi National Oil Co.	2013	\$3,000	Extraction (including exploration)
Coal mine development	Australia	Coal	Mitsubishi	2013	\$1,540	Extraction (including exploration)
Oil field development	Italy	Oil and gas	Mitsui E&P Italia A S.r.l.	2013	\$830	Extraction (including exploration)
Offshore oil development	Ghana	Oil and gas	Tullow Oil	2013	\$508	Extraction (including exploration)
Coal mine expansion	Australia	Coal	Idemitsu Australia Resources Pty Ltd	2013	\$350	Extraction (including exploration)
Oil-sands development expansion	Canada	Oil and gas	Japan Canada Oil Sands Ltd.	2013	\$300	Extraction (including exploration)
Private equity fund for energy and resource projects in North America	Regional – North America	Oil and gas	Energy Opportunity Fund, L.P.	2013	\$50	Extraction (including exploration)
Coal mine acquisition	Colombia	Coal	ITOCHU Coal Americas Inc.	2012	\$619	Extraction (including exploration)
Coal mine acquisition	Australia	Coal	JFE Holdings, Inc.	2012	N/A*	Extraction (including exploration)
Unconventional oil and gas development	United States	Oil and gas	JD Rockies Resources Ltd. (ITOCHU Corp.)	2012	\$308	Extraction (including exploration)
Coal mine acquisition	Australia	Coal	Sumisho Coal Australia Pty. Ltd. (Sumitomo Corp.)	2012	\$302	Extraction (including exploration)
Coal mine acquisition	Canada	Coal	JX Nippon Oil & Energy Corporation	2012	\$261	Extraction (including exploration)
New coking coal mine	Australia	Coal	Mitsui Kestrel Coal Investment Pty. Ltd.	2012	\$259	Extraction (including exploration)
Shale-gas development	Canada	Oil and gas	INPEX Corp.	2012	\$180	Extraction (including exploration)
Coal-bed methane field acquisition	Canada	Oil, Gas and coal	Toyota Tsusho Corp.	2012	\$160	Extraction (including exploration)
Shale-oil development	United States	Oil and gas	JGC Exploration Eagle Ford LLC	2012	\$49	Extraction (including exploration)
Samurai bond guarantees	Qatar	Oil and gas	Qatar Petroleum	2012	N/A*	Extraction (including exploration)
Tight-oil development	United States	Oil and gas	Sumitomo Corp.	2012	N/A*	Extraction (including exploration)
Developing offshore pre-salt oil field	Brazil	Oil and gas	Cernambi Sul MV24 B.V.	2011	\$675	Extraction (including exploration)
Barzan Gas Field Development Phase I	Qatar	Oil and gas	Barzan Gas	2011	\$600	Extraction (including exploration)
Guara FPSO	Brazil	Oil and gas	Guara MV	2011	\$487	Extraction (including exploration)
Shale-gas development	Canada	Oil and gas	Cordova Gas Resources Ltd.	2011	\$258	Extraction (including exploration)

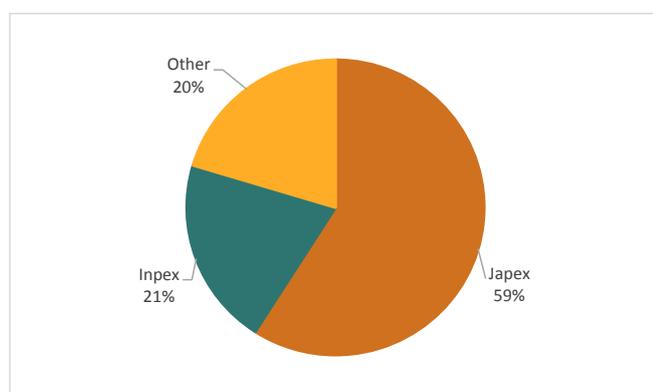
Table 3. JBIC fossil-fuel exploration financing, 2010 to 2013 (continued)

Project	Country	Fossil-fuel	Company	Year	Amount (million \$)	Stage
Coal mine acquisition	Canada	Coal	Marubeni Corp.	2011	\$169	Extraction (including exploration)
Coal mine acquisition	Australia	Coal	Sojitz Coal Resources Pty. Ltd.	2011	\$145	Extraction (including exploration)
Expansion of natural gas supply	Indonesia	Oil and gas	Badan Pelaksana Kegiatan Usaha Hulu Minyak dan Gas Bumi (BPMIGAS)	2011	None	Extraction (including exploration)
Oil and gas development	United Arab Emirates	Oil and gas	Abu Dhabi National Oil Co.	2010	\$3,000	Extraction (including exploration)
Shale-gas acquisition	United States	Oil and gas	Mitsui E&P USA LLC	2010	\$700	Extraction (including exploration)
Developing offshore pre-salt oil field	Brazil	Oil and gas	Tupi Pilot MV22 B.V.	2010	\$480	Extraction (including exploration)
Chicontepec Oil Field	Mexico	Oil and gas	Pemex	2010	\$360	Extraction (including exploration)
Offshore oil and gas vessels	Norway	Oil and gas	K Line Offshore A.S.	2010	\$170	Extraction (including exploration)
Coal supply	Vietnam	Coal	Vietnam National Coal and Mineral Industries Group	2010	\$150	Extraction (including exploration)
Coal mining equipment	Indonesia	Coal	PT Pamapersada Nusantara (PAMA)	2010	\$50	Extraction (including exploration)
Total JBIC fossil-fuel exploration financing, 2010 to 2013					\$15,960	Extraction (including exploration)
Average annual JBIC fossil-fuel exploration financing					\$3,990	Extraction (including exploration)

*Financing amount not available.

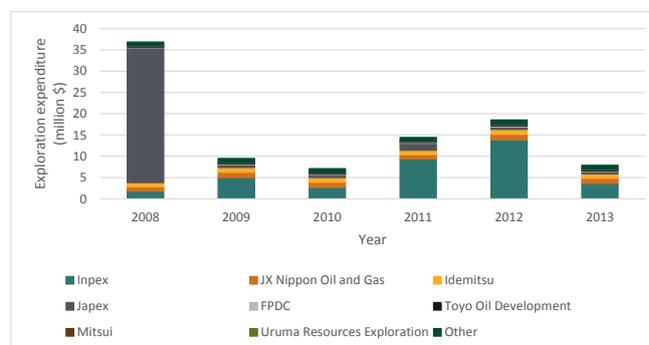
Source: JBIC, 2014; IJ Global, 2014

Figure 3. Japan's top oil and gas reserve holders' share of total Reserves as of January 2014



Source: Rystad Energy, 2014

Figure 4. Oil and gas exploration expenditure in Japan



Source: Rystad Energy, 2014

Table 4. NEXI exploration financing, 2010 to 2013

Project	Country	Year	Amount (million \$)	Stage
Russia/SUEK Coal Mine and Port Expansion Project	Russia	2012	\$200	Extraction (including exploration)
Acquiring Coal Interest Project	Colombia	2012	N/A*	Extraction (including exploration)
Total NEXI exploration financing, 2010 to 2013			\$200	Extraction (including exploration)
Average annual NEXI exploration financing			\$50	Extraction (including exploration)

*Financing amount not available.

Source: ITOCHU, 2011; NEXI, 2014

Table 5. Japan's top oil and gas producers: revenues, profits and income taxes, 2013

Company	Headquarter country	Revenue (million \$)	Profit (million \$)	Income-tax payments (million \$)	Income-tax share of revenue
Inpex	Japan	\$729	\$255	\$232	34%
Japex	Japan	\$686	\$173	\$244	38%
Oshamanbe Town	Japan	\$22	\$7.5	\$8	38%
Mitsubishi Corp	Japan	\$21	\$7	\$7	36%
JX Nippon Oil and Gas	Japan	\$3	-\$1	\$0.4	12%

Source: Rystad Energy, 2014

References

- Development Bank of Japan (2014) 'Resources and energy'. Tokyo: Development Bank of Japan. (<http://www.dbj.jp/en/solution/social/resources/index.html>)
- IJ Global (2014) 'Database'. London: IJ Global: Infrastructure Journal and Project Finance Magazine. (<http://www.ijonline.com/data>)
- ITOCHU (2011) 'ITOCHU Corporation Invests in Drummond Company Colombia Mines'. Tokyo: ITOCHU Corporation. (http://www.itochu.co.jp/en/news/2011/110616_02.html)
- JBIC (2014) 'Energy and Natural Resources'. Tokyo: Japan Bank for International Cooperation. (<http://www.jbic.go.jp/en/efforts/support/resources>)
- JOGMEC (2013a) 'Oil and Natural Gas'. Tokyo: Japan Oil, Gas and Metals National Corporation. (<http://www.jogmec.go.jp/english/oil/index.html>)
- JOGMEC (2013b) 'E&P Projects (March 2013)'. Tokyo: Japan Oil, Gas and Metals National Corporation. (<http://www.jogmec.go.jp/content/300057581.jpg>)
- Japex (2014) 'International Exploration and Production'. Tokyo: Japan Petroleum Exploration Co. (<https://www.japex.co.jp/english/business/oversea/index.html>)
- NEXI (2014) 'Russia/SUEK Coal Mine and Port Expansion Project'. Tokyo: Nippon Export and Investment Insurance. (<http://www.nexi.go.jp/topics/en/newsrelease/004467.html>)
- OECD (2013) 'OECD-IEA Fossil-fuel Subsidies and Other Support'. Paris: Organisation for Economic Co-operation and Development. (<http://www.oecd.org/site/tadffss/>)
- Reuters (2007) 'UPDATE 2-Japan to sell \$660 mln of JAPEX shares'. *Reuters*, 29 May. (<http://uk.reuters.com/article/2007/05/29/japan-japex-share-idUKT5119420070529>)
- Rystad Energy (2014) 'Rystad Energy UCube Upstream Database'. Oslo: Rystad Energy. (<http://www.rystadenergy.com/Databases/UCube>)



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