Sakhalin Island

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Sakhalin Island

Sakhalin Island's oil and gas resources are being developed by international consortia. Sakhalin I's oil production neared its maximum capacity of at 250,000 bbl/d in February 2007, and Sakhalin II produces oil for six months of the year at a rate of roughly 80,000 bbl/d. Other areas around Sakhalin Island are still in early stages of development.

General Background

Sakhalin Island, a former penal colony located off the east coast of Russia and to the north of Japan, holds vast hydrocarbon resources. Oil reserves in the area are estimated at almost 12 billion barrels, and natural gas reserves at approximately 90 trillion cubic feet. International consortia of energy companies have entered into production sharing agreements (PSAs) to develop the resources. Even though all of the consortia have extensive export plans (including to the United States) via LNG terminals and export pipelines to the mainland, there has been little progress except on the first two parts of Sakhalin Island: Sakhalin 1 and Sakhalin 2, which lie to the southeast of Okha (see map to the left, and for more detailed maps click on the project websites for Sakhalin 1 and Sakhalin II below)

Sakhalin I

The Sakhalin I project is led by Exxon Neftegaz, in conjunction with consortium members SODECO, ONGC Videsh, and two Rosneft subsidiaries (Sakhalinmorneftegaz and RN Astra). The $6.5 billion dollar first phase of the project will entail development of the Chayvo field, and subsequent phases will develop the Odoptu and and Arkutun Dagi fields. Total capital expenditure for the project, approved back in 2003, is set at $12.8 billion. Around $3.4 billion were spent during 2005 and 2006 combined.

Consortium members began drilling in May 2003, and commercial production from the Chayvo field began in October 2005. The consortium announced the field had reached maximum production in February 2007 at around 250,000 barrels per day (bbl/d) of oil and 140 million cubic feet per day (mmcf/d) of natural gas. Output is being piped to the Russian port of De-Kastri where natural gas is then pumped into the Russian system and oil is exported to international markets. Most of the oil is shipped to markets in east Asia, two to five sailing days away.

Natural Gas Exports

The mode of natural gas exports from Sakhalin 1 has not been decided as of yet, but the project is supplying natural gas to the local area. ExxonMobil would like to send the natural gas to the south via pipeline to China, yet other shareholders and Gazprom prefer marketing natural gas as LNG via Sakhalin II, requiring an expansion of the facilities there.

Sakhalin II

The Sakhalin II project is being developed under a PSA that now includes Gazprom, Shell, Mitsubishi, and Mitsui. The consortium members have estimated that the project's cost will total more than $20 billion, making the project the largest single foreign investment in Russia. To date, around $13 billion has already been spent.

In February 2007, Gazprom announced it would pay $7.45 billion for a 50 percent plus one share in Sakhalin Energy. Shell will keep 27.5 percent less one share, Mitsui 12.5 percent and Mitsubishi 10 percent. Finalization of the deal is expected during 2007. Gazprom intends to play a leading role as the major shareholder, but Shell will remain technical advisor.

In July 2005 Shell estimated that recoverable reserves at 17.3 Tcf of natural gas and 1 Billion barrels of liquids. Sakhalin II has been producing 80,000 bbl/d of oil during ice-free summer months since July 1999, and Phase II of the project should lead to full-year oil production (roughly 180,000 bbl/d) during late 2007, completing Russia's first LNG facility. Construction of the two-train, 9.6-million-tons-per year facility began in early 2003, and Shell expects initial LNG sales during 2008.

Sakhalin II will supply natural gas to the United States, Japan and South Korea. In late 2004, Sakhalin Energy signed a contract with Coral Energy to supply 1,800 billion cubic feet (bcf) of LNG over 20 years to a power plant on the border of California and Mexico. The LNG will be delivered via tanker to the Energia Costa Azul terminal being constructed in Baja California, Mexico. In March 2004, Sakhalin II announced the sale of 300,000 tons of LNG per year to Japan's Tokyo Gas and Tokyo Electric Power (TEPCO) starting in summer 2008. In July 2005, the project operators announced a 20 year sales agreement of 1.6 million tons per year of LNG to Korea Natural Gas (KOGAS).

The state Japan Bank for International Cooperation (JBIC) will likely continue to offer funding for the project, but it is uncertain whether the European Bank for Reconstruction and Development (EBRD) will approve a previous request for a $300 million loan.

Due to concerns about disturbing the gray whale population, the consortium announced in 2005 that it would be rerouting some of the pipelines which lead from the platforms to the shore-based processing facilities. For these reasons, LNG production has been delayed until at least 2008, and year-round oil production has been delayed until at least late 2007.

Sakhalin III

An auction for three of the four blocks in the Sakhalin-III project (estimated to contain 5.1 billion barrels of oil and 46 Tcf of natural gas) is expected to be held by the end of 2007. A proposed law defining "strategic" mineral deposits, which includes oil fields with more than 367 million barrels of reserves, will determine which companies will be able to bid on the Ayashsky, Kirinsky, and East Odoptu blocks that are up for auction.

The Veninsky block, with oil reserves of 1.2 billion barrels and 9.1 Tcf of gas, will be developed by a Rosneft-Sinopec consortium. In February 2006, this block was transferred to Venineft, a joint venture of Rosneft (49.%), Chinese Sinopec (25.1%) and Sakhalinskaya Neftyanaya Kompaniya (25.1%). An ExxonMobil-led consortium had held the rights to the Ayashsky, Kirinsky, and East Odoptu blocks under a 1993 tender, but the Russian government cancelled the results of that tender in January 2004 after the PSA law changed.

Sakhalin IV-VI

Areas of Sakhalin Island lying to the north and southeast of Sakhalin I and II are at various preliminary stages of development. More information on these projects' development and expected production levels can be found on the summary table page.

Sakhalin Fact Sheet

Detailed project specifications and status for Sakhalin Island's energy development. Click the picture to download the table in Excel format.

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Sakhalin Fact Sheet

Sakhalin Island, a former penal colony located off Russia's eastern shore (see map), is home to six oil and gas projects. The five projects are currently in different stages of development, and two of the projects, Sakhalin I and Sakhalin II, aim to bring oil and natural gas production online in the near term. Both projects have targeted Asian markets. Three blocks after Sakhalin VI have not been awarded yet.

Name	Sakhalin I	Sakhalin II	Sakhalin III	Sakhalin IV	Sakhalin V	Sakhalin VI
Primary Field/Block Names	Odoptu (Northern and Southern) (onshore), Chayvo (onshore and offshore), Arkutun-Dagi	Sakhalin Energy Investment Company: Piltun-Astokhskoye, Lunskoye (will provide most of the LNG, 34 kb/d of oil)	Kirinskii, Veninskaya, Vostochno-Odoptu, Aiyashkii	Pogranichny Block, Okruzhnoye fld	Kaigansko-Vasyukansk (active drilling)	Pogranichny
Oil Reserve Estimate	575 million bbl, (Source: IHS Energy)	4.0-4.2 billion bbl (Source: Shell)	Total: 4-5 billion bbl Veninsky Block: 850 million bbl (Source: IHS)	[illegible] million bbl	4.4-5.7 billion bbl	600 million bbl
Natural Gas Reserve Estimate	11 Tcf, (Source: IHS Energy)	17.3 Tcf (Source: Shell)	Total: 27-30 Tcf Veninsky Block: 11 Tcf (Source: IHS)	13 Tcf	15.2-17.7 Tcf	n/a
Net Total Investment	Phase 1: $5 billion	Phase 1: $4.5 billion, Phase 2: $20 billion over next 4-5 yrs.	$19.5 billion expected (ExxonMobil: $80m in geological studies)	$2.6 billion expected	$3-5 billion expected	n/a
Expected & Current Prod'n Level	Chayvo: 250,000 bbl/d (2005); Commercial gas prod'n expected in 2008	Current: 90,000 bbl/d for 6 months, Phase II: 180,000 bbl/d, year-round oil production expected in Dec. 2007, LNG prod'n expected in Summer 2008	n/a	n/a	n/a	n/a
Primary Project Developers	Exxon Neftegas (30%), in conjunction with consortium members SODECO (30%), ONGC Videsh (20%), Rosneft (8.5%), Sakhalinmorneftegas (11.5%), and RN Astra (8.5%)	Gazprom (50%-), Sakhalin Energy Investment Company: Shell (27.5%), Mitsui (25%), Mitsubishi (20%)	Rosneft is primary developer. Veninsky Block: Rosneft (49.8%), Chinese Sinopec (25.1%) and Sakhalinskaya Neftyanaya Kompaniya (25.1%)	BP (49%), Rosneft (51%)	Elvary Neftegas: BP (49%), Rosneft (51%)	Petrosakh, Alfa Eco
Current Status/Notes	Max oil production from Chayvo field achieved in Feb. 2007 at 250 bb/d. Mode of gas export still up for negotiation.	Oil production began in 1999; Processing terminal under construction which will have cap of 66,000 bbl/d of oil, 1.8 bcf/d of gas	Lukoil possibly in cooperation with Gazprom will probably take part in new tenders for Kirinskii and Vostochno blocks.	Rosneft undertaking 3D seismic, to be complete by Oct. 2006.	Rosneft undertaking 3D seismic. BP/Rosneft drilled 3 successful wells during 2006.	3 blocks in Sakhalin VI have not been awarded

Source: Project Homepages (see links section), IHS Energy, Interfax, Russian Energy Monthly (www.easternbloc energy.com), FSU Oil and Gas Monitor, Pipeline & Gas Journal

Click image above for detail.

Links

EIA Links

EIA: Russia Country Analysis Brief

General Information

Sakhalin I Project Homepage
Sahkhalin II Project Homepage
Sakhalin II Project Overview Presentation

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