International Energy Business

Upstream Business Downstream Business

In the fiscal year ended March 31, 2015, net sales from international energy business amounted to ¥13.7 billion. Segment income came in at ¥1.2 billion,^{*1} accounting for around 1%^{*1} of the Group's total income.

As a supplier of energy, the Osaka Gas Group first focused its attention on the natural gas value chain from an early stage. Comprehensive efforts have been directed toward expanding business activities from upstream business such as the extraction of natural gas overseas to downstream business including LNG terminal operations, independent power producer (IPP) business, and energy service business.

Moreover, the Group is taking steps to expand its trading business by leveraging its own fleet of LNG carriers.



Segment Income^{*2}

(2015.3)



Segment Income^{*2} (Billions of yen)



Note: Starting in the fiscal year ended March 31, 2015. Osaka Gas repositioned the renewable energy business from the environment/non-energy segment to the LPG/electricity/other energy segment or to the international energy segment according to the details of individual business activities. For this reason, figures from the fiscal year ended March 31, 2015 on include the international renewable energy business.

*1 Segment income decreased significantly year on year due to the calculation of temporary expenditures associated with streamlining vaporization operations at the Freeport LNG Project, and other factors.

*2 Segment Income = Operating income + Equity in earnings of affiliates

Upstream Business

Business Overview and Characteristics

The energy resource development business activities of Osaka Gas are helping to expand profits for the entire Group and stabilize profits by serving as a natural hedge against fluctuations in crude oil prices and foreign currency exchange rates. The activities also contribute to the accumulation of valuable expertise and experience in

Status of Main Upstream Investments

The gas liquefaction facility that is part of the Freeport LNG Project (Texas, USA) has been granted approval by the U.S. Federal Energy Regulatory Commission, with construction getting underway in November 2014. Osaka Gas has concluded a pipeline usage contract for procuring natural gas derived from the American natural gas market. The first batch of LNG is expected to be shipped in 2018. Also, we expect production from investments in the Gorgon LNG Project, Ichthys LNG Project, and similar projects to begin from 2016 on.

Downstream Business

Business Overview and Characteristics

Aiming to utilize the know-how gleaned from domestic energy business in overseas development and to secure stable income, the Osaka Gas Group participates in LNG terminal business and IPP business in North America, Australia, Europe, and other regions. the field of LNG procurement.

Moving forward, we will thoroughly assess participation in new projects while steadily moving ahead with projects we have already decided to participate in, aiming to secure around 30% of our required volumes of LNG in the future through these investments.

Schedule for Commencement of Operations at Main Projects

Start of production scheduled for end of 2015 Australia Gorgon LNG Project



Freeport LNG Project groundbreaking ceremony

We are also working to develop our natural gas retail business and develop our energy services business* in Southeast Asia, and further expand our business domains in this region where energy demand is expected to rise.

* Services that allow customers to introduce natural gas facilities without requiring any initial investment—by only paying rates for the amount of energy used.

Development of the Power Generation Business Overseas

To secure stable income and acquire experience and expertise, the Osaka Gas Group has been developing the power generation business in the United States, Australia, and other countries. At present, the Osaka Gas Group owns stakes totaling 1.05 GW in power sources

Natural Gas Sales and Energy Services in Southeast Asia

In March 2013, after setting up a local representative company in Singapore, we began selling natural gas and offering energy services to the industrial markets in Singapore and Thailand, utilizing our energy-saving technologies related to cogeneration, boilers, and incinerators.

We are rolling out operations across Southeast Asia, a

outside of Japan. In June 2015 the Group began participating in a project to build the St. Charles Energy Center Natural Gas-Fired Power Plant in Maryland, USA, and going forward we will continue to pursue power generation overseas.

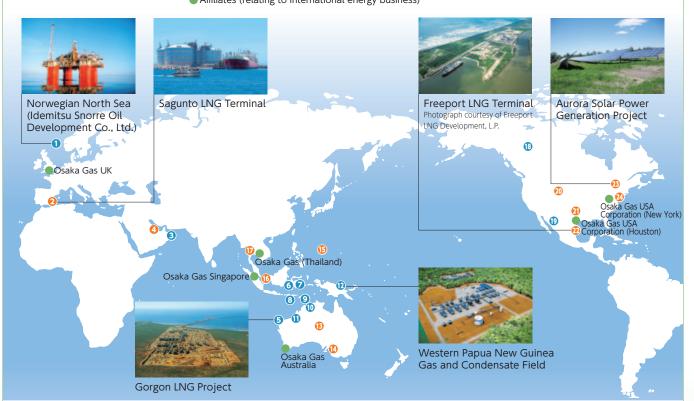
region where continued economic growth is expected, promoting conversion from heavy oil and other fuels to clean natural gas, which also helps contribute to energy conservation.



Investments in International • Participation in upstream projects (LNG, gas fields, etc.)

Energy Business

Participation in downstream projects (LNG receiving terminals, IPPs, etc.)
 Affiliates (relating to international energy business)



Participation in Upstream Projects (LNG, gas fields, etc.)

O Norwegian North Sea (Idemitsu Snorre Oil Development Co., Ltd.) Stake since 2005: 2-4%

8 Qalhat LNG

- Stake since 2006: 3% LNG output: 3.3 million tons/year Gorgon LNG Project
- Stake since 2009: 1.25% Projected LNG output: 15 million tons/year (planned) (Start of production scheduled for 2015)
- **O Universe Gas & Oil Company, Inc. (Sanga Sanga Gas Field)** Stake since 1990: 1.5%
- Japan CBM Limited (Sanga Sanga CBM) Stake since 2009: 1.8%
- Orux Gas and Condensate Field Stake since 2007: 3%
- Sunrise LNG Project Stake since 2000: 10% Projected LNG output: a

Projected LNG output: about 4 million tons/year (planned) () Evans Shoal Gas Field

- Stake since 2000: 10%
- Ichthys LNG Project Stake since 2012: 1.2% Projected LNG output: 8.4 million
- tons/year (planned) (Start of production scheduled for 2016) Western Papua New Guinea Gas and Condensate Field
- Stake since 2014: 10–20% (ratio depends on field) Cordova Shale Gas Development Project
- Stake since 2011: 3.75% Pearsall Shale Gas and Liquids Development Project
 - Stake since 2012: 35%

Participation in Downstream Projects (LNG receiving terminals, IPPs, etc.)

Sagunto LNG Terminal

Ownership interest since 2010: 20% Vaporization capacity: 6.4 million tons/year Shuweihat S2 IWPP

Ownership interest since 2011: 10% (25% equity interest in the operation and maintenance company) Power generation capacity: 151 MW Freshwater processing capacity: 10 million gallons/day

- (D) Ell (Energy Infrastructure Investments) Ownership interest since 2008: 30.2% Four pipelines, two gas-refining facilities Two power plants, two interconnected power transmission lines Power generation capacity: 18 MW
- Ballett 4 Wind Farm Project
- Ownership interest since 2009: 39.9% Power generation capacity: 53 MW **D** Marianas Energy IPP
- Ownership interest since 2005: 100% Power generation capacity: 87 MW CITY-OG Gas Energy Services
 - Stake since 2013: 49% Gas retail business
- Osaka Gas (Thailand)
 Ownership interest since 2013 Energy services business
- Osaka Gas Power America Ownership interest since 2005: 8 IPP projects Power generation capacity*: 359 MW * Excludes 50% interest in 87 MW generation capacity of Marianas Energy IPP
- ① Tenaska Gateway IPP
 Ownership interest since 2004: 40% Power generation capacity: 338 MW

 ② Freeport LNG Terminal
- Ownership interest since 2008: 10.81% Vaporization capacity: 13 million tons/year Aurora Solar Power Generation Project
- Ownership interest since 2012: 50% Power generation capacity: 51 MW St. Charles Energy Center Natural Gas-Fired Power Plant
- Ownership interest since 2015: 25% Power generation capacity: 181 MW (Start of operations scheduled for 2017)