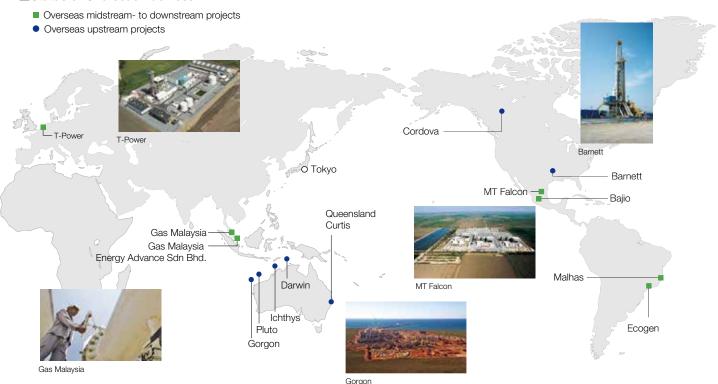
## 3

## **Overseas Business**

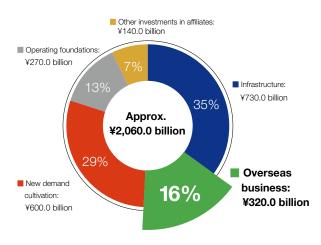
## **Overview of Overseas Business**

The Tokyo Gas Group develops wide-ranging businesses that include engaging in overseas projects, from upstream businesses, such as overseas gas field development, to midstream- to downstream businesses, as exemplified by IPP business and energy service and engineering businesses.

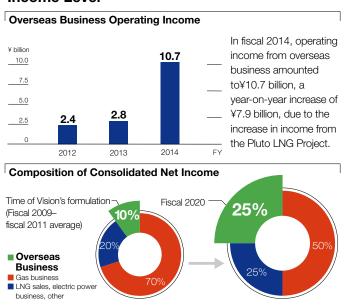
#### ■Status of Overseas Business



#### Scale of Investment Fiscal 2012-2020 total



#### **Income Level**



Under "the Challenge 2020 Vision", we are aiming to expand total net income and increase Overseas Business earnings to compose 25% of consolidated net income.



# **Upgrading and Expanding Overseas Base Capabilities**

Through alliances with local business partners, we are opening new overseas bases as well as augmenting our existing bases to undertake our own project composition and business promotion. Furthermore, during the next three years, we will increase our business development personnel to 200 and upgrade as well as expand our overseas base capabilities.

#### **Examples of Initiatives**

(1) Singapore, Jakarta, Bangkok, Hanoi

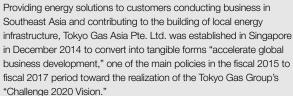
We are building local networks and promoting project compositions and commercialization that leverage the Group's comprehensive capabilities. (2)North America, Australia

In addition to the operational management of existing businesses, we are leveraging the local networks that we have built up thus far and promoting the development of new projects.



Deeply rooted in the local areas, we are leveraging the Company's knowhow to the utmost and promoting natural gas applications in all the countries of Southeast Asia.

Tokyo Gas Asia Pte. Ltd. President **Nobuhisa Kobayashi** 



Southeast Asian countries are in the process of development, and in the years ahead demand for energy will stay on the increase in line with further economic growth. Although many of Southeast Asian nations possess their own in-country resources, the trend is for increasing volumes of LNG imports within Southeast Asia to meet

robust demand, and consideration is being given to making further progress with this utilization. Leveraging to the utmost its knowledge of such areas as natural gas-related technologies and expertise in energy solutions that have been built up in Japan, the Tokyo Gas Group will support the promotion of natural gas utilization in all Southeast Asian countries.

In order to accurately seize these opportunities, the Tokyo Gas Group established representative offices in Vietnam and Indonesia in April 2015 and is also planning to open an office in Thailand. Including the existing office in Malaysia and Tokyo Gas Asia Pte. Ltd. In Singapore, new projects are being researched and developed at five bases in Southeast Asia, and Tokyo Gas Asia will continue to fulfil a managing function over them.

In line with Tokyo Gas Asia's method of conducting business, the characteristics of each country depend on the country, and to possess sufficient knowledge of each country's culture, religion and business practices, in other words to conduct business in a way that takes into consideration factors that are deeply rooted in the locale, is of the utmost importance. What is more, while building good relationships to gain and maintain the trust of a rich network of contacts—including people in local energy-related corporations and in government—as well as of major companies with a track record of achievements, I would like to devote all of my own energy to promoting business in those countries and regions.

It is believed that Southeast Asia will undergo a rapid transformation in the years to come, but I am confident that Tokyo Gas Asia will be able to accompany the region along the road to development.

# **Upstream Business**

#### **Objectives**

In addition to working for sustainable growth by securing new sources of revenue as business investment, upstream business enables both the stabilization of overall Group revenues in the face of fluctuations in raw material prices and the gathering of valuable information as a participant in upstream projects.

Project Name	Location	LNG Production Capacity	Year of Participation	Tokyo Gas Interes	st Start of Operation
Darwin	Australia	3 million t/year	2003	3.07%	January 2006
Pluto	Australia	4.3 million t/year	2008	5%	April 2012
Gorgon	Australia	15.6 million t/year	2009	1%	Planned to commence production in 2015
Queensland Curtis	Australia	8.5 million t/year	2011	1.25% (Gas field) 2.5% (No. 2 Liquefaction Plant)	Commenced phased operations from December 2014
Cordova	Canada	5.5 million t/year	2011	3.75%	2009
Ichthys	Australia	8.4 million t/year	2012	1.575%	Planned to commence production in 2016
Barnett	USA	2 million t/year	2013	25%	2003







Barnett



The business of the Queensland Curtis LNG Project on the east coast of Australia is liquefying unconventional natural gas on the island of Curtis and shipping that gas as LNG. In this case, the unconventional natural gas is the coal bed methane (CBM) found in the coal seams centered on Surat Basin in the state of Queensland. Having commenced phased operations in December 2014, the Company started to receive CBM-derived LNG from this project in April 2015, marking the first delivery to Japan of long-term contract LNG from unconventional natural gas sources.

First delivery to Tokyo Gas Sodegaura LNG Terminal (Sodegaura City, Chiba Prefecture)

# **Future Strategies**

In addition to acquiring the upstream rights associated with conventional LNG procurement, we are planning further diversification in the form our project participation takes—such as the acquisition of gas field rights not associated with procurement in North America and participation in small- to medium-scale LNG projects—and targeting further expansion. When expanding business, if the project seems

favorable following thorough and more careful scrutiny, we will not hesitate to get involved in the project. Furthermore, with regard to changes in the price of crude oil, currency exchange rates and the business environment, we will promote strategies to mitigate and decrease these fluctuating risks along the entire LNG value chain and will continue to build a flexible yet robust business structure.

### Midstream- to Downstream Business

#### **Objectives**

In addition to being able to leverage the Group's strengths competitive advantages, including in energy services and engineering, we are able to ensure a stable income as business investment.

#### **Energy Service project**

We design, construct and conduct the operational management and maintenance of facilities, including gas cogeneration systems, and provide one-stop utilities, such as electricity, heat, water and compressed air.

#### **Engineering Business**

Leveraging the information processing technologies associated with natural gas handling technologies and the gas business, we design and construct as well as undertake the project management of energy infrastructure, including LNG terminals.

Project Name	Location	Main Business	Year of Participation	Tokyo Gas Interest
Gas Malaysia Bhd.	Malaysia	City gas supply project	1992	14.8%
Bajio	Mexico	Natural gas power project	2004	49%
Malhas	Brazil	Natural gas pipeline project	2005	15%
MT Falcon	Mexico	Natural gas power project	2010	30%
T-Power	Belgium	Natural gas power project	2012	26.66%
Ecogen	Brazil	Energy Service project	2012	10%
Gas Malaysia Energy Advance Sdn Bhd.	Malaysia	Energy Service project	2014	34%

## **Examples of Initiatives**

Construction commenced of Building No. 1 at Gas Malaysia Energy Advance Sdn Bhd. energy services business

With the objective of entering the energy services business in Malaysia, Tokyo Gas Engineering Solutions (TGES) Corporation established Gas Malaysia Energy Advance Sdn Bhd. (GMEA), a joint venture with Gas Malaysia Berhad, in April 2014.

Having concluded a 15-year agreement covering energy services with three Toray Corporation-owned subsidiaries (Toray Group Malaysia), GMEA commenced construction of an energy plant with the aim of commencing supplies in 2016.

Establishing a gas turbine co-generation system on Toray Group Malaysia premises, GMEA will supply electric power and steam to Toray Group Malaysia using as fuel natural gas procured from Gas Malaysia. GMEA will be collectively responsible for design, construction and maintenance and receive energy service fees from Toray Group Malaysia, which will thus reduce its energy costs, conserve energy and cut the volume of its CO<sub>2</sub> emissions.

# Toray Group Malaysia Factory Factory Factory Factory Factory Steam Factory Energy services fees Gas Malaysia Energy Advance Sdn Bhd. Possesses a gas turbine co-generation system Natural gas Gas Malaysia Bhd.



Designed to supply electric power and steam, the energy control center under construction

# **Future Strategies**

Leveraging the Group's total energy-related technologies and knowhow, we will identify areas in Southeast Asia and North America and develop business in a focused manner. To give specific examples, we will contribute energy solutions to customers that are

deploying overseas and to the building of local energy infrastructure. In addition, we will leverage the technologies and knowhow of local energy businesses and take on the challenges of developing local value chains through alliances with local energy companies.