

Mitsui Energy Segment



MITSUI & CO.

December 2015

Mitsui & Co., Ltd.

Energy Business Unit I & Energy Business Unit II

Agenda



1. Mitsui's Energy Segment



2. Mitsui Energy Segment Overview

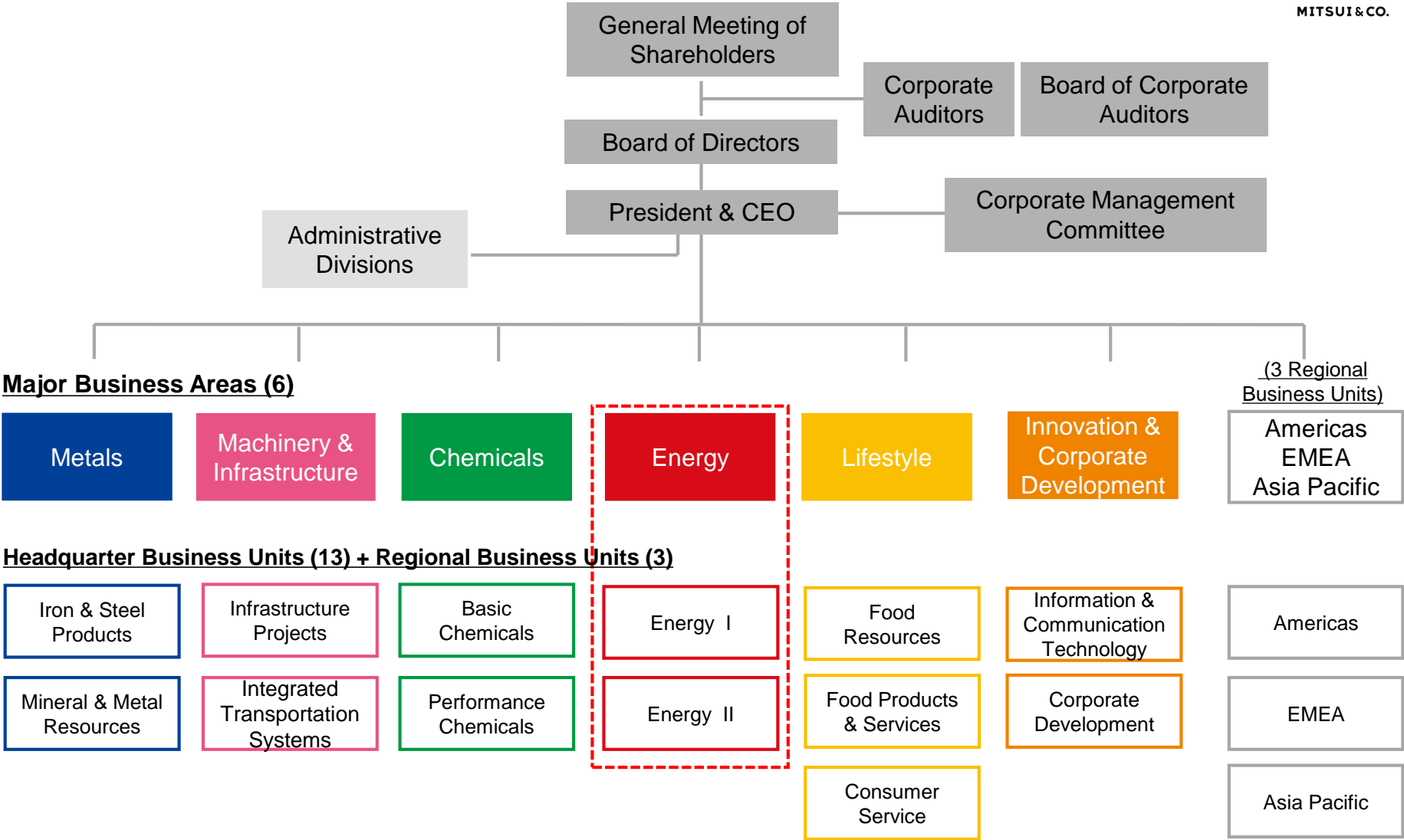


3. Strategy in Each Business Field



4. Project Description

Energy Segment in Mitsui

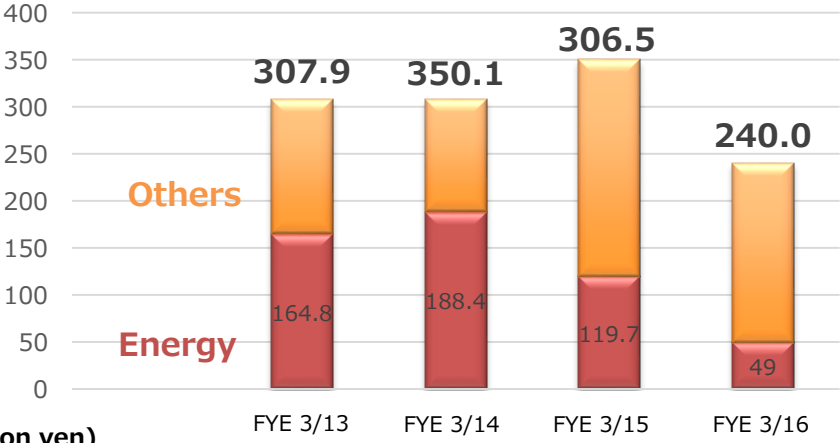


Mitsui's Energy Segment



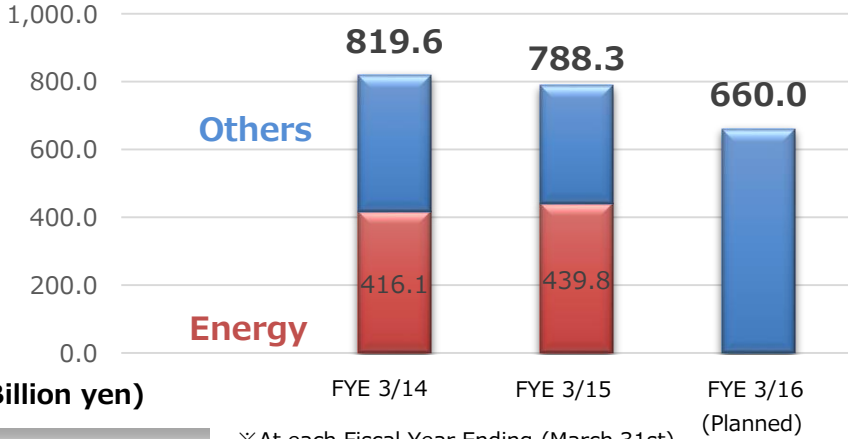
Consolidated Net Income

※Consolidated Net Income attributable to Mitsui & Co., Ltd.
 FYE 3/13: US-GAAP
 FYE 3/14 - 3/16: IFRS



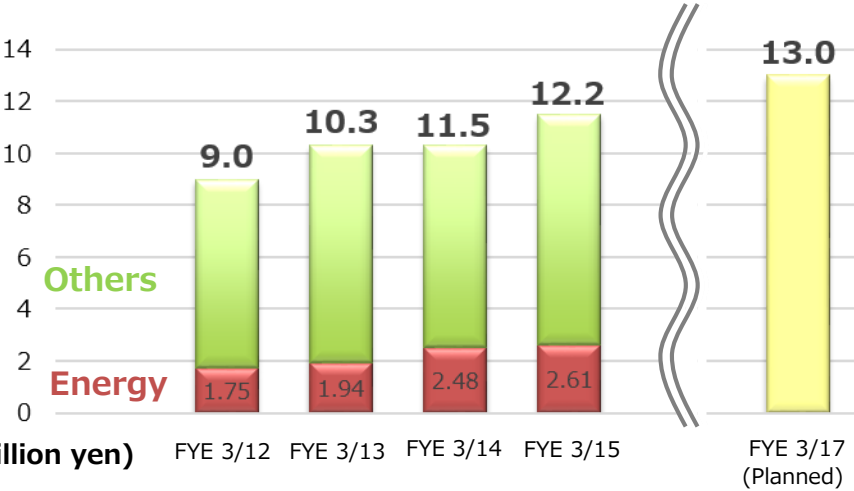
EBITDA

※At each Fiscal Year Ending (March 31st)
 FYE 3/14 - 3/16: IFRS



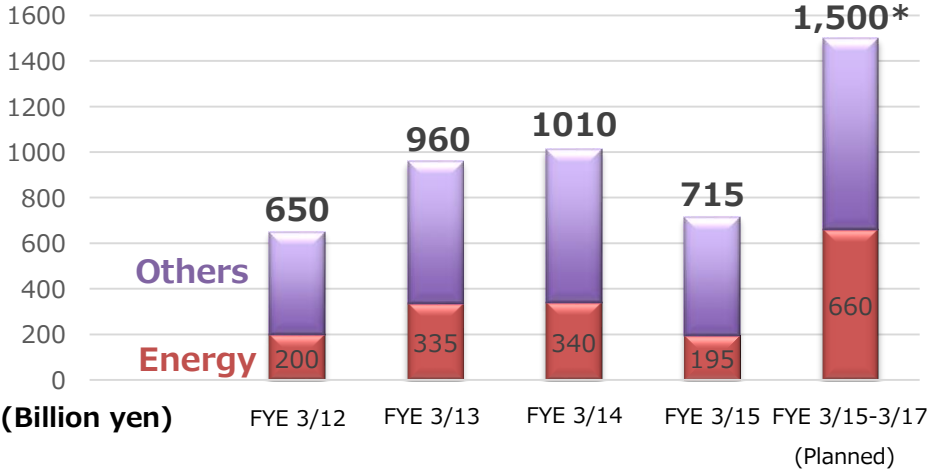
Gross Asset

※At each Fiscal Year Ending (March 31st)
 FYE 3/12 - 3/13: US-GAAP
 FYE 3/14 - 3/17: IFRS



Investment

※At each Fiscal Year Ending (March 31st)
 FYE 3/12 - 3/14: US-GAAP
 FYE 3/15 - 3/17: IFRS



*including investment in existing and new project

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Business Fields and Activities



MITSUI & CO.

Energy Division I

Energy Division II

	<u>Business Fields</u>	<u>Activities</u>	<u>Major Subsidiaries and Affiliates</u>
Energy Division I	Oil & Gas Upstream (E&P)	Oil & Natural Gas Exploration, Development, Production	MOECO Mitsui E&P Australia (MEPAU) Mitsui E&P Middle East (MEPME) Mitsui E&P USA (MEPUSA) Mitsui E&P Texas (MEPTX) Mitsui E&P UK (MEPUK) Mitsui E&P Italy (MEPIT)
	Coal Trading & Marketing	Thermal Coal Marketing and Trading	
	Oil Trading & Marketing	Import & Export Crude Oil/ Petroleum Products, Intermediate Trading, Domestic Petroleum Products /LPG Distribution	Mitsui Energy Trading Singapore (METS) ENEOS Globe
	Nuclear Fuel	Nuclear Fuel Business	
	Gas Trading & Marketing	Trading and Marketing of Pipeline Gas in US	MMGS
Energy Division II	LNG	Invest & Develop LNG Project, LNG Trading, Commercialization of New Natural Gas Resources	Mitsui & Co. LNG Investment USA (MITUSA) Mitsui & Co. LNG Investment (MITLI) Mitsui Gas Development Qatar (MGDQ) Mitsui Sakhalin Holdings (MSH) Japan Australia LNG (MIMI) Mitsui E&P Mozambique Area I (MEPMOZ)
	Environmental & Next-generation Energy	Next-generation Energy, Bio Fuel, etc.	

Organization of Energy Business Unit I & II



Energy Business Unit I

Business Supporting Units
 Planning & Administrative Div. (Energy)
 Financial Management & Advisory Div. I

Energy Business Unit II

Strategic Planning Dept./Business Promotion Dept.
Human Resources & General Affairs Dept.

E&P Div.

Oil/Gas E&P

Shale Gas Div.

Shale Oil/Shale Gas-related Business

Petroleum Business Div.

Importing & Exporting Crude Oil/
 Petroleum Products, Intermediate
 Trading, Domestic Petroleum Products /
 LPG Distribution

Utility Fuels Div.

Fuel Oil/Thermal Coal Trading & Marketing
 Nuclear Fuel Business

Natural Gas Div. I

Americas, LNG Liquefaction/Marketing
 Commercialization of Natural Gas Resources

Natural Gas Div. II

Europe, Middle East, Africa

Natural Gas Div. III

Asia, Australia, Gas Downstream Business

Natural Gas Div. IV

Far East, Russia,
 Environmental Energy & New Energy Business

Mozambique Projects Div.

Mozambique

Domestic Offices/Energy Dept.
 (Hokkaido, Tohoku, Hokuriku, Chubu, Kansai, Shikoku, Chugoku, Kyushu)

Agenda



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2. Mitsui Energy Segment Overview



3. Strategy in Each Business Field



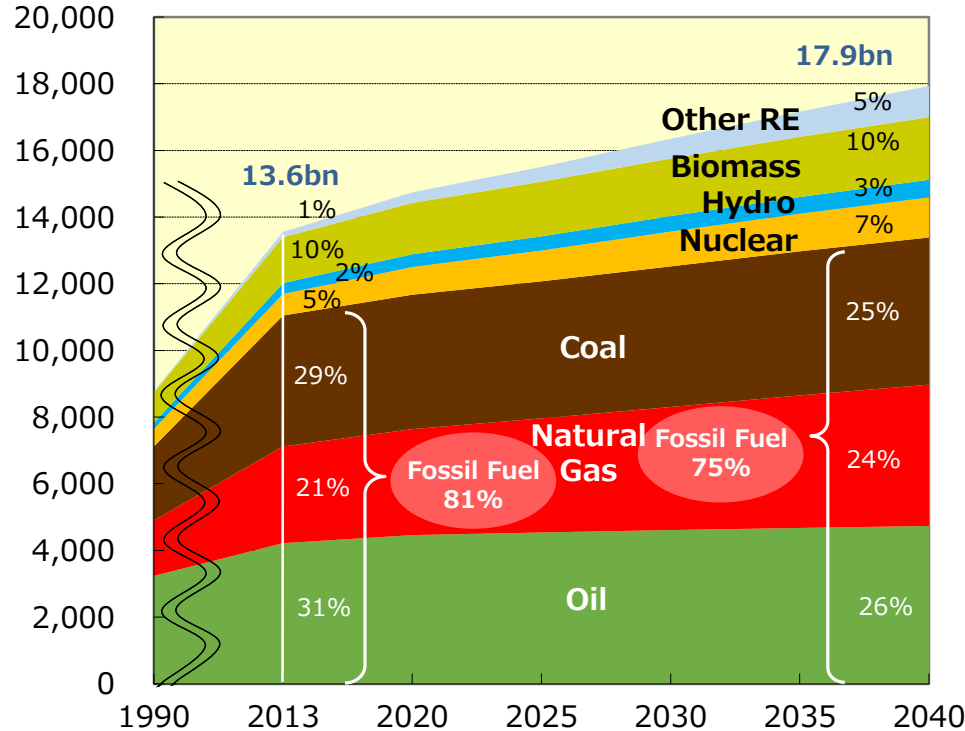
4. Project Description

Business Environment - Outlook for primary energy demand



World Primary Energy Demand Outlook

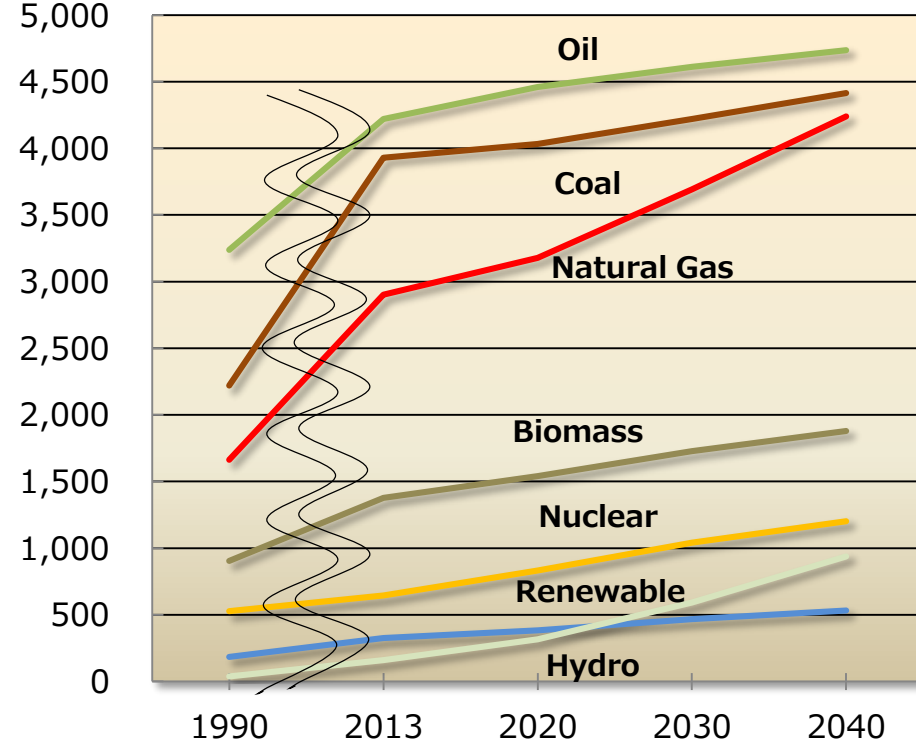
(Mtoe = Million tons oil equivalent)



Source: IEA World Energy Outlook2015 (New Policies Scenario)

World Primary Energy Demand Outlook by Source

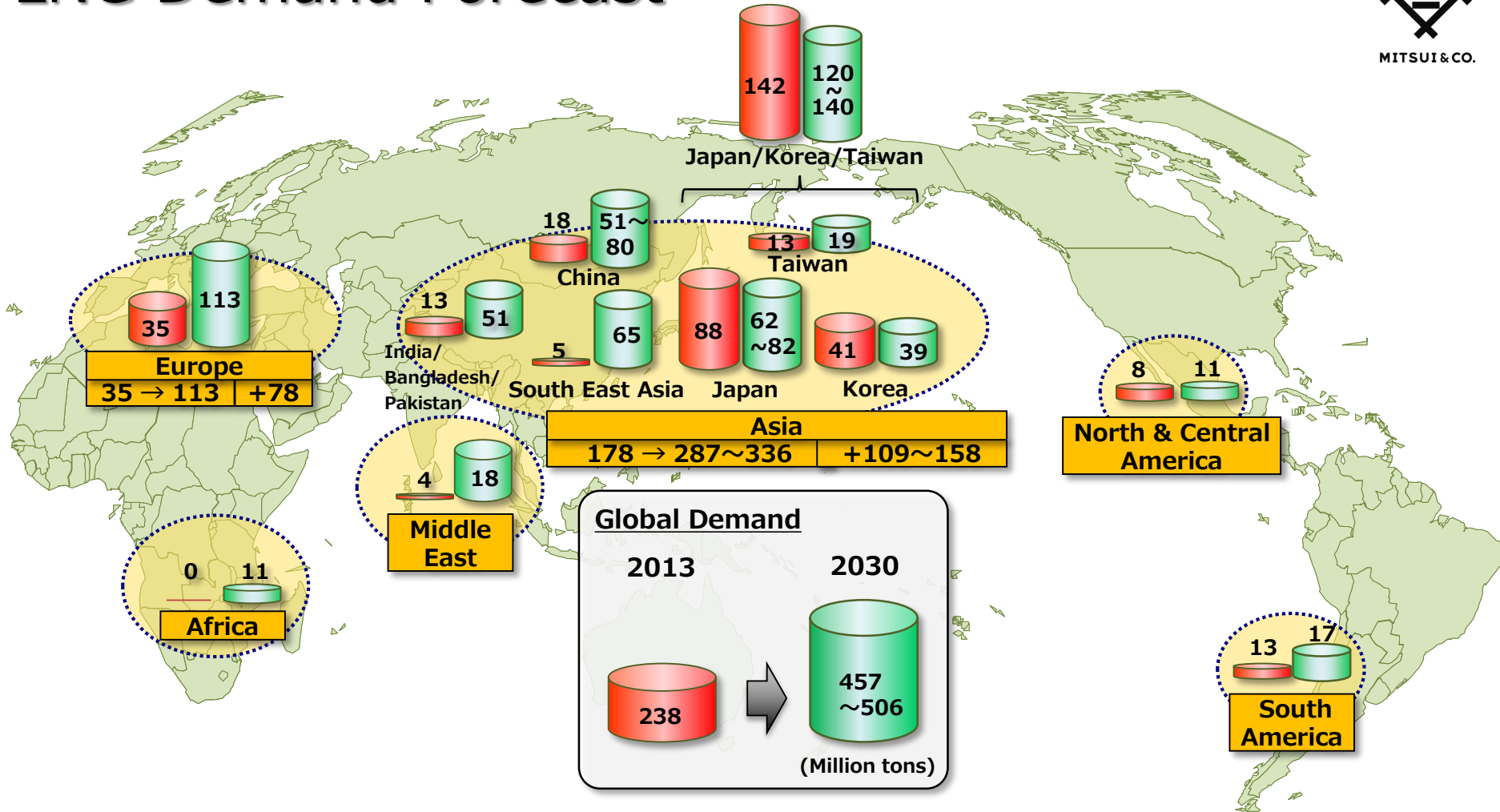
(Mtoe)



Source: IEA World Energy Outlook2015 (New Policies Scenario)

- World primary energy demand continues to grow with economic expansion and population increase in developing countries (e.g., China, India).
- Fossil fuel loses 6% share in primary energy demand by 2040 (Oil ▲5%, Coal▲4%, Gas +3%), however still remains to be a major source of primary energy accounting for 75%.

LNG Demand Forecast



- LNG demand in Japan and Far East, which have been a driver of LNG market, is expected to decrease gradually for the following factors; restart of nuclear power, energy efficiency improvement, introduction of renewable energy, etc.
- World's LNG demand will continue to increase to be driven by the demand increase in China, India, Middle East, South East Asia with the robust growth of economy and population.

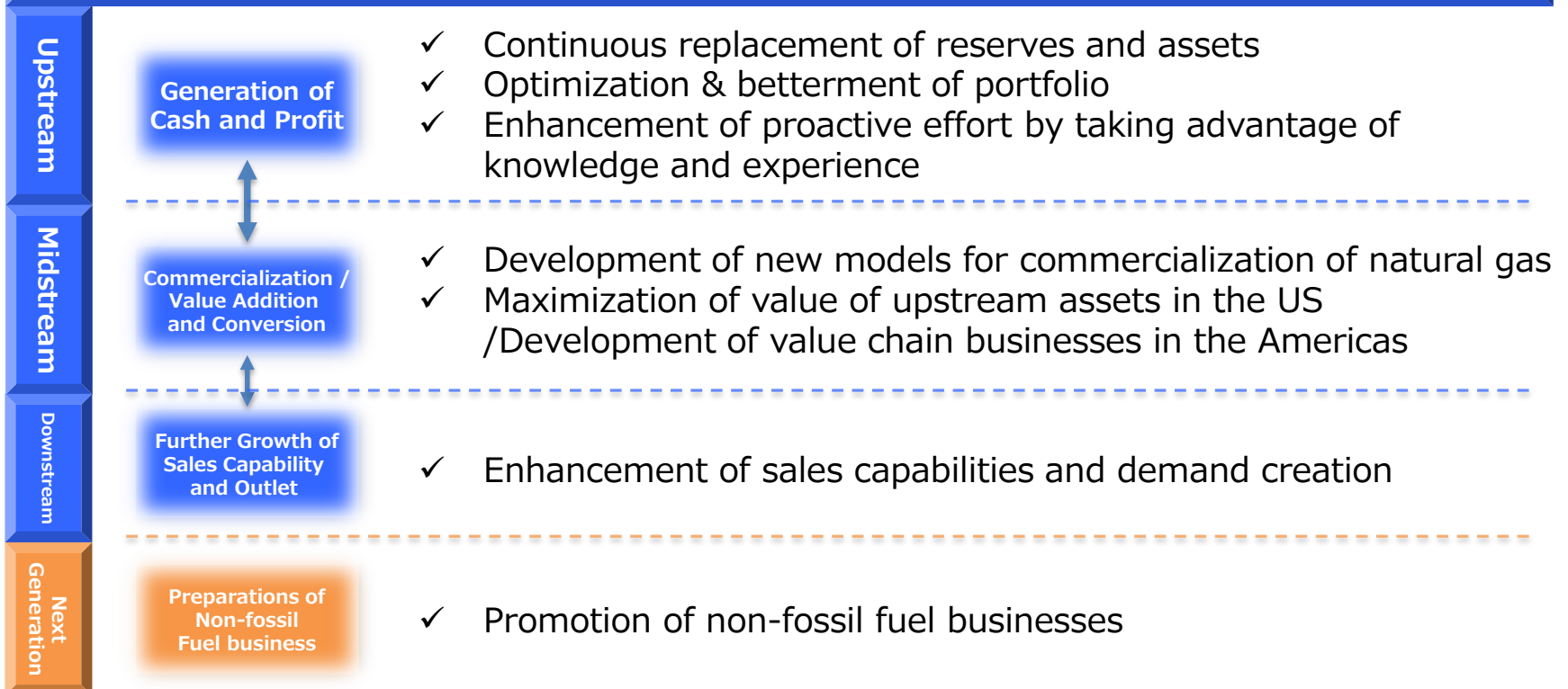
Source: A Mitsui presumption based on consultancy group's information

Our Vision

Vision

- ① Contribute to profit & cash flow through sustainable cash generation capabilities
- ② Constitute a well-balanced upstream & LNG asset portfolio with adequate size and cost-competitiveness
- ③ Integrate our advanced functions from upstream to downstream
- ④ Horizontal and vertical expansion of value chain as a business platform connecting other business fields

Initiatives toward achieving our vision



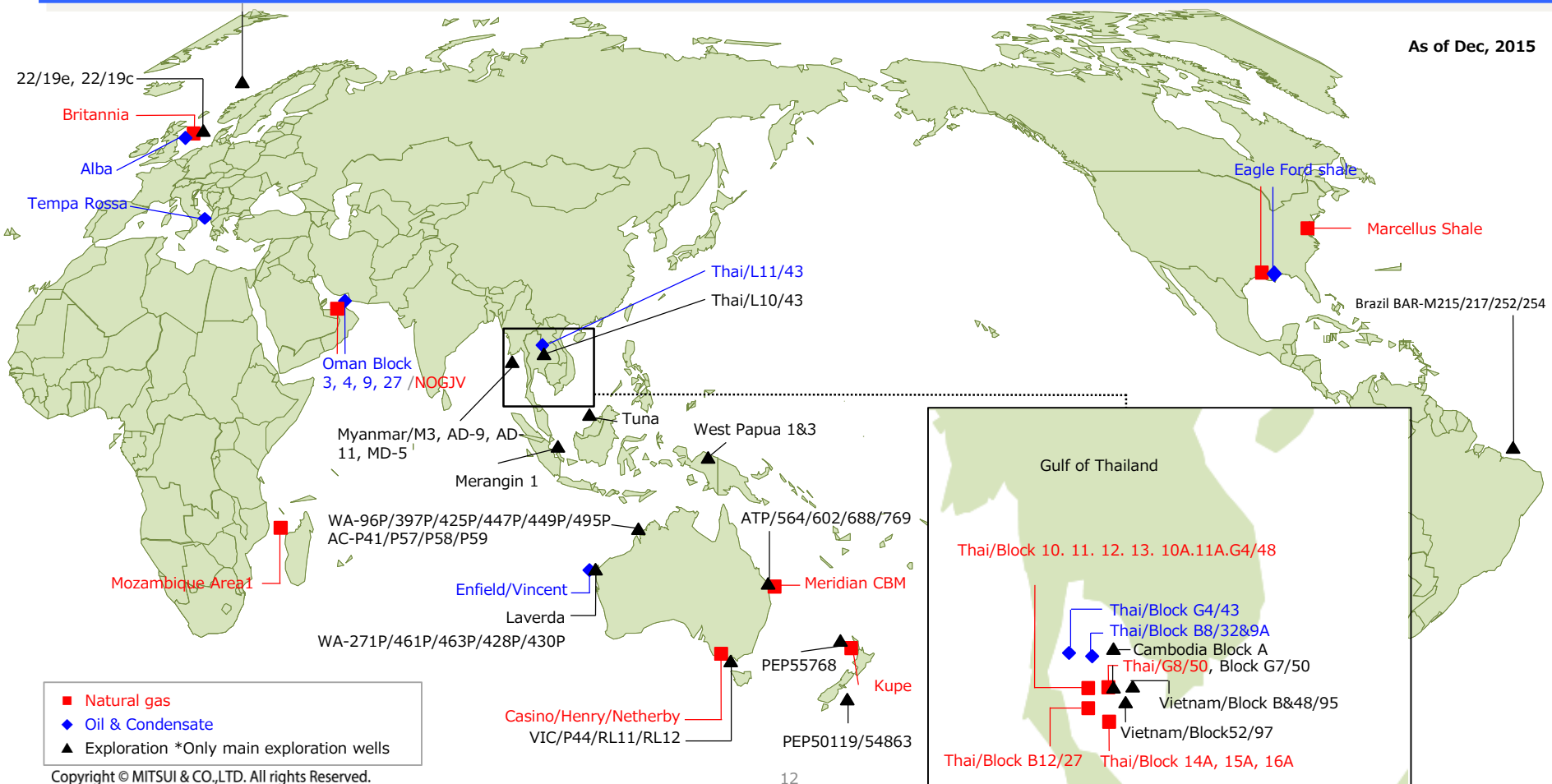
E&P Strategy ① – Diversify Portfolios and Create Higher Value-



Grow into an established global E&P player.

- Mitsui's reserves & production volume is at the top of the Japanese trading houses and second among all Japanese companies following INPEX
- Establish a well-balanced portfolio in terms of the developing areas, products, and development phases
- Betterment of portfolio and enhancement of value creation capabilities through proactive involvement in developing our businesses

As of Dec, 2015



E&P Strategy ②



– Promote a well balanced portfolio in developing areas, products, and development phases–

Mitsui's E&P Portfolio Strategy

① Exploration & Development Phases ② Production Phase

Asia

Thailand: Block L10/43, G7/50, G8/50
Viet Nam: Blocks B&48/95, 52/97
Cambodia: Block A
Indonesia: Merangin I, Tuna, West Papua 1/3
Myanmar: M3, AD-9, AD-11, MD-5

Oceania

Australia: Laverda and 29 other permits Meridian CBM
New Zealand: PEP50119, PEP54863

Middle East Africa

Mozambique: Area1
Oman: Block 3, 4, 9, 27

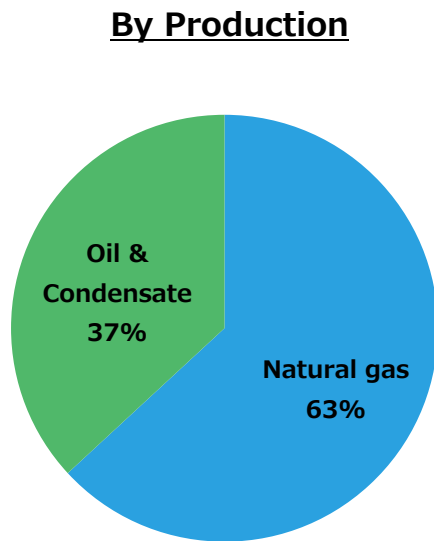
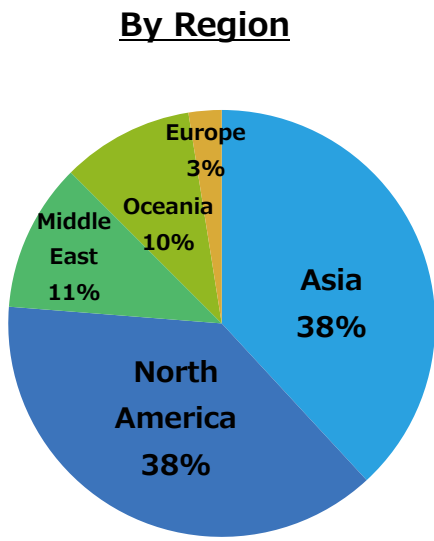
Europe/America

USA: Marcellus Shale Eagle Ford Shale
Italy: Tempa Rossa
Norway: PL475/475D
UK: 22/19e, 22/19c
Brazil: BAR-M215/217/252/254

Blue=exploration phase, Black = Development phase

FYE 3/15 Production volume

(Mitsui's net, without gas for LNG)



Exploration drilling performance

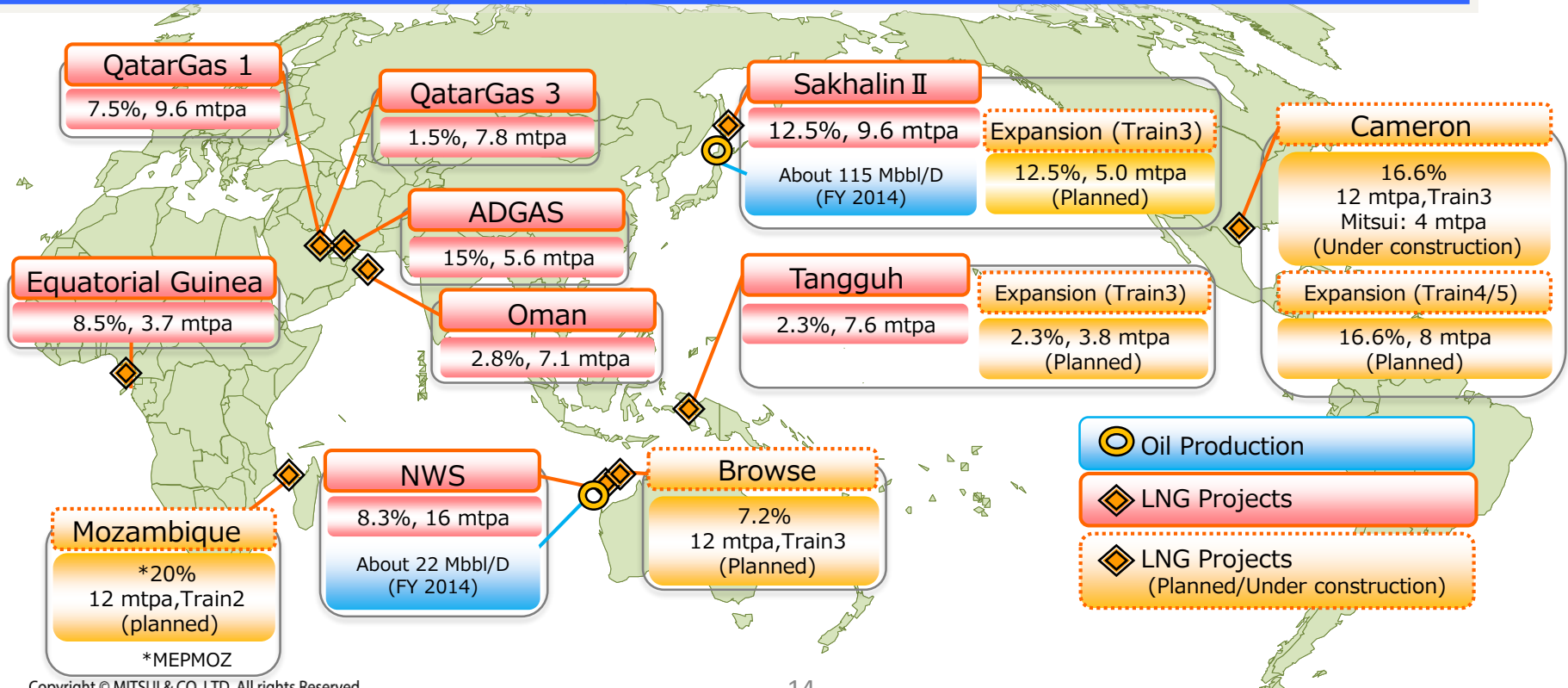
	2010	2011	2012	2013	2014
Number of drilling wells	22	29	35	23	18
POS (%)	55	59	43	78	67
Pure finding cost (\$/BOE)	0.25	1.66	0.33	0.49	—*

LNG Business Strategy ① – Establish a Diverse Portfolio –



Increase the portfolio value by diversifying supply areas & enhancing cost-competitiveness

- Since participating in the Abu Dhabi LNG project in the 1970s, Mitsui has entered into the whole spectrum of the LNG value chain production, transportation, and marketing. Mitsui has invested in 8 LNG projects, all of which are in production with efficient management and stable operation.
- In addition to the existing projects, Mitsui is currently promoting new core projects:
 - Mozambique has a competitive edge given the cost-competitiveness arising from the high quality gas reserves and accessibility to both the Asian and European market.
 - Browse to promote commercialization of remote gas fields using a brand new technology (Floating LNG) in Australia, which has an established track record as an LNG exporter.
 - Cameron to develop an LNG supply source with the U.S. gas index and create our own LNG trade flow.



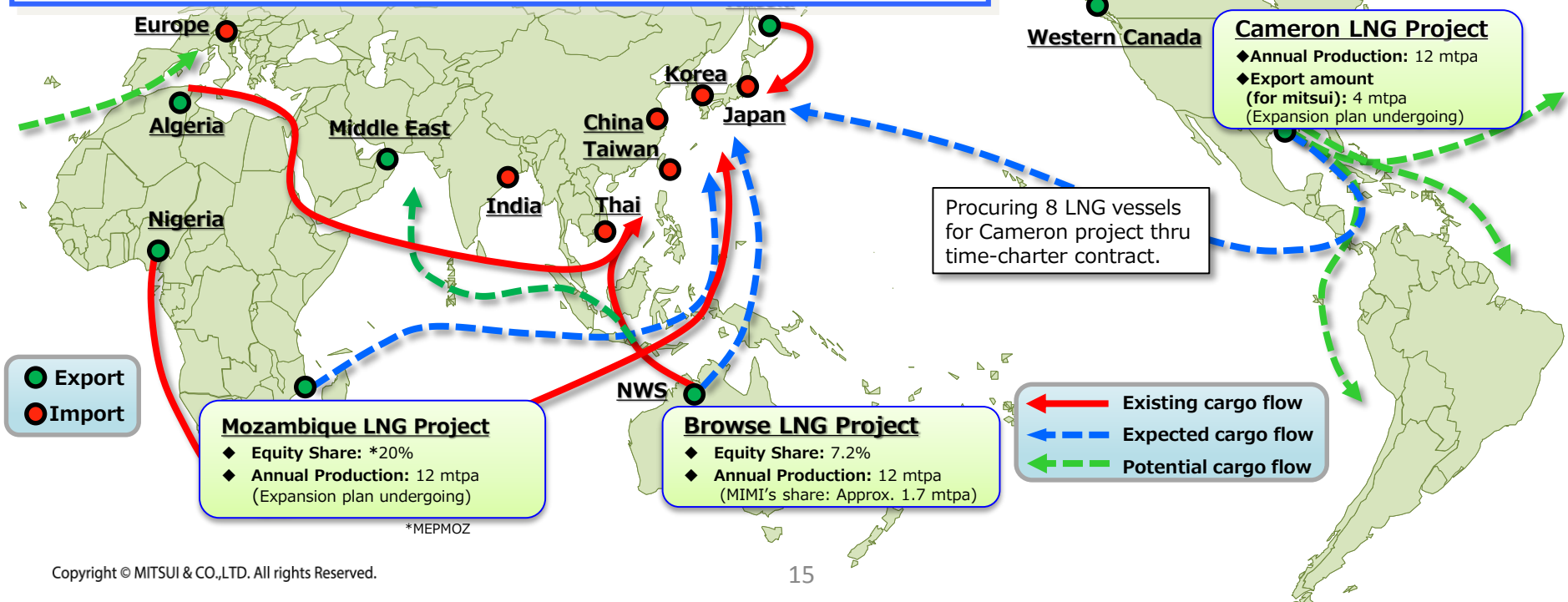
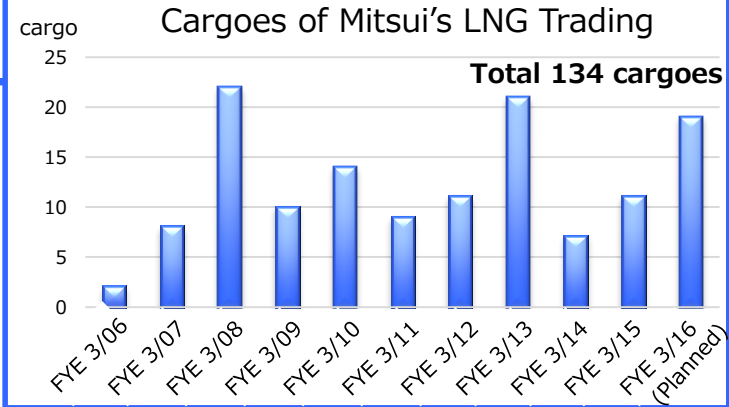
LNG Business Strategy ② – Enhance LNG Trading Function –



MITSUI & CO.

Provide high added value required by customer (Diversification of supply area and price index, and supply flexibility)

- Establish a stable LNG supply base to Japan and other Asian countries by forming a regionally diverse portfolio, including North America, Asia Pacific, the Middle East, Russia, and Africa
- Offer various price formulae linked with the price of crude oil and natural gas in Europe and America by taking advantage of the LNG supply base all over the world.
- Provide supply flexibility leveraged by Mitsui's own LNG trade flow, which is driven by creating LNG demand in Asia or South America and exploring new customers in Europe or Middle East Asia

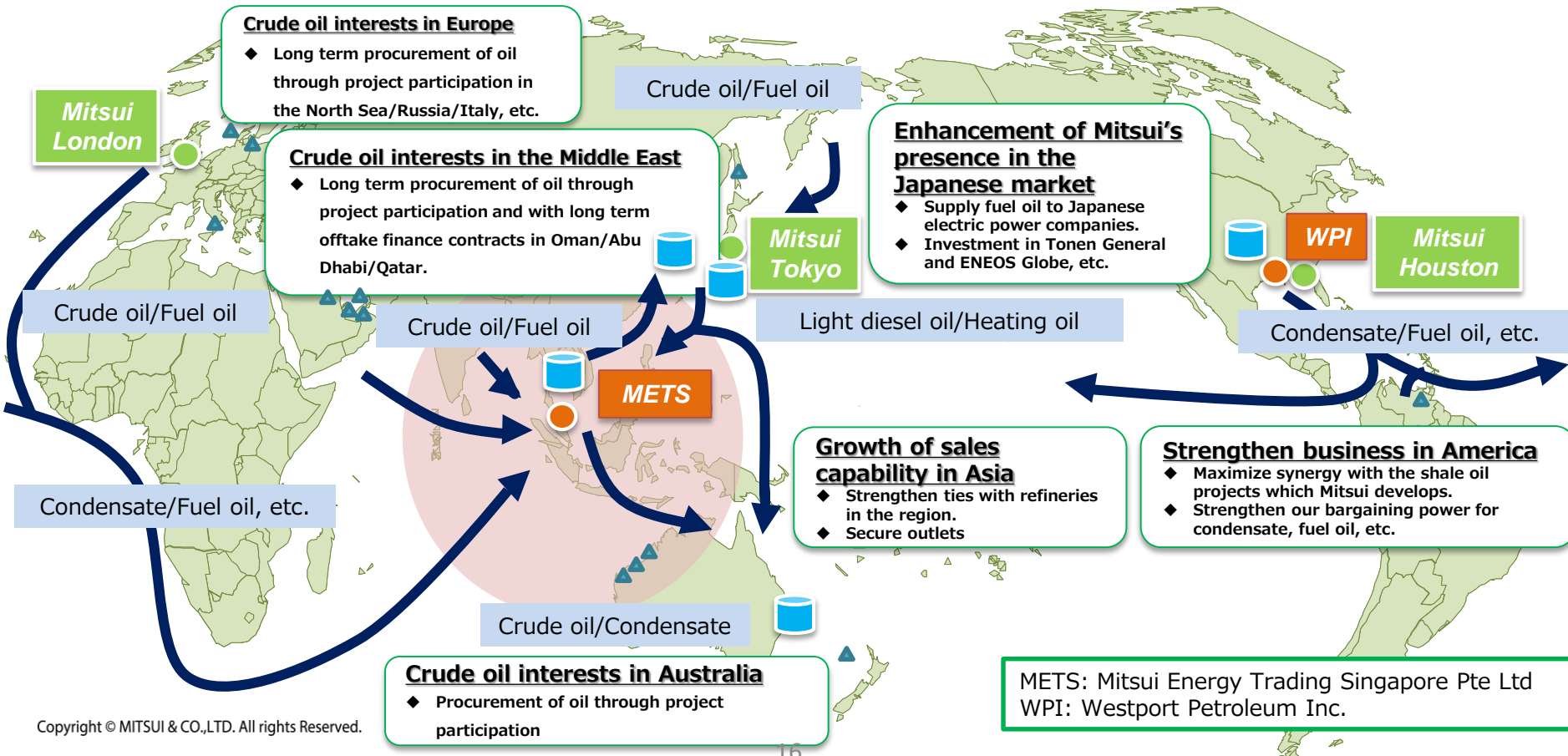


Oil Trading Business Strategy

Expand global trading business by utilizing METS as a core platform

Strengthen earning power with competitive procurement of crude oil and petroleum products and expansion of strategic outlets.

- Enhance sales power in Asia (especially in China, India, and Southeast Asia), and expand business to European market.
- Gather and export crude oil/condensate and fuel oil produced in the US.
- Expand global trading platform by the acquisition and utilization of strategic assets such as storage tanks and vessels.

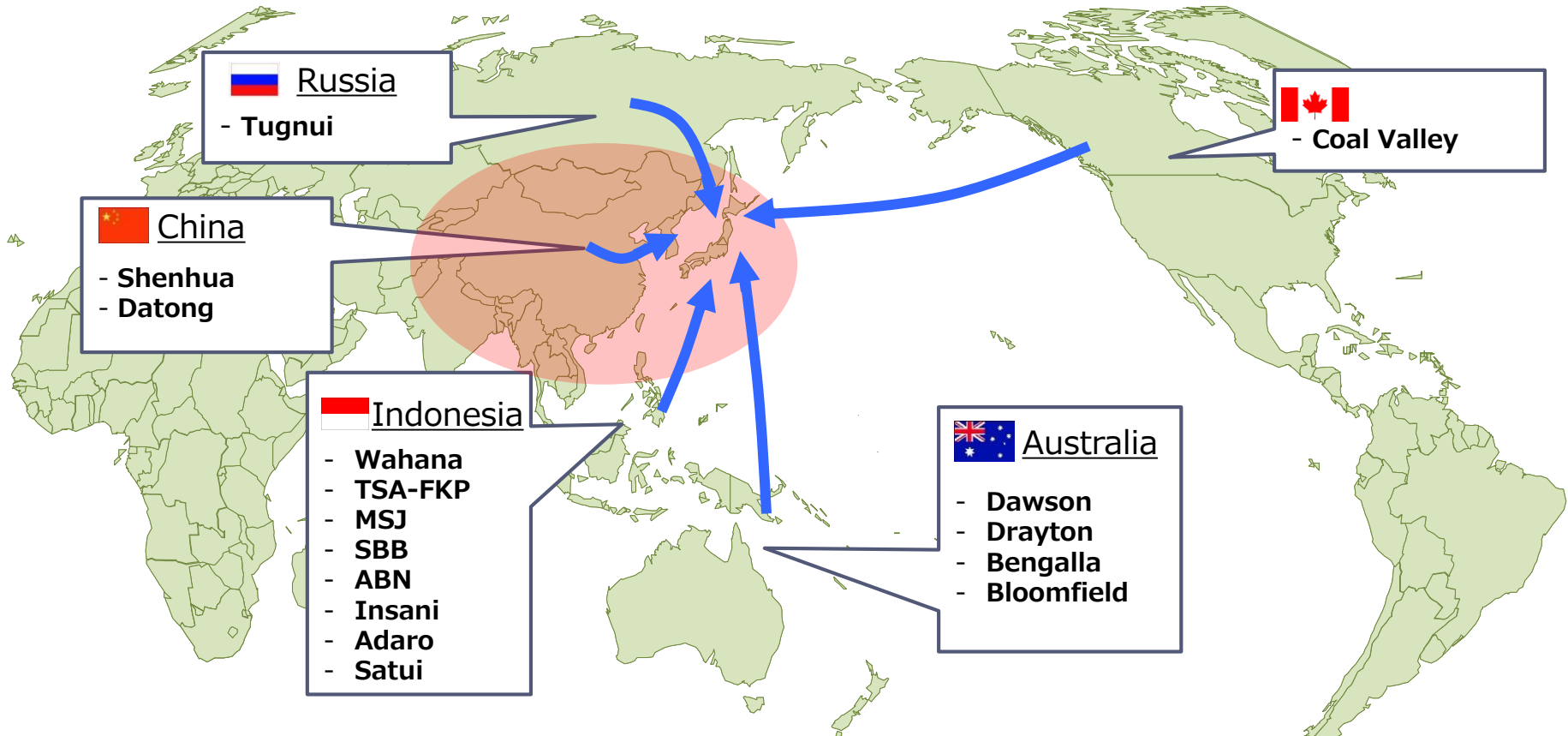


Thermal Coal Trading Business Strategy



Create new value levered by thermal coal trading business in Japan and other Asian countries

- Enhance market presence as a coal trader and build new partnerships with Japanese utilities
- Expand business in the Asian market (third-country trade, etc.)
- Promote trading function

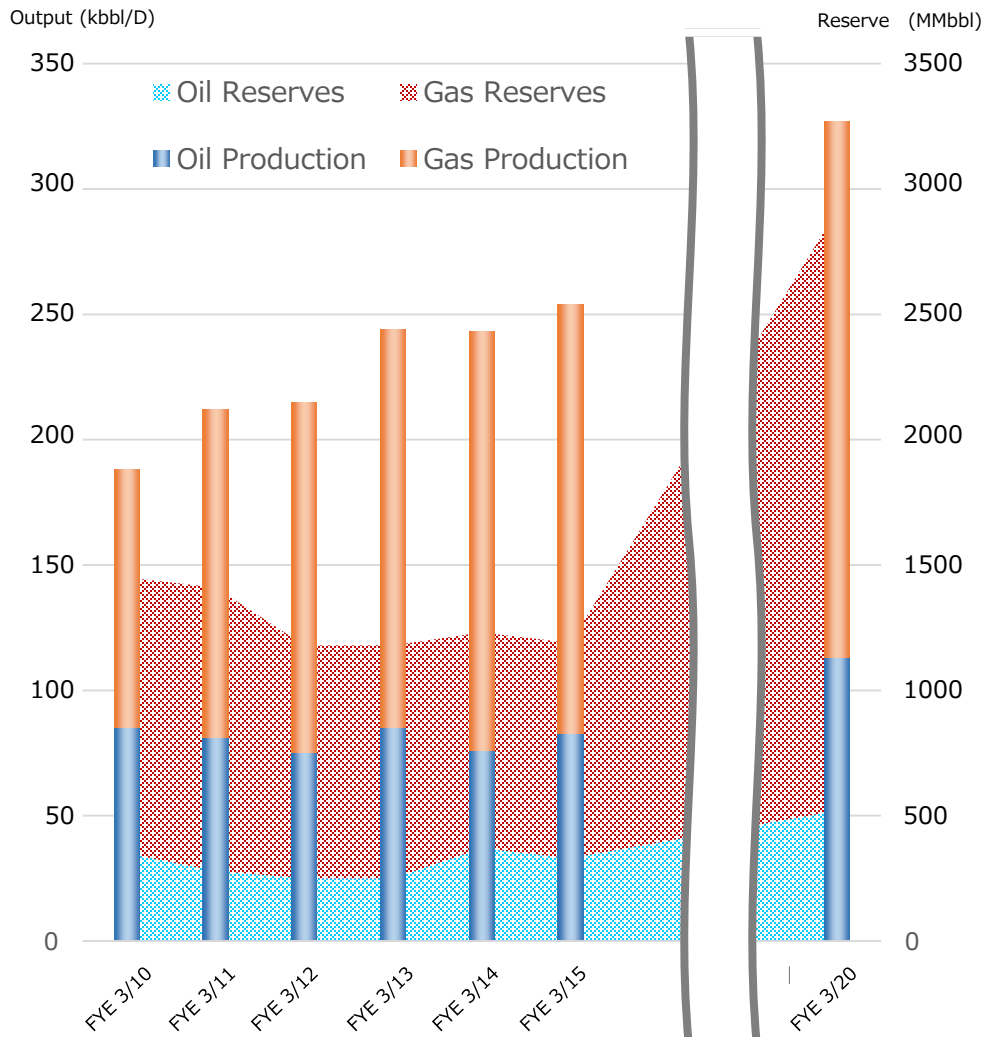


Oil & Gas equity Share Output, Reserves, Liquefaction Capacity

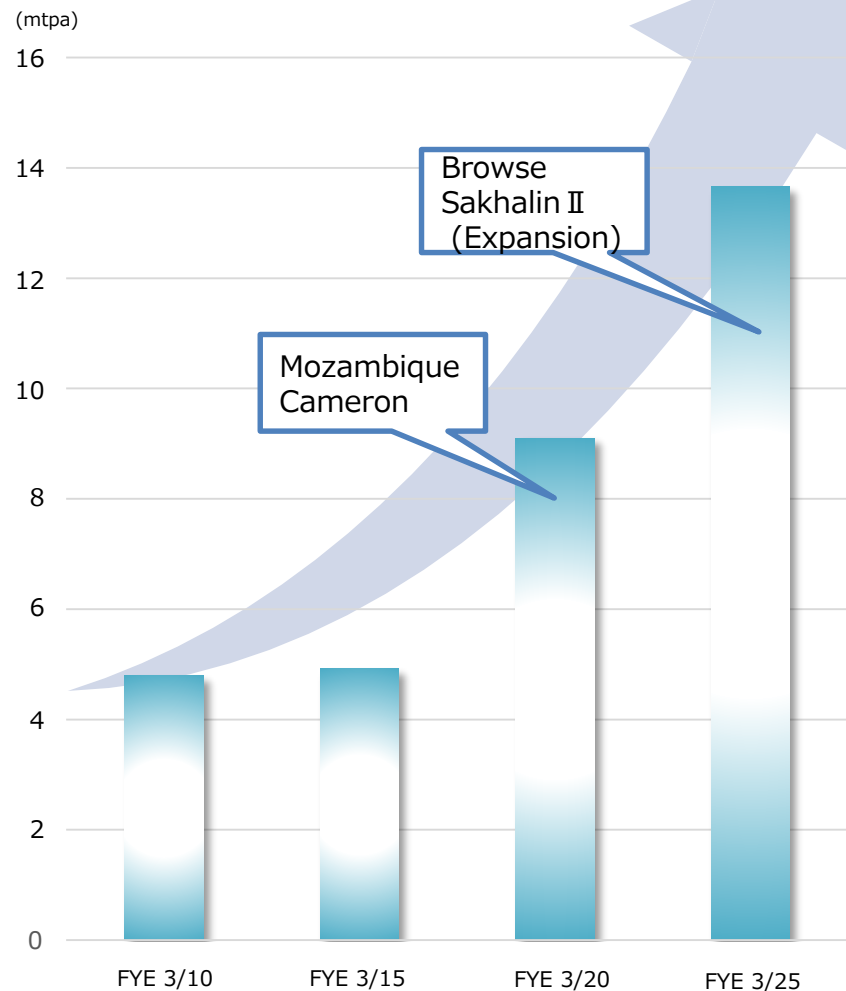


Output/ Reserve*

*Only project after FID



Liquefaction Capacity



- As society's concerns have increased regarding global environmental issues, Mitsui has set an objective of actively pursuing industrial solutions that address global warming toward realizing a low-carbon society, by strengthening and utilizing its functions and capabilities.
- Mitsui's Energy Segment engages in renewable energy projects such as biofuel and development of next-generation energy such as hydrogen.

Wood Biomass Power Generation Company

Mitsui is jointly constructing generation facilities in Tomakomai City (Hokkaido prefecture) in order to produce electricity for sale at a fixed price under the Feed-in Tariff Scheme for Renewable Energy. The facility will be fueled by wood chips produced entirely from unused timber from forests in Hokkaido. This business will encourage the maintenance of forest environments while stimulating the development of forestry in Hokkaido and contributing to job creation and regional revitalization.

- Shareholders:
 - Mitsui & Co., Ltd. 40%
 - Sumitomo Forestry Co., Ltd. 20%
 - Hokkaido Gas Co., Ltd. 20%
 - IWAKURA CORPORATION 20%
- Generating Capacity: 5.1MW
(sending end output)
- Beginning of Operation: Dec. 2016 (Plan)



LanzaTech

Investment in LanzaTech, a company developing technology to convert waste carbon into fuels and chemical products by gas fermentation utilizing its proprietary microbes. LanzaTech is currently working with ArcelorMittal on constructing an ethanol plant utilizing LanzaTech's technology, aiming to start production in mid-2017.

- Shareholders:
 - Khosla Ventures
 - Petronas Technology Ventures
 - Primetals Technologies
 - Mitsui & Co., Ltd.



Geothermal Energy

Mitsui Oil Exploration Co., Ltd. (MOECO), Mitsui's subsidiary, has participated in a joint geothermal energy development study in Amemasudake, Hokkaido Prefecture, and the Oyasu, Akita prefecture, from December 2012. From May 2013, MOECO has participated in a joint geothermal energy exploration project at Matsuo Hachimantai, Iwate prefecture, and from September 2013, commenced a joint study on geothermal energy development at Bandaisan in Bandai Asahi National Park in Fukushima prefecture. MOECO will continue further studies to assess feasibility of the said projects.

Carbon Capture in Coal Fired Power Stations

The Callide Oxyfuel Project is a joint public-private collaboration initiative by Japan and Australia that aims to establish systems to generate electricity in coal-fired power stations with near zero emissions of CO₂ and other atmospheric pollutants, such as SO_x, NO_x and mercury. A demonstration of the oxyfuel combustion system as part of an integrated oxyfuel combustion and CO₂ capture process was successfully completed at the end of February 2015. Engineering and commercial knowledge gained through this trial will be used in feasibility studies by Mitsui and its Japanese partners in Alberta, Canada, aiming at commercialization by 2025.

- Promoter: Oxyfuel Technologies Pty Ltd
- Participant: CS Energy, Australian Coal Association, Glencore, Schlumberger, J-POWER, IHI, Mitsui & Co., Ltd., JCOAL (technical support)

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Tempa Rossa



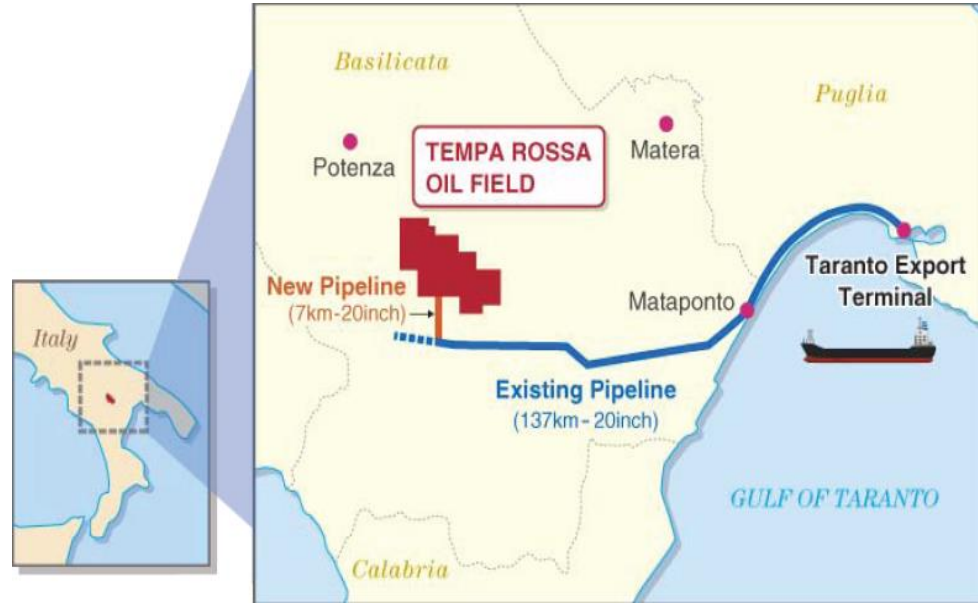
Project Overview

- FID: July 2012
- First Production (Planned): End of 2017
- Production (Crude Oil, Planned): Approx. 50,000 BD
- Shareholders:

Total (Operator)	50%
Shell	25%
MEPIT	25%

Notes

- The onshore oil field in Basilicata, a region in southern Italy.
- Now under construction towards the start of production.
- Secure long-term, cost competitive oil reserves, and replace Mitsui's oil production that will diminish in the long run.



Mozambique LNG Project



Project Overview

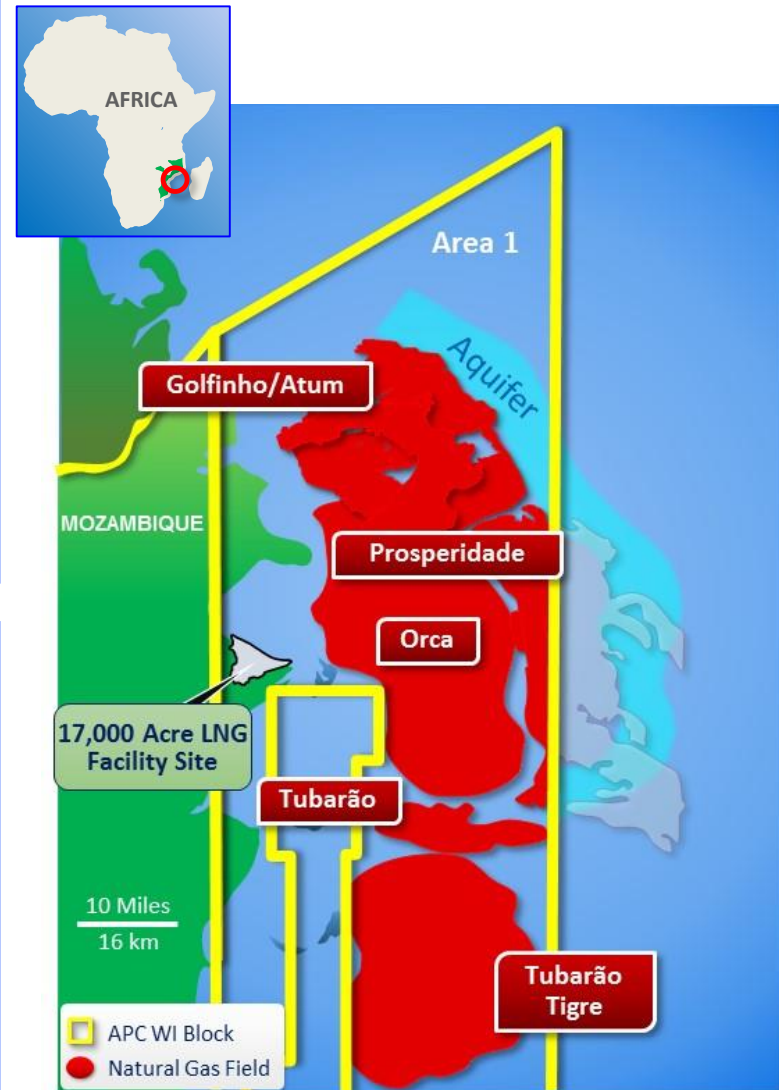
- Liquefaction Capacity: 6 mtpa × 2 trains (Phase 1)
⇒ Possible expansion up to 10 trains.
- Shareholder composition:

Anadarko (Operator)	26.5%
Mitsui E&P Mozambique	20.0%
ONGC (India) Sole ownership	10.0%
Co-owned with Oil India	10.0%
ENH (Mozambique NOC)	15.0%
Bharat (India)	10.0%
PTTEP (Thailand)	8.5%
- Development area:
Rovuma Basin Offshore Area 1, Mozambique

Notes

- EPC: In May 2015, a consortium consisted of CB&I, Chiyoda, and Saipem was selected as EPC contractor.
- Legal: The Decree law which provides fiscal stability to enable large-scale LNG project investment was enacted by the Mozambican government.
- Sales: Key sales and purchase conditions were agreed for more than 8 mtpa.
- Various preparation works for development have progressed steadily and are in the final stage towards development phase. Aim to start production in 2019/2020 and achieve FID as soon as possible.

<Area1 Block>



Source: Anadarko

Browse LNG Project

Project Overview

- FID: 2016 second half (Planned)
- Start of operation: After 2020
- LNG production capacity: 12 mtpa (3 trains)
- Operator: Woodside
- Shareholder composition:

Woodside	30.7%
Shell	27.0%
BP	17.3%
MIMI Browse 14.4%	
(Mitsui/Mitsubishi JV)	
PetroChina	10.6%
- In Sep. 2012, MIMI acquired working interest from Woodside to participate in the project.

Notes

- Development utilizing Shell's proprietary floating LNG technology.
- In July 2015, FEED started.
- In Aug. 2015, acquired environmental permission from the Ministry of the Environment of Australia.

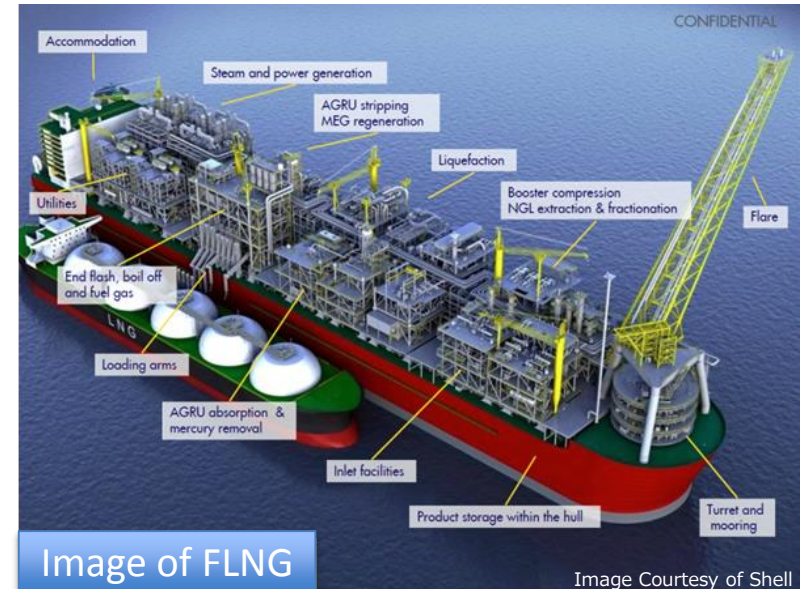
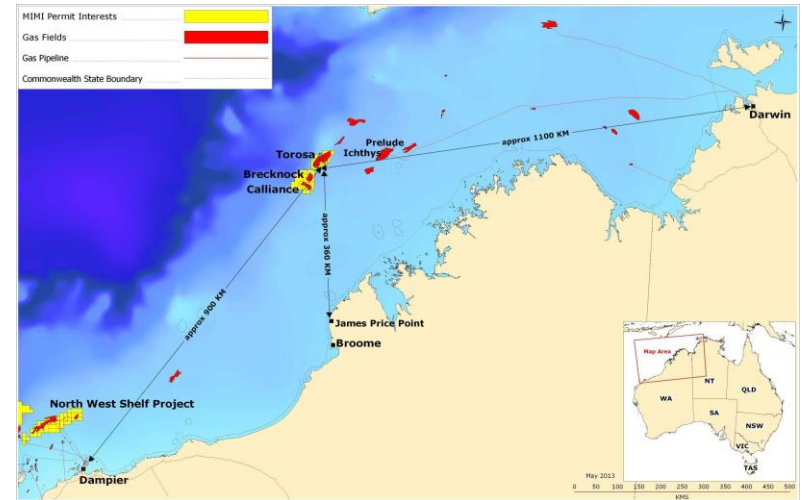


Image of FLNG

Image Courtesy of Shell

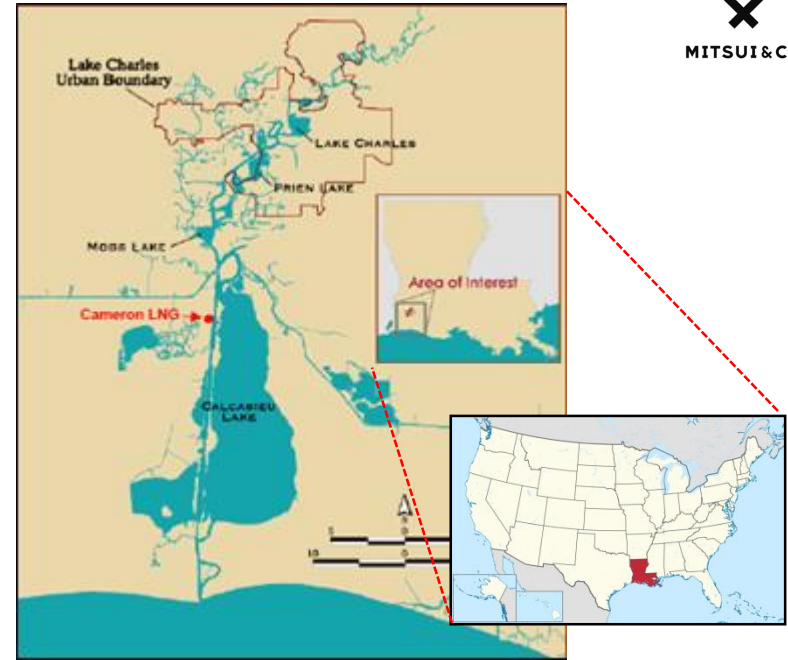
Cameron LNG Project

Project Overview

- FID: 6th Aug. 2014
- Start of commercial operation: 2018 (Planned)
- Mitsui reserved capacity: 4 mtpa
- Total tolling capacity: 4 mtpa x 3 trains
- Shareholder composition (Cameron LNG):

Sempra LNG	50.2%
Mitsui	16.6%
Mitsubishi-NYK JV	16.6%
ENGIE	16.6%
- Scheme:

Mitsui will supply feed gas to liquefaction facility and sell LNG produced by Cameron LNG.



Notes

- In Mar. 2014, executed EPC contract with Chiyoda and CB&I JV.
- In June 2014, received FERC order.
- In Sep. 2014, received final DOE export license for non-FTA countries.
- In July 2015, received additional export license for FTA countries (Train 4/5, each 4 mtpa).
- Engineering, procurement, and construction work are in progress aiming to start production in 2018.



US Shale Related Business



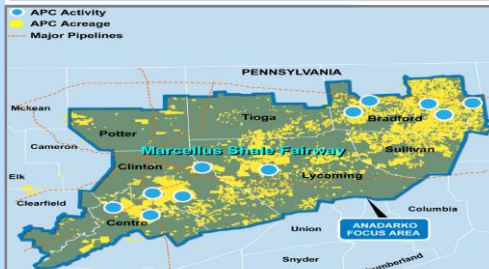
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*Intercontinental Terminals Company

ITC (Petroleum Products terminal)

Capacity: 12.8 mil bbl
 Ownership: Mitsui 100%
 Expansion is scheduled to be completed in July 2016.
 ※Capacity (after expansion): 14.7 mil bbl

Marcellus



Production (peak) net to MEPUSA:
 360~460 mmmcf
 (60~77 thousand BOE/D)

MMGS, Inc.

Foundation: Mar. 2011

1. Marketing of equity gas (Marcellus)
2. Supply and sell gas in U.S.
3. Support for gas related business in the U.S.



Astoria Gas Power Generation

Generation capacity: 575 MW
 Ownership:
 Mitsui 37%, Engie 45%,
 Others 18%
 Start: 2006

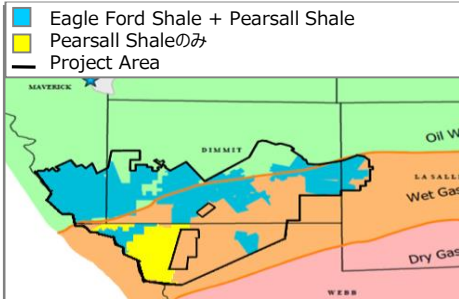
Natural Gas Pipeline

Length: about 100 km
 Ownership:
 Mitsui 30%, PEMEX 35%,
 Kinder Morgan 35%
 Start of operation:
 Sep. 2014



Eagle Ford

Eagle Ford



Production (peak) net to MEPTX:
 26~32 thousand BOE/D

Methanol Production

Output: 1.3 mil tons/Y
 Shareholders:
 Mitsui 50%, Celanese 50%
 Start: Oct. 2015

Methyl Methacrylate (MMA) Monomer

Capacity: 250K tons/Y (planned)
 Shareholders:
 Mitsui and Mitsubishi Rayon
 Start: unsettled

Cameron LNG

Capacity: 12 mil tons/Y
 (Mitsui's capacity: 4 mil tons/Y)
 Start: 2018 (planned)

360° business innovation.



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