

**RAISING THE  
POWER  
OF MC**

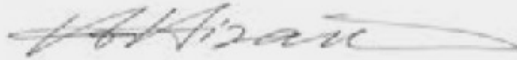
# **Fiscal Year 2017 Business Segment IR Meeting**

## **Mitsubishi Corporation Energy Business Group**



# Future of the Energy Business Group

The Energy Business Group will strongly drive further growth by creating business opportunities through measures strengthening the energy value chain and expanding global marketing.



Hajime Hirano  
Group CEO, Energy Business Group



THE  
STRENGTH  
OF 7

# Group Management Participants

<b>EVP, Group CEO, Energy Business Group</b>	<b>Hajime Hirano</b>
<b>SVP, General Manager, Energy Business Group CEO Office</b>	<b>Hidenori Takaoka</b>
<b>SVP, Division COO, Energy Resources Division A</b>	<b>Fuminori Hasegawa</b>
<b>SVP, Division COO, Energy Resources Division B</b>	<b>Jun Nishizawa</b>
<b>SVP, Division COO, Petroleum and Carbon Business Division</b>	<b>Tsuyoshi Ogasawara</b>
<b>General Manager, Energy Business Group Administration Department</b>	<b>Hiroshi Kawamoto</b>

# Agenda

- 1. Overview of the group**
  - ① Energy Resources Division A/B**
  - ② Petroleum and Carbon Business Division**
- 2. Business Environment and Strategy for the Entire Group**
- 3. Group Policy and Goals under Midterm Corporate Strategy 2018**
- 4. Progress on Midterm Corporate Strategy 2018**
- 5. Future Growth and Priorities**  
**“Protective” “Progressive” “Proactive”**
- 6. Performance and Target for the Group’s Consolidated Net Income**
- 7. Organizational Structure**

## **APPENDIX**

**Energy Business Segment (Six Months Ended September 2017)**

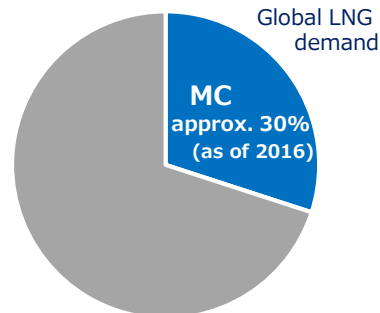
**Involvement in LNG Projects**

# 1. ① Overview of the Group (Energy Resources Division A/B)

Since we realized the first LNG import into Japan from Alaska in 1969 as import agent, we have been engaging in various activities in Brunei, Malaysia, Australia, Oman, Indonesia, Russia etc., such as LNG production, shipping, trading, import agency for Japan, etc. Furthermore, we are also partners in worldwide crude oil and natural gas exploration, development and production projects.

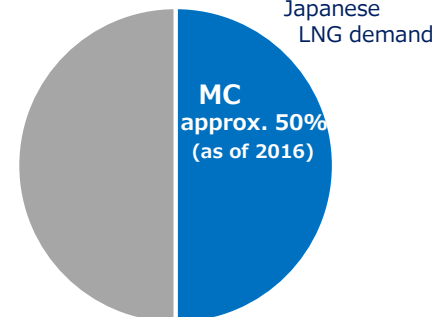
Global market share  
of projects where MC is involved

Projects with MC involvement  
Production volume **76/263** (mil tons)

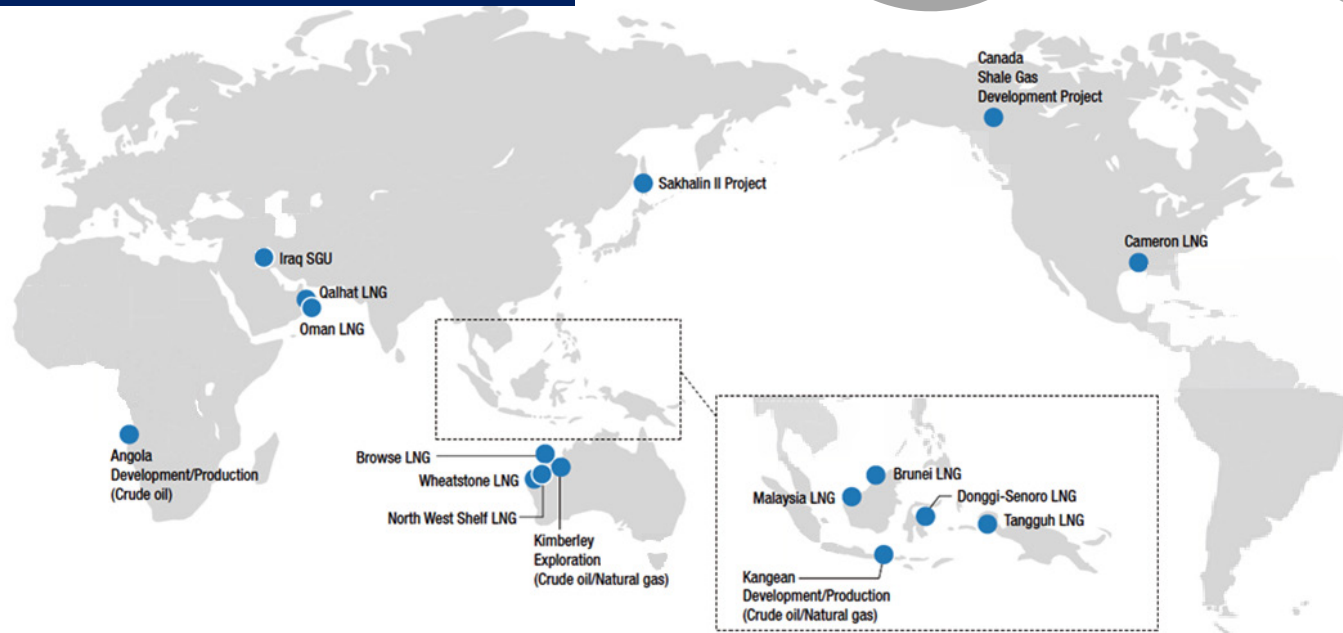


Market share in Japan  
of projects where MC is involved

Projects with MC involvement  
Import volume into Japan **42/83** (mil tons)



## Main Energy Resources Projects



# 1. ② Overview of the Group (Petroleum and Carbon Business Division)

## Main Business Investees in Asia in the Petroleum/Carbon/LPG Business

- ... Petroleum Business
- ... Carbon Business
- ... LPG Business

MC Zhenjiang Anode Solutions (MZAS)

PMC TECH

Namikata Terminal

Kanokawa Terminal

Showa Yokkaichi Sekiyu

Onahama Petroleum

Astomos Energy  
Mitsubishi Corporation Energy

Petro Diamond Singapore (PDS)

**Petroleum and Carbon Business Division**

At the Petroleum and Carbon Business Division, we conduct petroleum, carbon, and LPG-related businesses. In addition to sourcing/sales, worldwide trading etc. of crude oil, petroleum products, carbon materials and products, we have business investees like Astomos Energy (LPG), PMC Tech (Carbon), and Japanese domestic terminal businesses (Petroleum).

Strategy Planning & Business Development Office

Global Trading Business Dept.

Petroleum Products Dept.

Utility & Industrial Fuel Dept.

Carbon Materials Dept.

Petroleum Coke Dept.

Namikata Terminal Business Office

LPG Business Dept.



## 2. Business Environment and Strategy for the Entire Group

### 1) Business environment for natural gas and LNG:

- Demand expected to continue growing over the medium to long term for natural gas as clean energy source
- Particularly high growth rates expected for LNG, centered on China and Asian emerging markets

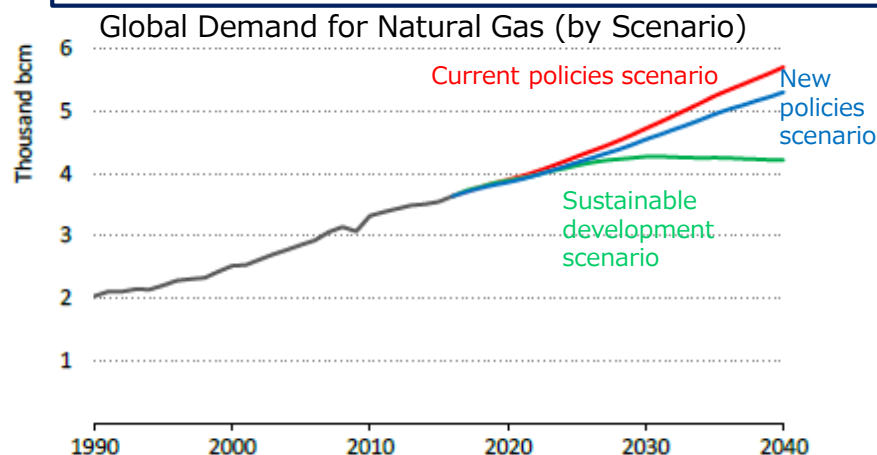
### MC Group business strategies:

- Aiming to increase LNG supply capabilities and bolster earnings by augmenting existing businesses, expanding interests, and launching new projects
- Work to create demand through the gas value chain and reinforce global sales capabilities

### 2) Operating environment and strategies involving petroleum and carbon

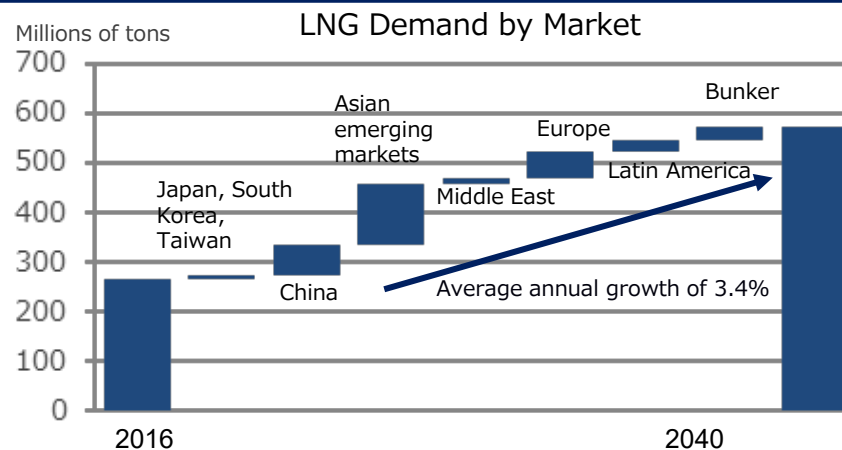
**Petroleum:** While gasoline demand is expected to peak due to proliferation of electric vehicles, oil demand for use in petrochemicals is slated to grow. MC will strive to ascertain demand trends by product and region.

**Carbon:** MC will target market growth, centered on carbon materials for comparatively environmentally friendly electric-furnace steel and aluminum.



Source: World Energy Outlook 2017

Growth in demand for natural gas is 1.6% under the new policy (realistic) scenario. Even under the sustained development scenario, growth is 0.6%.



Source: own analysis

The LNG market is expected to grow to more than 500 million tons, centered on China and Asian emerging markets.

### World Energy Outlook 2017 (IEA)

**Scenario Assumptions:** 1) Current policies scenario: Based on policies implemented through mid-2017; 2) New policies scenario: Incorporates the expected impact of policies scheduled for introduction; 3) Sustainable development scenario: Energy access, global warming, and air pollution targets are implemented to in the aim of realizing a sustainable society

### 3. Group Policy and Goals under Midterm Corporate Strategy 2018

**Basic Policy:**  
**Optimize the business portfolio to deliver consistent profits  
even in a low oil price environment**

**Protective**

Pursue cost efficiencies in the low oil price environment and strengthen competitiveness of assets

**Progressive**

Strengthen new business models and the trading/marketing to increase resilience against volatile oil prices

**Proactive**

Re-profile assets, and identify/acquire competitive assets



## 4. Progress on Midterm Corporate Strategy 2018

### Protective

- ◆ **Enhance competitiveness by curtailing business expenses and reviewing and reducing development planning costs:**  
Made a final investment decision upon substantially reducing costs for the third liquefaction train expansion of the Tangguh project (Indonesia)
- ◆ **Realize cost reductions and target growth in demand for environmentally friendly electric-furnace steel and aluminum (carbon business):**  
Stabilize management at business investees PMC Tech (South Korea) and MZAS (China)

### Progressive

- ◆ **Strengthen the natural gas value chain and create new LNG demand:**
  - 1) Centering on DGI\*, make investments in energy infrastructure (e.g. regasification terminals) in new LNG-importing countries, and promote them through LNG package sales
  - 2) Strengthen and stabilize the value chain from production to sales in North America by utilizing CIMA\*\*
  - 3) Promote the LNG fuel supply business for ships

### Proactive

- ◆ **Review asset holdings, and replace assets that have limited competitiveness or potential for enhancing value by MC's involvement:**  
Sales of a North American shale gas asset (Cordova), as well as Medco and Gabon E&P assets

\*Established in Singapore in 2013 as an LNG sales company wholly owned by MC

\*\*North American gas sales company, converted to a wholly owned subsidiary in 2016

## 5. Future Growth and Priorities - Protective -

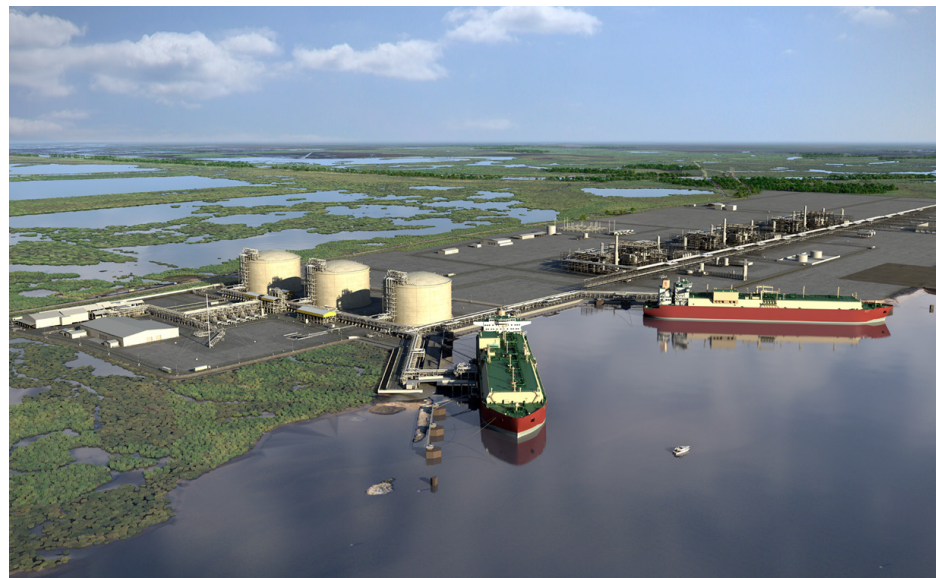
### "Protective"

#### ◆ Strengthen the earnings base through stabilizing operations of existing projects and launching prospective projects

- ① Australia: Stable operations at WHEATSTONE LNG (production since Oct. 2017)
- ② U.S.: Start operations at CAMERON LNG (planned for around end-2018)
- ③ Pursue further efficiency through stable operations and cost reductions at existing projects



WHEATSTONE LNG (Australia), production started in Oct. 2017



CAMERON LNG (U.S.), production planned to start around end-2018

## 5. Future Growth and Priorities - Progressive -

### "Progressive"

#### ◆ Strengthen the natural gas business value chain and create new LNG demand:

- ① Invest into infrastructure and conduct package sales of LNG in countries introducing LNG
- ② Strengthen and stabilize the value chain in North America from production to sales
- ③ Pursue the LNG fuel supply business for ships

#### ◆ Expand trading supported by business assets (Petroleum and Carbon):

Strengthen trading businesses benefiting from business investments and tank/refinery assets



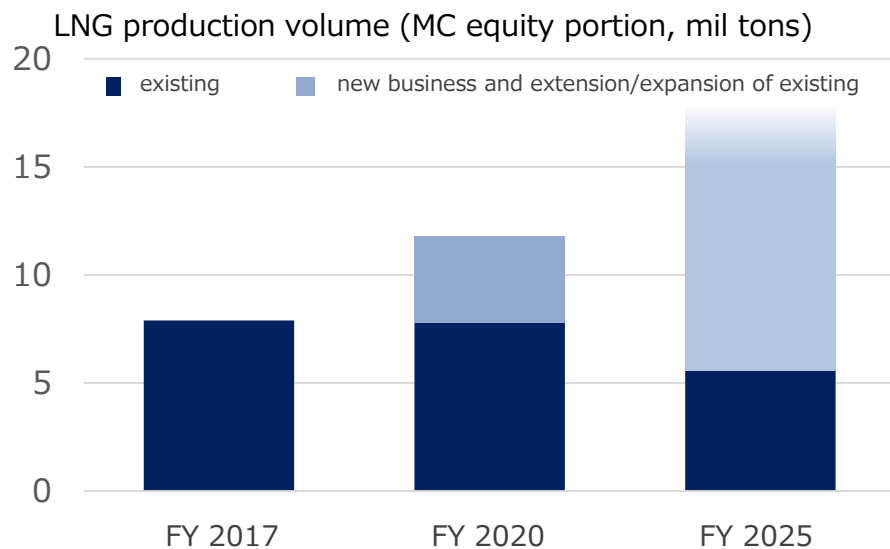
MZAS plant producing carbon anodes for aluminum smelting (China)

## 5. Future Growth and Priorities - Proactive -

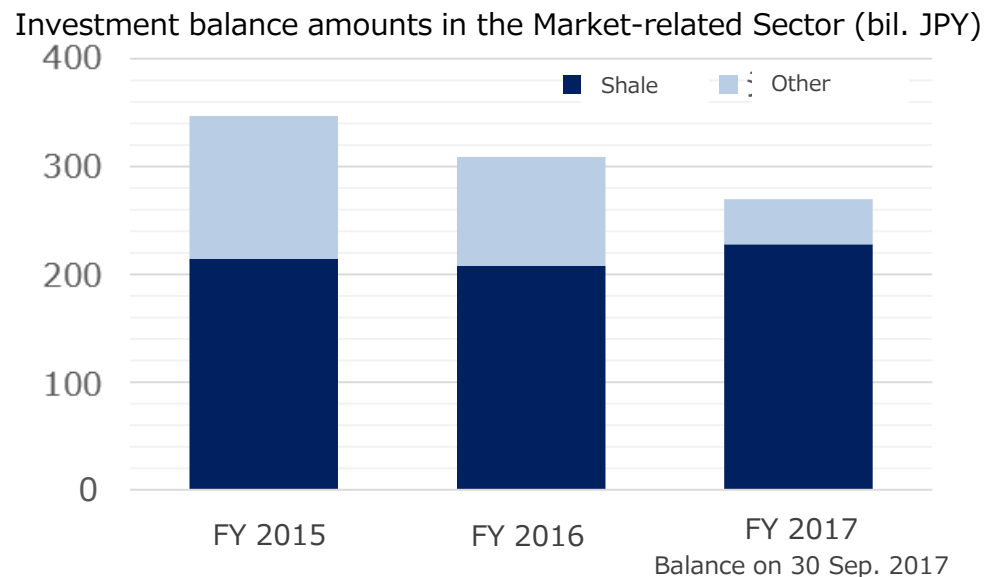
### "Proactive"

#### ◆ Target further increase in earnings by initiatives in existing and new businesses

- ① Pursue the expansion and extension of interests in existing business, benefiting from current performance and experience
- ② Proceed with transformation of North American shale gas into LNG (FID for LNG CANADA)



MC's equity production volume:  
Increase production volume by extension/expansion of existing and execution of new business.

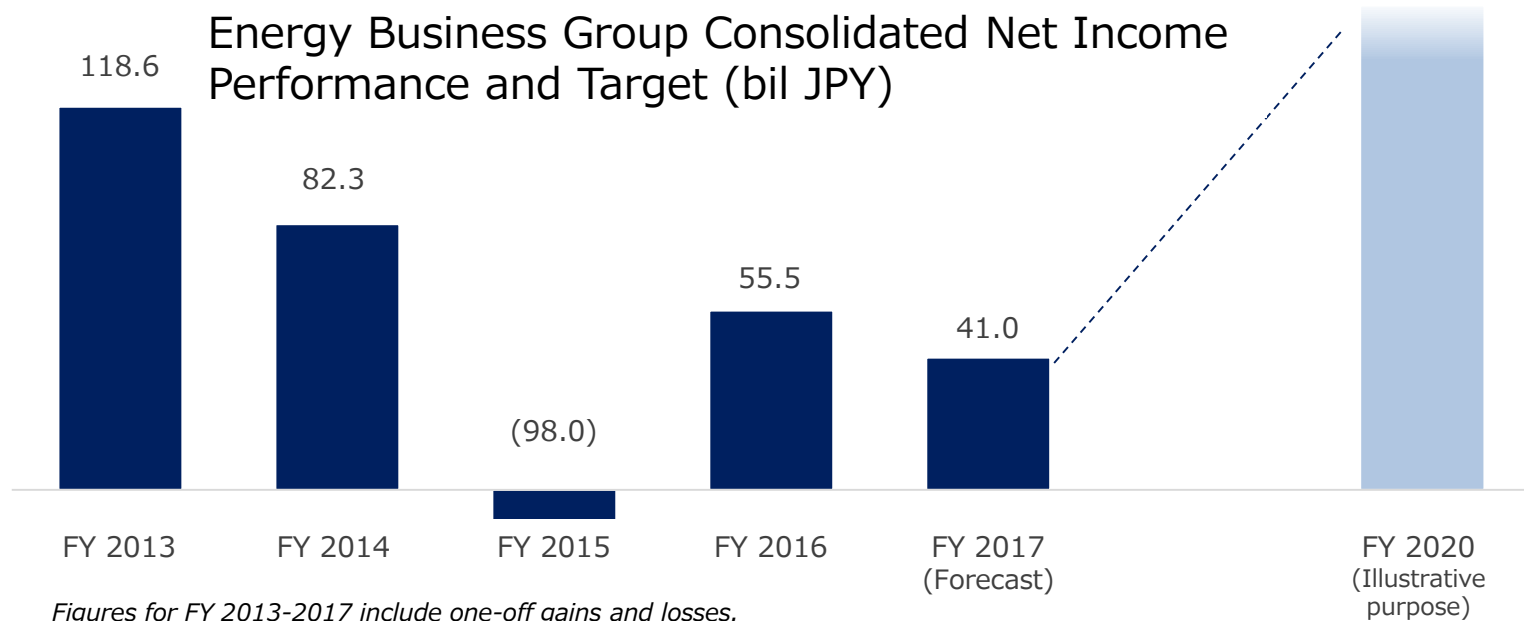


Constraints under Midterm Corporate Strategy 2018:  
During the Midterm Strategy period (FY 2016-2018), proceed with asset re-profiling in the Market-related Sector in order to maintain the investment balance of March 2016.

## 6. Consolidated Net Income

### Group Target for Consolidated Net Income:

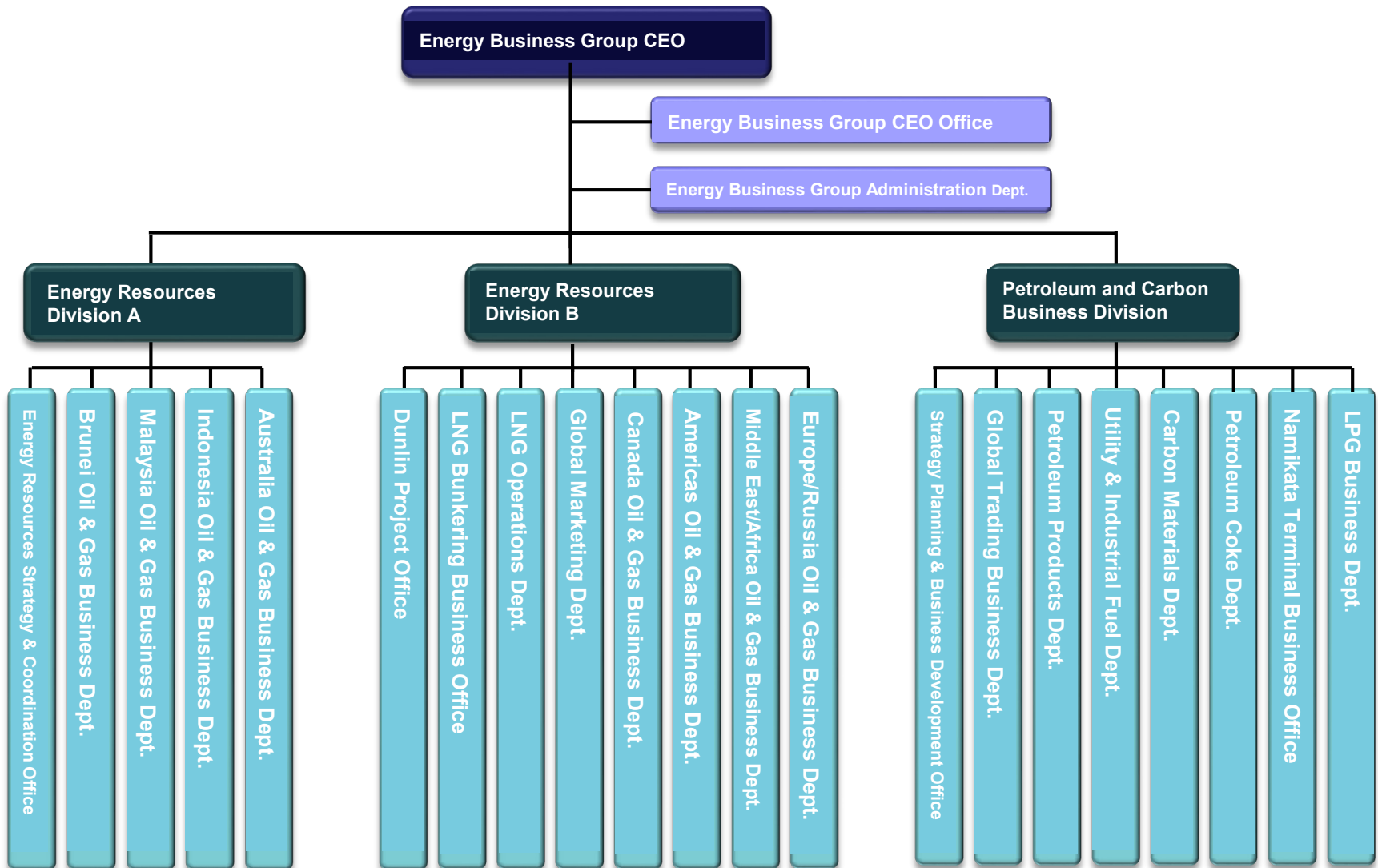
Solidify the foundations for earnings in existing businesses by re-profiling assets to increase competitiveness during the Midterm Corporate Strategy period, and aim at stable profits of above 100 bil JPY/year beyond 2020 by launching prospective projects.



Crude oil price at earnings release	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Dubai (US\$/BBL)	104.6	83.5	45.5	47.0	50.0

Figure for FY 2017: initial forecast.

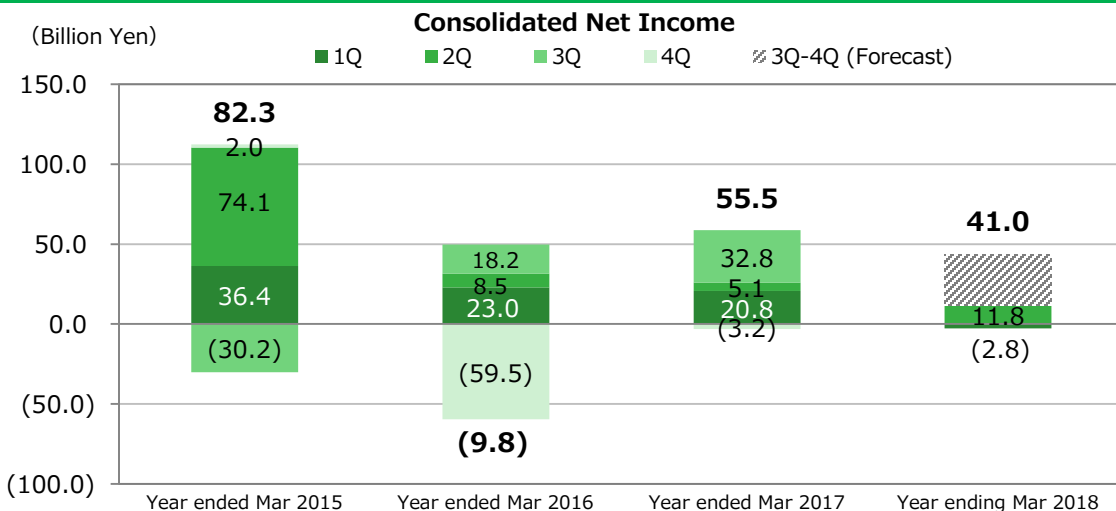
# 7. Organizational Structure



# Appendix



# Energy Business Segment



Crude Oil (Dubai)				
(US\$/BBL)	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar
Year Ended March 2014	100.8	106.3	106.8	104.5
Year Ended March 2015	106.1	101.5	74.4	51.9
Year Ended March 2016	61.3	49.7	40.7	30.4
Year Ended March 2017	43.2	43.2	48.3	53.1
Year Ending March 2018	49.8	50.5		

(Billion Yen)	Six Months ended September 2016	Six Months ended September 2017	YoY Change	Main Reasons
Gross Profit	10.5	18.2	7.7	Increased transaction earnings due to an increase in market prices, etc.
Equity-method income	3.8	24.2	20.4	Increased earnings due to an increase in market prices, etc.
Consolidated Net Income	25.9	9.0	-16.9	Rebound on one-off gains due to shale gas business restructuring recorded in the previous period, and losses due to sales of resource-related assets, etc., despite increased equity-method and dividend income in the LNG business.
(of which, natural gas related)	[25.0]	[25.9]	[0.9]	

Forecast for Year Ending March 2018	Main Reasons	Rate of Progression	Main Reasons
-	-	-	-
-	-	-	-
41.0	The full-year forecast has been revised to 41.0 billion yen from 50.0 billion yen. This is due to higher decommissioning costs in resource-related business, despite increased earnings in Carbon and LPG related businesses.	22%	Influence of losses due to sales of resource-related assets recorded at the beginning of the period.

(Billion Yen)	March 2017	September 2017
Segment Assets	2,118.0	2,035.6
(of which, natural gas related)	[1,195.6]	[1,249.4]

# Involvement in LNG Projects Energy Business Group

## <Existing Projects>

Project	Beginning of Production	Annual Production Capacity (Million Ton)			Buyer	Seller	Shareholding	MC's Participa- tion	Business Contribu- tion*
		Total	MC's share						
Brunei	1972	7.2	1.8	25%	JERA, Tokyo Gas, Osaka Gas, Korea Gas, etc.	Brunei LNG	Brunei Gov. (50%), Shell(25%), MC (25%)	1970	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Malaysia I (Satu)	1983	8.4	0.42	5%	JERA, Tokyo Gas, Saibu Gas	Malaysia LNG	Petronas (90%), Sarawak Gov. (5%), MC (5%)	1978	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Malaysia II (Dua)	1995	9.6	0.96	10%	Tohoku Elec., Tokyo Gas, Shizuoka Gas, Sendai City Gas Authority, JXTG Holdings, Korea Gas, CPC	Malaysia LNG Dua	Petronas (80%), Sarawak Gov. (10%), MC (10%)	1992	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Malaysia III (Tiga)	2003	7.7	0.31	4%	Tohoku Elec., Tokyo Gas, Osaka Gas, Toho Gas, JAPEX, Korea Gas, Shanghai LNG	Malaysia LNG Tiga	Petronas (60%), Sarawak Gov. (10%), Shell (15%), JXTG Holdings (10%), MC (4%), JAPEX (1%)	2000	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
North West Shelf	1989	16.3	1.36	8.33%	Tohoku Elec., JERA, Tokyo Gas, Shizuoka Gas., Toho Gas, Kansai Elec., Osaka Gas, Chugoku Elec., Kyushu Elec., Guandong Dapeng LNG	NWS JV	Shell, BP, BHP Billiton, Chevron, Woodside, MIMI [MC/Mitsui & Co.=50:50], 1/6 respectively	1985	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Oman	2000	7.1	0.197	2.77%	Osaka Gas, Korea Gas, Itochu Corp.	Oman LNG	Oman Gov. (51%), Shell (30%), Total (5.54%), MC (2.77%) etc.	1993	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Qalhat	2005	3.3	0.133	4%	Osaka Gas, MC, Union Fenosa Gas (Spain)	Qalhat LNG	Oman Gov. (47%), Oman LNG (37%), Union Fenosa Gas (7%), Osaka Gas (3%), MC (3%) etc.	2006	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Russia Sakhalin II	Oil: 2008 (year-round production), LNG: 2009	9.6	0.96	10%	JERA, Tokyo Gas, Kyushu Elec., Toho Gas, Hiroshima Gas, Tohoku Elec., Saibu Gas, Osaka Gas, Korea Gas, Shell, Gazprom	Sakhalin Energy	Gazprom (50%+1share), Shell (27.5%-1share), Mitsui & Co. (12.5%), MC (10%)	1994* (*PSA conclusion)	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Indonesia Tangguh (*)	2009	7.6	0.75	9.92%	Tohoku Elec., Kansai Elec., SK E&S, POSCO, Fujian LNG, Semptra Energy, etc.	Tangguh JV	BP (37.2%), MI Berau [MC/INPEX=56:44] (16.3%), CNOOC (13.9%), Nippon Oil Exploration Berau (12.2%) etc.	2001	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Indonesia Donggi - Senoro	2015	2.0	0.9	44.9%	JERA, Korea Gas, Kyushu Elec., etc.	PT.Donggi-Senoro LNG	Sulawesi LNG Development Limited [MC/Korea Gas=75:25](59.9%), PT Pertamina Hulu Energi(29%), PT Medco LNG Indonesia(11.1%)	2007	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
Wheatstone	2017	8.9	0.28	3.17%	JERA, Tohoku Elec., Kyushu Elec., etc. (incl. Equity Lifting)	Wheatstone Sellers (Equity Lifting)	Chevron (64.136%), KUFPEC (13.4%), Woodside (13%), Kyushu Elec. (1.464%), PEW (8%; of which MC holds 39.7%)	2012	<div><div>A</div><div>B</div><div>C</div><div>D</div></div>
	Total	78.8	7.79	(*) Tangguh LNG Train 3 (3.8 mil. ton) under construction, production start planned mid 2020.					

## <Projects Under Construction>

<b>Cameron</b>	2018	12.0	4.0	33.3%	MC, Mitsui & Co., ENGIE (Toller)	Cameron LNG	Semptra Energy (50.2%), Japan LNG Investment (16.6%, of which MC holds 70%), Mitsui & Co. (16.6%), ENGIE (16.6%)	2013	
----------------	------	------	-----	-------	----------------------------------	-------------	--	------	--

\* Business Contribution: Investment in exploration & development (upstream), Investment in liquefaction plant, Marketing and/or import agent, Shipping