Fifth Consolidated Medium-term Management Plan

(FY2018~2020)

March 28, 2018

Idemitsu Kosan Co.,Ltd.

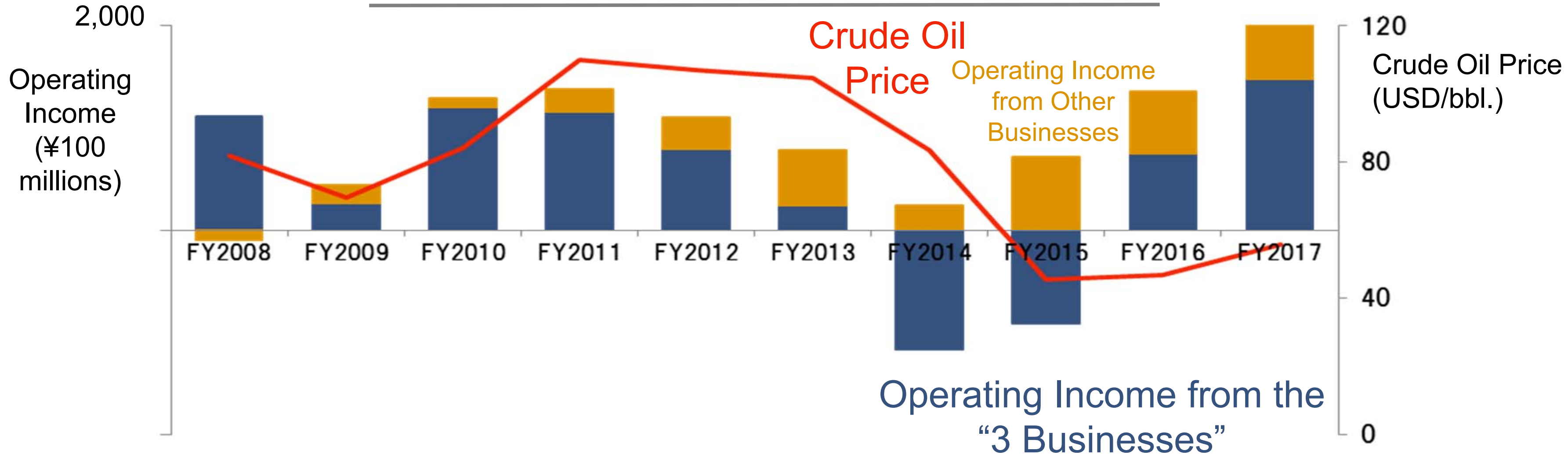
Our Understanding of Our Current Business Structure

✓ We are currently dependent on 3 businesses (petroleum, oil exploration and production, and coal) for a large portion of our earnings. The importance of these businesses will not change, as they are directly related to our social mission of "stable energy supply"

✓ On the other hand, overdependence on these businesses raises issues from the perspective of sustainable growth, given earnings instability from fluctuations in resource prices and market trends as well as global warming-related initiatives in light of the Paris Agreement

✓ The sources of energy that are in demand today are changing with the times. As such, there is a need for reforms to our business structure suited these changes

Operating Income from the "3 Businesses" and Dubai Crude Oil Price Trends



Positioning of the Fifth Consolidated Medium-term Management Plan

2050, with 2030 as a milestone → **Expected environ-ment in 2030** → **Vision for 2030** → **Challenges to overcome towards the vision** → **Key challenges in the Fifth Medium-term Plan**

2050, with 2030 as a Milestone

- ✓ It is very likely that our raison d'etre will be brought into question over the next 30-50 years, given that fossil fuels make up our core business
- ✓ As a mixture of multiple scenarios must be considered when setting goals for 2050, we set 2030 as a milestone with a more certain and more readily imaginable future

2050 Mixture of multiple scenarios

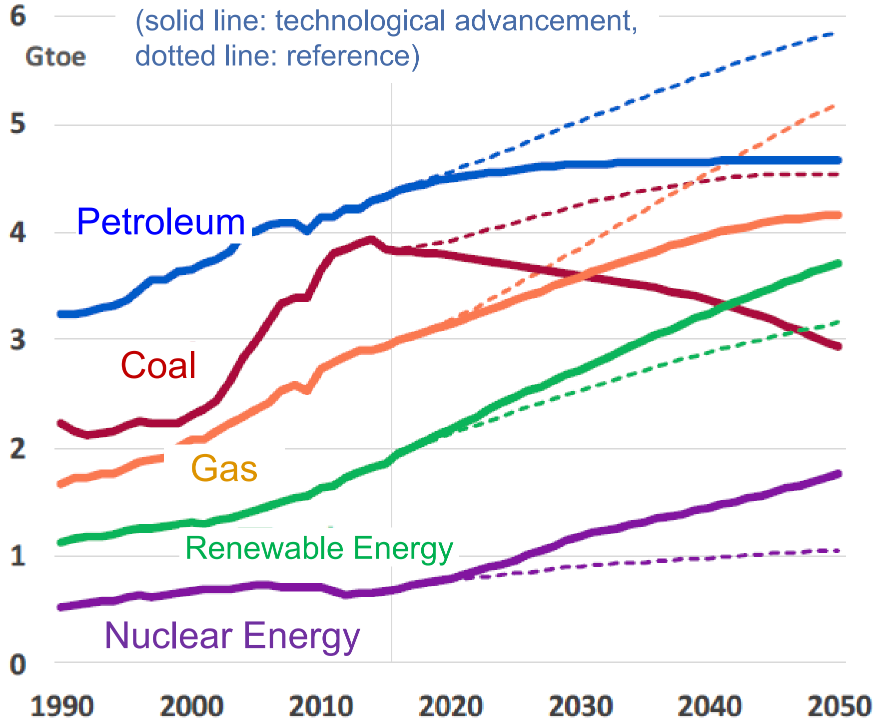
↓

2030 **Milestone**

↓ Backcast

2018 Fifth Medium-term Plan

World Primary Energy Demand



(Source: Institute of Energy Economics, Japan)

Expected Environment in 2030

Increase in world population, decrease in domestic population

Outstanding Asian economic growth and increase in energy demand

Aggregation of climate variability

Increased price volatility of resources

Changes in social and industrial structures due to technological innovation

Changes in personal and work-related values

Vision for 2030

<2030 Vision>

In Japan, Asia and various other countries,

"We are an international energy company who creates new value while seeking harmony with the Earth"

We will become a resilient corporate entity which

- supports the social infrastructure as a supplier of energy and materials
- contributes to enrich society and people's lives through functional materials
- contributes to economic development in individual countries and regions using the technologies and expertise we have built up in Japan
- creates new businesses through development of next-generation materials and services

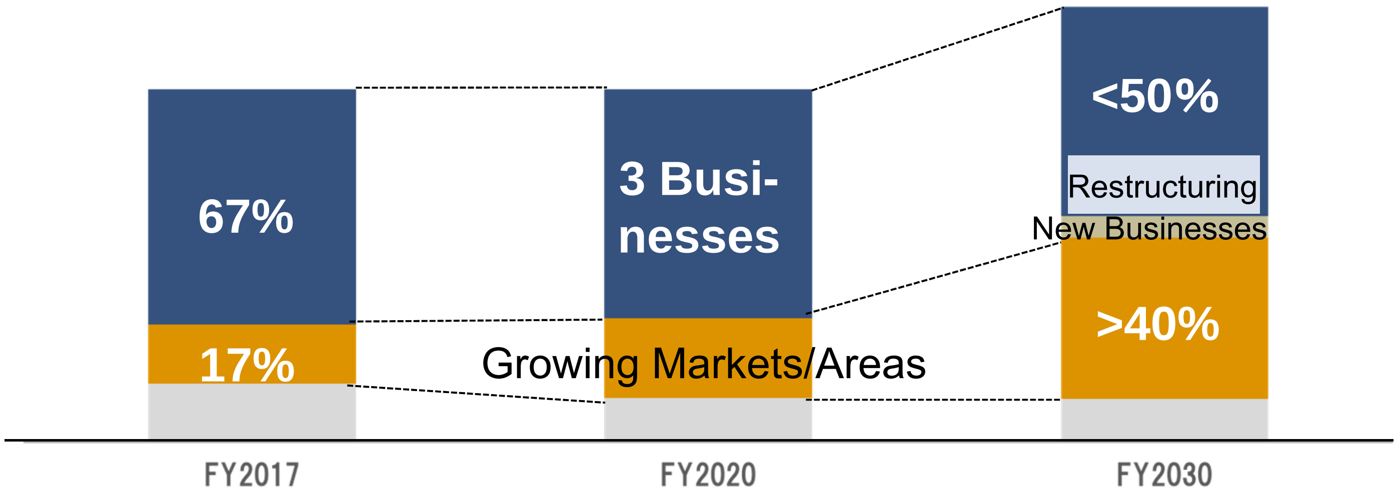
Challenges to Overcome towards the Vision

1	Realize a resilient business portfolio
(1)	Structural reforms to the 3 businesses
(2)	Business expansion in growth markets & fields
(3)	Creation of new business towards 2050
2	Enhancing initiatives from the perspectives of the environment, society, and governance

Management Targets(2030)

	2017	2030
✓ Operating income*	¥203 billion	¥250 billion
✓ Share of the 3 business within the company (operating income*)	67% (¥135 billion)	<50% (¥120 billion)
✓ Growing Markets/Areas + new businesses (operating income*)	17%	>40%

*Excluding inventory impact and including income from equity method affiliates



Vision for 2030 and Positioning of the Fifth Medium-term Plan

✓ We formulate timetable towards 2030 in the term of Fifth Medium-term Plan as a starting point towards our vision for 2030

Fifth Medium-term Plan

Sixth

Seventh

Eighth

2030

2050

Vision

We are an international energy company who creates new value while seeking harmony with the Earth

Challenges to Overcome towards the Vision

✓ Achieve a resilient business portfolio

- ➢ Revamp the 3 businesses and reduce dependence on them
- ➢ Expand operations in growing markets and growing areas
- ➢ Create new businesses towards 2050

✓ Strengthen ESG efforts

Become a resilient entity which

✓ supports the social infrastructure as a supplier of energy and materials

✓ contributes to enrich society and people's life through functional materials

✓ contributes to economic development in individual countries and regions using the technologies and expertise we have built up in Japan

✓ creates new businesses through development of next-generation materials and services

Key Challenges in the Fifth Medium-term Plan

Formulated a timetable towards 2030 in the Fifth Medium-term Plan and focused on the following challenges

1 Realize a resilient business portfolio

(1) Structural reforms to the 3 businesses

- ✓ Generate synergies from the alliance with Showa Shell Sekiyu and realize management integration
- ✓ Developing new services to increase the value of the domestic retail network and vitalize local communities
- ✓ Increase overseas petroleum sales ratio to 50%
- ✓ Shift from oil exploration and production to gas field development
- ✓ Promote low-carbon solutions

  (establishing coal-biomass mixed combustion technology which reduces carbon emission)

Key Challenges in the Fifth Medium-term Plan

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1 Realize a resilient business portfolio

(2) Business expansion in growth markets & fields

- ✓ Expanding alliances with overseas producers (lubricants, performance chemicals)
- ✓ Enhancing overseas production facilities for lubricants, performance chemicals, and electronic materials
- ✓ Enhancing the R&D structure to accelerate product development

(3) Creation of new businesses towards 2050

- ✓ Developing & commercializing a key material for all-solid-state lithium ion battery
- ✓ Enhancing corporate R&D to develop next-generation materials

2 Enhancing initiatives from the perspectives of the environment, society, and governance

- ✓ Establishing a Corporate Sustainability Department (April 2018)
- ✓ Establishing a Group-wide sustainability initiatives policy and implementing related activities

Fifth Medium-term Plan Management Targets

	FY2016	FY2017	FY2020
Operating Income*1	¥110 billion	¥203 billion	¥203 billion
Reference) Operating income assuming integration with Showa Shell Sekiyu			¥300 billion
Net Income (excluding inventory impact and one-time factors)	¥65 billion	¥119 billion	¥130 billion
ROE*2	12.0%	16.5%	>10%
Net D/E	1.65	0.95	<0.7

*1 Excluding inventory impact and including income from equity method affiliates

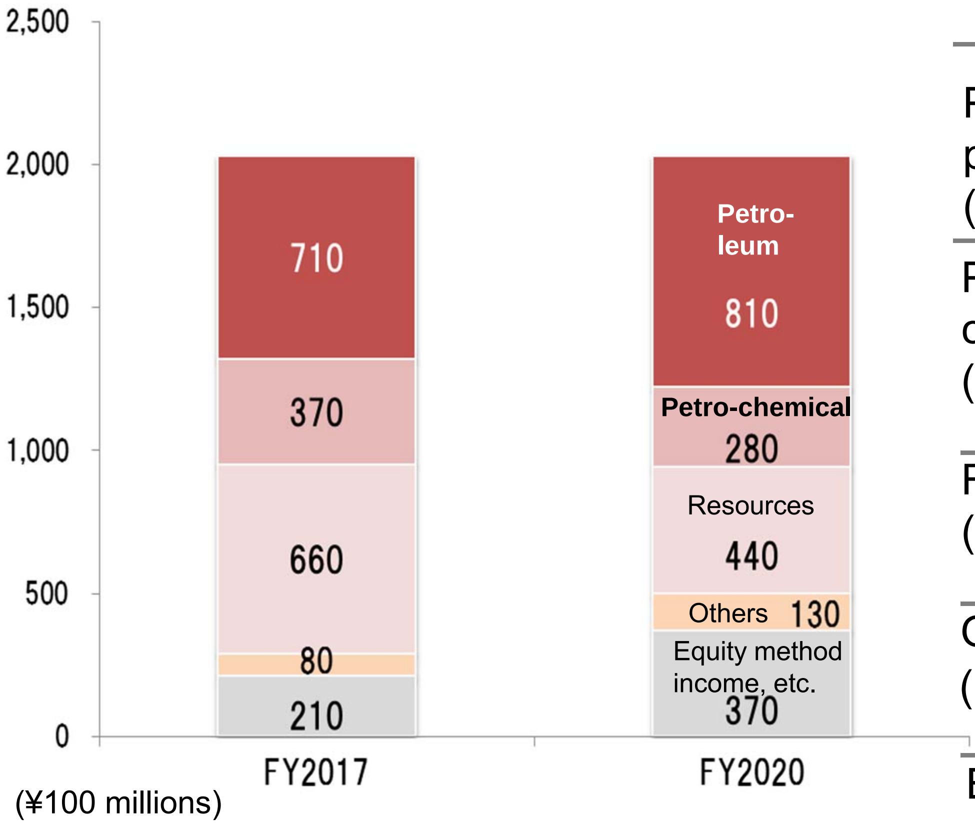
*2 ROE:Net Income(excluding inventory impact and one-time factors)/Shareholders equity

Assumptions			FY2016	FY2017	FY2020
Crude Oil	Dubai	$/BBL	46.9	54.9	60.0
Coal	NEWC	$/t	66.0	88.9	72.0
Foreign Exchange	USD	JPY/USD	109.4	112.0	111.0

Segment Operating Income

(Excluding inventory impact and including income from equity method affiliates)

- ✓ Forecasting income of over ¥200 billion due to structural reforms in the petroleum business and returns from past investments, despite reduced domestic demand and a decline in resource prices



<Change vs. FY2017>

Petroleum products (+100)	Petroleum -110 (decrease in domestic demand and margins) Alliance synergies +150 Lubricant oils, etc. +60
Petro-chemical (-90)	Functional chemicals +30 Basic chemicals -120 (decreased margins)
Resources (-220)	Oil development -40 (decreased production) Coal -180 (weak market conditions)
Others (+50)	Increase from electronic materials (OLED) etc. +50
Equity method etc. (+160)	Nghi Son Refinery, Showa Shell Sekiyu, etc. +160

Cash Flow Allocation(3-year total)

✓ Carefully select investments will increase returns to shareholders and improve financial structure

Net income + depreciation, etc. ¥570 billion	Strategic investments ¥260 billion
	Maintenance ¥130 billion
	Free cash flows ¥180 billion

✓ Focused investments in growth markets, growth areas, and structural reforms

✓ Increase returns to shareholders

✓ Improve financial structure

Investment Strategies

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◇Growth investments

Focused investments in growth markets, growth areas, and structural reforms

- ✓ Strengthen overseas lubricant oil strongholds
- ✓ OLED materials / Strengthen overseas manufacturing capacity
- ✓ Gas field development / New fields in Vietnam
- ✓ Petroleum / Strongholds in North America
- ✓ Develop new materials (solid electrolytes)

◇Business foundation

- ✓ Maintain resources business foundation
- ✓ Maintain retail network
- ✓ Upgrade refining facilities

Growth investments ¥160 billion	Business foundation ¥100 billion	Maintenance ¥130 billion
Strategic investments ¥260 billion (85% overseas)		
Total investment ¥390 billion		

Returns to shareholders

<Policy on returns to shareholders>

✓ Considering returns to shareholders to be an important responsibility of management, we will strive to continue stable payment of dividends with consideration for balancing strategic investment toward strengthening existing businesses and deploying future businesses, improvements to the Group's financial structure, and operating results.

<Concept of the Fifth Medium-term Management Plan>

✓ We intend to enhance returns to shareholders in stages, reflecting the generation of free cash flow and based on a policy of stable dividends.

- ✓ Strengthen management of the Idemitsu group value chain, including overseas operations, by establishing Corporate Sustainability Department
  - Plan company-wide initiatives
  - Identify important issues (materiality) and establish GHG reduction targets, etc.
  - Strengthen risk management and governance frameworks
  - Create an environment which facilitates self-realization, where each employees challenges him/herself to create new value
  - Deepen engagement with stakeholders

<Progress in Strengthening Corporate Governance>

- ✓ Increased board independence and diversity

  1/3 of board composed of independent outside members; board of 11 members includes one woman and one foreign national
- ✓ Established appointment and compensation advisory committees (composed of 3 outside board members)
- ✓ Regular management and safety/security advisory committee meetings (inviting external members)

Environmental Burden Reduction Initiatives

- ✓ Solutions to reduce coal consumption with AI software and combustion research at Coal & Environment Research Laboratory
- ✓ Develop new biomass fuel
- ✓ Develop renewable energy including biomass power generation and geothermal power
- ✓ Reduce energy consumption through increased OLED penetration
- ✓ Lighter end products through use of performance chemicals

Geothermal

Idemitsu Oita Geothermal
Steam supply
~27,500kW

Binary powe
generation
5,050kW

- ✓ New projects (Oyasu, Amemasudake, etc.)

Wind Power

Futamata Wind Power Generation Plant
51,000kW
(40% stake)

Solar Energy Generation (Megasolar)

Generation capacity:
15,210kW total
Moji (#1, #2)
Himeji
Onahama

Biomass Power Generation

Tosa Power Generation Plant
6,250kW (50% stake)
Ono Power Generation Plant
7,000kW Class(10% stake)

Segment Business Strategy: Petroleum Products

Petroleum

<Domestic Initiatives>

- ✓ Rapidly achieve synergies and promote alliance with Showa Shell Sekiyu
- ✓ Introduce new business menus to strengthen retailer and retail outlet operating capabilities
- ✓ Enhance cost competitiveness and reliability of facility operations in light of changes in the environment and statutes

<Overseas Initiatives>

- ✓ Expand business with a focus on the pan-Pacific (Southeast Asia, Oceania, West Coast of the Americas
- ✓ Stabilize operations at Vietnam Nghi Son Refinery

Lubricant Oil

- ✓ Build or enhance capacity of overseas factories, mainly in Southeast Asia, China, and the United States
- ✓ Reinforce sales of Idemitsu brand automotive lubricant oil and industrial lubricant oil/grease

Alliance with Showa Shell Sekiyu

- ✓ Targeting annual synergies of over ¥30 billion/year from 2019 onward
- ✓ Continue strategic meetings between management of both sides to facilitate integration

Synergies with Showa Shell Sekiyu (Total)

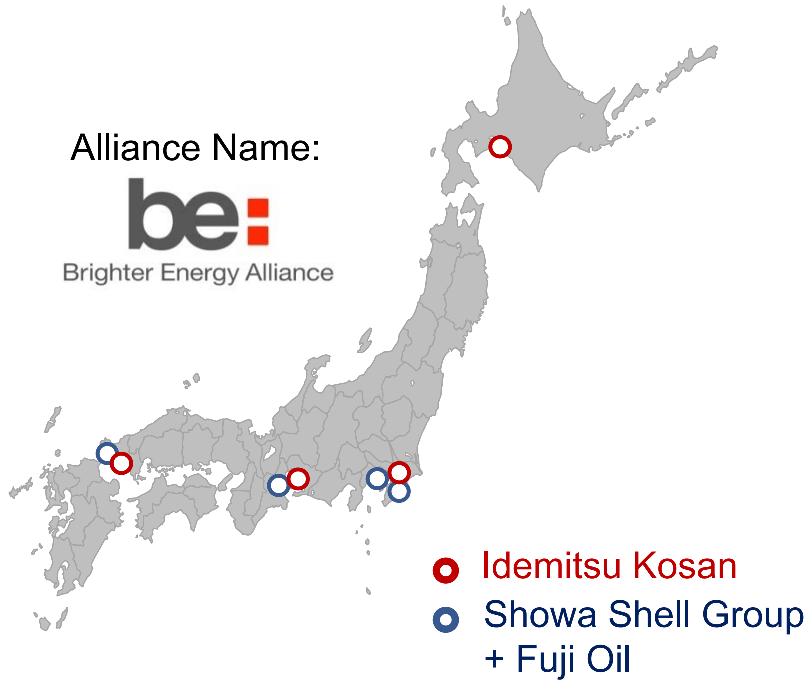
Area	Item	Expected Impact
Crude Oil Procurement	1) Joint procurement 2) Joint tanker operation	¥1 billion
Supply/ Demand, Overseas	1) Integrated optimal production plan system 2) Mutual interchange of petroleum products and semi-products 3) Integrate imports/exports	¥12 billion
Mfg/ Procurement	1) Implement best practices for improving refining margins 2) Joint procurement (refineries/factories)	¥7 billion
Logistics/ Sales	1) Mutual use of oil depots, cooperative distribution 2) Sharing of corporate cards − Launch planned for April 2018	¥4 billion
Other	1) Company-wide joint procurement (other than refineries/factories) 2) Other (lubricant oils, chemicals, IT systems, corporate divisions, etc.)	¥6 billion

Refinery/Factory Locations

Alliance Name:

be:

Brighter Energy Alliance



Petroleum Products Business: Overseas Development

- ✓ Engage in strategic investments including M&A to strengthen the value chain of the petroleum business in Southeast Asia, Oceania, and North America
- ✓ Targeting annual volume of 21 million kl* in FY2020 *excludes Nghi Son


Vietnam Nghi Sone Refinery completed (2017)
Vietnam Idemitsu Q8 first SS launched (2017)

Hub for overseas petroleum business

Singapore
Idemitsu International Asia

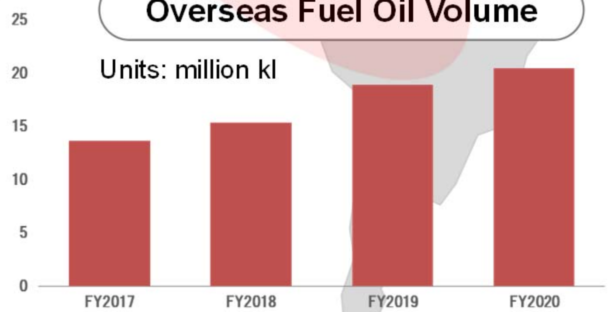
Acquisition of fuel oil wholesale business (2010) current Idemitsu Apollo Corporation

Trinity Petroleum

Acquired fuel oil sales company Freedom Energy (2012), Trinity (2018)

Overseas Fuel Oil Volume

Units: million kl



(Reference: 2020 domestic fuel oil sales volume: 24 million kl)

Nghi Son Refinery Commences Operations

- ✓ Processing started in March 2018, product shipping to commence in April for aiming to achieve stable full-scale operations in a timely manner
- ✓ Earnings contribution expected from FY2020

Current Progress

Bird-eye View

VLCC

Investment Ratio

Idemitsu (~$1.4 billion) :	35.1%	PetroVietnam :	25.1%
Kuwait Petroleum Int'l :	35.1%	Mitsui Chemical:	4.7%

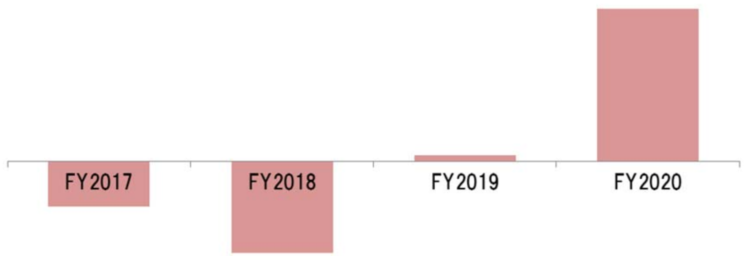
Operational Strengths

1. All petroleum products supplied to PetroVietnam
2. Stable procurement of Kuwaiti heavy crude oil
3. High equipment rate and petrochemical complex
   (zero heavy oil production)

Nghi Son Refinery: Major Facilities

- Crude Distillation unit (CDU): 200,000 B/D
- Residue hydrodesulfurization unit (RH) :105,000 B/D
- Residue fluid catalytic cracking unit (R-FCC) : 80,000 B/D
- Paraxylene capacity : 700,000 t/year
- Polypropylene capacity : 400,000 t/year
- Benzene capacity : 250,000 t/year
- Crude oil used : Kuwaiti heavy oil (designed API: 30.2)

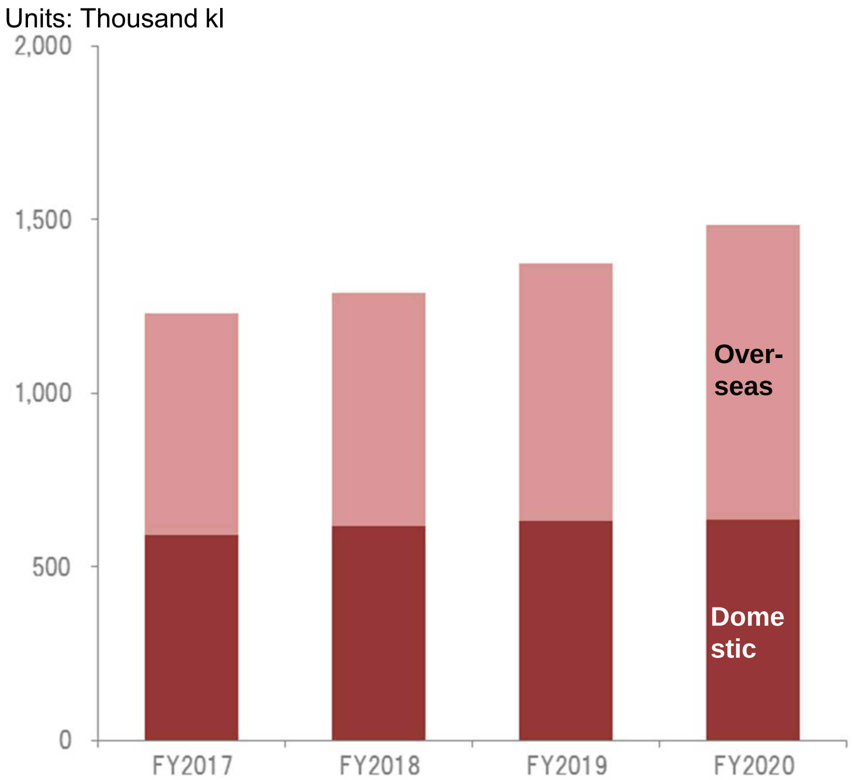
Anticipated Equity Method Income to Idemitsu



Expansion of the Lubricant Oil Business

- ✓ FY2020 global sales target: 1.5 million KL (about 60% sold overseas)
- ✓ Aiming to become global top 5 in medium-to-long term (currently 8th)

Lubricant Oil Sales Volume Trend



Overseas Locations

(March 2018)

- 28 manufacturing locations
- 37 sales locations

New Factory Construction and Capacity Enhancement Plans

- Enhance overseas production capacity by 1.5x (2020, vs. 2017)
  - Construct second factory: US, Indonesia, China
  - Enhance production capacity: Vietnam, etc.
- Establish sales subs: Philippines, etc.

Major Initiatives

- Increase sales to overseas automotive manufacturers
- Accelerate global development of industrial oils
- Strengthen sales of new oils which benefit from changes in the demand structure (EV penetration, robotization etc.)

Segment Business Strategy: Petrochemical Products

Basic Chemicals

<Olefin>

- ✓ Achieve high capacity utilization and stable earnings by providing raw materials to industrial complexes
- ✓ Enhance cost competitiveness through diversifying raw materials and enhancing equipment efficiency (Tokuyama)

<Aroma>

- ✓ Business expansion through launch of Nghi Son project
- ✓ Promote fuel-to-chemical (mixed xylene extraction device completed in 2018)

Performance Chemicals

- ✓ Expand operations in growth markets by leveraging proprietary technologies in engineering plastics and adhesive materials
- ✓ Strengthen overseas production capacity
  - Hydrogenated oil resin: constructing manufacturing equipment in Taiwan to produce 25,000 tons/year
    commencement of operation expected in 2019 (JV with FPCC)
  - SPS: Considering new manufacturing device overseas

Segment Business Strategy: Resources

- ✓ Develop new gas fields in Vietnam and enter the gas business in Southeast Asia
- ✓ Stable coal supply to Asia where demand is growing; enhance ratio of metallurgical coal
- ✓ Develop new biomass fuel allowing for mixed combustion with coal
- ✓ Geothermal development: consider new projects in Hokkaido/Tohoku areas

Oil/Gas Development Business

- Vietnam: Develop new gas fields
- Norway: Secure reserves through oil field development, etc.

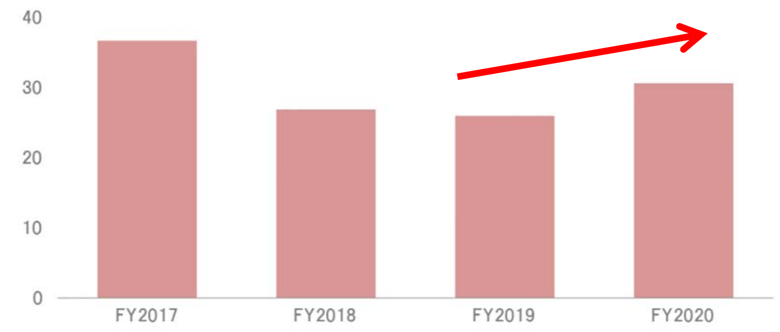
Coal Business

- Implement low carbon solutions
  - Leverage our coal & environment research laboratory's combustion technology
  - Consider/promote environment-friendly operations by developing/producing new biomass fuel which allows for mixed combustion with coal, etc.

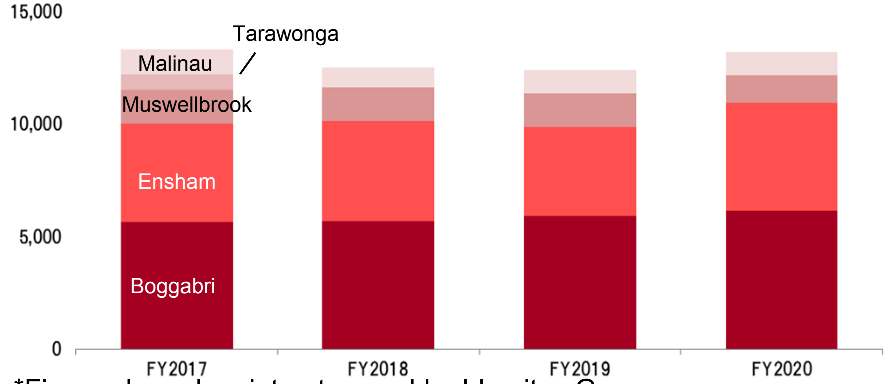
Geothermal Development Business

- Expand geothermal business
  - Maintain stable operation of Idemitsu Oita Geothermal (steam supply 27,500kW and power generation 5,050kW)
  - Consider/implement new projects (Oyasu, Amemasudake, etc.)

Production Volume Forecast (Oil/Gas) (thousand boed)



Production Volume Forecast (Coal) (thousand tons)



*Figures based on interst owned by Idemitsu Group

Segment Business Strategy: Other - Electronic Materials

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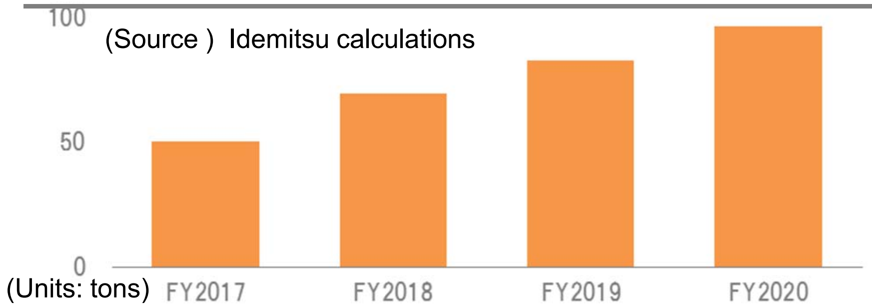
- ✓ Strengthen relationships with key Korean/Chinese display manufacturers
- ✓ Strengthen proprietary development capabilities and expand strategic alliances with materials manufacturers
- ✓ Capture increasing OLED demand by enhancing production capacity

OLED Materials Demand Forecasts



R&D Locations

- Develop state-of-the-art technology in Japan and Europe (Switzerland)

Alliances Aimed at Business Expansion

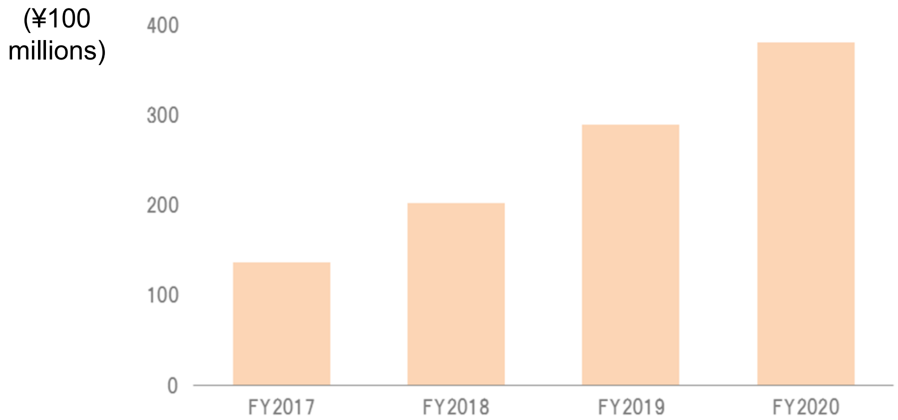
Display Manufacturers

✓ LG Display	:2009～
✓ BOE	:2017～

Materials Manufacturers

✓ Doosan Corporation	:2015～
✓ Merck	:2016～
✓ LG Chem	:2017～
✓ Toray	:2017～

Electronic Materials Division: Revenue Trend



Efforts towards New Business Creation

R&D

- ✓ Strengthen R&D aimed at developing next-generation materials and expanding the functional materials business
  - Reinforce product development framework at the 7 divisional laboratories
  - Focus corporate research on developing next-generation materials
  - Increase open innovation with universities/startups through CVC, etc.

Solid Electrolytes

- ✓ Accelerate development of solid electrolytes, a key material for all-solid-state lithium ion batteries, which in turn are a key device for EVs, targeting market launch in early 2020

Creations of Businesses which Stimulate Local Activity

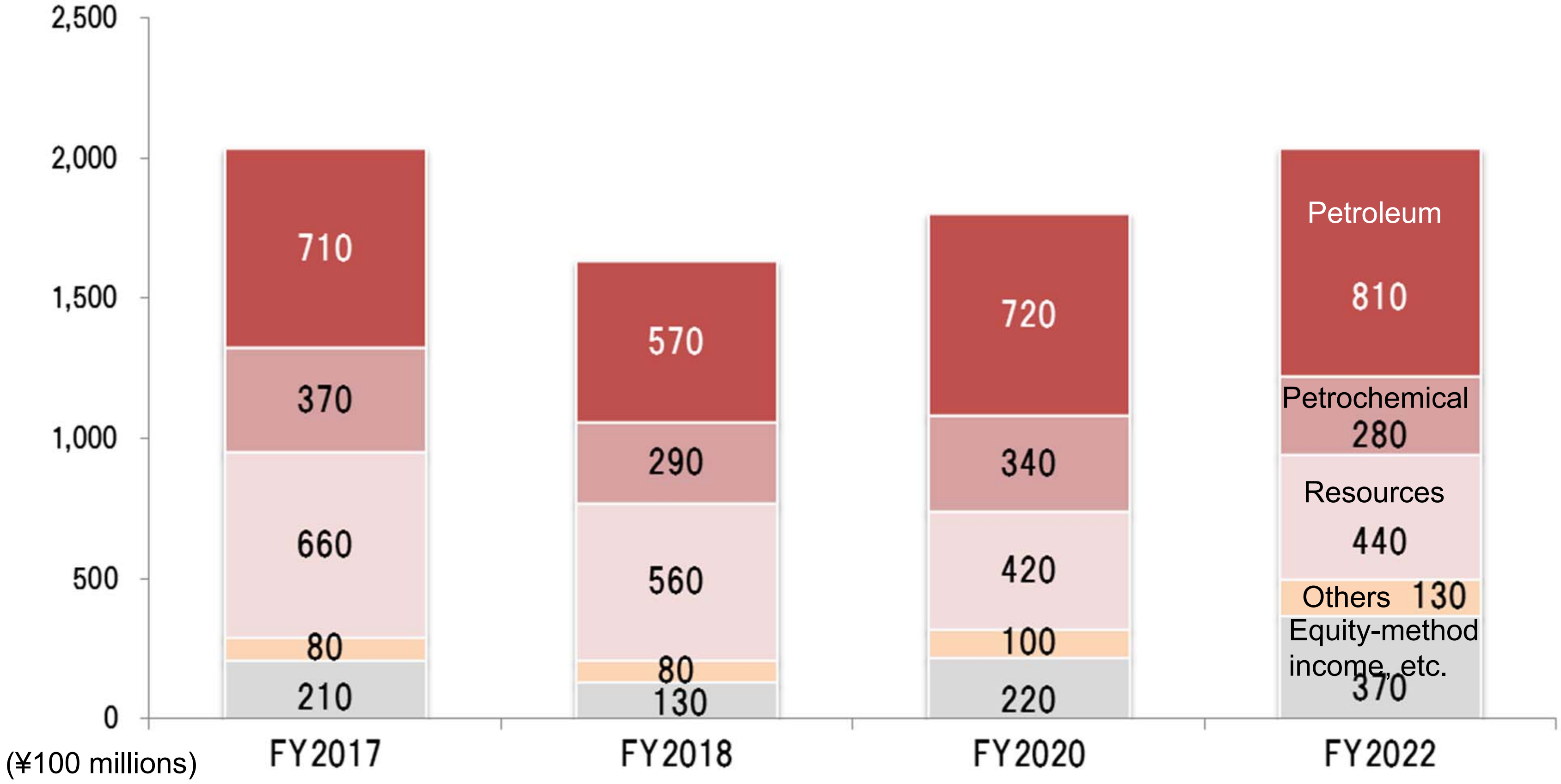
- ✓ Create network businesses which enhance value of retailers' network and allow for changes in store format

Reference Materials

Assumptions

Assumptions			FY2017	FY2018	FY2019	FY2020
Crude Oil	Dubai	$/BBL	54.9	60.0	60.0	60.0
	Brent	$/BBL	54.3	62.5	62.5	62.5
Naphtha	Customs	$/t	513	557	557	557
Coal	NEWC	$/t	88.9	88.0	75.0	72.0
Foreign Exchange	USD	JPY/USD	112.0	111.0	111.0	111.0
Basic Chemicals (Asia)	PX	$/t	854	862	904	914
	SM	$/t	1,220	1,243	1,264	1,084

Operating Income by Accounting Segment
(including equity-method income)



Resource Production Volume (Petroleum/Coal)

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<Petroleum Production Volume>

Unit:thousand BOED	FY2017	FY2018	FY2019	FY2020	Change (FY2017 vs FY2020)	
Norway	33.4	26.9	25.9	23.2	(10.2)	69.5%
United Kingdom	3.3	0.0	0.0	0.0	(3.3)	—
Vietnam	0.0	0.0	0.0	7.4	7.4	—
Total	36.7	26.9	25.9	30.6	(6.1)	83.4%

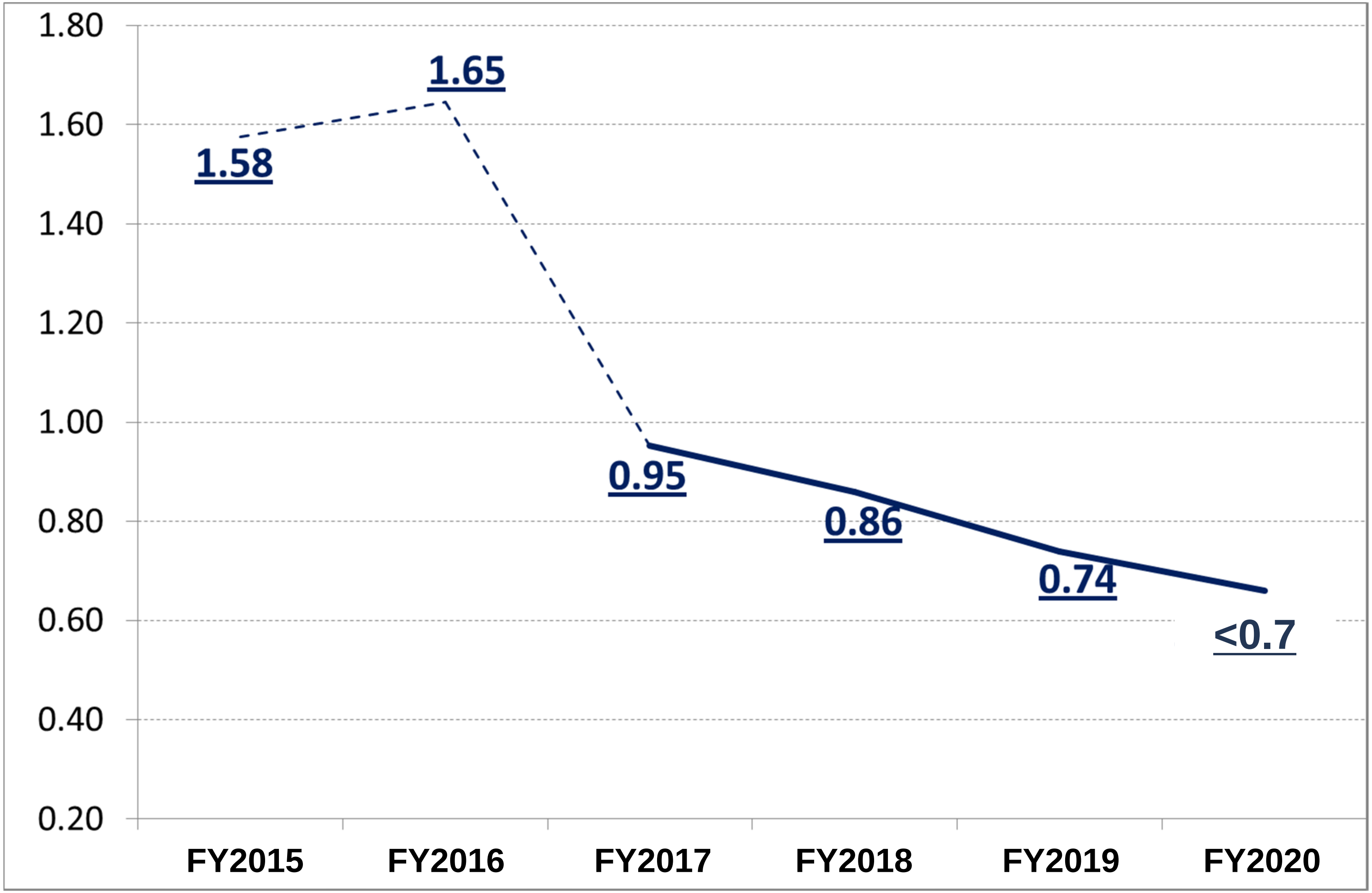
<Coal Production Volume>

Unit:thousand ton/year	FY2017	FY2018	FY2019	FY2020	Change (FY2017 vs FY2020)	
Ensham(85%)	4,370	4,451	3,935	4,783	413	109.4%
Boggabri(80%)	5,650	5,669	5,920	6,160	510	109.0%
Muswellbrook	1,500	1,500	1,500	1,201	(299)	80.1%
Tarawonga(30%)	690	0	0	0	(690)	-
Sub Total	12,210	11,620	11,355	12,144	(66)	99.5%
Malinau(30%)	1,090	887	1,050	1,050	(40)	96.3%
Total Production Volume	13,300	12,507	12,405	13,194	(106)	99.2%

Investment Breakdown

Units: ¥100 million	FY2018-2020 (Cumulative)		
Segment	Strategic	Renewals	Total
Petroleum Products	940	850	1,790
Petrochemical Products	20	250	270
Resources	1,480	30	1,510
Other	90	40	130
Reconciliations (Corporate)	70	130	200
Total	2,600	1,300	3,900

Net Debt/Equity Ratio Trend



Cautionary Warnings About Forecasts

Any information about forecasts for the Company’s operating results, management strategy and management policy contained in this documents other than historical facts is prepared according to decisions made by the top management of the Company based on information available as of the publication of the document.

Actual business environments contain potential risk factors and uncertainties including economic situations, crude oil prices, trends in petrochemical products, markets conditions, currency exchange rates and interest rates.

Consequently, actual operating results of the Company may substantially differ from forecasts due to changes in the important factors mentioned above.