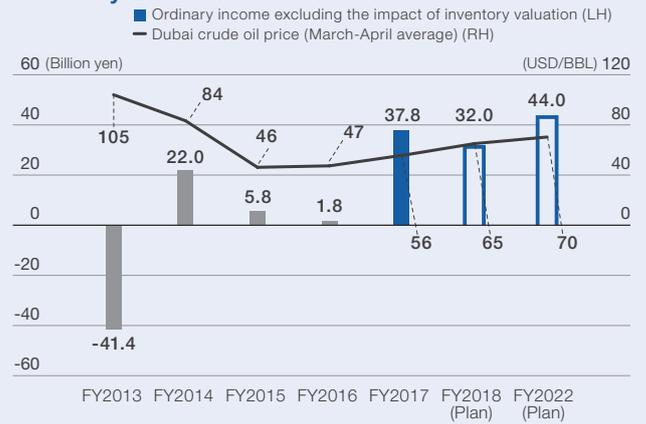


# PETROLEUM BUSINESS



## Ordinary Income



### Strengths

- Increase Delayed Coker unit capacity and promote alliance to enhance competitiveness of refineries
- Profit structure without depending only on fuel oil, by adding car leasing business for individuals at the core

## Oil Refining Business



### Business strategy in the New Consolidated Medium-Term Management Plan

Enhance competitiveness by responding to the IMO regulations\* and increasing the recipients of products.

- Establish refinery competitiveness exceeding the global standard by increasing profitable products and maintaining high capacity utilization with an increased Delayed Coker unit capacity, taking IMO regulations as an opportunity.
- Increase number of recipients of products and use alliances with other companies to increase competitiveness.
- Create synergy with the petrochemical business.

#### Increase Delayed Coker unit capacity at Sakai Refinery

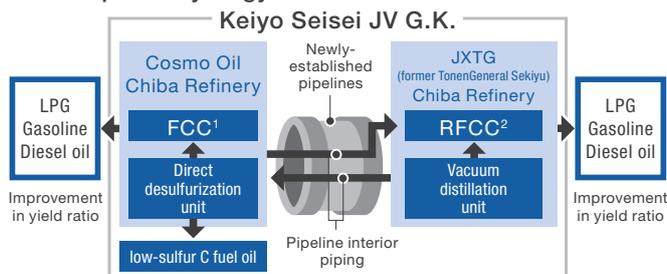
From 2020, supply of cleaner marine fuel oil, oil with low sulfur content, will be required due to the IMO\* regulations. Cosmo Energy Group will increase the capacity of the Delayed Coker unit at Sakai Refinery so as to not produce

\* As an air pollution preventive measure, the International Maritime Organization (IMO) has set a global limit to reduce the content of sulfur in marine fuel oil from 3.5% at present to 0.5% by 2020, in order to reduce ships' emissions of sulfur oxide (SOx).

#### Increase the competitiveness of Chiba Refinery

- Continue the operation of two Crude Distillation Units (CDUs) at Chiba Refinery after the completion of the pipeline to maximize the use of the pipeline.

#### An example of Synergy

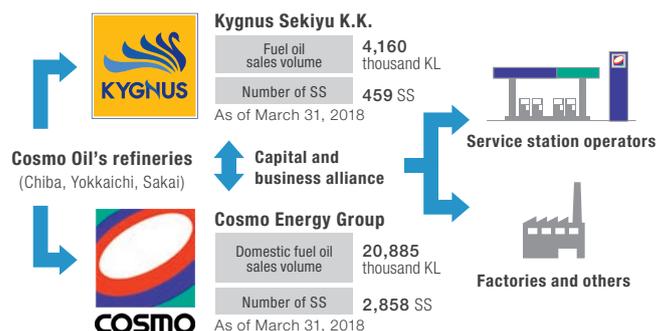


1. Fluid Catalytic Cracking (FCC) is an equipment to convert heavy oil to LPG, gasoline, diesel oil, etc.  
 2. Residue Fluid Catalytic Cracking (RFCC) is an equipment to convert extra heavy oil to LPG, gasoline, diesel oil, etc.

high-sulfur fuel oil, which is subject to the IMO regulation, as early as possible. By doing so, we aim at increasing production of profitable products, such as diesel fuel oil converted from the heavy oil fraction.

#### Alliance with Kygnus Sekiyu to enhance competitiveness

- Entered into a capital and business alliance with Kygnus Sekiyu in February 2017 and acquired a 20% equity stake of Kygnus Sekiyu in May 2017.
- Will begin to supply fuel oil to Kygnus Sekiyu by around 2020.
- Will discuss and study further business alliances, without being limited to the supply of fuel oil.



## Review of the Previous Consolidated Medium-Term Management Plan

The Cosmo Energy Group strived to enhance competitiveness of oil refineries, by such measures as establishing Keiyo Seisei JV G.K. with TonenGeneral Sekiyu (currently JXTG Energy) and forming a business alliance with Showa Shell Sekiyu Group. In addition, we

entered into a capital and business alliance with Kygnus Sekiyu. In January 2016, Cosmo Oil adopted the Operations Management System (OMS)\* and achieved safety measures that exceed levels stipulated in laws and regulations.

	FY2013	FY2014	FY2015	FY2016	FY2017
<b>Chiba Refinery</b>				2 year long run → Opex cut (Approx. ¥7bn)	
<b>Sakai Refinery</b>	Operating Delayed Coker unit (FY2010~)				
<b>Yokkaichi Refinery</b>			Alliance agreed with Showa Shell Group		Alliance start
<b>Others</b>				Capital & business alliance with Kygnus Sekiyu K.K.	

\* OMS (Operations Management System): A system to achieve an enhanced level of safety operation and stable supply by promoting continuous improvement, based on reviewing and assessment of workability and effectiveness of diverse operating systems.

[See the page 52](#)

## The Group's Oil Refineries and Crude Oil Processing Capacity

**Yokkaichi Refinery**  
86,000BD  
Business alliance with Showa Shell Group  
Synergy for Cosmo  
¥1.0 billion/year (from April 2017)

**Sakai Refinery**  
100,000BD  
Enhanced competitiveness due to higher yield of jet and diesel fuels.  
• Delayed Coker Unit began operation in 2010  
• Higher value-added products



**The Group's Crude Oil Processing Capacity**  
400,000BD

\* Including the supply of petroleum product/semi product (37,000 barrels/day equivalent) from Showa Shell Group (Showa Yokkaichi Sekiyu) with the business alliance \* as of March 31, 2018

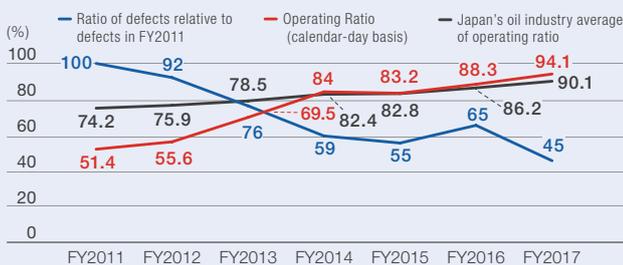
**Chiba Refinery**  
177,000BD  
Established Keiyo Seisei JV G.K. with Tonen General Sekiyu (currently JXTG Energy)

After the pipelines are constructed  
Synergy for both sides  
¥10.0 billion/year (FY2018 and after)

## Contributing to a better society — CSV (Creating Shared Value) —

### Striving for safety operation

The Cosmo Energy Group is making appropriate capital expenditures so as to reduce unplanned stoppage at refineries. The number of defective issues at refineries has been less than halved in FY2017 relative to FY2011, while the operating ratio at refineries have been rising.



\* Source for Japan's oil industry average: Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry

### Energy conservation initiatives

The Cosmo Energy Group has been making consistent efforts for energy conservation at refineries, which resulted in reduction in crude oil consumption by 50,000 kl in three years, from FY2014 to FY2016. For example, the manufacturing process of xylene, a basic chemical product, was revised at the Yokkaichi Refinery. By adopting IT in managing the manufacturing process, a system to automatically control flow, temperature, and pressure of crude oil was developed, leading to reduction in consumption of fuel, to the extent of a crude oil equivalent of 500 kl per year.



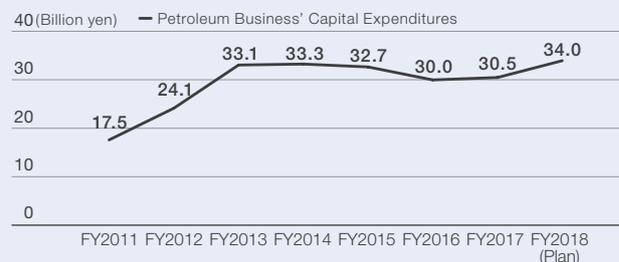
Support social infrastructure  
Provision of life line in disasters



Stable energy supply



Stable supply of materials for daily necessities

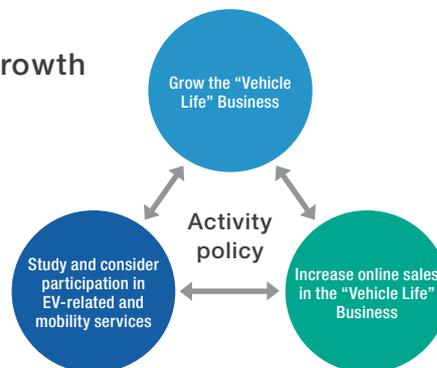




### Business strategy in the New Consolidated Medium-Term Management Plan

Determine new business models that take the long-term business environment into consideration while seeking growth of the “Vehicle Life” Business

- Increase sales of lease and car care products
- Collaborate with companies in other industries to enable total support (from the purchase of a first car to the trade-in or sale of a car).
- Develop new products and provide services to meet customer needs.
- Increase online sales.



Specific initiatives include 1) nationwide development of the “Vehicle Shops,” which provide one-stop services ranging from help in selection of a car model to its purchase and sale; 2) advanced system to support service stations, including M-POS, a next-generation POS, use of which began in July 2017; 3) enhancement of the appeal of vehicle leasing; and 4) improved support programs to promote sale of vehicle care products.

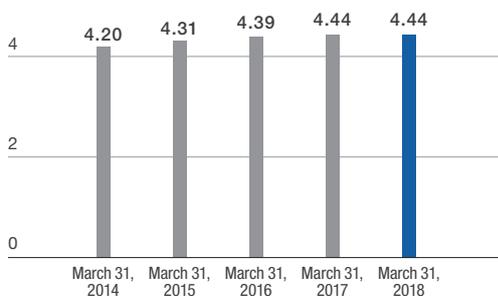
### Domestic Sales Volume of Petroleum Products

(thousand KL)

	FY2013	FY2014	FY2015	FY2016	FY2017
Gasoline	6,053	5,722	5,673	5,544	5,582
Kerosene	2,261	1,941	1,823	1,820	1,787
Diesel oil	4,399	4,150	4,133	4,120	4,281
Heavy fuel oil A	1,847	1,555	1,420	1,420	1,470
Sub-total	14,561	13,368	13,049	12,904	13,120
Naphtha	6,556	6,240	6,204	6,027	6,061
Jet fuel	486	468	519	520	459
Heavy fuel oil C	2,038	1,663	1,578	1,370	1,246
Total	23,640	21,739	21,350	20,821	20,885

### Number of the “Cosmo the Card” holders

6 (million cardholders)



### Number of Service Stations and Self Service Stations

	FY2013	FY2014	FY2015	FY2016	FY2017
Cosmo SS	3,228	3,133	3,054	2,957	2,858
Cosmo self SS	1,011	1,031	1,036	1,038	1,034
SS in Japan	34,706	33,510	32,333	31,467	30,747
Self SS in Japan	9,275	9,530	9,728	9,856	9,928

\* The number of SS includes the number of self SS.

\* Source: Ministry of Economy, Trade and Industry for the number of SS in Japan; The Oil Information Center for the number of self SS in Japan



## Service Stations' CSR Analysis

Cosmo Oil's service stations (SS) conduct CSR analysis as a part of CSR activities that emphasize thorough compliance and environmental consideration. The CSR analysis is comprised of the Environmental Management (EM) survey and the Personal Information Protection (PP) survey and aims at understanding and improving related issues. The former is to ascertain how environment-related SS facilities

are managed, including preemptive measures to prevent oil leaks, as well as pollution control, while the latter is to ensure proper management of personal information. The EM/PP survey results for FY2017 showed that the ratio of SSs which achieved the target of 100 points increased by about 1% in the EM survey and about 2% in the PP survey compared to the previous year.

## Contributing to a better society — CSV (Creating Shared Value) —

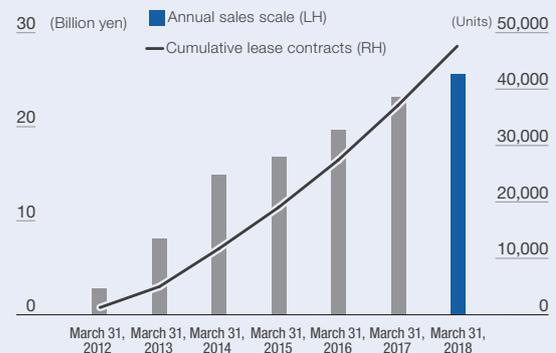


Offering of highly-convenient new motoring lifestyle value

### Offering car leasing for individuals

#### Increase in the number of leased cars

Leveraging the strength of service stations to have the recurring and direct contact with individual customers, the Cosmo Energy Group is engaged in the car leasing business for the customers since FY2011. A scheme to give discount to gasoline purchasers and a wide range of vehicle models of all domestic automakers deemed leasable were favorably received and contributed to the cumulative total number of contracts of 47,602 at the end of FY2017.



#### Consumer car leasing business model

- Customers**
  - ▶ Being able to use new cars of any domestic automaker and any model at a favorable price
  - ▶ No complicated procedures
  - For example, expenses are simplified as the monthly fixed rate includes mandatory car inspections, taxes, insurance, etc
- Leasing companies**
  - ▶ Capture new customers
- Cosmo and service station operators**
  - ▶ Secure revenue sources that are not solely dependent on fuel oil
- Dealerships**
  - ▶ Secure new sales channels



#### Call center dedicated to serving only lease contract customers

As Cosmo's vehicle leasing services have been favorably received with the cumulative total number of contracts reaching 47,602 by the end of FY2017, it is becoming increasingly important to establish a deep relationship with each customer and satisfy the customer during the contract period.

The call center with a dedicated vehicle-life concierge with good knowledge on lease and vehicles was established and began operation in January 2018. The system for responding to customers' inquiries and helping solve problems during the contract period has been expanded. Further, the frequency of alerting customers on the timing of their vehicle inspection and maintenance and the introduction of a plan for renewal of an expiring lease has been modified for the enhancement of customers' convenience.

