

# Petroleum Segment



## Review of Operations

Idemitsu group delivers petroleum products, such as gasoline, kerosene, and diesel oil, to customers through approximately 6,400 service stations (SS) throughout Japan. In particular, service stations play a significant role as social infrastructure in regions where public transportation is not well developed, and their importance as lifeline hubs is being reevaluated. We also sell industrial use energy such as jet fuel, kerosene, diesel oil, heavy fuel oil A, and heavy fuel oil C to corporate customers such as electric power companies, general industries, airlines, and shipping companies. In addition to the well-balanced distribution of oil refineries and oil depots around the country, we have a supply network that enables us to deliver more efficiently and stably to our customers throughout the country through logistics alliances with other companies.

## Business Environment Outlook

Demand for petroleum products in Japan is expected to decline at an annual rate of 1.6%\* compared to FY2018 levels until FY2022, due to a decline in the population and the spread of eco-cars. The decline is expected to continue thereafter. The supply and demand environment is expected to remain surplus. Overseas, we expect demand for petroleum products to grow in the Asia-Pacific region at least until 2030. Despite the construction of new refineries and capacity increases, particularly in China and India, the increase in demand is expected to outpace the increase in supply capacity.

\* The domestic demand forecast is calculated based on the figures of the FY2019 petroleum products demand estimation review committee of the Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry.

## Risks and Opportunities

### Risk

- Deterioration in the supply-demand balance due to continued decline in domestic fuel oil demand
- Deterioration in equipment capacity balance at refineries due to changes in demand structure for oil

### Opportunity

- Achieving synergies through management integration
- Improving the supply-demand balance by expanding demand for petroleum products in the Asia-Pacific region
- Strengthening sulfur content regulations for marine fuel by IMO (International Maritime Organization)

## Supply and Demand

### Medium-term Management Plan Business Policy

Based on our mission to support energy security in Japan, we will give top priority to "stable supply of petroleum products in Japan." In order to ensure stable supply, we aim to realize "sustainable business growth." To this end, we are pursuing three strategies: "Strengthening the cost competitiveness of the supply chain," "Responding to changes in the domestic supply and demand environment" and "Establishment of overseas business." To strengthen the cost competitiveness of the supply chain, we will take advantage of the opportunity of management integration to strengthen the network between refineries and business sites, thereby achieving integration synergies and strengthening cost competitiveness. In addition, we will respond to changes in the supply and demand environment, including a decline in domestic demand and IMO regulations on the sulfur content of marine fuel, by increasing exports and ensuring the supply of products that comply with these regulations through efficient capital investment in refineries and operational improvements. As for establishing overseas business, we will reinforce the business foundation at the Nghi Son Refinery in Vietnam and establish a business foundation by maximizing the strengths of us, which has a broad sales network centered on Asia and Pacific rim.

#### TOPICS

##### Integrated synergies Strengthening supply chain competitiveness

We are working to generate synergies by strengthening its network of 7 refineries and business sites that expanded as a result of business integration, as well as 8 sites, including Fuji Oil Co., Ltd., which has concluded a petroleum products transaction agreement. Specifically, we will reduce costs and optimize production margins in procurement and transfer activities through joint procurement of crude oil and interchange of products, and will strengthen the competitiveness of the supply chain while taking advantage of the group refineries' strengths in heavy oil cracking equipment.

## Manufacturing

### Medium-term Management Plan Business Policy

Under the banner of "Establish domestic manufacturing bases that will prevail in Asia" and "Expansion of field of activity," we will strive to realize safe and stable operations, enhance competitiveness, reform business operations, and contribute to growth businesses and expand technological fields. We aim to achieve top-level operational reliability in Japan in FY2030 by continuing improvement activities, utilizing advanced technologies, and improving profitability. Against the backdrop of expected decline in domestic demand, we will reinforce our competitiveness by implementing optimal area-specific strategies in Hokkaido (Hokkaido Refinery), Keihin and Keiyo (Chiba Complex, TOA Oil, Fuji Oil), Chukyo (Aichi Refinery, Showa Yokkaichi Sekiyu), and Western Japan (Tokuyama Complex and Seibu Oil), as well as implementing management strategies to comply with IMO regulations on the sulfur content of marine fuel oil, expand the use of fuel oil fractions in petrochemical products, and increase export capacity. In addition, we are making steady progress in reforming the way people who support our workplaces work, steadily executing existing projects, promoting the development and commercialization of new fields, and preparing for global business development.

#### TOPICS

##### Efforts for safe and stable operations

As more than 40 years have passed since the construction of our refineries and complexes, they are being forced to cope with aging and discontinuing the production of equipment parts. In addition to preventative maintenance and facility renewal, we have been working to prevent the recurrence of such problems by horizontally deploying cases of problems inside and outside the company. In the future, we will continue to work to improve the reliability of our facilities by making analysis of the causes of trouble caused by the facilities, identification of the causes of damage, countermeasures against long-period deterioration, and thorough implementation of PDCA in facility management, among other important issues.



Hokkaido Refinery



View of Aichi Refinery

## Logistics

### Medium-term Management Plan Business Policy

We are strengthening our petroleum products supply chain under the themes of "safety," "stable supply" and "strengthening competitiveness" while working to resolve issues such as labor shortages at distribution sites. These are the social missions of companies that handle fuel, and in particular, ensuring safety is the foundation of management. We will thoroughly pursue the safe transportation and quality assurance of petroleum products from loading to unloading and return. Also, in order to maintain stable supply and stable operations, we are striving to prevent a shortage of transportation means during the busiest season under the basic policy of "The necessary space shall be secured by dedicated vessels and vehicles." We will also examine and implement improvement activities from a wide range of perspectives, including "Larger ships and vehicles," "Improvement of loading efficiency," "Reduction of non-stacking," "Examination of optimal transportation methods and routes" and "Increased utilization of distribution assets" to enhance cost competitiveness.

#### TOPICS

##### Use of AI in ship allocation planning to improve transport efficiency

For coastal shipping from refineries to oil depots around the country, experts take the time to formulate ship allocation plans based on various data and experiences, including inventory at oil depots and weather and sea conditions. Idemitsu is the first company in the industry to introduce advanced AI, such as deep reinforcement learning, into part of its ship allocation planning, and is working to automate such work and conduct verification tests to improve transport efficiency. Based on our mission of providing a stable supply of energy, we aim to optimize the entire supply chain, not just the ship allocation plan.

## Sales

### Medium-term Management Plan Business Policy

We will take advantage of the characteristics of new integrated company to develop and strengthen our domestic revenue base for the next generation. At service stations, while maintaining the existing service station network, we will integrate the measures of both companies, such as car life-related products and services, and human resource development programs for distributors and dealers, and develop new measures to improve customer convenience. Furthermore, in order to respond to the changing and diversifying needs of our customers, we will establish a new business model in the areas of car life and lifestyle-related services based on service stations. In industrial use energy sales, we will respond to the expected strong demand for aviation petroleum products and structural changes in petroleum product demand due to the start of IMO regulations. We will also consider external sales measures such as the development of new commercial products and small-lot delivery.

#### TOPICS

##### Strengthening service station networks

Aiming to become "A life partner that supports the lives and mobility of each and every customer living in the community," we are reviewing the roles that service stations can play as indispensable members of the local community and building a new business model following petroleum products sales. In addition to car washing, sales of car care products such as tires and batteries, and car leasing, car sharing, and car inspection, we are also working on MaaS (Mobility as a Service). The expansion of car-sharing services using ultra-small EVs is being in the demonstration phase and drawing attention to be an easy way to travel to tourist destinations and local areas, as well as a way to contribute to the last mile of people and goods. We believe that service stations in rural areas, where there is no public transportation, need to be used as a vital base for daily life and mobility. We have also entered the rehabilitation day service business as a means of diversifying our service station business.



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