



A New Progress Begins

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A New Progress Begins

Hyundai Oilbank is setting its sights on exciting business opportunities despite difficult market conditions through bold investments in new facilities and strategic business expansions.

Hyundai Oilbank posted the industry's highest ratio of net income to sales in 2019. As uncertainties within the petroleum products market grew, the company took a series of proactive steps to respond to the very low sulfur fuel oil (VLSFO) market in accordance with new regulations mandated by the International Maritime Organization (IMO). Our operating profit in the non-refining sector, largely resulting from our ongoing business diversification, has also been increasing steadily. We are planning to enhance our global competitiveness even further through our new Heavy Feed Petrochemical Complex (HPC) project and our continued facility investments.

We are equally committed to meeting the demands of our corporate social responsibilities. All of our employees participate in sharing and caring volunteer activities, led by the Hyundai Oil Bank 1% Nanum Foundation.

Hyundai Oilbank will continue its evolution into a globally competitive total energy and chemical company by developing new future growth industries through constant investments and R&D.

Leading

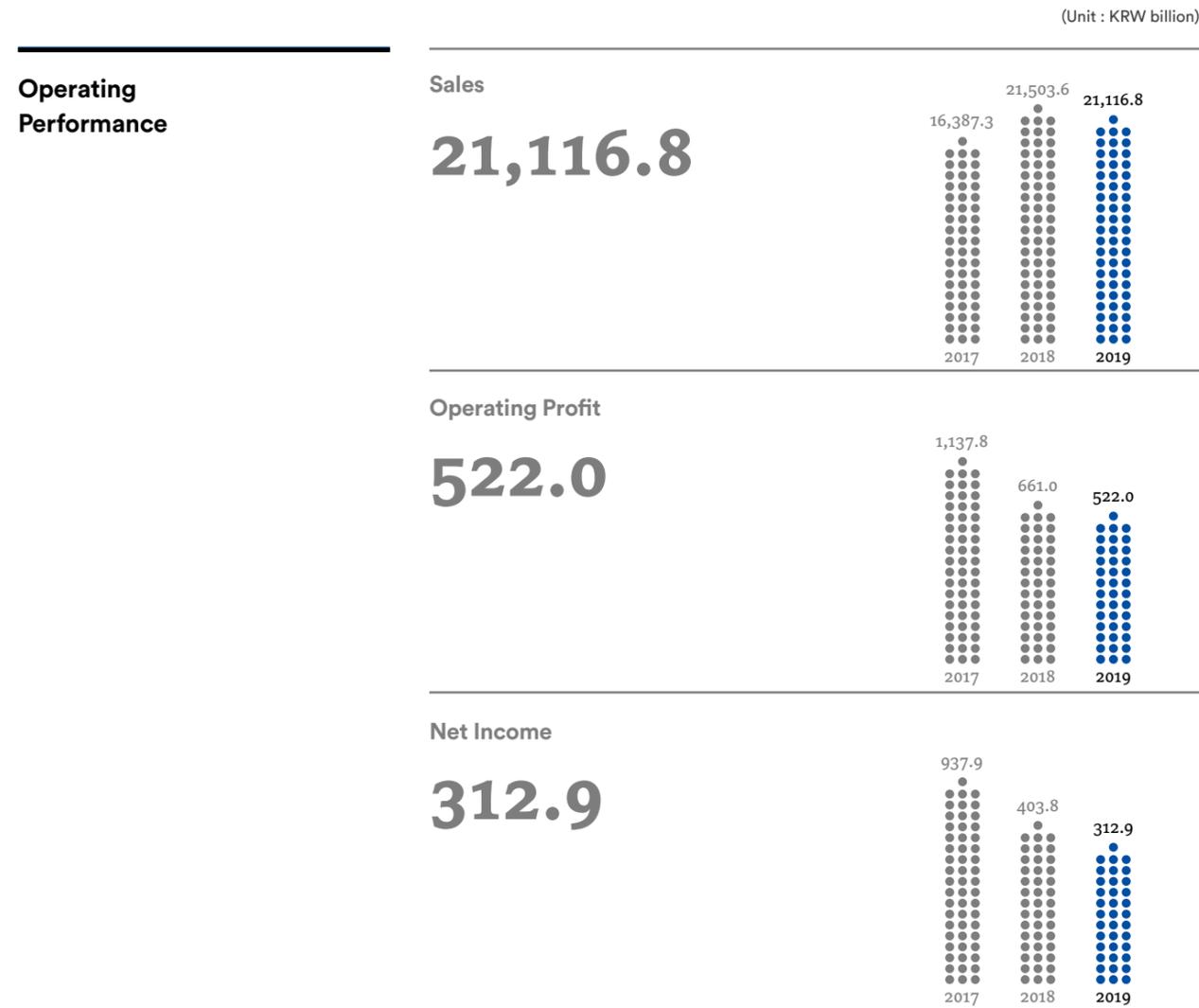
Hyundai Oilbank is committed to continuing its growth as one of the world's leading total energy and chemical players. We will meet this goal by posting industry-leading levels of productivity and competitiveness through sustainable investments, state-of-the-art technology developments, and bold ventures in new businesses with a high potential for profitability.

INTRODUCTION

& Enterprising

Financial Highlights

In 2019, Hyundai Oilbank continued its stable performance, through its first-rate heavy oil upgrading facilities in South Korea, ongoing crude oil imports diversification, and business diversification.



Financial Status

(Unit: KRW billion)

	2017	2018	2019
Total Assets	10,941.3	11,744.8	12,855.9
Total Liabilities	5,879.4	6,620.7	7,414.3
Total Equity	5,061.9	5,124.1	5,441.6

Stability Indicators

(Unit: %)

	2017	2018	2019
Current Ratio	108.1	95.2	111.7
Liabilities-to-Equity Ratio	116.1	129.2	136.3
Interest Coverage Ratio	14.7 times	7.2 times	4.6 time

Financial Conditions of Affiliates in 2019

(Unit: KRW billion)

	Sales	Operating Profit
Hyundai Chemical	3,653.9	106.1
Hyundai and Shell Base Oil	807.0	6.7
Hyundai Cosmo Petrochemical	2,901.9	102.1
Hyundai OCI	180.5	36.0
Hyundai Oil Terminal	42.4	12.4

Credit Ratings

Corporate Bond

AA-

Korea Ratings, Korea Investors Service,
NICE Investors Service

Commercial Paper

A1

Korea Ratings, Korea Investors Service,
NICE Investors Service

Message from the CEO

“Hyundai Oilbank recorded a 2019 operating profit of KRW 630.8 billion, based on the combined results of its own and its affiliates’ operations, in the midst a difficult business environment. This resulted from such profitability-enhancing strategies as maximizing our inputs of extra-heavy crude oil, increasing our heavy oil upgrading (HOU) capacity, and optimizing our production of high-margin petroleum products. Going forward, we will continue to record healthy levels of both profitability and revenues while also build caring, respectful, and healthy workplaces with safety and eco-friendliness as our top priorities.”

Dear valued shareholders, customers, and other stakeholders: On behalf of everyone at Hyundai Oilbank, I would like to report on our performance in 2019 and on our plans for the coming year.

The company recorded sales of KRW 21.117 trillion and an operating profit of KRW 522.0 billion on a consolidated basis in 2019. Sales and operating profit decreased by 1.8% and 21%, respectively, from the previous year, as Singapore’s refining margins unfortunately posted losses. We still managed to fare tolerably well in this regard compared to our competitors, though, since some of them suffered declines in the order of 40% during the same time period.

Our operating profit in the petroleum business stood at KRW 330.6 billion. We are proud to have recorded the industry’s highest operating margin once again--the same as we have done every single year during the last decade. We adopted the strategy of doubling our imports of extra heavy crude oil, which is cheaper than light crude oil, converting them into high-value-added products utilizing our state-of-the-art HOU facilities. In addition, we maximized our manufacture of such high-margin products as low-sulfur marine fuel, whose price remained relatively attractive.

We also applied for a patent for our very low sulfur fuel oil (VLSFO) manufacturing process in October of last year, and began using the resulting HYUNDAI S-TAR brand in our B2B products, giving us an early edge in this sector of the market. With the full-blown implementation of the IMO’s 2020 regulations which lowered the sulfur content standard for marine fuel from 3.5% to 0.5%, we are increasing our sales of low-sulfur marine fuel to more than 250,000 tons a month this year.

Our non-petroleum business produced earnings of KRW 191.4 billion. If we were to include the earnings of our equity method affiliates Hyundai Cosmo Petrochemical (heavy aromatics

business) and Hyundai and Shell Base Oil (lube base oil business), our non-petroleum operating profit would increase to KRW 300.2 billion, and its proportion to our total operating profit would surpass 40%. The figures are remarkable, given that the portion of our operating profit in the non-petroleum business was only in the 10% range a mere three years ago. This proves how successful we have been with our strategy of portfolio diversification, after we began to depart from our previous refining-concentrated business structure beginning with the expansion of our heavy aromatics plant in 2013.

On a related front, we are currently carrying out a KRW 2.7 trillion Heavy Feed Petrochemical Complex (HPC) project for the production of olefin petrochemical products through Hyundai Chemical, our joint venture subsidiary established in collaboration with LOTTE Chemical. We expect another quantum jump after 2021, when the vertical integration of olefin petrochemical products will be completed to add to petroleum products and aromatics with the commercial operations of HPC. We will strive to achieve more than KRW 1 trillion in total operating profit, while also generating over half of our operating profit in the non-petroleum business.

Although South Korea’s oil refinery industry is experiencing an unprecedented period of hardship, including the COVID-19 pandemic and an ongoing economic downturn, we will seek to continuously improve our profitability based on safety and eco-friendliness this year.

Thank you very much for your continuing support and interest.



President & CEO
Kang Dal-ho



Message from Executives



Jung Hae-won, Vice President
Head of Safety & Production Division

We will focus on maximizing the company's profits and revenues through safe operations and discovering new growth engines in 2020. This will be done as a means of once again turning crises into opportunities and laying the cornerstone for another very profitable year.

Concerns over uncertainties in South Korea's refinery industry seem to be escalating. They include a dramatic rise in the global supply of crude oil due to exploding shale oil production results in the United States and a struggle for industry leadership among the world's many oil-producing countries; a severe oversupply of products resulting from the building and expansion of petrochemical plants around the world; and economic recessions leading to sluggish demand for petroleum-based products due to the continuing US-China trade war and the spread of the COVID-19 virus. Given the need to operate in this extremely unappetizing business climate, the Safety & Production Division will focus its capabilities on maximizing the company's profits and revenues through safe operations and discovering new growth engines in 2020, as a means of turning crises into opportunities and laying the cornerstone for another very profitable year. To this end, we will pay particular attention to reinforcing the safety of all our facilities and our accident prevention activities. We will also successfully carry out the turn-around (T/A) and revamping projects that were already planned for this year to continue to extend the Daesan Refinery Plant's record of accident-free work hours.

We will also contribute to enhancing the company's earnings by achieving noticeable cost savings and yield improvements, and by maximizing the production of high-value products. This last goal will especially apply to the production of our HYUNDAI S-TAR very low sulfur fuel oil, so that we can fully enjoy the beneficial revenue effects of IMO 2020. Our quest to find and develop new growth engines will be accomplished through the development of a variety of new business enterprises, such as adding value to our naphtha and HPC byproducts in our refining and petrochemical sectors. Maintaining the enviable safety record of the company's Daesan Refinery Plant will be our highest priority for the year 2020.

As always, the ultimate goal of the Safety & Production Division will be to assist Hyundai Oilbank in becoming a global total energy and chemical company through sustained facility investments and steady and stable growth.



Han Hwan-gyu, Vice President
Head of Sales & Marketing Division

We will continue building trusting and profitable relationships with our many loyal customers at all our contact points.

Hyundai Oilbank entered into business relationships with 143 gas station operators last year, the best result since its inception. When the company completes its acquisition of more than 300 directly-run service stations currently owned by SK networks in June this year, it will rocket into second place in the industry, owning and operating the largest directly-run service station network in all of South Korea. Based on this, we are planning to offer our customers a wide range of differentiated products and services. First of all, we will create synergies by utilizing more than 150 networks in operation by our affiliates and related companies. We will also increase our sales competitiveness by establishing mutually beneficial relationships with our gas station operators and corporate customers. Thirdly, we will draw on the knowledge and the experience that we earned by building the nation's very first energy station complexes and use them to continue diversifying our revenue structure. This will include developing more complexes, as well as constructing new logistics bases within our gas stations. Space rentals and electric vehicle charging outlets will also be part of the mix we are projecting.

Hyundai Oilbank will continue moving ever forward in its role as a globally competitive total energy and chemical company, with a goal of posting KRW 26 trillion in sales and KRW 2 trillion in operating profit by 2023. We expect to confront a number of difficulties this year, including the COVID-19 situation, leading to a downturn within real economy and a concomitant decline in demand for oil-based products. Refining margins should also deteriorate following the slide in oil prices. Despite these many challenges, all of us at the Marketing Division will work our hardest to overcome them, by remembering the bold and brave words spoken by our company's founder: "There may be distressing events, but no such thing as failure."



Chu Young-min, Vice President
Head of Global Business Division

Global demand for petroleum products for transportation and industrial uses has fallen dramatically with the worldwide spread of COVID-19, and oil production increases by Saudi Arabia and Russia are leading to higher market volatility. The Global Business Division will respond to this problematical business environment by taking steps that will ensure the company's continuing profitability through aggressive cost savings, expanded sales of high-yield products, and high-level risk management.

The first step in this strategy is to increase our range of suppliers to reduce our crude oil purchasing costs, which make up a very high proportion of our total expenses. The company is currently importing 62 different types of crude oil from 24 countries. We will extend this list even more by adding Brazil, Norway, Nigeria, and other oil-producing countries in order to optimize crude oil imports for stable production and high profitability. Secondly, we will increase our exports of high-yielding petroleum products. We will reduce our exports of general-purpose petroleum products to various countries in Southeast Asia, and increase the sales of our HYUNDAI S-TAR high-quality very low sulfur marine fuel and other special semi-finished products for blending in more developed regions like the Americas and Oceania. Thirdly, we will respond to the current level of high volatility in the international crude oil and product market by establishing an aggressive risk management strategy that will help strengthen the company's operational stability. Last, but not least, we will add to our operations in Singapore, China, and Vietnam. We will also accelerate the development of overseas joint and collaborative projects with other on- and off-shore oil refining and petrochemical companies and well-respected local players. Even though we will be working in an extremely difficult operating environment, we are pledged to take any and all measures that we can to contribute to the stable growth of Hyundai Oilbank. Thank you.



Song Myung-joon, Senior Executive
Head of Planning & Finance Office

Although the very difficult business environment continued into 2019, with refining margins at their lowest level in five years, Hyundai Oilbank managed to record an operating profit of KRW 630.8 billion, based on the combined results of its own and its affiliates' operations.

This was attributable to our ongoing strategy of utilizing our industry-leading heavy oil upgrading units to maximize our inputs of cheap extra heavy crude oil, reducing our costs, and improving our profitability. I also believe, though, that this success could not have resulted without the unstinting efforts of all our employees.

All the indicators that I am aware of are forecasting that our operating environment in 2020 will be more volatile and unpredictable than ever before. In order to deal with this situation, the Planning & Finance Office will encourage an even greater level of cooperation among the divisions, so that they will be better positioned to respond to rapidly changing market conditions in the most positive and proactive manner possible. We will also continue to share the benefits of a collegial and cooperative collaboration system with all our affiliates.

In addition, we will do everything that we can to forward and support the successful implementation of the Heavy Feed Petrochemical Complex (HPC) project due for commercial operation in the second half of 2021. We will also continue to assist the company in its quest to enter into new businesses with a high potential for growth and profitability.



**OUR
STRATEGY**

01 — Expand to new fields

02 — Focus on new technologies

03 — Open up new possibilities

04 — Create with new miracles

01

Expand to new fields

01

HEAVY FEED PETROCHEMICAL COMPLEX (HPC) PROJECT

Hyundai Oilbank signed an investment agreement with LOTTE Chemical in May 2018 regarding the HPC project. Scheduled for completion in 2021, it is a new ultra-large petrochemical project costing KRW 2.7 trillion. The facility will be built on a 500,000m² site within the grounds of Hyundai Oilbank's Daesan Refinery Plant. When commercial operations begin in two years, it will be capable of producing 750,000 tons of polyethylene and 400,000 tons of polypropylene annually, contributing significantly to the improvement of profitability owing to its higher level of cost competitiveness when compared with other industry players.



Investment

KRW 2.7 trillion

Hyundai Oilbank is carrying out a heavy oil cracking facility project through its largest-ever investment since its establishment.



Commercial operations begin

2021

Plant site

500,000 m²

Hyundai Oilbank is building a secure foothold for its growth by continuously establishing new businesses and making improvements to its production processes.

Estimated polyethylene production

750,000 tons per year

Estimated polypropylene production

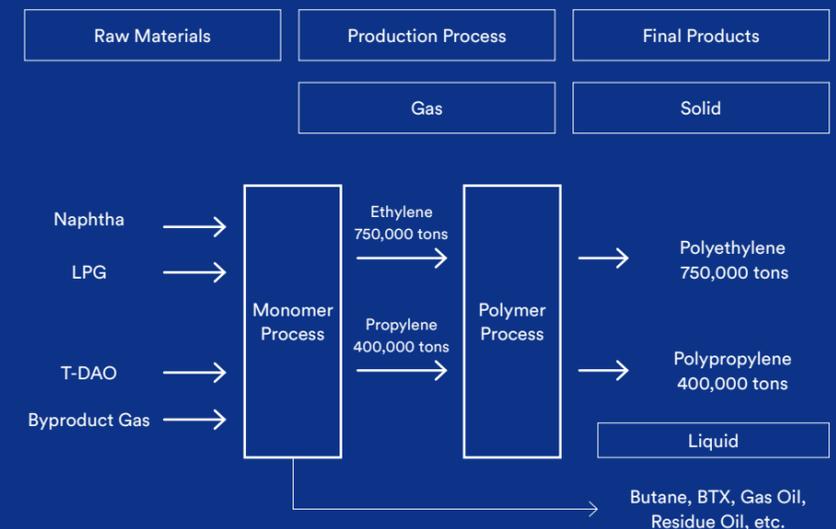
400,000 tons per year

Ratio of operating profit of non-refining business to total

45% ↑

Hyundai Oilbank is strengthening its foundations for sustainable growth diversifying into non-petroleum businesses. By successfully completing the new petrochemical business HPC project, we plan to raise the operating profit portion of our non-petroleum business to 45% in 2022, and to 50% or more over the years.

Heavy Oil Cracking Units



02

Focus on new technologies

02

LAUNCHED ECO- FRIENDLY VERY LOW SULFUR FUEL OIL (VLSFO)

Hyundai Oilbank has applied for a domestic patent for its world's-first VLSFO production process, which it developed so that it could respond to the IMO 2020 regulations in a more effective and efficient manner. We intend to become the leader of South Korea's high-quality VLSFO market, which is expected to see a rapid rise in demand due to the effect of new IMO regulations.



High-quality VLSFO production process



Completely remove impurities like asphaltene using a supercritical solvent with the characteristics of both a liquid and a gas

Hyundai Oilbank aspires to become a leader in the VLSFO market through the HYUNDAI S-TAR, the world's first eco-friendly marine fuel oil brand.

HYUNDAI S-TAR is an eco-friendly marine fuel oil product that Hyundai Oilbank produces from its independently developed VLSFO production process. It is completely free of impurities like asphaltene and sulfur, both of which can cause ships' engines to fail. We are carrying out a wide range of marketing activities with the launch of this brand, and plan to lead the world marine fuel market with it.



S-TAR

The S-TAR (Supercritical Solvent Extracted Treated Atmospheric Residue) is completely free of impurities like asphaltene and sulfur. It is produced by applying a new technology that uses supercritical solvent to the residue from refining process.



Daily VLSFO manufacturing capacity

50,000

barrels

Hyundai Oilbank is currently able to produce 50,000 barrels of VLSFO per day at its facility inside the grounds of its Daesan Refinery Plant.



03

Open up new possibilities

03

EXPANDING DIRECTLY-RUN GAS STATIONS AND THE PLATFORM BUSINESS

Hyundai Oilbank became the second-largest owner of gas stations in South Korea by acquiring 302 directly-run gas stations from SK networks. The overall effect of this expansion will be to ensure the company's stable sales growth in the domestic market, which it believes is more economical than dealing with exports.

The company expects to raise its market share for gas stations in the national capital region appreciably, generating a broad range of synergies that will allow it to enhance its competitiveness in the domestic refinery market through expanding platform businesses.



Number of newly acquired, directly-run gas stations

+ 302

Hyundai Oilbank is adding to its platform business by sharing its operating sites with a variety of logistics and distribution companies, utilizing both its existing and newly acquired gas stations.

The company will increase its investments in the platform business by installing hydrogen and electric vehicle charging stations at its already-existing gas station sites as well as utilizing the sites as delivery bases. It is also planning to establish a variety of new and exciting partnerships and promotional strategies with its own affiliates, as well as with credit card firms, startups, and other like-minded companies.

Our strategy is to cease thinking of gas stations as being merely fuel charging stations, and instead start utilizing their sites as platform business infrastructures that can be transformed into a wide variety of businesses.

The company is putting this strategy into practice with the construction of its second energy station complex. Equipped to sell customers all types of transportation fuels, such as gasoline, diesel, LPG, and electricity, it is being built in association with Goyang Urban Management Corporation and Goyang K-World. In addition to fuel sales, the complex will provide a wide array of customer convenience services, such as car washes and vehicle repairs.

Expected energy station complex size

66,000 m²



Increases in the number of gas stations opened by region

Metropolitan Area	168
Gangwon Region	12
Chungcheong Region	43
Gyeongbuk Region	26
Honam Region	20
Gyeongnam Region	33



04

Create with new miracles

04

HYUNDAI OILBANK 1% NANUM FOUNDATION

Hyundai Oilbank contribute to the society through Hyundai Oilbank 1% Nanum Foundation, which is financed by donations made by its employees equal to 1% of their monthly salaries. With more than 95% of our employees participating, the total amount donated to the fund over the past eight years is approximately KRW 12.1 billion. Donations are also made by people working at our directly-run gas stations and employees of our affiliates and partner companies.



Employee volunteer hours in 2019



5,451

Employees of Hyundai Oilbank visit people who need helping hands. They provide more than 5,000 hours of voluntary community services every year through the company's "Sharing Happiness Volunteer Program."

The Hyundai Oilbank 1% Nanum Foundation is expanding the range of its social contributions programs both at home and abroad. It is also becoming a model for other companies to adopt.

Some of the signature activities that the foundation carries out in South Korea include a free food program for seniors and providing heating oil to small-scale social welfare facilities and low-income households. Overseas, it engages in educational support projects in Vietnam, Nepal and other countries. Our foundation has inspired other large corporations to establish similar types of social contribution foundations.

Donations made by Hyundai Oilbank 1% Nanum Foundation

KRW 12.14 billion

(cumulative from December 2011 to December 2019)



NATIONAL SHARING GRAND AWARDS

Hyundai Oilbank 1% Nanum Foundation won a Prime Minister's Citation at the "National Sharing Grand Awards" event in October 2019. The award recognized the foundation's contributions to social betterment programs and activities at home and abroad.

Board of Directors

Hyundai Oilbank strives to meet stakeholders' expectations while enhancing management transparency and efficiency by strengthening the roles and stature of the Board of Directors.

With an aim to ensure transparency in corporate governance, Hyundai Oilbank has further strengthened the roles and stature of its BOD, which is at the center of its governance system. With its widened role and boosted status, the BOD supports the company in meeting the expectations of its shareholders, employees, customers and other stakeholders.

Roles and Composition of BOD

The BOD at Hyundai Oilbank makes strategic decisions on business issues, and undertakes advisory and oversight functions to ensure transparency in management, with the ultimate aim of achieving greater corporate value. In order to perform these functions, the BOD elects and delegates authority to the CEO, oversees executives' performance of their duties, and provides guidance. We continue to strive to benefit shareholders, investors, and markets, by boosting management transparency and efficiency through these BOD activities.

The BOD consists of six members, including two inside directors, one non-standing director, and three outside directors, all of whom are elected at the general meeting. The BOD is chaired by the CEO. As the company's highest decision-making body on the management of its business, the BOD deliberates freely and in-depth, and then votes on major matters related to the company's business activities, including improvements to the company's financial structure, major investment projects, and other business matters.

Composition of BOD

As of the end of 2019

CEO	Kang Dal-ho	· President & CEO, Hyundai Oilbank
Inside Director	Kwon Oh-gap	· 2018-Present: Vice Chairman & CEO, Hyundai Heavy Industries · 2019-Present: Vice Chairman & CEO, Korea Shipbuilding & Offshore Engineering
Non-standing Director	Ibrahim Al-Buainain	· 2016-Present: President & CEO, Aramco Tradin
Outside Directors	Yoon Jeung-hyun	· 2011-Present: Director, Yoon Economic Research Institute · 2009-2011: Minister, Ministry of Strategy and Finance · 2004-2007: Governor, Financial Services Commission and Financial Supervisory Service
	Lee Kyoo-yong	· 2008-Present: Adviser, Kim & Chang law firm · 2007-2008: Minister, Ministry of Environment · 2006-2007: Vice Minister, Ministry of Environment
	Kim Gap-yu	· 2019-Present: Lead Lawyer, Peter & Kim · 2017-Present: Chairman, International Court of Arbitration of Korean Commercial Arbitration Board · 2014-Present: Vice Director, International Court of Arbitration of International Chamber of Commerce · 1996-2019: Lawyer, BAE, KIM & LEE LLC. law firm

Sub-committees

Hyundai Oilbank has established three sub-committees under the BOD, in order to enhance independence, expertise and efficiency of the Board. The composition and roles of the Audit Committee, Committee for Internal Transactions, and Outside Director Candidate Recommendation Committee are as follows.

Composition and Roles of Sub-committees

As of the end of 2019

Audit Committee	Lee Kyoo-yong Yoon Jeung-hyun Kim Gap-yu	· Examine the company's accounting and corporate activities · Request reports on operations and review the company's financial status · Handle legal and other situations delegated by the articles of incorporation or the Board · Handle selection, replacement, and dismissal of the audit firm
Committee for Internal Transactions	Lee Kyoo-yong Yoon Jeung-hyun Kim Gap-yu	· Approve and report to the Board on major internal transactions according to the Fair Trade Act
Outside Director Candidate Recommendation Committee	Kang Dal-ho Yoon Jeung-hyun Kim Gap-yu	· Nominate outside director candidates to be appointed at the AGM

Major BOD Activities in 2019

In 2019, the Board held a total of twelve meetings to discuss and make decisions on major management issues.

Key Board Reports and Resolutions in 2019

AGM, BOD, Corporate Governance	· Approval of the holding of the AGM and adoption of agenda items for FY 2019 · Approval of the holding of an extraordinary general meeting and adoption of agenda items for FY 2019 · Appointment of members of the Committee for Internal Transactions · Appointment of members of the Outside Director Candidate Recommendation Committee · Revision of the regulations of the Audit Committee
Investments	· Investment in RDS process expansion · Investment in new CDU and VDU processes · Participation in new stock issuance conducted by Hyundai Chemical · Investment in R&D infrastructure expansion for Hyundai Oilbank Central Technology R&D Institute · Report on acquisition of business rights for directly-run gas stations from SK networks
Accounting and Finance	· Approval of FY 2019 business report and financial statements · Signed of fund supply agreement with Hyundai OCl and Hyundai Chemical · Issuance of 120th and 121st corporate bonds
Other	· Approval of long-term contract for crude oil and petroleum products · Approval of sale of reclaimed land · Promotion of MOU with Saudi Aramco · Approval of sponsorship agreement with Hyundai Heavy Industries Sports · Approval of sponsorship agreement with K League

Corporate History



Nov. 1964
Established as Kukdong Oil Industrial Company, South Korea's first privately-owned petroleum refinery company



Jul. 1989
Completed the construction of Daesan Plant (Awarded Presidential Citation)



Jun. 1994
Launched the Oilbank brand

1964-2008

Nov. 1964 Established as Kukdong Oil Industrial Company, South Korea's first privately-owned petroleum refinery company

Jan. 1969 Changed company name from Kukdong Oil Industry to Kukdong Shell Petroleum

May. 1977 Changed company name from Kukdong Shell Petroleum to Kukdong Oil

Aug. 1978 Completed crude refining facility (10,000 bpd)

Aug. 1988 Launched commercial operation of Crude Distillation Unit (60,000 bpd)

Nov. 1988 Changed company name from Kukdong Oil to Kukdong Oil Refining

Jul. 1989 Completed the construction of Daesan Plant (Awarded Presidential Citation)

Nov. 1989 Obtained permission for expansion of 0.1 million barrels of crude oil processing

Jul. 1993 Changed company name to Hyundai Oil Refinery
Launched the Oilbank brand

Jun. 1994 Completed the construction of oil refining facility at Daesan Plant (200,000 bpd)

May. 1996 Completed the construction of #1 BTX Plant (400,000 tpa)

May. 1998 Acquired Hanwha Energy and merged with Hanwha Energy Plaza

Apr. 1999 Signed joint venture contract with IPIC of United Arab Emirates

Nov. 1999 Split off from Hyundai Group

Jan. 2000 Changed company name from Hyundai Oil Refinery to Hyundai Oilbank

Apr. 2002 Named Good Company for New Management

Nov. 2004 Employees Culture by the Ministry of Labor

Nov. 2005 Completed the Clean Fuel Project

Mar. 2006 Received a grand prize in Best Ethical Management Company Awards from the Ministry of Commerce, Industry, and Energy in the manufacturing category

Jan. 2007 Received A rating in fair trade compliance program

Mar. 2007 Began operation of 52,000-barrel oil reservoir on Jeju-do

Jun. 2007 Obtained "A2+" credit rating for company's commercial paper

Apr. 2008 Signed an agreement on strategic alliance for oil refinery business with Cosmo Oil of Japan

Nov. 2008 Signed contract for construction of #2 HOU plant within grounds of Daesan Refinery Plant

Dec. 2008 Received the Prime Minister Award at the 15th Corporate Innovation Awards from Korea Chamber of Commerce and Industry

2009-2012

Mar. 2009 Received Grand Prix at the 2009 Ethical Management Awards from the New Industry Management Academy

Jun. 2009 Finalized construction plans of BTX plant with annual production capacity of 910,000 tons of P-Xylene and other petrochemical products with Cosmo Oil of Japan

Jul. 2009 Ranked first in Oil Refinery Call Center category in Korean Service Quality Index (KSQI) survey by Korean Management Association Consulting (KMAC)

Dec. 2009 Received the USD 5 Billion Export Tower on Trade Day from Korea International Trade Association (KITA)

Jun. 2010 Received the Korea Great Workplace Award from Hankyung Magazine

Jul. 2009 Ranked first in Oil Refinery Call Center category in Korean Service Quality Index (KSQI) survey by Korean Management Association Consulting (KMAC)

Aug. 2010 Became an affiliate of the Hyundai Heavy Industries Group

Aug. 2010 Kwon Oh-gap appointed as the CEO of Hyundai Oilbank

Mar. 2011 Launched the Customer Advisory Panel

Jul. 2011 Began construction of #2 BTX Plant of Hyundai Cosmo Petrochemical

Sep. 2011 Signed an agreement on 1% sharing, a first among large companies in South Korea

Sep. 2011 Began commercial operations of the #2 HOU Plant

Oct. 2011 Began construction of oil terminal at Ulsan New Port

Nov. 2011 Established Hyundai Oilbank Central Technology R&D Institute

Jan. 2012 Made all worksites smoke-free

Feb. 2012 Joint business with Shell for lube base oil business

Feb. 2012 Launched Hyundai Oilbank 1% Nanum Foundation

Apr. 2012 Established Hyundai and Shell Base Oil

Apr. 2012 Completed the construction of the Hanmaeum Hall for business partners

Jul. 2012 CEO Kwon Oh-gap presented with Dasan Management Award by Korea Economic Daily

Sep. 2012 Completed construction of advanced heat supply facility (8th FBC)

Oct. 2012 Received the Presidential Award at the 1st Korea Knowledge Awards

Oct. 2012 Ranked first in KS-CQI in the entire industry category and KS-SQI in refinery category

Nov. 2012 Mechanical completion of #2 BTX Plant of Hyundai Cosmo Petrochemical

Dec. 2012 CEO Kwon Oh-gap received the Silver Tower Industrial Medal on Trade Day

Dec. 2012 Received the USD 8 Billion Export Tower on Trade Day



May. 2016
Completed the construction of the Hanmaeum Hall, a welfare center at an apartment complex for staff



Nov. 2016
Began commercial operations of the MX Plant of Hyundai Chemical



Aug. 2018
Completed the construction of the solvent de-asphalting (SDA) process



Aug. 2019
Completed construction of Hyundai Oil Terminal's Pyeongtaek Terminal

2013-2015

Jan. 2013 Began construction of the lube base oil plant of Hyundai and Shell Base Oil

Feb. 2013 Named one of the top 10 companies at the Best Employers in South Korea by Aon Hewitt

Apr. 2013 Began commercial operations of the #2 BTX Plant of Hyundai Cosmo Petrochemical

Jul. 2013 Signed an MOU for mixed-xylene manufacturing business with LOTTE Chemical

Sep. 2013 Launched lubricant business and XTeer automobile engine oil brand

Jan. 2014 Directly-run service stations participated in the 1% profit sharing program

Apr. 2014 Began commercial operations of Oil Terminal

May. 2014 Obtained ISO 14001 Energy Management System Certificate

May. 2014 Established Hyundai Chemical

Jun. 2014 Announced corporate vision in celebration of 50th anniversary

Aug. 2014 Began commercial operations of the lube base oil plant of Hyundai and Shell Base Oil

Sep. 2014 Completed construction of Daegu Logistics Center

Sep. 2014 Moon Jong-bak appointed as the President and CEO of Hyundai Oilbank

Oct. 2014 Completed construction of advanced heat supply facility (9th FBC)

Nov. 2014 Ranked first in the service station category at the KS-CQI surveys by Korea Standards Association

Nov. 2014 Received the Prime Minister Award at the Energy Conservation Promotion Rally from Ministry of Trade, Industry and Energy

Nov. 2014 Received Presidential Award at the Labor-Management Culture Awards from Ministry of Employment and Labor

Nov. 2014 Received the Presidential Award at the 13th Korea Safety Awards

Dec. 2014 Received the Presidential Award at the 2014 Corporate Innovation Award from Korea Chamber of Commerce and Industry

Feb. 2015 Received the Grand Prize at the 11th Transparent Management Awards

Mar. 2015 Launched Seosan 1% Nanum House Project of Hyundai Oilbank 1% Nanum Foundation

Jun. 2015 Received the Presidential Award at the 2015 Green Management Awards

Jun. 2015 Achieved 4 million zero-accident work hours

Jun. 2015 Established partnership with Seoul National Cemetery

Sep. 2015 Held company-wide athletics competition

Nov. 2015 Received the Presidential Award at the 2015 Korea Electrical Safety Awards

Nov. 2015 Achieved 5 million zero-accident work hours

2016-2019

Feb. 2016 Launched Hyundai OCI

Mar. 2016 Sponsored K League for sixth consecutive year

Mar. 2016 Achieved 6 million zero-accident work hours

May. 2016 Completed the construction of the Hanmaeum Hall, a welfare center at an apartment complex for staff

Aug. 2016 Achieved 7 million zero-accident work hours

Nov. 2016 Began commercial operations of the MX Plant of Hyundai Chemical

Dec. 2016 Achieved 8 million zero-accident work hours

Dec. 2016 President & CEO Moon Jong-bak received the Gold Tower Industrial Medal on Trade Day

Apr. 2017 Achieved 9 million zero-accident work hours

Jun. 2017 Signed MOU on the construction of Children's Library in National Library of Vietnam in Hanoi, Vietnam

Sep. 2017 Achieved ten million zero-accident work hours

Oct. 2017 Completed the construction of the Carbon Black Plant of Hyundai OCI

Nov. 2017 Opened Children's Library in National Library of Vietnam in Hanoi, Vietnam

Jan. 2018 Achieved 11 million zero-accident work hours

May. 2018 Signed an agreement on investment in new olefin business (HPC Project) with Lotte Chemical

May. 2018 Launched Mobile Lab service

May. 2018 Held Dream Concert

Jun. 2018 Opened the nation's first energy station complex

Aug. 2018 Completed the construction of the solvent de-asphalting (SDA) process

Sep. 2018 Achieved 13 million zero-accident work hours

Dec. 2018 Received Grand Prize in Brand Innovation category at WEB AWARD KOREA for website

Dec. 2018 Kang Dal-ho appointed as the CEO of Hyundai Oilbank

Aug. 2019 Completed construction of Hyundai Oil Terminal's Pyeongtaek Terminal

Sep. 2019 Achieved 16 million zero-accident work hours

Oct. 2019 Hyundai Oilbank 1% Nanum Foundation awarded grand prize at National Sharing Grand Awards

Dec. 2019 Launched "HYUNDAI S-TAR" very low sulfur fuel oil brand

Corporate Vision

Hyundai Oilbank aspires to become a future-leading total energy and chemical company through re-inforced competitiveness in the refining sector and business diversification in the non-refining sector.

A total energy and chemical company with global competitiveness

An explosion, an oil spill and other major accidents at an oil refinery can have enormous consequences both in terms of the costs and the time needed to recover, which can even threaten the very survival of a company. This explains why Hyundai Oilbank places such a high premium on industrial safety at all its facilities, and why we are so proud to have gone approximately 17 million hours without an accident, going back all the way to October of 2013.

We are continuously enhancing our profitability in the refining sector, mainly through a large-scale expansion of our refining facilities and our HOU processes. We are also increasing our competitiveness in the non-refining sector by advancing into the petrochemical business while strengthening our BTX, oil storage, lube base oil, and carbon black businesses.

- 

Prioritizing safety and eco-friendly management
- 

Maximizing company-wide earnings and optimizing plant operations
- 

Enhancing competitiveness through business diversification
- 

Fulfilling our corporate social responsibilities

Strengthening competitiveness by investing in new growth industries

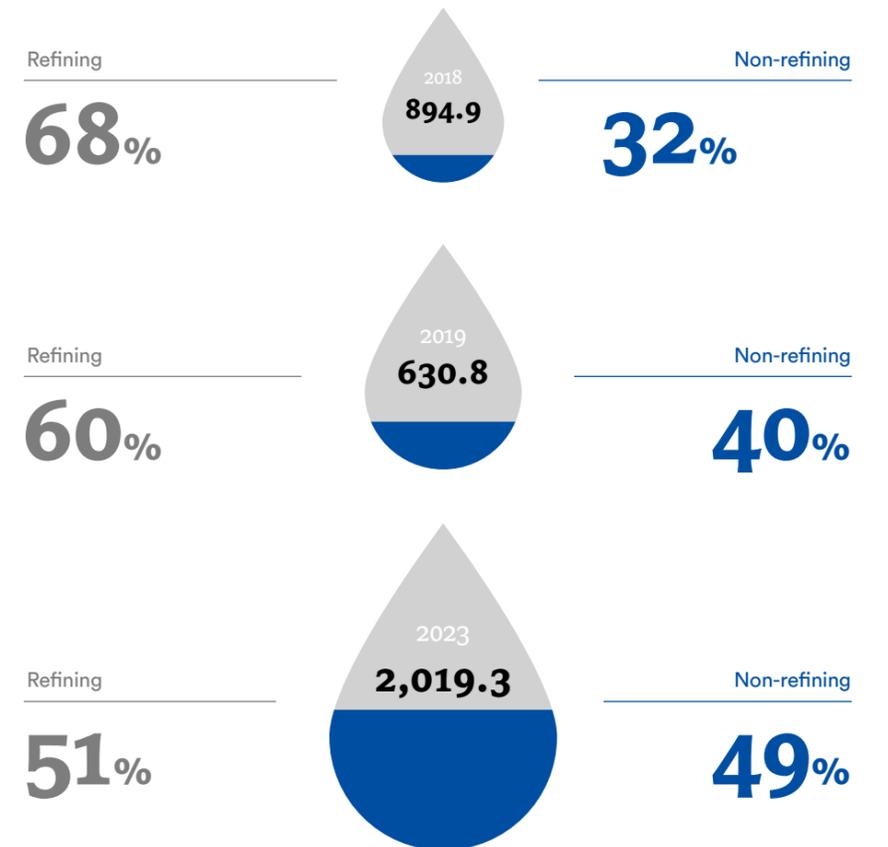
Hyundai Oilbank plans to expand its HOU process to take maximum advantage of anticipated high demand for low-sulfur marine fuel oil following International Maritime Organization(IMO)'s tightened sulfur content standards for marine fuel oils to take effect in 2020.

In addition, the company's Heavy Feed Petrochemical Complex (HPC) project, which is currently underway as part of its strategy of advancing into the petrochemical business, is expected to have an unrivalled level of cost competitiveness thanks to its utilization of desulfurized heavy oil. to the project will also give us a competitive edge over our competitors in many areas by allowing us to generate synergies between our petroleum and petrochemical businesses. We plan to raise the portion of our operating profits from non-petroleum business to 50% or more going forward by making significant investments in key future growth drivers.

Operating Profit and Portion by Business

* Based on the combined results of all affiliates

Operating Profit (Unit: KRW billion)



Innovating

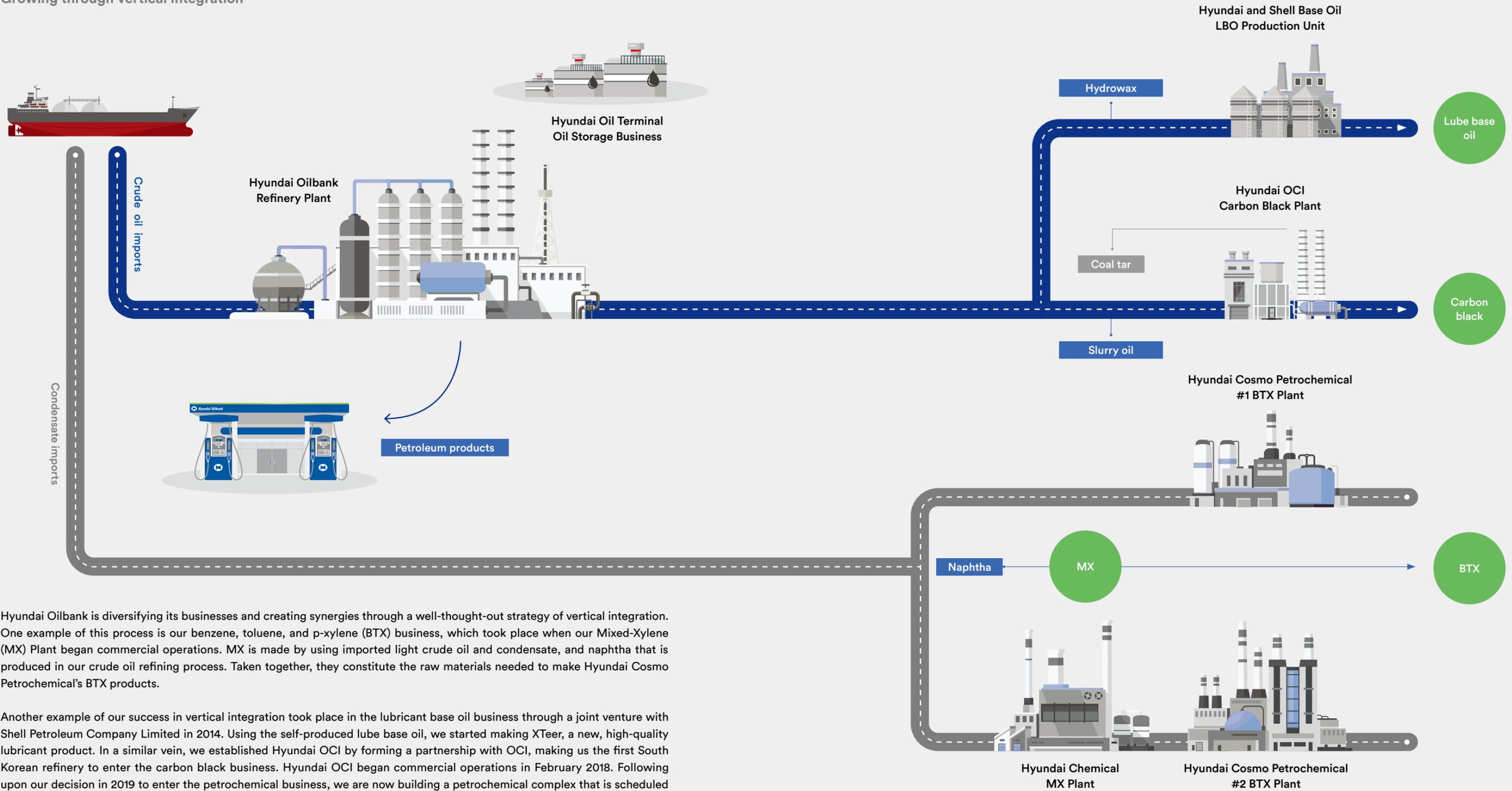
Hyundai Oilbank is raising its business efficiency and strengthening its synergy effects through a strategy of business expansion and vertical integration, while also increasing its profitability by operating industry-leading HOU facilities

BUSINESS REVIEW

& Growing

Business Summary

Growing through vertical integration



Hyundai Oilbank is diversifying its businesses and creating synergies through a well-thought-out strategy of vertical integration. One example of this process is our benzene, toluene, and p-xylene (BTX) business, which took place when our Mixed-Xylene (MX) Plant began commercial operations. MX is made by using imported light crude oil and condensate, and naphtha that is produced in our crude oil refining process. Taken together, they constitute the raw materials needed to make Hyundai Cosmo Petrochemical's BTX products.

Another example of our success in vertical integration took place in the lubricant base oil business through a joint venture with Shell Petroleum Company Limited in 2014. Using the self-produced lube base oil, we started making XTeer, a new, high-quality lubricant product. In a similar vein, we established Hyundai OCI by forming a partnership with OCI, making us the first South Korean refinery to enter the carbon black business. Hyundai OCI began commercial operations in February 2018. Following upon our decision in 2019 to enter the petrochemical business, we are now building a petrochemical complex that is scheduled for completion in 2021. This venture will allow us to significantly increase our profitability while also bringing our strategy of vertical integration for all our petroleum products to a very successful close.

Petroleum Business

Hyundai Oilbank has a daily crude oil refining capacity of 690,000 barrels and a 21.7% share of South Korea's light and middle distillate oil market. In addition, we are enhancing our business competitiveness through oil imports diversification and export market expansion to become a global total energy and chemical company.

Diversifying crude oil imports

Hyundai Oilbank increased its imports of non-Middle Eastern crude oil in 2019 in response to a rise in non-OPEC crude outputs and the continuing sanctions on Iran. Following the commercial operation of our solvent de-asphalting (SDA) process, we have increased the supply of cheap South American ultra heavy crude oil. We also sourced new supplies from Norway and Peru, while maintaining our purchases from the United States, the United Kingdom, and Kazakhstan.

	2012	2015	2018	2019
Imports from the Middle East	91%	82%	54%	42%
Countries*	13	20	22	24
Oil Types*	21	39	56	62

* Cumulative number of oil types and countries since 2012

Reinforcing our brand image

Hyundai Oilbank carries out a wide variety of marketing programs aimed at reinforcing its brand image. We buy many radio advertisements year-round, using a theme of "promoting a safe driving culture" to stress our concerns about public safety and our friendliness. Our other signature programs include "Sesame Oil Promotion" in the spring and "New Rice Promotion" in the autumn. As a part of our specialized automotive marketing strategy, we also participated as the official fuel providing sponsor in the 2019 "Super Race," South Korea's largest sports car racing event. We also carried out a number of ad campaigns us-

ing our gas station platforms in conjunction with such well-known brands as Burger King, Coupang, Parking Friends, The Safe Delivery Service for Women, Oho Self-Storage, and others.

Strengthening gas station quality and service

We also took a number of steps to increase people's awareness of our gas and charging station services. They included a "Honeymoon Program" to support newly opened gas station operators; a "Visiting Barista" program that offers customers fresh coffee; a "Service Academy" to instill best customer service practices at both new and existing facilities; and hiring a "Market Designer (MD)" team of service and design consultants. We also operate on-site service training and education programs targeting service station operators and their employees, and use a professional research agency to monitor the quality of their operations. A quality support center is in operation to boost quality management at our gas stations, and we practice quality control using a "Mobile Lab" inspection system. The lab was named a "Hit Product of the Year" by Digital Chosun, and won the Commerce, Industry and Energy Minister's Award in the Oil Quality Management category.

Diversifying product specifications and expanding global presence

Hyundai Oilbank exported a grand total of 91.47 million barrels of petroleum products in 2019. We have successfully found a willing and stable buyer despite being in a prolonged global oversupply situation, signing a contract with Saudi Aramco to export a maximum of 0.1 million barrels of

Domestic Light and Middle Distillate Oil Market Share in 2019

21.7%

Daily Crude Oil Refining Capacity

690,000 barrels

* Including 170,000 barrels of Hyundai Chemical's condensate splitter

Number of Gas Stations in Operation

2,348

petroleum products a day for the next twenty years. This year, we have increased our supply of marine bunkering fuel through our Singapore subsidiary in response to IMO's regulations. We also launched a bunkering business in the huge China market through our Shanghai subsidiary. In order to find even more new markets, we began supplying gasoline in the Vietnam market with high growth potential by leasing a tank terminal and opened a branch in Houston, Texas to enter the export market in the Americas. We are planning to export more of our highly profitable petroleum products this year, while maintaining stable sales to long-term buyers like Saudi Aramco.

Expanding the lubricant business

Hyundai Oilbank is expanding its product portfolio by launching a top-tier lubricant product called "XTeer Top Prime." We also developed a highest-quality lubricant for use in automobiles, shipbuilding, ships, generators, construction machinery, transformers, and robots, and made it immediately available to their manufacturers and aftermarket users. This was made possible by building a state-of-the-art engine dynamometer facility and carrying out research into engine oils in conjunction with auto makers at our Lubricant Research Center. We obtained certifications from Hyundai Motor, BMW, Mercedes-Benz, Porsche, Volvo, MAN, Renault, and Hyundai Heavy Industries. In January of this year, we launched our CK-4 grade lubricant, the highest standard recognized by the American Petroleum Association.

Sales by Product in 2019

Type	Sales Volume
Diesel	70,105
Naphtha	52,729
Gasoline	34,100
Fuel oil	19,797
Jet fuel	20,007
Kerosene	4,170
LPG	4,213
Others	11,830
Total	216,952

(Unit: Thousand barrels)

Crude Oil Imports by Country in 2019

Country	Imports Volume	Portion
Mexico	44,907	26.7%
Kuwait	29,989	17.9%
USA	28,073	16.7%
Saudi Arabia	21,451	12.8%
Iraq	19,608	11.7%
Kazakhstan	13,754	8.2%
UK	3,025	1.8%
Russia	2,853	1.7%
Ecuador	1,875	1.1%
Norway	728	0.4%
Peru	688	0.4%
Brunei	602	0.4%
Philippines	378	0.2%
Total	167,932	100.0%

(Unit: Thousand barrels)

Crude Oil Exports by Country in 2019

Country	Portion
Singapore	24.7%
Australia/New Zealand	23.2%
Vietnam	7.8%
China	7.6%
USA	7.5%
Japan	5.7%
Mexico	5.2%
Taiwan	5.1%
Malaysia	4.2%
Netherlands	3.4%
Other	5.6%

Petrochemical Business

Hyundai Oilbank, jointly with LOTTE Chemical, established Hyundai Chemical, the first joint venture between an oil refining company and a petrochemical company in South Korea, and began condensate refining and mixed-xylene (MX) manufacturing in 2016.

Hyundai Chemical

Hyundai Chemical is South Korea's first joint venture between petroleum and petrochemical companies, established through a 6:4 investment between Hyundai Oilbank and LOTTE Chemical. The company began commercial operations in November 2016.

With the establishment of Hyundai Chemical, Hyundai Oilbank completed vertical integration in the BTX business from crude oil to petrochemicals through linkage with existing plants. In addition, Hyundai Chemical's products and byproducts are sold to its shareholder companies (Hyundai Oilbank and LOTTE Chemical), creating business synergies such as the effects of imports replacement and export increases.

Following the revamp in 2019, Hyundai Chemical is able to process 170 thousand barrels of condensate a day and produces approximately 3.5 million tons of petrochemical products, including MX and light naphtha, as well as about 26 million barrels of petroleum products, including jet fuel and diesel. With the goal of beginning commercial operations in 2021, the company is carrying out the Heavy Feed Petrochemical Complex (HPC) project, worth KRW 2.7 trillion, to produce polyethylene, polypropylene and other petrochemical products by utilizing byproducts from Hyundai Oilbank's refinery plants. Through this project, it aims to become a global petrochemical company with the best-in-class competitiveness.

MX Production Capacity

1,350,000 tons/year



Hyundai Oilbank has expanded its business portfolio to include petrochemicals by establishing Hyundai Cosmo Petrochemical, a joint venture with Cosmo Oil.

Hyundai Cosmo Petrochemical

Hyundai Cosmo Petrochemical was established in November 2009 as a joint venture between Hyundai Oilbank and Cosmo Oil of Japan. Hyundai Cosmo Petrochemical produces and supplies petrochemical products such as benzene, toluene, and xylene (BTX), all of which are basic chemical feedstocks that are widely used to make synthetic fibers, plastics, gasoline additives, and other petrochemical products. The company now boasts an annual BTX production capacity of 1,520,000 tons, after completing the #2 BTX Plant in February 2013 which improved profitability and responded to the dramatically growing demand from China, India, and other Asian countries.

Through improving operating processes and cost reductions, the company posted sales of KRW 2.9 trillion and an operating profit of KRW 102.1 billion in 2019. The company is also expanding its exports into Taiwan and Southeast Asia, and plans to expand its BTX business in 2020 by augmenting the efficiency of its processes and increasing its production.

PX & BZ Production Capacity

1,640,000 tons/year

Lube Base Oil Business

Hyundai Oilbank established Hyundai and Shell Base Oil, in partnership with Shell Petroleum Company Limited, and began to produce eco-friendly lube base oil in 2014. The LBO business has since maintained steady growth and increased profitability, and has become an exemplary model of business diversification.

Hyundai and Shell Base Oil

Hyundai and Shell Base Oil is a joint venture between Hyundai Oilbank and Shell Petroleum Company Limited. It built a lube base oil (LBO) unit with an annual production capacity of 800,000 tons at the Daesan Refinery Plant, and began commercial operations in 2014. The company produces American Petroleum Institute (API) standard Group II 70 Neutral, Group II 150 Neutral, and Group II 500 Neutral by processing residue oil from Hyundai Oilbank's heavy oil upgrading process. The products are supplied to industries and lubricant products manufacturing plants both at home and abroad.

The company's high-quality LBO boasts various features such as superior low temperature fluidity, clear color, low volatility, thermal stability, and improved fuel economy. Thus, its LBO is widely used for automotive engines, ships and processing, and other industrial purposes. Since successfully establishing itself in the LBO market in 2015, Hyundai and Shell Base Oil has continued to increase profitability by improving its production yields and strengthening marketing capabilities. The high-quality LBO produced by Hyundai and Shell Base Oil is supplied in response to the rapidly growing demand for lube base oil, centering on Asia, Americas, and Oceania, including China and India, in addition to South Korea. As of 2019, its LBO was supplied to more than 30 countries. The company is generating additional profits by developing 100N, 2CST, 3CST, and other new products, while at the same time continuously improving sales margins by adding to its sales areas and channels. In addition, the company continues to expand its sales by securing a production capacity of 1,000,000 tons per year through the production capacity increase project in September 2018.

LBO Production Capacity

1,000,000 tons/year



Carbon Black Business

Hyundai Oilbank established Hyundai OCI, in partnership with OCI Company, and became the first domestic refinery company in South Korea to enter the carbon black business, thus further diversifying its business portfolio.

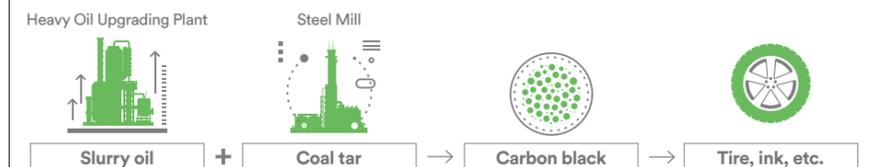
Hyundai OCI

Established in February 2016, Hyundai OCI is a joint venture with OCI Company, the No. 1 carbon black producer in South Korea. Carbon black is a carbon powder that is produced by using coal tar from steel mills and slurry oil from the residue fluidized catalytic cracking (RFCC) process. It is used primarily as a raw material for the compounding agents that reinforce tires and other rubber products, and in printer inks. The company's production facilities are located near the Hyundai Oilbank Daesan Refinery Plant within the Daesan Industrial Complex. After completing the construction of a carbon black unit with an annual production capacity of 100,000 tons in 2017 and then increasing this capacity by 50,000 tons in 2019, the company is now operating a carbon black plant that boasts an annual production capacity of 150,000 tons.

Despite difficult economic conditions, Hyundai OCI achieved sales of KRW 180.5 billion and an operating profit of KRW 36.0 billion in 2019, thanks to its stable raw material supply system and excellent carbon black technologies.

The worldwide economic slump that has been predicted for 2020 means that global competition in the carbon black industry should intensify as well due to the slowdown in the tire industry. Despite the market conditions, Hyundai OCI will continue its record of growth by stabilizing the production and quality while continuing to improve its profitability.

Carbon Black Business System



Carbon Black Production Capacity

150,000 tons/year

Tank Terminal Business

Hyundai Oilbank became the first refinery player in South Korea to enter the commercial tank terminal business when it established the Hyundai Oil Terminal in 2012. Acquiring the Pyeongtaek Terminal to expand its business in 2019, Hyundai Oil Terminal is already well on its way towards achieving its goal of becoming the largest oil logistics base in the country.

Hyundai Oil Terminal

Hyundai Oil Terminal, a subsidiary of Hyundai Oilbank with 100% ownership, has been successfully operating the commercial tank terminal business since December 2013. It has built a large-scale oil storage facility for petroleum and petrochemical products, with a capacity of 280,000 kiloliters, at Ulsan New Port in South Korea. It also has dock facilities capable of handling tankers of up to 50,000 tons (DWT basis). The company has been contracted to manage seven oil reservoirs owned by Hyundai Oilbank in different regions of the country since 2014, growing into a terminal company with a nationwide network.

Hyundai Oil Terminal expanded its operations by acquiring an additional oil storage facility near Pyeongtaek (Approximately 40,000m²), capable of storing 103,000kl of petroleum and petrochemical products. This acquisition helped the company to post its best-ever results in 2019, recording sales of KRW 42.4 billion and an operating profit of KRW 12.4 billion. Hyundai Oil Terminal is planning to expand its storage facilities through additional acquisitions and/or extensions of other facilities both at home and abroad. It will also enter into related business operations as part of its bid to become the nation's leading oil logistics player.

Oil Storage Capacity
383,000 kiloliters



* Facilities of Hyundai Oil Terminal | www.oilterminal.co.kr

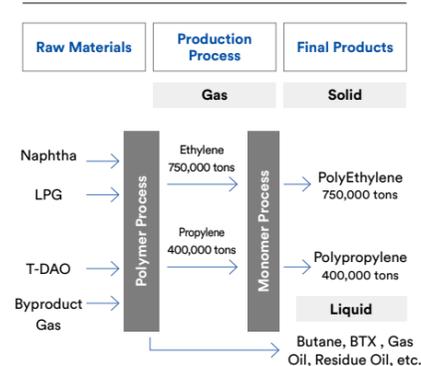


New Business: Heavy Feed Petrochemical Complex (HPC) Project

Equipped with the industry's best refining facilities, Hyundai Oilbank will continue to sustain facility investments and expand new businesses in the non-refining sector in order to realize a stable earnings structure even in the midst of sudden changes in business environment.

Hyundai Oilbank has been carrying out successful business diversification with competitive partners through the BTX business (Hyundai Cosmo Petrochemical), the MX business (Hyundai Chemical), the lube base oil business (Hyundai and Shell Base Oil) and the carbon black business (Hyundai OCI). A joint venture with LOTTE Chemical, Hyundai Chemical is constructing a petrochemical plant to produce polyethylene and other products on the premises of the Daesan Refinery Plant. The production process will involve the use of more than 60% of refinery byproducts, such as LPG, byproduct gas and desulfurized heavy oil, all of which are cheaper than naphtha. The HPC project is a KRW 2.7 trillion, ultra-large new petrochemical business scheduled for operations at the end of 2021. When finished, it will be capable of producing 750,000 tons of polyethylene and 400,000 tons of polypropylene a year. Its high level of profitability will be made possible by its use of refinery by-products, leading to superior cost competitiveness compared to its competitors.

Heavy Oil Cracking Units



The business environment in which South Korea's energy industry operates has undergone substantial changes recently, including the expansion of eco-friendly energy sources and the overwhelming effects of the Fourth Industrial Revolution. As a total energy and chemical company, Hyundai Oilbank will review entering into the new and renewable energy business, the electric vehicle and hydrogen vehicle business, and other eco-friendly new businesses. It will also establish a presence in new types of enterprises arising from the Fourth Industrial Revolution by enhancing its manufacturing competitiveness through dramatic digital transformations.

Facilities

Hyundai Oilbank has established industry-leading refining facilities, while creating high value through the stable production and supply of petroleum products, raw materials for petrochemicals, and lube base oil. In addition, we are building eco-friendly and safe production bases by minimizing pollutant emissions through ongoing process improvements.

Hyundai Oilbank Daesan Refinery Plant

Hyundai Oilbank's Daesan Refinery Plant, located in Seosan, South Chungcheong-do Province and covering approximately 3.3 million square meters, is the company's key base for the refining of crude oil. With crude oil refining facilities and heavy oil cracking units, the plant is capable of refining 690,000 barrels of crude a day, of which 40.6% can be produced as high-value products.

Hyundai Oilbank is continuously extending and remodeling its facilities. The company began commercial operations of the #2 BTX Plant in 2013, the lube base oil (LBO) production unit in 2014, and the MX Plant in 2016. By building a carbon black unit and a solvent de-asphalting (SDA) process and expanding the HOU plant in 2018, the Daesan Refinery Plant continues to grow into a world-leading, cutting-edge production base.

Key Facilities

The Daesan Refinery Plant, corporate headquarters of Hyundai Oilbank, consists of #1 Plant, #2 Plant, #1 BTX Plant, #2 BTX Plant, LBO Production Unit, MX Plant, and Carbon Black Plant.

Total Capacity	(Unit: Thousand barrels/day)						
Process	#1 Plant	#2 Plant	#1 BTX	#2 BTX	MX Plant	Carbon Black	Total
Crude Distillation Unit (CDU)	160.0	360.0			170.0		690.0
Vacuum Distillation Unit (VDU)	99.0						99.0
Light End Recovery Unit (LER)	12.0	6.0			5.3		23.3
Naphtha/Mogas* Hydrotreating Unit							
Naphtha Hydro Treating (NHT)	12.0	26.0			110.0		148.0
Platforming Treating (PLT)	4.6	22.5			65.0		92.1
Mogas Hydro Treating (MHT)		41.0					41.0
Alkylation Treating (ALK)		23.0					23.0
Mogas Merox Treating (MMX)		10.0					10.0
Kerosene/Gas Oil Hydro Treating Units							
Kerosene Hydro Treating (KHT)		60.0					60.0
Gas Oil Hydro Treating (GHT)	22.0	115.0			18.0		155.0
Kerosene Merox (KMX)	30.0				31.0		61.0
Heavy Oil Cracking Units							
Hydro Cracking (HCR)	50.0						50.0
Delayed Coking Unit (DCU)	50.0						50.0
Atmospheric Residue Desulfurization (ARDS)		50.0					50.0
Mild Hydro Cracking (MHC*)		25.0					25.0
Residue Fluidized Catalytic Cracking (RFCC)		86.0					86.0
LBO Production Unit							
Lube Base Oil	25.0						25.0
BTX Unit (Tons/year)							
Benzene			145.0	75.0	410.0		630.0
Paraxylene			440.0	980.0			1,420.0
Mixed-xylene (MX)					1,350.0		1,350.0
Carbon Black Production Unit (Thousand tons/year)							
Carbon black						150	150

* Mogas: Short for motor gasoline, the material is used to formulate gasoline

* The existing Atmospheric Residue De-Sulfurization (ARDS) Unit has been rebuilt into a hydro treating facility for Mild Hydro Cracking Unit (MHC) modules and a cracking facility for MHC modules



Crude Distillation Unit (CDU)

The CDU process separates crude oil into different petroleum fractions according to their boiling points, where the fractions are drawn off from top to bottom based on their boiling points – LPG, naphtha, kerosene, diesel, and fuel oil.

Vacuum Distillation Unit (VDU)

The VDU process conducts distillation at below atmospheric pressure, drawing off the different fractions from top to bottom according to their boiling points – Vacuum Light Gas Oil (VLGO), Vacuum Heavy Gas Oil (VHGO), and Vacuum Residue (VR).

Hydro Cracking Unit (HCR)

The HCR process breaks down the lower-quality Vacuum Heavy Gas Oil (VHGO) from the VDU process to produce high-quality light and middle distillate oils, including kerosene, diesel, LPG, and naphtha.

Delayed Coking Unit (DCU)

The DCU process breaks down the fuel oil from the CDU or VDU processes at its thermal cracking temperature of 490°C to produce light and middle distillate oil and byproduct coke. The coke is used as fuel for boilers.

Naphtha Hydro Treating (NHT)

The NHT process adds hydrogen to naphtha that is produced from the CDU process to remove impurities and convert it to low-sulfur naphtha. Low-sulfur naphtha is injected into the Platforming (PLT) process or used as a blendstock for various products.

Kerosene Hydro Treating (KHT)

The KHT process adds hydrogen to the kerosene products produced by the CDU process to remove sulfur compounds and convert them into low-sulfur kerosene. Low-sulfur kerosene is sold as kerosene for boilers and other products.

Gasoil Hydro Treating (GHT)

The GHT process adds hydrogen to the diesel products produced by the CDU and DCU to remove sulfur compounds. The produced low-sulfur diesel is used as a blendstock for various products.

Platforming (PLT)

The PLT process converts the heavy naphtha produced by the NHT and HCR into naphtha reformate that is rich in aromatic components. The reformate is used as a gasoline blendstock or feedstock for benzene, toluene, or xylene production.

Atmospheric Residue De-Sulfurization (ARDS)

The ARDS process adds hydrogen to high-sulfur atmospheric residue, which has many impurities, at a high temperature and pressure to convert it to low-sulfur residue. It produces low-sulfur residue that is used as feedstock for RFCC.

Mild Hydro Cracking Unit (MHC)

The MHC process produces low-sulfur diesel blendstocks and raw materials for the Residue Fluidized Catalytic Cracking (RFCC) process by mild hydrocracking de-asphalted oil from the SDA process.

Residue Fluidized Catalytic Cracking (RFCC)

The RFCC process breaks down low-sulfur atmospheric residue from ARDS in high temperatures using a fluidized catalyst. It produces high-value gasoline products, mixed butane, propylene, and slurry oil, which become raw material for the Carbon Black Unit.

Lube Base Oil Unit (LBO)

The LBO process isomerizes and hydrogenates hydrowax from HCR that has not been converted into kerosene and diesel in the Hydro Cracking Unit to produce high-quality lube base oil.

Benzene Toluene Xylene Unit (BTX)

The BTX process converts heavy naphtha reformate that was produced from the PLT to aromatic hydrocarbons, such as benzene, toluene, and xylene, using catalytic reaction and absorption.

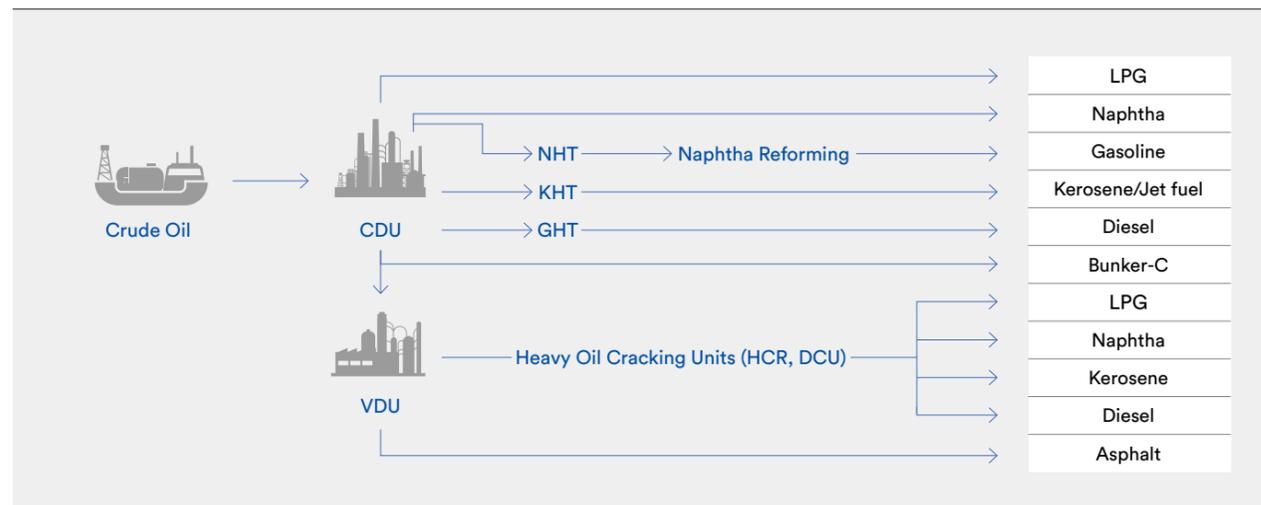
Carbon Black Unit

The Carbon Black process produces carbon black by the incomplete combustion or pyrolysis of hydrocarbon (coal tar from steel mills and slurry oil from the RFCC process).

Solvent De-Asphaltene Unit (SDA)

This process separates de-asphalted oil and asphaltene by mixing atmospheric residue and vacuum residue with solvents.

Process Flow



Expansion of HOU Plants

Hyundai Oilbank manufactures eco-friendly, high value-added products by constantly improving its upgrading facilities. In the refining industry, HOU plants are called “ground oilfields” because of their ability to take low-price high-sulfur heavy oil, which accounts for around 40 to 50% of the products from the crude oil refining process, and convert it into high value-added, eco-friendly petroleum products such as gasoline, diesel, propylene, and alkylate. In September 2011, Hyundai Oilbank completed the #2 HOU Plant, increasing its daily upgrading capacity from 78,500 to 164,500 barrels, thus laid the foundation for the next level. As of the end of 2017, Hyundai Oilbank’s upgrading ratio was 40.6%, the highest in South Korea. The upgrading ratio is the percentage of high value-added product manufacturing capacity compared to total oil refining capacity, and is perceived as being a barometer of technological prowess and business profitability. The company also manufactures gasoline and diesel products that meet Californian standards of under-15 parts per million of sulfur content, the world’s strictest standard, and exports them to the U.S. and other advanced markets.

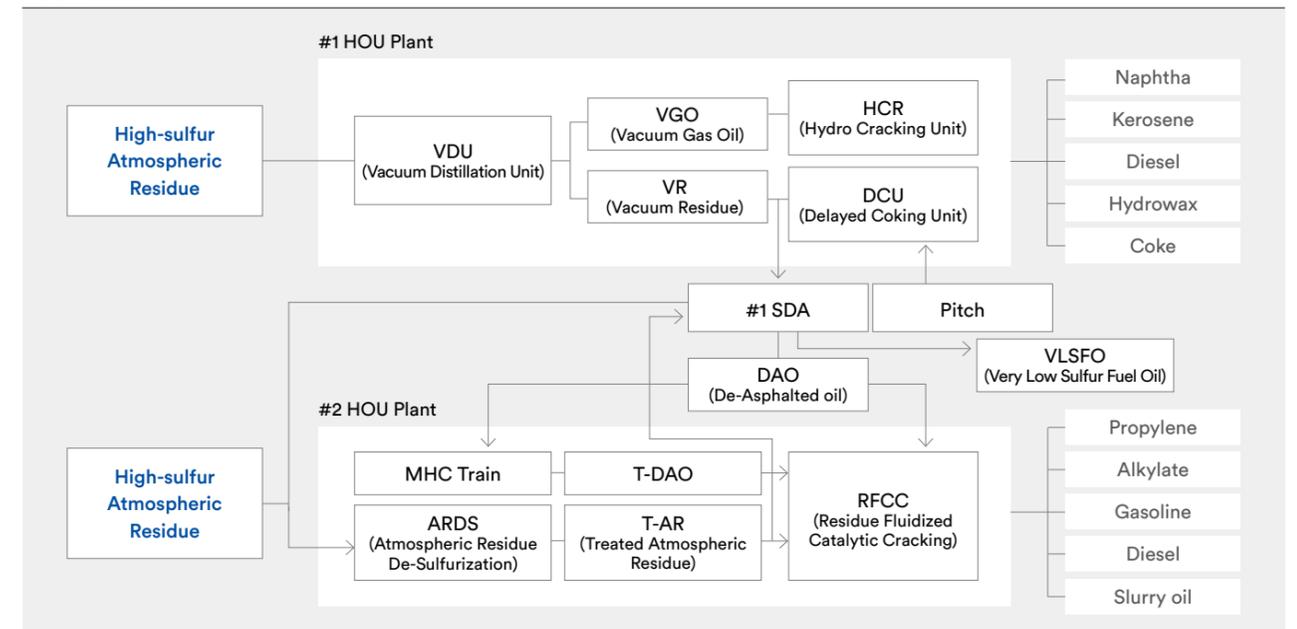
#1 HOU Plant

An HOU plant produces high value-added petroleum products by cracking fuel oil that is created in a CDU. Hyundai Oilbank has two HOU Plants, among which the #1 HOU Plant has mainly produced kerosene and diesel using fuel oil from the #1 CDU as its raw material since beginning operations in 1989. The #1 HOU Plant consists of the HCR unit and DCU, and its daily refining capacity is 50,000 barrels in the HCR and 50,000 barrels in the DCU.

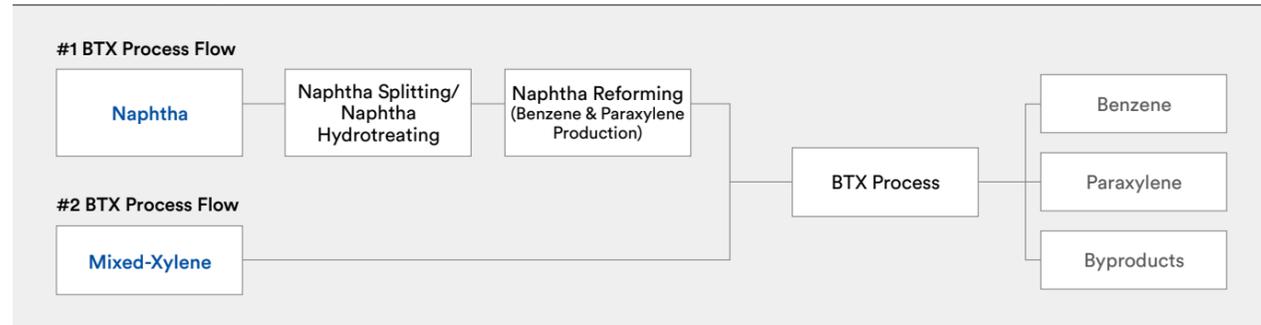
#2 HOU Plant

The #2 HOU Plant uses low-quality fuel oil generated during the crude oil refining process at the #2 CDU to produce petroleum products, such as LPG, gasoline and diesel, and petrochemical feedstocks, such as propylene. The #2 HOU Plant consists of the ARDS process, the MHC process and the RFCC process. It uses low-sulfur bunker-C oil, which is created through the ARDS and MHC processes, as its raw material, to produce high value-added products. Daily refining capacity of the plant is 50,000 barrels through the ARDS process, 25,000 barrels through the MHC process, and 87,000 barrels through the RFCC process.

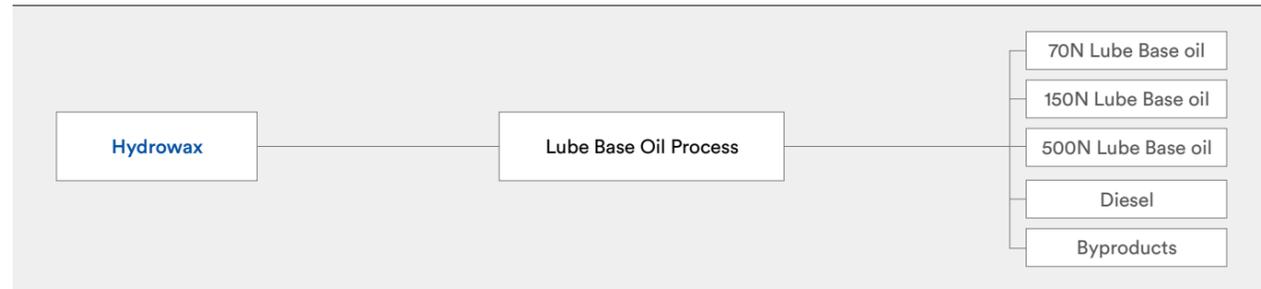
HOU Process Flow



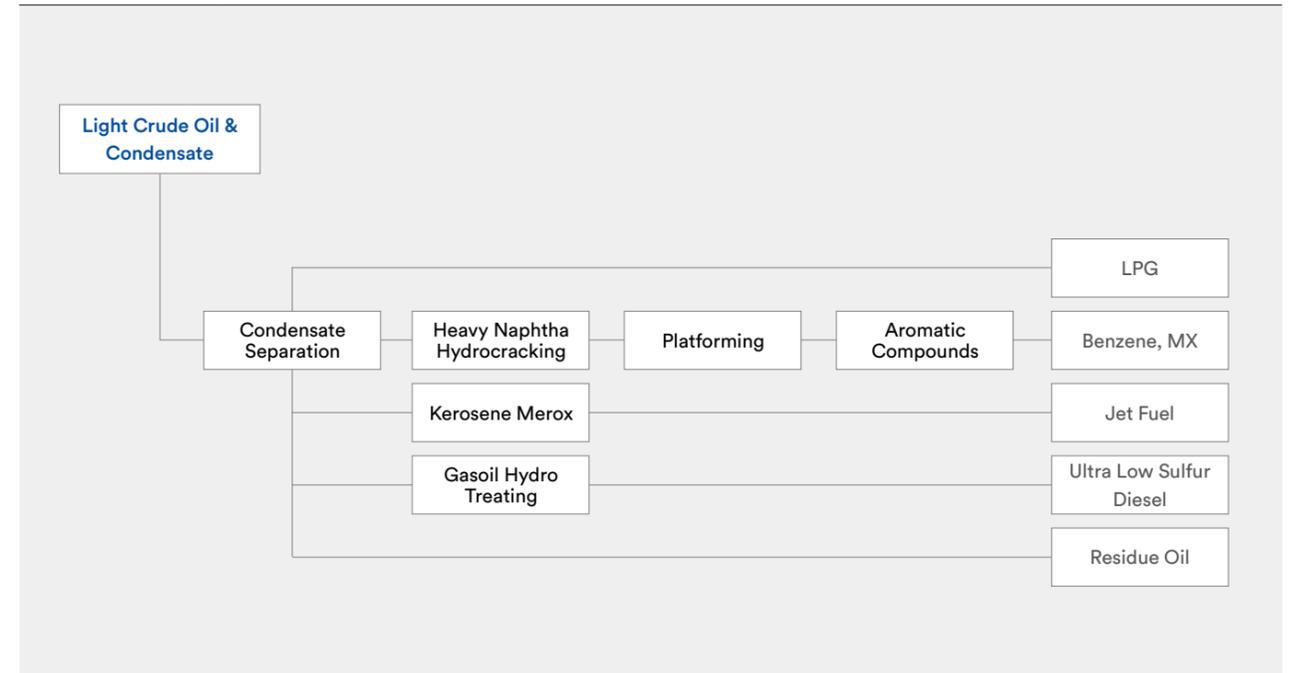
BTX Process Flow of Hyundai Cosmo Petrochemical



LBO Process Flow at Hyundai Shell and Base Oil



MX Process Flow at Hyundai Chemical



- 1 #1 Plant / #1 HOU Plant
- 2 LBO Production Unit
- 3 #2 Plant
- 4 #1 BTX Plant
- 5 #2 BTX Plant
- 6 #2 HOU Plant
- 7 MX Plant
- 8 Hyundai Daejuk Park
- 9 Carbon Black Plant
- 10 HPC Project (Plant Site)



LUBE BASE OIL



NAPHTHA



LUBRICANTS



JET FUEL

Major Products



PREMIUM GASOLINE



CARBON BLACK



FUEL OIL



PROPYLENE



BTX
(BENZENE, TOLUENE, P-XYLENE)



ALKYLATE



LPG
(LIQUEFIED PETROLEUM GAS)

Products

Hyundai Oilbank has played a key role in the modern industry and eased daily living by producing world class petroleum products and petrochemical feedstocks, including fuels for automobiles, ships and jets, and other products for a wide variety of industrial and domestic uses. The company also contributes to a better future for humankind by offering products and services that make a happier future.

Petroleum Products

Premium Gasoline

Hyundai Oilbank's high-quality, high-octane premium gasoline has an octane rating of about 100. Since it uses additives that improve its fuel efficiency, drivers using it benefit from higher power output and better fuel economy, even in difficult driving conditions over a prolonged period of time. It also reduces harmful exhaust emissions.

Gasoline

Because gasoline is highly volatile and flammable at room temperature, it is explosive when mixed with air. This is why it is widely used as a fuel in internal combustion engines. Hyundai Oilbank uses engine-cleaning additives for better dispersion and combustion. Also, it ensures that its high-quality gasoline product emits fewer pollutants, exceeding by far the criteria set forth in the Clean Air Conservation Act, which stipulates that gasoline should contain under 0.7% benzene by weight and under 10 mg/kg of sulfur.

Ultra Low Sulfur Diesel

Hyundai Oilbank was the first in South Korea to supply eco-friendly ultra-low sulfur diesel that significantly reduces exhaust fumes and noise compared to standard diesel grades. This diesel also contains high-quality additives that help keep engines clean. Hyundai Oilbank has mixed bio-diesel into all of its diesel products since 2006, which results in more eco-friendly products. The company also provides high-quality diesel with improved low-temperature performance, to suit customers in regions affected by severe cold.

Kerosene

Kerosene products of Hyundai Oilbank are Eco-Label certified. They are free from unpleasant odors, and are virtually smoke- and soot-free when burned, which makes them suitable for indoor heating fuels. They are also very economical, as they deliver excellent caloric value and combustibility.

Fuel Oil

Hyundai Oilbank's fuel oil products are categorized into low sulfur, marine, and classes A, B, and C, according to sulfur content, application, and viscosity. They are mostly used as fuels for internal combustion engines and boilers. Hyundai Oilbank sells marine fuel oil products that differ in viscosity according to engine size, type, and other factors. In order to cope with the IMO sulfur content standards to be tightened from 2020, we have produced and supplied the "HYUNDAI S-TAR" Very Low Sulfur Fuel Oil (VLSFO) brand, by incorporating new technologies into HOU facilities.

Liquefied Petroleum Gas (LPG)

Propane is used for residential and commercial cooking, and for heating. Butane is used as a vehicle fuel, fuel for portable cooking and heating, and for industrial purposes. As a vehicle fuel, Hyundai Oilbank supplies LPG products which vary in the propane-butane mix ratio according to season to help engines to start in any temperature. In addition, all LPG products contain an odorant to ensure customer safety.

Jet Fuel

Hyundai Oilbank's jet fuel products evaporate well even in low-temperature, low-pressure and high-altitude environments, preventing vapor lock. They do not easily freeze, and have good combustibility and caloric value. Hyundai Oilbank produces and supplies JP-8 for military use and Jet A-1 for civilian aviation use.

Naphtha

Widely used in the petrochemical industry, naphtha is a raw material for the production of gasoline, solvents, fertilizer, and other petrochemical products. Naphtha products of Hyundai Oilbank are high quality, with little olefin. They are sold to petrochemical companies, and are also used in Hyundai Cosmo Petrochemical's BTX process.

Petrochemical Products

Benzene, Toluene, P-Xylene (BTX)

BTX is an abbreviation for Benzene, Toluene, and P-Xylene, all of which are aromatic chemicals. They are mainly used in the synthesis of chemicals. Benzene is the most important of the aromatic compounds, and is used in nylon, Styrofoam, and insulation materials. Toluene is used in thinner and other synthetic materials, and P-Xylene is used to make polyester, film, and PET.

Propylene

Propylene is a core petrochemical feedstock, and is used in products such as acetone, isopropyl alcohol, acrylonitrile, nylon 6, polypropylene, propylene oxide, epichlorohydrin, and polyisoprene. These materials are ultimately used to make acrylics, synthetic rubbers, plastics, detergents, and various other products.

Alkylate

Hyundai Oilbank's high-octane alkylate products are ecofriendly gasoline blending stocks that emit almost no environmental pollutants, and contain neither olefin nor aromatic compounds.

Mixed Xylene (MX)

MX is used in the production of para xylene, ortho xylene, and meta xylene. It is also primarily used in the making of paints and agricultural chemicals.

Others

Asphalt

Asphalt is produced at Hyundai Oilbank's Vacuum Distillation Unit (VDU), and is a vital material in road paving. Asphalt products produced by Hyundai Oilbank meet the KS M2201 standards for road paving, and are also the only products from a South Korean company that have obtained certification for the JIS K2207 asphalt standards in Japan.

Lube Base Oil

Lube base oil is produced through a catalytic process, using hydrowax produced at the Hydro Cracking Unit (HCR) as a raw material. Lube base oil is a feedstock that makes up over 80% of lubricant products. Additives are inserted into lube base oil to produce lubricants for automobiles, ships, and for other industrial purposes.

Lubricants

Hyundai Oilbank's lubricants include the "XTeer" lubricant brand and the "XTeer α" fuel additive.

Carbon Black

Carbon black is a carbon powder that is produced by the incomplete combustion or pyrolysis of hydrocarbon (including coal tar and slurry oil). It is used primarily as a raw material for the compounding agents that reinforce tires and other rubber products.



Ensuring

Hyundai Oilbank conducts systematic risk analysis operations in response to rapidly changing market conditions and enhances its sales competitiveness through a wide range of highly-professional quality and brand management activities

MANAGEMENT REVIEW

& Empowering

Management Philosophy & Strategy

Hyundai Oilbank is committed to contributing to economic and social development by achieving its business objectives and also by fulfilling its social responsibilities. The company therefore aims to operate on behalf of all of its stakeholders, and develop strategies for mid-to long-term growth.

Management Philosophy



Enhancing Stakeholder Value

Hyundai Oilbank seeks to deliver greater value for its stakeholders from customers and shareholders to employees and local communities. In addition to working for the company's success, all employees at Hyundai Oilbank recognize that they are essential assets for the company and for each other, so that they show each other mutual respect at all times. Hyundai Oilbank also encourages employee's creativity in order to improve overall corporate capabilities. The company recognizes that customer satisfaction is one of the foundations of its business, which is why it is committed to honesty and sincerity. The company maximizes shareholder value through transparent and efficient management. Hyundai Oilbank also recognizes that the company is the backbone of South Korea's key industry, and it therefore does its best to contribute to national economic and social development, looking for win-win growth with local communities.

Building a Trustworthy Company

The management of Hyundai Oilbank is transparent and open, in order to establish the company as a trusted and respected company. It maintains the highest ethical standards, and ensures transparency and fairness in all management activities. Hyundai Oilbank discloses all information needed, and provides its employees with opportunities where they can freely participate in. By strengthening core capabilities, the company is able to offer the best products and services, while simultaneously meeting the interests of customers, employees, partners, shareholders and local communities. In doing so, Hyundai Oilbank is fulfilling its goals and responsibilities as a corporate entity.

The People of Hyundai Oilbank

Hyundai Oilbank defines a model employee as a "creative doer". A creative doer, based on the "Hyundai Spirit", is a talented individual, with the ability to create and fulfill the values that Hyundai Oilbank pursues. The Hyundai Spirit is rooted in the founding spirit of a founder, Chung Ju-yung, who believed that even something that seems impossible can be accomplished through total determination and a strong driving force.

Hyundai Oilbank Model Employee

A passionate talent, with a challenging spirit to become the best



This person leads his/her own growth and the company's development, based on a passion for work and a challenging spirit to become the best. This person creates value for him/herself and the company through a pioneering spirit, passion for customer satisfaction, a professional mindset and sense of responsibility, and strong drive.

**An innovative talent who changes the world
A trusted talent who acts with integrity**



This person brings about positive change, and shapes a better tomorrow through imagination and creative action. He/she leads innovation and prepares for a better future through extensive experience and learning, great insight, an open mindset, and the ability to lead others.

A trusted talent who acts with integrity



This person delivers a strong sense of trust through respect and consideration for others, open communication, and upright and honest conduct. This person embraces diversity without bias, conducts him/herself fairly at all time, and earns the trust of colleagues, local communities, and society through honesty and integrity.

Management Strategy

Hyundai Oilbank managed to overcome a number of difficult business conditions in 2019, including the oil price crash and deteriorating refining margins in the wake of a prolonged global recession. As a result, the company recorded a combined total operating profit of KRW 630.8 billion from its refining and non-refining sectors. It accomplished this feat by maximizing its imports of extra heavy crude oil and reducing its operating expenses.

Almost every economic forecaster is predicting that 2020 will be much the same as 2019 was, both in terms of a continuing global economic downturn and declining economic activity. In response to this situation, Hyundai Oilbank will continue carrying on with its profit enhancement activities such as improving its sales margins by importing even more low-priced crude oil from around the world, and increasing its sales of high-margin petroleum-based products. It will also add to its HOU processing capacity, and its production levels. In addition, it will focus on the successful completion of its new Heavy Feed Petrochemical Complex project in the second half of 2021. Last, but certainly not least, it will continue building safe and healthy workplaces by maintaining its emphasis on safety and eco-friendliness.

2020 Management Goals

Hyundai Oilbank: A future-leading total energy and chemical company

- | | | | |
|---|---|--|--|
| <p>1 Prioritize safety and eco-friendliness</p> <p>Put safety and eco-friendliness first</p> | <p>2 Maximize earnings and ensure efficient operations</p> <p>Maximize earnings by enhancing cost competitiveness and efficiency of operations</p> | <p>3 Complete HPC project</p> <p>Ensure company-wide support to see the complex through to its completion</p> | <p>4 Identify future new growth industries</p> <p>Strengthen business portfolio by identifying promising new businesses</p> |
|---|---|--|--|

Risk Management

Hyundai Oilbank has established a risk management system that reflects the specific risk of the oil refinery market, such as oil price and exchange rate fluctuations. The company also conducts detailed risk analysis to minimize losses amid market volatility.

Risk Management Organization

Hyundai Oilbank operates the Risk Management Committee chaired by the CEO. The Committee engages in integrated management of various risks, including exchange rate, oil price, and refining margin risks.

Oil Price Risk

The price of most of the crude oil that Hyundai Oilbank imports is set during the month of its loading. This means that price fluctuations may occur during the one- or two-month shipping period, presenting the company with the risk of price fluctuations. Hyundai Oilbank determines the portion of its monthly imports that will be exposed to this risk, and manages its degree of exposure by adjusting the oil's base price. Additional measures are taken if necessary such as hedging through swap transactions and adjusting the base price of product sales. In order to prevent losses from price fluctuations, the company has also instituted mandatory hedging for additional operating margins, as well as fixed price bids.



Diversification of Crude Oil Imports

Hyundai Oilbank has adopted a strategy of diversifying its crude oil imports. Instead of only importing oil from the Middle East, it is now dealing with companies located in Latin America and the North Sea, reducing its level of geopolitical risk. Hyundai Oilbank strives to maximize the economic efficiency of crude oil imports, changing sources according to market conditions. The company will continue to expand the sources of its crude oil imports, in a seamless connection with its plants. This will enable the company to minimize risk while maximizing revenue.

Exchange Rate Risk

Hyundai Oilbank is exposed to risk from exchange rate fluctuations because the company pays for imports of crude oil and sells refined petroleum products in foreign currencies. To cope with this risk, the company establishes optimal hedging strategies through the Risk Management Committee. The Exchange Risk Management Team minimizes risk by actively hedging exposures, based on these hedging strategies.

Quality Management

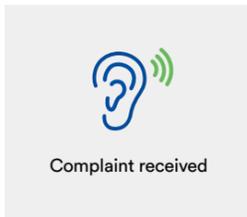
In order to improve its post-sales service, Hyundai Oilbank has established thorough, phased quality inspections and a detailed quality complaint management system. In addition, the company operates the Hyundai Oilbank Central Technology R&D Institute and aims to maximize customer satisfaction through its ongoing R&D efforts.

Managing Quality

At all stages from production to sales, Hyundai Oilbank undertakes quality tests in accordance with regulations stipulated in relevant laws and ordinances. The company also carries out quality inspections throughout the year to ensure top quality right through to the end distribution of its products. In addition, it is enhancing the satisfaction of end consumers through its quality management service and on-site support by using the Mobile Lab.

Quality Complaint Handling Procedure

STEP. 1



Certification of Quality Management

Thanks to its strict quality management, Hyundai Oilbank passed all regular fuel quality tests administered to gas stations by the Ministry of Trade, Industry and Energy and the Ministry of Environment in 2015. The objective reliability of its quality tests has been also confirmed for all fuel types and categories each year from 2014 to the present by the Korea Petroleum Quality & Distribution Authority. In 2016, Hyundai Oilbank was recertified for the ISO 9001 quality management system, and won international recognition for its quality management.

STEP. 2



Quality Complaint Management System

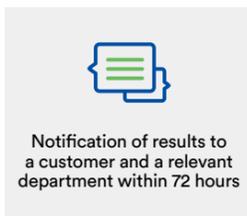
The Sales Support Team is in charge of issues relating to quality complaints. The team discusses customer complaints with the relevant departments, takes necessary measures, and informs customers about the results. If there are delays in the complaint handling process, the company finds and removes the cause of the delay. Located in Pangyo, Gunsan and Busan, the Technical Support Center and the Mobile Lab use cutting-edge testing and analysis equipment to respond immediately to customer requests. Even when the cause of a problem is not clear, representatives visit customers within 72 hours of receiving the complaint to consult. They collect samples for quality testing, and the results are shared promptly both with the relevant departments and the customer. The Mobile Lab immediately checks the quality of products and provides the results on the spot.

STEP. 3



Quality training to the entire sales force and service station operators is offered on a regular basis. In addition, a handbook is published every year to help all employees to promptly address customers' quality concerns. Furthermore, information on any hazardous substances in products and services is provided, and all regulations regarding health and safety are strictly followed.

STEP. 4



Research & Development

In November 2011, Hyundai Oilbank established the Hyundai Oilbank Central Technology R&D Institute in Pangyo Techno-valley as part of its efforts to diversify business and lead its future growth. In November 2017, the Institute was relocated to the Hyundai Electric Research Institute in Yongin. It then began adding to its core capabilities through aggressive investments in R&D, including the acquisition of the Yongin R&D facility in September 2019.



Roles and Activities of the Institute

The institute has been the center of next-generation R&D of Hyundai Oilbank since its establishment in 1989. It has brought together the technology development functions and research personnel who were previously scattered over the country. The institute is in charge of developing technologies and training leading technical experts in oil refining, catalyst technology, lube base oil, next-generation fuels, and petrochemical products.

The institute actively pursues cooperation with domestic universities, government-run research institutes, and overseas companies for petroleum and petrochemical technologies. It has signed a MOU with Cosmo Oil of Japan, a BTX partner of Hyundai Oilbank, to engage in technological cooperation across all fields of energy businesses.



Vision and Goals of the Institute

The Hyundai Oilbank Central Technology R&D Institute aims to achieve the following:

First, the institute will undertake its R&D in order to improve the company's technological competitiveness and production technology strategies. Its research on the impact of process changes will use pilot plants to optimize the capabilities of process catalysts. Research into catalyst manufacturing and waste catalyst recycling technologies will boost technological competitiveness, and research cooperation between industry and academia will further maximize production efficiency.

Second, the institute is leading research into technologies that will support business diversification. Its capacity is focused on pursuing promising areas including technologies for lubricants and carbon materials manufacturing; adding value to petroleum pitch; developing high-value solvents; modified asphalt; and the new petrochemical business.



Third, the institute strives to recruit outstanding talent that can lead the intensifying global race for technology. The institute is therefore focused on finding and fostering talented people who help to establish excellent technological competitiveness.

Brand Management

Hyundai Oilbank is enhancing customer satisfaction while increasing its sales competitiveness by strengthening brand value, establishing various communication channels, improving service quality, and undertaking distinctive marketing activities centered on customers.

Branding Activities

Hyundai Oilbank makes its best effort to create a friendly corporate image, and to enhance the brand value of the company and its products.

Enhancing Brand Value

Hyundai Oilbank is diversifying its fuel charging business by building an energy station complex where electric and hydrogen vehicles can be charged, for the first time in South Korea. We strive to improve customer convenience by more effectively using gas station spaces, and we are committed to fulfilling our corporate social responsibilities. These efforts include expanding the development of gas station complexes and implementing a safety delivery service for women.

The company has taken steps to enhancing the brand value of its products. This mainly involved launching a top-tier lubricant brand called “XTeer Top Prime,” while ensuring the best quality in our products and services in collaboration with Hyundai Motor. We obtained certifications from auto manufacturers such as Hyundai Motor, BMW, Mercedes-Benz, Porsche, Volvo, MAN to promote XTeer as a global brand. We are also continuing with our program of enhancing our customers’ buying preferences through a series of ongoing marketing activities, such as our signature programs, “Sesame Oil Promotion (Spring)” and “New Rice Promotion (Autumn).”

Last, but not least, we launched a product called HYUNDAI S-TAR, the world’s first eco-friendly marine fuel oil brand, in December 2019. Its brand name stands for “Supercritical Solvent Extracted Treated Atmospheric Residue.” It is an ultra-low-sulfur marine fuel that is produced through a new technology that uses supercritical solvents for residue. We are increasing the public’s awareness of ‘HYUNDAI S-TAR’ through advertisements in media catering to the global shipping industry as well as on uniforms of the Ulsan Hyundai Football Club. Going forward, we are planning to carry out a wide variety of other branding activities, such as road shows targeting shipbuilding and shipping industry leaders.

Furthermore, Hyundai Oilbank uses standardized designs for the exterior of its gas stations, attendant uniforms, advertising materials, offices, and other areas with a view to brand management. Other efforts to enhance brand awareness and



customer preference include continuously improving and managing gas station PR material designs.

Making ourselves better known

One way that Hyundai Oilbank connects with consumers is through sports sponsorships. This includes sponsoring both the K League (Korea Professional Football League) and the Ulsan Hyundai Football Club. We are also hoping to increase sales of our “Hyundai XTeer” product and our KAZEN premium gasoline brands by airing 3-D commercials in K League 1 football stadiums across the country and A-board/LED board and billboard ads in the Munsu Football Stadium in Ulsan. Last year we repeated our 2017 success by hosting a friendly match between the Ulsan Hyundai Football Club and the Vietnamese national team in Hanoi. This year, we have already hosted a friendly match between the Ulsan Hyundai Football Club and the Ho Chi Minh City Football Club in the southern Ho Chi Minh area where our logistics base is located. All of these events have helped us immeasurably in gaining publicity for the company and its “Hyundai XTeer” product in Vietnam.

We have also been sponsoring the Directors Guild of Korea since October of 2019. Our first step in this relationship was to hold a signing ceremony for the making of barrier-free movies for the visually impaired in November. In December, we held a career experience program targeting middle school students in the city of Seosan. They visited the set of a new movie called “Hero,” directed by Yoon Jae-kyun. We plan to continue enhancing our brand value by means of product placements in every film made by DGK directors.

We are also improving our corporate image by communicating better with the younger generations: in May 2018, we produced six commercials with the theme of “Oh ~ Bang!,” our brand slogan, and placed them on SPOTV, YouTube and other new media outlets. In addition, we have renewed our official Facebook and Instagram pages to actively communicate

with younger audiences, and are encouraging the hopes and dreams of youth as the main sponsor of the Dream Concert. Going forward, Hyundai Oilbank will continue its efforts to connect better with its consumers.

Ensuring Friendliness and Cleanliness

Hyundai Oilbank bases its service quality improvements on its slogan “Good Service Bank!” The goal is to offer the company’s customers the finest in clean and friendly gas and charging stations. This includes assigning customer service specialists, known as Market Designers, around the nation while operating service-dedicated teams for the first time in the domestic industry.

The company is implementing a wide range of service quality enhancement activities through its “Blue Clean” program to provide customers with clean and safe gas and charging stations, and also established Voice of the Customer (VoC) mechanisms to ensure that it is always listening to the opinions of its frontline workers and customers. It also carries out campaigns that encourage its gas and charging station operators and their workers to make improvements to the service they offer their customers.

One very positive result of these many Customer eXperience Management (CXM) efforts was that Hyundai Oilbank ranked first in the gas station category in the 2019 Korea Standard-Service Quality Index (KS-SQI) survey carried out by the Korean Standards Association (KSA) for the fifth consecutive year. It also ranked first in the Korean Standard Contact Service Quality Index (KS-CQI) survey for the eighth straight year. In addition, its call center earned the eleventh straight top rating in the call center category in the Korean Service Quality Index (KSQI) carried out by the Korean Management Association Consulting (KMAC).

Marketing Activities

Hyundai Oilbank responds to a constantly altering market environment by identifying the ever-changing needs of its consumers and undertaking marketing activities that reflect their needs.

Different Types of Customer Relationship Management

Hyundai Oilbank analyzes its customers’ needs and carries out a wide range of customer relationship management (CRM) programs. They include “CRM to attract new customers,” “CRM to reactivate churn,” and “Affiliate CRM” targeting customers of our affiliate companies.

Expanding Affiliate Marketing

Hyundai Oilbank is expanding the number of locations where its customer can accumulate and use bonus card points through partnerships with leading companies in different industries, including department stores, online shopping, automobiles, food and beverage, and restaurants. As such, Hyundai Oilbank carries out marketing activities which truly benefit its consumers. We also carry out a wide range of marketing activities to offer our customers across the country an opportunity to participate in various cultural events. These cultural partnership promotions, which include plays, concerts, musicals, sports, and exhibitions, are intended to help bring much-needed forms of cultural content to local, and often isolated, communities.

Building Partnerships with Affiliate Service Stations

Hyundai Oilbank is strengthening its partnerships with affiliate service stations through the Partner Relationship Management (PRM) program, targeting gas and charging station owners. Our operator care programs include discounts on health check-ups at major hospitals; items for congratulatory and consolatory occasions; “Family Camp,” “Children’s Camp,” and “Welcome! Cinema.” There is the “Visiting Barista” program that provides free coffee to customers to increase the popularity and visibility of our gas and charging stations. We also operate a group buying program so that they can purchase high-quality promotional items at a low price. We have also been carrying out a “Honeymoon Program” since 2018. It is designed to assist newly-opened gas station operators with promotional items for their customers. We also provide our operators with instructional manuals stocked with helpful information about safety management, marketing, and business management.



Sharing

Hyundai Oilbank employees are proactively taking part in a broad array of social contribution activities, and we are realizing sustainable management by establishing an ethical corporate culture and investing generously in the environment

SUSTAINABILITY PERFORMANCE



& Enduring

Ethical Management

Hyundai Oilbank has adopted ethical management to ensure the highest levels of transparent management. In order to earn the complete trust of all stakeholders, the company is making the utmost effort to ensure that ethical management becomes part of its corporate culture.

Ethical Management System and Programs

Hyundai Oilbank's ethical management program was established in 2002. Its four main goals were to help it become a preferred company for conducting transactions with its customers and business partners; a preferred company for investments with its shareholders; a preferred company to work at for its employees; and a company that fulfills all its responsibilities towards its society. A group-wide ethical management system was implemented when the company joined the Hyundai Heavy Industries Group in 2010.

Ethical Management System

In order to practice fair and transparent management, Hyundai Oilbank operates a well-organized practical ethical management system through training, publicity and various action programs, based on ethical standards which include a Charter of Ethics, a Code of Conduct, and Business Ethics Guidelines. The company also added a Special Code of Conduct for six specific duties that demand a stricter ethical mindset.

Major Ethical Management Action Programs

Pledge to practice ethical management	Hyundai Oilbank collects a written pledge annually from all staff and business partners which states that they understand the company's ethical management regulations, and that they commit themselves to observing all policies and systems.
Report on conflicts of interests	All of our employees and business partners are required to submit this report every year. The goal is to ensure total transparency in transactions by reporting when employees are likely to have a conflict of interest while performing their duties.
Ethical management training and publicity	We enhance the understanding and compliance of our employees through group training and customized cyber training on ethical management, using a wide range of PR activities including videos.
Self-inspection on ethical management compliance	Every year, our employees examine their own compliance with the ethical management-related regulations through a questionnaire-style checklist, allowing them to improve both their understanding of the regulations and their compliance.
Listening to field opinions on ethical management	We gather opinions from the field, from employees and business partners, to assess how much our ethical management is being put into practice. We also collect opinions on required improvements and review whether to implement these suggestions.
Report on unethical behavior and whistleblower protection	To prevent unethical activities and establish an ethical corporate culture, we operate a reporting and rewards system. We guarantee confidentiality so that the identities of whistleblowers are not exposed and they are protected from being penalized.
Clean Notice system	If an employee has received a gift from a stakeholder such as a business partner, through unavoidable circumstances, the gift is returned to the giver through a designated delivery company after a simple notification process, or donated to social welfare facilities.
Holiday Action Campaign	The company sends notices and letters to its employees and business partners before the Lunar New Year and Chuseok holidays asking them to not give or accept gifts of money or goods, as they might be interpreted as possible instances of bribery or favoritism. They are also asked to report any such behavior to the company's Ethical Management Team.

Compliance Program

Hyundai Oilbank set up its Compliance Program (CP) in 2003, and applies it to all management activities. The CP presents standards in management and employee conduct, in order to observe the requirements of the Monopoly Regulation and Fair Trade Act.

Major CP Action Programs

CEO's declaration	· The CEO confirms the company's commitment to CP and its policies through electronic correspondence and the company website
CCO	· Head of the Management Support Division is appointed as Chief Compliance Officer (Team in charge: Policy Cooperation Team)
CP handbook	· Published and distributed in December 2003
Employee training programs	· Internal training: Training on the enacting and amendment of laws / training of employees in charge of compliance / training in parallel with compliance inspections / training for new staff, team leaders, and gas station owners / selected training as required · External training: Supervised by the Korea Fair Competition Federation and Fair Trade Commission · Cyber Training Center: Online training
Oversight system	· Compliance regulations and company-wide work procedures · Internal/external whistleblowing system, including consultation with CP managers by email and report on fair trade · CP inspections / prior business review system
Disciplinary system	· Disciplinary measures are taken based on personnel regulations (reward, disciplinary action regulations) · The Personnel Committee deliberates and makes a decision (up to dismissal)
Document management system	· CP operation-related online and offline document management (Team in charge: Policy Cooperation Team)



Environmental Management

Hyundai Oilbank is strengthening its environmental management, with an aim to minimize its ecological footprints of its production while operating safety inspection and accident response programs to establish a safe work environment.

Integrated Environmental Management System

In order to minimize the environmental impact of its manufacturing activities, Hyundai Oilbank has established an integrated environmental management system, and makes continued investments into environmental facilities. The company has established environmental policies and uses it as guidelines for environmental management activities. The company has been certified with ISO 14001, an international standard on environmental management system, and operates its environmental management system based on international standards. Hyundai Oilbank has also built an integrated environmental information system that enables the company to efficiently and systematically manage data on the atmosphere, water quality, waste, chemicals, and training.

Major Areas of Integrated SHE System

Prior environmental impact assessment	Assess potential environmental impact from all management activities of the company and formulate corrective measures
Environmental goal management and disclosure	Inspect, review, and audit the progress with achieving environmental goals on a regular basis, and disclose goals
Compliance with environmental management regulations	Comply with environmental management regulations set forth by the International Convention on Environment, environmental laws and regulations in South Korea, and Hyundai Oilbank
Prevention of environmental pollution	Establish environmental goals and improvement plans, and continuously improve processes and strengthen prevention and control capabilities to promote the prevention of environmental pollution
Ongoing training	Implement ongoing training and give motivation so that all employees fulfill their environmental protection responsibilities when conducting work



Major Environmental Management Activities



Environmental Investment

Hyundai Oilbank has built highly efficient pollution prevention facilities while periodically operating road sweepers in order to reduce fine dust on the roads surrounding our facilities. We concluded a voluntary agreement on fine dust reductions with the Chungcheongnam-do Province in 2017 and the Ministry of Environment in 2019, and plan to continuously increase our investment in these activities.

Responding to Climate Change

Hyundai Oilbank aims to reduce greenhouse gas emissions through energy intensity management, process improvements, waste heat recovery, and operational improvements. In addition, the company is an active participant in the South Korean government's emissions trading scheme, thus taking the lead in creating a low-carbon society.

Environmental Conference and Inspections

Hyundai Oilbank regularly conducts safety and environmental inspections, and runs the Safety and Environmental Conference, all in effort to prevent and remove safety and environmental risks as part of its commitment to accident prevention and mitigation.

Safety and Environmental Inspections

- Ascertain environmental risk factors through prior inspections
- Manage the results of implementing action plans following environmental inspections
- Confirm compliance with environmental laws, regulations, and guidelines
- Carry out on-site checks on facility management
- Conduct every quarter: Directly-run service stations, logistics centers, Safety & Production Division

Safety and Environmental Conference

- Establish safety and environmental investment plans and identify execution results
- Establish measures for major pending issues
- Monitor pollutant discharge concentration by discharge facility
- Share revisions to important laws and regulations
- Hold every quarter: Sales Division, Safety & Production Division, Subsidiaries

Chemical Emergency Response Programs

With an aim to promptly respond to any chemical incidents and minimize damage to the environment, Hyundai Oilbank has established and operates the Chemical Safety Team (CST) in partnership with the Geum River Basin Environmental Office of the Ministry of Environment and other companies in the Daesan Industrial Complex. In addition, the company has overhauled its incident response manual to improve in-house prevention and control capabilities, and holds prevention and control drills for potential accident scenarios according to the company's annual plans.

CST

Ministry of Environment (Geumgang River Basin Environmental Office), Hyundai Oilbank, LG Chemical, Hanwha Total Petrochemical, LOTTE Chemical, KCC

Major roles

- Provide information on the accident location and chemicals, in the event of a chemical accident
- Provide control equipment from each company and assist in control outside hazard sites in the event of an accident
- Share information inside the regional industrial complex and form an emergency communications network

Chemical disaster emergency response drills

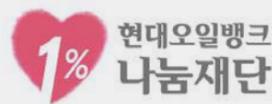


CSR Management

Hyundai Oilbank is helping to create a happy and healthy society by carrying out a wide variety of CSR activities. They are participated in by all our employees and their families and by the operators and employees of our gas and charging stations.

Hyundai Oilbank 1% Nanum Foundation

The Hyundai Oilbank 1% Nanum Foundation was established in September 2011, when staff at the company came to the decision to donate 1% of their salaries to help those in need. Hyundai Oilbank therefore became the first large corporation in South Korea to donate 1% of employee salaries every month. The foundation has contributed to the culture of sharing joined by other companies, gas station owners and staff families. All of our business cards carry the phrase “a company sharing 1% of salaries”, which reflects the pride that our employees have in this initiative. The Foundation carries out a wide range of CSR projects designed to help people in need. They include providing heating oil and facility renovations to marginalized groups, delivering food to the elderly, helping to improve infrastructures for the disabled, and offering emergency relief and assistance as and when needed. We also engaged in a number of overseas outreach projects in 2019, supporting soccer classes for elementary school children in Vietnam and supplying high-efficiency cooking utensils to remote villages in Myanmar.



Vision of Hyundai Oilbank 1% Nanum Foundation

By adding “99% hopeful energy” to the “value of sharing 1% of salaries”, we are aiming to help the underprivileged and build a more warm-hearted society.



Major CSR Activities

Supporting Local Communities

Hyundai Oilbank runs various CSR programs to build win-win relationships with residents in Seosan, where its headquarters is located. The company has operated a local rice-purchasing program since 2003 to help lift incomes of local farmers, buying an annual KRW 1 billion worth of rice produced in the region. We have also run an annual rockfish re-stocking program since 2002 with approximately 150,000 rockfish being released into nearby waters to increase the incomes of fishermen, and to promote the local economy. The rockfish re-stocking program has become a leading local festival called the “Samgilpo Rockfish Festival”, and is contributing to attracting tourists to the region. Hyundai Oilbank also undertakes coastal clean-ups in the Samgilpo area as part of its efforts to protect the marine environment. Launched in 2003, the Hyundai Oilbank Scholarship Foundation offers scholarships worth KRW 50 million annually to junior high school, high school, and university students from low-income families living near its headquarters.

In September 2011, the construction of Hyundai Daejuk Park was completed on a 17,400m² site that includes a natural grass soccer field, basketball and volleyball courts, and facilities for regular exercise and relaxation. The park is open to local residents for free. In June 2014, Hyundai Oilbank developed an ecological park and hiking trails at the Hwagok Reservoir Park in Seosan, giving local residents a pleasant nearby area for relaxation. We also put aside KRW 50 million for the park’s continued maintenance including flower tree planting and coastal maintenance, thereby contributing to community development.



Soccer classes in Vietnam



Seosan regional rice-purchasing program



Indoor nursery garden



Family invitation for disadvantaged car wash attendants

Volunteer Activities

The employees of Hyundai Oilbank have provided people in need with more than 5,000 hours of community service a year since 2005 through the company’s Sharing Happiness Volunteer Program. In addition, the company makes financial contributions to charities its employees support in the form of a grant of up to KRW 10,000 per hour that they have spent volunteering. It also donates up to KRW 2 million worth of supplies to each charity.

Our new employees visited a nursery in 2019, working together to create a wall garden to help its residents with air purification and psychotherapy. They also delivered Christmas gifts and trees to the needy at the end of the year.

Public Service and Support Programs

Hyundai Oilbank’s “One Company, One Military Unit” program supports the Yeonpyeong Unit of the Marine Corps by carrying out morale boosting activities and inviting the Unit’s members to the company’s events. During winter, Hyundai Oilbank provides heating oil to small-scale social welfare facilities and low-income households. In addition, scholarships are offered to the children of cargo transporter drivers in need and coast guards.

Hiring the Disabled

Hyundai Oilbank has been an active participant in a job creation program for the disabled, in partnership with the Korea Employment Agency for the Disabled since 2003. The company hires disabled people, including some with severe challenges, to be car wash attendants at its directly-run gas stations. A total of 19 disabled employees have been working as car wash attendants at eleven directly-run gas stations for more than ten years. The company has also supported family invitation events for these employees every year, including VR experience and outings to amusement parks and arboretums.

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Management Discussion & Analysis

Disclaimer on Forward-Looking Statements

This report contains forward-looking statements related to future activities, events, and developments that reflect the company's expectations regarding its financial results and business conditions at the time of this publication. These forward-looking statements are based on multiple predictions regarding the future business environment and may prove to be incorrect. Actual results may differ materially due to various risks and uncertainties underlying the company's assumptions. Such risks and uncertainties include, but are not limited to, changes in the company's internal management and in the external environment.

Hyundai Oilbank undertakes no obligation to publicly update or revise any forward-looking statements to reflect risks or uncertainties that have occurred after the publication of this report. Consequently, the company can give no assurance that the circumstances or events presented in these forward-looking statements will take place as forecast, as they are based on expectations at the time of writing. The company will not provide an update on any changes to its risk factors or forward-looking statements after the publication date.

I. Economic & Market Overview

1. 2019 Economic Overview

Global economic growth weakened in 2019 compared to the previous year. This was primarily due to prolonged uncertainties relating to the ongoing trade dispute between China and the United States. South Korea's economic growth also declined year-on-year, largely due to the negative effects of the US-China dispute, Japanese export restrictions to the country, weakening household consumption following job losses, and lowered investments in construction and facility projects.

2. Market Overview

1) International Crude Oil Price and Foreign Exchange Rate

The international crude oil market is characterized by limited availability, concentrated regional production, uncertain supply and demand, and price volatility. It can be described as a seller's market, with the market controlled by major sellers. Accounting for 35% of the world's annual production, the OPEC member countries have had enormous influence in the international oil markets. However, non-OPEC producers, especially North American shale gas drillers, are rapidly increasing their market share, giving them expanding influence over prices due in particular to a rise in shale oil production.

Oil prices in 2019 rose until the beginning of the second quarter. The major determinants of this trend were lower production in major oil producing countries, supply cuts in Venezuela, and increased expectations of a US-China trade deal. However, annualized average Dubai oil prices fell year-on-year due to such downward pressures as a dramatically increased supply of shale oil in the United States and concerns over a possible decline in demand following a breakdown in US-China trade negotiations. International oil prices are expected to face downward pressure in 2020 due to falling de-

mand in China resulting from the spread of COVID-19. Price volatility is expected to be high due to price-increasing factors also coexisting such as OPEC's future decisions regarding production cuts and disruptions in production caused by the civil war in Libya.

The won/dollar exchange rate declined in the first half of the year and rose in the second, driven by the previously-mentioned trade dispute and global economic downturns. The rate in the first quarter of the year was relatively stable, trading within a range of KRW 1,110 and KRW 1,140 due to optimism about positive US-China trade negotiations and the end of interest rate hikes in the United States. It surged after June, however, as the US-China trade war reignited and South Korea's economic growth rate weakened. It rose to KRW 1,222, its yearly high, in the second half, in the face of a regenerated US-China trade war and the imposition of a second round of tariffs by both countries, but fell again in the wake of benchmark interest rate cuts in the United States and the first-phase of US-China trade agreement. In the end, the won/dollar exchange rate closed the year at KRW 1,157.8.

The won/dollar exchange rate is forecast to exhibit a high level of volatility in 2020, much of it depending on whether there will be additional trade agreements between the US and China and whether the global economy will rebound. Although South Korea's economic regeneration is expected to be delayed due to the outbreak of COVID-19 at the beginning of the year, there is also a positive possibility of further benchmark interest rate cuts by the financial authorities in a bid to stimulate the economy. As a result, it is expected that the exchange rate will fluctuate between KRW 1,150 and KRW 1,230 throughout the year.

2) Overview of the Domestic Oil Refining Industry

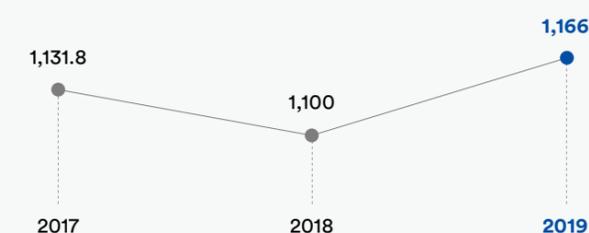
The South Korean oil refining industry has the world's fifth-largest crude refining capacity, thanks to large-scale refinery expansion projects. These facilities enable economies of scale and give the domestic oil refining industry a competitive advantage in exports. In fact, the South Korean oil refining industry is not domestic demand-oriented any more, and exports more than half of its total production.

The domestic refining industry saw market conditions improve in 2019 as the value of gasoline cracks gradually increased compared to the end of the previous year. This rise was attributable to disruptions in domestic and overseas operations, and increased demand following the positive nature of US-China trade negotiations in the first half. On the debit side, however, the full-scale effects of the IMO's regulations were delayed due to rising freight rates caused by sanctions on shipping companies in China and rising prices for crude oil imports. These factors caused year-on-year refining margins to decline and operating profits to fall.

Forecasters are calling for a decline in the industry's refining margins in the first half of 2020 and a rise in the second. Demand for oil and oil-based products will probably contract in the first half, mostly because of COVID-19. Refining margins should improve in the second half of the year, however, thanks to global economic recoveries and the effects of IMO regulations, while the ravages of the coronavirus are expected to be alleviated. This positive thinking is countered by such continuing uncertainties as to what will really happen with COVID-19, as well as the very real possibility of falling oil prices due to increased shale oil production in the United States and a number of other imponderable geopolitical factors. Given this multitude of uncertainties in the petroleum product market in 2020, Hyundai Oilbank will continue with its plans for strengthening its competitiveness through a wide range of strategies, including diversifying its exports, increasing its VLSFO sales as much as possible to take maximum advantage of benefits from IMO regulations, adding to its heavy oil upgrading operations, and investing in even more production capacity.

Average Foreign Exchange Rate

(Unit: KRW/USD)



Refining Capacity

(Unit: Thousand barrels/day)

Hyundai Oilbank		690
SK Energy		840
GS Caltex		800
S-OIL		669

Upgrading Ratio

(Unit: %)

Hyundai Oilbank		40.6
SK Energy		23.7
GS Caltex		34.3
S-OIL		38.9

* Including 170,000 barrels of Hyundai Chemical's condensate splitter

Management Discussion & Analysis

II. Business Results

1. Operating Performance

(Unit: KRW billion)

	2019	2018	Change	
1. Sales	21,116.8	21,503.6	-386.8	-1.8%
2. Cost of Goods Sold	20,181.8	20,431.5	-249.7	-1.2%
3. Gross Profit	935.1	1,072.1	-137.0	-12.8%
4. Selling and Administrative Expenses	413.1	411.1	2.0	0.5%
5. Operating Profit	522.0	661.0	-139.0	-21.0%
6. Non-Operating Income (Expenses)	-118.5	-123.5	-5.0	-4.1%
7. Current Income	403.5	537.5	-134.0	-24.9%
8. Income Tax Expense	90.6	133.7	-43.1	-32.2%
9. Net Income	312.9	403.8	-90.9	-22.5%
Operating Margin	2.5%	3.1%	-0.6%p	-19.6%
Net Margin	1.5%	1.9%	-0.4%p	-21.1%

* Based on consolidated financial statements

To respond to the challenges of international oil price fluctuations and the economic uncertainties at home and abroad, Hyundai Oilbank has focused on improving profitability across the range of its businesses, from importing crude oil to production and sales, with the goal to achieve the best possible efficiency. The company also strived to diversify its business portfolio through the early settlement of new businesses. On-site, Hyundai Oilbank has carefully managed its refining margins by flexibly adjusting its plant operating capacity, and focusing on maintaining the most efficient product inventories throughout the year. We will continue our efforts to improve profitability through the stable operation of our highly profitable upgrading facilities and continuous cost reductions.

Hyundai Oilbank has built its competitive edge through continued commitment to management improvement.

First, productivity was enhanced thanks to the energy savings from the installation of fluidized bed combustion (FBC) boilers, waste heat recovery, and energy consulting, as well as process automation and increased efficiency in upgrading processes.

Second, Hyundai Oilbank has solidified the cost competitiveness of its crude oil imports. The company has expanded imports of crude oil products from sources other than the

Middle East, including the Forties Oil Field in the North Sea, Sokol in Russia, and Maya and Isthmus in Mexico. It has also increased imports of supplementary materials by developing basic new materials, such as C5C6 and solvent xylene.

Third, Hyundai Oilbank has made continual investments to ensure to establish best upgrading facilities in South Korea. Furthermore, the company has operated its facilities safely, achieving 17 million work hours with no accidents. Based on its accumulated expertise, Hyundai Oilbank now has the ability to maximize its revenues through the stable operation of its state-of-the-art facilities.

2. Sales Analysis

1) Sales

In recent years, the demand for petroleum products has slowed down and low oil prices continue due mainly to the shale band. Hyundai Oilbank has focused on balanced market management of domestic consumption and exports, while responding flexibly to market conditions. The company has therefore enhanced its sales competitiveness by diversifying sales channels and developing new channels, improved profitability by building competitive sales networks, and created new revenue models by reinforcing its ability to incorporate new businesses.

2) Sales by Channel

The company adjust sales flexibly to react proactively to market changes while applying sales strategies that are appropriate for each channel to maximize profitability.

Retail Sales

Hyundai Oilbank sells its products to gas stations, agencies, the National Agricultural Cooperative Federation, general stores, LPG filling stations, and other retail sales channels through which light and middle distillate oil is mainly supplied. The retail sales channel is seeking to expand in strategic regions in South Korea, as well as increasing sales through more advertising and mass promotions. The company also strives to build its brand value by ensuring friendly and clean services at gas stations, and to increase operating profits and asset values through the development of gas station complexes.

Direct Sales

Direct sales channels include industrial firms, the military and government, and tender sales. The company provides corporate customers with a variety of products, such as marine fuel oil, jet fuel, asphalt and naphtha, unlike retail sales which deal primarily with the supply of light and middle distillate oil. In addition, we strive to create new revenue sources by developing special oil types and finding new clients.

Exports

Exports have increased steadily thanks to the increasing operating capacity ratio and a more diverse range of export products since the expansion of heavy oil upgrading (HOU) facil-

ities. Given the increasingly close interconnection between the domestic and overseas marketplaces, Hyundai Oilbank focuses on maximizing profits by optimizing its domestic sales and exports portfolio. The company is also aiming to grow by exporting gasoline to Vietnam, and starting a bunkering business in Singapore.

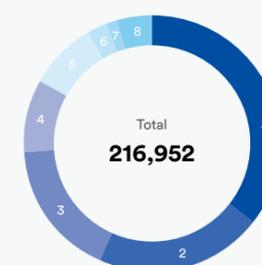
3) Sales by Product

With the beginning of operations at the HOU plants, Hyundai Oilbank's upgrading ratio rose from 36.7% in 2014 to 40.6% in 2019, the highest in South Korea. As a result, the percentage of sales from light and middle distillate oil products, including gasoline, jet fuel, kerosene, and light oil has remained stable. In terms of product sales by volume, light oil led with 32.3% of the total, followed by naphtha, gasoline, and fuel oil. The HOU plants have allowed the company to produce more high-value-added products, which in turn has improved competitiveness and profitability.

Sales by Product

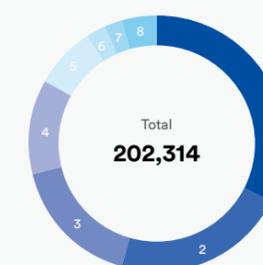
(Unit: Thousand barrels)

2019



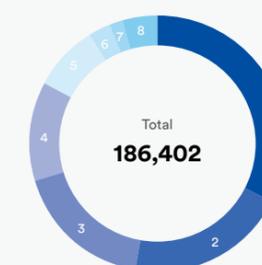
1. Gas Oil	70,105	32.3%
2. Naphtha	52,729	24.3%
3. Gasoline	34,100	15.7%
4. Fuel Oil	19,797	9.1%
5. Jet Fuel	20,007	9.2%
6. Kerosene	4,170	1.9%
7. LPG	4,213	1.9%
8. Others	11,830	5.5%

2018



1. Gas Oil	65,023	35.6%
2. Naphtha	48,888	21.1%
3. Gasoline	33,986	17.3%
4. Fuel Oil	20,636	9.3%
5. Jet Fuel	16,009	8.4%
6. Kerosene	4,703	2.6%
7. LPG	4,053	1.4%
8. Others	9,016	4.3%

2017



1. Gas Oil	60,673	32.5%
2. Naphtha	41,000	22.0%
3. Gasoline	31,140	16.7%
4. Fuel Oil	22,323	12.0%
5. Jet Fuel	14,244	7.6%
6. Kerosene	4,982	2.7%
7. LPG	3,748	2.0%
8. Others	8,292	4.4%

Management Discussion & Analysis

3. Profitability Analysis

The company has achieved strong operating profit margins thanks to its industry leading upgrading ratio, a considerable domestic market share for its refining capacity, and management strategies that focus on profitability. It recorded an operating profit in 2014 despite a rapidly worsening business environment, and then went on to record a profit-making winning streak that lasted for 25 consecutive quarters until 3Q 2018.

The company's combined refining margins for the first half of 2020 are expected to be weak compared to the same period of the previous year. The main reason for this will be a dramatic increase in the availability of light oil products due to enhanced shale oil production activities and falling demand for all petroleum products due to COVID-19. Oil prices and cracks are forecast to rise in the second half of 2020, thanks to reviving demand. Light oil product cracks should also rise in the wake of IMO regulations, leading to a gradual improvement in the company's operating performance.

In order to react to this mid- to long-term market outlook, Hyundai Oilbank will focus on maximizing profits by building new businesses, and will also pursue improvements in productivity, energy savings, high-margin overseas market development, and earnings improvements in each business division. The company expects to maintain outstanding prof-

itability in 2020 by increasing efficiency across all areas of its business, from crude oil imports to production and sales.

4. Future Investment Analysis

Established in November 2011, the Hyundai Oilbank Central Technology R&D Institute pursues technological innovation and R&D with the aim of reinforcing the company's capabilities in its refining and petrochemical businesses, and to create future value by establishing new businesses. Consisting of R&D 1 Team and 2 Team and Plant Support Team, the institute develops catalysts, provides technological assistance to the Daesan Refinery Plant, and carries out research in the use of desulfurization gypsum, in its efforts to boost the competitiveness of existing businesses. In addition, it is creating drivers of new growth by developing synthetic lube base oil and functional specialty products.

The institute is also involved in national projects, including carbon materials manufacturing technology development, using heavy oil, and the slurry hydro cracker process and catalyst development. By undertaking research projects jointly with the industrial, academic, and research sectors, and by engaging in technology exchanges with overseas research institutes, the Hyundai Oilbank Central Technology R&D Institute is both strengthening the competitiveness of existing businesses and developing engines for future growth.

Key Financial Indicators

	(Unit: KRW billion)			
	2019	2018	Change	
Current Assets	4,565.4	4,358.3	207.1	4.8%
Non-current Assets	8,290.5	7,386.5	904.0	12.2%
Total Assets	12,855.9	11,744.8	1,111.1	9.5%
Current Liabilities	4,086.7	4,578.0	-491.3	-10.7%
Non-current Liabilities	3,327.6	2,042.7	1,284.9	62.9%
Total Liabilities	7,414.3	6,620.7	793.6	12.0%
Capital Stock	1,225.4	1,225.4	0	0.0%
Hybrid Bonds	224.3	224.3	0	0.0%
Capital Surplus	-0.4	1.7	-2.1	-123.5%
Accumulated Other Comprehensive Income	219.8	228.6	-8.8	-3.8%
Retained Earnings	3,110.1	3,109.9	0.2	0.0%
Non-controlling Interest	662.4	334.2	328.2	98.2%
Total Shareholders' Equity	5,441.6	5,124.1	317.5	6.2%
Liabilities-to-Equity Ratio	136.3%	129.2%	7.1%p	5.5%

* Based on consolidated -financial statements

5. Financial Status

1) Summary of Financial Position

The company's total assets amounted to KRW 12.856 trillion at the end of 2019, up 9.5% from the previous year. Current assets grew by 4.8% year-on-year to reach KRW 4.565 trillion. This was attributable to an increase in the receivables following the rise in oil prices towards the end of the year, which was partially countered by the decrease in inventory due to the decrease in the operating rate.

Non-current assets increased by 12.2% YoY to KRW 8.291 trillion. Current liabilities decreased by 10.7% to KRW 4.087 trillion, due primarily to a drop in short-term borrowings. Non-current liabilities surged by 62.9% to KRW 3.328 trillion, reflecting a rise in long-term borrowings, and total liabilities climbed by 12.0% to reach KRW 7.414 trillion. Total shareholders' equity was up 6.2% to KRW 5.442 trillion, and the liabilities-to-equity ratio rose by 7.1% points to 136.3%.

	(Unit: KRW billion)			
	2019	2018	Change	
New Investment	737.7	460.7	277.0	60.1%
Additional Investment	118.3	247.2	-128.9	-52.1%
Total	856.0	707.9	148.1	20.9%

* Based on Hyundai Oilbank

6. Liquidity and Financing

1) Liquidity

Consisting of cash and cash equivalents and short-term financial assets, the company's liquidity stood at KRW 485.7 billion at the end of 2019. The company continuously monitors its liquidity in order to maintain it at an appropriate level and to satisfy capital requirements, including working capital requirements.

2) CAPEX

Hyundai Oilbank continues to make the investments needed to improve its position in the refining and petrochemical industry, and to create new value by building new businesses. The company is increasing the value of its existing businesses by expanding its crude refining and upgrading capacity. It is also operating new businesses, including establishing the solvent de-asphalting (SDA) process, constructing new boilers, and the lubricants business. In addition, the company is enhancing the efficiency of its investments, ensuring safe operations at its plants, making additional investments into its network, and continuing to invest into subsidiaries in order to diversify business. These investments are boosting Hyundai Oilbank's global competitiveness by developing engines for its mid- to long-term growth and by establishing sustainable revenues.

2) Financing

Hyundai Oilbank maintains a stable long-term financial structure through the issuance of corporate bonds and loans for facility investment. Total borrowings at the end of 2019 were KRW 3.448 trillion, a year-on-year increase of KRW 186.9 billion. This was caused by new and additional investments to upgrade refining facilities and increase daily refining capacity. Total liabilities moved up by 12.0% over the year to stand at KRW 7.414 trillion at the end of 2019, and the liabilities-to-equity ratio rose by 7.1% points to 136.3%.

Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Board of Directors and Shareholders of Hyundai Oilbank Co., Ltd.

Opinion

We have audited the accompanying consolidated financial statements of Hyundai Oilbank Co., Ltd. and its subsidiaries (collectively referred to as the "Group") which comprise the consolidated statement of financial position as at December 31, 2019, and the consolidated statement of profit or loss, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of Hyundai Oilbank Co., Ltd. and its subsidiaries as at December 31, 2019, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

We conducted our audit in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Matter

The consolidated financial statements of the Group for the year ended December 31, 2018, were audited by KPMG Samjong Accounting Corp. who expressed an unmodified opinion on those statements on March 19, 2019.

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Seoul, Korea
March 12, 2020

This report is effective as of March 12, 2020, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2019 and 2018

(in thousands of Korean won)

	Notes	2019	2018
Assets			
Current assets			
Cash and cash equivalents	4,6	480,435,944	162,638,021
Short-term financial assets	4,6	5,300,000	6,300,000
Financial assets at fair value through profit or loss	4,5,6,20	-	210,024
Derivative assets	4,5,6,20	14,238,091	13,082,543
Trade and other receivables	4,6,10,32	1,472,184,143	1,348,515,254
Inventories	11	2,494,508,809	2,740,226,114
Other current assets		98,782,191	87,287,201
		4,565,449,178	4,358,259,157
Non-current assets			
Investments in joint ventures	12	415,929,840	457,079,019
Long-term financial assets	4,6,8	523,000	1,023,000
Derivative assets	4,5,6,20	477,267	-
Financial assets at fair value through profit or loss	4,5,6,9	3,000,000	-
Trade and other receivables	4,6,10,32	181,486,694	129,322,184
Investment properties	13	9,819,838	10,634,973
Property, plant and equipment	14	7,182,579,916	6,677,979,279
Right-of-use assets	34	397,241,985	-
Intangible assets	15	95,567,832	95,689,938
Deferred tax assets	29	2,251,928	3,705,402
Other non-current assets	18	1,534,168	11,114,449
		8,290,412,468	7,386,548,244
Total assets		12,855,861,646	11,744,807,401

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Financial Position, Continued
December 31, 2019 and 2018

(in thousands of Korean won)

	Notes	2019	2018
Liabilities			
Current liabilities			
Short-term financial liabilities	4,6,17	1,125,012,875	1,573,656,843
Financial liabilities at fair value through profit or loss	4,5,6,20	-	23,911
Derivative liabilities	4,5,6,20	18,022,403	4,238,136
Trade and other payables	4,6,16,32	2,697,724,809	2,758,191,024
Lease liabilities	4,34	111,069,700	-
Current tax liabilities	29	48,850,564	71,146,385
Provisions	19	1,857,000	96,439,367
Other current liabilities		84,137,977	74,301,568
		4,086,675,328	4,577,997,234
Non-current liabilities			
Long-term financial liabilities	4,6,17	2,808,407,732	1,856,126,526
Derivative liabilities	4,5,6,20	906,752	-
Trade and other payables	4,6,16,32	7,907,576	8,444,579
Lease liabilities	4,34	307,071,160	-
Long-term provisions	19	1,761,783	2,416,875
Net defined benefit liabilities	18	16,532,502	-
Deferred income		28,713,907	30,448,984
Deferred tax liabilities	29	148,732,052	138,354,248
Other non-current liabilities		7,559,526	6,957,112
		3,327,592,990	2,042,748,324
Total liabilities		7,414,268,318	6,620,745,558
Equity attributable to owners of the Parent Company			
Share capital	21	1,225,412,110	1,225,412,110
Hybrid equity securities	22	224,272,850	224,272,850
Share premium		(432,929)	1,698,271
Accumulated other comprehensive income	23	219,766,600	228,615,084
Retained earnings	24	3,110,143,847	3,109,867,157
Non-controlling interest		662,430,850	334,196,371
Total equity		5,441,593,328	5,124,061,843
Total liabilities and equity		12,855,861,646	11,744,807,401

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Profit or Loss
Years Ended December 31, 2019 and 2018

(in thousands of Korean won)

	Notes	2019	2018
Revenue	7,32	21,116,843,968	21,503,643,132
Cost of sales	26,32	20,181,785,026	20,431,523,587
Gross profit		935,058,942	1,072,119,545
Selling and administrative expenses	25,26	413,082,185	411,083,184
Operating profit		521,976,757	661,036,361
Finance income	27	61,571,484	47,807,134
Finance costs	27	218,423,198	175,506,965
Other non-operating income	28	304,559,959	246,537,620
Other non-operating expenses	28	306,625,161	335,349,419
Share of profit of associates and joint ventures	12	40,465,830	92,949,192
Profit before income tax		403,525,671	537,473,923
Income tax expense	29	90,607,056	133,666,562
Profit for the year		312,918,615	403,807,361
Profit is attributable to:			
Owners of the Parent Company		276,371,699	402,009,631
Non-controlling interest		36,546,916	1,797,730
Basic earnings per share (in Korean won)	30	1,084	1,596

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2019 and 2018

(in thousands of Korean won)

	2019	2018
Profit for the year	312,918,615	403,807,361
Other comprehensive income		
Items that may be subsequently reclassified to profit or loss:		
Cash flow hedges	(11,682,087)	14,603,590
Share of other comprehensive income of associates and joint ventures	38,347	111,297
Exchange differences	1,591,983	1,687,304
Items that will not be reclassified to profit or loss:		
Remeasurements of net defined benefit liabilities	(18,816,862)	(4,176,210)
Share of other comprehensive income of associates and joint ventures	(53,356)	(9,582)
Other comprehensive income (loss) for the year	(28,921,975)	12,216,399
Total comprehensive income for the year	283,996,640	416,023,760
Total comprehensive income for the year is attributable to:		
Owners of the Parent Company	250,341,362	413,309,033
Non-controlling interest	33,655,278	2,714,727

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2019 and 2018

(in thousands of Korean won)

	Attributable to owners of the Parent Company					Non-controlling Interest	Total
	Share capital	Hybrid Equity securities	Share premium	Accumulated Other comprehensive Income	Retained Earnings		
Balance at January 1, 2018	1,225,412,110	224,272,850	1,698,271	214,828,147	3,064,227,952	331,481,644	5,061,920,974
Total comprehensive income for the year							
Profit for the year	-	-	-	-	402,009,631	1,797,730	403,807,361
Cash flow hedges	-	-	-	13,446,706	-	1,156,884	14,603,590
Gain (loss) on revaluation of land	-	-	-	(1,448,788)	1,448,788	-	-
Remeasurements of net defined benefit liabilities	-	-	-	-	(3,936,323)	(239,887)	(4,176,210)
Share of other comprehensive income of associates and joint ventures	-	-	-	101,715	-	-	101,715
Exchange differences	-	-	-	1,687,304	-	-	1,687,304
Transactions with owners							
Dividends paid	-	-	-	-	(343,115,391)	-	(343,115,391)
Dividends of hybrid equity securities	-	-	-	-	(10,767,500)	-	(10,767,500)
Balance at December 31, 2018	1,225,412,110	224,272,850	1,698,271	228,615,084	3,109,867,157	334,196,371	5,124,061,843
Balance at January 1, 2019	1,225,412,110	224,272,850	1,698,271	228,615,084	3,109,867,157	334,196,371	5,124,061,843
Changes in accounting policy	-	-	-	-	(3,063,232)	-	(3,063,232)
Total comprehensive income for the year							
Profit for the year	-	-	-	-	276,371,699	36,546,916	312,918,615
Cash flow hedges	-	-	-	(9,560,715)	-	(2,121,372)	(11,682,087)
Gain (loss) on revaluation of land	-	-	-	(864,742)	864,742	-	-
Remeasurements of net defined benefit liabilities	-	-	-	-	(18,046,597)	(770,265)	(18,816,862)
Share of other comprehensive income of associates and joint ventures	-	-	-	(15,010)	-	-	(15,010)
Exchange differences	-	-	-	1,591,983	-	-	1,591,983
Transactions with shareholders							
Issue of ordinary shares of subsidiaries	-	-	(2,131,200)	-	-	294,579,200	292,448,000
Dividends paid	-	-	-	-	(245,082,422)	-	(245,082,422)
Dividends of hybrid equity securities	-	-	-	-	(10,767,500)	-	(10,767,500)
Balance at December 31, 2019	1,225,412,110	224,272,850	(432,929)	219,766,600	3,110,143,847	662,430,850	5,441,593,328

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2019 and 2018

(in thousands of Korean won)

	Notes	2019	2018
Cash flows from operating activities			
Cash generated from operations			
Profit for the year		312,918,615	403,807,361
Adjustments	31	583,326,744	724,013,827
Changes in operating assets and liabilities	31	87,275,978	(173,119,953)
		983,521,337	954,701,235
Interest received		7,686,249	4,287,261
Interest paid		(125,195,376)	(98,812,196)
Dividends received		81,600,000	18,000,000
Income tax paid		(91,537,486)	(300,464,143)
Net cash inflow from operating activities		856,074,724	577,712,157
Cash flows from investing activities			
Increase in short-term financial assets		(3,200,000)	(12,019,926)
Decrease in short-term financial assets		4,200,000	15,903,091
Increase in financial assets at fair value through profit or loss		(10,919,735)	(4,743,371)
Decrease in long-term financial assets		500,000	1,001,500
Payment for acquisition of property, plant and equipment		(882,960,160)	(758,966,940)
Proceeds from disposal of property, plant and equipment		6,685,183	6,705,877
Payment for acquisition of intangible assets		(80,039)	(20,338)
Proceeds from disposal of investment properties		4,003,530	-
Increase in loans and receivables		(71,790,978)	(29,395,935)
Decrease in loans and receivables		39,081,498	14,246,823
Collection on lease receivables		5,295,638	-
Decrease from business transfer		(37,357,875)	-
Net cash outflow from investing activities		(946,542,938)	(767,289,219)

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Hyundai Oilbank Co., Ltd. and Subsidiaries
Consolidated Statements of Cash Flows, Continued
Years Ended December 31, 2019 and 2018

(in thousands of Korean won)

	Notes	2019	2018
Cash flows from financing activities			
Proceeds from short-term borrowings		18,321,745,171	10,114,361,624
Repayments of short-term borrowings		(18,722,841,709)	(9,600,694,052)
Repayments of current portion of long-term liabilities		(62,218,610)	(2,087,507)
Repayments of current portion of debentures		(310,000,000)	(320,000,000)
Proceeds from issuance of debentures		1,046,416,300	348,634,720
Proceeds from long-term borrowings		227,961,730	16,700,000
Dividends of hybrid capital securities		(10,767,500)	(10,767,500)
Dividends paid		(245,082,422)	(343,115,391)
Repayments of lease liabilities		(130,467,363)	-
Capital paid of non-controlling interests		292,448,000	-
Net cash inflow from investing activities		407,193,597	203,031,894
Net increase in cash and cash equivalents			
Cash and cash equivalents at the beginning of the year		162,638,021	148,231,468
Effects of exchange rate changes on cash and cash equivalents		1,072,540	951,721
Cash and cash equivalents at the end of the year		480,435,944	162,638,021

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

Hyundai Oilbank Co., Ltd. and Subsidiaries

1. General Information

Hyundai Oilbank Co., Ltd. (the Company) was established on November 19, 1964 to engage in the production and sale of petroleum products. The Company and its production facilities are located in Daesan, South Chungcheong Province. The Company and its subsidiaries (collectively referred to as the "Group") have a production capacity of 520,000 barrels per stream day (BPSD) in petroleum and 170,000 barrels per stream day (BPSD) in condensate processing.

As at December 31, 2019, Hyundai Heavy Industries Holdings Co., Ltd. owns 74.13% and Aramco Overseas Company B.V owns 17.0% of the Company's total outstanding shares.

1.1 Consolidated Subsidiaries

The consolidated subsidiaries as at December 31, 2019 and 2018, are as follows:

Subsidiaries	Location	Ownership interest held by the Group (%)		Closing month	Business
		2019	2018		
HDO Singapore Pte. Ltd.	Singapore	100	100	December	Petroleum trading
MS Dandy Ltd.	Marshall Islands	100	100	December	Ships leasing
Hyundai Oil Terminal Co., Ltd	Korea	100	100	December	Oil storage industry
Hyundai Oilbank (Shanghai) Co., Ltd.	China	100	100	December	Petroleum trading
Hyundai Chemical Co., Ltd. ^(*)	Korea	60	60	December	Crude petroleum refining
Grande Ltd.	Marshall Islands	100	100	December	Ships leasing
HYUNDAI OCI Co., Ltd.	Korea	51	51	December	Carbon black production

^(*) In 2019, the Company participated in capital increase for existing shareholders of Hyundai Chemical Co., Ltd.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

1.2 Summarized Financial Information

Summarized financial information for consolidated subsidiaries as at December 31, 2019 and 2018 and for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

Subsidiaries	Assets	Liabilities	Sales	Profit (loss) for the year
HDO Singapore Pte. Ltd.	606,207,437	527,762,232	7,932,333,266	27,192,923
MS Dandy Ltd.	14,421,468	1,389	1,373,602	358,612
Hyundai Oil Terminal Co., Ltd	161,400,561	40,225,734	42,433,453	9,418,297
Hyundai Oilbank (Shanghai) Co., Ltd.	28,056,347	22,350,394	234,967,443	3,033,047
Hyundai Chemical Co., Ltd.	2,806,405,968	1,317,748,750	3,653,908,635	62,365,095
Grande Ltd.	23,779,621	15,703,324	2,381,708	234,653
HYUNDAI OCI Co., Ltd.	304,124,442	166,399,067	180,545,493	23,911,743

(2) 2018

(in thousands of Korean won)

Subsidiaries	Assets	Liabilities	Sales	Profit (loss) for the year
HDO Singapore Pte. Ltd.	528,860,911	472,015,672	6,952,332,279	15,669,057
MS Dandy Ltd.	15,388,932	1,342	1,297,749	357,160
Hyundai Oil Terminal Co., Ltd	126,412,248	14,473,456	39,266,655	8,314,116
Hyundai Oilbank (Shanghai) Co., Ltd.	27,112,973	24,437,947	151,003,802	(1,978,495)
Hyundai Chemical Co., Ltd.	1,882,677,202	1,185,913,599	4,152,627,249	(5,946,700)
Grande Ltd.	24,320,889	16,746,603	2,246,033	195,137
HYUNDAI OCI Co., Ltd.	270,414,059	156,347,681	136,120,826	8,606,103

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The financial statements have been prepared on a historical cost basis, except for the following:

- Certain financial assets and liabilities (including derivative instruments), certain classes of property, plant and equipment and investment property – measured at fair value
- assets held for sale – measured at fair value less costs to sell, and
- defined benefit pension plans – plan assets measured at fair value.

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

2.2 Changes in Accounting Policies and Disclosures

2.2.1 New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2019.

(a) Enactment of Korean IFRS 1116 Leases

Under the new standard, with implementation of a single lease model, lessee is required to recognize assets and liabilities for all lease which lease term is over 12 months and underlying assets are not low value assets. A lessee is required to recognize a right-of-use asset and a lease liability representing its obligation to make lease payments.

With implementation of Korean IFRS 1116 Lease, the Group has changed accounting policy. The Group has adopted Korean IFRS 1116 retrospectively, as permitted under the specific transitional provisions in the standard, and recognized the cumulative impact of initially applying the standard as at January 1, 2019, the date of initial application. The Group has not restated comparatives for the 2018 reporting period. The impact of the adoption of the leasing standard and the new accounting policies are disclosed in Note 34.

(b) Amendment to Korean IFRS 1109 Financial Instruments – Prepayment Features with Negative Compensation

The narrow-scope amendments made to Korean IFRS 1109 Financial Instruments enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. The amendment does not have a significant impact on the financial statements.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

(c) Amendments to Korean IFRS 1019 Employee Benefits –Amendment, Curtailment or Settlement of the Plan

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendment does not have a significant impact on the financial statements.

(d) Amendments to Korean IFRS 1028 Investments in Associates and Joint Ventures – Long-term Interests in Associates and Joint Ventures

The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. The amendment does not have a significant impact on the financial statements.

(e) Enactment to Interpretation of Korean IFRS 2123 Uncertainty over Income Tax Treatments

The interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. The enactment does not have a significant impact on the financial statements.

(f) Annual Improvements to Korean IFRS 2015 – 2017 Cycle:

· Amendments to Korean IFRS 1103 Business Combination

The amendments clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. In such cases, the acquirer shall remeasure its entire previously held interest in the joint operation. The amendment does not have a significant impact on the financial statements.

· Amendments to Korean IFRS 1111 Joint Agreements

The amendments clarify that when a party that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business. In such cases, previously held interests in the joint operation are not remeasured. The amendment does not have a significant impact on the financial statements.

· Amendments to Paragraph 57A of Korean IFRS 1012 Income Tax

The amendment is applied to all the income tax consequences of dividends and requires an entity to recognize the income tax consequences of dividends in profit or loss, other comprehensive income or equity according to where the entity originally recognized those past transactions or events. The amendment does not have a significant impact on the financial statements.

· Korean IFRS 1023 Borrowing Costs

The amendments clarify that if a specific borrowing remains outstanding after the related qualifying asset is ready for its intended use (or sale), it becomes part of general borrowings. The amendment does not have a significant impact on the financial statements.

2.2.2 New standards and interpretations not yet adopted by the Group

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2019 reporting periods and have not been early adopted by the Group.

(a) Amendments to Korean IFRS 1001 Presentation of Financial Statements and Korean IFRS 1008 Accounting policies, changes in accounting estimates and errors – Definition of Material

The amendments clarify the explanation of the definition of material and amended Korean IFRS 1001 and Korean IFRS 1008 in accordance with the clarified definitions. Materiality is assessed by reference to omission or misstatement of material information as well as effects of immaterial information, and to the nature of the users when determining the information to be disclosed by the Group. These amendments should be applied for annual periods beginning on or after January 1, 2020, and earlier application of permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

(b) Amendments to Korean IFRS 1103 Business Combination – Definition of a Business

To consider the integration of the required activities and assets as a business, the amended definition of a business requires an acquisition to include an input and a substantive process that together significantly contribute to the ability to create outputs and excludes economic benefits from the lower costs. An entity can apply a concentration test, an optional test, where substantially all of the fair value of gross assets acquired is concentrated in a single asset or a group of similar assets, the assets acquired would not represent a business. These amendments should be applied for annual periods beginning on or after January 1, 2020, and earlier application of permitted. The Group does not expect that these amendments have a significant impact on the financial statements.

2.3 Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110 Consolidated Financial Statements.

(a) Subsidiaries

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are deconsolidated from the date that control ceases.

The acquisition method of accounting is used to account for business combinations by the Group. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquired entity on an acquisition-by-acquisition basis either at fair value or at the non-controlling interest's proportionate share of the acquired entity's net identifiable assets. All other non-controlling interests are measured at fair values, unless otherwise required by other standards. Acquisition-related costs are expensed as incurred.

The excess of consideration transferred, amount of any non-controlling interest in the acquired entity and acquisition-date fair value of any previous equity interest in the acquired entity over the fair value of the net identifiable assets acquired is recorded as goodwill. If those amounts are less than the fair value of the net identifiable assets of the business acquired, the difference is recognized directly in the profit or loss as a bargain purchase.

Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

The Group treats transactions with non-controlling interests that do not result in a loss of control as transactions with equity owners of the Group. A change in ownership interest results in an adjustment between the carrying amounts of the controlling and non-controlling interest to reflect their relative interest in the subsidiary. Any difference between the amount of the adjustment to non-controlling interest and any consideration paid or received is recognized in a separate reserve within equity attributable to owners of the Parent Company.

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value with the change in carrying amount recognized in profit or loss.

(b) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If the Group's share of losses of an associate equals or exceeds its interest in the associate (including long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses. After the Group's interest is reduced to zero, additional losses are provided for, and a liability is recognized, only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate. If there is an objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss. If an associate uses accounting policies other than those of the Group for like transactions and events in similar circumstances, if necessary, adjustments shall be made to make the associate's accounting policies conform to those of the Group when the associate's financial statements are used by the Group in applying the equity method.

(c) Joint Arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. Interests in joint ventures are accounted for using the equity method, after initially being recognized at cost in the consolidated statement of financial position.

2.4 Foreign Currency Translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within finance costs. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other income or other expenses'.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

2.5 Cash and cash equivalents

Cash and cash equivalents are composed of cash on hand, demand deposits and short-term, highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

2.6 Financial Assets

(a) Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

(b) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

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A. Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.
- **Fair value through other comprehensive income:** Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other income or expenses' and impairment losses are presented in 'other expenses'.
- **Fair value through profit or loss:** Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'other income or expenses' in the year in which it arises.

B. Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income and expenses' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c) Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the statement of financial position.

(e) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the statement of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

2.7 Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently remeasured at their fair value at the end of each reporting period. Changes in the fair value of any derivative instrument that does not qualify for hedge accounting are recognized immediately in profit or loss within 'other non-operating income (expenses)' based on the nature of transactions.

The Group applies hedge accounting associated with highly probable forecast transactions.

The effective portion of changes in the fair value of derivatives that are designated as hedging instruments and qualify for cash flow hedge accounting is recognized in equity, and the ineffective portion is recognized on profit or loss. When a hedging instrument expires, or is sold, terminated, exercised, or when a hedge no longer meets the criteria for cash flow hedge accounting, cash flow hedge accounting is discontinued. At the time of discontinuation of cash flow hedge accounting, the amount that has been accumulated in the cash flow hedge reserve recognized in profit or loss over the reporting period during the expected transaction occurs. However, if the forecast transaction is no longer expected to occur the cash flow hedge reserve that were reported in equity are immediately reclassified to profit or loss.

2.8 Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the moving average method (monthly average method) except Materials-in-transit.

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2.9 Non-current Assets (or Disposal Group) Held for sale

Non-current assets (or disposal group) are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

2.10 Property, Plant and Equipment

Property, plant and equipment are stated at historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation of all property, plant and equipment, except for land, is calculated using the straight-line method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives. Subsequent to initial recognition, land is carried at revalued amount, being its fair value at the date of the revaluation. Revaluations are performed with sufficient regularity to ensure that the fair value of a revalued asset does not differ materially from its carrying amount.

The estimated useful lives of property, plant and equipment are as follows:

	Useful lives
Buildings	25 - 50 years
Structures	25 - 50 years
Machinery	2 - 36 years
Vessels	15 years
Tools and fixtures	5 years
Vehicles	5 years
Others	2 - 6 years

The assets' depreciation method, residual values and useful lives are reviewed, and adjusted if appropriate, at the end of each reporting period.

2.11 Borrowing Costs

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

2.12 Intangible Assets

Goodwill is measured as described in Note 3 (a), and carried at cost less accumulated impairment losses.

Intangible assets, except for goodwill, are initially recognized at its historical cost, and carried at cost less accumulated amortization and accumulated impairment losses.

Software that are directly attributable to internally generated by the Group are recognized when the criteria; such as, technically feasible, generate probable future economic benefits and other, are met. Membership rights that have an indefinite useful life are not subject to amortization because there is no foreseeable limit to the period over which the assets are expected to be utilized. The Group amortizes intangible assets with a limited useful life using the straight-line method over the following periods:

	Useful lives
Software and other intangible assets	3 - 50 years

2.13 Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. An investment property is measured after initial measurement at depreciated cost (less any accumulated impairment losses). After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives of 25 ~ 50 years.

2.14 Impairment of Non-financial Assets

Goodwill and intangible assets that have an indefinite useful life are not subject to amortization and are tested annually for impairment, or more frequently if events or changes in circumstances indicate that they might be impaired. Other assets are tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs of disposal and value in use. Non-financial assets other than goodwill that suffered an impairment are reviewed for possible reversal of the impairment at the end of each reporting period.

2.15 Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

2.16 Financial Liabilities

(a) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is separated are also classified as held for trading.

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The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings', and 'other financial liabilities' in the statement of financial position.

Preferred shares that require mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the statement of profit or loss as 'finance costs', together with interest expenses recognized from other financial liabilities.

(b) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

2.17 Financial Guarantee Contracts

Financial guarantee contracts are recognized as a financial liability at the time the guarantee is issued. The liability is initially measured at fair value, subsequently at the higher of following and recognized in the statement of financial position within 'other financial liabilities'.

- the amount determined in accordance with the expected credit loss model under Korean IFRS 1109 Financial Instruments and
- the amount initially recognized less, where appropriate, the cumulative amount of income recognized in accordance with Korean IFRS 1115 Revenue from Contracts with Customers

2.18 Provisions and contingent liabilities

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

In addition, it is presented as contingent liability in case past events have occurred but if there is a potential obligation to confirm the existence by the occurrence of uncertain future events or in case there is a current obligation as a result of a past event or transaction but the possibility of the outflow of resources is not high or if the amount cannot be estimated reliably.

With enforcement of The Act on the Allocation and Trading of Greenhouse Gas Emission Permits, the allocation received from the government for free of charge are measured at zero while purchased emission permits are measured at acquisition cost and presented net of accumulated impairment loss. Emissions obligations are measured as the sum of the carrying amount of the allocated allowances that will be submitted to the government and the best estimate of expenditure required to settle the obligation at the end of reporting period for any excess emission. Emission permits and emission obligations are classified as intangible assets and provisions, respectively, in the statement of financial position.

2.19 Current and Deferred Tax

The tax expense for the period consists of current and deferred tax. Current and deferred tax is recognized in profit or loss, except to the extent that it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity, respectively.

The current income tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation. The Group recognizes current income tax on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting profit nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Group recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Group has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

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2.20 Employee Benefits

The Group operates a defined benefit plan.

A defined benefit plan is a pension plan that is not a defined contribution plan. Generally, post-employment benefits are payable after the completion of employment, and the benefit amount depended on the employee's age, periods of service or salary levels. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms approximating to the terms of the related obligation. Re-measurement gains and losses arising from experience adjustments and changes in actuarial assumptions are recognized in the period in which they occur, directly in other comprehensive income. Changes in the present value of the defined benefit obligation resulting from plan amendments or curtailments are recognized immediately in profit or loss as past service costs.

The asset recognized in the statement of financial position in respect of defined benefit pension plans is excess reserve which is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets and the asset is less than asset recognition limit.

Other long-term employee benefits that are not payable within twelve months from the end of periods in which the service is provided are the discounted present value of the future salary for the service provided in the period and the past. Re-measurement gains and losses are recognized in the period in which they occur, directly in profit and loss.

2.21 Contributed Equity

(a) Equity Investments

Ordinary stocks are classified as equity and incremental cost occurred directly from equity transactions are deducted from equity as net amount including tax effect.

(b) Hybrid Equity Securities

The Group classifies equity securities to financial liabilities or equity investments in accordance with its contract conditions. Hybrid equity securities which the Group has unconditional right to avoid transfer of financial assets, such as cash, to settle contractual liabilities are classified as equity investments and presented as a part of equity.

2.22 Earnings per Share

Basic earnings per share is profit or loss attributed to ordinary shareholder of the Group divided by the weighted average number of ordinary shares outstanding during the period.

Diluted earnings per share is profit or loss attributed to ordinary shareholder of the Group divided by the weighted average number of ordinary shares outstanding and weighted average number of dilutive potential ordinary shares of the Group during the period. Dilutive potential ordinary shares affect diluted earnings per share only when dilution occurs.

2.23 Revenue Recognition

(a) Identifying Performance Obligation

The Group engages in the production and sale of petroleum products and identify performance obligation from contracts with customers such as supply of goods in accordance with Korean IFRS 1115 'Revenue from Contracts with Customers'.

(b) Variable Consideration and Allocating Transaction Price

The Group determines and allocates transaction prices to various performance obligations identified from a single contract based on relative individual sales price. Contracts with customers do not provide form of variable consideration.

2.24 Leases

As explained in Note 2.2 above, the Group has changed its accounting policy for leases. The impact of the new accounting policies is disclosed in Note 34.

- Accounting policies for lessor

Lease income from operating leases where the Group is a lessor is recognized in income on a straight-line basis over the lease term. Initial direct costs incurred in obtaining an operating lease are added to the carrying amount of the underlying asset and recognized as expense over the lease term on the same basis as lease income. The respective leased assets are included in the statement of financial position based on their nature. The Group did not need to make any adjustments to the accounting for assets held as lessor as a result of adopting the new leasing standard.

- Accounting policies for lessee

The Group leases various land, buildings, gas stations, structures, machineries, vehicles, vessels and others. Lease contracts are typically made for fixed period, but may have extension options. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as security for borrowing purposes.

Until the 2018 financial year, leases of property, plant and equipment were classified as either finance or operating leases. Payments made under operating leases (net of any incentives received from the lessor) were charged to profit or loss on a straight-line basis over the period of the lease.

From January 1, 2019, leases are recognized as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate
- Amounts expected to be payable by the lessee under residual value guarantees
- The exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option

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The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

To determine the incremental borrowing rate, the Group:

- where possible, uses recent third-party financing received by the individual lessee as a starting point, adjusted to reflect changes in financing conditions since third party financing was received.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs

The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life. Although the Group elected to apply the revaluation model to its land that are presented in property, plant and equipment, the Group elected not to apply that revaluation model to land and buildings held by the Group that are presented in the right-of-use assets.

(a) Extension and termination options

Extension and termination options are included in a number of property, gas station and vessel contracts across the Group. These terms are used to maximize operational flexibility in terms of managing contracts.

2.25 Government Grants

Government grants are recognized at fair value when there is reasonable assurance that the Group will comply with the conditions attaching to them and the grants will be received. Grants related to income are deferred and recognized in the statement of financial position in the period in which the purpose of grant and related income and expense corresponds. Government grants related to acquisition of specific assets is accounted as deferred income and deferred income related government grants is amortized over useful life of related asset and recognized in profit or loss.

2.26 Segment Reporting

Information of each operating segment is reported in a manner consistent with the internal business segment reporting provided to the chief operating decision-maker (Note 7). The chief operating decision-maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the steering committee that makes strategic decisions.

2.27 Approval of Issuance of the Financial Statements

The consolidated financial statements 2019 were approved for issue by the Board of Directors on February 6, 2020 and are subject to change with the approval of shareholders at their Annual General Meeting.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

(a) Estimated goodwill impairment

The Group tests whether goodwill has suffered any impairment on an annual basis. The recoverable amount of a cash generating unit (CGU) is determined based on value-in-use calculations (Note 15).

(b) Useful Lives of Property, Plant and Equipment

The Group determines the estimated useful lives and related depreciation expenses of property, plant and equipment such as machinery. The estimation is based on the expected cycles of the products and it can vary depending on the behavior of the competitors to respond to changes in the technical and industrial cycles. When there is a reduction in useful lives the management will increase depreciation expense accordingly. Also, when assets are abandoned, disposed or obsolete, its value can be reduced or removed from the book.

(c) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 29).

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the Tax System for Recirculation of Corporate Income, the Group is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(d) Provisions

As at December 31, 2019, the Group recognizes provisions for environmental restoration and emissions rights as explained in Note 19. These provisions are estimated based on past experience and expenses for emissions expected in the future.

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(e) Customer Loyalty Programme

The Group operates a customer loyalty programme and the granted reward to the customer from the program is a separately identifiable component of the initial sale transaction that grants the reward. The allocation of the reward portion is estimated based on the past experience.

(f) Net defined benefit liability

The present value of net defined benefit liability depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 18).

(g) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 5).

(h) Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases of property and vessels, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), the Group is typically reasonably certain to extend (or not terminate).
- If any leasehold improvements are expected to have a significant remaining value, the Group is typically reasonably certain to extend (or not terminate).
- Otherwise, the Group considers other factors including historical lease durations and the costs and business disruption required to replace the leased asset.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

4. Financial Risk Management

4.1 Financial Risk Factors

Due to the Group's activities, the Group is exposed to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize any adverse effects on the financial performance of the Group. The Group uses derivative financial instruments to hedge certain risk exposures.

Risk management is carried out under policies approved by the Board of Directors. The Board reviews and approves written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, credit risk, use of derivative financial instruments and non-derivative financial instruments and investment of excess liquidity.

4.1.1 Market Risk

(a) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the US dollar. Foreign exchange risk arises from future commercial transactions and recognized assets and liabilities. The Group's risk management policy is to hedge the risk of changes in currency from foreign currency assets and liabilities through derivatives such as forward exchange contracts, and others.

The Group's financial assets and liabilities exposed to foreign currency risk as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	USD	EUR	JPY	Others	Total
Cash and cash equivalents	17,229,018	-	-	-	17,229,018
Trade receivables	711,726,531	-	-	-	711,726,531
Other receivables	4,528,790	-	-	-	4,528,790
	733,484,339	-	-	-	733,484,339
Trade payables	(1,293,686,629)	(113,797)	(18,028)	-	(1,293,818,454)
Other payables	(310,624,416)	(1,614,408)	(1,227,458)	(1,200,985)	(314,667,267)
Financial liabilities	(475,394,933)	-	-	-	(475,394,933)
Lease liabilities	(252,008,438)	-	-	(10,363,346)	(262,371,784)
	(2,331,714,416)	(1,728,205)	(1,245,486)	(11,564,331)	(2,346,252,438)

(2) 2018

(in thousands of Korean won)

2018	USD	EUR	JPY	Others	Total
Cash and cash equivalents	4,679,217	-	-	16,574	4,695,791
Trade receivables	471,881,110	-	-	-	471,881,110
Other receivables	4,784,033	-	-	-	4,784,033
	481,344,360	-	-	16,574	481,360,934
Trade payables	(1,138,090,389)	(60,643)	-	-	(1,138,151,032)
Other payables	(10,279,804)	-	(40,309)	(1,107)	(10,321,220)
Financial liabilities	(819,167,546)	-	-	-	(819,167,546)
	(1,967,537,739)	(60,643)	(40,309)	(1,107)	(1,967,639,798)

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The effect of foreign currency risk to profit is a sum of net foreign currency fluctuations of Korean won against other foreign currency fluctuations. Hedge effectiveness on derivative instruments has not been reflected. As at December 31, 2019 and 2018, if the foreign exchange rate of the Korean won (KRW / Foreign Currency) fluctuated by 5% while other variables held constant, the effects on profit would be as follows:

(in thousands of Korean won)

	2019		2018	
	5% Increase	5% Decrease	5% Increase	5% Decrease
Foreign currency assets	36,674,217	(36,674,217)	24,068,047	(24,068,047)
Foreign currency liabilities	(117,312,622)	117,312,622	(98,381,990)	98,381,990
Net effect	(80,638,405)	80,638,405	(74,313,943)	74,313,943

(b) Price risk

The Group is exposed to price risk of financial instruments because of investments held by the Group and classified on the statement of financial position either as available-for-sale or at fair value through profit or loss.

(c) Interest rate risk

The Group's main interest risk arises from savings and borrowings with variable rates. The Group properly hedges the risk that arises from borrowings with floating interest rates through interest rate swap contracts.

As at December 31, 2019, if interest rates on Korean won-denominated borrowings were 0.1%(10 basis points) higher/lower with all other variables held constant, comprehensive income for the period would be ₩ 474 million (2018: ₩ 319 million) lower/higher, mainly as a result of higher/lower interest expense on long-term floating rate borrowings.

4.1.2 Credit Risk

Credit risk is managed on a Group basis. Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to wholesale and retail customers, including outstanding receivables and committed transactions. For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted. If wholesale customers are independently rated, these ratings are used. If there is no independent rating, the Group assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the board. The utilization of credit limits is regularly monitored.

The maximum exposure to credit risk as at December 31, 2019 and 2018, are as follows:

(a) Book amount

(in thousands of Korean won)

	2019	2018
Cash and cash equivalents	480,265,956	162,486,188
Short-term financial assets	5,300,000	6,300,000
Financial asset at fair value through profit or loss	3,000,000	210,024
Derivative assets	14,715,358	13,082,543
Trade and other receivables	1,472,184,143	1,162,221,265
Long-term financial assets	523,000	1,023,000
Long-term trade and other receivables	181,486,694	129,322,184
Financial guarantee contracts	-	8,385,750
	2,157,475,151	1,483,030,954

The maximum credit exposure amount is equivalent to total financial assets, less cash and equity securities. The Group is exposed to credit risk up to the maximum amount of payment guarantee provided to subsidiaries.

(b) Maximum exposure to credit risk by Region

(in thousands of Korean won)

	2019	2018
Korea	1,676,578,912	924,741,931
North America	6,291,846	26,524,424
Asia	432,773,246	515,379,660
Europe	12,061,050	8,213,946
Others	29,770,097	8,170,993
	2,157,475,151	1,483,030,954

4.1.3 Liquidity Risk

The Group monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. The Group's liquidity management policy involves the financing plans of the group, compliance with agreements, internal target financial ratios and external regulatory requirements, such as limitations on currencies.

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The analyses of the Group's liquidity risk as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Book amount	Contractual cash flow ^(*)	Maturity			
			Less than 6 months	Between 6 months and 1 year	Between 1 and 3 years	Over 3 years
Short-term financial liabilities	1,125,012,875	1,149,271,647	1,060,056,910	89,214,737	-	-
Trade and other payables	2,697,724,809	2,697,724,809	2,694,474,495	3,250,314	-	-
Lease liabilities	111,069,700	115,011,512	64,034,547	50,976,965	-	-
Long-term financial liabilities	2,808,407,732	3,127,437,599	23,540,548	23,825,032	1,025,414,252	2,054,657,767
Long-term trade and other payables	7,907,576	7,907,576	-	-	-	7,907,576
Derivative financial liabilities designated as hedging instruments	18,929,155	18,929,155	16,018,229	2,004,174	906,752	-
Long-term lease liabilities	307,071,160	372,474,363	-	-	237,024,806	135,449,557

^(*) Includes interest amount to be paid and does not include present value discount.

(2) 2018

(in thousands of Korean won)

	Book amount	Contractual cash flow ^(*)	Maturity			
			Less than 6 months	Between 6 months and 1 year	Between 1 and 3 years	Over 3 years
Short-term financial liabilities	1,573,656,843	1,582,497,790	1,136,189,718	446,308,072	-	-
Financial liabilities at fair value through profit or loss	23,911	23,911	23,911	-	-	-
Trade and other payables	2,102,296,526	2,102,296,525	1,745,088,781	357,207,744	-	-
Long-term financial liabilities	1,856,126,526	1,389,025,052	124,655,140	28,359,162	420,240,874	815,769,876
Long-term trade and other payables	8,444,579	8,444,579	-	-	-	8,444,579
Derivative financial liabilities designated as hedging instruments	4,238,136	4,238,136	4,238,136	-	-	-
Financial guarantee contracts	-	8,385,750	8,385,750	-	-	-

^(*) Includes interest amount to be paid and does not include present value discount.

4.2 Capital Risk Management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, return capital to shareholders, issue new shares or sell assets to reduce debt.

The Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is total borrowings (including 'short and long-term borrowings' as shown in the consolidated statement of financial position) less cash and cash equivalents. Total capital is 'equity' as shown in the consolidated statement of financial position plus net debt.

The gearing ratios as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Total borrowings	3,933,420,607	3,429,783,369
Less: cash and cash equivalents	(480,435,944)	(162,638,021)
Net debt	3,452,984,663	3,267,145,348
Total equity	5,441,593,328	5,124,061,843
Total capital	8,894,577,991	8,391,207,191
Gearing ratio	39%	39%

4.3 Offsetting Financial Assets and Financial Liabilities

The following table presents the recognized financial assets that are offset, or subject to enforceable master netting arrangements and other similar agreements but not offset, as at December 31, 2019 and 2018.

(1) 2019

(in thousands of Korean won)

	Gross liabilities	Gross assets set off	Net amounts presented in the statement of financial position	Amounts not offset		Net amount
				Financial instruments	Cash collateral	
Other payables	42,640,966	(2,959,652)	39,681,314	-	-	39,681,314

(2) 2018

(in thousands of Korean won)

	Gross liabilities	Gross assets set off	Net amounts presented in the statement of financial position	Amounts not offset		Net amount
				Financial instruments	Cash collateral	
Other payables	24,322,129	(3,090,476)	21,231,653	-	-	21,231,653

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5. Fair Value

5.1 Fair Value of Financial Instruments by Category

Carrying amount and fair value of financial instruments by category as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019		2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets^(*)				
Financial assets at fair value through profit or loss	3,000,000	3,000,000	210,024	210,024
Derivative assets (current)	14,238,091	14,238,091	13,082,543	13,082,543
Derivative assets (non-current)	477,267	477,267	-	-
	17,715,358	17,715,358	13,292,567	13,292,567
Financial liabilities^(*)				
Financial liabilities at fair value through profit or loss	-	-	23,911	23,911
Derivative liabilities (current)	18,022,403	18,022,403	4,238,136	4,238,136
Derivative liabilities (non-current)	906,752	906,752	-	-
	18,929,155	18,929,155	4,262,047	4,262,047

(*) Trade receivables and payables whose carrying amount is a reasonable approximation of fair value are excluded from the fair value disclosures.

5.2 Fair Value Hierarchy

Items that are measured at fair value are categorized by the fair value hierarchy levels, and the defined levels are as follows:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

Fair value hierarchy classifications of the financial instruments that are measured at fair value as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Level 1	Level 2	Level 3	Total
Financial assets/liabilities that are measured at fair value				
Financial assets at fair value through profit or loss ^(*)	-	-	3,000,000	3,000,000
Derivative assets	-	14,715,358	-	14,715,358
Derivative liabilities	-	18,929,155	-	18,929,155

(*) The Group used acquisition cost as the assets cannot be reliably measured at fair value.

(2) 2018

(in thousands of Korean won)

	Level 1	Level 2	Level 3	Total
Financial assets/liabilities that are measured at fair value				
Financial assets at fair value through profit or loss	-	210,024	-	210,024
Derivative assets	-	13,082,543	-	13,082,543
Financial liabilities at fair value through profit or loss	-	23,911	-	23,911
Derivative liabilities	-	4,238,136	-	4,238,136

5.3 Valuation Techniques

Valuation techniques used for the financial instruments categorized within Level 2 and Level 3 of the fair value hierarchy as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Fair value	Level	Valuation techniques
Financial assets at fair value through profit or loss			
Debt instruments	3,000,000	3	Others
Derivative assets			
Currency forward contracts	59,140	2	Present value technique
Commodity forward contracts	14,178,952	2	Present value technique
Interest rate swap contracts	477,266	2	Present value technique
Derivative liabilities			
Currency forward contracts	3,212,961	2	Present value technique
Commodity forward contracts	15,716,194	2	Present value technique

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(2) 2018

(in thousands of Korean won)

	Fair value	Level	Valuation techniques
Financial assets at fair value through profit or loss			
Commodity forward contracts	210,024	2	Present value technique
Derivative assets			
Commodity forward contracts	13,082,543	2	Present value technique
Financial liabilities at fair value through profit or loss			
Commodity forward contracts	23,911	2	Present value technique
Derivative liabilities			
Commodity forward contracts	4,238,136	2	Present value technique

6. Financial Instruments by Category

6.1 Carrying Amounts of Financial Instruments by Category

Carrying amounts of financial assets and liabilities by category as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Amortized cost	Financial assets at fair value through profit or loss	Cash flow hedging instrument	Total
Cash and cash equivalents	480,435,944	-	-	480,435,944
Short-term financial assets	5,300,000	-	-	5,300,000
Financial assets at fair value through profit or loss	-	3,000,000	-	3,000,000
Derivative assets	-	-	14,715,358	14,715,358
Trade and other receivables ^(*)	1,368,641,154	-	-	1,368,641,154
Long-term financial assets	523,000	-	-	523,000
	1,854,900,098	3,000,000	14,715,358	1,872,615,456

^(*) Assets that are not based on contracts are excluded.

(in thousands of Korean won)

	Amortized cost	Financial liabilities at fair value through profit or loss	Cash flow hedging instrument	Total
Short-term financial liabilities	1,125,012,875	-	-	1,125,012,875
Derivative liabilities	-	-	18,929,155	18,929,155
Trade and other payables ^(*)	1,883,914,983	-	-	1,883,914,983
Lease liabilities	418,140,860	-	-	418,140,860
Long-term financial liabilities	2,808,407,732	-	-	2,808,407,732
	6,235,476,450	-	18,929,155	6,254,405,605

^(*) Liabilities that are not based on contracts are excluded.

(2) 2018

(in thousands of Korean won)

	Amortized cost	Financial assets at fair value through profit or loss	Cash flow hedging instrument	Total
Cash and cash equivalents	162,638,021	-	-	162,638,021
Short-term financial assets	6,300,000	-	-	6,300,000
Financial assets at fair value through profit or loss	-	210,024	-	210,024
Derivative assets	-	-	13,082,543	13,082,543
Trade and other receivables ^(*)	1,291,543,449	-	-	1,291,543,449
Long-term financial assets	1,023,000	-	-	1,023,000
	1,461,504,470	210,024	13,082,543	1,474,797,037

^(*) Assets that are not based on contracts are excluded.

(in thousands of Korean won)

	Amortized cost	Financial assets at fair value through profit or loss	Cash flow hedging instrument	Total
Short-term financial liabilities	1,573,656,843	-	-	1,573,656,843
Financial liabilities at fair value through profit or loss	-	23,911	-	23,911
Derivative liabilities	-	-	4,238,136	4,238,136
Trade and other payables ^(*)	2,110,741,105	-	-	2,110,741,105
Long-term financial liabilities	1,856,126,526	-	-	1,856,126,526
	5,540,524,474	23,911	4,238,136	5,544,786,521

^(*) Liabilities that are not based on contracts are excluded.

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6.2 Net Gains or Losses by Category of Financial Instruments

Net gains or net losses on each category of financial instruments for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Amortized cost	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss	Total
Interest income	9,322,179	-	-	9,322,179
Gain on disposal of financial assets at fair value through profit or loss	-	20,623,752	-	20,623,752
Gain on foreign currency translation	27,676,504	-	-	27,676,504
Gain on foreign currency transactions	260,496,259	-	-	260,496,259
Interest expense	(113,146,891)	-	-	(113,146,891)
Loss on sales of trade receivables	(12,148,796)	-	-	(12,148,796)
Loss on disposal of financial liabilities at fair value through profit or loss	-	-	(28,729,599)	(28,729,599)
Loss on foreign currency translation	(25,872,330)	-	-	(25,872,330)
Loss on foreign currency transactions	(305,354,431)	-	-	(305,354,431)
Provision for impairment	(237,216)	-	-	(237,216)

(2) 2018

(in thousands of Korean won)

	Amortized cost	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss	Total
Interest income	4,324,936	-	-	4,324,936
Gain on valuation of financial assets at fair value through profit or loss	-	210,024	-	210,024
Gain on disposal of financial assets at fair value through profit or loss	-	4,233,460	-	4,233,460
Gain on foreign currency translation	12,963,939	-	-	12,963,939
Gain on foreign currency transactions	225,678,882	-	-	225,678,882
Interest expense	(92,235,636)	-	-	(92,235,636)
Loss on sales of trade receivables	(6,330,360)	-	-	(6,330,360)
Loss on valuation of financial liabilities at fair value through profit or loss	-	-	(23,911)	(23,911)
Loss on disposal of financial liabilities at fair value through profit or loss	-	(1,227,911)	(7,748,920)	(8,976,831)
Loss on foreign currency translation	(5,142,640)	-	-	(5,142,640)
Loss on foreign currency transactions	(283,617,122)	-	-	(283,617,122)
Provision for impairment	(418,980)	-	-	(418,980)

7. Segment Information

Management as a strategic decision-maker determines the operating segments of the Group. The management has determined that the Group has only one reportable segment.

Breakdown of the Group's segment revenue for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Sale of goods	20,984,364,023	21,373,861,140
Others	132,479,945	129,781,992
	21,116,843,968	21,503,643,132

Major customer information for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Sale of goods		
Major customer(*1)	2,138,943,691	2,164,227,947

(*1) Customers who contribute more than 10% of the Group's revenue.

8. Restricted Financial Instruments

As at December 31, 2019, deposit for current accounts which is classified as long-term financial assets, amounting to ₩ 23 million (2018: ₩ 23 million) is restricted.

9. Financial Assets at Fair Value Through Profit or Loss

Financial assets at fair value through profit or loss as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Debt instruments	3,000,000	-

Changes in financial assets at fair value through profit or loss for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Beginning balance	-	3,000,000
Acquisition	3,000,000	-
Disposal	-	(3,000,000)
Ending balance	3,000,000	-

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10. Trade and Other Receivables

Trade and other receivables as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Trade receivables ^(*)	1,159,683,386	1,033,994,395
Other receivables	304,575,667	308,815,122
Accrued income	133,025	5,154,397
Deposits	650,127	551,340
Lease receivables	7,141,938	-
	1,472,184,143	1,348,515,254

^(*) As at December 31, 2019, trade receivables that were transferred but have not matured yet amount to ₩ 525,241 million (2018: ₩ 549,403 million). The Group transferred the receivables to DBS bank and substantially all the risks and rewards were transferred. As a result, the transaction has been accounted for disposal of trade receivables (Note 19).

The aging analysis of trade and other receivables as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Receivables not past due	1,443,451,868	1,322,844,353
Receivables past due but not impaired ^(*)		
Less than 6 month	25,736,375	23,779,225
Over 6 months	2,522,641	1,891,676
	28,259,016	25,670,901
Receivables impaired ^(**)		
Up to 1 year	377,339	326,788
Over 1 year	95,920	39,092
	473,259	365,880
	1,472,184,143	1,348,881,134

^(*) Trade receivables that are temporarily overdue.

^(**) Account receivables impaired is the balance in which the allowance was set less the recoverable amount (receivables pledged as collateral) among the account receivables in arrears.

Details of long-term trade and other receivables of the Group as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Long-term loans	66,131,955	65,847,251
Deposits	80,853,033	63,474,933
Lease receivables	34,501,706	-
	181,486,694	129,322,184

Movements in provisions for impairment of trade and other receivables for the years ended December 31, 2019 and 2018, are as follows:
(in thousands of Korean won)

	2019	2018
Beginning balance	715,799	349,919
Impairment loss on receivables	237,216	418,980
Receivables written off during the year as uncollectible	(378,255)	(53,100)
Ending balance	574,760	715,799

11. Inventories

Inventories as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Products	36,787,415	43,430,589
Finished goods	373,887,781	368,609,203
Work in process	180,131,344	198,849,412
Raw materials	622,963,408	677,383,605
Supplies	43,419,827	37,232,277
Materials-in-transit	1,237,319,034	1,414,721,028
	2,494,508,809	2,740,226,114

Details of cost of inventories recognized for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Cost of inventories (cost of sales)	19,035,689,556	19,476,183,190
Loss on valuation of inventories (reversal)	(140,315,275)	138,463,410

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12. Investments in Joint Ventures

Investments in joint ventures as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	Country	Ownership (%)	2019		2018	
			Acquisition cost	Book amount	Acquisition cost	Book amount
Joint Ventures						
Hyundai Cosmo Petrochemical Co., Ltd.	Korea	50	316,100,000	270,482,315	316,100,000	258,351,940
Hyundai and Shell Base Oil Co. Ltd. ^(*)	Korea	60	78,000,000	145,447,525	78,000,000	198,727,079
			394,100,000	415,929,840	394,100,000	457,079,019

^(*)Although the Group holds 60% ownership interest of Hyundai and Shell Base Oil Co. Ltd., the Group classifies the entity as a joint venture since the Group should obtain a consent from other shareholders for certain decisions in accordance with shareholders agreement.

Details of valuation of investments in associates and joint ventures that are accounted for using the equity method for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	Beginning	Share of profit of joint ventures	Share of other comprehensive income of joint ventures	Dividends received	Ending
Joint Ventures					
Hyundai Cosmo Petrochemical Co., Ltd.	258,351,940	42,119,874	10,501	(30,000,000)	270,482,315
Hyundai and Shell Base Oil Co. Ltd.	198,727,079	(1,654,044)	(25,510)	(51,600,000)	145,447,525
	457,079,019	40,465,830	(15,009)	(81,600,000)	415,929,840

(in thousands of Korean won)

	Beginning	Share of profit of joint ventures	Share of other comprehensive income of joint ventures	Dividends received	Ending
Joint Ventures					
Hyundai Cosmo Petrochemical Co., Ltd.	196,909,833	61,340,122	101,985	-	258,351,940
Hyundai and Shell Base Oil Co. Ltd.	185,118,279	31,609,070	(270)	(18,000,000)	198,727,079
	382,028,112	92,949,192	101,715	(18,000,000)	457,079,019

Elimination of unrealized gains and losses for the years ended December 31, 2019 and 2018, is as follows:

(1) 2019

(in thousands of Korean won)

	Transaction	Beginning unrealized loss (gain)	Amount accrued	Amount realized	Ending unrealized loss (gain)
Joint Ventures					
Hyundai Cosmo Petrochemical Co., Ltd.	Disposal of PP&E	(112,012,704)	-	24,945,202	(87,067,502)
	Sale of inventories	(1,517,198)	(380,048)	1,517,198	(380,048)
Hyundai and Shell Base Oil Co. Ltd.	Disposal of PP&E	(113,003)	-	-	(113,003)
	Sale of inventories	(939,635)	(861,624)	939,635	(861,624)
		(114,582,540)	(1,241,672)	27,402,035	(88,422,177)

(2) 2018

(in thousands of Korean won)

	Transaction	Beginning unrealized loss (gain)	Amount accrued	Amount realized	Ending unrealized loss (gain)
Joint Ventures					
Hyundai Cosmo Petrochemical Co., Ltd.	Disposal of PP&E	(112,309,266)	-	296,562	(112,012,704)
	Sale of inventories	(1,541,440)	(1,517,198)	1,541,440	(1,517,198)
Hyundai and Shell Base Oil Co. Ltd.	Disposal of PP&E	(113,003)	-	-	(113,003)
	Sale of inventories	(1,804,390)	(939,635)	1,804,390	(939,635)
		(115,768,099)	(2,456,833)	3,642,392	(114,582,540)

Financial information of the investees as at and for the year ended December 31, 2019, is as follows:

(1) 2019

(in thousands of Korean won)

	Assets	Liabilities	Sales	Profit for the year
Joint Ventures				
Hyundai Cosmo Petrochemical Co., Ltd.	1,257,981,978	542,122,248	2,901,858,391	32,075,044
Hyundai and Shell Base Oil Co. Ltd.	473,186,708	229,149,786	807,043,463	(2,886,758)

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13. Investment Property

Investment property as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Land	9,819,838	10,634,973

The Group disposed of land with the carrying amount of ₩ 815 million for ₩ 1,253 million and recognized gain on disposal amounting to ₩ 438 million.

During the period, rental income from investment property is ₩ 11 million (2018: ₩ 12 million), and direct operating expenses (including repairs and maintenance) arising from investment property that generated rental income during the period are ₩ 13 million (2018: ₩ 45 million).

14. Property, Plant and Equipment

Changes in property, plant and equipment for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Land	Buildings	Structures	Machinery and equipment	Vessels	Vehicles	Tools	Construction-in-progress	Others	Total
Opening acquisition cost	1,234,254,279	361,882,545	1,688,542,549	4,982,759,088	45,634,007	13,889,418	184,254,916	274,694,307	425,912,660	9,211,823,769
Opening accumulated depreciation	-	(85,079,518)	(542,025,899)	(1,490,534,642)	(9,191,604)	(12,201,805)	(135,510,318)	-	(259,300,704)	(2,533,844,490)
Opening net book amount	1,234,254,279	276,803,027	1,146,516,650	3,492,224,446	36,442,403	1,687,613	48,744,598	274,694,307	166,611,956	6,677,979,279
Acquisitions	1,990,336	259,404	650,488	4,751,160	-	244,388	13,639,307	862,238,294	92,759	883,866,136
Business transfer (Note 33)	29,828,238	529,646	6,331,756	128,172	-	29,500	130,000	-	-	36,977,312
Disposals	(4,825,001)	(2,389,414)	(470,641)	(3,802,868)	-	(4,854)	(117,427)	-	(413,046)	(12,023,251)
Transfer	44,377,417	26,768,967	7,551,374	222,929,996	-	1,804,381	4,603,126	(358,547,927)	42,295,271	(8,217,395)
Depreciation	-	(9,121,778)	(43,499,967)	(261,929,471)	(2,378,859)	(697,859)	(19,036,427)	-	(60,645,108)	(397,309,469)
Exchange differences	-	-	-	-	1,309,969	-	578	(3,243)	-	1,307,304
Closing acquisition cost	1,305,625,269	384,883,066	1,699,217,765	5,199,580,761	47,254,319	13,898,808	198,803,872	778,381,431	468,101,179	10,095,746,470
Closing accumulated depreciation	-	(92,033,214)	(582,138,105)	(1,745,279,326)	(11,880,806)	(10,835,639)	(150,840,117)	-	(320,159,347)	(2,913,166,554)
Closing net book amount	1,305,625,269	292,849,852	1,117,079,660	3,454,301,435	35,373,513	3,063,169	47,963,755	778,381,431	147,941,832	7,182,579,916

(2) 2018

(in thousands of Korean won)

	Land	Buildings	Structures	Machinery and equipment	Vessels	Vehicles	Tools	Construction-in-progress	Others	Total
Opening acquisition cost	1,180,961,933	326,639,097	1,598,669,960	4,195,882,095	43,727,999	13,786,226	174,306,027	555,281,432	337,145,652	8,426,400,421
Opening accumulated depreciation	-	(77,070,109)	(500,950,907)	(1,275,517,007)	(6,621,183)	(11,958,375)	(121,126,738)	-	(233,999,636)	(2,227,243,955)
Opening net book amount	1,180,961,933	249,568,988	1,097,719,053	2,920,365,088	37,106,816	1,827,851	53,179,289	555,281,432	103,146,016	6,199,156,466
Acquisitions	2,658,297	287,950	2,788,640	1,308,436	-	36,190	10,333,979	807,913,037	-	825,326,529
Disposals	(5,205,443)	(990,710)	(212,278)	(1,744,735)	-	(26)	(122,040)	-	(6)	(8,275,238)
Transfer	55,839,492	36,563,975	87,886,180	797,306,942	-	503,369	3,713,003	(1,088,500,162)	97,398,940	(9,288,261)
Depreciation	-	(8,627,176)	(41,664,945)	(225,011,285)	(2,245,492)	(679,771)	(18,359,842)	-	(33,932,994)	(330,521,505)
Exchange differences	-	-	-	-	1,581,079	-	209	-	-	1,581,288
Closing acquisition cost	1,234,254,279	361,882,545	1,688,542,549	4,982,759,088	45,634,007	13,889,418	184,254,916	274,694,307	425,912,660	9,211,823,769
Closing accumulated depreciation	-	(85,079,518)	(542,025,899)	(1,490,534,642)	(9,191,604)	(12,201,805)	(135,510,318)	-	(259,300,704)	(2,533,844,490)
Closing net book amount	1,234,254,279	276,803,027	1,146,516,650	3,492,224,446	36,442,403	1,687,613	48,744,598	274,694,307	166,611,956	6,677,979,279

Line items including depreciation in the statements of income for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Cost of sales	377,217,970	311,792,473
Selling and administrative expenses	20,091,499	18,729,032
	397,309,469	330,521,505

During the year, the Group has capitalized borrowing costs amounting to ₩ 4,030 million (2018: ₩ 8,455 million) on property, plant and equipment that are qualifying assets. The capitalization rate of borrowings used to determine the amount of borrowing costs to be capitalized is 2.66% (2018: 2.59%).

The Group has investment plans for the establishment of new process and the amounts agreed or to be agreed are ₩ 1,046,631 million as at December 31, 2019. Hyundai Chemical Co., Ltd., a subsidiary of the Group, has investment plans for the construction of HPC and others (expected investment : ₩ 2,730,000 million), and the acquired or agreed amount for the acquisition is ₩ 2,384,900 million.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

Details of property, plant and equipment provided as collaterals as at December 31, 2019, are as follows:

(1) 2019

(in thousands of Korean won, thousands of USD)

	Book amount	Secured amount	Related line item	Related amount	Secured party
Land / Building of subsidiaries	1,471,345,501	3,138,000,000		765,000,000	
Land / Building of subsidiaries	258,999,869	192,000,000	Borrowings (Note 17)	138,658,550	Korea Development bank and other financial institutions
Land / Building of subsidiaries	36,543,707	36,000,000		30,000,000	
Vessel of subsidiaries	22,412,905	USD 13,547		USD 13,547	HIHD Co., Ltd.

In addition, Hyundai Chemical Co., Ltd., a subsidiary of the Group, has Erection All Risks (EAR) Insurance in relation to the new HPC project amounting to ₩ 27,300,000 million, and provides the rights to receive insurance benefits as collaterals to Korea Development bank and other financial institutions (pledged amount: ₩ 2,280 billion).

The following table analyzes the book amount of land measured under revaluation model and cost model as at December 31, 2019.
(in thousands of Korean won)

	Revaluation model	Cost model
Land	1,305,625,269	1,007,998,350

15. Intangible Assets

Changes in intangible assets for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Goodwill	Software	Membership rights	Others	Total
Book amount at January 1, 2019	56,629,475	9,394,012	13,209,483	16,456,968	95,689,938
Additions	-	287,000	14,399	-	301,399
Business transfer (Note 33)	2,422,688	-	-	-	2,422,688
Disposals	-	-	(15,000)	(1,972)	(16,972)
Amortization	-	(3,881,032)	-	(1,918,551)	(5,799,583)
Transfer	-	3,211,015	-	(250,862)	2,960,153
Exchange differences	-	-	10,027	182	10,209
Book amount at December 31, 2019	59,052,163	9,010,995	13,218,909	14,285,765	95,567,832

(2) 2018

(in thousands of Korean won)

	Goodwill	Software	Membership rights	Others	Total
Book amount at January 1, 2018	56,629,475	10,159,985	13,184,586	16,405,310	96,379,356
Additions	-	7,000	13,338	-	20,338
Disposals	-	-	-	(1)	(1)
Amortization	-	(3,385,384)	-	(2,047,352)	(5,432,736)
Transfer	-	2,612,411	-	2,099,012	4,711,423
Exchange differences	-	-	11,559	(1)	11,558
Book amount at December 31, 2018	56,629,475	9,394,012	13,209,483	16,456,968	95,689,938

Line items including amortization in the statements of income for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Cost of sales	1,324,522	1,306,691
Selling and administrative expenses	4,475,061	4,126,045
	5,799,583	5,432,736

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

Impairment of Intangible Assets

The Group's goodwill as at December 31, 2019 and 2018, represents the goodwill arising from acquisition and business transfer. Goodwill is distributed based on the cash-generating units, by which the executives manage the goodwill.

(in thousands of Korean won)

	Goodwill allocation amount	
	2019	2018
Goodwill		
Domestic retail ^(*)	56,629,475	56,629,475
Tank terminal	2,422,688	-
	59,052,163	56,629,475

Assumptions	Rate		
	2019		2018
	Domestic retail 1	Tank terminal	Domestic retail 1
Operating profit margin compared to sales volume	4.80%	40.19%	5.87%
Growth rate of the sales volume ^(*)			
Increase rate of the rental unit price ^(*)	(-)4.46%	4.89%	(-)0.19%
Growth rate beyond 5 years ^(*)	0.49%	1.0%	0.93%
Pre-tax discount rate ^(*)	7.31%	7.42%	5.81%

^(*) Weighted average of sales growth rate calculated based on historical growth rate to forecast cash flows for five years.

^(*) Increase rate of rental unit price calculated based on rental performance in 2019 and the sales growth rate of competitors to forecast cash flows for five years.

^(*) Consistent with the growth rate beyond five years used in the Industrial Report and considering increase rate of operating profit and inflation rates from 2020 to 2024

^(*) Pre-tax discount rate applied in forecasted cash flows.

The impairment test on goodwill suggests that the carrying amount of cash-generating units does not exceed the recoverable amount.

16. Trade and Other Payables

Trade and other payables as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Current		
Trade payables	1,551,726,164	1,741,274,927
Other payables	1,126,770,723	992,028,166
Accrued expenses	19,227,922	24,887,931
	2,697,724,809	2,758,191,024
Non-current		
Long-term withholdings	7,907,576	8,444,579
	7,907,576	8,444,579

17. Short and Long-term Financial Liabilities

Details of short-term financial liabilities as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Short-term borrowings	797,944,933	1,201,667,546
Current portion of long-term borrowings	137,107,075	62,151,587
Current portion of bonds	189,960,867	309,837,710
	1,125,012,875	1,573,656,843

Details of long-term financial liabilities as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Long-term borrowings	933,430,423	838,635,738
Bonds	1,874,977,309	1,017,490,788
	2,808,407,732	1,856,126,526

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

Details of short-term borrowings as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

Type of borrowings	Creditor	Interest (%)	2019	2018
Commercial paper	KB Securities Co., Ltd. and others	1.89%~2.15%	320,000,000	360,000,000
Invoice Loan	Korea Development Bank and others	2.00%~2.19%	475,394,933	697,229,330
Usance L/C	Korea Development Bank and others	-	-	105,166,716
Import Loan	Bank of China	-	-	16,771,500
General loan	Shinhan Bank and others	3.37% ~ 3.84%	2,550,000	22,500,000
			797,944,933	1,201,667,546

Details of long-term borrowings as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

Type of borrowings	Creditor	Interest (%)	Maximum Maturity	2019	2018
Energy invest loan	Korea Development Bank	-		-	575,600
Commercial paper	Shinhan Bank	-		-	60,000,000
Commercial paper	Shinhan Bank and others	CD3M + 0.29%	Oct. 7, 2021	150,000,000	
Facility loan	Korea Development Bank and others	2.48%	July 31, 2024	30,000,000	-
Facility loan	Korea Development Bank and others	3.05%~3.69%	Dec. 17, 2029	736,193,930	705,607,531
Facility loan	Korea Development Bank and others	3.22%~3.46%	May 29, 2026	138,658,550	117,881,015
Shipbuilding loan	HIHD Co., Ltd.	4.40%	May 17, 2028	15,685,018	16,723,179
				1,070,537,498	900,787,325
Less: Current maturities				(137,107,075)	(62,151,587)
				933,430,423	838,635,738

Details of bonds as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

Series	Issuance date	Maturity date	Interest (%)	2019	2018
Hyundai Oilbank Co., Ltd.					
111-2 nd	2012.10.23	2019.10.23	3.52%	-	99,956,515
112-2 nd	2014.01.27	2019.01.27	3.59%	-	49,995,815
114-2 nd	2014.11.21	2019.11.21	2.59%	-	159,885,380
114-3 rd	2014.11.21	2021.11.21	2.94%	59,930,151	59,893,708
115-2 nd	2015.03.27	2020.03.27	2.20%	189,960,867	189,804,335
115-3 rd	2015.03.27	2022.03.27	2.53%	139,815,167	139,733,019
116-1 st	2017.07.07	2022.07.07	2.58%	179,675,963	179,550,530
116-2 nd	2017.07.07	2024.07.07	2.85%	99,758,319	99,705,589
117 th	2018.01.26	2023.01.26	2.89%	149,651,142	149,522,642
118-1 st	2018.08.28	2021.08.28	2.21%	69,845,406	69,745,227
118-2 nd	2018.08.28	2023.08.28	2.44%	89,762,820	89,688,995
118-3 rd	2018.08.28	2025.08.28	2.63%	39,873,126	39,846,743
119-1 st	2019.01.28	2024.01.26	2.14%	119,604,309	-
119-2 nd	2019.01.28	2026.01.28	2.41%	79,733,706	-
120-1 st	2019.07.09	2024.07.09	1.66%	59,769,440	-
120-2 nd	2019.07.09	2026.07.09	1.81%	119,607,615	-
120-3 rd	2019.07.09	2029.07.09	2.14%	119,610,706	-
121-1 st	2019.10.14	2024.10.14	1.68%	159,467,637	-
121-2 nd	2019.10.14	2026.10.14	1.88%	99,662,707	-
121-3 rd	2019.10.14	2029.10.14	2.11%	139,525,719	-
Hyundai Chemical Co., Ltd.					
1-1 st	2019.08.13	2024.08.13	2.48%	129,725,706	-
1-2 nd	2019.08.14	2024.08.13	2.48%	19,957,670	-
				2,064,938,176	1,327,328,498
Less: Current maturities				(189,960,867)	(309,837,710)
				1,874,977,309	1,017,490,788

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

18. Net Defined Benefit Liability

Details of net defined benefit liabilities recognized in the statements of financial position as at December 31, 2019 and 2018, are as follows:

	(in thousands of Korean won)	
	2019	2018
Present value of funded defined benefit obligations	256,891,006	216,798,107
Fair value of plan assets	(240,067,555)	(226,043,108)
Contribution to National Pension Fund	(290,950)	(314,594)
Net defined benefit liabilities (assets) in the statement of financial position ^(*)	16,532,501	(9,559,595)

^(*)As at December 31, 2018, the excess portion of fair value of plan asset over present value of funded defined benefit obligations is recorded as other non-current assets.

Movements in the defined benefit obligations for the years ended December 31, 2019 and 2018, are as follows:

	(in thousands of Korean won)	
	2019	2018
Beginning balance	216,798,107	195,765,320
Current service cost	25,725,301	23,194,519
Interest expense	5,383,809	5,854,998
Remeasurements:	24,297,694	2,286,541
Actuarial loss from change in demographic assumptions	2,759,801	-
Actuarial loss from change in financial assumptions	12,363,235	9,192,551
Actuarial loss(gain) from experience adjustments	9,174,658	(6,906,010)
Benefits payments	(18,210,711)	(12,227,719)
Effect of transference	2,896,806	1,924,448
Ending balance	256,891,006	216,798,107

Movements in the fair value of plan assets for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Beginning balance	226,043,108	223,705,551
Expected return on plan assets	5,482,358	6,638,933
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(1,476,435)	(3,426,837)
Contributions:		
Employers	20,696,863	9,191,255
Payments from plans:		
Benefit payments	(10,678,339)	(10,065,794)
Ending balance	240,067,555	226,043,108

Plan assets as at December 31, 2019 and 2018, consist of as follows:

At the end of the reporting period, plan assets are invested in principal-guaranteed products.

Expected contributions to post-employment benefit plans for the financial year following the reporting period are ₩ 27,828 million.

The significant actuarial assumptions as at December 31, 2019 and 2018, are as follows:

(in percentage, %)

	2019	2018
Discount rate	2.35% ~ 2.56%	2.66% ~ 2.84%
Salary growth rate	1.50% ~ 3.50%	1.87% ~ 3.46%

The sensitivity of the defined benefit obligations to changes in the principal assumptions is as follows:

(in percentage, %)

	Effect on defined benefit obligations		
	Changes in principal assumption	Increase in principal assumption	Decrease in principal assumption
Discount rate	1%	10.12% decrease	12.02% increase
Salary growth rate	1%	11.76% increase	10.12% decrease

The weighted average maturity of the defined benefit obligations at the end of the reporting period is 11.81 years.

Expected maturity analysis of undiscounted pension benefits as at December 31, 2019, is as follows:

(in thousands of Korean won)

	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years	Total
Pension benefits	9,402,755	20,688,031	36,504,072	887,507,371	954,102,229

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December 31, 2019 and 2018

19. Provisions, Contingent Liabilities and Commitments

19.1 Provisions

Changes in provisions for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Beginning balance	Increase	Decrease	Ending balance
Provision for environmental restoration costs	3,817,742	381,071	(580,030)	3,618,783
Other provision ^(*)	95,038,500	-	(95,038,500)	-
	98,856,242	381,071	(95,618,530)	3,618,783

^(*)In 2019, the Group has fully paid the penalty imposed by the U.S. Department of Justice as a result of its inspection on alleged collusion in tender process for supplying fuel to the U.S Army bases in Korea.

(2) 2018

(in thousands of Korean won)

	Beginning balance	Increase	Decrease	Ending balance
Provision for environmental restoration costs	6,596,800	1,165,097	(3,944,155)	3,817,742
Other provision	-	95,038,500	-	95,038,500
	6,596,800	96,203,597	(3,944,155)	98,856,242

In regards to Carbon gas emissions, the Group sets provision for expected expenses due to emissions exceeding the emission rights capacity in a given year. As at December 31, 2019, the given amount of emission rights for each year are as follows:

(in thousand Tons)

	2018	2019	2020	Total
Emission allowances allocated free of charge	3,595	3,447	3,447	10,489

The carrying amount of emission right is nil and none of rights are pledged as collateral.

19.2 Contingent Liabilities

(in billions of Korean won)

	Description	Amount	Outcome and expectation
Lawsuit as the defendant	Damage claim suit (The Fair Trade Commission)	12.4	-Pending at Seoul Central District Court -Unable to expect the outcome
	Damage claim suit (THE HANKOOK SHELL OIL CO.,LTD)	14.2	-Pending at Seoul High Court -Partially in favor of the company at Seoul Central District Court

19.3 Commitments

As at December 31, 2019, the Group has entered into bank overdraft agreements with KEB Hana Bank and others for up to ₩ 30,000 million (2018: ₩ 30,000 million). As at December 31, 2019, the Group has entered into medium and long-term agreement for a discount note for the amount of ₩ 100,000 million (2018: ₩ 60,000 million) with Shinhan Bank and ₩ 50,000 million with Woori Investment Bank Co.,Ltd, and ₩ 100,000 million has been paid at December 31, 2019. Also, the Group has entered into mutual support agreements with Woori Bank for cooperation partner amounting to ₩ 30,000 million (2018: ₩ 30,000 million) and general loan agreement amounting to ₩ 30,000 million (2018: ₩ 30,000 million) as at December 31, 2019.

The Group has entered a corporate purchase price and an import letter of credit arrangement of ₩ 230,000 million and US\$ 4,932 million (2018: ₩ 325,000 million and US\$ 4,137 million) with Korea Development Bank and others. Payment of US\$ 1,237 million has been made as at December 31, 2019, to the beneficiary.

The Group has entered into a factoring agreement with ING Bank for up to ₩ 150,000 million(2018: ₩ 140,000 million) and US\$ 60 million, with DBS Bank for up to ₩ 145,000 million (2018: ₩ 130,000 million), with KEB Hana Bank for up to ₩ 80,000 million (2018: ₩ 80,000 million) and US\$ 40 million (2018: US\$ 80 million), with MUFG Bank for up to US\$ 60 million, with ANZ Bank and others for up to US\$ 369 million (2018: US\$ 210 million), and ₩ 260,000 million and US\$ 216 million has been executed for above agreements (Note 10).

As at December 31, 2019, the Group has entered into a cash deficiency support agreement on borrowings with Lotte Chemical Corp., and OCI Co., Ltd for up to ₩ 1,046,000 million and ₩ 160,000 million, respectively.

The Group has entered into a share option agreement with Shell Petroleum Company Limited (“Shell”), a joint venture partner of Hyundai and Shell Base Oil Co., Ltd. (“HSB”).

According to the agreement, Shell holds a put option to sell 40% stake to Hyundai Oilbank Co., Ltd. (the “Company”) at the estimated value of the independent external valuation institution(From August 2014 to August 2021: if the amount of raw materials supplied from the Company to HSB is below a certain level, after August 2021: no condition).

In addition, the Company has a call option to acquire 40% stake from Shell at the estimated value of the independent external valuation institution (From August 2021 to August 2029: if the amount of products Shell purchased from HSB is below a certain level, after August 2029: no condition).

20. Derivative Financial Instruments

Details of derivative financial instruments as at December 31, 2019, are as follows:

(in thousands of Korean won, USD, JPY and EUR)

Purpose	Type of contract	Details of contract	Sell		Buy	
			Contract unit	Contract value	Contract unit	Contract value
Cash flow hedge	Foreign exchange forward contracts	Foreign exchange risk hedge	KRW	133,863,026	USD	116,539
			KRW	14,050,027	JPY	1,300,877
	Interest rate swap contracts	Fluctuation in interest rate	KRW	95,900,092	EUR	71,313
			KRW	150,000,000	KRW	150,000,000
Commodity forward contracts	Refining margin risk hedge	USD	189,983	USD	153,000	

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December 31, 2019 and 2018

Derivative financial instruments as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Type of contract	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss	Derivative financial instruments	
				assets	liabilities
Cash flow hedge	Foreign exchange forward contracts	-	-	59,140	3,212,961
	Interest rate swap contracts	-	-	477,266	-
	Commodity forward contracts	-	-	14,178,951	15,716,194

(2) 2018

(in thousands of Korean won)

	Type of contract	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss	Derivative financial instruments	
				assets	liabilities
Cash flow hedge	Commodity forward contracts	-	-	13,082,543	4,238,136
Trading purposes hedge	Commodity forward contracts	210,024	23,911	-	-

Expected transactions with high possibility of occurrence of hedged items, regarding cash flow hedge, are estimated to occur within varying periods of 12 month, and will further effect gain or loss in 12 month to come. No expected transaction, under hedge accounting that requires amendment due to less likelihood of occurrence, exists in above financial statements. The effective portion of changes in fair value of derivatives that are recognized as other comprehensive income, as at the end of the reporting period, amounts to ₩ 1,828 million (2018: ₩ 7,732 million), and the associated gains or losses that are reclassified from equity to profit or loss, as at December 31, 2019, amounts to ₩ 17,250 million (2018: ₩ 2,769 million).

For the years ended December 31, 2019 and 2018, realized and unrealized gain (loss) from derivative instruments transactions are as follows:

(1) 2019

(in thousands of Korean won)

	Disposal of financial instruments at fair value through profit or loss		Valuation of financial instruments at fair value through profit or loss	
	Gain	Loss	Gain	Loss
Trading purposes				
Foreign exchange forward contracts	15,985,300	23,679,832	-	-
Commodity forward contracts	4,638,452	5,049,767	-	-
	20,623,752	28,729,599	-	-

(2) 2018

(in thousands of Korean won)

	Disposal of financial instruments at fair value through profit or loss		Valuation of financial instruments at fair value through profit or loss	
	Gain	Loss	Gain	Loss
Trading purposes				
Foreign exchange forward contracts	4,233,460	7,748,920	-	-
Commodity forward contracts	-	1,227,911	210,024	23,911
	4,233,460	8,976,831	210,024	23,911

21. Equity

The Group's total number of authorized shares is 500,000,000 shares. The total number of ordinary shares issued is 245,082,422 shares with a par value of ₩5,000 per share.

22. Hybrid Equity Securities

Details of bond-type hybrid equity securities classified as equity as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	Issue date	Maturity date	Interest rate	2019	2018
1-1 st Private hybrid equity securities	2015.12.11	2045.12.11	4.80%	160,000,000	160,000,000
1-2 nd Private hybrid equity securities	2015.12.11	2045.12.11	4.75%	65,000,000	65,000,000
				225,000,000	225,000,000
Less: issuance expenses				(727,150)	(727,150)
				224,272,850	224,272,850

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December 31, 2019 and 2018

The condition of hybrid equity securities issued for the year ended December 31, 2019 is as follows:

(in thousands of Korean won)

	1-1 st Private hybrid equity securities	1-2 nd Private hybrid equity securities
Issued amount	160,000,000	65,000,000
Maturity	30 years (At maturity, the Group may decide whether to extend the maturity.)	
Rate	From issue date to December 11, 2020 : Fixed rate 4.80% per year Recalculated as below and applied every 5 year; Yield rate of government bond with 5 year maturity+ annual 2.865% + annual 2.00% (step-up clause)	From issue date to December 11, 2020: Fixed rate 4.75% per year, Recalculated as below and applied every 5 years; Yield rate of government bond with 5 year maturity + annual 2.815% + annual 2.00% (step-up clause)
Condition for interest paid	Three months deferred payment and it is possible to selectively extend the payment date.	
Others	Prepayment is allowed after 5 years from the issuance date and every interest payment date afterwards, depending on the Group's decision.	

The Group has the right to extend the maturity date of hybrid equity securities. In addition, payment of interest on bonds can be postponed on the Group's discretion, which in that case the Group cannot resolve and pay the dividend of common stocks until the interest is fully paid. Hybrid equity securities, where the Group has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation, are therefore classified as equity instruments.

23. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Gain on revaluation of land	217,931,445	218,796,187
Exchange differences	1,327,192	(264,791)
Share of other comprehensive income of associates	2,336,293	2,351,303
Derivative instruments for cash flow hedge	(1,828,330)	7,732,385
	219,766,600	228,615,084

24. Retained Earnings

Retained earnings as at December 31, 2019 and 2018, consist of:

(in thousands of Korean won)

	2019	2018
Legal reserves ^(*)	144,328,608	119,820,366
Unappropriated retained earnings	2,965,815,239	2,990,046,791
	3,110,143,847	3,109,867,157

^(*)The Commercial Code of the Republic of Korea requires the Group to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit. When the accumulated legal reserves (the sum of capital reserves and earned profit reserves) are greater than 1.5 times the paid-in capital amount, the excess legal reserves may be distributed.

25. Selling and Administrative Expenses

Selling and administrative expenses for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Salaries	96,103,005	94,811,343
Employee benefit	18,514,128	16,828,372
Promotional expenses	10,990,781	13,323,566
Advertising expenses	28,901,629	22,677,822
Service costs	55,764,514	51,739,244
Commission expenses	25,643,467	27,963,630
Freight expenses	96,789,248	104,406,757
Depreciation	20,091,499	18,729,032
Amortization	4,475,061	4,126,045
Depreciation of right-of-use assets	20,816,395	-
Rental expenses	-	26,792,807
Lease payments	4,132,183	-
Others	30,860,275	29,684,566
	413,082,185	411,083,184

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

26. Expenses by Nature

Expenses by nature for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Changes in inventories	245,717,304	(621,255,176)
Purchase of inventories	18,789,972,252	20,097,438,366
Depreciation	397,309,469	330,521,505
Amortization	5,799,583	5,432,736
Depreciation of right-of-use assets	123,922,784	-
Salaries	292,444,236	282,215,489
Others	739,701,583	748,253,851
	20,594,867,211	20,842,606,771

The total expenses by nature equals to the sum of cost of sales and selling and administrative expenses in the statements of comprehensive income.

27. Finance Income and Costs

Finance income and costs for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Finance income		
Interest income	9,851,989	4,324,936
Gain on foreign currency translation	2,626,075	5,868,644
Gain on foreign currency transactions	49,093,420	37,613,554
	61,571,484	47,807,134
Finance costs		
Interest expense	113,146,891	92,235,636
Interest expense relating to lease liabilities	12,049,443	-
Loss on sales of trade receivables	12,148,796	6,330,360
Loss on foreign currency translation	11,055	391,725
Loss on foreign currency transactions	81,067,013	76,549,244
	218,423,198	175,506,965

28. Other Non-operating Income and Expenses

Other non-operating income and expenses of the Group for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Other non-operating income		
Gain on disposal of financial assets at fair value through profit or loss	20,623,752	4,233,460
Gain on valuation of financial assets at fair value through profit or loss	-	210,024
Reversal of other impairment loss	2,512	-
Gain on foreign currency translation	25,050,429	7,095,295
Gain on foreign currency transactions	211,402,838	188,065,328
Gain on disposal of property, plant, and equipment	1,195,804	1,038,926
Gain on disposal of investment properties	438,395	-
Gain on disposal of right-of-use assets	3,356,722	-
Miscellaneous income	42,489,507	45,894,587
	304,559,959	246,537,620
Other non-operating expenses		
Loss on disposal of financial assets at fair value through profit or loss	28,729,599	8,976,831
Loss on valuation of financial assets at fair value through profit or loss	-	23,911
Loss on foreign currency translation	25,861,275	4,750,914
Loss on foreign currency transactions	224,287,419	207,067,879
Loss on disposal of property, plant, and equipment	6,366,951	2,608,287
Loss on disposal of right-of-use assets	4,738,034	-
Other impairment loss	104,000	-
Loss on disposal of intangible assets	16,972	1
Donations	6,550,485	7,463,782
Miscellaneous expenses	9,970,426	104,457,814
	306,625,161	335,349,419

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

29. Income Tax Expense

Income tax expense for the years ended December 31, 2019 and 2018, are as follows:

	(in thousands of Korean won)	
	2019	2018
Current tax	69,229,035	172,571,787
Deferred tax due to temporary differences	11,831,277	(38,630,789)
Deferred tax charged to equity	8,384,790	(274,436)
Tax expense charged to equity	1,161,954	-
Income tax expense	90,607,056	133,666,562

The tax on the Group's profit before tax differs from the theoretical amount that would arise using the weighted average tax rate applicable to profits of the Group is as follows:

	(in thousands of Korean won)	
	2019	2018
Profit before income tax expense	403,525,671	537,473,923
Tax calculated at domestic tax rates applicable to profits in the respective countries	92,684,317	123,306,246
Effect of income not subject to tax	(17,023,052)	(15,258,830)
Effect of expenses not deductible for tax purposes	4,831,527	28,911,543
Effect of tax exemptions	(3,516,515)	(3,224,411)
Adjustments in respect of prior years	9,024,800	-
Others	4,605,979	(67,986)
	90,607,056	133,666,562
Effective tax rate	22.45%	24.87%

Changes in deferred tax assets and liabilities for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

Type	Temporary differences			Deferred tax assets (liabilities)
	Beginning balance	Changes	Ending balance	
Depreciation	92,519,190	23,792,234	116,311,424	31,959,036
Construction-in-progress	29,048,396	(1,195,003)	27,853,393	7,659,683
Contingent liabilities	500,000	-	500,000	137,500
Impairment loss	8,114,155	(857,622)	7,256,533	1,995,546
Accrued income	(208,058)	75,033	(133,025)	(35,897)
Provisions	34,266,726	(1,278,944)	32,987,782	9,071,640
Loss (gain) on valuation of Inventories	130,126,365	(124,735,707)	5,390,658	1,481,790
Loss (gain) on disposal of property, plant, and equipment	1,137,208	(77,746)	1,059,462	291,352
Post-employment benefit obligations	207,092,680	41,390,793	248,483,473	67,710,546
Plan assets	(210,898,986)	(24,068,342)	(234,967,328)	(63,971,341)
Loss (gain) on valuation of derivative instruments	(2,802,881)	5,843,656	3,040,775	646,197
Promotion expense	3,246,527	1,755,385	5,001,912	1,375,526
Revaluation of assets	(658,688,263)	15,652,759	(643,035,504)	(175,781,712)
Advanced depreciation provision	(91,858,101)	-	(91,858,101)	(25,260,978)
Accrued expenses	8,530,358	(475,875)	8,054,483	2,113,044
Other payables	29,673,123	5,355,818	35,028,941	9,632,959
Government subsidy	243,642	(243,642)	-	-
Others	194,525,611	49,893,575	244,419,186	(15,505,015)
	(225,432,308)	(9,173,628)	(234,605,936)	(146,480,124)

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

(2) 2018

(in thousands of Korean won)

Type	Temporary differences			Deferred tax assets (liabilities)
	Beginning balance	Changes	Ending balance	
Depreciation	85,858,917	6,660,273	92,519,190	25,483,233
Construction-in-progress	30,203,111	(1,154,715)	29,048,396	7,988,309
Contingent liabilities	500,000	-	500,000	137,500
Impairment loss	8,480,066	(365,911)	8,114,155	2,231,393
Accrued income	(171,074)	(36,984)	(208,058)	(57,062)
Provisions	35,890,434	(1,623,708)	34,266,726	9,423,350
Loss (gain) on valuation of Inventories	7,395,041	122,731,324	130,126,365	35,784,750
Loss (gain) on disposal of property, plant, and equipment	1,218,725	(81,517)	1,137,208	312,732
Post-employment benefit obligations	185,358,855	21,733,825	207,092,680	56,490,070
Plan assets	(207,824,411)	(3,074,575)	(210,898,986)	(57,501,446)
Loss (gain) on valuation of derivative instruments	6,789,603	(9,592,484)	(2,802,881)	(729,921)
Promotion expense	842,977	2,403,550	3,246,527	892,795
Revaluation of assets	(667,418,294)	8,730,031	(658,688,263)	(180,086,221)
Advanced depreciation provision	(91,858,101)	-	(91,858,101)	(25,260,978)
Accrued expenses	6,957,008	1,573,350	8,530,358	2,214,157
Other payables	19,083,198	10,589,925	29,673,123	8,160,109
Government subsidy	1,274,433	(1,030,791)	243,642	67,001
Others	142,752,049	51,773,562	194,525,611	(20,198,617)
	(434,667,463)	209,235,155	(225,432,308)	(134,648,846)

Details of deferred income tax charged to equity are as follows:

(in thousands of Korean won)

	2019	2018
Cash flow hedges	639,621	(736,496)
Actuarial losses	29,677,909	22,669,236
Gain on revaluation of land	(82,246,163)	(82,246,163)
Changes in accounting policy	1,161,954	-
	(50,766,679)	(60,313,423)

The analysis of deferred tax assets and liabilities as at December 31, 2019 and 2018, is as follows:

(in thousands of Korean won)

	2019	2018
Deferred tax assets		
Deferred tax asset to be recovered after more than 12 months	107,758,117	90,478,845
Deferred tax asset to be recovered within 12 months	26,316,703	58,670,034
	134,074,820	149,148,879
Deferred tax liabilities		
Deferred tax liability to be recovered after more than 12 months	(280,519,047)	(283,010,742)
Deferred tax liability to be recovered within 12 months	(35,897)	(786,983)
	(280,554,944)	(283,797,725)
Deferred tax liabilities, net	(146,480,124)	(134,648,846)

Details of unrecognized deductible (taxable) temporary differences as deferred tax liabilities as at December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018	Remarks
Interests in subsidiary	317,260,242	178,567,779	No plans for disposal

30. Earnings per Share

Basic earnings per ordinary share for the years ended December 31, 2019 and 2018, is as follows:

(in thousands of Korean won, except per share amount)

	2019	2018
Profit attributable to the ordinary equity holders of the Parent Company	276,371,699	402,009,631
Dividends of hybrid equity securities	(10,767,500)	(10,767,500)
Weighted average number of ordinary shares outstanding (in shares)	245,082,422	245,082,422
Basic earnings per share (in Korean won)	1,084	1,596

The Group does not have any potential ordinary shares with diluting effect. Therefore, diluted earnings per share are identical to basic earnings per share for the years ended December 31, 2019 and 2018

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

31. Cash Generated from Operations

Cash generated from operations for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Adjustments for:		
Post-employment benefits	25,626,752	22,410,584
Depreciation	397,309,469	330,521,505
Amortization	5,799,583	5,432,736
Depreciation of right-of-use assets	123,922,784	-
Impairment loss	237,216	418,980
Interest expense	125,196,335	92,235,636
Loss on sales of trade receivables	12,148,796	6,330,360
Loss on foreign currency translation	25,872,330	5,142,639
Loss on valuation of financial assets at fair value through profit or loss	-	23,911
Loss on disposal of financial assets at fair value through profit or loss	28,729,599	8,976,831
Loss on valuation of inventories (reversal)	(140,315,275)	138,463,410
Loss on disposal of property, plant, and equipment	6,366,951	2,608,287
Loss on disposal of intangible assets	16,972	1
Loss on disposal right-of-use assets	4,738,034	-
Income tax expense	90,607,056	133,666,562
Miscellaneous expenses	(19,320,862)	95,059,065
Interest income	(9,851,989)	(4,324,936)
Gain on foreign currency translation	(27,676,504)	(12,963,939)
Gain on valuation of financial assets at fair value through profit or loss	-	(210,024)
Gain on disposal of financial assets at fair value through profit or loss	(20,623,752)	(4,233,460)
Gain on disposal of property, plant, and equipment	(1,195,804)	(1,038,926)
Gain on disposal right-of-use assets	(3,356,722)	-
Gain on disposal of investment properties	(438,395)	-
Share of profit of investments accounted for using the equity method	(40,465,830)	(92,949,192)
Provision for restoration costs	-	1,165,097
Reversal of provision for restoration costs	-	(2,721,300)
	583,326,744	724,013,827

	2019	2018
Changes in operating assets and liabilities:		
Trade receivables	(138,816,971)	505,594,095
Other receivables	9,588,837	(144,113,692)
Inventories	385,055,656	(762,938,121)
Other current assets	(13,455,778)	605,811
Other non-current assets	2,490	(43,735)
Trade payables	(188,028,621)	(147,203,490)
Other payables	53,280,433	358,979,683
Other current liabilities	7,041,623	24,609,267
Long-term trade and other payables	(616,480)	481,040
Net defined benefit liability	(25,443,590)	(9,413,171)
Provisions	(198,959)	(1,222,855)
Deferred income	(1,735,077)	1,155,351
Other non-current liabilities	602,415	389,864
	87,275,978	(173,119,953)

Significant non-cash investing and financing activities for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019	2018
Transferred from construction-in-progress to other property, plant and equipment and intangible assets accounts	358,547,927	1,088,500,162
Other payables related to the acquisition of property, plant and equipment	82,994,767	57,904,792
Bonds transferred to current portion	189,830,424	370,413,310

Changes in liabilities arising from financing activities for the year ended December 31, 2019 are as follows.

(1) 2019

(in thousands of Korean won)

	Beginning balance	Cash flows from financing activities	Non-cash activities		Ending balance
			Other non-financial changes ^(*)	Foreign currency conversion effect	
Short-term borrowings	1,201,667,546	(401,096,538)	-	(2,626,075)	797,944,933
Long-term borrowings	900,787,325	165,743,120	3,402,204	604,849	1,070,537,498
Bonds	1,327,328,498	736,416,300	1,193,378	-	2,064,938,176
Lease liabilities	460,273,962	(130,467,363)	79,897,284	8,436,978	418,140,861
	3,890,057,331	393,750,564	61,337,821	6,415,752	4,351,561,468

^(*) Other changes include non-cash movements and interest expenses which are presented as operating cash flows in the statement of cash flows.

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32. Related Party Transactions

As at December 31, 2019, the Parent company is Hyundai Heavy Industries Holdings Co., Ltd. (percentage of ownership: 74.13%), a newly established entity through equity spin-off from Hyundai Heavy Industries Co., Ltd. on April 1, 2017. Hyundai Heavy Industries Holdings Co., Ltd. is also the ultimate parent company of the Group.

Details of associates and other related parties that have sales and other transactions with the Group or have outstanding balances as at December 31, 2019 and 2018, are as follows:

	2019	2018
Entity with significant influence	Aramco Overseas Company B.V. ^(*)	-
Joint venture	Hyundai Cosmo Petrochemical Co., Ltd.	Hyundai Cosmo Petrochemical Co., Ltd.
	Hyundai and Shell Base Oil Co., Ltd.	Hyundai and Shell Base Oil Co., Ltd.
Other related parties	Hyundai Construction Equipment Co., Ltd.	Hyundai Construction Equipment Co., Ltd.
	Hyundai Electric & Energy Systems Co., Ltd.	Hyundai Electric & Energy Systems Co., Ltd.
	Hyundai Global Service Co., Ltd.	Hyundai Global Service Co., Ltd.
	KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO.,LTD. ^(**)	Hyundai Heavy Industries Co., Ltd. ^(**)
	The subsidiaries KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO.,LTD. and others	The subsidiaries of Hyundai Heavy Industries Co., Ltd. and others
	The subsidiaries of Aramco Overseas Company B.V. and others	-

^(*) Aramco Overseas Company B.V. acquired 17% of the issued shares of Hyundai Oilbank Co., Ltd. from Hyundai Heavy Industries Holdings Co., Ltd. on December 17, 2019.

^(**) Hyundai Heavy Industries Co., Ltd. (formerly) spun off through an approval of shareholders on May 31, 2019. Existing corporation for this spin-off is Korea Shipbuilding & Offshore Engineering Co., Ltd. and newly established corporation for this spin-off is Hyundai Heavy Industries Co., Ltd. (newly established).

Sales and purchases with related parties for the years ended December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Sales	Other Sales	Purchases	Other purchases	Acquisition of property, plant, and equipment	Acquisition of right-of-use assets ^(*)	Interest expense
Parent Company							
Hyundai Heavy Industries Holdings Co., Ltd.	-	207,733	-	-	-	-	-
Joint venture							
Hyundai Cosmo Petrochemical Co., Ltd.	2,110,184,167	29,484,522	1,224,765,489	5,158,302	-	10,161,906	371,579
Hyundai and Shell Base Oil Co., Ltd.	742,239,471	14,814,282	154,057,373	-	-	-	-
Other related parties							
KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO.,LTD.	20,478,003	-	-	2,782,654	-	-	-
Hyundai Heavy Industries Co., Ltd.	27,205,026	-	-	186,952	-	152,219	1,540
Hyundai Construction Equipment Co., Ltd.	5,739,092	121,065	-	-	-	-	-
Hyundai Heavy Industries Power Systems Co., LTD ^(*)	-	-	24,958,800	-	-	-	-
Hyundai Electric & Energy Systems Co., Ltd. ^(**)	2,309,988	361,638	4,513,900	831,800	56,016,971	1,476,762	18,623
Hyundai Mipo Dockyard Co., Ltd.	9,026,298	-	-	-	-	-	-
Hyundai Samho Heavy Industries Co., Ltd.	19,474,991	-	-	-	-	5,059	73
Hyundai Global Service Co., Ltd.	166,346,993	-	-	-	-	-	-
S-Oil Corporation ^(***)	-	11,571,103	-	11,034,918	-	-	-
Others	7,364,693	4,391	83,600	15,833,788	-	-	-
	3,110,368,723	56,564,734	1,408,379,162	35,828,414	56,016,971	11,795,946	391,815

^(*) As at December 31, 2019, the amount is service fee for the construction of improving boiler performance and installation of coke unloading facilities to Hyundai Heavy Industries Power System. It is expected to be completed in 2020, and the total contract amounts are ₩ 2.3 billion and ₩ 24.9 billion, respectively.

^(**) The Group purchased land and buildings for ₩ 56 billion in Mabukri Laboratory, Yongin, Gyeonggi-do, which were owned by Hyundai Electric & Energy Systems Co., Ltd. as at December 31, 2019.

^(***) Amounts resulting from inventory exchange between S-OIL Corporation and Hyundai Oilbank Co., Ltd.

^(*) Transaction amount after December 17, 2019

^(*) Beginning balance adjustments amounting to ₩ 10,980 million are included.

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(2) 2018

(in thousands of Korean won)

	Sales	Other Sales	Purchases	Other purchases
Joint venture				
Hyundai Cosmo Petrochemical Co., Ltd.	2,136,325,957	27,948,164	1,140,437,718	7,357,372
Hyundai and Shell Base Oil Co., Ltd.	636,786,543	7,104,983	171,109,378	-
Other related parties				
Hyundai Heavy Industries Co., Ltd	39,384,923	93	-	23,235,959
Hyundai Construction Equipment Co., Ltd.	8,477,014	-	-	-
Hyundai Electric & Energy Systems Co., Ltd.	2,273,012	-	-	2,969,436
Hyundai Mipo Dockyard Co., Ltd.	6,741,564	-	-	-
Hyundai Samho Heavy Industries Co., Ltd.	20,088,092	-	-	3,265
Hyundai Global Service Co., Ltd.	89,495,175	-	-	-
Others	52,067,885	-	-	11,170,599
	2,991,640,165	35,053,240	1,311,547,096	44,736,631

Outstanding balances arising from sales/purchases of goods and services as at December 31, 2019 and 2018, are as follows:

(1) 2019

(in thousands of Korean won)

	Receivables		Payables		
	Trade receivables	Other receivables	Trade payables	Lease liabilities	Other payables
Parent Company					
Hyundai Heavy Industries Holdings Co., Ltd.	-	-	-	-	-
Entity with significant influence					
Aramco Overseas Company B.V	-	-	80,360,155	-	-
Joint venture					
Hyundai Cosmo Petrochemical Co., Ltd.	33,706,681	2,986,798	127,135,268	9,613,213	810,689
Hyundai and Shell Base Oil Co., Ltd.	10,276,743	29,095	23,315,472	-	91,099
Other related parties					
KOREA SHIPBUILDING & OFFSHORE ENGINEERING CO.,LTD.	2,806	-	-	-	451,148
Hyundai Heavy Industries Co., Ltd	17,995,367	-	-	181,220	156,983
Hyundai Construction Equipment Co., Ltd.	1,341,317	-	-	-	-
Hyundai Electric & Energy Systems Co., Ltd.	392,462	-	-	-	1,390,053
Hyundai Mipo Dockyard Co., Ltd.	930,703	-	-	-	66,799
Hyundai Samho Heavy Industries Co., Ltd.	6,928,824	10,319	-	1,592	294
Hyundai Global Service Co., Ltd.	14,916,011	-	-	-	-
Hyundai Heavy Industries Power Systems Co., LTD	-	-	-	-	1,533,840
S-Oil Corporation ^(*)	-	20,286,044	-	-	-
Others	820,458	2,835,566	-	-	4,613
	87,311,372	26,147,822	230,810,895	9,796,025	4,505,518

(*) Amounts resulting from inventory exchange between S-OIL Corporation and Hyundai Oilbank Co., Ltd.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

(2) 2018

(in thousands of Korean won)

	Receivables		Payables	
	Trade receivables	Other receivables	Trade payables	Other payables
Joint venture				
Hyundai Cosmo Petrochemical Co., Ltd.	21,690,633	5,599,491	82,068,280	1,074,865
Hyundai and Shell Base Oil Co., Ltd.	8,812,789	103,450	18,004,535	41,968
Other related parties				
Hyundai Heavy Industries Co., Ltd.	18,326,631	26,894	-	77,959
Hyundai Construction Equipment Co., Ltd.	3,020,117	-	-	-
Hyundai Electric & Energy Systems Co., Ltd.	321,136	-	-	-
Hyundai Mipo Dockyard Co., Ltd.	883,740	-	-	-
Hyundai Samho Heavy Industries Co., Ltd.	6,697,242	10,319	-	294
Hyundai Global Service Co., Ltd.	9,073,126	-	-	-
Others	2,469,885	2,466,667	-	321,860
	71,295,299	8,206,821	100,072,815	1,516,946

Fund transactions with related parties for the years ended December 31, 2019 and 2018, are as follows:

(in thousands of Korean won)

	2019			2018
	Contributions in cash	Lease liabilities borrowings	Lease liabilities repayments	Dividend
Parent Company				
Hyundai Heavy Industries Holdings Co., Ltd.	-	-	-	(312,664,141)
Joint venture				
Hyundai Cosmo Petrochemical Co., Ltd.	-	12,079,796	2,838,163	-
Hyundai and Shell Base Oil Co., Ltd.	-	-	-	18,000,000
Other related parties				
Hyundai Heavy Industries Co., Ltd.	-	152,219	29,200	-
Hyundai Electric & Energy Systems Co., Ltd.	-	1,476,762	1,495,385	-
Hyundai Samho Heavy Industries Co., Ltd.	-	4,723	3,204	-

On November 27, 2018, HI Investment & Securities Co., Ltd. has been excluded from related party. The Group had invested short-term operating capital in Money Market Trust (MMT) through HI Investment & Securities Co., Ltd., one of the related parties for the year ended December 31, 2018, with an average daily investment amount ₩ 60,672 million for the year ended December 31, 2018. The Group does not have remaining investment balance in the MMT as at December 31, 2018.

The compensation paid or payable to key management for employee services consists of:

(in thousands of Korean won)

	2019	2018
Short-term salaries	3,086,952	4,199,149
Post-employment benefits	465,144	806,989
	3,552,096	5,006,138

Key management includes directors (executive and non-executive) who have the authority and responsibility in planning, operations and control of the Group's operations.

33. Business Combination

Hyundai Oil Terminal Co., Ltd, a subsidiary of the Group, decided to acquire business and non-current assets for the expansion of terminal business through the Board of Directors meeting on January 18, 2019.

(in millions of Korean won)

	Business transfer	Acquisition of non-current assets
Date of transaction	February 16, 2019	July 31, 2019
Opponent	PLS Co., Ltd.	GS E&R Corp.
Objects	Tank terminal storage business of PLS Co., Ltd. and related assets, contracts, liabilities, employees, facts and others	Land, buildings, storage tanks and others
Amount	4,400	35,000

The Group made a business transfer of tank terminal storage business of PLS Co., Ltd. and GS E&R Corp. and related assets, contracts, liabilities, employees, facts and others on February 16, 2019 for expansion of tank terminal business. Details of the purchase consideration, and fair value of the assets and liabilities recognized at the acquisition date are as follows:

(in thousands of Korean won)

	Amount
Consideration transferred	
Cash	39,400,000
Recognized amounts of identifiable assets acquired and liabilities assumed	
Cash and cash equivalents	42,125
Property, plant and equipment	36,977,312
Net defined benefit liabilities	(42,125)
Goodwill	2,422,688
	39,400,000

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

34. Changes in accounting policies – Adoption of Korean IFRS 1116 Lease

As explained in Note 2.2.1, the Group has adopted Korean IFRS 1116, retrospectively, from January 1, 2019, but has not restated comparatives for the 2018 reporting period, as permitted under the specific transitional provisions in the standard. The reclassifications and the adjustments arising from the new leasing rules are, therefore, recognized in the consolidated statement of financial position on January 1, 2019.

(a) Adjustments recognized on adoption of Korean IFRS 1116 Lease

On adoption of Korean IFRS 1116, the Group recognized lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of Korean IFRS 1017. These liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as at January 1, 2019. The weighted average lessee's incremental borrowing rate applied to the lease liabilities on January 1, 2019 was 2.61%.

(in thousands of Korean won)

	2019
Operating lease commitments disclosed as at December 31, 2018	493,263,422
Discounted using the lessee's incremental borrowing rate of at the date of initial application	463,823,712
Less: short-term leases recognized on a straight-line basis as expense	(4,308)
Less: low-value leases recognized on a straight-line basis as expense	(1,629,616)
Less: variable payments recognized as expense	(1,915,826)
Lease liability recognized as at January 1, 2019	460,273,962
Of which are:	
Current lease liabilities	113,257,944
Non-current lease liabilities	347,016,018
	460,273,962

Other right-of use assets were measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognized in the consolidated statement of financial position as at December 31, 2018. There were no onerous lease contracts that would have required an adjustment to the right-of-use assets at the date of initial application.

(i) Amounts recognized in the consolidated statement of financial position

The consolidated statement of financial position shows the following amounts relating to leases:

(in thousands of Korean won)

	December 31, 2019	January 1, 2019
Right-of-use assets		
Land	2,205,513	3,505,401
Buildings	19,517,156	15,779,412
Gas station	91,513,892	76,104,525
Structures	26,906,400	30,371,696
Machinery and equipment	94,947	32,372
Vehicles	962,782	956,716
Vessel	256,041,295	327,008,408
	397,241,985	453,758,530

(in thousands of Korean won)

	December 31, 2019	January 1, 2019
Lease liabilities		
Current	111,069,700	113,257,944
Non-current	307,071,160	347,016,018
	418,140,860	460,273,962

Additions to the right-of-use assets were ₩ 58,085 million in 2019.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

(ii) Amounts recognized in the consolidated statement of profit or loss

The consolidated statement of profit or loss shows the following amounts relating to leases:

(in thousands of Korean won)

	2019
Depreciation of right-of-use assets	
Land	2,828,476
Buildings	9,115,279
Gas station	12,139,144
Structures	13,964,801
Machinery and equipment	72,276
Vehicles	729,519
Vessel	85,073,291
	123,922,786
Interest expense relating to lease liabilities (included in finance cost)	12,049,443
Interest income relating to financial lease receivables (included in finance income)	(529,810)
Expense relating to short-term lease and low-value assets (included in cost of sales and administrative expenses)	2,370,979
Expense relating to variable lease payments and other leases (included in cost of sales and administrative expenses)	1,761,204

The total cash outflow for leases in 2019 was ₩ 146,649 million.

(iii) Sub-lease

The Group has a sub-lease in relation to the operation of gas station and the revenue from the sub-lease amounts to ₩ 3,101 million.

(iv) Practical expedients applied

In applying Korean IFRS 1116 for the first time, the Group has used the following practical expedients permitted by the standard:

- the use of a single discount rate to a portfolio of leases with reasonably similar characteristics
- reliance on previous assessments on whether leases are onerous
- the exclusion of initial direct costs for the measurement of the right-of-use asset at the date of initial application, and
- the use of hindsight in determining the lease term where the contract contains options to extend or terminate the lease

The Group has also elected not to reassess whether a contract is, or contains a lease at the date of initial application. Instead, for contracts entered into before the transition date, the Group relied on its assessment made applying Korean IFRS 1017 and Interpretation 2104 Determining whether an Arrangement contains a Lease.

(v) Adjustments recognized in the statement of financial position as at January 1, 2019

The change in accounting policy affected the following items in the consolidated statement of financial position on January 1, 2019:

- right-of-use assets: increase by ₩ 453,758 million
- lease receivables: increase by ₩ 12,649 million
- lease liabilities: increase by ₩ 460,273 million

The net impact on retained earnings on January 1, 2019, was a decrease of ₩ 3,063 million.

Notes to the Consolidated Financial Statements

December 31, 2019 and 2018

(vi) Lessor accounting

The Group did not need to make any adjustments to the accounting for assets held as lessor as a result of the adoption of Korean IFRS 1116.

Gross investment in the lease and the present value of minimum lease payments of finance lease as at December 31, 2019, are as follows:

(in thousands of Korean won)

	2019	
	Gross investment in the lease	Present value of minimum lease payments
Within one year	8,199,800	7,141,938
Later than one year but not later than five years	29,898,800	27,603,971
Later than five years	7,281,625	6,897,735
	45,380,225	41,643,644

Details of unearned finance income of finance lease as at December 31, 2019, are as follows:

(in thousands of Korean won)

	2019
Gross investment in the lease	45,380,225
Net investment in the lease	41,643,644
Unearned finance income	3,736,581

35. Other Significant Matters

The Group entered in a long-term purchase agreement of crude oil and a product supply agreement of refined oil with Saudi Aramco as follows:

	Long-term purchase agreement of crude oil		Product supply agreement of refined oil
	Saudi Arabian Oil Company	Aramco Trading Co	Aramco Trading Singapore Pte Ltd.
Contracting party	Saudi Arabian Oil Company	Aramco Trading Co	Aramco Trading Singapore Pte Ltd.
Contract period	January 1, 2020 ~ December 31, 2039		January 1, 2020 ~ December 31, 2020
Contract product	Saudi crude oil	Other crude oil	Gasoline, diesel, aviation fuel

In order to increase profits by expanding the domestic supply chain, the Group organized a consortium with Koramco REITs Management and Trust Co., Ltd. and has been selected as a preferred bidder in a sales transaction of SK Networks Company Limited-operated gas station. Board of Directors approved of the contract on February 6, 2020.

Board of Directors approved the issuance of corporate bond amounting to ₩ 500 billion and the provision of performance guarantees for four Long-Term Charter agreements entered between Singapore corporation and shipping companies on February 6, 2020.

Board of Directors approved the issuance of hybrid equity securities amounting to ₩ 300 billion on February 20, 2020.

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