

# SK innovation Sustainability Report 2019

Green Balnace 2030 for Better Tomorrow





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**Cover Story**

**Green forest, clear sky, and sustainable growth.**

This is the future SK innovation is envisioning through our Green Balance. This year's report shows you our will and challenge on the journey toward sustainable future under the motif of an automobile racing toward a lush forest.

## CEO Message



SK innovation President & CEO, Kim Jun

*Kim Jun*

Dear our distinguished stakeholders,

I would like to extend my deepest gratitude to all stakeholders always giving trust and support to SK innovation.

For the year of 2019, SK innovation has tried various new challenges from the perspective of Double Bottom Line that simultaneously creates economic values and social values in the face of the unfavorable business environment, thereby achieving meaningful fruition. We pursued differentiated challenges, which include implementing SV<sup>2</sup> Impact Partnering, a new type of cooperative model with social ventures, pursuing a Carbon-zero island project in Vietnam, entering CDM (Clean Development Mechanism) business in Myanmar, and reaching finance Green Loan worth of KRW 800 billion for the first time as a private company in Korea. On top of that, being enlisted in the DJSI (Dow Jones Sustainability Indices) for three consecutive years demonstrates the recognition for our sincere endeavors and performances by global stakeholders. The year of 2020 is not only a critical juncture for SK innovation to become brand new self but also a starting point to embark on our grand journey toward another takeoff. For the last one year, we have studiously contemplated the fundamental reason for existence of the company, values we seek for, and strategic direction. Based on this consideration, SK innovation newly established our identity. Our new Mission is "Customer Happiness Innovation" delivering our ultimate goal, all stakeholders' happiness. Our vision is "Green Balance 2030" representing our will to create a sustainable future. I would like to share this with all our stakeholders and gain endorsement and participation for the implementation.

### Mission: Customer Happiness Innovation

The source of growth and survival of company depends on the continuous creation of customer value. Here, the customer is not just confined to buyers of goods and services but is a broader concept encompassing business partners, shareholders, and society. If a company is not one step ahead to catch the demands and changes of customers and fundamentally transforms the way it works, bright future cannot be guaranteed. Recognizing this, SK innovation has newly established our Mission to "innovate customers' happiness" beyond customer value creation. Going forward, we promise to bring greater happiness to customers while creating both economic and social values through our innovative solution for the sustainable future.

### Vision: Green Balance 2030

To innovate customers' happiness and create a sustainable future, we will fully promote the "Green Balance 2030." Green Balance 2030 is our new vision for the next decade aiming at generating environmentally greater positive effects enough to offset adverse impacts at the SK innovation affiliated level by 2030. To realize this vision, we will actively drive our portfolio toward three strategic directions; Green, Technology, and Global.

First of all, we will leap forward as a global top player equipped with distinguished technology by boldly investing battery and materials business that is our growth engine and green business, thereby we will further expand the proportion of our green portfolio. Besides, we seek for new growth opportunities such as BaaS (Battery-as-a-Service), which is a Battery Reuse, Recycle, and Financial Service in Beyond Battery Manufacturing area, capitalizing on our competence in battery business.

Furthermore, we are taking the lead in creating a sustainable global battery ecosystem by joining the Global Battery Alliance (GBA) and Responsible Minerals Initiative (RMI) in early 2020's. In addition, the expansion of environmental-friendly products such as low-carbon biofuel, eco-friendly lubricants and asphalts, and ultra-light vehicle materials in oil, chemical, and lubricants businesses will bring about new Biz-Model with a Green perspective. We will also push forward 3R (Reduce, Replace, Recycle) activities centering on business to resolve global issues of waste plastics, and hold the "Eco-friendly Plastic Packaging Materials Forum" to lay the foundation for stakeholders in the value chain to participate and collaborate together.

Moreover, we will make the most of technology as an accelerator for realizing the vision. For example, we will ensure to keep our business to be market and customer-oriented through our innovative digital technologies while expediting the innovation of business models through the digital transformation.

Last but not least, through strategic cooperation with various partners with global partnering, we will raise our business sustainability in oil, chemical, and lubricants businesses while accelerating global performances in battery and materials businesses. SK innovation and all our employees altogether will continue to muster our efforts to fulfill Green Balance 2030 and innovate happiness of all stakeholders including customers, business partners, shareholders, and society.

I sincerely wish all our stakeholders to support and join us on our grand journey of challenge and innovation for the next decade.

Thank you.

# Green Balance for sustainability

[🔗](#) To learn more about SK innovation's Green Balance 2030, visit page 14-27

## We promote Green Balance 2030 for sustainable tomorrow.

The climate change issue is no longer a vague danger in the far future but a real survival issue posing a grave threat to the existence of countries and companies. Against this backdrop, we are facing growing demand from many stakeholders for active action on climate change.

To meet the social demand changing in a complex way, SK innovation implements "Green Balance 2030." This initiative is a goal that we must achieve to create a better world, and we will secure the sustainability of business and society through this goal.

# Beyond EV, towards the future

## We lead our way toward brand new E-mobility beyond EV.

Based on our innovative technologies and ideas, SK innovation is expanding our business scope to new E-mobility beyond the production of electric vehicles batteries. We transformed automobiles to more eco-friendly vehicles through technology development considering environment while establishing a sustainable battery value chain with the platform business based on the life cycle of batteries. Beyond the boundaries of industry, toward a new future, SK innovation will keep striving for our challenge and innovation.

\* EV : Electric Vehicle



# Better Innovation for better lives

## Our innovation will bring more happiness to people's lives.

The sustainability we seek for is an innovative solution that enables happier lives of all our stakeholders. To ensure this end, we have continued to challenge and innovate ourselves from the very first moment we started our business as a first oil company in Korea where resources are extremely scarce. We have exported energy from the country where even a single drop of oil cannot be produced. Still at the moment when we are standing as a global energy and chemical company representing Korea, SK innovation is innovating ourselves on the journey toward the future we all enjoy happiness.



# Company Overview

SK innovation is a global energy and chemical company that runs our own battery and E&P businesses with 6 major subsidiaries; SK energy, SK global chemical, SK lubricants, SK incheon petrochem, SK trading international, and SK ie technology.

We have established a value chain in the oil and chemical industry with a vertical integration from exploration and development of petroleum to producing petrochemical products, and expanded the green portfolio through continued investment in battery and materials sectors. Going forward, we will grow as a company seeking not only economic performance but also happiness for the entire society with our active investment in eco-friendly business.

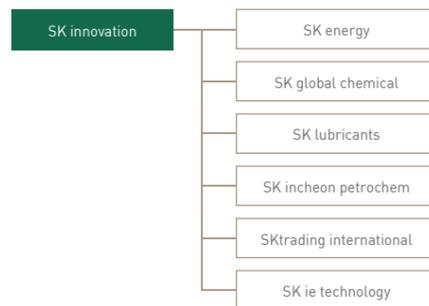
As of December 2019

Company Name	SK innovation Co., Ltd.
Head Office Address	26, Jong-ro, Jongno-gu, Seoul, Republic of Korea
Founded	October 13, 1962
No. of Employees	7,036
Total Assets	KRW 39.5260 trillion
Revenue	KRW 49.8765 trillion
Operating Income	KRW 1.2693 trillion

## Introduction of Major Subsidiaries

SK energy	SK global chemical	SK lubricants
Started as the first oil refinery company in Korea in 1962, SK energy sells a variety of petroleum products at home and abroad as the number one refiner in Korea.	Based on high value-added core chemical materials, SK global chemical provides innovative solutions that are eco-friendly which aim to improve the standard of living.	As the world's first commercialization of the production for Group III advanced lubricant base oil, SK lubricants has led the domestic and international lubricant base and advanced lubricant base oil markets.
SK incheon petrochem	SK trading international	SK ie technology
SK incheon petrochem is an energy and chemical company responsible for supplying stable energy to metropolitan areas and the international airport. It has been growing as a company with Korea's top productivity through advanced equipment and diversified business into value-added products.	SK trading international is responsible for the imports of crude oil and exports of petroleum products for SK energy and SK incheon petrochem. It has established the global trading platform for SK innovation, and it supplies naphtha to SK global chemical based on the platform.	SK ie technology produces separator, a key material in lithium-ion batteries and Flexible Cover Window (FCW), a core material replacing glass of flexible display.

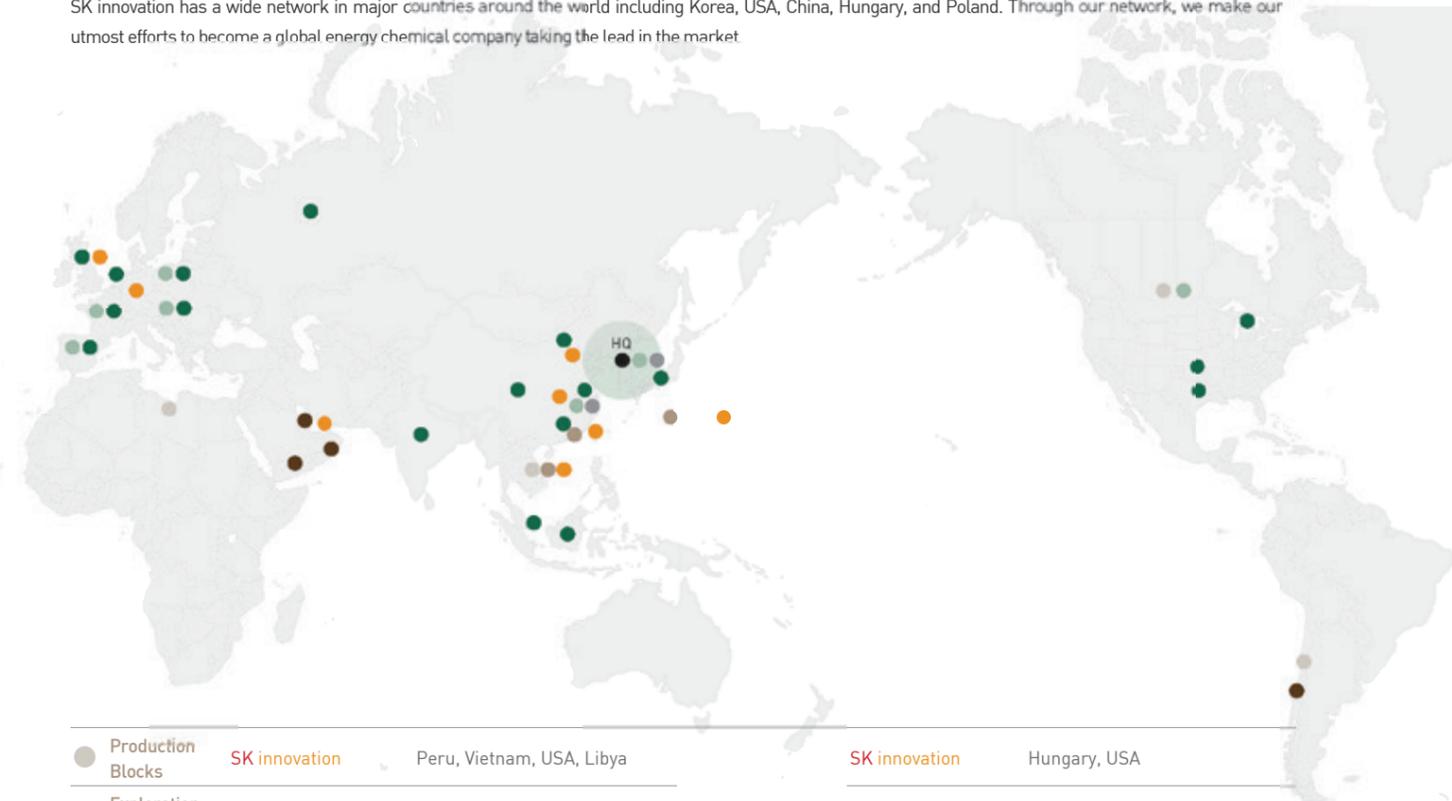
### SK innovation Major Subsidiaries



Check the Appendix on page 75 for details on the major subsidiary companies.

## Global Network

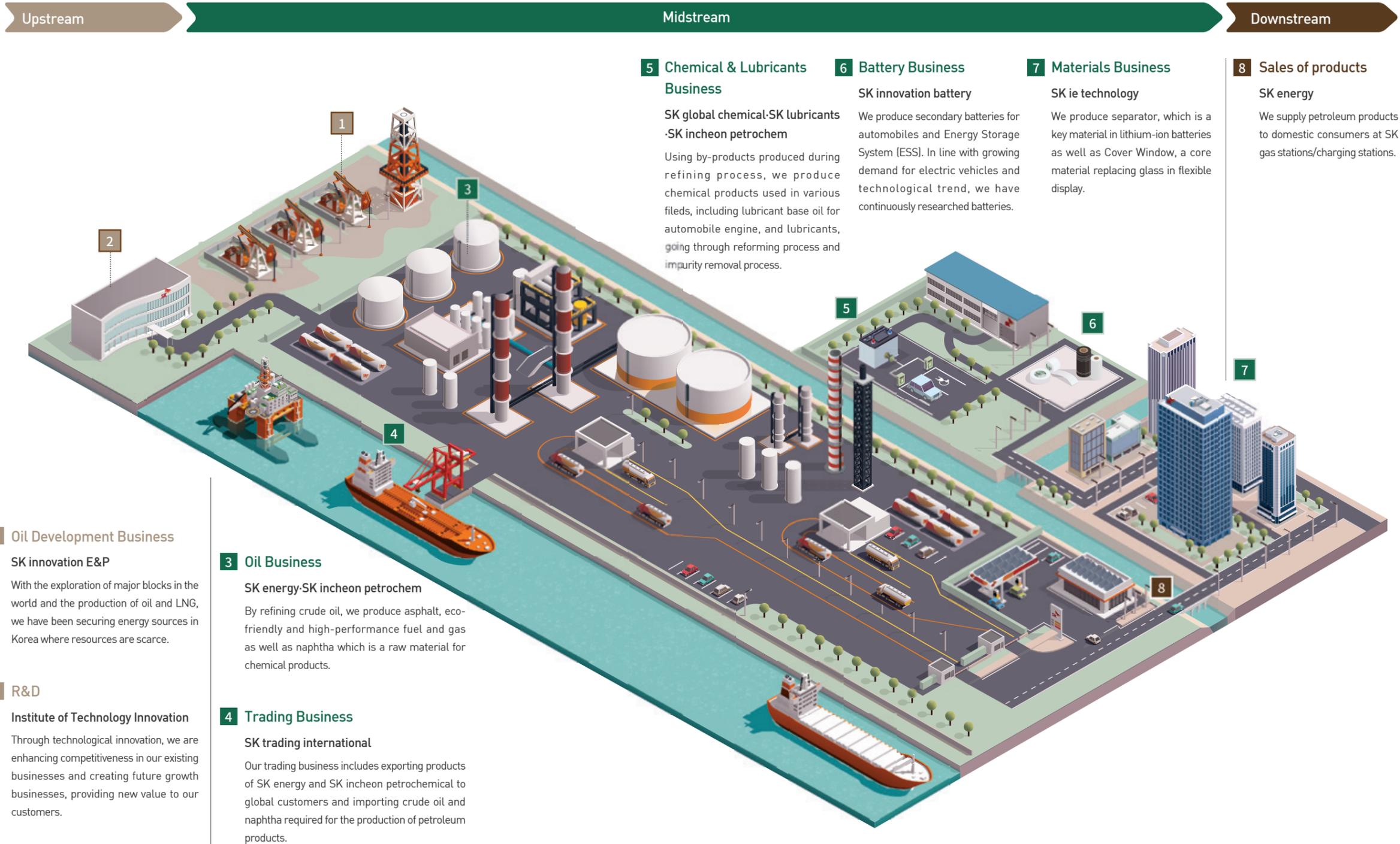
SK innovation has a wide network in major countries around the world including Korea, USA, China, Hungary, and Poland. Through our network, we make our utmost efforts to become a global energy chemical company taking the lead in the market.



Production Blocks	SK innovation	Peru, Vietnam, USA, Libya	Overseas Corporation	SK innovation	Hungary, USA
Exploration Blocks	SK innovation	China, Vietnam		SK energy	China, Singapore
LNG	SK innovation	Peru, Yemen, Oman, Qatar		SK global chemical	China, Singapore, Japan, USA, Spain, France
Production Sites	SK innovation	Domestic sites Ulsan Complex, Seosan, Jeungpyeong, Cheongju	Overseas sites Hungary, USA, China, Poland, Spain, France (to-be-established)	SK lubricants	USA, China, India, Russia, Japan, Netherlands, Indonesia, Spain
	SK global chemical			SK trading international	Singapore, UK, USA
Institute of Technology Innovation	SK lubricants	SK ie technology	SK incheon petrochem	SK ie technology	Poland, China
	SK innovation			Daejeon	SK global chemical
TS&D Center	SK incheon petrochem	Incheon	Overseas Branch	SK lubricants	UK, China
	SK innovation	Daejeon		SK energy	Vietnam, Taiwan
TS&D Center	SK global chemical	China		SK trading international	UAE

# Business Value Chain

SK innovation completed a value chain for petrochemical business through the vertical integration from upstream to downstream. We are producing approximately 55,000 barrels of crude oil (per day) and natural gas at 13 Blocks and four LNG projects in eight countries, operating resources development projects in many places in the world including Vietnam, Peru, and the USA. Based on our excellent oil refining technology, SK innovation is producing not only fuels like high-quality gasoline and diesel oil but also various basic chemical products, chemical solvents and synthetic rubbers applied in daily life. Besides, we strive for securing a sustainable competitive edge while leading the cutting-edge materials business and future energy such as electric vehicle battery, Lithium-ion Battery Separator (LiBS), and Flexible Cover Window(FCW).



## Upstream

## Midstream

## Downstream

**1 Oil Development Business**  
**SK innovation E&P**  
 With the exploration of major blocks in the world and the production of oil and LNG, we have been securing energy sources in Korea where resources are scarce.

**2 R&D**  
**Institute of Technology Innovation**  
 Through technological innovation, we are enhancing competitiveness in our existing businesses and creating future growth businesses, providing new value to our customers.

**3 Oil Business**  
**SK energy-SK incheon petrochem**  
 By refining crude oil, we produce asphalt, eco-friendly and high-performance fuel and gas as well as naphtha which is a raw material for chemical products.

**4 Trading Business**  
**SK trading international**  
 Our trading business includes exporting products of SK energy and SK incheon petrochemical to global customers and importing crude oil and naphtha required for the production of petroleum products.

**5 Chemical & Lubricants Business**  
**SK global chemical-SK lubricants ·SK incheon petrochem**  
 Using by-products produced during refining process, we produce chemical products used in various fields, including lubricant base oil for automobile engine, and lubricants, going through reforming process and impurity removal process.

**6 Battery Business**  
**SK innovation battery**  
 We produce secondary batteries for automobiles and Energy Storage System (ESS). In line with growing demand for electric vehicles and technological trend, we have continuously researched batteries.

**7 Materials Business**  
**SK ie technology**  
 We produce separator, which is a key material in lithium-ion batteries as well as Cover Window, a core material replacing glass in flexible display.

**8 Sales of products**  
**SK energy**  
 We supply petroleum products to domestic consumers at SK gas stations/charging stations.

# Our Strategy

SK innovation begins our new challenges toward a sustainable future.

For about 60 years, SK innovation has been leading businesses in multiple areas from oil development, oil refining, chemicals to lubricants to achieve Korea's energy independence and economic development, contributing to the happiness of our stakeholders. As we usher in 2020 for a new decade, SK innovation is rising to the challenge of "tough innovation," aiming at higher value creation and the sustainable happiness of our interest parties.

## Environmental Issues and Transformation in Business Paradigm

The environmental issue is a challenge that all humankind faces. With the increasing sense of responsibility for environmental agendas that threaten the survival of humanity and greatly influence the quality of life causing abnormal climate to fine dust, the world signed the Paris Agreement under the common goal of limiting the global average temperature increase to 1.5° C or below compared to the temperature of pre-industrialization. The climate change agreement regulating greenhouse gas emissions are

bringing about a shift in the business paradigm of corporations beyond just limiting GHG emissions. As more and more people see fossil fuels in a negative way as they are pinned as the major cause of GHG emissions, energy and chemical companies are seeing more demand from various stakeholders.

Companies are faced with stringent environmental regulations of the governments, pressures from NGOs and local communities, demand for disclosing information related to climate change such as TCFD (Task Force on Climate-related Financial Disclosures) and CDP (Carbon Disclosure Project), and stronger demand for responses from global investment companies due to downside risks of corporate value. Against this backdrop, preemptively integrating environmental agendas to corporate decision-making is not just an option now but a prerequisite for companies.

## Higher Expectation for Corporate Roles from Stakeholders

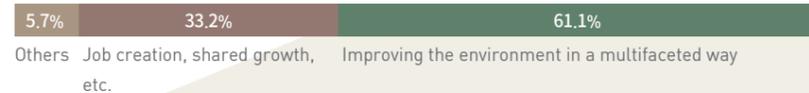
In a survey conducted in 2019 targeting the general public, more than 60% of respondents said they are requesting efforts toward an

### Growing Demand for Environmental Responses from Stakeholders

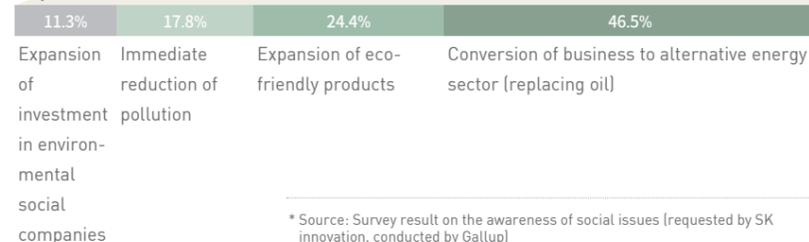


### Public Expectations for SK innovation\*

#### Social issues that SK innovation needs to resolve



#### Expected areas to resolve



\* Source: Survey result on the awareness of social issues (requested by SK innovation, conducted by Gallup)  
Result of cohort sampling survey toward 1,165 people. The margin of sampling error for all respondents is plus or minus 2.9%p (confidence level at 95%).

improved environment from various angles and they expect the company to find alternative energy and expand eco-friendly products for a sustainable future.

## SK innovation's New Challenge

All employees of SK innovation are firmly convinced that responsible management activities that solve various social issues play an indispensable role in ensuring the sustainability of the company, and thus, we would like to embark on our new journey toward that.

In particular, we will make the environmental agenda, that was once viewed as a risk, serve as a momentum of "tough innovation" for the sustainable future, through which we will practice

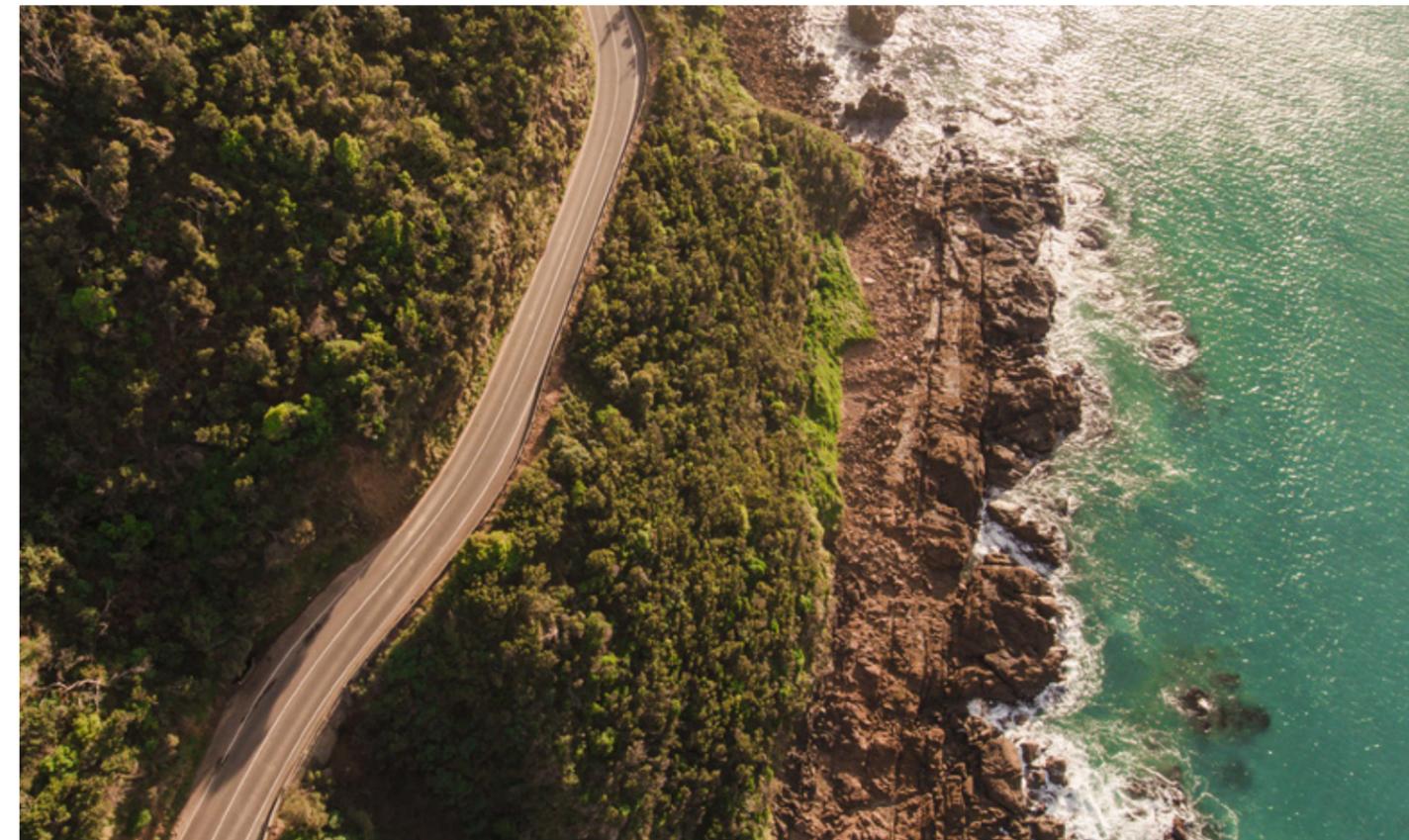
Double Bottom Line (DBL) management and realize the happiness of our stakeholders.

Furthermore, SK innovation will utilize environmental issues as our new competitive edge for companies by discovering new business opportunities and creating new profits through strategic responses to environmental issues.

For strategy set toward a new future, we have redefined customer, carrying out the analysis of existing sustainability management strategy, external environment, and internal competency, and gathered opinion stakeholders. Based on these efforts, we have established a new corporate identity.

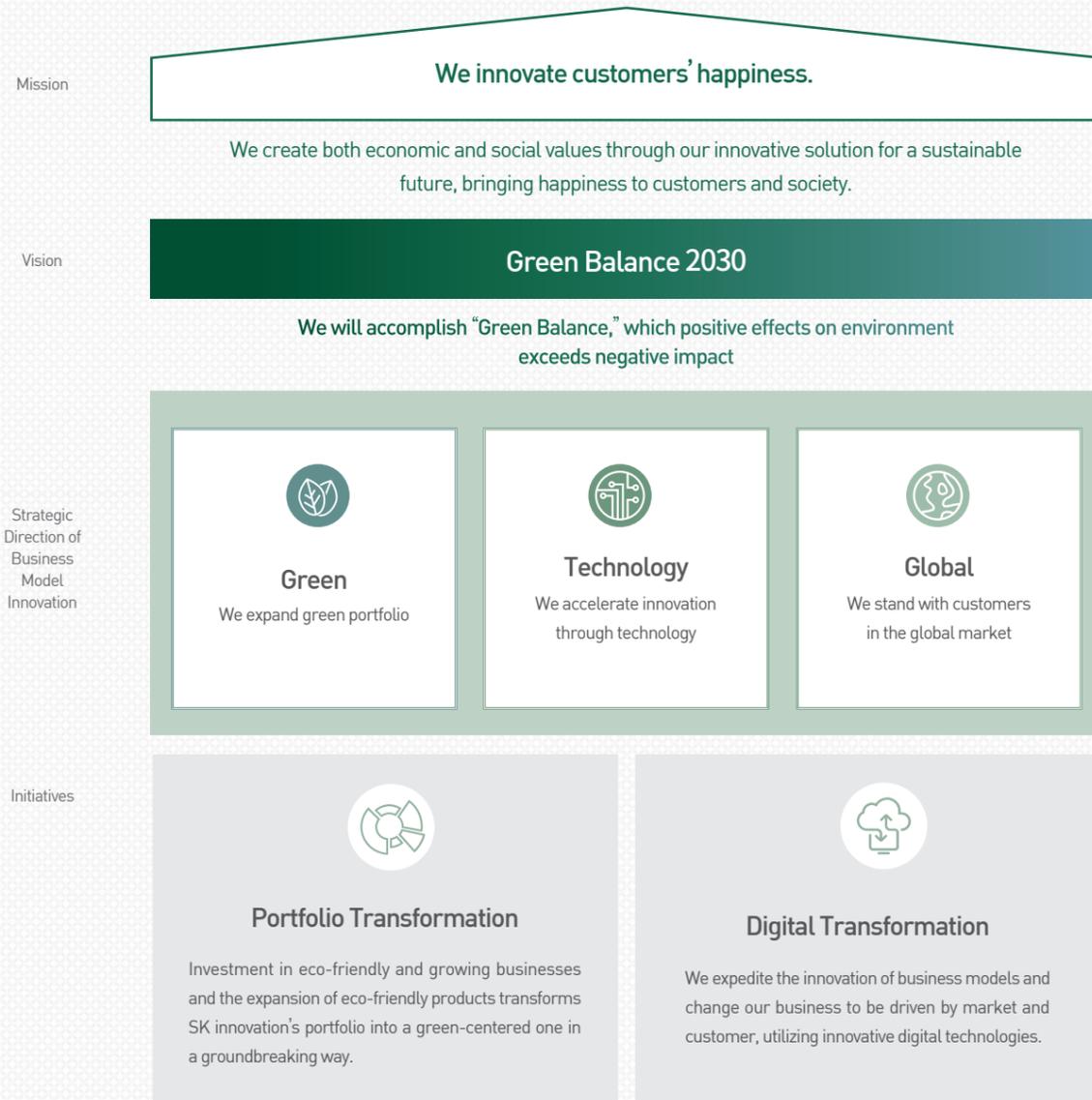
SK innovation is making our utmost effort to form a consensus on sustainability with all employees and reach the common goal based on the newly

established identity. As we have done so far, we will continue to take the lead in new changes and innovation on the foundation of the experience and the know-how we have built.



## SK innovation New Identity

SK innovation has established a new management strategy for the continued happiness of all stakeholders and the balanced growth of the company and society. To this end, we declared “Green Balance 2030,” a vision to maximize both social value (SV) and economic value (EV). Green Balance 2030 is a goal that SK innovation should achieve for the consistent creation of happiness for both customers and society.



We are doing our best to offset adverse effects by positive effects in business activities by 2030 while expanding our business models to lead in resolving environmental problems. For delivering the vision, we have designated three strategies for business model innovation: Green, Technology, and Global. On the basis of the strategies, we will set the stage for the next decade and take a leap as a global company going hand in hand with society.

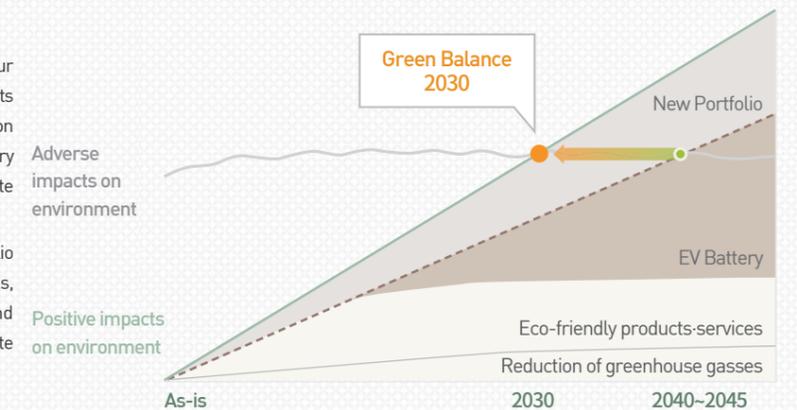
### Mission

We exist to innovate our customers' happiness. SK innovation will provide better value for customers through our innovative solutions, ultimately creating the sustainable future where all our stakeholders and society can enhance happiness.

### Vision

Green Balance 2030 is our new vision aiming to make our positive impacts on the environment exceed adverse impacts by 2030. It is a considerably challenging goal for SK innovation as our portfolio currently centers on energy and chemistry sectors. However, we will sincerely pursue the goal to create sustainable happiness for customers and society.

SK innovation will expand the proportion of our green portfolio such as batteries and materials through bold investments, while increasing a variety of eco-friendly products and services in the existing businesses at the same time to create new business models.



### Strategic Direction for Business Model Innovation

We selected Green, Technology, and Global for the three pillars of strategic direction to fulfill our vision.

- Green**  
This is the strategic focus area. For achieving the vision, SK innovation will concentrate on the Green area that raises the positive impacts on the environment while reducing the adverse impacts
- Technology**  
This is the vision accelerator. SK innovation will make the best use of innovative technologies in order to accelerate the expansion of green portfolio.
- Global**  
In strategic cooperation with global partners, we will facilitate our global expansion and raise business competitiveness, eventually creating greater value for global customers and society.

## Strategic Direction for Business Model Innovation 1. Green : Green Portfolio Expansion

SK innovation has never stopped challenging and innovating ourselves for sustainable growth in a rapidly changing business environment. We have also considered how we can make all stakeholders happier, and our answer to that is “Green.” We will be committed to “Green Innovation” aiming to raise positive effects while lowering negative ones on the environment to make a contribution to sustainability for both the company and society.

### Creating: Eco-friendly Project Promotion

#### Bolstering Electric Vehicle Battery and Related Materials Businesses

SK innovation has focused on electric vehicle battery and related core materials businesses as our representative eco-friendly business models. We secured a core technology playing a leading role in the era of electric vehicles with the development of NCM 9½ battery which enables an electric car to travel more than 500 kilometers on a single charge. Along with this, we have increased our production hubs overseas including China, the USA and Hungary for the expansion of our production lines. At the same time, the development of Lithium-ion Battery Separator (LiBS) coming with the establishment of global mass production system has brought a sharper competitiveness edge in the battery business, on the strength of which, we made it into the top 10 in the number of batteries loaded into global electric vehicles.

Going forward, we will contribute to more positive and less negative impacts on the environment by further spurring the battery and materials

businesses for mobility business development while innovating our eco-friendly business model.

#### Establishment of Eco-friendly Total Energy Station

SK energy has pursued eco-friendly management capitalizing on our distribution infrastructure including SK gas stations, LPG stations and Netruck Houses. Since 2019, we have installed and operated 26 of 100kW chargers in the gas stations we own. In November 2019, we signed an agreement on the installation of hydrogen station in the site for SK energy's Line 45 LPG station. It began construction in February 2020, and will start operating from the second half of 2020. In addition, in June 2019, SK energy built a photovoltaic power generation facility with the capacity of 995.4 kW in 50,000 square meters of parking spaces for trucks and lorries at the Busan New Port business site. The facility annually generates 1.4 GWh of electricity, is expected to bring about the mitigation of greenhouse gas emissions by 650 tons annually as well as the reduction of fine dust. The effect coming from mitigation is equivalent to that of planting 90,000 of 30 years old pine trees.

Likewise, SK energy has expanded the scope of our business through the combination of the existing services such as fueling or LPG filling with new ones, including the establishment of solar power generation facility and hydrogen fueling system. We are thereby laying the foundation for eco-friendly total energy stations where electric vehicle charging and hydrogen fueling are available.

#### Project on Plastic Circular Economy

SK global chemical has succeeded in developing a lubricants container partly made of more than 20 percent of recycled lubricants container, Post Consumer Recycled (PCR), and commercializing it. Besides, we signed an MOU with Jeju Clean Energy (JCE) to carry out an eco-friendly project aiming to produce petrochemical fuels from waste vinyl and waste plastic with pyrolysis and emulsification technology. Furthermore, we are researching in technical partnerships with global corporations to achieve Plastic to Chemical beyond Plastic to Fuel.

### Raising Green Loan<sup>1)</sup>



In August 2019, SK innovation succeeded in raising KRW 800 billion of Green Loan for the first time as a domestic private company. The fund will be used for investments in two projects; the construction of battery plants for electric vehicles located in the United States and Hungary and production plants for separators in China and Poland. The success of raising Green Loan means that SK innovation's battery and SK ie technology's separator product are recognized to have a great value and potential for growth as eco-friendly businesses, based on which, we continue to create both EV and SV. On top of that, SK innovation focuses on expanding the environmentally friendly business with a target of more than a threefold increase in the battery business in 2020 from the previous year.

<sup>1)</sup> Green Loan is one form of Green Financing. Green Financing is to fund eco-friendly projects or related infrastructure setups including new renewable energy, electric vehicle or energy efficiency businesses. It requires some time to undergo the procedure to verify eco-friendly projects, and follow-up obligations, but is globally on the rise since it serves as a platform for enabling both private corporations and the financial circle to take social responsibilities.

## Improving: Manufacturing Eco-friendly products

### Development and Sales of Environment-friendly Asphalt Products

SK energy strives to build an ecosystem in favor of the environment for the asphalt and road industry through the development and sales of our eco-friendly asphalt products created through our independent technology. We set a target to make a paradigm shift from the domestic market dominated by more than 90% of general asphalt to an eco-friendly asphalt-driven one. To this end, we plan to expand the occupancy of eco-friendly ones in our sales to 40% by 2021 from 8% in 2019.

SK energy developed 'Premium Asphalt' for the first time in the country by pre-mixing mesophilic temperature and desquamation prevention. The product is a warm mix asphalt which can be used at the temperature 30 degrees lower than general asphalt. It features fewer odors from ascon, less exhausted gases and less fine dust, reducing construction cost and easing traffic congestion through curtailing road opening times. Besides, outstanding water resistance of the product enables excellent road coating which leads to less damage to roads such as potholes, thereby contributing to less harm to vehicles and people's lives. SK energy is also developing an asphalt used exclusively for regeneration, which makes it easy to recycle waste ascon created during road maintenance into the same quality of new ascon. The commercialization of this asphalt will save annually KRW 1.8 trillion of environmental cost incurred by burying and disposing 12 million tons of waste ascon.

### Development and Sales of Eco-friendly Plastic

SK global chemical developed high crystallinity plastic products, HCPP and POE, which are used as vehicle materials. These products feature the same strength and shock absorption with less plastic content. The expansion of environment-friendly plastic sales contributes to mitigating greenhouse gas emissions while minimizing the use of resources. Along with that, our development of eco-friendly packaging materials that are down-gauging and easily recyclable leads to the reduction of waste plastics.

### Development and Sales of Eco-friendly Lubricants

SK lubricants rolled out five SK ZIC ZERO products, the next generation eco-friendly lubricants including the one suitable for hybrid vehicles for the first time in the domestic market in November 2019, thereby leading the market. ZIC ZERO is very low viscosity lubricants created with ZERO TECH using the patent ionic liquid, named SK IL, which is the world first technology developed by us. These products boast a 3% better fuel efficiency than the existing ones, resulting in the reduction of greenhouse gas emissions.

Furthermore, we are expanding our lubricants business optimized to electric vehicle (EV) and hybrid vehicle (HEV) in preparation for the era of eco-friendly automobiles. SK lubricants has supplied lubricating oil for EV to renowned finished car makers since 2013, and plans to collaborate

with many automobile manufacturers around the globe to develop EV lubricants tailored to each company. In order to occupy lubricants market for HEV, SK lubricants will focus on developing right products for HEV based on our unique technology enabling us to achieve the largest global market share in the Group III lube base oil. On the strength of the momentum created by the launch of new products, we will strive to make sure that the lubricants market transitions into eco-friendly product-driven one.



SK ZIC ZERO, Premium Synthetic Engine Oil with Super Low Viscosity

### Hosting Eco-friendly Plastic Packaging Materials Forum



SK global chemical held an Eco-friendly Plastic Packaging Materials Forum to resolve waste plastic, one of the key global environmental issues. A total of 170 representatives from 60 corporations, the government and learned societies attended the forum to set the stage for the private and public sectors and the academia to cooperate for the sharing of environment-friendly technologies and joint response to the issue among stakeholders. The major participants adopted the joint declaration, “establishment of an ecosystem for the circulation of plastic packaging materials,” and will be committed to take the lead in response to the matter. To further progress, SK global chemical will establish online and offline channels to exchange information among diverse stakeholders to reap the substantial results.

**Reducing: Minimizing Environmental Impacts**

**Minimizing Air Pollutants**

SK trading international has a policy in terms of ship chartering to make the proportion of high-performance marine vessels having the least impact on the environment exceed the market average rate by more than ten percent. Through the policy, we have created EV and SV, including the reduction of fuels, SOx, CO<sub>2</sub> and fine dust emissions while spreading the movement to withdraw old ships across the industry through partnering. SK ie technology also strives to build businesses sites in favor of the environment by adding pollutants absorbers at air vents and thoroughly managing the interval of filter replacement. Along with this, SK ie technology will secure a method to precisely analyze air quality within 2020 and apply it to not only the plant in Jeungpyeong but also plants in China and Poland. SK incheon petrochem committed more than KRW 50 billion in 2019 to making our business sites favor the environment through additional installation of facilities to mitigate greenhouse gas emissions as well as eco-friendly equipment for optimized processes.

**Harmful Chemical Substance Management**

SK global chemical has replaced an ozone layer-depleting substance, hydrochlorofluorocarbons (HCFC), with an eco-friendly one called cyclopentane, contributing to less pollutant emissions. On top of that, we have developed and sold a low toxicity substance, Clean-7, through the combination of toluene products harmful to human, if exposed, with our own alternative chemical materials to minimize the damage caused by chemical substances.

**Water Stewardship**

SK ie technology curtailed waste water by about 27,000 tons in 2019 through the optimization of equipment. Besides, with the improvement in productivity and yield, we have constantly cut down on the use of resources.

**Energy Saving**

Energy Storage System (ESS) is a solution enabling generated electricity to be saved through lithium-ion battery and to be used when required. ESS expands new renewable energy as well as increases the efficiency of the electricity industry, which leads to the holdback of the additional establishment of power plants. Since 2018, with the purpose of economizing on energy, SK ie technology has installed ESS to use renewable energy as emergency power.

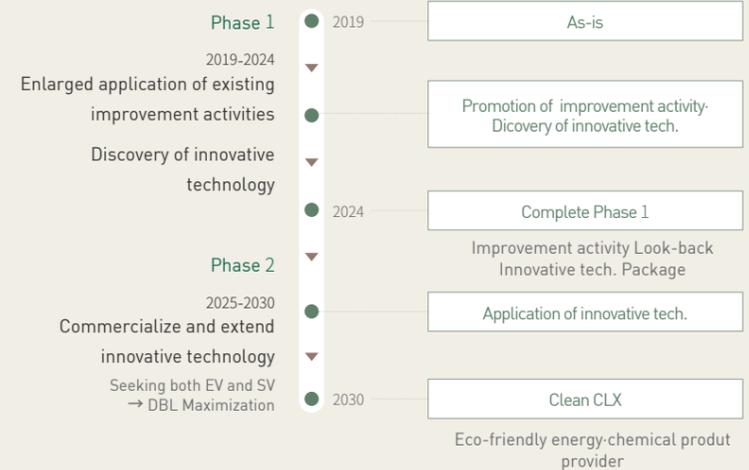


Ulsan Complex ESS Center

**Clean CLX**

To make the least environmental impact on the community, SK innovation Ulsan CLX has executed "Clean CLX" project seeking an eco-friendly production process. Taking into account the nature of our workplace, we have set four areas where we put our focus on the project; air, water, workplace and life, and the process is separated into two phases; phase 1 for the execution of activities for a reduction based on the current technology and phase 2 for the identification and application of innovative technologies.

Clean Air	Saving energy, transitioning to eco-friendly fuel, mitigating greenhouse houses and air pollutants
Clean Water	Optimizing process, reducing water use through the adoption of new technology regarding recycling
Clean Workplace	Building a happy workplace and increasing recycling rates of waste
Clean Life	Executing "CLS Do green Do Green" campaign seeking eco-friendly business practices



**Best Practice \_ VRDS Completion**

**SK energy is creating EV and SV through VRDS completion<sup>1)</sup>**

Shipping companies are obligated to use low sulfuric oil with the proportion of sulfur content at 0.5% or less from the previous 3.5% or to install a scrubber to remove sulfur in compliance with new regulations governed by the International Maritime Organization (IMO), which takes effect from 2020. In addition, as all ports across the world including the Incheon Harbor have set more stringent emission standards for air pollutants, the market for low-sulfur marine fuel oil is expected to grow. In preparation for the change, we began constructing VRDS within Ulsan Complex, spending approximately KRW 1 trillion on it in last November 2017, and finished the mechanical completion in January 2020. We have produced 40,000 barrels of low-sulfur oil a day since the end of March in 2020 after two-month of trial run, based on which, expecting the creation of economic value worth somewhere between KRW 200 and 300 billion.

For reference, the VRDS facility was established in proactive response to the shift in the market from high-sulfur to low-sulfur oil, built in the 82,645 square meters of site within Ulsan Complex as our largest petroleum business project after we committed about KRW 2 trillion to operating the second advanced facility, Fluidized Catalytic Cracking (FCC) in 2008. Along with this, the VRDS project was also recognized for its contribution to bringing economic vitality to Ulsan at the time when the city sank into depression due to the sluggish shipbuilding and automobile industries as it daily hired 1,150 workers on average and 880,000 workers in total.



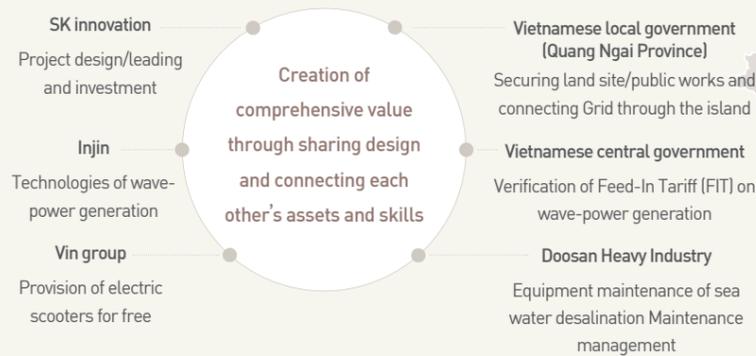
<sup>1)</sup> VRDS Vacuum Residue Desulfurization, Equipment to use vacuum residue to create hydrogenation and desulfurization in order to produce light oil or low-sulfur oil.

Best Practice \_ Carbon Free Island Project

### Impact Design! For Innovation of Business Model

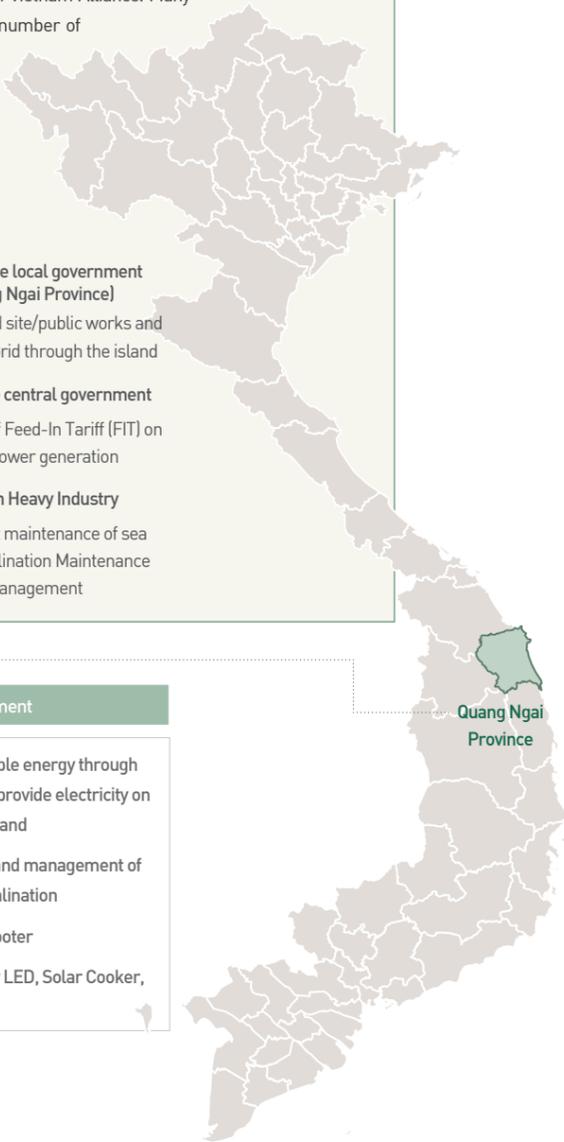
SK innovation is carrying out a project to transform An Binh island in Vietnam into "Carbon Free Island" as part of our efforts to resolve environmental issues in this country. No individual company can respond to environmental issues alone. So, SK innovation has linked pain points of diverse stakeholders within Vietnam while designing the capabilities of each. Then, we launched Alliance in partnership with Quang Ngai Vietnamese Province, Doosan Heavy Industry (for sea water desalination equipment), and Vin Group (for electric scooter). Participants have been working together with their eco-friendly technologies to transform An Binh island into a carbon-zero island where the island's natural environment is preserved and local residents enjoy better lives.

To take a step further on top of the project, SK innovation strives to expand wave-power generation business model in nearby neighborhoods to be aligned with Vietnamese government policy regarding the expansion of new renewable energy. To this end, we are cooperating with the government of Vietnam, local colleges and NGOs. On top of that, we are making an effort to solve waste plastic problems on the momentum of Vietnam Alliance. Many cities are suffering from waste disposal issues coming with the soaring number of tourists. In response, SK innovation is working with local governments, tourism industry and environmental NGOs to form an ecosystem for recycling waste plastic, and plan to create a Recycle Biz Model for waste plastic in coalition with domestic SMEs and venture companies.



An-Binh Island into Carbon Free Island Project

Issue	Improvement
Lack of electricity Sunlight/diesel generator (cost issue)	100% use of new renewable energy through wave-power generation to provide electricity on An Binh island
Water scarcity	Equipment maintenance and management of sea water desalination
Environmental pollution Waste, firewood	Electric Scooter
	Provision of high efficiency LED, Solar Cooker, etc.



### Strategic Direction for Business Model Innovation 2. Technology : Acceleration of Technology Innovation

Innovative techniques such as artificial intelligence and Big Data coming with the advancement of technology have become key elements to social problem solving and value creation. Since SK innovation also recognizes the gravity of technologies, we have beefed up our efforts to improve our technological capabilities through the technique of Optimization (optimizing decision-making) and SK innovation Institute of Technology Innovation. Especially, "technology" is both accelerator and enabler of green balancing, so we will actively capitalize on innovative technologies to accelerate the expansion of the green portfolio.

#### Optimization

With the aim of maximizing the effectiveness and the efficiency of our management, SK innovation has pursued the innovation of operations and processes over the hydrocarbon, battery and materials, and the entire E&P businesses, securing business technology capacity at the same time. We have applied a refined mathematical algorithm over the whole process of decision-making and the technologies of AI and Big Data to level up our business innovation for the creation of both EV and SV.

#### Green Innovation based on Mathematical Algorithm

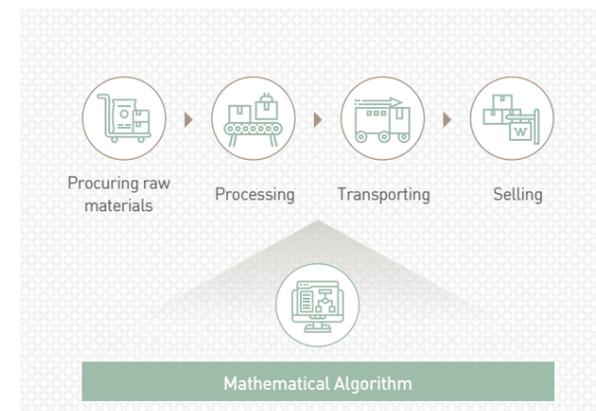
SK innovation has built our own distinguished system enabling precise and predictive control over the whole process from analysis of hydrocarbon business's raw materials at molecular or molecularly aggregated level, such as crude oil, naphtha and UCO, separation, reaction to blending, through advanced mathematical algorithms so that we can

maximize our economic value. In addition, we create environmental values by minimizing the use of energy resources (fuel, water, electricity, hydrogen, etc.) required for the hydrocarbon process with our competency to control variables and operational features of each stage of the entire hydrocarbon process. The mathematical algorithm technique is also embedded into our logistics so that we can design and operate vessels, pipelines and tank trucks which are essential for the supply to our customers in an optimized way in finding the best shipping routes requiring the least energy consumption. It leads to the creation of environmental value including eased traffic congestion and reduced air pollutants. SK innovation continues to consolidate our foundation for sustainability in the business by establishing 'Green Value Chain' which will serve as an enabler of maximizing environmental value in the entire hydrocarbon business in the future.

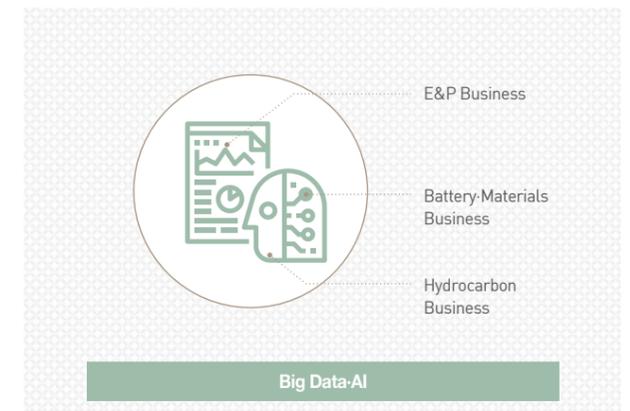
#### Business Innovation Based on Big Data and AI

SK innovation is integrating digital technologies, such as Big Data and AI, into our business in order to create EV and SV from a wide variety of data we have accumulated throughout value chains of our every business. For example, we have built an AI-based platform that enables us to estimate the properties of products demanded by customer and to give customized solutions within the hydrocarbon business, thereby increasing customer values. In the E&P business, Machine Learning technique is applied to raise the success rate of exploration and drilling as well as to improve the effective use of resources (water, fuel, electricity, etc) consumed during the production stage. In the battery and materials business, we have gained ground on improving yield, productivity and a quality of the product with the analysis based on data acquired throughout the manufacturing process. By doing so, we are expediting the growth in the eco-friendly business.

Green Innovation based on Mathematical Algorithm



Biz. Innovation based on Big Data-AI

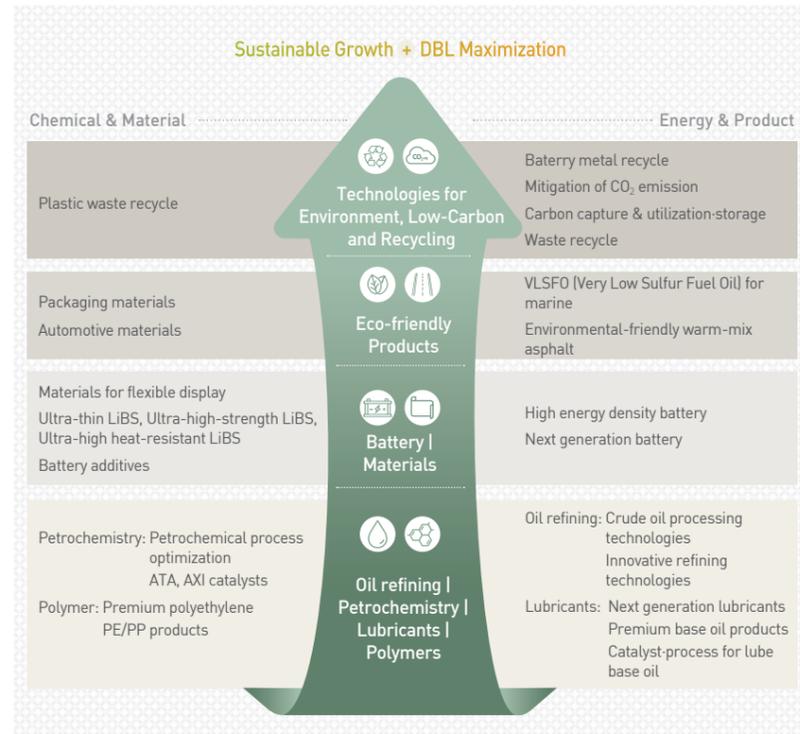


### Research & Development

SK innovation has regarded R&D as one of the core elements for sustainable growth. SK innovation founded Ulsan Technology R&D Center in Ulsan in 1985, and expanded it by establishing SK innovation Institute of Technology Innovation in Daejeon in 1995 to broaden the R&D organization as part of efforts to create economic value through technology innovation.

SK innovation R&D has taken the initiatives in supporting manufacturing technologies, developing catalysts and process technologies and also evolving chemical and lubricants products and materials for them while taking the lead in technological competitiveness in our key areas ranging from petroleum, chemical, lubricants, materials to battery businesses. In addition, we have pursued collaboration on R&D through open innovation based on our technological capabilities and assets to identify new growth engines while committing ourselves to evolving eco-friendly technologies contributing to the environmental problem solving for social value creation.

R&D Growth Plan



Key Research on Green Balance		
Research Area	Research Task	Research Contents
Petroleum	Development of petroleum products	Developing VLSFO (Very Low Sulfur Fuel Oil) for the innovation of eco-friendly biz. model
	New asphalt products	Developing eco-friendly warm-mix asphalt products by dramatically lowering the temperatures of asphalt pavement for the reduction of air pollutant emissions
		Developing asphalt enabling recycle of waste ascon generated on old roads, a substance causing environmental pollution
Lubricants	Lubricants for automobiles	Developing environment-friendly engine oil for vehicle with better fuel efficiency using ionic liquid as anti-wear agent and friction reducer
		Developing eco-friendly EV fluids technology
Polymer	Packaging materials	Developing eco-friendly packaging solution to reduce plastic content and apply recycled film stick
	Automotive materials	Developing one material packaging replacing multi-layer packaging which is less recyclable
IE materials	Lithium ion battery separator	Developing ultra-high strength, ultra-high heat-resistant and low electric-resistant separator for EV battery with higher capacity and improved safety
Environment	Water recycling	Developing eco-friendly and automated water treatment technology to make it possible to use waste water created during industrial process for industrial use

### Development of High Energy Density Battery for Electric Vehicles and ESS

Growing demand for the extended mileage of electric vehicles has given rise to the gravity of battery with high energy density. Against this backdrop, SK innovation developed large capacity and high energy density Cell, Module, Pack, and Battery Management System (BMS), and is carrying out research work on function enhancement such as better energy density or quick charging. As a result, we succeeded in applying NCM 622 cathode materials in 2014, and NCM 811 cathode materials in 2018 in EV battery for the first time in the world, and plan to produce batteries created through the application of NCM 9½ cathode materials from 2022. In terms of fast charging technology we are researching with the aim of reaching a 300 kilometer-travel with ten-minute charge by 2022. With the application of NCM cathode materials, we have raised energy density and extended product life up to 20 years of batteries for Energy Storage System (ESS). We are also working on the development of batteries for a wide range of applications from vessels to aviation sectors expected to grow down the road.

### Recycling Technology Development of Electric Vehicle Waste Battery

Demand for electric vehicle batteries is sharply rising with the growing market of EV. But on the other hand, as the amount of waste battery is expected to increase, we expect various social problems to occur including environmental degradation, unbalanced supply and demand of raw materials for battery manufacturing.

To overcome these issues, SK innovation has been developing recycling technologies of cathode materials for batteries, and we expect to create EV and SV when we complete the development through constant R&D work.

### Developing and Securing Recycling Technology of Waste Plastic

Global consumption of plastic has drastically increased result from benefits of plastic including high productivity and outstanding properties. But on the other hand, plastic has relatively a low recycling rate compare to metal, glass or paper due to use of composite materials and difficulties in sorting as well as separation. Owing to this feature, great portion of waste plastics are unfortunately being unmanaged as dumps or leaks creating serious social problems. In efforts to tackling such social issues, SK innovation has set up directions to resolve waste plastic matters and in this regards, we are developing chemical recycling technology through open innovation and making synergy with our internal R&D capabilities. Moreover, SK innovation plans to secure the stable supplies of feedstocks and to expand its applications under collaboration with all value-chains.

### Carbon Management

Climate change caused by increased level of carbon dioxide in the atmosphere has become a global concern, requiring corporations, the academia, the government and civic groups to work together in response to the issue. SK innovation is also cooperating with external parties to curb climate change while internally setting and managing a specific reduction target of carbon dioxide. As part of efforts to mitigate CO<sub>2</sub> emissions, we are also striving to improve

processes through hard working on research and development while developing eco-friendly products.

### Development of Core Materials for Flexible Display

Growing interests in flexible displays used for smart phone, tablet PC and TV have brought about rising demand for Flexible Cover Window (FCW) products, which is a form of flexible film consisting of functional coating layers on transparent polyimide (PI) film. SK innovation has begun research and development on polyimide (PI) since 2006 while securing core technologies over the whole FCW such as functional coating techniques including Hard-Coating.

In 2019, we finished the construction of FCW production plant, and completed the commercial production of FCW meeting the standards required by display panel manufacturers at home and abroad for optical clarity, bendability, robustness, and anti-scratch. In the years to come, we plan to expand the use of transparent PI and develop diverse applications to enhance high added-value of products while preparing for the second plant construction considering market expansion.

1) NCM : Nickel Cobalt Manganese  
2) Ni : Nickel

### Development of Plastic Recycling Technology



### Strategic Direction for Business Model Innovation 3. Global : Global Expansion

“Global” is indispensable to achieving Green Balance. SK innovation will expand our business area as well as our production capacity through win-win strategic partnering with leading companies by industry, thereby reinforcing our global competitiveness and laying the foundation for sustainable growth.

#### Expanding Global Partnering

##### Expanding Presence into Global Asphalt Market

In 2019, SK energy set up a joint venture company, called Zhejiang SK Energy Baoying Group, with Zhejiang Baoying Group, a Chinese import distribution company specializing in asphalt, to occupy more shares the Chinese asphalt market. The trust accumulated through the 23 years of trading since 1996 between SK energy and Zhejiang Baoying Group played as an enabler of this joint venture. And our strenuous efforts with a growth strategy to tap into global markets through collaboration with global companies also resulted in this achievement.

This investment has earned SK energy a growth impetus in the Chinese asphalt market, the world’s largest growing market. On top of that, we secured stable buyers of our asphalt products

produced in Ulsan Complex while running a business encompassing the value chain of the entire asphalt business ranging from product sourcing, storage, processing Polymer Modified Asphalt (PMA), to logistics and sales in the booming Chinese market.

China, the world largest asphalt consumer with a 30% market share in the world of 100 million-ton asphalt market, is expected to grow by an average of 3% annually. SK energy plans to increase our supplies to two million tons of asphalt by 2023, and further expand it to three million tons by 2029 through Zhejiang SK Energy Baoying Group from 1 million tons as of 2018. By doing so, SK energy will consolidate our presence in the global asphalt market.

#### Enlargement of Global Production Capacity

##### Expanding Battery Global Production Capacity

SK innovation provides the world with our battery products featuring high energy density and high output created through our own unique technologies. We will secure approximately 20 GWh of production capacity per year in early 2020 in Korea, Hungary and China. We will further expand it to more than 75 GWh by 2023 in four countries including the United States, and then reach about 100 GWh by 2025 to meet the demand from customers.

**Battery Plant Built in Changzhou, China** In 2019, SK innovation completed the construction of the electric vehicle battery plant with two Chinese partners, Beijing Automotive Industry Holdings and Beijing Electronics Holding on an area of

about 300,000 square meters in the Changzhou Tianning Economic Development Zone, Jiangsu Province of China. Mass production began in early 2020.

**First Battery Plant Built, Second Plant building in Komárom, Hungary** In 2019, SK innovation completed the establishment of the first battery plant on an area of 190,000 square meters in Komárom, Hungary, where 7.5 GWh of third-generation electric vehicle battery is to be produced and supplied from early 2020. SK innovation began building the second battery plant in March 2019 in Komárom, Hungary. The second plant is being founded on an area of 145,000 square meters next to the first one, and will be up and running for mass production and supply from early 2022.

#### Enlargement of Global Network

##### Acquisition of Stake in Mekong, Vietnamese Lubricants Company

SK lubricants entered into a contract to acquire a 49% stake in “Mekong,” the Vietnamese top private lubricants company. With the contract, SK lubricants has established the value chain of the lubricants business ranging from production, storage, distribution to sales across Vietnam,

thereby gaining a foothold for further expanding our business to the ASEAN market.

##### Acquisition of Business in Arkema, French Petrochemical Company

SK global chemical decided to take over the high-functional polyolefin business of Arkema, based on which, we secured three production facilities in France, a technical workforce and business rights to four products including Ethylene Acrylate Copolymer (EA Copolymer). Arkema, the French top petrochemical company, runs businesses encompassing high-functional materials, industrial special products and coating solutions, with 135 production facilities and 15 technical institutes in 55 countries around the world. Through the takeover, SK global chemical will strengthen the polyolefin business expected to grow by more than 7% annually. In this sense, we are securing a growth engine to make inroads into the global packaging market.

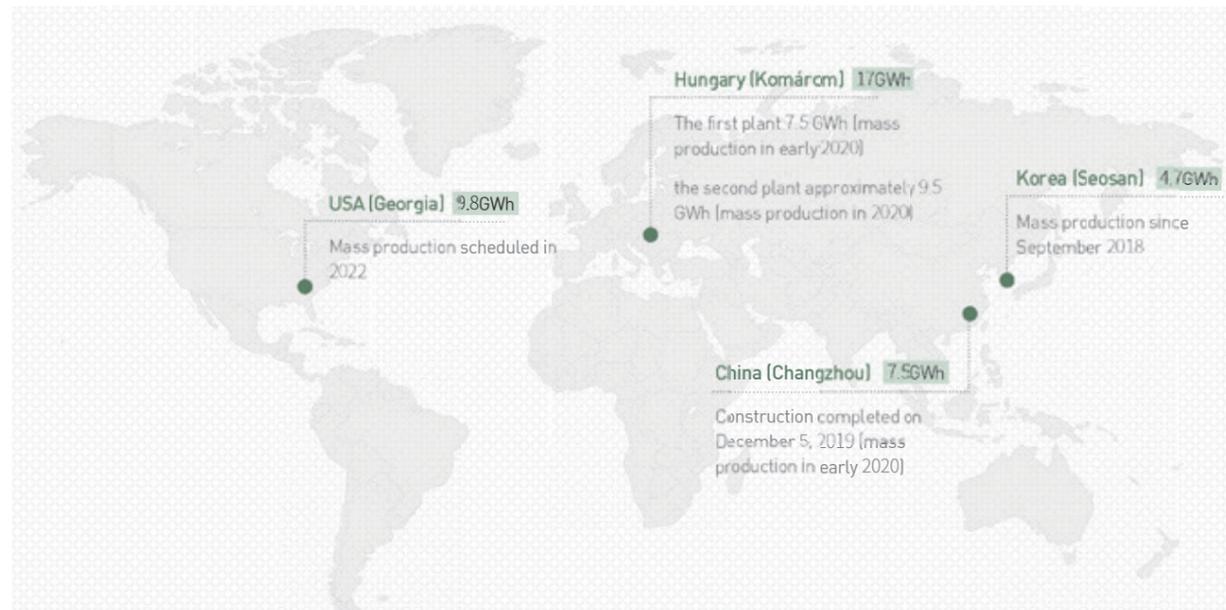
##### Acquisition of stake in BOC, Myanmarese Oil Distribution Company

SK energy and SK trading international have acquired a combined 35% stake in Best Oil

Company (BOC), Myanmar’s second-largest oil retailer, with each having a 17.5% stake. BOC is a holding-operating company running petroleum distribution business, having a market share of 17% in Myanmar’s oil retail market. This ensures that the two companies will secure a stable export and trade market and accelerate their expansion into the foreign retail market for sharper competitive edge overseas.



SK innovation’s Electric Vehicle Battery Production Hubs at Home and Abroad



Status of Global Joint Ventures		
Joint Venture Companies	Joint Venture	Characteristics
1 SK lubricants X Repsol, Spain’s energy company	ILBOC(Iberian Lube Base Oils Company)	Example of expanded partnering as No.1 player of Group III lube base oil
2 SK global company X SINOPEC	Sinopec-SK Wuhan Petrochemical	The largest ever joint project between Korea and China for the acquisition of an oil refinery
3 SK innovation X Beijing Electronics Holding X Beijing Automotive Industry Holdings	Beijing BESK Technology	Strategic hub for expansion into the Chinese electric vehicle market
4 SK lubricants X Japanese energy company JXTG Nippon Oil & Energy	YMAC(YUBASE Manufacturing Asia Company)	Strategic partnering with the Japan’s largest energy company
5 SK global chemical X JXTG Nippon Oil & Energy	Ulsan Aromatics (UAC)	Strategic partnering with the Japan’s largest energy company
6 SK global chemical X SABIC	SSNC(SABIC SK Nexlene Company)	First case of global joint venture for SK’s own independent technology
7 SK lubricants X Indonesian state-owned petrochemical company Pertamina	Patra SK	SK lubricants’ first overseas base oil plant of Group III
8 SK energy X Zhejiang Baoying Group	Zhejiang SK Energy Baoying Group	Strategic partnering for expanding presence in China, the largest asphalt market within the region

## Measuring of Social Value

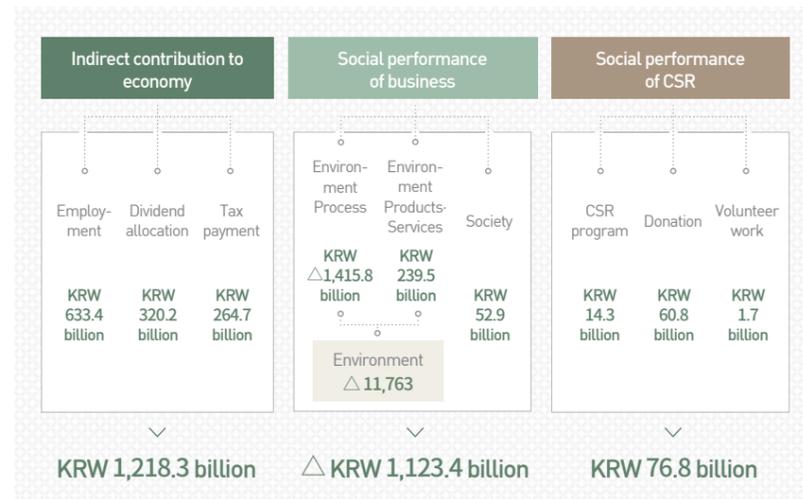
SK innovation quantifies our social value created for the year based on our measuring model. We also establish and manage a target for social value creation to be aligned with our DBL management. The quantified worth of social value we created in 2019 is; our indirect contribution to the economy at about KRW 1,218.3 billion, social performance of business at about KRW 123.4 billion and social performance of CSR at about KRW 76.8 billion.

### SK innovation Environmental Achievement

SK innovation's business has a unique feature that environmental impacts accompany with business growth. Despite this structural constraint, we have strived to resolve environmental issues in a systemic and structural way. In 2019, we made various efforts including switching to clean fuel, enhancing process efficiency for amelioration of each stage of the process, expanding sales of eco-friendly products including green lube base oil products and electric vehicle battery. By doing so, despite impacts made through our management activities, we created KRW 239.5 billion of positive environmental effects due to increasing sales of

eco-friendly products and services, which offset negative ones, thereby making KRW 1.1763 trillion of environmental achievement. Going forward, SK innovation continues to enlarge our eco-friendly portfolio, boosting sales of electric vehicle batteries, environment-friendly asphalt products while minimizing impacts on

the environment by 100% switching to clean fuel and expanding use of waste heat created through processing for the realization of Green Balance 2030.



### SK Incheon petrochem's Social Value Creation for Energy Upcycling

SK Incheon petrochem has contributed to the better quality of lives of local residents as well as to the mitigation of greenhouse gas emissions through an energy upcycling business which transforms waste heat created at plants into energy. We are in a coalition with Cheongna Energy and Incheon Total Energy Company to do the business in which we provide 280,000 Gcal of heat sources for cooling and heating for local communities per year. This is equivalent to the production created from a generation plant with the capacity of 37MW, enough for 40,000 households to use for a year. Besides, we expect to create approximately KRW 5 billion of the mitigation effect of greenhouse gas emissions (50,000 tCO<sub>2</sub>/year) a year.



Contribution to local residents' better lives  
Supply of 280,000 Gcal of energy

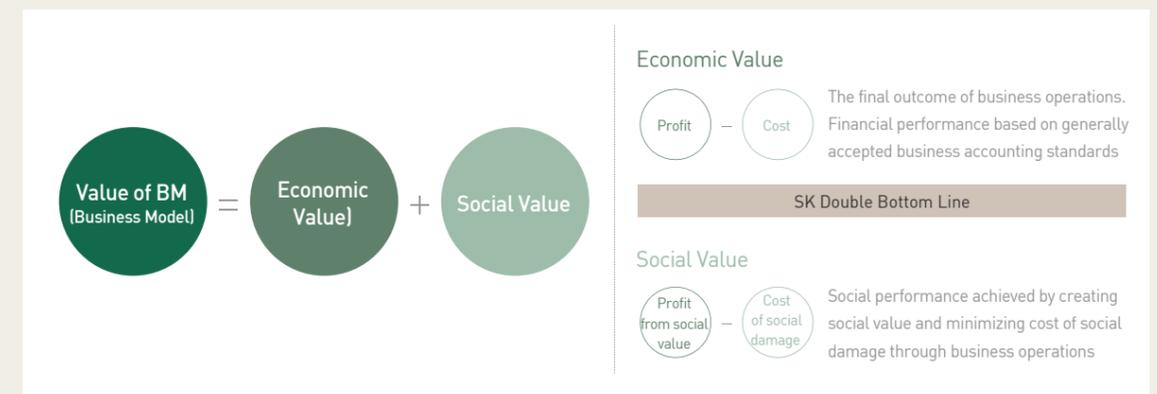


Greenhouse gas emissions reduction effect  
Approximately KRW 5 billion (50,000 tCO<sub>2</sub>/year)

### SK innovation's Metrics for Social Value

#### Areas to Measure for Social Value

SK innovation measures EV and SV that created based on our DBL indexes tailored to our management environment. EV represents our financial performance where indirect economic contribution belongs, such as employment, tax payment and dividend allocation. SV includes our various social achievements created through generating social benefits leading to offset the social damage cost through social contribution projects, the development, the production and the sales of products resulting in the reduced use of resources, relieving environmental pollution and solving inequality.



#### SK innovation's SV Index

The index is comprised of three areas; achievement through indirect economic contribution, social achievement through business and social achievement through social contribution. Detailed indicators are selected through the collaboration with social value expert organizations, and updated according to the business operations during the year. We apply an objective methodology to convert value by impact into monetary one, and share them with our stakeholders.

Achievement through indirect economic contribution ..... Values indirectly benefitting economy created through our business activities	Social achievement through business ..... Social values generated through the development, production and sales of products	Social achievement through social contribution ..... Values created by conducting social contributing activities for local communities
Employment	Environment Production process, sales of eco-friendly products	Social contribution activities
Dividend allocation	Society Sales of products contributing to the better quality of lives Improving working environment and mutual growth	Donation
Tax payment	Governance Ameliorating governance structure	Volunteer work

# Focus Areas



Amid the fierce business environment, in order to secure competitive advantage and continuously grow, thorough analysis and strategy-setting on business issues must be preceded. Against this backdrop, SK innovation analyzes sustainability business issues affecting our management activities in economic, environmental, and social areas based on the communication with stakeholders every year. On top of that, we identify what are currently the most material issues for us through four steps of materiality assessment from issue identification, impact analysis, prioritization to third-party verification, strategically responding to those grave issues. The material issues this year are tackling climate change, creating sustainable supply chains and making economic progress. We will manage those issues in a strategic yet transparent way to enhance our sustainability.

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## Focus Areas

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Focus Area 1.

# Tackling Climate Change

Link to SDGs



WHY                      HOW                      Management

### Why is this topic important?

Climate change has a great impact on business activities along with natural disasters such as droughts, floods, and head waves. The companies showing poor response to climate change are likely to be excluded from investment as those are considered having low sustainability, and may face financial difficulties due to purchasing cost for carbon credits. The environmental issues can become grave risk factors particularly for energy and chemical companies with high environmental impact and energy dependence due to the nature of the business. Now, action on climate change is not an option for the environment but an indispensable strategy for survival. In that sense, the establishment of strategy for a swift response to environmental changes is essential to secure future growth engines along with expanded eco-friendly portfolio.

### How does SK innovation approach?

SK innovation recognizes these environmental changes as a crisis yet an opportunity for us. Therefore, we focus our capabilities on greenhouse gas and energy management while doubling our efforts to curb climate change. We reduce energy consumption and greenhouse gas emissions by establishing eco-friendly workplaces at all business sites. Besides, the production and sales of eco-friendly products let us be directly and indirectly prepared for climate change. Our expansion to green business also allows us to make a sustainable ecosystem that curtails greenhouse gases.

### How is performance tracked?

- Reduction of Scope 1&2 by 7.8% compared to BAU by 2025
- Find cases of reduction in emissions or cost, provide incentives
- Set internal price for emissions, measure and include economic efficiency of investment projects

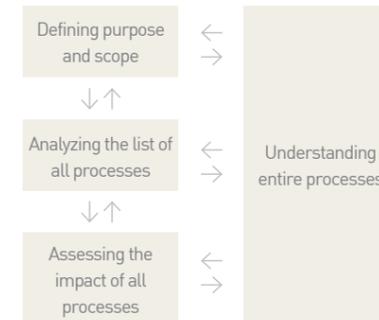
Performance evaluation method and mid- to long-term goals

## Reduction of Environmental Impact on Workplaces

### Battery Life Cycle Assessment

For lowering carbon dioxide emitted during the battery manufacturing process, SK innovation aims to use green energy. In addition, we verify the environmental impact of battery business through consistent R&D and thorough LCA (Life Cycle Assessment). With these efforts, we review every possible way to further mitigate carbon dioxide. We conducted LCA on lithium ion battery for an electric vehicle in accordance with ISO 14040 and ISO 14044, and provided the results for OEM customers. For the LCA, we quantify the amount of resources input and environmental output during all stages of production (pre-manufacturing, manufacturing, and transportation) by defining the life cycle of products from collecting raw materials to discarding, and systematically evaluate potential environmental impact. With this assessment, much effective reduction of environmental impact at workplaces is expected.

### Life Cycle Assessment (LCA) Process



### Launching New Businesses as a Climate Action

#### Low Carbon Bio-fuel CDM Business

SK energy is pushing low carbon bio-fuel CDM (Clean Development Mechanism) business that produces low carbon bio-solid fuels by using agricultural by-products such as peanuts, sesame seeds, and corns coming from developing countries like Myanmar. This business is expected to bring about an excellent environmental preservation effect by preventing forest destruction in Myanmar and recycling agricultural by-products that used to be treated just as wastes. On top of that, SK energy is currently constructing a pilot plant with a capacity of 1 ton per day, and plans to newly build and operate a plant with an annual capacity of 30,000 tons from 2022. This project will be registered as a UN CDM project and utilized for the domestic emission trading scheme, and it is expected to become the first case in Korea to directly conduct a project as a large company since Korea allowed companies to earn carbon credits through overseas projects in the Emission Trading Scheme.

### Climate Action through Products

SK innovation contributes to a better environment by reducing carbon dioxide (CO<sub>2</sub>) emissions and resource consumption through selling batteries for electric vehicles. Through battery and materials business, we created KRW 9.3 billion of environmental value in 2019. As the growth of battery business for electric vehicle is in full swing, we expect more than KRW 25 billion in 2020, which is more than three times higher than the previous year.

SK global chemical developed HCPP, the High Crystallinity Polypropylene with higher strength and less weight, and is selling it for automobile's interior and exterior products. HCPP can reduce the amount of use by 10% compared to general products, making it possible to reduce the weight of medium-sized vehicle by up to 10kg. SK global chemical created KRW 5.1 billion of environmental value through HCPP in 2019, and it will be further expanded in the future.

### Status of Environmental Performance (Unit: KRW 100 million)

Type	2018	2019	Target for 2020
Battery / Material for EV	46	93	250
Lighter material for vehicle	45	51	55

### Global Action on Climate Change

Coping with global warming, SK innovation has been planting mangrove trees in Vietnam where our oil development and Netruck business are being operated. In a representative mangrove habitat place, Tra Vinh, Vietnam, we began the first mangrove-planting in May 2018. Since then, we carried out 7 planting activities, adding about 160,000 mangrove trees in an area of 40 Ha in Vietnam. On December 31, 2019, we received the Minister of Environment's Citation in recognition of our contribution to the response to climate change and preserving biodiversity. Going forward, SK innovation will keep planting and further expanding the Mangrove Forest Restoration Project in order for responding to climate change and conserving biodiversity.

Focus Area 2.

# Sustainable Supply Chain

Link to SDGs



WHY      HOW      Management

### Why is this topic important?

There are growing interests and demand in the global community for responsible supply management along with environmental and human rights issues derived from the supply chain of global corporations. The growing gravity of responsible management of supply chain is coming under circumstances that clients, investors, and various stakeholders request the disclosure of information on supply chain management while the issues pose grave threat to company's management.

### How does SK innovation approach?

SK innovation strives to systematically manage supply chain by formulating relevant management policies as well as identifying and resolving issues to improve through consistent monitoring. First of all, we conduct pre-evaluation reflecting economic, social, safety, and environmental factors for all suppliers. With the risk assessment of supply chain, we prevent any possible risks in advance. Besides, we focus on social value creation through shared growth with partner companies such as developing eco-friendly products in cooperation with them. In addition, we joined the Responsible Mineral Initiative (RMI) so as to ethically purchase minerals required for battery production in February 2020, thereby establishing ethical mineral purchase system.

### How is performance tracked?

- Gain and maintain top rating in Evaluation of Corporate Partnership Index (by 2023)
- Enhance and strengthen supply chain ESG management by evaluating ESG risk for all of our supply chain (by 2023)
- Minimize compliance risks regarding purchasing (by 2023)
- Collaborate with suppliers to minimize environmental pollution through production of eco-friendly product and utilization of recycling products
- Strengthen supply chain ecosystem health by expanding social enterprise product purchase

Performance evaluation method and mid- to long-term goals

### Supply Chain Pre-screening (Unit: Number of companies, %)

Type	2017	2018	2019
Newly registered suppliers 2023 target for pre-evaluation			Maintain 100% rate
Number of newly registered suppliers	384	395	387
Number of suppliers in social, economic, environmental and safety evaluation	384	395	387
Ratio or pre-evaluation	100	100	100

## Enhanced Sustainability of Supply Chain

### Pre-screening for Sustainable Supply Chain

SK innovation conducts pre-evaluations covering economic, social, safety, and environmental factors for all partner companies in order to comprehensively manage the sustainability of our supply chain. Our integrated purchase system, called BiOK, containing pre-evaluation process, requests our new suppliers to abide by the 'code of conduct for suppliers'. If any supplier does not meet the certain criteria in the evaluation, it is excluded from SK innovation's partner registration. Going forward, SK innovation will consolidate the sustainability of the supply chain by systematically managing potential risks starting from the registration stage of suppliers.

### Top Grade in Shared Growth for 7 consecutive years

SK global chemical has received a top grade in Shared Growth Index for seven consecutive years by 2019, and was selected as the top honor company. We raised fun to improve financial flow of our suppliers while holding a 'SK Job Fair for Suppliers for Shared Growth' to help small and medium-sized suppliers hire great talents. We will continue to make our utmost effort to deliver practical value to our suppliers as well as to create an ecosystem where social values circulate in a virtuous cycle.

## Social Value Creation in Supply Chain

### Co-development of Eco-friendly Adhesives

SK global chemical co-developed an eco-friendly Hot Melt Adhesive (HMA) using our own technology, Nextlene™ for the first time in Korea, in cooperation with our partner company, Lion Chemtech. The key ingredient and technology for the environmentally friendly adhesives were provided by SK global chemical, while Lion Chemtech offered its own pyrolysis technology for the production. The eco-friendly adhesives developed by both companies considerably contributes to resolving toxic gases produced in the course of production for the current adhesives by facilitating the wide use of environmental-friendly materials in the market. Plus, its excellence in hygiene and high resistance to cold temperatures is highly recognized in both domestic and foreign markets.

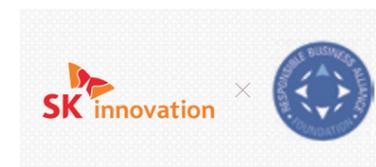
The co-development has benefited both companies; allowing SK global chemical to cut down cost without the need for adding new facility for the production while allowing Lion Chemtech to gain stable profits. In 2019, the eco-friendly adhesives hit about KRW 4.97 billion in sales, and about KRW 4.82 billion out of it came from exports to other countries. SK global chemical will continue to cooperate with our partner companies for creating both social value and economic value, bringing about consistent win-win growth jointly with partner companies.

1) high-functional polyethylene that SK global chemical developed in 2010  
2) Resistance to losing properties due to embrittlement when polymer materials such as rubber or plastic are exposed to low temperature

## Responsible Procurement of Raw Materials

### Becoming a Member of RMI

SK innovation joined the Responsible Minerals Initiative (RMI) in february 2020 to ethically purchase the minerals needed for our battery production. As an international consultative body under the Responsible Business Alliance (RBA), RMI monitors the mining process of disputable minerals operated by member companies and provides information on mining areas, mining companies, and distributing companies. By becoming a member of RMI, SK innovation has been equipped with the purchasing system to acquire minerals that do not trigger human rights issues such as child exploitation and environmental damage.



Focus Area 3.

# Advancement of Business Strategy

Link to SDGs



WHY	HOW	Management
<p><b>Why is this topic important?</b></p> <p>Global economic downturn and the G2 trade conflict on top of the growing geopolitical risks have led to the high uncertainties in business environment both domestic and global market. Moreover, the economic slump owing to Covid-19 in 2020 hinders the corporate business environment to a great extent. This threatens the survivals of many corporations, especially the chemical industry, which is hugely affected by external factors, will face limits in overcoming the crisis and constantly growing with the existing business strategy. Accordingly, a new and innovative business strategy to preoccupy a competitive advantage is more significant now than ever before in order to accomplish economic progress in the changing circumstance.</p>	<p><b>How does SK innovation approach?</b></p> <p>SK innovation is firmly convinced that the customer value creation is the source of survival and growth of the company, thereby expanding our business scope with an extended range of customers. To this end, we have been implementing new and various challenges for making inroads into new markets by establishing customer-oriented gas station platform based on the current business and offering E-mobility service and solution through expanded portfolios. Besides, we have expanded the production of value-added products to overcome the limited margins of conventional general products, making the groundwork for the new growth industry.</p>	<p><b>How is performance tracked?</b></p> <p>Performance evaluation method and mid- to long-term goals</p> <ul style="list-style-type: none"> <li>• Expansion of eco-friendly product portfolio (achieving 100 GWh of production capacity of global battery by 2025)</li> <li>• Diversification of portfolio (increasing the sales in non-refinery products and services)</li> <li>• Management of customer and brand satisfaction</li> </ul>

## Business Model Innovation

### Business Model Innovation through New Portfolio Expansion: Widening Scope to E-Mobility and Energy Solution Sectors beyond Battery Business

SK innovation shifts our focus to customers in our business and provides customer-driven services and solutions. Our business scope is not confined to battery production, yet it is expanded to various services related to battery. Our Baas (Battery as a Service) is an advanced battery service platform, meeting the expectations of customers in regard to battery.

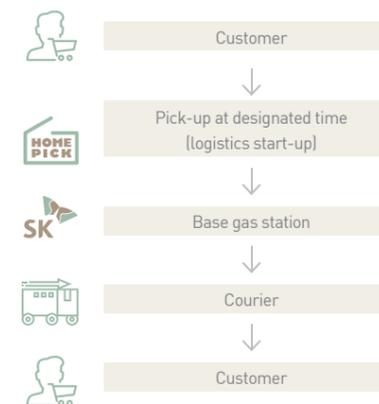
1	Battery Financial Service	Providing lease service to help customers reduce initial purchase cost
2	Battery Reuse Service	Utilizing batteries from electric vehicles for ESS or various other purposes
3	Battery Recycle Service	Collecting used batteries for extracting major metal materials including nickel, lithium, and cobalt
4	Battery Cloud Service	Making use of information in regard to battery production and usage in raising quality of R&D and production and developing new service projects

Based on BaaS, SK innovation has a plan to establish a new industrial ecosystem by collaborating with partners who have related technologies and business models. On top of that, we will develop batteries tailored to segmented market characteristics such as industrial or household purpose in the ESS sector, while supplying comprehensive energy solutions with our VPP (Virtual Power Plant) business and EMS (Energy Management System) energy storage businesses. We expect the entry into new markets to create economic achievement.

### Business Model Innovation through Existing Asset Utilization: Transformation of Gas Stations into Life Convenience Platform

SK energy transformed the conventional function of gas stations into a platform that provides various life convenience services, striving to create economic outcome through customer expansion. Our variety of life convenience services based on gas stations include; a resting place for truck drivers, 'Netruck House,' jointly built by the Ministry of Land, Infrastructure, and Transport and SK energy for the welfare of truck drivers, 'Home Pick' service using gas stations as a logistic base, 'Re: White Place' service for dropping and picking laundry at SK gas stations, and EV charging service. We will continuously identify and develop new items leading to customer value creation to carry on our business growth.

#### Home Pick Service Utilizing Shared Infrastructure of Gas Stations



### Expanding Production of Value-added Products

SK global chemical focuses on value-added products for securing new growth engines and profitability in the future. To that end, we make great efforts to transform ourselves to become a value-added product supplier in the new growth industry from a manufacturer of so-called general products with small profitability and low entry barrier. Recently, Chinese chemical companies producing enormous amount of general products and their expansion of large-scale facilities for more production triggered the steepest drop in base oil prices, making us difficult to create fair amount of profitability. In order to cope with these challenges, SK global chemical acquired U.S. Dow Chemical Company's EAA and PVDC businesses and finalized our acquisition of polymer business from Arkema. Through these acquisitions, SK global chemical made a foundation for entering the high value-added packaging market. Our own production of high-functional polymer materials that was 100% dependent on imports in the past will bring about the rise in profitability.

# Sustainability Management



Through sustainable management, SK innovation strives to enhance not only economic value but also sustainability of our society and environment. To this end, we are conducting a wide range of activities in various fields encompassing human rights, labor, safety and employment. In particular, we put our focus on improving environmental value for balanced development between the company and the environment. On top of that, in line with our SKMS, the SK business management system, we are proactively responding to environmental changes, thereby bringing a sharper competitiveness edge. Going forward, we will be committed to creating the happiness of our stakeholders as well as expanding the sustainability of the community through a corporate culture of challenge and innovation, generation of economic and social value and transparent business operation.

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# Board of Directors (BOD)

The transparent structure of governance becomes the foundation of the management, making great impact on the lives of various stakeholders. With our BOD-driven Management, we strive to reflect the benefits of stakeholders on the business activities in a balanced manner while raising corporate sustainability with transparent management through the board of directors at the same time.

## Composition of BOD and Its Independence

SK innovation strives to firmly establish the governance structure at the global level based on our basic principle, "BOD-driven Management." The separate BOD system has been maintained since the positions of chairman and executive director were divided in 2013. In March 2019, the independent director Kim Jong-hoon was officially appointed as chairman, which resulted in the enhanced transparency and independence. Since then, we have streamlined this system to put in place a BOD preliminary reporting and management issue

spot reporting system as well as the highly facilitated independent director sessions led by chairman.

As of March 2020, independent directors constituted 63% of the board, more than half of the entire board, which is higher than the average rate among the large companies in Korea at 51%. For transparency and fairness in appointing independent directors, the Recommendation and

Nomination Committee thoroughly deliberates the validity of recommended candidates. SK innovation abides by the rules concerning the board of directors, such as grounds for disqualification, taking into account the possible revision to the Enforcement Decree of the Commercial Act and the Fair Trade Act and other related regulations.

Besides, it is not allowed to hold more than

Please visit our website for details related to the composition of the BOD  
[http://eng.skinnovation.com/ir/directorate\\_01.asp](http://eng.skinnovation.com/ir/directorate_01.asp)

Composition of BOD						
Position	Name	Term <sup>2)</sup>		Attendance Rate <sup>4)</sup>	Career Highlights	Expertise
		From	To			
Independent Director	Kim Jong-hoon <small>Chairman of BOD</small>	24th Mar '17	Mar '23	100%	BA in Business Administration from Yonsei University Current) Honorary ambassador/chairman of International Relations Commission, Korean Sport & Olympic Committee Former) Minister for Trade, Ministry of Foreign Affairs and Trade Former) Chief Delegate for the Korea-US FTA	Global Network
	Kim Jung-gwan	20th Mar '18	Mar '21	94%	PhD in Economics from Korea Polytechnic University Current) Adviser of Bae, Kim & Lee LLC Former) Vice Minister, Ministry of Knowledge Economy Former) Executive Vice Chairman, KITA	Energy industry
	Kim Joon	18th Mar '16	Mar '22	94%	PhD in Chemistry from Brown University in the U.S. Current) Chairman & CEO, Kyungbang Co. Ltd., Current) Director, East Asia Foundation	Corporate management
	Choi Woo-seok	20th Mar '18	Mar '21	100%	PhD in Business Administration from Michigan State University in the U.S. Current) Professor of Accounting, Korea University Business School Former) Adviser, Ministry of the Interior and Safety and Korea Deposit Insurance Corporation Former) Executive Director, Korean Academic Society of Business Administration	Financial accounting
	Ha Yun-kyoung <small>(Female)</small>	18th Mar '16	Mar '22	100%	PhD in Chemistry from Stanford University in the U.S. Current) Professor/Admission Director, Department of Basic Science/Chemical Engineering, Hongik University Former) Vice-president, Korean Chemical Society Former) Director, Association of Korean Women Scientists and Engineers	Chemical industry
Internal Director	Kim Jun	24th Mar '17	Mar '23	100%	MA in Business Administration from Seoul National University Current) President & CEO, SK innovation Current) President, Energy & Chemical Committee of SK SUPEX Council Former) President & CEO, SK energy Former) President, Communication Committee of SK SUPEX Council	Corporate management
	Lee Myung-young	21st Mar '19	Mar '22	93%	BA in Business Administration from Yonsei University Current) Senior Executive Vice President (CFO), Finance Divisional Group, SK innovation Former) Senior Executive Vice President (CFO), Mgmt. Support Office, SK Hynix Former) Global Accounting Office, SK networks	Financial accounting
Non-executive Director	Yu Jeong-joon	24th Mar '17	Mar '23	81%	MA in Accounting from Illinois State University in the U.S. Current) President & CEO, SK E&S Former) President, Energy & Chemical Committee of SK SUPEX Council Former) President, SK Global & Growth Promotion Division, SK management holdings	Corporate management

1) Current status of large companies' governance as of Dec. 2019 presented by the Fair Trade Commission  
2) Average term of duty: 2.75 years (as of March 2020 general meeting of shareholders)  
3) The term of a director expires at the time of the third regular general meeting of shareholders terminated after taking office in accordance with articles of association.  
4) Average participation rate: 95.2% (January 2019-March 2020)

two positions of director or auditor, while the term of an independent director should not be more than 6 years in SK innovation and 9 years even in affiliates. On top of that, we confirm that independent directors have not reached a certain level of business relations with the company, thereby completely ensuring decision-making independent from the management and dominant shareholders.

## Subcommittees of BOD

SK innovation currently operates 6 subcommittees under the board by special fields. All committees were formed in accordance with the articles of association and regulations while being operated with separate regulations of the Audit Committee, the Recommendation and Nomination Committee, and other specialized committees.

Each committee reviews the matters for decision in prior to the resolution to reinforce the competence of its deliberation. Then, it reports all items reviewed and the current hosting status in a written form of "performance of committee" to the board. Furthermore, all chairs of the committees are independent directors and the members of committees consist of 67-100% of independent directors, thereby achieving independence and

transparency in the decision-making process. Along with the goal to establish an advanced governance system, we are fortifying the risk management function of the BOD and committees to meet the demands of stakeholders for the strengthened governance at the global level.

To this end, the Strategic Planning Committee under the BOD was revamped to the Strategic Planning & Risk Management Committee in February 2020. The function for overall management and

supervision over environmental issues regarding safety and health and possible risks we face was added to its role of the committee on top of the previous role to review the business strategies, investment, and finance. As the environment issues such as climate change, greenhouse gas, and carbon emissions have come to the fore, we plan to review the current status and plan of "Green Balance 2030."



### Specialized and Diverse BOD

SK innovation has principles when it comes to forming our Board of Directors. That is professionalism and diversity so that the BOD doesn't have specific backgrounds or represents specific interests. The current BOD is selecting external directors, taking into consideration of balanced specialties by field indispensable to management decision-making from business operation, energy and chemistry, financial accounting to the global network.

Based on the professionalism, we strengthen our on-site management, which gives us a profound understanding of our business system and corporate culture. By doing so, we make sure that our decision-making is reasonable.

On top of that, as part of efforts to ensure that our BOD represents diversity, we put in place an internal policy to put diversity in terms of gender, age, race, ethnicity and nationality a major factor on the formulation of BOD. Since appointing a female expert in energy and chemicals sector, Ha Yun-kyoung to an independent director in 2016, we have actively made efforts to maintain or even expand the proportion of female executives.

Please visit our website for details related to the activities and agenda of the BOD.  
[http://eng.skinnovation.com/ir/directorate\\_02.asp](http://eng.skinnovation.com/ir/directorate_02.asp)

### Evaluation Criteria of Independent Directors of SK innovation

**Expertise** Expertise and experience in corporate management, and experience as an executive or independent director

**Commitment** Able to attend over 95 percent of BOD & Committee meetings, and make real contributions and advice on current issues

**Managerial mindset** Leadership acquired from experience in serving as the CEO of a large company or head of an organization

**Independence** No conflicts of interest with management and shareholders; can make thoughtful, independent decisions

**Social reputation** A strong reputation recognized by many company stakeholders

**Morality** A high level of morality that sets an example for others, with company-based objectives taking precedence over personal gain

**Diversity** The diversity of the board, including gender, age, nationality, and ethnicity, has been taken into consideration

**Others** Current business environment and issues at the time of nomination

### Activities of BOD

SK innovation holds board meetings monthly while providing and reporting materials related to agendas at least five to seven days before the board meeting and two days before the subcommittee meeting. Besides, we report urgent matters to the board real-time and make prompt decision-makings by frequently gathering together. Through these endeavors, we lead professional and transparent management

activities. Our corporate principle for the BOD attendance rate is intensified to 95% or above. As evidenced by the fact that the average BOD attendance rates among all members and independent directors were 95.5% and 97.5% respectively from 2019 to March 2020, the board has been faithfully playing its role.

#### BOD Attendance Rate

Position	2017	2018	2019
All	91	96	95
Independent directors (non-executive)	94	96	97

#### Status of BOD in 2019 (Unit: Number/item)

BOD	Meetings held	Agenda
Board of Directors (BOD)	14	73 (Resolution: 42 / Reporting: 31)
Audit Committee	6	20 (Resolution: 6 / Reporting: 14)
Recommendation and Nomination Committee	2	3 (Resolution: 2 / Reporting: 1)
Strategic Planning & Risk Management Committee	4	5
Human Resources Committee	2	5
Transparent Management Committee	4	8
CSR Committee	1	2



### Reinforced On-site Activities

For enhanced expertise-centered decision making, the board of SK innovation frequently visits major business sites at home and abroad to gain a better understanding of the on-site operations. In 2019, the board visited the plant producing materials located in Jeungpyeong, Chungcheongbuk-do to learn more about the related investment and operation plan as SK ie technology, the subsidiary company, was newly spun off to focus on materials such as LiBS (Lithium-ion Battery Separator). The board inspected the battery production site for electric vehicles, which is highly relevant to the materials business, bringing about the higher understanding of field and precise decision makings.



### Evaluation of BOD

The BOD conducts self-evaluation on composition, role, responsibility, and operation. The performance is assessed annually toward all members of the board by submitting the overall opinions and the satisfaction level of each assessment item and the results are open to public through the Annual Report. The BOD swiftly reflects the collected opinions and results of the evaluation on the BOD operation plan so that the assessment can be practically utilized, producing virtuous cycle with the feedback.

Furthermore, our BOD has been recognized for its excellent performance. We take part in the ESG assessment conducted by the Korea Corporate Governance Service (KCGS) every year to view our

governance objectively and received grade A in governance in 2019.

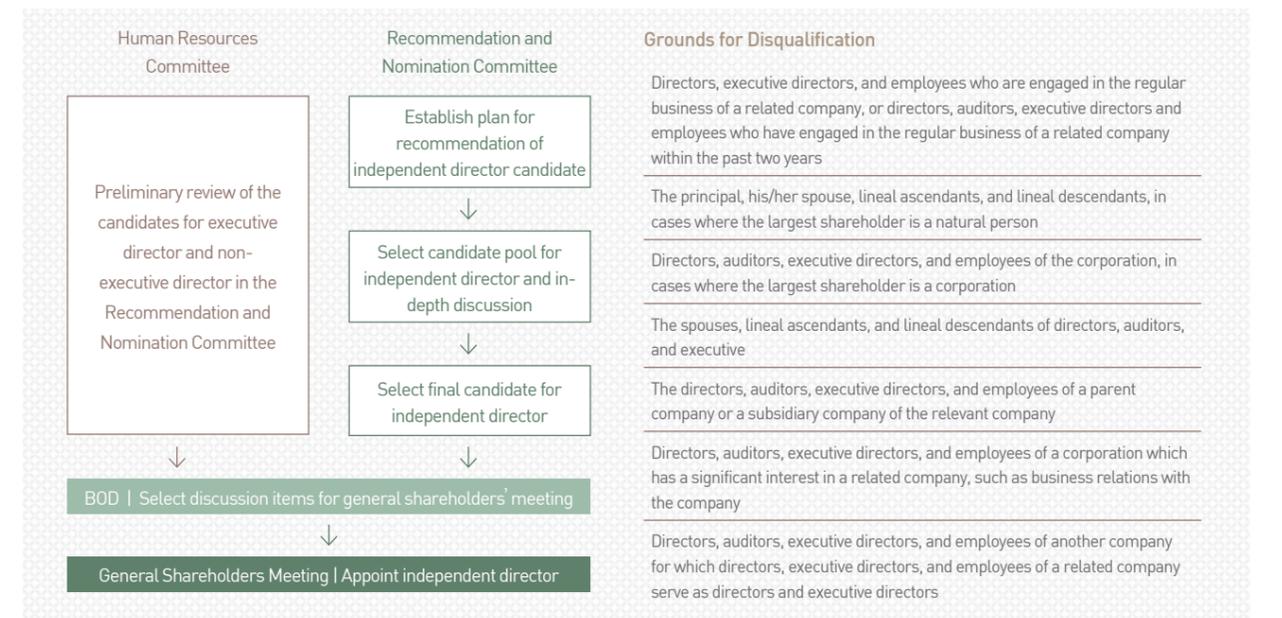
#### BOD Self-evaluation Results (Unit: Number, Point) [Jan-Dec 2019]

Areas of Assessment (No. of questionnaires)	Average Score		
	'18	'19	Gap
Composition of BOD(3)	4.5	4.9	+0.4
Role of BOD(5)	4.4	4.5	+0.1
Responsibility of BOD(4)	4.6	4.7	+0.1
Operation of BOD(7)	4.6	4.6	-
Composition/Role/Operation of BOD(5)	4.4	4.6	+0.2
<b>Average Total Score</b>	<b>4.5/5.0</b>	<b>4.6/5.0</b>	<b>+0.1</b>

#### Major Opinions

- Highlighting the importance of risk management due to the deteriorated business environment
- Needs for continued reinforcement of training and on-site visits to raise the expertise of the board directors

### Appointment Process of Board Directors



# Risk Management

Amid the growing uncertainty of business environment as well as diversified risks in economic, social, and environmental sectors, risk management has been underlined more than ever. Against this backdrop, SK innovation precisely examines risks across the company and formulates response measures by risk while systematically and preemptively managing major risks pertaining to business activities.

## Risk Reporting and Governance

SK innovation has separated our risk management system into three fields; finance, business, and operation to systemically manage them. Responsible departments manage smaller risk units from these three categories and are closely working together to identify, examine, and prevent the risks. SK innovation has strategically set up a risk management process from data collection, analysis of influence and sensitivity level, establishing countermeasures to the reporting to management. In particular, the grave risks are separately reported to the Risk Management Committee under the BOD. Besides, independent directors take risk management training regularly for better understanding of risk managements among the board members.

## Risk Monitoring

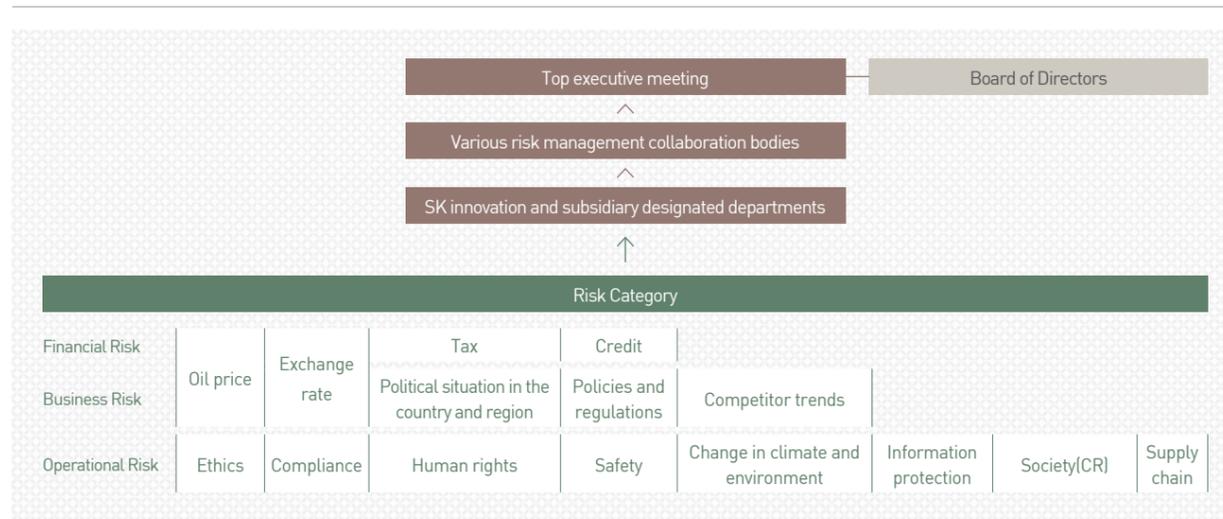
SK innovation conducts monitoring and analysis optimized to each risk category. In terms of financial risks, including the fluctuation in oil price and exchange rate, we monitor a short and long term financial trend and overview based on various economic indices for SK innovation and other subsidiaries. In respond to this type of risks, we diversify the source of oils and use foreign exchange hedging strategy. Concerning business and operational risks, we monitor regulations and policies and check opinions of major interest parties daily through multiple channels. The collected information is shared through newsletters and intranet with all employees; thus they can prevent risks by keeping up with newest trends in the industry. For operational risks, SK innovation holds two consultative group meetings for sustainable business chaired by the Chief of Sustainability Officer (CSO). In-depth discussions

over the issues ranging from ethics, compliance, human rights, safety, health to environment are made at the management level in the meetings.

## Establishment of Risk Management Culture

We are making a corporate culture where all employees understand the significance of risk management and have capabilities to cope with risks at the individual level. To this end, we offer regular capacity-building training and seminars regarding the management of financial, business, and operational risks. Besides, major risk factors are included in the Key Performance Indicators (KPI) of the employees and executives by department in order to reflect their risk responsive efforts to the assessment and rewards.

Risk Management System



## Emerging Risks

SK innovation not only proactively responds to any possible risks caused by all business activities but also actively manages them by defining potential risks posing threat to the future business of the corporation. The identified risks are widely open to public through the Annual Report and the Sustainability Report to facilitate the transparent communication with stakeholders. More details about risk management strategies can be found in the SK innovation Sustainability Report.

Emerging Risk		
	Risk Impacts	Mitigation Actions
<b>Ageing Society and Shrinking Population</b>	South Korea's fertility rate in 2019 stood at 0.92, hit the lowest point among the Economic Cooperation and Development (OECD) member countries. Furthermore, the rapidly rising number of aging populations is projected to push Korea to one of the highest ranked country in the proportion of senior citizens, having more than 37% of whole population by 2045. This trend is expected to make adverse impact to domestic sales and possibly crush domestic market in the future. The demographic changes including ageing population diminish production and consumption, affecting corporate business directly. It can also become a major risk in employment, finance, and welfare at the national level, leading to economic recession.	In this sense, SK innovation is keenly aware that the ageing population and the decline in population are two prominent issues that can pose a serious threat to both our country and corporation. Against this backdrop, we try to make our employees feel comfortable and pleasant in terms of child birth and caring through various welfare systems. We operate a day care center inside the corporate building and encourage our employees to take parental leave while reducing working hours for pregnant employees. In addition, we have extended the maternity leave for partner's childbirth and provide more monetary support in the events like childbirth or child's admission to school as a part of our efforts to support our employees' family and child care. For the marginalized elderly in the ageing society, we actively implement caring programs for the vulnerable elderly living alone in various places to alleviate related social problems. Recognized for our efforts, SK innovation has won multiple awards and medals for the last three years, including the grand award as the Korea's Most Beloved Company, the presidential award for excellence in gender equality employment, the certificate of family-friendly company, and the plaque of appreciation for supporting the elderly living alone from the Ministry of Health and Welfare. Looking forwards, we will lead the advanced corporate culture, contributing to the rise in national fertility rate.
<b>Harmful Effects of Plastic Usage</b>	With its high formability, convenience, and low price, plastic has significantly enriched our daily lives. However, plastic waste causes soil and ocean pollutions as it is not decomposed into nature. In particular, the issue of microplastics disturbing the maritime ecosystem has emerged as a global concern. Endocrine disruptors, greenhouse gases and air pollutants, generated during incineration treatment or combustion, are polluting air environment to a serious degree, bringing a grave situation. On account of this, countries in the world start to be more stringent about regulations on plastics, and Korea is not an exception. Korea implements a variety of policies, including the ban on the disposable cup and restriction on plastic colors. Not only the supply and demand of plastics but the whole industries cannot be free from these policies seeking for limited usage and raised awareness on its environmental impact. This can be the potential risk to SK innovation as the producer and distributor of plastic raw materials, which brings the necessity to establish preemptive measures and risk management system.	SK innovation sincerely make our every endeavor to minimize the adverse impacts of the plastic usage on the environment. We have been developing chemical recycling technology to reuse plastic wastes as the base material for petrochemical products in cooperation with diverse companies and research centers in and outside the country. In addition, we successfully developed a recyclable single packaging material in partnership with customer company, striving to create a virtual circle of plastic ecosystem. Besides, we have established a private-public-academia collaboration system by holding the "Eco-friendly Plastic Packaging Materials Forum," participated by various interest parties in the plastic industry, discussing ways to work together for developing eco-friendly plastic materials. On top of that, we support social enterprises like Usisan for upcycling plastic (PET) bottles abandoned from ships to produce recycled projects like whale-shape soaps and Montsenu for producing clothes made of recycled PET chips, which are crushed plastic waste. With these efforts, we try our best to make environmental friendly ecosystem for plastics where all stakeholders are engaged.

# Ethics Management

SK innovation promotes ethics management in various areas for fulfilling our social duties and responsibilities. With raised level of ethics across the company, we seek for consistent advance and trust from stakeholders.

## Principles of Ethics Management

On the foundation of the SK Management System (SKMS), we established the Code of Ethics as the standard of proper actions and judgments. Code of Ethics Guidelines are also prepared to give specific criteria for practices. All employees of SK innovation and its domestic and overseas affiliates are under obligation to comply with the Code of Ethics. For those affiliates whose shares are partially owned by the company and for those business partners who are in business or contractual relationship, we recommend them to comply with our Code of Ethics. In addition, we have made an FAQ regarding guidelines for ethical behaviors with multiple cases to resolve inquiries.

Please visit our website for details related to Code of Ethics and Guidelines  
<http://eng.skinnovation.com/company/ethics.asp>

## Cultivating Ethical Mindset and Spreading Ethical Practices

### Ethics Training Programs and Letter of Commitment for Ethics Management

In order to help our employees internalize the values of ethics management, we have provided the ethics training for all staff in Korea and beyond. In 2019, we provided an online training program delivering the basic concept of ethics management, ethical dilemma cases, and quiz followed by the signing of a "Letter of Commitment to Ethics Management" to reinforce the sense of ethics.

### Ethics Management Practice Workshop

SK innovation holds an annual Ethics Management Practice Workshop led by leaders of department for employees to have in-depth discussion of ethical dilemmas and risk cases. In 2019, workshops by 393 departments were held under the theme of our audit case and ethical dilemmas.

## Ethics Training Performance

(Unit: Number of Participants/Hours)

	Participants	Hours
Offline training	449	373
Online training	7,147	3,574
Total	7,596	3,947

## Survey on Ethics Management Practice

We conduct surveys every year to measure the level of ethics management practices while detecting the weak parts of our corporate system and culture. About 78% of all employees took part in the survey in 2019, and the major inquiries collected through the survey have been answered after consulting with related departments.

## Global Training Contents Tailored for Global Sites

SK innovation makes multifaceted efforts to spread the ethics management culture and ensure regulatory compliance in the global sites. We translated Code of Ethics, Guidelines, and FAQ into English and Chinese and distributed to global business sites. For ethics management training for foreign employees, we also made the English and Chinese versions of related educational materials. As expansion of global business and more foreign employees are expected in the future, we will step up our efforts to raise the level of global ethics management.



Please visit our website for details related to Code of Ethics in foreign languages.

[ENG] <http://eng.skinnovation.com/company/ethics.asp>

[中文] <http://chn.skinnovation.com/company/ethics.asp>

## Transparent Supply Chain

### Surveying Suppliers on Ethics Management

SK innovation continues to bolster our monitoring for any unfair transactions and the abuse of power in doing business with suppliers. Accordingly, we survey domestic suppliers and business partners on ethics management in order to identify if there are any unethical practices or power abuse cases in the company. Moreover, for more in-depth investigation, we visit some partner companies to interview in person while informing and offering training about our ethics management activities. In 2019, we shared our major principles regarding ethics management such as the ban on conflict of interests and taking bribes, and mutual respect with partner companies. In addition, we informed them of our report system and the channels for communication.

### Healthy Business Culture

SK innovation conducts "Say No to Gifts for Holidays and Promotions" campaign to close off the possibilities of inappropriate transactions, targeting suppliers and external stakeholders. Gifts must be returned in case any gift arrives, while those which cannot be delivered back will be donated to the charity. Besides, we abide by the Korean legislation on political funding and SK innovation's Code of Ethics Guidelines, strictly banning the donation or support with corporate budget or fund with a political motive.

### Cooperative System for Technical Data Management

With an aim of protecting technical data of partner companies and having win-win cooperation with small and medium-sized companies, SK innovation has established the cooperative system for technical data management that prevents the extortion and misuse of technologies.

### Vitalized Communication for Ethics Management

We operate diverse communication channels, including the ethics counseling center and ethics management website to enhance the monitoring and management of the ethics management. These channels are utilized to share Code of Ethics and gather reports and consultation on unethical practices. Besides, there is a webpage for ethics management in the corporate intranet for facilitating communication on the subject of ethics management with employees. The webpage also shares ethical issues at work and actual cases of disciplinary actions due to unethical activities happened in 2019.

## Reporting and Monitoring of Ethics Management

### Ethics Counseling and Reporting

We run a variety of channels including SK group online channel, phone, fax, e-mail, and mail dedicated for reports to make it easier for our stakeholders to get consultation or report about ethics management issues. The reported issues and consulted cases are handled in a transparent and systematic manner through the informant protection program under the corporate regulation.

### Reports-Consultation on Ethics Management by Treatments (Unit: Case)

Type	Number of Cases
Investigation (Audit)	24
Transferred to Relevant Department	43
Total	67

### Reports-Consultation on Ethics Management by Stakeholder (Unit: Case)

Type	Report	Consultation	Complaint	Total
Customer	-	-	17	17
Business partner	14	1	2	17
Employee	2	1	-	3
Others-Anonymous	16	7	7	30
Total	32	9	26	67

### Post-procedure of Report for Unethical Management

As of 2019, there were a total of 133 reports and consulting in regard of ethics management or a total of 67 cases excluding overlapped issues. The department responsible for the ethics management refers to the complaints to the customer service department and later checks the follow-up measures. The consulting for ethics management is carried out through the consultations with related departments. If any report requires further investigation, we conduct an audit to decide if any ethical violation in the management was committed. In 2019, 5 out of 30 cases we investigated were found unethical, and we took action according to the resolution of the Reward & Punishment and HR Committee in accordance with the related regulations. Two of them are still under investigation.

### Status of Disciplinary Action for Breach of Ethics Management (Unit: Case)

Reason for Disciplinary Action	Number of Cases
Sexual Harassment	3
Bribery	1
Breach of Code of Ethics	5
Breach of Regulation on SHE (safety, health, environment)	1
Job Negligence	8
Total	18

### Performance of Ethical Consultation Center or Ethics Management Website (Unit: Case)

Type	Number of Cases
2017	60
2018	61
2019	67

### Antitrust and Competition Compliance Management System

SK innovation's Antitrust and Competition Compliance Program (CP) was introduced to vitalize a fair competition in the supply chain and raise the transparency of trade. We also set detailed management guidelines for major 8 elements of the Antitrust and Competition CP for the stern adherence to it in all our subsidiaries.

### Antitrust and Competition Management Structure

SK innovation and our four subsidiaries, including SK energy, SK global chemical, SK lubricants, and SK ie technology have appointed Chief Compliance Officers (CCO) to operate the overall Antitrust and Competition CP in each company. CCO is responsible for establishing the action plan for the Antitrust and Competition CP and oversee all processes. We have reported the plan and performance of the Antitrust and Competition CP to the board of directors every quarter.

### Toughened Internal Monitoring on Transactions

SK innovation has been striving to prevent inappropriate support for SK Corp. and our affiliates as well as to comply with the Fair Trade Act. To this end, we review the rationality of trade in advance through the review process when contracting with affiliates while consistently maintaining and improving the review process. As the "Enforcement Decree of the Fair Agency Transactions Act" came into force in 2016, we have improved the internal management system and conducted on-site inspections on departments dealing with affiliate agencies. We also provide training for them to supplement or correct inadequate elements. For better management process regarding the abuse of power toward SMEs, we check all stages of contracting with subcontractors and also train our staff concerned.

### Efforts for Highly Accurate Information on FTC

We strive for the transparency and accuracy of the official announcement published by the Fair Trade Commission (FTC) on our subsidiaries and sub-subsidiaries. As part of this effort, we provide with training regarding the public information for our staff in charge. Furthermore, we have compared all information released from the FTC on SK innovation, our subsidiaries, and sub-subsidiaries to minimize the possibility of errors. As a result, the FTC confirmed that we did not have any violation or error in 2018 official announcement.

#### 8 Major Elements of Antitrust and Competition Compliance Program

1	 Establishment and implementation of principles and procedures for Antitrust and Competition CP	Establishment and Operation of Antitrust and Competition CP: Revised 4 times since 2002 (1st revision in 2017)
2	 CEO's strong will and commitment to Antitrust and Competition CP	CEO's declaration of company's commitment to Antitrust and Competition CP and the letters of commitment signed by employees Releasing the principles of antitrust and competition and the Antitrust and Competition CP in the company website
3	 Appointment of Chief Compliance Officer (CCO)	Chief of Sustainability Management (SK innovation), Chief of External Affairs Cooperation Office (SK energy), Chief of Management Planning Office (SK global chemical), Chief of Business Management (SK lubricants), Head of Materials Business (SK ie technology)
4	 Publication and distribution of compliance manual	Publishing the CP manual Publishing the antitrust and competition guidebook
5	 Consistent and systematic compliance training	Holding seminars for those relevant to fair transactions Providing the training to nurture antitrust and competition specialists and training tailored to each business area
6	 Establishment of Internal Monitoring System	Operating the organization dedicated to CP Conducting inspections on antitrust and competition
7	 Disciplinary action on those who breach regulations	Establishing and implementing the punitive measures against the violation of the Fair Trade Act. Having a set of criteria to manage the departments under Antitrust and Competition CP
8	 Evaluation of effectiveness and improvement efforts	Annually selecting the subject of inspection and training Advancing the management criteria through checklists and interviews

### Internalization of Antitrust and Competition Spirit

#### Letter of Commitment to Antitrust and Competition

The employees of SK innovation pledged to the compliance of antitrust and competition in March 2019 to reaffirm their willingness and cultivate the sense of antitrust and competition. The commitment was signed by all employees of not only SK innovation but also all 6 subsidiaries and foreign employees working at overseas sites. The letter of commitment was distributed in Korean, English, and Spanish versions. With a view to make it a rather continuous commitment than just one-time event, we will engage new employees in the letter of commitment for antitrust and competition every year.

### Antitrust and Competition Compliance Training

We have conducted internal antitrust and competition compliance training, which covered regulations and issues that employees are required to keep in mind at work with the goal of raising awareness on the compliance with antitrust and competition regulations.

We have overhauled the content of antitrust and competition training. The offline training focuses on the basic concept of antitrust and competition and topics related to each department while the online training now delivers the recent cases on top of the overall course. The online programs are produced in English and Chinese as well so as to increase the awareness of antitrust and competition for foreign employees. In addition, the managers responsible for the antitrust and competition affairs are encouraged to participate in antitrust and competition research seminars

and external training programs to develop high expertise. Finally, we conduct training for our global business sites so that our operations meet our required level of antitrust and competition in Korea and beyond.

### Revamped Antitrust and Competition Newsletter

SK innovation transformed the type of newsletter about antitrust and competition into "card news." The revamped newsletter features easy contents and quiz events, giving our employees better understanding of the concept of antitrust and competition.



#### Antitrust and Competition Compliance Training

Time	Subject	Target	Time	Subject	Target
February	Orientation for new employees; antitrust and competition training	New employees in the first half of 2019	July	Orientation for new employees; antiurust and competition training	New employees in the latter half of 2019
May	Working-level training regarding the large-scale internal transactions and the official announcement on major issues of unlisted companies	Employees responsible for reviewing the official announcement of FTC on sub-subsidiaries		Online training on antiurust and competition	All employees of SKI affiliates
	CEO seminar on Ulsan CLX on shared growth in the first half of the year	CEOs of partner companies	August	Training on subcontract in regional sites	Employees responsible for subcontract and procurement
			August	Orientation for new employees: antiurust and competition training	New employees
June	Antitrust and competition training in Tokyo branch	SKGC, SKL employees in Tokyo branch	October	Orientation for experienced employees; antiurust and competition training	Experienced employees
	Antitrust and competition training regarding Chinese business	SKI, SKGC, SKE employees in Shanghai branch		Antitrust and competition training regarding the U.S. business	SKI, SKL, SKGC, SKEA employees in the U.S. branch
	Antitrust and competition training in SKL lubricants business department	Employees in SKL lubricants business			
	Special training on B2B business	Employees in SKE B2B business	November	Online Training on antitrust and competition for global staff	Global staff in SKI affiliates
	Training on subcontract regarding battery business	Employees responsible for procurement in battery business	December	Orientation for experienced employees; antitrust and competition training	Experienced employees
				Act of request and misuse of technical materials	Employees responsible for subcontract with production partners

# Employees

Employees are at the heart of our growth and development. We strive to ensure that SK innovation provides an ideal work places where where all of our employees bring out their best in their jobs. As part of efforts towards the best place to work, we carry out a wide range of activities, including the operation of systematic human resource development programs to help our employees enhance their capabilities and the implementation of an ability-based reward system.

## Talent Cultivation System

SK innovation seeks for “talent fulfilling Pae-gi (ambition)” with a firm belief in our management philosophy. We have put in place a talent development system based on three pillars; leadership, expertise and core value so that we ultimately cultivate right talents.

## Talent Cultivation

### Business Model Innovation and Core Talents Cultivation for Greater Performance

To recruit and develop employees for future leaders who will lead changes and innovation, SK innovation identifies core talents required

for innovating business models, based on the database we have built and managed. SK innovation is also hiring more local talents to respond to our growing global businesses.

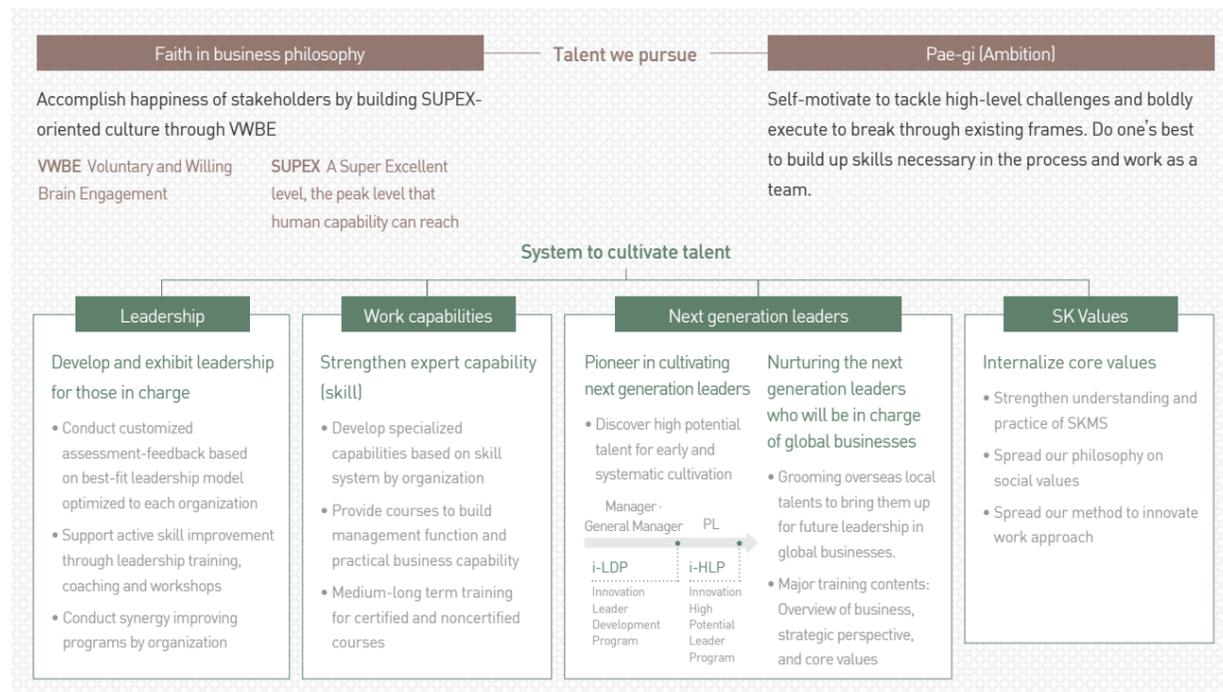
### Strengthening Digital Competency and Capabilities for the Future

SK innovation endeavors to have all our employees equipped with digital mindset. To this end, we provide digital leadership workshops for all leaders so that they can develop their core knowledge about AI and Data Literacy. General employees are given opportunities to take a basic course, called “Digital Camp.” In addition, we

operate “Business Analyst Program,” an advanced course designed to nurture specialists who will carry out our “Digital Transformation” task.

### Consolidating Capabilities for Global Businesses

We have established a job competency system for global engineers and production workers, and provide job training for them. In 2019, we created 30 teaching curriculums, 1,019 training materials and 128 video contents to train workers at our overseas production workplaces.



## Main HRD Programs

### Customized Training Programs

SK innovation is building a talent cultivation system tailored to the knowledge and capabilities required for each of our affiliates' businesses. We designed a systematic curriculum for each job type, including engineer, researcher and technical trainee, and encourage all of our employees to voluntarily take part of our training programs according to their own plans. Furthermore, we evaluate our leaders' competency, based on the “Best-fit Leadership,” yearly while creating a leadership guide tailored to each of them in order to improve their capabilities.

### Programs for Enhancing Expertise by Job Type

SK innovation runs an online and offline program designed for our employees to have integrated perspectives and better decision-making skills in their fields. The program consists of 7 courses by business function including legal, procurement, and PR, 4 courses by business field including M&A, contract and negotiation, and 8 online courses including management, leadership and foreign languages. The program allows our employees to have a better understanding of each framework by business field and function as well as the theories essential to strategic and integrated decision-making for both future leaders and experts in their areas.

### Occupational Skills Development led by Leaders and Experts

We share a wide range of subjects conducive to better performance for the transfer of capabilities through multiple knowledge-sharing programs. As part of the programs, we operate online platforms such as “Lubepedia” or “T-on,” where leaders and internal experts of our businesses post their video clips to spread their knowledge. In addition, we hold “Biz. Insight Seminars” to give our employees access to external experts' insight.

### Support for Female Talents Development

“W-Network” is our consultative group consisting of female workers dedicating to preventing unfair practices possibly faced by women in advance, and at the same time promoting a corporate culture in favor of women. We are dealing with female-related issues at W-Network, including improving policies and systems regarding women, hiring more female employees and helping them develop their capabilities and creating a female-friendly workplace to become a great place for female talents to work.

### Major Achievements

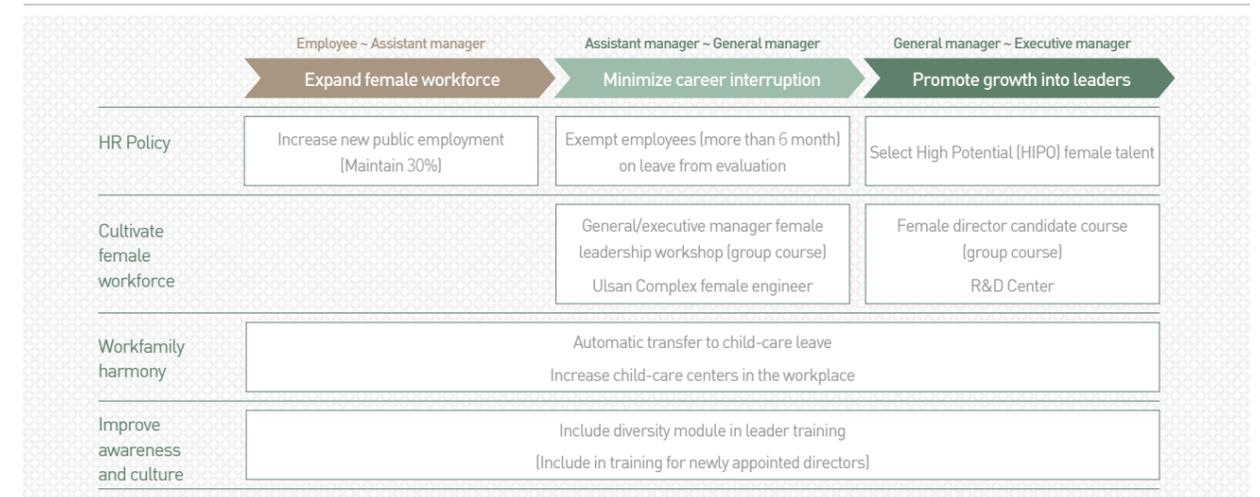
#### 2018

Institute of Technology Innovation Nurturing Program: Nurturing the female workforce at the Institute of Technology Innovation, where the largest number of female employees is working  
Operating a variety of programs on a quarterly basis (gathering of female team leaders, leadership training, mentoring program, book club, and networking between senior and junior)  
Core Talent Nurturing Program: Giving female workers more opportunities to participate in our major talent nurturing program for training in order to motivate them to grow and flourish

#### 2019

SKI Core Talent Cultivation: Creating another program to cultivate global talents (three global female workers involved) on top of the existing nurturing program  
Ulsan CLX Female Engineer Cultivation: Holding a “development/stimulation/cultivation workshop” with an aim to share concerns and give solutions regarding the development of female engineers (participated by 30 female engineers in Ulsan)  
Institute of Technology Innovation Cultivation: Each institute holds networking events and small gatherings

### Action system to solve female issues by rank



### Performance Reward System

#### Fair Performance Appraisal and Reward System

SK innovation conducts regular meetings between team leaders and members, and hosts interim review sessions on the organizational level. Based on this, we have put in place a strategic and fair appraisal system where all facets of our employees, including competency, qualification and achievements are evaluated. As part of efforts to make evaluation sound fair to our employees, we created an audit process for evaluation to be finally confirmed. And at the same time, our employees are allowed to raise objections to their results. Furthermore, SK innovation runs a performance-based reward system where promotion, cultivation and compensation are defined based on performance appraisal. Not only individual performances but also short and long-term goals regarding corporate sustainability are taken into account when it comes to the compensation policy. We evaluate and compensate our employees fair and square regardless of gender, age and academic background.

#### Performance Evaluation Reflecting Social Values (SV)

Most of the other corporations reflect financial performance in their performance evaluation to make it optimized to target achievement particularly regarding sales increase. SK innovation, however, broke away from the practice and has revamped our evaluation system to look into social value as well in accordance with our Double Bottom Line (DBL) management where not only Economic Value (EV) but also Social Value (SV) are pursued and valued. Moreover, we set of the portion of social value creation at 50 percent of KPI so that the results of activities for social value realization affect both performance evaluation and compensation for employees and teams. By doing so, we make our best efforts to establish an environment where all our employees are encouraged to be actively engaged in social value creation.

1) Eliminate-Reduce-Raise-Create

### Building Good Corporate Culture to Work

#### Continuous Internalization of Innovating the Way of Work

**Workshop on Innovative Approach at Work** “Innovating the way of work” is a corporate culture that SK innovation pursues for both better lives and sustainable growth of our employees. In 2018, we developed the “Workshop on Innovative Approach at Work 2.0” through the “Blue Ocean Shift Tool” for the purpose of promoting a better understanding as well as spreading details on how to live up to the culture. We are still holding workshops as per our employee’s request.

**Newsletter for Innovative Approach at Work** We regularly issue newsletters and “card news” presenting the best practices of innovative approach at work so as to promote the practice, which in turn, leads to the pursuit of DBL, EV and SV.

#### Action Process for Innovative Approach at Work



#### Creating a New Corporate Culture with Sharing Office

SK innovation has transformed SK Seorin Building, where headquarters are located, into the Sharing Office. This office allows free seating while the previous office had an allocated seating policy by unit from team, department, to division. We expect employees to be more creative and efficient in their jobs by interacting and cooperating more in this new environment. In addition, the office features no partition between seats, creating co-working and resting spaces. The new environment makes it easier for executives and staff members in all departments to encounter more for exchanging their ideas and perspectives with stimulated interaction, thereby improving creativity and synergy at work.

#### Active Communication Program at SK Seorin Building

Daboso Forum	Holding a standing party offering beverages and beers where a quiz event is also held under the theme of company and employees.
Let's write about happiness	Hosting a competition for literary works and paintings depicting happiness, and exhibiting prize-winning works online and offline, thereby giving our employees chances to share their thoughts about happiness. By doing so, daily conversation is naturally stimulated.
Members bringing changes to innovation	A talk show where employees themselves present their hobbies or interests as lecturers.
Let's have a meal	Encouraging people with same interests to have a meal together, thereby enabling them to build rapport by sharing their experiences, knowledge, and knowhow.
Events on anniversaries	Hosting a lucky draw on special occasions such as Black Day and Summer Holiday.
Theme Zones	Designating special theme zones in our sharing office to let people in the same zone share their concerns during or after their office hours.

### Facilitating Communication among Employees

We perform a variety of activities through online and offline channels and events to make sure that SK innovation is a workplace conducive to communication and collaboration. As part of these efforts, we selected 270 'iCON(innovation Communication ON)' as 'Change Facilitator'. Change Facilitator plays a bridging role in communication between leaders and employees, thereby enabling two-way interaction as well as employee-driven genuine communication. Along with this, 'Agile Workshop' is regularly held, with both leaders including CEO and employees participating in it. We also monitor the level of corporate culture innovation by doing surveys and interviews, whose results are used to improve our management activities and internal systems.

#### Employee Communication Channels

Channels	Contents	
Online	tongtong	With an aim of improving two-way communication, we run an online bulletin board where employees post their ideas, suggestions and inquiries about the company in real time while discussing together.
	In-house Broadcasting (GBS)	We share business management, major business developments, department activities and employees' news through our own broadcasting channel.
Offline	iCON	We designate "Change Facilitators," who serve as messengers in the workplace. Change Facilitators convey ideas about innovation and agendas which need consensus to leaders. They share thoughts and understanding of pending issues by frequently interacting with leaders (270 facilitators in 2019).
	Happy Walk	CEO, executives and staff members spend some time together in cultural or outdoor activities for candid communication. Every month, management of each company holds this event where employees and their families voluntarily take part.
	Leaders Forum	Leaders Forum provides a venue where internal and external experts give lectures to CEO, all executives and leaders on major business issues, trends, innovation and pending management issues.
	Harmonia	We operate a consulting coaching center for employees' mental health and improved capabilities. Counseling psychologists and external experts offer coaching services to employees and their families in the areas of life, career, work and family.

#### Communication for Employees' Happier Lives

##### Framework for Pursuing Employees' Happiness

Establishment of Platform/Process/Program conducive to maximized EX of Happiness  
EX(Employee eXperience, Employee experience)  
Organization, Happiness Communication Channel, Management, and Infrastructure



##### 『Happiness Talk』

We have newly set “Employees’ Happiness” as our objective function. But before firmly setting the new goal, we held “Happiness Talk” in order to share the management’s will and commitment to the new objective, and also seek for agreements of employees. Holding more than 60 talks among managements has been followed by continuous talks on the company and organizational level, thereby securing agreements on “Employees’ Happiness.”

##### 『Happiness Clan』

With the objective of “Employees’ Happiness,” we are required to ameliorate our institutions, culture and systems. Accordingly, we surveyed our employees to produce tasks for happiness and confirmed the final one through briefings and discussions at iCON workshop. Then, we created employee-driven “Happiness Clan” to ignite the process for seeking happiness. Under the process, we currently unlock three types of happiness; “Happiness created by ourselves,” “Happiness built by all together through consideration,” and “Happiness unleashed by power of optimism.”

**Welfare Programs**

**Leave Policy** A leave approval policy was repealed in line with the principle that taking leave is an individual's own right. Instead, we adopted a leave reporting system where people can autonomously take time off with a sense of responsibility. Moreover, employees are encouraged to take two-week breaks and sandwich leaves.

**Happiness Pension Policy** SK innovation implements "Happiness Pension Policy" on top of the existing retirement fund policy to promote a stabilized and better life after retirement for employees. We provide support funds as much as an employee pays, and deposit it into the retirement pension account so that employees can employ their retirement funds in a more stable manner.

**Welfare Policy** We offer a wide range of welfare programs for employees to enjoy working and more convenient lives.

**Welfare Support**

<b>Monetary support</b>	SK Happiness Card, support for individual pension
<b>Health care</b>	Support for regular health checks and medical fees (includes partner and children)
<b>Housing support</b>	Support for house purchase, deposit loan, dormitory and living expenses in case of regional work
<b>Family and child care support</b>	Holidays and care money for celebrations or condolences, maternal and child care leave, nursery or child schooling fees
<b>Hobbies and leisure</b>	Support vacation facilities, condominiums, fitness centers and company club activities
<b>Other</b>	Rewards for long-term employees

**Retiree Support Program**

We have operated a retiree support program in line with our philosophy, "creating happiness" for all stakeholders including to-be retirees, government, labor unions and employees. The program covers various areas ranging from economy, education, social life, and health care to give actual help to retirees. Furthermore, we assist employees in their activities after retirement and match retirees with external expert organizations. One to one consulting tailored to individuals' values and circumstances and group training are also provided. We allow employees and their spouses to participate together in the support program to give them chances to celebrate retirement as well as to express appreciation for the hard work of the retiree and their families.

**Work and Life Balance**

SK innovation strives to create a flexible working environment for better work and life balance. As part of our efforts, we put in place the "Smart Work System" where employees can vary the start and end of work hours while improving work efficiency by making procedures streamlined for meetings and reports. In addition, women in the early and the very last stage of pregnancy is allowed to take unpaid leave before childbirth for one month and more up to three months. "Unpaid leave before childbirth" can be used for up to 90 days, along with maternity leave in the very early or the last stage of pregnancy. On top of that, once an employee requests for maternity leave, it automatically leads to one-year childcare application, which enables women to meet the demands of work and family. We also provide a breastfeeding and break area for female workers.



**Standard Workplaces for the Disabled: Happykium, Happydidim, Happymoem**

SK innovation established three subsidiary standard workplaces for the handicapped so called as Happykium, Happydidim, and Happymoem in 2019, aiming at enabling the disabled to economically stand on their own feet as well as to be embraced in our society. By doing so, we have brought quality jobs to 60 workers with physical or developmental disabilities who are now working at headquarters and other business sites. Happykium manages the SK Seorin Building and operates a café at the Institute of Technology Innovation in Daejeon. Happydidim is a steam car wash service provider in the Institute of Technology Innovation in Daejeon and Happymoem is in charge of washing work clothes in Ulsan CLX. Through these efforts, we provide not only vocational training but also financial independence for the handicapped. In 2020, we also plan to open a café inside the battery plant in Seosan to bring more jobs to the disabled.

**Human Rights Management**

**Human rights policy**

SK innovation established various policies to prevent direct or indirect violation of human rights or negative influences on human rights in business relations including talent employment, regulations on safety, health and environment, ethics regulation, behavioral standards for suppliers and ethical purchasing regulation to strictly comply with human rights principles. In addition, we joined the UNGC (United Nations Global Compact) global sustainability initiative as of October 2007 to fulfill our obligations as a conglomerate citizen and declare agreement with 10 principles in four fields: human rights, labor, environment and anti-corruption.

**Prevent sexual harassment**

SK innovation conducts training sessions to promote awareness of human rights regarding sex and to strictly prevent sexual harassment in the workplace. We continue to provide an annual online training course, Values Curriculum for promoted employees and offline training for new and experienced employees. We also run a sexual harassment consultation center in the company. When a report of sexual harassment occurs, we form an investigation team including a female lawyer. Any employee to be proven guilty is immediately made redundant and we deal with other issues of sex in a strict and serious manner.

**Human rights risk assessment and due diligence**

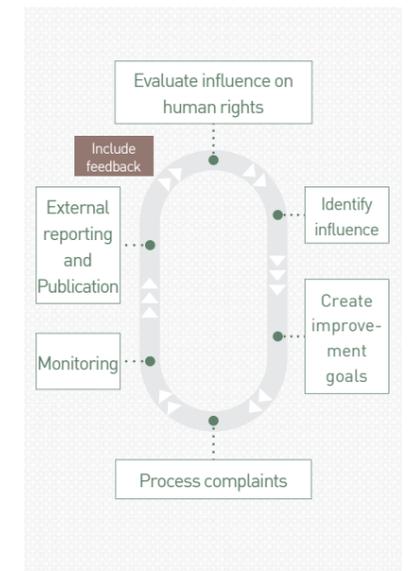
SK innovation conducts due diligence for human rights targeting employees of SK innovation subsidiaries and suppliers in order to prevent any human rights violations during business operations. Human Rights Due Diligence is defined as a due diligence process that a company is required to undergo in order to check and prevent any possible potential (or negative) impact on human rights. SK innovation regularly executes the due diligence process stipulated by international guidelines for actual human rights protection of our employees and business partners. We also ethically report our findings to stakeholders. The procedure is in the following: assessing influence on human rights, identifying the influence, setting goals for improvement, processing complaints, monitoring and external reporting and publication. Through this method, we continuously manage any effects on human rights on work sites. The human rights due diligence conducted in 2019 is stated in detail for the public on our SK innovation website.

**SK innovation Human Rights Declaration**

- 1 SK innovation respects the dignity and value as human beings for all stakeholders to realize sustainable happiness.
- 2 Based on the spirit of humanity, SK innovation makes every effort to maintain a safe and healthy working environment for all of the stakeholders to pursue happiness.
- 3 SK innovation supports and follows the human rights protection and labor standards of labor-related international organizations such as UNGC and ILO, and does not discriminate based on any grounds such as gender, race, nationality, religion or age.
- 4 SK innovation complies with the labor laws and regulations of each country or region in which human rights policy and the business sites of our company exist, and our company confirms that this policy is the fundamental obligation that all suppliers and business partners who do business with our company must comply with.
- 5 SK innovation shall designate a department in charge of human rights management and regularly conducts human rights education for all stakeholders.

Please visit our website for details related to the Code of Ethics and operating instructions.  
[http://eng.skinnovation.com/company/csr\\_021.asp](http://eng.skinnovation.com/company/csr_021.asp)

**Human Rights due Diligence Process**



# Social Contribution

Under the slogan of "Innovating Happiness," SK innovation selected three themes, which are "social Innovation," "Green Innovation," and "Happy Innovation." Centering on those themes, we carry out a variety of activities for social contribution in line with the UN SDGs.



Please visit our website for details related to social contribution activities.  
<http://eng.skinnovation.com/together/csr01.asp>

## Social Innovation

"Social Innovation" is our effort towards the creation of a sustainable and efficient ecosystem by lending support to social enterprises. SK innovation endeavors to unlock social values as well as to improve competitiveness of social enterprises through social innovation activities.

### Support for Social Enterprise Identification and Social Economy

We have been spreading the agenda for the social economy across areas where business sites are located. We have identified sustainable models and offered financial support at home and abroad, including Peru, Vietnam, Ulsan, and Jeungpyeong. We also fund a job creation project through the "1% Happiness Sharing Fund" program where our employees have participated since 2018.

### New Social Enterprises Supported in 2019

Areas	Names	Types of Social Service
Assisting Operation of Social Enterprises	Yachaywasi (Peru)	Job/Farming Village Independence
Aiding the Establishment of Social Enterprises	Manglub(Vietnam)	Environment/Job
Star Social Enterprises	Grape Lab	Environment/Job/The Disabled
Foundation of Socio Economic Enterprises in Ulsan	Fine Architecture Corporation	Environment
	Eoul Corporation	Education
	Spine Health Research Institute	Welfare
	Store 195	Job/Art
Supporting Socio Economic Enterprises in Seosan, Chungnam	Five Senses Experience	Environment/Job
	Society for Haemieupseong Fortress Conservation	Job/Traditional Culture
Foundation of Socio Economic Enterprises in Jeunpyeong, Chunbuk	Seuseuro	Agricultural Waste/Job
	Meilleur	Animal Welfare/Job
	Gongbaek, Premium Chives Juice	Sharing Economy/Job

## Support for Star Social Enterprises

SK innovation makes every effort to go beyond just charitable activities so as to discover social enterprises and make them stand on their own feet. In 2019, we additionally selected Grape Lab as a Star Social Enterprise and share our intellectual and physical assets so that the total sales of our selective social enterprises and environmental social ventures will ultimately reach KRW 10 billion.

**Morethan CO., Ltd** Morethan is a social enterprise that upcycles unrecyclable byproducts from vehicles including leather seats or airbags, making them into fashion items such as bags or wallets.

**Chunnuri Food Inc.** Jeonju Bibim Bread is a flagship item of Chunnuri Food. The company has become a successful model as Star Social Enterprise since its establishment in 2013. Chunnuri Food has contributed to the local economy vitalization in terms of job creation, local produce and production consignment.



**Usisan** Usisan is an environmental social enterprise that utilizes whales of Ulsan Jangsaengpo at risk of extinction as a cultural content, thereby making a contribution to local economy. In 2019, the enterprise collected plastic bottles from vessels in partnership with SK Energy and upcycled them into fabric and cotton for sale. Usisan won the first prize at the innovation contest held by the Ministry of Maritime Affairs and Fisheries and was awarded the prize for excellence at the Enterprise Crowd funding Contest hosted by the Korea Social Enterprise Promotion Agency. In 2019, Korea Occupational Safety and Health Agency designated Usisan as the Good Social Enterprise.



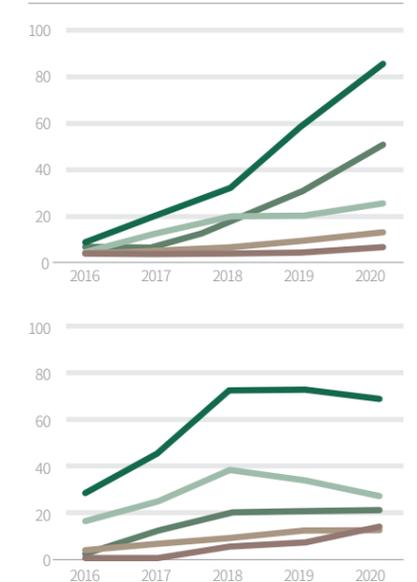
**Grape Lab** Grape Lab is our fourth Star Social Enterprise that redesigns lifestyle. The company designs and sells goods and services by transforming existing products into eco-friendly ones, using eco-friendly materials like recycled papers or non-wood papers as well as folding techniques and solar titration techniques. Furthermore, Grape Lab has assisted the youth with developmental disorder in their artistic activities, and also built a platform for mutual growth, thereby helping them gain sustainable financial independence. The company has secured 22 intellectual property rights in two years since its establishment. In 2019, Grape Lab was recognized for its professional designs by being listed among Best 7 at the Gwangju Design Biennale 2019.

### Social Value Creation of Social Enterprises

Name	Revenue (KRW 100 million)				
	2016	2017	2018	2019	2020(Expected)
Chunnuri Food	3.2	15.3	20	20.5	22
Morethan	0.9	3.5	10	30	50
Usisan	0.7	1.4	4.5	8	8
Grape Lab	0.4	-	0.4	1	4
<b>Total</b>	<b>5</b>	<b>20.2</b>	<b>34.9</b>	<b>59.5</b>	<b>82</b>

Name	Employment (Persons)				
	2016	2017	2018	2019	2020(Expected)
Chunnuri Food	18	26	40	34	28
Morethan	4	16	20	20	20
Usisan	5	8	10	11	10
Grape Lab	-	-	6	8	11
<b>Total</b>	<b>27</b>	<b>50</b>	<b>76</b>	<b>73</b>	<b>69</b>

Revenue and Employment Trends  
(Unit: KRW 100 million/Persons)



**Creation of Ecosystem for Social Enterprises**

**SV<sup>2</sup> Impact Partnering** “SV<sup>2</sup> Impact Partnering” delivers our willingness to redouble the creation of social values in partnership with social ventures. This is a new mutual growth model between conglomerates and venture companies with an aim to resolve social issues through an ecosystem where we are in coalition with social ventures. 1,000 of executives and staff members voluntarily raised investment funds, which will be used to help four social ventures secure their growth engines

**Selected as the 2019 SV<sup>2</sup> Impact Partnering Enterprise**

- Injin (electricity creation using waves),
- Marine Innovation (single-use products and biodegradable film production through marine plants)
- O2M (production of single-use oxygen masks based on the technology for breathing apparatus for astronauts), Enomad (manufacture of portable hydroelectric generator using flowing water)

**Identification and Incubation Project for Environmental Social Enterprise**

To discover promising social entrepreneurs, who can create social values for the environment with their brilliant ideas and technologies, we co-hosted a contest with the Ministry of Environment. Funds were provided to the winners of the contest for commercializing their ideas.

**2019 Idea Contest for Environmental Social Startups**

- Host: Korea Microcredit Joyful Union
- Sponsors: the Ministry of Environment and Five awarded companies presenting prizes of the idea contest
- Somuna (technology that enables refrigerating or freezing to last through battery without starting an engine electrical system, Grand Prize)
- Montsensu (upcycling waste plastics into fashion items, Second Prize)
- Hand it Back to Nature (producing eco-friendly straws, Third Prize)
- Yolk (supplying electricity through solar panels to poor households in underdeveloped countries, Third Prize)
- Bara Ceramic (producing ceramic permeable block made of mineral residue, Third Prize)

**Green Innovation**

As part of efforts to make the environment sustainable, we do protect the environment through the ‘Green Innovation’ campaign. SK innovation has all of our affiliates join this campaign. Along with this, we work with stakeholders in areas around our workplaces to do various projects for the environment.

**Protection of Ulsan Forest of Life (since 2005)**

- Working with Ulsan Forest of Life
- Cleaning up dead leaves in Ulsan Daewangam Park for pine tree protection
- Building Cool Wall in downtown area
- Planting vines and removing harmful plants
- Fertilizing trees planted in a green zone serving as a filter of fine dust
- Collecting ginkgo’s fruits on streets
- Forming Taehwa River Bamboo Forest

**Incheon 1 Company 1 Mountain 1 Stream Care (since 2006)**

- Collecting garbage and waste in Simgok River, Wonjeok Mountain areas
- Hosting EM mudball throwing(2,000 balls ) event in order to improve water quality of river

**Cleaning up Surroundings around Incheon Workplace (since 2006)**

- Cleaning surroundings in the vicinity of the workplace and coastal roads
- 10 activities in 2019 (150 employees participated)

**Incheon Eco-friendly Cherry Blossom Festival (since 2019)**

- “We Green Incheon” campaign
- Participants: United Nations Environment Program Korea and Incheon Tourism Organization
- Contents: single-use product usage reduction campaign, “Walk around Incheon to plant trees” citizen participation campaign (planting 4,300 seedlings as much as the number of participants)



**Expansion of I “Green We Green” Campaign**

The injudicious usage of single-use items has made environmental degradation worse. In response to this, we have conducted “I Green We Green” campaign so that we live in a way that protects the environment in our daily lives. The campaign stretches to daily habits that work best for the environment, thereby encouraging people to join us in environmental preservation. The campaign started with our executives and staff members, and has reached out to the public through social network or events held by local governments. The spread has also led to the donation of mangrove seedlings, which, in turn, contributes to reduced global warming.

**I Green We Green Guide**

- Building habits of using people’s own mugs or tumblers
- Replacing single-use items with eco-friendly ones, such as shopping baskets or eco bags
- Proper separate garbage collection (throwing away plastic bottles after removing wrapping papers)

**Mangrove Forest Restoration Project**

Mangrove is well-known for its ability to absorb carbon. It also functions as a natural seawall which serves as an ecosystem where various species inhabit. We established a social enterprise in Vietnam named “Manglub,” to help the company secure business funds to purchase seedlings, hire the vulnerable, and bring more profits to local residents. By doing so, we seek for creating both economic and social values. Going forwards, we plan to expand the restoration project across the ASEAN region, and plant mangrove trees in 30 hectare area until the end of 2020.

**Happy Innovation**

In order to do our part as a responsible corporate citizen, we are promoting “Happy Innovation” which refers to the activities for social contribution that our labor and management push together in unison, and making sure that more than 90% of our employees participate in our voluntary works.

**Happiness Sharing and Love Connection**

SK innovation’s 70 volunteer teams have done face to face volunteer works in the form of One on One Caring Program since the launch of “SK Angels (1004) Volunteer Group” in 2004, with all our employees involved. In 2019, we set up relationships with 33 organizations and schools supporting handicapped children and 27 welfare organizations for the aged. Each individual volunteered twice on average, spending 7.9 hours. We carried out a wide range of social contribution activities for 4,000 handicapped children and 2,000 senior citizens living alone, bringing warmth and hope to local residents. What’s more, SK innovation has been running Happy Heart Healing Camp to help caretakers for senior citizens living alone improve their self-efficacy, which results in an improved caring environment for the elderly living alone in local communities. SK innovation has been publicly recognized for these efforts. We were awarded citations as the first private company protecting the elderly from the Ministry of Health and Welfare, and also from the chairman of the Social Welfare Council. In addition, we have expanded the portion of talent donation up to 90 percent of voluntary works since 2019 while reaching out to social enterprises and social ventures we nurture by more pro bono works. This is how we advance the quality of our volunteer works for more social value creation.

**Helping the developmentally disabled Improve Sociality and Gain Economic Independence**

**National Music Festival for People with Developmental Disabilities (Great Music Festival)** Great Music Festival has been held since 2017, serving as a venue where the developmentally disabled demonstrate their talents and make their dreams come true as well as social prejudice towards the handicapped

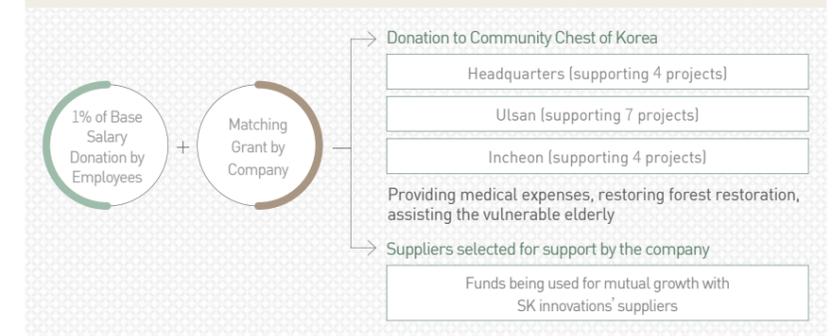
are challenged. The Great Music Festival is the largest music festival in the country for those with developmental disabilities, with 97 groups of 957 people participated. In addition, the festival gained a reputation by being upgraded into a festival awarding a prize of the Minister of Culture, Sports and Tourism in 2019.

**Number of Attendees to Great Music Festival (GMF)**

- 1st** Great Music Festival(2017)  
New Millennium Hall (800 seats), Konkuk University  
38 groups of 343 people nationwide participated
- 2nd** Great Music Festival(2018)  
New Millennium Hall (800 seats), Konkuk University  
33 groups of 299 people nationwide participated
- 3rd** Great Music Festival(2019)  
New Millennium Hall (800 seats), Konkuk University  
26 groups of 315 people nationwide participated

**Employee Donation Program**

In 2017, management and workers reached an agreement, after much deliberation, that employees donate 1% of their base salary to form “1% Happiness Sharing Fund,” and the company also joins in the form of Matching Grant to give the same amount. The fund goes to various projects we do to bring warmth to our neighbors in need, and also to projects for mutual growth with our suppliers. We try to make sure that our contributions are used for programs resolving social fundamental problems just beyond offering financial assistance. In 2019, we raised a total of 2.76 billion won (Matching Grant excluded) and allocated the fund to support projects in various areas ranging from medical care, jobs, housing and living expenses, education to global environment.



**Support Program for the Developmentally Disabled (Career Jump Up Class)** We have provided the developmentally disabled above school age with a variety of support programs, including expertise improving, career re-entry and new occupational skill programs, with an aim of enabling them to stand their own feet since 2018. In 2019, we integrated and separated the programs into two parts; re-entry and new role. Then we selected and trained 31 second-term trainees for five jobs including barista, IT, easy news, easy broadcasting, and wheel master. Furthermore, we signed an MOU with the Korea Employment Agency for the Disabled to have them connected for actual employment.

**Sports Class for Children with Developmental Disabilities** In 2017, we launched sports classes for children with developmental disabilities living in Seogu, Incheon, in collaboration with a local baseball team. The very purpose of the classes is to help those children develop both their physical bodies and sociality. On top of baseball, we are providing training classes for diverse sports. Soccer and basketball classes were added in 2018 and handball class in 2019.

**Forest Experience Class for Children with Developmental Disorder** With the purpose of developing both physical bodies and emotions of developmentally handicapped children residing in Incheon, we have run "Rainbow Forest Experience Class" since 2017.

### Programs for Mutual Growth with Local Communities

We are fully responsible for doing our part as a member of local communities where we do our business at home and abroad by doing activities for social value creation in various fields.

#### Seosan

**Support for the vulnerable and marginalized** Project to boost Tour Dure social economy

#### Jeungpyeong

**Support for the vulnerable and marginalized** Making and Sharing Kimchi Project on identification, establishment and support of social economy

#### Ulsan

Awarding SK Happiness Scholarship to University of Ulsan

Awarding scholarship to nearby elementary schools

#### Education

Building dreams for the youth in low-income families

Support program for the out-of-school youth

#### Culture and welfare

Ulsan Rose Festival

Hosting contest for social enterprises

Happiness package for welfare blind spots

#### Support for the vulnerable and marginalized

Job creation for the vulnerable  
Support center for crime victims  
Project to prevent senior citizens with dementia from going missing

Providing families of veterans with education programs on how to prevent dementia

#### Incheon

Personal book mentoring, "Rain Shower" for elementary schools

Providing science play class for elementary schools

#### Educational

Offering job experience class to middle schools

Giving mentoring programs with Yonsei University to middle schools

Science Mission Camp for middle schools

Sports class for children with developmental disabilities

Eco Forest experience class for children with developmental disabilities

#### Culture and welfare

Eco-friendly Cherry Blossom Festival in Incheon

Neighborhood Festival

Aerobic class

School Day for Professional Baseball

Seogu Kimchi Making Festival and Parents' Day

#### Mutual Growth Worldwide

Empowering program, Jackson, Georgia

Supporting College & Career Center

Donation to fire and emergency medical service center located in Freeport, Texas

#### The U.S.

Sponsoring Peruvian Prosynergy, agricultural social enterprises / Supporting a project for nurturing more teachers

Providing air purifiers and education on environment for an elementary school in Gonicha, Poland

#### Europe

Donation for equipment workers' health, social service, and public firefighting in Komarom, Hungary

#### Asia

Supporting Mangrove Forest Restoration project in Vietnam

Establishing and sponsoring social enterprises offering lubricants service

## Sustainable Supply Chain

Sustainable issues regarding sustainable chains, such as human rights, environment, and security issues, make growing impacts on corporate reputation and business, giving rise to the significance of supply chain management. Accordingly, SK innovation established a system for supply chain management and regularly assesses and monitors our suppliers' risks as part of efforts for the sustainable supply chain.

### Policy and System for Supply Chain Management

#### Policy for Supply Chain Management

SK innovation takes into consideration two factors; financial and non-financial ones for the management of our supply chain. Financial factors include cost competitiveness (Total Cost Ownership), quality (Reliability) and on-time delivery (Customer Service Level) while non-financial ones cover the management of SHE (Safety, Health, Environment) and corporate social responsibilities including human rights, labor, environment and anti-corruption. Besides, we share our own "Code of Conduct for Suppliers" with our suppliers. We also concluded General Terms & Conditions (GTC) with overseas suppliers and ask them for compliance with our SHE management and the prevention of unethical operation through our Code of Ethics. Furthermore, we evaluate and monitor all of our suppliers' risks on a regular basis even after business relationship is established.

#### Seeking for Stakeholders' Happiness

Stakeholders of SK innovation's supply chain include not only our suppliers but also the community. Accordingly, we have to mutually grow with our suppliers for our stakeholders' happiness and also to contribute to the society through social value creation, and SK innovation spares no effort to realize this.

**Principle of Transparency** We established and have followed "Bid Evaluation Guide," a tender procurement process, for fairer and more transparent procurement procedure. We impose strict limits when it comes to private contract. With doing this, SK innovation strives to make sure that we provide a healthy ecosystem for business and a level playing field.

**Main contents of ethical regulation for purchasing**  
Antitrust and competition CP, transparent transaction, regulation and global agreements (Universal Declaration of Human Rights, UNGC, etc.)

**Main contents of code of conduct for suppliers**  
Human rights and labor, safety and health, environment-friendly business sites, compliance with company ethics, prohibit use of conflict minerals), establish management system, etc.

**Main contents of bidding guide**  
Principles for selecting suppliers, role and responsibilities, detailed guidelines, etc.

#### 2018 Supplier Status

(Unit: Number of companies, %)

Type	Number of suppliers	Purchase ratio
Tier1	All Suppliers <sup>1)</sup>	2,893 -
	Critical Suppliers	120 85
Non-Tier1	Critical Suppliers <sup>2)</sup>	119 -

1) Suppliers with transaction records in the past 3 years

2) Contractors that provide large-scale construction or services for production plants or exceeding certain quantities for products (Data from Happy Narae, SK E&C)

### Status of Supply Chain

#### Management of First-tier Suppliers

SK innovation sorts out and manages our primary suppliers based on their trade volume, irreplaceability, possession of core technologies and the possibility of risks posed by non-financial factors (ESG). Our major suppliers are large-scale construction service providers at our manufacturing plants in Ulsan, Incheon, Jeungpyeong, Cheongju and Seosan, and providers of raw and subsidiary materials essential to our business. Especially in 2019, a spin-off of materials business and the expansion of our battery business gave rise to the gravity of the relevant suppliers, thus, we have managed and worked with equipment and component providers for technology development.

#### Management of Second-tier Suppliers

SK innovation expands the scope of our management to our second suppliers (Non-Tier 1), taking into account trading volume and various risk factors. In 2019, we worked with our audit team to develop checklists and set standards to discover unethical business practices and power abuses occurring between primary and secondary suppliers (prime contractors-subcontractors). In addition, we provide training on our ethics management for our second-tier suppliers.

### Cases of Supporting the Developmentally Handicapped in Standing their Own Feet

IT position: A trainee, Jeong Min-jae, completed the first Career Jump Up Class where he took an easy voice acting class. The camp gave him a chance to discover his talent. He did narrations on GBS and served as a host at a press conference of the company. Currently, he works for Humanaid as a reporter.

Barista position: You Seok-hun trainee obtained a certification to become a barista through Career Jump Up Class in 2018. He took part in five coffee sharing events called "1% Sharing, 100% Happiness" at our five workplaces, now working as a barista at the café in SKC&C located in Pangyo.

Please visit our website for detailed information regarding Purchase Code of Ethics and Code of Conduct for Suppliers.

[https://www.skbiok.com/contents/eng/code\\_of\\_conduct.html](https://www.skbiok.com/contents/eng/code_of_conduct.html)

### Management of Supply Chain Sustainability

SK innovation manages economic, social, safety and environmental risk targeting new and existing suppliers. We monitor financial risk factors in realtime based on credit rating institutions and review non-financial risk factors by inspecting work environment or SHE periodical evaluation targeting suppliers with high risk potential. Through our regular reviews and visits, we provide benefits to suppliers with exceptional results such as bond waiving and right to move for maintenance workers among others. Companies that do not meet our standards receive instructions for improvement or termination of partnership.

#### Social value creation within the supply chain

SK innovation engages in various efforts for suppliers to create social value. In particular, we included sustainability as an evaluation standard in our periodical evaluation in which suppliers in charge of the Ulsan and Incheon areas participate. In the future, we will use these results in distributing goods to suppliers to encourage them to voluntarily participate in creating social value. In addition, we will create a two-way platform easily accessible for suppliers within our integrated

purchase system (BIOK) and Tech Solution Pool (iStep) for active communication. The platform will not only introduce social value creation of SK innovation but also collect ideas to create social value targeting suppliers.

#### Corrective measures

SK innovation establishes corrective measures for companies in need of improvement based on our assessment to demand they improve risk factors (including ESG risk). These efforts have led to 43% of high-risk suppliers improving on their risk factors. Despite the efforts, 5 companies were

met with measures according to the supplier assessment and evaluation in 2019 (unethical issues, breach of fair transparent trade) and there is no company deemed to have seriously breached regulations.

#### Ethics Survey on Supply Chain

SK innovation conducts surveys on our ethics management under the control of our audit team. We survey executives and staff members of our business partners who have done business with SK innovation and our affiliates in order to find out our level of ethics management, any violations

Result of Risk Corrective Measures 2019<sup>1)</sup>(Unit: %, Number of companies,)

Type	Results
Ratio of high-risk suppliers that established improvement plan	43
Ratio of suppliers that improved ESG performance within 12 months of establishing plans to improve	100
Number of suppliers terminated from transaction	5
• Number of temporary termination	5
• Number of permanent termination	0

1) Included 1<sup>st</sup>-tier and 2<sup>nd</sup>-tier suppliers

2018 Sustainability Risk Assessment Status (Unit: Number of companies, %)

Type	Major factors for risk evaluation	Supplier in assessment	
		Scope	Number of suppliers with high risk (ratio)
Economy	Financial risk such as change in credit rating/financial information, administrative issue	All suppliers (Total of 2,983 companies)	23(0.8%)
	Unfair trade acts including cartel, violation of ethicsrelated regulations, etc.		
Society	Human rights, labor	562 suppliers including suppliers providing construction or services in work sites, those that handle chemical material and battery core and sub material providers	166(19.4%)
	Conflict minerals		
Environment	Large-scale safety/ environment hazards (oil spillage in sea, emission, etc.)	562 suppliers including suppliers providing construction or services in work sites, those that handle chemical material and battery core and sub material providers	166(19.4%)
	Violation of environment regulation/legislation		
	Design/management standards of SHE management system		

2019 Risk Assessment Results (Unit: Number of companies, %)

2023 Target for ratio of sustainability risk evaluated supplier 100%			
• Includes all suppliers (Tier 1) and all critical suppliers (Non-tier 1)			
Type	Number of suppliers	Ratio	
Tier 1 supplier	All suppliers	2,893	-
	Assessed suppliers	2,893	100
	• On document	2,762	95.5
	• On site <sup>1)</sup>	77	2.7
	• Third-party assessment <sup>2)</sup>	54	1.9
Above tier 2 supplier (Non Tier 1)	Suppliers in high sustainability risk	188	6.5
	Critical Suppliers	119	-
	Assessed Critical Suppliers	119	100
	Critical Suppliers for management	88	73.9

1) Includes periodical annual assessment while conducting large-scale construction or services in major production plants such as Ulsan and Incheon  
2) High fair trade risk companies, includes annual government assessment from commission for shared growth

or illegal trading. In 2019, we surveyed 1,172 companies excluding overseas corporations, large conglomerates and SK affiliates, and, randomly selected 30 companies among them to conduct on-site inspection with due diligence. The final results were reported to the CEO, and this clearly demonstrated how much we are committed to ethics management. The survey conducted in 2019 showed us positive results except for partial essay questions. There were no detailed reports on unethical behaviors, but 70 out of 1,107 corporations answered with suggestions for improvement in essay questions. We shared the cases with our employees so that they will be more cautious about those issues.

### Mutual Growth with Suppliers

SK innovation seeks for mutual growth with our suppliers. Accordingly, we run a variety of assistance program to support them in technology, management, training and finance for their long-term growth.

#### Management Support

SK innovation has carried out diverse management support programs. Following 2018, we held a 'job fair for suppliers' in Ulsan to help them secure

great talents in 2019, and also provided training programs for their new employees. Besides, we started offering purchase-related pro bono activities to social enterprises in assistance of their promotion. By doing this, we supported their purchasing procedures including raw material sourcing and contracting in regard to equipment installation.

#### Financial Support

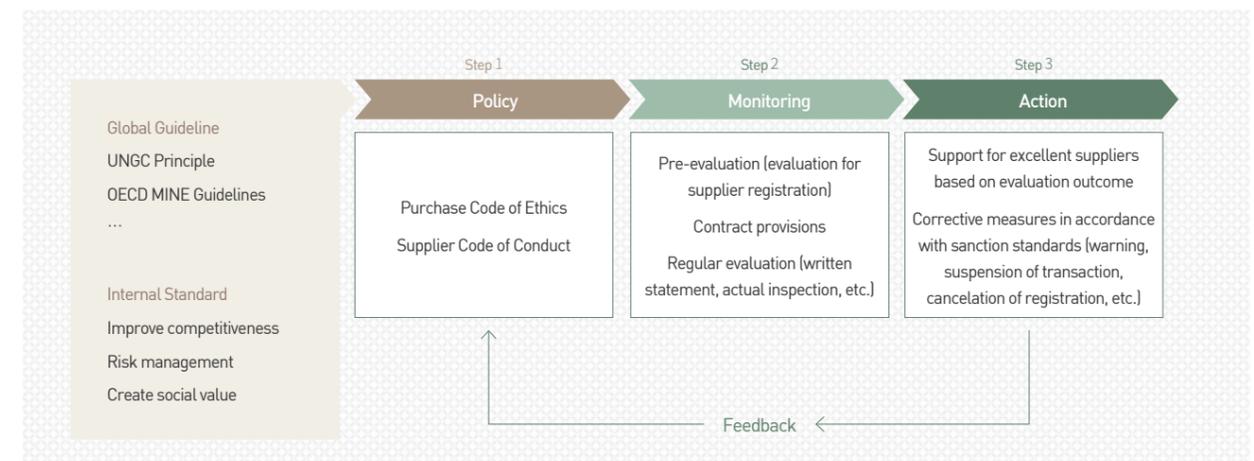
We make 50% of construction payment in cash within a week after construction begins and the rest within a week after construction finishes in case of major projects so that our suppliers run their businesses in a stable manner. We provide a wide range of support programs ranging from a direct financing support where we fund directly suppliers, an indirect support one through Network Loan and a credit guarantee support through mutual growth assurance agreement. In addition, a fund for mutual growth is formed for our suppliers in urgent needs of fund for business operation to take out a loan at a low interest rate. In 2019, SK innovation donated KRW 12 billion and SK global chemical KRW 22 billion for the financial assistance. SK innovation and our affiliates have operated the mutual growth fund worth 82 billion won, and the whole funds raised by SK innovation and 70% by SK global chemical were used.

We plan to expand our financial support for the development of materials and battery businesses.

#### Training Support

SK innovation offers diverse capability building programs to help our suppliers fundamentally sharpen their competitiveness. We have transferred our management know-how on strategy, finance and human resources to our suppliers' CEOs. "Mutual Growth CEO Seminar" has been held in Seoul every month and Ulsan in first and second halves of the year with an aim of providing information on new technologies including artificial intelligence or big data. Along with this, we provide SHE consultations, cope with subcontract issues and handle complaints. For our suppliers' middle management (vice general and general manager), we have operated "Mutual Growth MBA" designed to offer what the jobs actually require. The Chinese visiting program was also launched in 2019. On top of that, we developed training programs for entry level in partner companies, and conducted first training session in February 2020. We surveyed the program to verify the effectiveness of it, and how to improve the program is currently under discussion.

Sustainability management system for supplier



**Technical Support**

SK innovation works with our suppliers for joint technology development to help them achieve equipment localization, joint patent applications, development of high value-added products and joint overseas expansion. We established a win-win process by working together with our suppliers. The collaboration particularly for product development and patent application enables our suppliers to expand their sales by selling their new products not only to SK innovation but relevant companies while allowing SK innovation to localize the items that are used to be imported, thereby resulting in better competitiveness in production cost. In addition, we plan to add a new indicator, "Assisting SMEs overseas expansion" in our social value creation metrics in 2020 to lend support to our suppliers. A platform for sharing technology, named iStep, has been built to introduce what is required for plant operation and receive applications for the training. By doing this, we let our suppliers to request for sharing of some of resources and equipment facilities, or for training and information on solution.

**Evaluation of Corporate Partnership Index**

SK innovation is working in multidimensional ways to create happy partnerships with our suppliers by strengthening support in fields of actual needs and activating mutual communication among other efforts. In particular, SK global chemical was recognized for its efforts for mutual growth through its exclusive department which focuses on corporate partnerships. This led to an excellence rating for the 7th consecutive year in the Evaluation of Corporate Partnership Index in 2019 by the Corporate Partnership Commission. This is unprecedented in the chemicals industry, as well as being selected as the grand honorary corporation.

**Social Value Creation across our Supply Chain**

**Boosting Creation of Social Value through our Supply Chain**

SK innovation has made strenuous efforts to encourage our suppliers to create social value. As part of our efforts, we included an indicator regarding sustainability in the regular evaluations of our suppliers in full charge of Ulsan and Incheon, and reflected the results of the assessment, thereby providing an environment where our suppliers voluntarily create social value. Besides, we have built two-way platforms within our BiOK, the comprehensive procurement system and iStep, the technology sharing platform, which can be easily accessed by our suppliers. Through BiOK, we introduce the concept of social value creation and collect ideas on how to create value while sharing resources, equipment, facilities, and information on technologies and solutions through iStep. This is how we boost social value creation across our supply chain.

**Realization of Social Mutual Growth through Mutual Fund**

Our management and labor union work in unison to operate a mutual fund program for suppliers as part of the happiness sharing fund. The happiness sharing fund is raised by our employees donating 1% of their base salary and by the company providing fund in the form of matching grant. The mutual fund program is to deliver the happiness sharing fund to our suppliers in all fields across equipment, production, cafeteria, security and cleaning. The transferred fund is used to reduce wage bipolarization between mid-sized suppliers and large conglomerates. In 2019, SK innovation raised a total of KRW 5.12 billion, and KRW 2.56 billion out of it went to 5,283 people in 73 partner companies.

**Social Value Creation Plan Through Two-way Platform**



**Responsible Procurement**

As growing demand from stakeholders for the fulfillment of corporate social responsibilities comes with the expansion of the electric vehicle market, SK innovation has pursued responsible procurement while securing a stable supply chain. We impose a ban on conflict minerals use in accordance with our Code of Conduct for Suppliers. The procurement Code of Ethics and the Code of Conduct for Suppliers are also established to systemically manage each stage of the process from company registration, evaluation and purchase agreement.

**Joining Global Battery Alliance (GBA)**

SK innovation became a member of "Global Battery Alliance (GBA)" seeking for the efficient use of battery, and announced that we would follow its 10 principles for the establishment of a sustainable battery value chain. GBA is an alliance built with the purpose of pursuing shared benefits of stakeholders in the battery industry as well as jointly resolving environmental and social issues. The principles unveiled by the alliance include building a circular economy through the recycling and reuse of battery, establishing a low-carbon economy through the mitigation of greenhouse gas emissions and prohibiting the exploitation of children.

**Responsible Raw Material Sourcing**

SK innovation signs multi-year supply contracts with selected raw material providers in compliance with ethical sourcing. By doing this, we secured stable supplies of lithium and cobalt while building our sustainable supply chain underpinned by responsible raw material sourcing.

Meanwhile, SK innovation entered into a long-term supply contract with the world third biggest Chinese lithium producer, Tianqi Lithium, for up to 50,000 tons of lithium hydroxide from 2019 through 2024. Tianqi Lithium puts in place its own "Responsible Procurement Policy" and thoroughly manages its supply chain. On top of that, we came into a long-term contract with Glencore in Switzerland, the world largest cobalt company, for 30,000 tons of cobalt supplies from 2020 through 2025. Glencore annually goes through external auditing over its production process in compliance with "Cobalt refinery supply chain due diligence standard"

**Dissemination of Social Value across Suppliers**

SK innovation has met with our suppliers for communication so that they better understand social value and raise the shared awareness on them. In April 2019, we held a meeting with our suppliers and launched a channel for communication with them within our procurement system in June. What is more, with the purpose of supporting our suppliers' engagement in social value creation, we decided to introduce social enterprises and to reflect 10% of their performances toward social value in the criteria of the evaluation for equipment suppliers.

**What is Global Battery Alliance (GBA)?**

The Global Battery Alliance (GBA), built in the second half of 2017 at the World Economic Forum, is a global collaboration platform which serves as a venue where various stakeholders in the battery industry participate and cooperate for increasing economic values as well as resolving environmental and social issues.

**10 Guiding Principle for Sustainable Battery Value Chain**

- 1 Maximizing the productivity of batteries in their first life
- 2 Enabling a productive and safe second life use
- 3 Ensuring the circular recovery of battery materials
- 4 Ensuring transparency of greenhouse gas emissions and their progressive reduction
- 5 Prioritizing energy efficiency measures and substantially increase the use of renewable energy as a source of power and heat when available
- 6 Fostering battery-enabled renewable energy integration and access with a focus on developing countries
- 7 Supporting high quality job creation and skills development
- 8 Immediately and urgently eliminating child and forced labor, strengthening communities and respecting the human rights of those affected by the value chain
- 9 Fostering protection of public health and the environment, minimizing and remediating adverse impacts in the value chain
- 10 Supporting responsible trade and anti-corruption practices, local value creation and economic diversification

# SHE Management

SK innovation minimizes adverse effects created through our business activities through the prevention of safety accidents and the reduction of pollutant emissions. Taking one step further, we create a safe and pleasant working environment so that we can realize safety and environment management that all of our stakeholders trust. SK innovation seeks for no accident and the management in favor of the environment based on our management philosophy, "human-oriented management." To this end, we have been carrying out intensive activities for safety, health, and environment.

## SHE Management System

### Reinforcing SHE Management System

SK innovation has established its company policy on managing safety, health, and environment. Annually, CEOs of SK innovation subsidiaries deliver their signatures to show determination for successful safety, health, and environment management to our stakeholders. In addition, we analyze global companies in their core management factors for safety to define 13 items

which include those factors. These items were included in our company regulations and detailed process for execution. Furthermore, we conduct activities to improve execution based on CEO leadership. We have built a positive cycle to "Plan-Do-Check-Action" through regular inspections of adequately executed items for improvement and modification.

In 2019, we checked the status of international standards over our management system and made workplaces renew their certifications in case of their standard certificates expired. SK innovation Battery Production Technology Center was reexamined to be ISO 14001 (Environment) certified, and switched from OHSAS 18001 to ISO 45001 (safety) so that we can proactively respond to the international SHE management system.

### SHE Management System Framework



### SHE Certification Status

Type	Work site	Certification expiry date	Type	Work site	Certification expiry date
ISO 9001	SK energy	2020.11.30	ISO 14001	SK innovation (Seosan)	2022.12.23
	SK global chemical	2020.11.30		SK energy	2020.11.08
	SK incheon petrochem	2020.11.30		SK global chemical	2020.06.12
	SK lubricants	2020.06.03		SK lubricants	2021.06.17
IATF 16949	SK innovation (Seosan)	2021.08.02	ISO 45001	SK incheon petrochem	2020.11.08
	SK lubricants (Lubricants)	2021.06.10		SK innovation (Seosan)	2022.12.23
	SK lubricants (Base oil)	2022.12.02		SK Institute of Technology Innovation	2021.11.27
	SK ie technology	2021.01.08		KOSHA MS	SK incheon petrochem

## Industry Safety and Health

### Emergency response system

SK innovation operates an emergency response system to prevent SHE hazards from external risk including fire and explosions, gas or oil leaks, typhoons, storms, earthquakes and electricity outage. For systematic management, we have established "entire company emergency response management regulations" and "management process for emergency response by work site" to train the entire company and sites to respond in a flexible, prompt manner. We conduct on-site response training under the guidance of chief on site or head of plants based on the emergency response headquarters and on-site strategy headquarters and create UCCs by emergency case for training to maximize training effects. We have a pre-appointed organization by work site in times of emergency for prompt communication and response at times of accidents. We are also invested in preemptive response by installing security equipment based on production process and other methods. Also, we categorize our emergency cases (level 1~5) and conduct collective response training to prepare in case accidents aggravate to level 1 or 2.

### Joint Emergency Response Drill

SK innovation conducts joint emergency response drills to minimize risks in the event of an accident at work. Taking into consideration damage scope and the possibility of spread, we rank emergency situations on a scale of one to five, and prepare ourselves for rank 1 and 2 where damage can spread. Besides, this regular drill provides our employees as well as executives of all levels with a better understanding of the emergency response process and roles by organization and function. In 2019, we implemented emergency evacuation training without notice, targeting all employees including our suppliers. In response to possible chemical leak, fire or explosion, SK ie technology and its suppliers conducted joint exercises on a quarterly basis, and also fire drills in collaboration with the Jeungpyeong Fire Station.

### Promotion of Safety Culture

SK innovation Battery Production Technology Center published and distributed "SHE Pocketbook" to train our employees and suppliers about safety. The booklets make it easy to understand past accident cases and safety regulations required for each stage of the process with photos added to raise safety mindset of our employees and suppliers.

In addition, SK innovation Institute of Technology Innovation holds regular SHE meetings on a quarterly basis, with all our employees attending. The SHE meeting aims to share the results of SHE

reviews by research institute and best practices, which contributes to improvement in facilities and enhanced safety awareness of researchers. On top of that, SK ie technology developed SHE teaching materials tailored to materials plant and put them at security offices so that our employees have easy access to recent SHE-related issues and have better understandings. SHE-related issues are also delivered through our LED board as part of efforts toward improved safety awareness.

### SK innovation Battery Production Technology Center



#### Conducting SHE Workshop

SK innovation has held regular workshops on accident prevention as well as reinforcement for compliance with "Safety Golden Rule." With our employees and suppliers' supervisors and SHE-related workers attending, safety agendas for accident reduction, including safety training and the establishment of standards of safety work, are discussed. By doing this, we are all committed to spreading a safety culture.



#### Installing and operating display devices of SHE-related video

We installed monitors in 15 places including staff lounges and the access to process workplace to play SHE-related videos around the clock as part of safety training to our employees and workers from partner companies. This gives the workers easy and frequent access to SHE-related information, resulting in improved safety awareness.



#### Establishing Safety Experience Center

To prevent production suppliers from having safety accidents, we established a safety experience center in 2019. The center aims to prevent especially three representative disasters frequently occurring in battery plants; being caught, being cut, and fire. The center serves as a venue for employees in business sites including our suppliers' workers to experience what it will be like when an accident happens, and to be trained for accident prevention.

**Enhancement of SHE Leadership in Business Sites**

SK innovation strives to make sure that our SHE culture reaches the global level and our employees improve their SHE leadership. As part of the efforts, SK ie technology has established and adopted an evaluation system where our employees write their SHE leadership practices individually and then check the level of implementation. The assessment results of actual implementation and its effects are also reflected in individual performance, which thereby leads to our employees' enhanced SHE leadership. In addition, SHE leadership-related experts were also invited to give a better understanding of SHE-related regulations, and also to help on-site leaders sharpen their decision-making skills and insight. Besides, SK ie technology has made every effort

toward better SHE leadership through training designed to deliver various cases regarding safety leadership or global management methods applicable to our business sites.

SK incheon petrochem underwent an assessment to figure out its safety level in 2019 through Dupont which has been globally recognized in the safety management area. As a follow-up measure, we are working with Dupont to operate a safety leadership program where CEO, executives, PL and technical leaders in each field participate. By doing this, leaders can be equipped with better safety leadership and a better understanding of their role as a good leader, thereby playing an active role in transitioning into a safety culture as well as making progress in safety.

**Operation of occupational safety and health commission**

SK innovation operates an Occupational Safety and Health Commission in accordance with Industry Safety and Health Law. The commission is composed of the same number of members from company management and the workforce which includes the workers' representative and management representative. The commission improves the work environment for employees as managers and workers discuss and decide on important issues on safety and health to prevent industrial hazards through methods such as raising awareness or improving work uniforms.

**Supporting Suppliers' SHE Management**

**Employee Health Care**

SK innovation provides systematic health care to employees so that they can concentrate on their work. We operate a company affiliated clinic in the Ulsan Complex and we provide consultation and programs to improve healthy habits in employees and executives.

In 2019, we held an event on Health Day to invite external nurses, industrial health doctors and specialists to our business sites so that our employees receive medical consultations. Through the program, we provided individually customized information through special equipment for the wellness of our employees.

**Cooperation Program for Shared Growth in Safety and Health**

SK innovation has conducted diverse activities in partnership with our suppliers to improve our overall workplaces and prevent industrial safety accidents. As part of these efforts, we run a collaboration program to help our suppliers assess their hazards, get KOSA 18001 certification, establish a corporate climate abiding by four core safety rules, and receive CPR training. In 2019, Ulsan Complex, materials business department and the Institute of Technology Innovation were rated S, which only top 10% deserves. Besides, we evaluate our suppliers' level of safety and health, and reward them according to the results, thereby encouraging and motivating them to more focus on their safety and health management.

**Funding Suppliers' Action on Lowering Risks**

To financially help our suppliers complement their safety facilities and purchase safety gears, SK innovation funded our suppliers to purchase 16 safety-related products including safety helmets, safety signs and safety facilities in 2019. We will continue to further support our suppliers' risk management with expanded budget to prevent prolonged exposure to danger in the event of emergency situation.

**System Establishment of Hazard Prevention and Control**

In order to efficiently prevent accidents and minimize legal risks, SK innovation built a practical system for change management tailored to materials plant by establishing a work process including daily operation and regular shut-down.

**Consolidating SHE Management in Global Projects**

We try to ensure more strategic SHE management as SK innovation affiliates are simultaneously building their plants across the globe. In case of global projects, SHE requirements vary depending on country, which causes difficulty in risk identification. Undefined risk factors in regard to SHE management make it trickier to give suppliers proper requirements, which leads to possible SHE accidents or violations against relevant regulations. In response to this, SK innovation defined clear SHE management standards by country, and has thoroughly checked the abidance by the standards for the SHE management of global projects. Going forward, SK innovation seeks for reinforced SHE management so that we comply with local SHE-related regulations, thereby preventing local safety accidents and earning more trust from our stakeholders as a corporation abiding by the SHE-related laws.

**Plan for Reinforced SHE Management**

Global project characteristics	Management plan
Need for purchasing a new business site	Land purchasing and selecting considering SHE-related risks
Various SHE-related laws and cultures by country	Identification of high-danger SHE risks through Conceptual HAZID <sup>1)</sup>
Local employment (foreigners) Workers <sup>2)</sup>	Establishment of SHE management system through local PMC <sup>3)</sup> or SHE-related experts

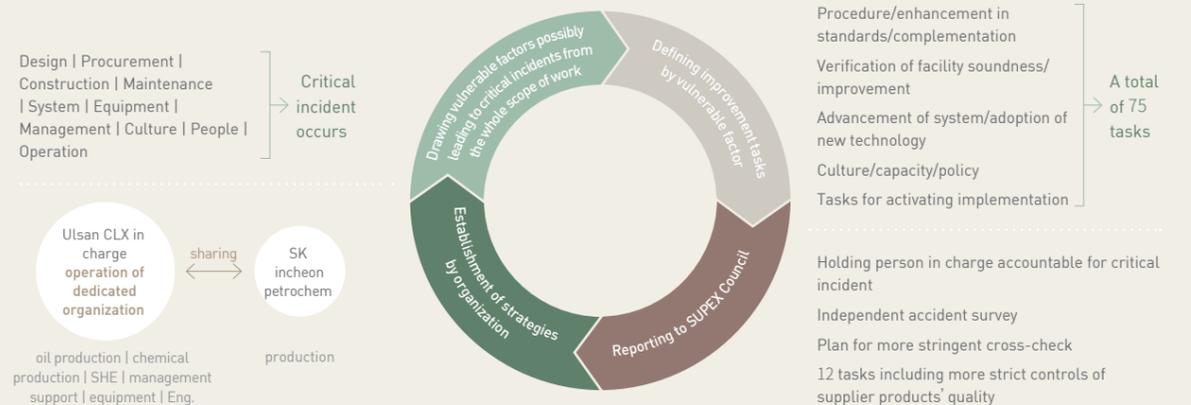
1) HAZID (Hazard Identification Study): Risk assessment  
 2) Local talents will make up the most of workforce in charge of operation in the future  
 3) PMC (Project Management Consultant): PMC is hired when the project owner [our company] dispatches a small number of workers to local business sites. We also adopt PMC in our battery project including SHE field in the U.S.

**Project Management by Stage**



**Boosting Action on Eliminating Critical Incidents**

SK innovation Ulsan CLX designated the year of 2019 as the first year to lay the foundation for eradicating critical incidents. We are well aware that critical incidents are high-risk hazards not only damaging corporate social value but also causing the loss of life. Accordingly, we have made strenuous efforts in various angles toward the prevention of critical accidents through supervision and constitutional improvement. As part of these efforts, we organized "Critical Incident Eradication Unit" responsible for comprehensive management to draw vulnerable factors possibly leading to critical incidents from the whole scope of work. Then, we produced 7 tasks and strategies to fundamentally ameliorate the factors. In 2019, we focused on improving and complementing the basics; procedure standards, supplementing employee capacity enhancement program and consolidating responsible management. On top of that, we reviewed the level of completion of finished tasks for the improvement based on our "Critical Incident Eradication Consultative Body." We have reviewed not only completion level but also the implementation process to ensure that the finished tasks are well delivered on site. Along with this, we are committed to employees' enhanced awareness as it is crucial for all of our employees to recognize the gravity of accident prevention, and to participate in these prevention efforts.



### Ensuring Safety through Regular Overhaul

SK innovation Ulsan Complex focuses on ensuring safety of our suppliers' workers during regular overhauls when the replacement of facilities and maintenance works are being simultaneously done. During the maintenance periods, we form a SHE committee consisting of our suppliers and our workers from production, equipment and SHE-related departments so that it serves as a control tower to discuss what to do for a safe environment for work. On top of that, we established "Safety Golden Rule" in 2019 in the aid of our suppliers' accident prevention, and underwent a preliminary safety and health assessment in 2020 through an external expert organization before we did maintenance work in sulfuric acid area. Along with this, we have made preemptive efforts toward safety. The efforts include shutting down our plant during regular overhauls, operating 'High Flare Real time Monitoring System' when we start up the plant, and putting fire trucks around where major work is done to sprinkle water as a preventive measure during high-risk operations.

### Enhancing Suppliers' Safety and Health

Since 2019, SK innovation Ulsan Complex has supported our suppliers through various programs such as providing training on how to wear an air respirator, measuring gas before entering enclosed spaces, offering training for workers for emergency standby, educating safe

moped driving and issuing certificates. In addition, we revised the process for the issuance of work permit in March 2019 to improve the capabilities in on-site implementation. Suppliers are also encouraged to reconfirm the execution of work permit during their Tool Box Meeting (TBM) before they get down to work.

### Management of Chemical materials

In proper response to more stringent regulations on chemicals coming with growing concerns about them, SK innovation has established a comprehensive management system and procedure for chemical materials so that workers in charge better understand how harmful and dangerous materials they are handling. Besides, we have taken appropriate measures for safety and health to avoid chemical accidents for the sake of our workers and residents.

### E-MSDS system

SK innovation established an e-MSDS System to manage material safety data sheets (MSDS) that we stored in document into a system. The existing system only allowed viewing or searching for MSDS but we implemented a chemical materials information database and MSDS algorithm to the new system to add the MSDS creation function. The function allows employees to create MSDS in accordance with global standards. We anticipate

providing prompt, accurate and trustworthy information on materials to stakeholders in Korea and abroad.

### Registration of Chemical Substances

In compliance with the "Act on the Registration and Evaluation of Chemical Substances," SK innovation identifies all chemical materials we manufacture and import in order to report and register information regarding the harmfulness of these materials and our activities for minimization of their exposures to the environment and human to the government. On top of that, we founded a "Joint Registration Consortium (Korean Petroleum Association and Korea Petrochemical Industry Association)" in partnership with other companies in the same business to play a leading role in producing and purchasing information on harmfulness of petrochemical substances, and to negotiate with European parties who hold this information. The harmfulness information earned through the registration and guidelines on safe usage are registered in our e-MSDS system so that our customers can access to the information through this system as well as our Manage Material Safety Data Sheets (MSDS), which enables the safe use of chemical substances.

### Establishment of Unattended Gas Detection System in Confined Space

Ulsan Complex has instituted an IoT-based system for unattended gas detection in confined spaces and a remote monitoring system which allows real-time measurement and swift response through fast detection of abnormal events. Real-

## Action on Climate Change

### Governance for Responding to Climate Change

In compliance with the Paris agreement, SK innovation reset our reduction target of greenhouse gases emissions while establishing and operating a response system at group level to set a road map for curbing climate change containing the path toward the mitigation of carbon emissions. In particular, we are operating the subcommittee for the environment under the energy chemicals committee among the SK SUPEX council, which is SK group's highest decision-making body. A task force team has been formed and operated to secure concrete means for the reduction as well. The TF team in the subcommittee for the environment has been discovering the means for the reduction and measuring those effects, reviewing various methods to publicly release them.

We fully endorse the needs for taking action on climate change at the management level. Thus, our strategy and risk management committee consisted of three executives including CEO has

been discussing these issues. The committee monitors the strategy for climate change response, risk management at the corporate level, and the implementation level of reducing greenhouse gas emissions while reviewing our "Green Balance 2030 Initiative."

### Emission Trading Scheme

In compliance with the Korean law, "Act on the allocation and trading of greenhouse-gas emission permits," SK innovation has established and operated our own process on the operation of emission trading scheme so as to effectively cope with our stakeholders and any excess or deficiency risks. Through the process, we frequently monitor emission levels at our major business sites to predict overs and shorts of carbon credits while quantifying the related risks. The process also encompasses the implementation system ranging from securing and executing budgets to procurement for emission trading as well as the method for implementation. With a view to optimally manage this issue, we have already set

Chemical materials integrated management system





### Willing Participation in Agreement for Fine Dust Mitigation Efforts

In December 2019, SK innovation joined an agreement, driven by both the government and companies, for fine dust mitigation during particular seasons when high concentration of fine dust occurs. The agreement aims to respond to these seasons with companies voluntarily lowering their own fine dust emissions and the Ministry of Environment supporting these companies' efforts. SK innovation participated in the agreement ceremony as a representative company in the petroleum refining and petrochemical industries. Through this agreement, we continue to focus on ensuring eco-friendly operation at our workplaces through various measures, including the establishment and execution of more strengthened emission criteria for fine dust, disclosure of automatic and real-time measurement in chimneys, installation of and improvement in low NOx burners and the expansion of gaseous fuel use in blending fuel facilities.

up responsive plans by scenario covering issues from the overs and shorts of carbon credits to fluctuating prices, based on our process. On top of that, our investment business guideline reflects the risk factors related to climate change such as the prediction of excess or deficiency and market price of emission credits. SK innovation and our subsidiaries have established the target for the mitigation of greenhouse gas emissions on the basis of the Korean government's NDCS (Nationality Determined Contributions). This target meets the demand given to the corporation under the Act on the allocation and trading of greenhouse-gas emission permits, aiming at over 7.8% reduction against BAU by 2025. Not only that, we are aggressively setting our reduction goal at the SK group level so that we can make a social contribution as well as comply with the Paris Agreement which will be effective in 2021. To this end, SK innovation is reviewing our target to be in line with the group's goal, which is more ambitious.

**Management of Greenhouse Gas Emissions**

We set greenhouse gas emissions at all sites based on the Guidelines for Reporting and Certification of Emissions in the Greenhouse Gas Emissions Trading Scheme presented by the

Korean government. The amounts of greenhouse gas emissions from each business site are verified annually by a third-party agency designated by the relevant law. Currently, the scope of verification is yet limited to Scope 1 and 2 at our domestic sites. In case of Scope 3, the emissions from suppliers, we calculate the amounts considering their proportions of our business from the suppliers' whole operation based on the Accounting and Reporting Standard in the Greenhouse Gas Protocol's Corporate Value Chain (Scope 3) released by the WRI (World Resources Institute), and we will review whether to hire an external organization for the verification of the emissions belonging to Scope 3 as well. We are also separately reviewing plans on managing overseas business sites in line with the relevant national law in which the sites are located.

**Management of Energy Consumption**

SK innovation sets a goal for energy reduction and systematically manages our energy consumption. We particularly use OASIS, the next generation production information system, developed based on the standardization of master data, for the energy consumption that becomes the basis of the calculation of greenhouse gas emissions. This leads to not only the higher accuracy in data but also the efficient management.

**Reduction of Environmental Impacts**

**Reduction of Air Pollutants**

SK innovation puts efforts into the reduction of substances generating fine dust, such as nitrogen oxide, sulfur oxide and volatile organic compound in order to mitigate fine dust, emerging as a social issue recently. As part of efforts, SK energy, SK global chemical and SK lubricants in Ulsan Complex signed a voluntary agreement for the mitigation of fine dust with Ulsan Metropolitan City. For proactive execution of the agreement, the companies will commit more than KRW 300 billion to ensuring a 100% use of clean fuel in Ulsan Complex, reducing NOx from heating furnaces and boilers, establishing storage and VOC treatment facilities by 2024.

SK incheon petrochem also entered into an agreement with Incheon Metropolitan City for improvement in the environment, thereby making every effort to reduce air pollutants by more than 5% from the quota given by complementing NOx reduction facilities for boilers. Meanwhile, business sites of SK innovation, SK energy, SK global chemical, SK incheon petrochem and SK ie technology have inspected emission sources which discharge more than one million points of arsenic acid at least once or more a year, in order to minimize hazardous air pollutants generated from chimneys in business sites, valves, flanges and pumps. With the aim of preserving a pleasant

**SK Seorin Building Evolved as Eco-friendly Workplace**

**Campaign for Eco-friendly Workplace**

**Using Eco-friendly Items**

We encourage employees to use their own mugs or tumblers in the office, and shared mugs can be borrowed if necessary. In this way, we can make our working environment free from disposable paper cups or plastic cups. In addition, we switched containers in cafeteria, where dishes are used a lot, to eco-friendly products. By doing so, we are taking the lead in environment protection.

**Paperless Campaign**

In order to reduce unnecessary paper use, we are activating verbal reporting and increasing use of a team-room-viewer to replace paper printouts. We also make the most use of IT devices such as electronic board, tablet PC, and web fax to create a paper-free environment where business can be smooth without paper.

**Using Eco-friendly Materials**

Environmental pollution incurred during construction was highly reduced by using eco-friendly materials in the construction of the New Workplace in SK Seorin Building. We used products that are certified for green marks and eco-friendly materials when selecting interior insulation materials, waterproofing materials, drywall, and paint, thereby making the least impact on the environment.



Total amount of purchasing eco-friendly materials: KRW 3,050 million<sup>1)</sup>

<sup>1)</sup> Calculation of all floors with multiplying the average purchasing price of one floor

**Prevention of Oil Spill**

**Management of Soil Environment**

SK innovation has entered into "Voluntary agreement to conserve soil environment" with the Ministry of Environment to prevent and control soil pollution. We are cleaning up the polluted earth of our own accord. Biennially, we hire a specialized organization to conduct research on the degree of soil pollution for our own evaluation. When we find polluted areas, we immediately hire an agent to clean up the polluted soil. Furthermore, we operate vehicles equipped with chemical uniforms, boots and other tools so that any pollution detected on site can be eliminated immediately. Through this method, we can minimize soil pollution by emergency response when accidents occur. Furthermore, when installing storage containers, SK ie technology gives extra attention to make them apart from the ground so that we can preemptively prevent soil pollution due to hazard leakage and check whether leakage is occurred or not at all times. In addition, the storage tank outside the building can store up to 110% of designed capacity with a discharge wall so that there is no possibility of leakage to outside.

**Prevent marine pollution**

SK innovation is establishing task and process standard as well as improving monitoring of business sites to make share no incidents of marine pollution occur. We conduct marine emergency response training to minimize damage if accidents occur and also appointed a shift-based manager for marine pollution prevention by marine facility (buoy, dolphin, oil tank, petroleum product tank) so that accidents don't occur at nighttime.



Marine emergency response training (Surrounding ship accident areas with oil fences)

atmospheric environment in the workplace and nearby communities, SK innovation has operated a facility for offensive odor prevention, reinforced monitoring over bad smell in the outskirts of the workplace, and also established and run an emergency plan.

**Reduction of Waste**

SK innovation manages the amount of waste with our independently developed waste management system. The discharged waste is recycled, incinerated, or buried by the contracted company whose capability of this task is verified. In 2019, we actively pushed the recycling of 55,000 tons of waste which was subject to incineration or landfill in the past, in order to treat more waste in an environmentally friendly manner. Currently, instead of processing waste, we recycle sludge to into cover materials, waste insulation newly discovered for recycling, and waste sludge into base materials for cement. These are the fruition of our considerable efforts including the understanding of waste materials, finding ways to recycle, discovering companies that can recycle waste, the R&D for waste treatment beyond limitations, and interpreting laws from the Ministry of Environment. In pursuit of not only waste recycling but also sustainable society, we have

continued our efforts to increase waste recycling and reuse while reducing the amount of waste at the same time.

**Water resource management**

Daecheung Dam, Dae-am Dam and Asan Bay are the major water sources that SK innovation's each business site abstracts water from. We calculate the amount of water used in the headquarters and domestic major work sites based on water bills.

**Reduction of Water Pollutants**

SK innovation installed and has operated a highly efficient biological wastewater treatment facility applying remote control and monitoring system for water quality. The waste water containing pollutants produced in the course of operation is safely discharged by going through fiber filter or activated carbon tower. In addition, we apply much stricter standards for our wastewater than the legal requirements for the concentration level. The discharged water fully treated is partially used for firefighting and landscape water. Moreover, we have established RTO (Regenerative Thermal Oxidize) in the wastewater treatment facility inside the Ulsan Complex to completely remove odor from treating wastewater.

**Management Status of Water Pollutants**

Business Site	Wastewater Treatment Facility	Treatment Method	Emission Site
SK energy (Ulsan)	Ulsan Complex wastewater plant	Biological, Advanced treatment	Public water (East Sea)
	wastewater plant	Biological	Yongyeon terminal disposal plant for sewage
SK global chemical (Ulsan)	wastewater plant	Physical and chemical	Yongam wastewater plant
	wastewater plant	Biological	Yongam wastewater plant
SK incheon petrochem (Incheon)	-	Biological, high temperature	Gajwa terminal disposal plant for sewage
SK ie technology (Jeungpyeong)	-	-	Terminal disposal plant for sewage in Jeungpyeong-gun general industrial complex
SK innovation (Cheongju)	-	-	Terminal disposal plant for sewage in Cheongju general industrial complex

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## SK innovation



Revenue<sup>1)</sup>

KRW **49,876.5** billion

Korea IR Award

**First prize** winner

ESG Evaluation

**DJSI World** recognition  
for 3 consecutive years

SK innovation is Korea's leading company in energy and petrochemicals with 6 major subsidiaries; SK energy, SK global chemical, SK lubricants, SK Incheon petrochem, SK trading international, and SK ie technology as well as our own business sectors in Exploration & Production (E&P), battery and materials. We have achieved building the entire vertical value chain in the petroleum and chemicals industry with our businesses including exploration and development of petroleum to producing petrochemical products. SK innovation is also investing in battery and materials to create new drivers for growth. SK innovation will actively expand into the global market to achieve sustainable growth and will go beyond pursuing financial profit to pursuing the happiness of the entire society.

### Exploration and Production (E&P) Business

E&P business is defined as a series of business activities that involve onshore and offshore exploration to develop and produce crude oil and natural gas. As of 2019, SK innovation currently participates in 13 production and 4 LNG projects globally in 8 countries and our E&P business is producing 53,000 barrels on a daily basis. As of 2018 SK innovation holds 490 million barrels of proved reserves amount which can sustain the entire Korean population up to 6 months.

#### Business Overview

Type	Country	Block/LNG	Year of Participation	Type	Country	Block/LNG	Year of Participation
Exploration	Peru	8, 88, 56	'94, '00, '04	Exploration	Vietnam	15-1/05, 15-2/17, 16-2	'07, '19, '19
	Vietnam	15-1	'98		China	17/03, 26/26	'15, '19
Production	Libya	NC-174	'00	LNG	Oman	LNG	'96
	USA	Plymouth, Permian, Nemaha	'14, '14, '18		Yemen	LNG	'97
					Qatar	LNG	'99
					Peru	LNG	'03

1) in consolidated financial statement

**Major Businesses and Sustainability Performance**

**The Americas**

Peru · Following our first oil production from Block 8 in 1996, we began production in Block 88 and 56 in 2004 and 2008 respectively and inaugurated an LNG plant in 2010. In 2019, we decided to sell the Block 88 and 56 so as to bolster our competitiveness and change our E&P business portfolio.

The U.S. · SK innovation made inroads into the unconventional E&P industry in the U.S in 2014. Since we acquired production assets as the operator in 2018, we have actively expanded our business and production.

**Asia**

Vietnam · Since 2003, SK innovation has been producing oil and gas from Block 15-1. We succeeded in the exploration of Block 15-1/05 in 2019 while starting the development of the discovered structures at the same time. In addition, we have further grown as a production operator in Vietnam by newly stepping into the Block 16-2.

China · In 2015, SK innovation became the first Korean company to explore South China Sea as an operator and successfully completed the exploration of Block 17/03 in 2017. In 2019, we began the full-fledge exploration and added Block 26/26 in 2019.

**Creating Social Values for Local Communities**

SK innovation established and has operated a social enterprise, called Prosynergy, in Peru. It has taught Peruvian farmers agricultural techniques in aid of their independence rather than just offering financial aid. Our efforts brought about the continued income rise in farming households every year. Besides, we have invested in lowering the environmental damage to protect air, soil, and water in Oklahoma, the U.S, creating a sustainable business culture.

**[ Battery ]**

SK innovation produces rechargeable batteries for automobiles and ESS. In line with the trend in technology and growing demand for electric vehicles, we have carried out our research and development on batteries. In particular, we have put safety as our No. 1 priority while constantly making technical progress in high speed charging and long-distance driving. Moreover, to become a fully responsible corporation, we spare no effort to develop environment-conscious battery technology and eco-friendly products for the creation of social values. Our high efficiency and high storage lithium-ion batteries are supplied to automobile companies all over the world, minimizing the air pollution caused by CO<sub>2</sub> emission. Furthermore, we put our utmost efforts in developing an energy storage system utilizing renewable energy as well as securing quality energy and grid stability.

**Business Overview**

**BEV Battery**

BEV requires high-energy density batteries which translate into longer driving distance per charge. SK innovation is developing a battery that has long life based on safety to meet customer needs.



**Main Products**



**ESS**

Out of the many applications, SK innovation is focusing on utility and commercial application for ESS. SK innovation's ESS provides grid stability, standardized production of electricity through peak shift and reduces maximum load to achieve stable operation.

**PHEV Battery**

The Plug-in Hybrid Electric Vehicle battery is a substitute for the engine when driving short distances. SK innovation is strengthening its competitiveness in technology in order to respond to various types of xEV.

**Battery as a Service (BaaS)**

SK innovation pushes ahead Battery as a Service (BaaS) business to maximize utility value in all stages of product life cycle from battery production, usage, collection to recycle. Our BaaS business is applied in various sectors including finance, re-use, recycle, and cloud service. We nurture market and go hand in hand with our partners having related technologies and business models.

**Major Businesses and Sustainability Performance**

**World's First NCM 9½/½ Battery**

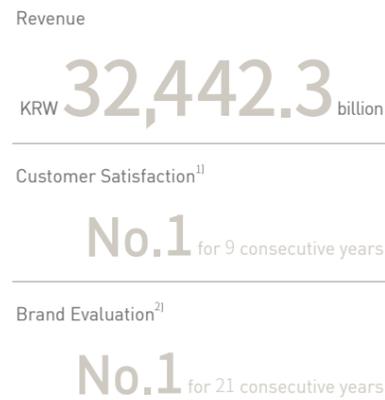
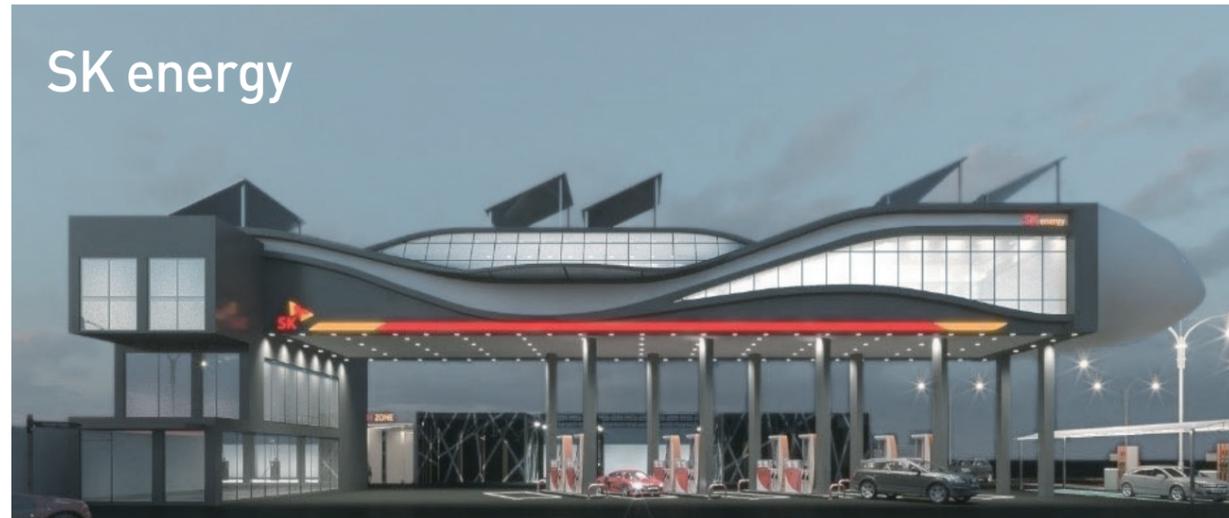
SK innovation developed a battery cell applying NCM 9½/½ cathode active materials and won an OEM deal of a global electric vehicle program. The battery with NCM 9½/½ cathode active materials will be produced from 2022. Meanwhile, SK innovation has led a technique trend of high energy density, high nickel and low cobalt in the electric vehicle battery industry. We continue to innovate in the future battery field including solid-state battery in the years to come.

**Investment in Local Community in Komárom, Hungary**

SK innovation donated a total of HUF 15 million equivalent to about KRW 57 million to the Komárom City Public Welfare Foundation in 2019 and 2020 with an aim of community development. The donation goes to medical, academic, and firefighting welfare foundation in Komárom City to purchase and change medical and firefighting equipment and provide scholarship. We strive to make sure that our growth leads to the development of local communities where we operate at home and abroad.

**Job Creation in Partnership with Georgia State Government, USA**

SK innovation runs Quickstart program in cooperation with the Georgia state government in the U.S. to create jobs, train personnels and facilitate local economic development and local economy. Quickstart program is implemented as follows. SK innovation provides data and workforce necessary for the design of training program, and the Georgia state government operates the training program. Then, SK innovation hires the trainees who completed the program. In this way, we contribute to the local community in coalition with the regional government.



As Korea's No.1 oil refinery, SK energy supplies Korea and overseas with various petroleum products produced in Ulsan Complex, which boasts oil refinery capacity of 840,000 barrels a day. Amid the economic downturn and fluctuation in oil prices and the oil product market, we strive to reinforce our original competitiveness for future growth and stable profit while mustering all our strength to business innovation.

As part of this effort, SK energy has enhanced efficiency in the domestic oil distribution market, expanding business scopes into the global market through building networks with prominent business partners overseas. Going forward, we will continue to innovate our business models to become a top tier energy corporation in the Asia-Pacific region.

### Business Overview

#### Petroleum Business

As Korea's No. 1 oil refinery, SK energy supplies petroleum products in Korea and overseas through its world class Ulsan Complex. Moreover, the company has strengthened the speed and flexibility of the value chain in order to take preemptive action against uncertainties in the business environment. Also, as the No.1 oil business in Korea, we conduct diverse marketing projects to improve our customer value and social value. In particular, Netruck, our comprehensive solution project to improve the quality of life for freight drivers, provides a unique and differentiated service to our customers.

#### LPG Business

In the LPG business, SK energy boosts customer loyalty by introducing a differentiated retail customer care program with the aim of reinforcing long-term competitiveness and securing a stable business foundation. Also, by strengthening CRM (Customer Relationship Management) marketing at LPG refilling stations, we are boosting our brand value for end-users as well as enhancing our network competitiveness. The Korean government's decision to lift restriction on LPG fuel use is anticipated to bring a boost in demand and we will continue to improve our marketing capabilities for the stable growth of our LPG business and increase profits.



### Specialized Products Business

Our portfolio includes outstanding products such as Superpalt (PMA, polymer modified asphalt) and premium asphalt. Superpalt is developed, commercialized and patented for the first time as a Korean oil company. Premium asphalt is an environment-friendly product with specialized functions such as mesothermic asphalt, which prevents potholes. In 2019, we provided 2.22 million tons of asphalt to the market (0.56 million tons in Korea, 1.66 million tons to the global market) which continued to strengthen our reputation as the market leader.

### Major Businesses and Sustainability Performance

#### Asphalt Green Innovation 2030

SK energy declared "Asphalt Green Innovation 2030," which aims to transform the current domestic asphalt market into eco-friendly and functionality-focustd market. To this end, SK energy brings together our core technology, product development and industry cooperation to switch all our asphalt products to environment-friendly ones by 2030. SK energy is the first in the field to produce premium asphalt with superior water resistance and mesothermic packaging to minimize harmful substances such as dust. Our plan is to expand eco-friendly asphalt portfolio by launching recycled asphalt (reuse of asphalt concrete waste) in 2020. We expect the eco-friendly asphalt products to improve air quality, residential and driving environment. By doing so, SK energy creates social values in various fields ranging from incident prevention to mutual growth with our suppliers.

#### Global Expansion Based on Partnership

SK energy accelerates the global expansion to the area where consistent growing demand for oil is expected along with high economic growth. On the basis of our marketing and refining capabilities, we collaborate with major companies in the promising region to seek for various cooperation models toward shared growth with local partners. We find the Southeast Asian market particularly promising for its great potential. In 2018, SK energy acquired 5.23% of PetroVietnam Oil (PV Oil)'s shares to become the second largest shareholder after PetroVietnam (PVN). PV Oil is the subsidiary of PVN, the largest state-owned company in Vietnam. It supplies oil products and operates service stations across Vietnam, taking the second place in domestic market share.

In 2019, we expanded our global presence into Myanmar, another rapidly developing country, further speeding up the entry to the global market. Along with SK trading international, SK energy acquired 35% of the shares in Best Oil Company (BOC), the second largest oil distribution company in Myanmar, working together to expand the local oil distribution business. On top of that, we formed a distribution joint venture with Zhejiang Baoying Materials Group, a Chinese distributor of asphalt. SK energy invested in the entity, acquiring a 49% share for the joint management. With this JV, we lay the grounds to establish the complete business chain from production to distribution in China, the biggest asphalt market in the world. With our world-class know-how on oil business and differentiated marketing competence, SK energy will continue to gain our ground in global market while pursuing win-win growth with local partner companies.

#### Main Products

-  **Fuel**  
Gasoline (regular-premium),  
Diesel, Kerosene, Aviation fuel
-  **LPG**  
LPG
-  **Special products**  
Premium Asphalt, Regular  
Asphalt, Sulfur, Slurry oil

1) Korean Customer Satisfaction Index (KCSI)  
2) Hosted by Korea Management Association

Please visit our website for details about SK energy.  
<http://eng.skenergy.com/main.asp>



Revenue

KRW **11,854.7** billion

Shared Growth Index

**Highest credit rate**  
for 9 consecutive years

Market share in Korea &amp; China

**No.1** in HCPP market

SK global chemicals is gaining its momentum in our global growth centering on China with secured market competitiveness based on our technology. SK global chemicals has reinforced our business portfolio, focusing on high-functioning packaging and automotive materials through consistent R&D and global M&A. We provide unique and differentiated solutions through our customer-driven marketing and the Technical Service & Development (TS&D) Center in China. With these capabilities, we have offered the best optimal solutions while meeting the diverse demands such as down-gauging materials from our packaging customers or making parts lighter from our automotive customers. Going forward, SK global chemicals will make our utmost efforts to become a Global Innovative Solution Company based on core chemical materials that bring in the greener, better, and innovative solutions.

### Business Overview

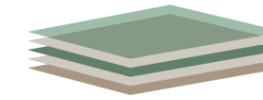
#### Packaging

SK global chemical acquired Primacor™ and Saran™, which are high value packaging materials, from the American chemicals company, Dow in 2017. This has led us to leap forward as a global chemical company specialized in packaging materials. Primacor™ is used in various areas like sterile packaging and layered tube type packaging, and Saran™ is widely utilized in meat packaging based on its excellent barrier functionality. Besides, SK global chemical is pushing forward the acquisition of Polyolefin business from the French company Arkema, to secure a core material for the Multi-layer Packaging Film, enhancing the business competitiveness. Furthermore, we provide optimal product solutions to meet the requirements of clients with our portfolio ranging from Supreme™ used for sealing layer of various packaging films with an excellent barrier, Smart™ with outstanding processability and toughness to Yuclair™ with fine hardness.

#### Automotive

In line with the trend of lighter automobile and the expansion of electric vehicles market, we have put our focus on developing a variety of highly functional materials for automobile. In particular, the High Crystallinity Polypropylene (HCPP) dominated Korean and Chinese markets based on its premium quality, which has superior properties per weight. HCPP has been used as various car parts such as door trims and dashboards, thereby living up to the customers' needs for light weight. In 2015, we have established the partnership with SABIC, Saudi Arabia based on our metallocene catalyst technology we have developed

### Multi-layer Packaging Films



Layer	Purpose	Main Materials	Status & Characteristics
Out Layer	Maintaining packaging shapes and printing	LLDPE HDPE PP PET	Versatile product Low barriers to entry High number of suppliers
Barrier Layer	Blocking O <sub>2</sub> , CO <sub>2</sub> , water, oil, aroma, etc.	PVDC EVOH PA	High barriers to entry Small number of suppliers
Tie Layer	Binding two layers with two different materials	EAA MaH-G EA EVA	Functional product High barriers to entry Small number of suppliers
Sealing Layer	Prevention of contamination, sealing films	m-LLDPE POP	Non-versatile product Having technological barrier

Owned by SK global chemical    Scheduled to own through M&A

with our own capabilities, and enhanced our portfolio of automobile material products centering on value-added materials. For instance, our Solumer™ is applied in various car parts due to its outstanding impact-endurance and processability while Supreme™ is utilized in various exposed parts.

#### Basic Materials

SK global chemical operated the Naphtha Cracking Center (NCC) for the first time in Korea in 1972. Currently, we have an annual capacity of 860,000 tons for ethylene production. In 2013, we established the Sinopec-SK Wuhan Petrochemical in Wuhan China in cooperation with Sinopec, producing 800,000 tons of ethylene a year. On top of that, we produce and supply benzene as well as paraxylene, a raw material for home appliance, construction, textile, and consumer products industries. SK global chemical also established Ulsan Aromatics Co. (UAC) in 2014 with the number one energy company in Japan, JXTG as part of our endeavors for our expansion in business scale through continued investment. With our annual production capacity of paraxylene at approximately 3 million tons, we have taken a leap forward as the market leader, and maintain stable supply of various core basic materials to our customers.

#### Performance Chemical

SK global chemical produces performance chemicals used in assorted fields, including construction, medical, agriculture and electronics. Our portfolio of performance chemicals covers High Purity Normal Heptane, which has the largest market share globally, as well as 1,4-Butanediol, which is a base material for spandex. We also strive to reduce the use of environmentally harmful substance by developing eco-friendly foaming agent of cyclopentane and Clean-7 to replace toxic agents.

### Major Businesses and Sustainability Performance

SK global chemical creates social values and makes a contribution to a sustainable future through our three R activities: Reduce, Replace, and Recycle plastics.

**Reduce** We aim to reduce the amount of plastic usage by developing and distributing products that create the same quality with reduced usage. In replacement of polypropylene (PP), HCPP products were developed to have the same strength and impact-absorption with small plastic content. We also implement a Clean CLX project for the environmental-friendly production process in order to minimize the adverse impact to the local environment.

**Replace** Our goal is to replace harmful materials damaging the environment and humans with eco-friendly ones. SK global chemical has increased and expanded the sales of Cyclopentane, an environment-friendly blowing agent, and Clean-7, a low-toxicity solvent with less toluene content while developing and selling biodegradable products replacing single-use vinyl plastic, thereby contributing to lower negative effects incurred by chemical substances.

**Recycle** Our aim is to create a virtuous cycle of resources by developing the technology to recycle disposed plastic vinyl, going beyond just using recyclable materials. In cooperation with food distribution companies, we promote projects to develop recyclable singular material for packaging and lubricants packages using recycled fiber. For playing a leading role in the creation of a recycling ecosystem, we hold the eco-friendly plastic packaging material forum to resolve used plastic management problems.

- 1) Technical Service & Development
- 2) Operational Excellence
- 3) Multi-layer Packaging Film
- 4) High Crystallinity Polypropylene
- 5) Naphtha Cracking Center
- 6) High Purity Normal Heptane, for medical use



Please visit our website for details about SK global chemical.  
<http://eng.skglobalchemical.com/main.asp>



# SK lubricants

Revenue

KRW **3,372.5** billion

Proportion of overseas Sales

**88**%

Lubricants ZIC Brand Evaluation<sup>1)</sup>

**No.1** for 21 consecutive years



SK lubricants has gradually expanded its global presence, resulting in exports of high-quality lubricant products to more than 50 countries. In addition, we have built base-oil production facilities in Europe and Asia through joint ventures with global oil companies to underscore our position as a leader in the global premium base-oil market, as well as to strengthen marketing competitiveness targeting major clients. Premium lube oil SK ZIC, the company's leading brand in the lubricants business, has solidified itself as the No. 1 lubricant brand in Korea, by ranking top in the brand power survey for twenty one consecutive years, and ranked No.1 lubricant brand in Korea. In addition, ZIC was recognized internationally by receiving the top-quality levels from two major quality assessment institutions: the American Petroleum Institute (API) and the international Lubricants Standardization and Approval Committee (ILSAC). In particular, a new regulation on the environment is driving a growing demand for lubricants. To this end, we will expand our global market including China and Russia through diverse partnerships and thus accelerate company growth.

## Business Overview

### Lubricant Base Oil Business

SK lubricants has developed as the global No.1 manufacturer for Group III base oil through the constant expansion of production capacity as well as the establishment of a network for sales since we started to run a plant for the production of Very High Viscosity Index (VHVI) lube base oil in 1995. We have formed Joint Ventures with global partners to secure production bases in Europe and Asia for improved capacity while providing stable supplies of quality products for more than 50 regions delivered from distribution hubs covering the whole world.

### Lubricants Business

Our flagship brand, SK ZIC has taken the first place for 21 consecutive years in the Brand Power Survey, entrenching itself as No.1 premium lubricants brand in the domestic market. Furthermore, we have been globally recognized for high quality as evidenced by the highest ratings from the two major quality assessment institutions: the American Petroleum Institute (API), and the International Lubricant Standardization and Approval Committee (ILSAC). Recently, more stringent environmental regulations across the world have led to growing demand for low viscosity lubricants. In a proactive response to this trend, SK lubricants has launched very low viscosity lubricants, ZIC ZERO.

## Major Businesses and Sustainability Performance

### Lube Base Oil Business

Aligning with a growing demand for high performance and low viscosity lubricants due to more strict environmental regulations, SK lubricants has expanded our sales of high quality Group III and Group III Plus base oils, thereby contributing to the reduction of fossil fuel usage as well as greenhouse gas emissions. In addition, we improve our customers' product performance and competitiveness with our products, which results in a firm status as a reliable partner. In the years to come, we will make sure that we play a leading role in the market by discovering new business opportunities by keeping up with future trends and proactively responding to changes.

What is more, as the transition toward the eco-friendly era has been accelerated, causing new current for lubricants, we focus on securing various future growth engines to lead the future lubricants trends. With our distinguished competitiveness, we will extend our interests into not only the PCMO market that has been already our focus area but also the HDDO and industrial oil market to create more values. For the swift response to the expansion of hybrid vehicles, we will also develop low viscosity base oils with improved fuel efficiency for those vehicles. SK lubricants continues our efforts to lay the foundation for sustainable growth based on our global production and sales capacity backed by our streamlined logistics we have achieved.



### Lubricants Business

SK lubricants has never stopped innovating ourselves to cope with changes in the automobile industry such as toughened regulations on fuel efficiency or EV expansion. In 2019, we rolled out ZIC ZERO, a very low viscosity lubricating oil made through Zero-tech, thereby meeting our customers' needs for eco-friendly products with better fuel efficiency, creating social values. Furthermore, we developed and produced a prototype for a new product container made of recyclable plastic to replace the existing ones. We plan to expand the application of the new container while increasing the level of recycling.

On the strength of our experience as a supplier to an EV OEM leading the world, we gained more suppliers in collaboration with multiple OEMs in 2019. Recently, we attended CES 2020 for the first time in the domestic lubricants industry, earning us the firm status as the leader of EVF technology. We also spur global businesses with our differentiated strategies by market. As part of these efforts, we have primarily focused on the ASEAN region with high market potential to work in partnership. Lately, we acquired shares in Mekong, a Vietnamese company to secure a foothold for growth in the premium lubricants sector in Vietnam where growing demand for premium products is expected due to an economic boom and an income increase.

Please visit our website for details about SK lubricants.  
<http://eng.sk-lubricants.com/main.asp>

<sup>1)</sup> Hosted by Korea Management Association



# SK incheon petrochem

Revenue

KRW **6,766.5** billion

Diversification of crude oil

Decreased dependency on the Middle East by

**8.2** %

Lubricants ZIC Brand Evaluation<sup>1)</sup>

KRW **50** billion

SK incheon petrochem has grown into one of the top Korean energy and petrochemical companies over the past half century, as Korea has successfully developed its industries. In 2014, we invested KRW 1.6 trillion to expand production with enhanced facilities that could produce condensate-based high-value-added products such as paraxylene (PX), which is the raw material used in PET plastic bottles and synthetic fibers. In addition, SK incheon petrochem seeks for the management centering on SHE (Safety, Health, and Environment), with having zero-accident and environment-friendly management at our heart. We are growing and developing based on the trust from the society.

## Business Overview

### Petroleum Business

SK incheon petrochem practices its management philosophy of “Customer satisfaction” and “Quality first” by providing ecofriendly, high-quality products by improving its production facilities and precision and continuing technological innovation.

### Petrochemicals Business

SK incheon petrochem uses naphtha derived from condensate or the refining process to produce high-value-added petrochemical products, such as PX (Paraxylene) via naphtha catalytic reforming processes. This creates a stable profit base for the company, which enhances the competitiveness of the business.

## Major Businesses and Sustainability Performance

### Stable Base for Growth

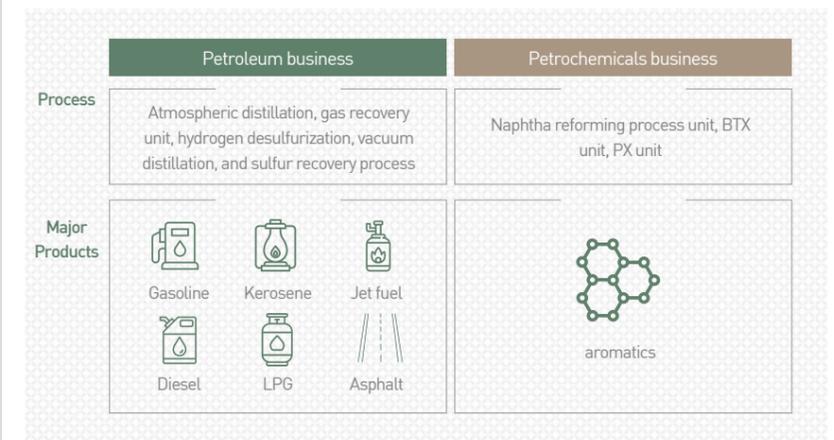
SK incheon petrochem has established stable groundwork for growth by diversifying crude oil supply and innovating production efficiency. In particular, we have diversified our crude oil supply to regions other than the Middle East such as North Europe, Russia, Africa and the USA. As a result, we expanded our feed flexibility by injecting variables such as condensate, light crude oil, high-sulfur crude oil or naphtha depending on the market situation.

## Promoting New Technology-based Business through Unremitting Innovation and R&D

We sharpen our fundamental competitiveness required as a petrochemical company, and also combine our capabilities and experiences gained through the SHE (Safety/Health/Environment) management and new technologies in order to push ahead with new environmental-friendly business for future growth engine creation. In addition, we seek for both economic and social values by being actively involved in efforts to solve diverse social issues so that we go hand in hand with our society.

## Strategic Investment Project

During the turnaround (T/A) period in 2019, we carried out a strategic investment project supplying sources for cooling and heating to nearby residential areas by utilizing waste heat created in the course of operation and highly value added naphtha. This project has brought a sharper competitive edge to us.



Please visit our website for details about SK Incheon petrochem.  
<http://eng.skincheonpetrochem.com>



# SK trading international

Revenue

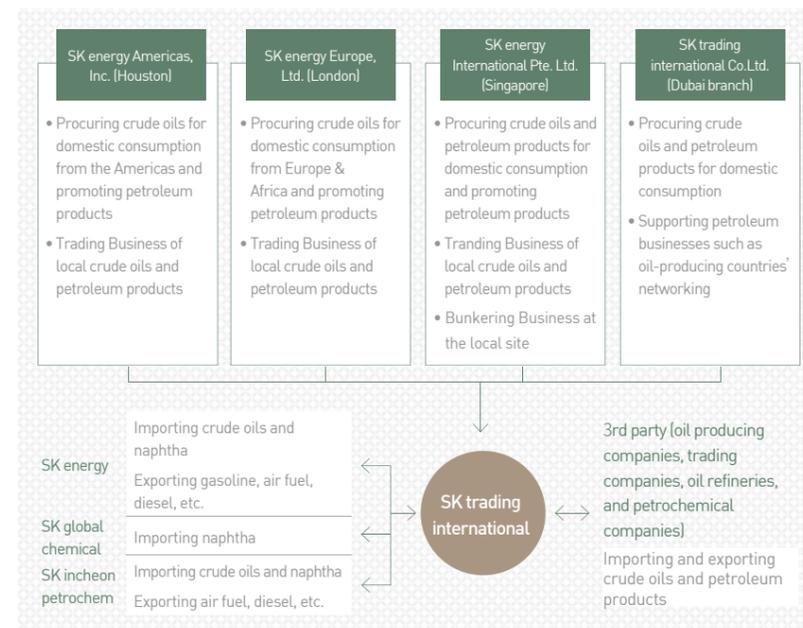
KRW **33,055.5** billion

Export abroad

Winning **Grand Prize**  
at USD 10 billion Export Tower Awards

SK trading international is facing the need to improve and continue the company's unique competitiveness with the advent of new environmental policies and diversifying product specifications as well as importers improving self-sufficiency and increased exports from China and India. In response, SK trading international is building a differentiated global trading business model based on a high-tech, risk-management system. We monitor the market on a real-time basis to trade crude oil and petroleum products under the best terms and conditions. We will build a global trading platform based on unique competitiveness such as establishing new business models based on strategic partnerships by optimizing use of SK trading international tangible and intangible assets to react to changes in the oil market.

## Business Overview



SK trading international holds the global trading platform for SK innovation. We are in charge of importing and exporting oil products from SK energy and SK incheon petrochem as well as supplying naphtha to SK global chemical. Furthermore, SK trading international enters foreign markets to carry out business development, trading and marketing activities, beyond just exporting and importing through three overseas corporations in the Americas, Europe and Singapore and a branch in Dubai. Going forward, we will make sure that SK trading international efficiently covers the whole stages of trading from the selection of the right oil type, contracting, delivering to payment based on our global network.

## Major Businesses and Sustainability Performance

With an objective of becoming a global top-notch trading company with our unique competitiveness, we constantly innovate ourselves and make changes to be more professional in the trading market. Based on the partnership with other global trading companies and the usage of storage in major trading hubs, we have discovered new business opportunities, thereby expanding global trading volumes by securing sustainable trading models. On top of that, we have reinforced and extended the trading platform through our systematic and scientific analysis of all related information including the market outlook and physical market intelligence. The diversification of suppliers of crude oil and naphtha has been pursued to actively cope with the fluctuation of the international petroleum market. The advanced risk management system has been also established as part of our efforts toward an expanded trading business, which results in better capabilities of managing risks posed by the changing business environment.

### Reducing Pollutants during Transportation

SK trading international is in charge of sales and procurement of raw materials and petroleum products along the entire value chain of SK innovation. We are actively trading with third parties as well. Since we engage in international trading, we are in charge of product shipping where we are minimizing pollutants during the transportation process in various methods. Rather than just complying with strengthened global regulations such as IMO 2020<sup>1)</sup>, we are creating social value through environmental programs such as supporting installations of equipment to decrease harmful substances.

### Supporting SMEs and Shipping Companies through Participation in Eco-friendly Fund for Mutual Growth

We have joined the mutual growth fund for eco-friendly equipment installation driven by the Korea Ocean Business Corporation under the umbrella of the Ministry of Maritime Affairs and Fisheries so as to provide financial assistance for domestic shipping companies with financial difficulties to install scrubbers in their 19 vessels. While doing this, we will identify small and medium-sized scrubber manufacturers and help them secure competitiveness to make a contribution to environment and mutual growth for social value creation.

1) A new regulation from the International Maritime Organization (IMO) where a new 0.5% global sulphur cap on fuel content will be enforced 2020, lowered from the present 3.5% limit

2) Scrubber: equipment to reduce sulfur oxides caused by burning fuels for vessel. It purifies sulfur oxides by spraying seawater.

Please visit our website for details about SK trading international.  
<http://eng.skinnovation.com/company/trading.asp>



# SK ie technology

Revenue<sup>1)</sup>

KRW **348.5** billion

Expansion of Domestic Production Capacity

**530** million m<sup>2</sup>

Establishment of global mass production system<sup>2)</sup>

**840** million m<sup>2</sup> in two countries

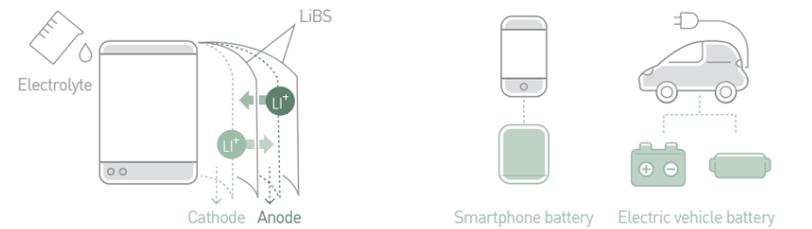
1) Including the performance before spin off (Jan-Mar '19)  
2) Began construction in 2019 in China and Poland

In April 2019, SK innovation spun its material business off and newly established SK ie technology in order to increase expertise in this field and fundamental competitiveness as well as to create more efficient management. SK ie technology comprises LiBS (Lithium-ion Battery Separator) and FCW (Flexible Cover Window) businesses. LiBS, which is a core material of lithium-ion battery, cuts off the direct contact between anode and cathode and provides a path for lithium-ion to move. LiBS business is growing along with the battery market on the rise. FCW is a core material to replace glass on flexible displays of foldable phones. It consists of transparent PI (Polyimide) and Hard-Coating. We expect FCW to lead the rapid growth of the display market going toward a transformation in form factors.

## Business Overview

### LiBS Business

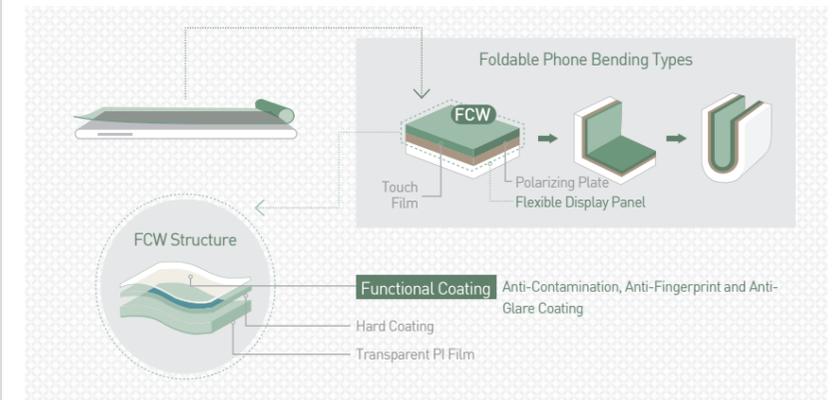
After we independently developed a LiBS production technology in 2004, we completed the sequential stretching process for the first time in the world in 2007. We invented ultra-thin 5µm film product for the first time, and commercialized the technology to coat both sides at the same time on the foundation of our added competitiveness edge. Based on our superiority, we have been producing the world's top-class quality LiBS.



Characteristics	Purpose of Use
<ul style="list-style-type: none"> <li>Maximized realization of material properties (high penetration/high strength/low shrinkage product)</li> <li>High level of uniformity in quality</li> <li>Improvement in battery safety and life-cycle through high heat resistant coatings of both sides or one side</li> </ul>	<ul style="list-style-type: none"> <li>Smartphone battery, laptop and tablet PC battery, and power-tool battery</li> <li>Electric bicycle battery and electric vehicle battery (hybrid, plug-in electric vehicle)</li> <li>Battery for energy storage (ESS, Smart-grid, emergency power source, etc.)</li> </ul>

## FCW Business

SK ie technology provides a total solution for manufacturing FCW from compounding raw materials, manufacturing transparent PI film to functional coating.



## Major Businesses and Sustainability Performance

### Promoting FCW Commercialization

With the purpose of the entry into the flexible display market with high potential, we plan to operate the production line established in 2019 for commercial production starting from the second half of 2020.

### Establishing Global Mass Production for LiBS

SK ie technology is investing in establishing a global mass production system in China and Europe, the top two major markets of electric vehicle in the world. We began the construction in March 2019 for a separator factory with the annual capacity of 0.5 billion m<sup>2</sup> in Jiangsu, Changzhou, China. The factory will be up and running from the second half of 2020 for mass production and supplies. In Europe, we broke ground in Silesia Province, Poland, for the construction of a separator factory with an annual capacity to produce 340,000,000m<sup>2</sup> in October 2019, and the plant will start its operation in the latter half of 2021.

### Extension of Domestic Production Lines for LiBS

In November 2019, SK ie technology installed two additional production lines in Jeungpyeong, boosting the total to 13 production lines in Jeungpyeong and Cheongju. We also have four production lines including one for coating both sides at the same time for CCS (Ceramic Coated Separator), developed by ourselves.

Please visit our website for details about SK ie technology.  
<http://eng.skinnovation.com/company/skiet.asp>

## Business Performance

In 2019, SK innovation made a meaningful financial achievement through the constant innovation of our business model in the face of the unfavorable management environment. In the years to come, we will entrench ourselves as a reliable company for all of our stakeholders by securing our unique competitiveness as well as identifying future growth engines.

### Major Performance by Business

**Petroleum Production Business** Amid the downward trend in oil prices, we posted KRW 195.7 billion in operating income in our oil production. We sold off some parts of assets we owned in Peru to secure operating rights to oil blocks in China and Vietnam, which brought us a turning point to make our portfolio operatorship-centered. As of the end of December, 2019, our oil production business has been underway in 13 blocks and 4 LNG projects in 8 countries across the world.

**Battery Business** Since we started the commercialization of lithium-ion battery in 2005, we built a research and development infrastructure for battery in the SK Innovation Institute of Technology and began operating our large-scale production facility in Seosan, Chungcheongnam-do Province, thereby completing both technology development and mass production system. Built on their stability, we produce batteries with high output and high energy density. Furthermore, based on a large number of orders given to us, we are constantly expanding the scale of our production facilities in major areas at home and abroad including China, Europe and the United States.

**Petroleum Business** Despite a decline in refining margins, we recorded an operating profit of KRW 450.3 billion. Amid unfavorable market conditions, we strive to seize competitiveness in production cost earned through our improved flexibility in terms of crude oil import, optimal production operation the expansion of global outlet in growing markets, such as Vietnam and Myanmar through the global partnering to take one step further to become a more advanced energy corporation.

**Chemical Business** Our chemical business operating profit reached KRW 705.8 billion in a situation where market conditions are not in favor of chemical products of olefin and aromatics throughout the year due to the operation of new large-scale plants in China and weak demand derived from concerns for economic downturn. SK global chemical continues to spur our global growth especially in China by securing technology-based market competitiveness while identifying other growth impetus by expanding the range of high value added products. By doing so, we accelerate our efforts to enhance our corporate value.

**Lubricants business** We are focused on strengthening our status as a market leader in the domestic market. We continue to expand our top-tier and premium level products by improving the SK ZIC brand. We use an incentive policy to increase the number of stores that carry our products within our distribution network. In the global market, we are focused on expanding sales of premium products to markets with high-growth potential such as China and Russia.

**Materials Business** Since we began our independent development for the LiBS production technology in 2004, we have produced the best quality LiBS through unremitting efforts for enhancement of our process and products. In 2019, we additionally established the 12th and 13th production lines in Jeungpyeong and Cheongju, Chungcheongbuk-do Province, boosting the total number to 13 facilities. We also have four production lines where both sides are simultaneously coated for CCS (Ceramic Coated Separator) developed with our technology. In response to demand from the largest growing markets in the electric vehicle battery industry including China and Europe, we are investing in expansion works on production facilities for LiBS and CCS in Changzhou, China and in Silesia Province, Poland.

Revenue by business				
Type	Unit	2017	2018	2019
Petroleum Business	KRW 100 million	327,712	391,935	358,163
Chemical Business		93,392	106,844	95,428
Lubricants business		28,156	29,714	28,779
Battery Business		1,457	3,482	6,903
Petroleum Production and other businesses		8,592	10,189	9,492
<b>Total</b>		<b>459,310</b>	<b>542,165</b>	<b>498,765</b>

Operating profit (loss) by business				
Type	Unit	2017	2018	2019
Petroleum Business	KRW 100 million	15,020	7,093	4,503
Chemical Business		13,772	11,176	7,058
Lubricants business		4,931	4,463	2,939
Battery Business		(2,321)	(3,175)	(3,091)
Petroleum Production and other businesses		697	1,476	1,284
<b>Total</b>		<b>32,100</b>	<b>21,032</b>	<b>12,693</b>

Total Revenue (Unit: KRW 100 million)



Total Operating Profit (Unit: KRW 100 million)



### Credit Rating

SK innovation has maintained our financial soundness through the constant diversification of business. Our healthy financial policy and stable cash flow for operation earned us a BBB (Stable) rating from S&P, and a Baa2 (Stable) rating from Moody's.

Credit Rating		
Agency Type	Evaluation grade (Rating agency)	Date of Assessment
Domestic	AA+ (Korea Investors Service)	June 20, 2019
	BBB (S&P)	February 10, 2020
Overseas	Baa2 (Moody's)	February 06, 2020

# Market Outlook

SK innovation analyzes the business market environment including potential fluctuations in a comprehensive way, as well as preparing a systematic response method to meet external changes to secure fundamental competitiveness.

## Petroleum Production Business

**Major Market Trend** Massive supply of unconventional oil and gas from U.S. has brought rapid changes in E&P industry. On top of that, growing global energy demand and U.S tax reform have induced bigger investments in the unconventional assets. Consequently, the market portfolio is currently under active modification in pursuit of improving the profitability.

**Oil Price Trend** After the price of Dubai crude oil reached USD 115 per barrel in June 2014, there was a continuous fall in price until it became USD 26 per barrel in January 2016. As of December 2018, the average price per barrel is now hovering around USD 67.

## Battery Business

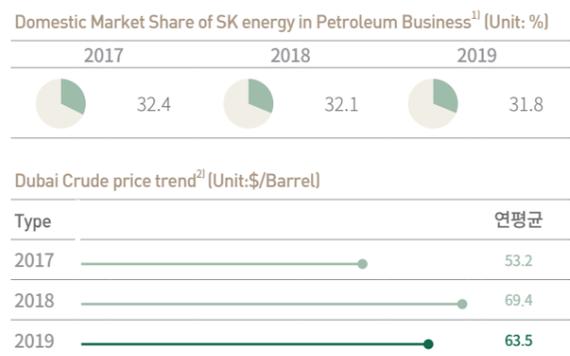
**Business Characteristics** The medium-large battery business sector is where we develop, produce and sell high-storage lithium-ion batteries for electric cars and ESS (Energy Storage System). Automobile manufacturers are the main buyers of electric car batteries. Business transactions occur in contracts, initially to agree on a large quantity which is gradually supplied over a long period of time. Technology, product safety, cost competitiveness and stable supply are important factors in the automobile battery business. ESS is in the spotlight as technology for renewable energy as it stores surplus electricity production for future use, to solve the imbalance in supply and demand. Product safety and efficiency are crucial standards for ESS.

**Trends in Battery Business** Electric car batteries and ESS are anticipated to drive future growth with the spread of global environment-friendly products and renewable energy trends. As technology and economic efficiency of electric cars improve, major global automobile OEMs are enhancing their electric car lineup and investment which is transforming the global automobile market into a new era of electric cars. As electric cars become more popular, the electric car battery market will continue to grow rapidly. The ESS market is also forecasted for continuous growth with the increasing demand for renewable energy and energy storage. Demand for automobile batteries is closely related to the demand for electric cars. Currently, the electric car market is influenced by environmental regulations and policies to promote electric cars but the industry reliance on regulation will continue to drop with technological advances and improved economic efficiency.

## Petroleum Business

**Business Characteristics** The petroleum business is basically composed of a value chain from crude oil import, production, transportation and sales. Crude oil takes up the biggest cost. Since our entire supply relies on imports, business performance heavily depends on the export policies of oil-producing countries in the Middle East and the exchange rates. The distribution channel is largely made of wholesale and retail. Wholesale points to direct buyers and middle buyers like service stations. Retail signifies sales to general consumers in service stations or charging stations.

**Trends in Petroleum Products** The aggregate domestic demand for major petroleum products in December 2018 grew 0.2% year on year. Regarding transportation fuel, demand for diesel dropped year on year and demand for petroleum and aviation fuel increased year on year.



1) Market Share: Domestic sales of light crude oil baseline (oil type: gasoline, diesel, paraffin, and air fuel)

2) Based on Platts official price

## Chemical Business

**Trends in Basic Petrochemical Business** Basic petrochemical industry belongs to the basic materials industry which produces olefin products, including ethylene, propylene using naphtha and aromatic products such as benzene and toluene, which are used as materials for synthetic resins, synthetic rubber and synthetic textiles. This industry is a process industry characterized by huge investment in the establishment of large-scale facilities at the initial stage and high entry barriers created by the preoccupation of technology. Meanwhile, the industry is easily affected by the fluctuation in oil prices, facing periodical boom and bust triggered by the global economy and the condition of supply and demand. The domestic petrochemical industry is on the continuous rise on the strength of robust growing demand from China, and hugely affected by new establishment or expansion of facilities in the upstream sector and global economic conditions because petrochemicals are essential to various industries as materials.

**Trends in Chemical Materials Industry** The chemical materials industry is the business transforming basic petrochemicals into high value-added chemical products such as high-performance packaging materials or automotive materials. Constant technology development and unique solutions are the most salient factors in the industry. As we see rising demand from China, the growth of China has a great impact on this industry. Recently, we are also expanding our presence into new emerging markets including South America, Southeast Asia and India. Price is the most overarching competitive factor for general petrochemicals, which requires the realization of economy of scale and the reduction of production cost through efficiency to obtain a competitive advantage. On top of that, product development and production techniques are emerging as determining factors at this time when differentiating product through high value-adding technologies has become more and more significant. High-performance packaging materials, including ethylene acrylic acid and poly vinylidene chloride, are core materials for Multi-layer Packaging Film. We expect those materials to constantly flourish backed by growing demand from China and emerging markets, and by a high technical barrier to entry into the sector.

## Lubricants Business

**Trends in Lubricating Base Oil Business** Group III base oil is mainly used for lubricants for the engines or transmissions of automobiles. Demand structures vary depending on environmental regulations by country and region. More stringent regulations on exhaust fumes and the rapid advancement of engine technology are the drivers of growing demand for high-quality base oil in our major markets including Europe, North America, Japan and China. We are also seeing more toughened regulations on fuel efficiency. As proposals for a 20% increase in fuel efficiency from 2015 until 2020 are being made driven by developed countries, emerging countries, such as China, are also following the moves. In compliance with these requirements, global automobile manufacturers are developing a variety of technologies ranging from a turbo engine with higher output and torque releasing less exhaust fumes than naturally aspirated engine, to a hybrid engine utilizing both an electric motor and an internal combustion engine depending on speed. These engines require high-quality lubricants to maintain their high performance in a stabilized manner. Accordingly, global lubricants players are persistently increasing the use of high-end base oil, such as Group III, for the production of premium lubricants.

**Trends in Lubricants Business** Lubricants business for automobiles is comprised of Business to Business (B2B) and Business to Customer (B2C) distinguished by distribution channel. Major customers of the business are vehicle manufacturers in the B2B sector which are largely divided into two areas; Factory Fill and Service Fill. Factory Fill is supplied directly to car makers while Service Fill supplied to car repair shops managed by us. In the B2C Sector, most of demands come from drivers who tend to select products and brands following the recommendations of car repair shops' owners or repair men rather than choosing by themselves. Accordingly, the proportion of our products at distribution channels including dealerships, workshops and car repair shops is as critical as brand awareness. Industrial lubricants business is also separated into B2B and B2C sectors. In the B2B sector, main customers are industries, heavy equipment and machine manufactures. Industries use lubricants for the operation and maintenance of industrial machines while heavy equipment and machine manufactures use oil for Factory Fill. Meanwhile, heavy equipment operators are major consumers in the B2C sector. There is demand from hydraulic equipment like excavators, and in some cases, special distribution channels exist dedicated to the sales of industrial products like B2C for automobiles. Marine lubricants are consumed mainly by shipping companies, and used for two purposes; filling large engines on ships and maintaining ship equipment. In the marine lube oil market, maintaining good relationships with ports and fueling companies is key to the business since the supply of marine lubricants usually coincides with the supply of fuels for marine engines.

## Materials Business

**Trends in Materials Business** LiBS is a core material for lithium-ion battery which cuts off direct contact between anode and cathode as well as provides channels for lithium-ion to move. The market for LiBS is also on the rise along with the growth in the battery market. LiBS is mainly consumed by battery makers, and there are two types of battery makers; small battery manufactures for IT or power tool device and medium and large battery manufactures for xEV. FCW (Flexible Cover Window) is a core material to replace glass on flexible displays of foldable phones. It consists of transparent PI (Polyimide) and Hard-Coating. We expect FCW to lead in the rapidly growing display market going toward a transformation of form factors.

# TCFD (Task Force on Climate-related Financial Disclosures)

SK innovation has joined a Task Force on Climate-related Financial Disclosures (TCFD) as the first Korean energy and chemical company as part of efforts to do our responsibility to curb climate change and actively inform all stakeholders of our strong will to mitigate greenhouse gas emissions. TCFD is the initiative set up in 2015 by the Financial Stability Board (FSB) with the authority delegated by G20 financial ministers and central bank governors in order to promote voluntary and consistent climate-related information. Taking our stakeholders' concerns into consideration, SK innovation has transparently disclosed our guidelines on governance, strategy, risk management and targets regarding climate change in accordance with the TCFD guideline.

TCFD Recommendations		
<b>Governance</b>  Disclose the organization's governance of climate-related risks and opportunities.	<b>a) Describe the board's activities in responding climate-related.</b>	SK innovation recognizes the needs for response to climate change at the management level. We discuss climate-related major issues at the strategy and risk management committee composed of three directors including CEO.
	<b>b) Clarify management's role in assessing and managing climate-related risks and opportunities.</b>	The strategy and risk management committee monitors SK innovation's climate-related response strategy, risk management at the company level and the implementation of greenhouse gas emissions mitigation while reviewing "Green Balance 2030 Initiative" conducted by us. Besides, we formed a consultative body to systemically respond to climate change at the working level and make profound discussion on detailed agendas. Our CEO and employees' performances on climate change are part of Key Performance Indicator (KPI), and performances of the action are reflected in assessment and rewards of our CEO, management and major employees.
<b>Strategy</b>  Release the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	<b>a) Explain the climate-related risks and opportunities over the short, medium, and long term.</b>	SK innovation defines natural disasters caused by climate change such as typhoons, droughts, floods as short-term risks. Thus, we are operating an emergency response system to prevent these threats against SHE accidents. Moreover, we have prepared ourselves for more stringent regulations on greenhouse gas emissions and rising prices of carbon credit in the five years (medium) term. In the long term (more than ten years), we are establishing a strategy to respond to the paradigm shift from fossil fuel to eco-friendly energy. We are also seeing global investors investing less in fossil fuel production companies due to climate change issue, which will make a huge impact on our business, strategy and financial planning.
	<b>b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.</b>	SK innovation has declared "Green Balance 2030" as our vision under the sense of responsibility for environmental impact in order to secure sustainable growth engines based on all climate-related scenarios and business connectivity. Green Balance 2030 is our environment-friendly strategy built on our distinguished sense of purpose and competitiveness. The strategy aims at creating positive effects to offset negative ones as well as expanding our business model to play a leading role in resolving environmental issues.
	<b>c) State the strategy of organization, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.</b>	As part of efforts to meet the targets of Green Balance 2030, SK innovation will achieve a bold transformation in our portfolio by creating Green Portfolio built on the two pillars; our electric vehicle battery business and materials business. We will also proactively reinforce eco-friendly businesses such as the development of environment-friendly plastics in the petroleum and petrochemical sectors. On top of that, we had each workplace produce quick-win tasks for greenhouse gas emissions mitigation in their own areas. Future technologies, like Carbon Capture Utilization and Storage (CCUS) enabling dramatic cut down on greenhouse gases, will be further explored and developed.
		Meanwhile, for investment in eco-friendly businesses and the innovation of our business model, SK innovation has been in partnership with financial institutions to raise funds through Green Fund. We have also partnered with various stakeholders to get better leadership in climate change response in the domestic oil and gas refining industry. The establishment of an ecosystem for eco-friendly social ventures, the expansion of engagement in terms of policy and social contribution activities have been pursued for all interested parties to join activities for curtailing greenhouse gas emissions. We firmly believe that all these activities play an essential role in resolving climate change and creating happiness for all our stakeholders.

TCFD Recommendations		
<b>Risk Management</b>  Open how the organization identifies, assesses, and manages climate-related risks to public	<b>a) Describe the organization's processes for identifying and assessing climate-related risks.</b>	SK innovation selects all risks and opportunities through the comprehensive analysis of all factors affecting our business ranging from financial and strategic impacts, internal and external management environments to stakeholders' input. We classified all risks into 3 categories (financial, business, operational) and broke down to 15 risk factors to thoroughly manage them. Among 15 risks, climate change issue is sorted as the highest risk. When we look into financial and strategic impacts through our multilateral risk and opportunity identification process, we decided that climate change is the gravest risk, yet, at the same time, it is the most critical opportunity for us. Accordingly, we strive to make sure that the issue will serve as a momentum for us.
	<b>b) Explain the organization's processes for managing climate-related risks.</b>	SK innovation regularly monitors the trend of relevant laws and keeps up with our stakeholders' circumstances for proactive response to climate change. Internally, we issue newsletters and provide training so that all of our employees are well aware of risks posed by climate change. Along with this, with an aim of assessing financial and strategic impacts possibly caused by climate change, we conduct sensitivity analysis and formulate countermeasures on a regular basis, comprehensively taking into consideration 1) physical risks (heavy rainfalls, typhoons and droughts caused by climate change), 2) regulation revision risks (restrictive regulations on greenhouse gases, increases in the price carbon credits, etc.), 3) energy and paradigm shift risks (declining demand for petroleum products, behavior changes of consumers and investors). The countermeasures we designed are reported to the climate change management consultative body at the corporate level, and the risk management process is also put in place to be implemented in the final stage followed by the management's decision making.
	<b>c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.</b>	SK innovation takes climate change into account in all decision makings. We also include social value creation, where the reduction of greenhouse gas emissions belongs, in our KPI so that our risk management regarding climate change is fully reflected in management performance.
<b>Metrics and Targets</b>  Announce the metrics and targets used to assess and manage relevant climate risks and opportunities.	<b>a) Disclose the metrics used to assess climate-related risks and opportunities.</b>	As part of activities for fulfilling the target of Green Balance 2030, we set a mitigation target of greenhouse gas emissions, and accordingly have carried out a project to secure carbon credits and activities for improved energy efficiency while making investment in eco-friendly technologies. In compliance with the Nationality Determined Contributions (NDCs) based on the "Act on the allocation and trading of greenhouse gas emission permits," we set a reduction target of 7.8% or more against BAU by 2025. We are, however, altering our reduction target to make a contribution to the community and abide by Paris Agreement which will take effect from 2021. SK innovation has established the mitigation target of greenhouse gas emissions in short-term and medium- and long-term through the quantitative analysis of the overs and shorts risks of carbon credits after monitoring energy consumption and greenhouse gas emissions (GHG Scope 1,2,3) at all our workplaces. Managing energy consumption and analyzing climate change scenarios have been also part of our efforts for target settings.
	<b>b) Release Scope 1, Scope 2, and, if applicable, Scope 3 of greenhouse gas emissions (GHG).</b>	
	<b>c) Describe the targets to manage climate-related risks and opportunities as well as related outcomes.</b>	

# ESG Data

## Economy

As of December 31, 2019

Current Status of Stock Ownership				
Type	Shareholder	No. of Shares Owned	Shareholding ratio	Note
Shareholders with 5% stake or above	SK holdings	30,883,788	33.40%	Largest shareholder
	National Pension Service	9,705,070	10.50%	

\* The number of shares owned and shareholding ratio are based on common stocks, and the shareholding ratio is based on the number of shares issued by common stocks

As of December 31, 2019

Basic Information of the Largest Shareholder				
Shareholder Name	CEO		Largest shareholder	
	Name	Stake	Name	Stake
SK holdings	Chey Tae-won	18.44%	Chey Tae-won	18.44%
	Jang Dong-hyun	-	-	-

As of December 31, 2019

Current Status of Voting Right				
Type	Unit	Type of Stock	No. of Shares	Note
Total number of shares issued (A)		Common stock	92,465,564	-
		Preferred stock	1,248,426	-
Number of shares without voting rights (B)	Share	Common stock	5,502,137	Treasury stock (Article 369, Paragraph 2 of the Commercial Law)
		Preferred stock	1,248,426	-
Number of shares that can exercise voting rights (C=A-B)		Common stock	86,963,427	-
		Preferred stock	-	-

\* Since the differential voting system is not introduced, all shares that can exercise voting rights are given 1 voting right per 1 share

Distribution of Economic Value						CEO Compensation		
Type		Unit	2017	2018	2019	Field	Unit	2019
Economy Corporation	R&D <sup>1)</sup>	KRW 100 million	1,957	2,336	2,275	Total CEO compensation <sup>5) 6)</sup>	KRW million	3,152
	Acquiring tangible assets <sup>2)</sup>		9,135	12,789	27,101			
	Investors Dividend payout		7,456	7,083	2,647			
Society	Employees Employee Compensation <sup>3)</sup>	KRW 100 million	13,036	12,987	10,506	Mean annual salary of all employees excluding CEO and executives	KRW million	116
	Suppliers Goods purchased for suppliers		11,866	16,654	22,088			
	Local communities Investment for social contribution		270	349	601			
Government	Corporate tax payment <sup>4)</sup>		6,513	7,297	5,290	CEO compensation over mean annual salary of all employees <sup>v</sup>	Multiplier	27.17

1) Based on Annual Report 2019

2) Based on each year's consolidated audit report, note 10-[2] refers to items in book value of tangible assets labeled "Acquired"

3) Based on each year's consolidated audit report, note 23 refers to the item under cost by category labeled "Employee wages"

4) Based on Annual Report 2019's consolidated cash flow statement in consolidated financial statement

5) Incentive compensation for the CEO is determined by comprehensively considering company's financial profits (pre-tax profits, EVA), relevant financial indicator (Increase in stock price, business model innovation), created social value (SV based business model, SHE, social contribution, etc.) and others

6) SK innovation granted the CEO 70,551 stock options in March 2018 to maximize company value

## SHE<sup>1)2)3)</sup>

Energy Consumption										
Energy target for year 2025 - Reduction by 7.8% compared to BAU by 2025										
Type	Unit	2017	2018	2019						
				Total	SKI	SKE	SKGC	SKL	SKI PC	SKI ET
Total energy consumption		58,403,361	59,109,349	51,347,406	538,857	19,207,306	18,948,691	1,379,906	10,904,335	368,312
By category	Fuel	39,725,090	40,492,385	39,822,197	210,622	15,113,812	14,137,460	490,658	9,657,216	212,428
	Electricity	11,129,285	11,073,973	4,378,768	328,235	1,894,173	994,341	109,242	896,892	155,883
	Steam	7,548,986	7,542,991	7,146,442	0	2,199,321	3,816,889	780,006	350,226	0
Non-renewable energy sales		5,639,585	5,673,917	5,787,229	0	4,878,485	762,139	146,606	0	0
Total cost of energy consumption	KRW million	2,245,871	2,718,838	2,637,904	42,624	941,945	1,031,082	84,856	510,583	26,813

Greenhouse Gas Emissions Scope 1&2												
Greenhouse gas target for year 2025 - Reduction by 7.8% compared to BAU by 2025												
Type	Unit	2017	2018	2019								
				Target	Total	SKI	SKE	SKGC	SKL	SKI PC	SKI ET	
Total greenhouse gas emissions (Scope 1&2)		12,903,208	12,964,803	12,518,150	12,518,151	191,568	7,248,686	3,207,910	178,312	1,580,187	111,487	
By category	All direct emissions (Scope1)	tCO <sub>2</sub> eq	10,515,907	10,484,559	10,318,269	10,117,596	38,528	6,316,246	2,478,012	86,323	1,159,681	38,806
	All indirect emissions (Scope2)		2,387,301	2,480,244	2,478,039	2,400,554	153,040	932,440	729,899	91,989	420,506	72,681

Achievement of Greenhouse Gas Emissions <sup>4)5)</sup>				
Type	Unit	2018	2019(Target)	2019
Contribution result from GHG emissions reduction through low-carbon products	KRW 100 million	441	463	502
Reduction amount of GHG emissions through low-carbon products	Tons	443,118	465,274	491,850

Greenhouse Gas Emissions Scope 3 <sup>6)</sup>										
Type	Unit	2017	2018	2019						
				Total	SKI	SKE	SKGC	SKL	SKI PC	SKI ET
All other indirect emissions (Scope3)	tCO <sub>2</sub> eq	-	-	46,872,097	0	33,848,082	4,262,374	80,101	8,681,540	0

1) SHE Data Scope of Calculation: Includes SKI (SK innovation), SKE (SK energy), SKGC (SK global chem), SKL (SK lubricants), SKIPC (SK incheon petrochem), SKTI (SK trading international)

2) Organizational boundaries are reviewed during the verification of emissions conducted by the government. If this is to be reflected, figures are subject to change. (It applies energy consumption and greenhouse gas emissions.)

3) Figures of 2017 and 2018 were changed since headquarters' performance was applied retroactively. (It applies to energy consumption, greenhouse gas emissions, water consumption and generated waste)

4) 5% Increase from 2018

5) Items: electric vehicle battery, light materials for vehicle, warm mix asphalt, premium lube base oil and lubricants

6) Calculation of five categories ranging from raw material adoption, transportation, usage of goods and services to transportation and disposal

Water Consumption											
Type	Unit	2017	2018	2019							
				Target	Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET
Total volume of water usage		53,134,081	50,900,843	50,336,196	48,628,036	738,468	31,419,132	10,660,688	732,632	4,389,013	688,103
By category	Municipal water supplies	53,125,923	50,899,370	-	48,626,651	738,468	31,417,747	10,660,688	732,632	4,389,013	688,103
	Groundwater (freshwater)	7,658	1,253	-	1,385	0	1,385	0	0	0	0
	Rainwater	500	220	-	0	0	0	0	0	0	0

Generated Waste												
Target volume of generated waste for year 2025 - 135,609tons												
Target recycle ratio for year 2025 - 70.4%												
Type	Unit	2017	2018	2019								
				Target	Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Total volume of waste generated		112,149	127,658	139,738	142,293	14,328	78,636	19,603	2,171	17,337	10,218	
By treatment method	Internally processed (landfill)	0	0	-	0	0	0	0	0	0	0	
	Processed by agent (incineration, landfill)	42,191	42,843	42,061	36,018	1,495	23,221	5,656	416	4,901	329	
	Processed by agent (recycling)	69,958	84,814	-	106,275	12,833	55,415	13,948	1,754	12,436	9,888	
	Recycle ratio	%	62	66	70	75	90	70	71	81	72	97
By category	Designated (Hazardous) waste <sup>1)</sup>	Tons	50,229	59,326	63,676	67,491	11,028	28,970	5,377	934	13,429	7,752
	General waste <sup>2)</sup>	Tons	61,919	68,332	76,062	74,803	3,300	49,666	14,227	1,236	3,908	2,466

Wastewater Treatment											
Type	Unit	2017	2018	2019							
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Wastewater Treatment		Tons	17,935,014	17,580,141	17,487,870	80,416	14,219,843	1,446,033	0	1,640,170	101,408

Air Pollutant Emissions												
Type	Unit	2017	2018	2019								
				Target	Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
By category	NOx Emissions <sup>3)</sup>	Tons	7,909	8,541	8,261	7,359	39	5,308	1,192	64	753	3
	SOx Emissions	Tons	3,950	3,103	3,055	2,188	0	1,948	140	7	93	0
	VOC Emissions <sup>4)</sup>	Tons	332	323	360	297	0	76	163	4	55	0
	Hydrocarbon emissions <sup>5)</sup>	Tons	0	0	-	0	0	0	0	0	0	0
	Methane Emissions	Tons	2,306	2,109	2,296	2,251	1	1,785	50	2	412	1
	Dust Emissions	Tons	159	158	158	136	2	115	16	2	1	1

1) Designated waste: As waste stipulated by Presidential Decree from the Korean government, designated waste refers to any hazardous materials that may contaminate the surrounding environment such as waste oil and waste acid in "industrial wastes," which are generated in the "factory" stipulated in article 2-1 of the Industrial Placement and Factory Construction Act

2) General waste: Waste generated from a business site excluding designated waste and construction waste

3) Any NOx emissions generated by employees during business trips and commuting are not included

4) All VOC emissions which are generated from non-methane VOC's and stationary sources are included

5) Insignificant volume generated

Generated Harmful Chemicals											
Type	Unit	2017	2018	2019							
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Volume of generated harmful chemicals <sup>1)</sup>		Tons <sup>2)</sup>	82.9	72.4	379.2	0	24.6	43	0	54.5	257

Concentration of Air Pollutants											
Type	Unit	2019									
		SKI(Seosan)	SKI(Daejeon)	SKE	SKGC	SKL	SKIPC	SKIET			
NOx concentration	Business site	ppm	37	28	87	103	70	28	100		
	Legal standard	ppm	40~60	60	155	180	130	169	200		
SOx concentration	Business site	ppm	0	0	23	33	10	8	-		
	Legal standard	ppm	200	50	166	108	180	156	-		
Dust concentration	Business site	mg/Sm <sup>3</sup>	3	5	4	3	3	1	25		
	Legal standard	mg/Sm <sup>3</sup>	30	50	30	30	30	15	50		

Concentration of Wastewater											
Type	Unit	2019									
		SKI	SKE(Major Site)	SKE(Minor Site)	SKGC	SKL	SKIPC	SKIET			
COD volume	Business site	ppm	4	10	26	31	0	12	95		
	Legal standard	ppm	130	40	90	570	- <sup>3)</sup>	90	190		
BOD volume	Business site	ppm	3	3	16	20	0	1	115		
	Legal standard	ppm	120	10	80	600	- <sup>3)</sup>	80	230		
SS volume	Business site	ppm	2	2	30	18	0	8	90		
	Legal standard	ppm	120	10	80	400	- <sup>3)</sup>	80	180		

Violation of Environmental Regulations											
Type	Unit	2017	2018	2019							
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Punishment exceeding fines	Number of incidents	Number	1	0	0	0	0	0	0	0	0
	Value	KRW million	2	0	0	0	0	0	0	0	0
Fine (More than USD 10,000)	Number of incidents	Number	1	0	0	0	0	0	0	0	0
	Value	KRW million	60	0	0	0	0	0	0	0	0
Liabilities related to Environment	Value	KRW million	0	0	0	0	0	0	0	0	0

1) Harmful Chemicals: based on reporting materials of the Ministry of Environment

2) Basis of data calculation: based on volume of chemical emissions reported to the government

3) Business site where legal standards are not applicable (Not applicable)

Industrial Accidents												
Industrial Accidents target for 2025 - Number of fatalities 0, Lost Time Incident Rate 0.32												
Type	Unit	2017	2018	2019								
				Target	Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Number of fatalities	Total	0	0	0	0	0	0	0	0	0	0	0
	Employees	0	0	-	0	0	0	0	0	0	0	0
	Suppliers	0	0	-	0	0	0	0	0	0	0	0
Lost Time Incident Rate <sup>1)</sup>	Total	0.57	0.78	0.44	0.81	0.88	0.72	1.29	0.00	1.22	0.00	
	Employees	0.16	0.30	-	0.93	0.27	1.08	1.83	0.00	1.46	0.00	
	Suppliers	0.92	1.09	-	0.76	1.31	0.61	0.92	0.00	1.10	0.00	
Total Recordable Incidents Rate <sup>2)</sup>	Total	1.01	0.93	0.93	1.23	1.32	0.94	2.58	0.00	1.71	0.52	
	Employees	0.40	0.67	-	1.36	0.27	1.26	4.13	0.00	1.46	0.00	
	Suppliers	1.50	1.09	-	1.17	2.06	0.84	1.54	0.00	1.84	0.58	
Occupational Illness Frequency Rate <sup>3)</sup>	%	0.00	0.07	-	0.07	0	0	0	0	0.73	0	
Industrial Accident Rate <sup>4)</sup>		0.04	0.06	-	0.12	0.04	0.14	0.30	0	0.16	0	

Process Safety												
Type	Unit	2017	2018	2019								
				Target	Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET	
Unplanned Capacity Loss (UCL)	%	0.16	0.08	-	0.39	0	0.18	0.13	0.00	1.28	0	
Safety Accidents in the Process (Tier 1)		0.11	0.06	0.06	0.04	0	0.09	0	0	0	0	

Industrial Safety Training Hours												
Type	Unit	2019										
		Total	SKI	SKE	SKGC	SKL	SKIPC	SKIET				
Industry safety training hours <sup>5)</sup>	Hours	108,658	28,020	38,580	16,212	2,412	22,014	1,420				

1) Lost Time Incident Rate (LTIR): Number of lost time incidents x1,000,000/Total number of work hours

2) Total Recordable Incidents Rate (TRIR): Total number of recordable incidents x1,000,000/Total number of work hours

3) Occupational Illness Frequency Rate (OIFR): Number of occupational illness occurred x1,000,000/Total number of work hours

4) Industrial Accident Rate (based on the Enforcement Decree of the Occupational Safety and Health Act): (Number of industry hazards/Total number of employees) x100

5) Calculating the amount of time including regular training on safety health and safety training on chemicals

## Society

Employee Status by Category <sup>1)</sup>												
Type	Unit	2017	2018	2019								
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET	
Total workforce <sup>2)</sup>	Number of employees	Persons	6,284	6,584	7,036	2,089	2,732	1,014	309	629	130	133
	Ratio	%	100	100	100	100	100	100	100	100	100	100
By employment type	full-time employees	Persons	6,134	6,353	6,621	1,979	2,506	1,000	300	594	123	119
		%	97.6	96.5	94.1	94.7	91.7	98.6	97.1	94.4	94.6	89.5
	full-time employees	Persons	150	231	415	110	226	14	9	35	7	14
		%	2.4	3.5	5.9	5.3	8.3	1.4	2.9	5.6	5.4	10.5
By gender	Male	Persons	5,579	5,808	6,173	1,623	2,557	927	262	597	96	111
		%	88.8	88.2	87.7	77.7	93.6	91.4	84.8	94.9	73.8	83.5
	Female	Persons	705	776	863	466	175	87	47	32	34	22
		%	11.2	11.8	12.3	22.3	6.4	8.6	15.2	5.1	26.2	16.5
Management <sup>3)</sup>	Male	Persons	2,101	2,211	2,427	1,089	686	248	116	110	75	66
		%	92.4	91.6	90.8	86.6	97.2	92.5	93.5	95.7	88.2	93
	Female	Persons	172	202	247	168	20	20	8	5	10	5
		%	7.6	8.4	9.2	13.4	2.8	7.5	6.5	4.3	11.8	7
Executive	Male	Persons	148	151	165	79	35	21	10	8	8	4
		%	98	96.2	95.9	94	97.2	95.5	100	100	100	100
	Female	Persons	3	6	7	5	1	1	0	0	0	0
		%	2	3.8	4.1	6	2.8	4.5	0	0	0	0
By age	Under 30	Persons	533	661	848	297	327	89	40	52	21	22
		%	8.5	10	12.1	14.2	12	8.8	12.9	8.3	16.2	16.5
	30 to 54	Persons	3,702	3,612	3,621	1,514	984	471	162	310	89	91
		%	58.9	54.9	51.5	72.5	36	46.4	52.4	49.3	68.5	68.4
	55 and over	Persons	2,049	2,311	2,567	278	1,421	454	107	267	20	20
		%	32.6	35.1	36.5	13.3	52	44.8	34.6	42.4	15.4	15

Employee Diversity												
Type	Unit	2017	2018	2019								
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET	
Minority	Disabled <sup>4) 5) 6)</sup>	Persons	111	96	235	64	94	38	12	19	2	6
		%	1.8	1.5	3.4	3.2	3.4	4.0	4.0	3.1	2.2	5.0
	Patriots and Veterans	Persons	288	300	310	44	147	68	12	38	0	1
		%	4.6	4.6	4.4	2.1	5.4	6.7	3.9	6	0	0.8

1) Advisors excluded

2) Local recruited employees at an overseas business site excluded

3) Manager or higher position

4) Operation of standard workplaces for the handicapped: Happykium (SKI), Happydidim (SKE), and Happymoeum (SKGC)

5) Double counting allowed in case of the employment of severely disabled persons in accordance with the Act on the Employment Promotion and Vocational Rehabilitation of Persons with Disabilities

6) The proportion of disabled workers to full-time workers in compliance the Labor Standards Act

Use of Childcare Leave and Rate of Return											
Type	Unit	2017	2018	2019							
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET
Number of employees who used childcare leave	Male	5	5	10	5	1	2	1	0	0	1
	Female	71	62	83	45	13	14	2	5	4	0
Number of employees returning from childcare leave who worked at least 12 months following return	Male	2	3	4	1	2	1	0	0	0	0
	Female	65	43	45	25	14	1	2	1	1	1

Labor Union Registration Rate <sup>1)</sup>										
Type	Unit	2019								
		Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET	
Number of labor union membership	Persons	2,901	159	1541	628	103	459	0	11	
Ratio of labor union membership	%	41.2	7.6	56.4	61.9	33.3	73	0	8.3	
Ratio of collective bargaining applied	%	100	100	100	100	100	100	100	100	

Education Performance											
Target of education hours per employee by 2021 - 115Hours											
Type	Unit	2017	2018	2019							
				Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET
Education hours per employee <sup>2)</sup>	Hours	55.3	91.9	83.2	106.5	91.7	45.2	72.8	38.8	44.6	103.6
Education expense per employee	KRW million	-	3.43	3.21	5.77	2.04	2.29	4.05	1.56	2.15	1.14

Employee Engagement Rate				
Type	Unit	2017	2018	2019
Employee Engagement Rate	Total	91	93	94
	Male	93	94	95
	Female	81	85	85
Scope of data	%	100	100	100

Performance of Volunteer Groups									
Type	Unit	2019							
		Total	SKI	SKE	SKGC	SKL	SKIPC	SKTI	SKIET
Number of activities	Case	13,039	3,814	5,754	1,356	512	1,225	106	272
Hours	Hours	47,290.5	18,039.5	17,263	4,077	2,047.5	4,434	501.5	928
Number of volunteer teams	Team	70	18	30	7	4	8	1	2
Participants	Persons	6,000	1,677	2,401	878	264	607	77	96

1) In accordance with Article 35 of "Trade Union and Labor Relations Adjustment Act," when a single union agreement is applied to the majority of a workers in a company or plant, the identical agreement that year is applied to other workers employed for that years' business or plants

2) Increase in training hours per person due to changes in calculation standard and education time

Employee Engagement Rate					
Type	Unit	2017	2018	2019	
Social contribution ratio		269	349	602.2	
By category	Cash contributions	259	345.7	572.7	
	In-kind giving	KRW 100	0.7	3.5	0.5
	Employee volunteering during paid working hours	million	-	16.3 (49,167Hours)	16.4 (47,291Hours)
	Management overheads		-	16.1	12.6
Investment ratio for local community	%	71	70	65.5	

Current Status of Major Donations			
Beneficiary organization	Programs	Beneficiary organization	Programs
Development Fund for Vietnamese SMEs	Fund donation (USD 30 million)	KOFCFA	Support for Industrial 4.0 Innovation
CSES	Establishment and Business Operation	Korea Microcredit Joyful Union	Contest for Environmental Enterprises and Establishment Fund
The Korea Foundation for Advanced Studies	Business Fund	Incheon Metropolitan City	Giving back the reduced water bills to society
Community Chest of Korea	Donation for needy neighbors at the end of year	Dream Sharing	Support for social enterprise establishment
The Happiness Foundation	Business Fund	Chey Institute for Advanced Studies	Business Fund
Pro-synergy (Peru)	Operation of Yacheywasi, an Agricultural Social Enterprise	Korea Foundation for Support of the Senior Citizen in need	Programs
Seoul National University	Establishment of Library	KOA CHOIR	Programs
		Korea Volunteer Corps for Education	Sponsorship

Supplier cost of goods purchased				
Type	Unit	2017	2018	2019
Cost of goods purchased		11,866	16,654	22,088
Local <sup>1)</sup> supplier cost of goods purchased	KRW 100 million	7,371	8,485	13,376
Local <sup>1)</sup> supplier ratio of cost of goods purchase	%	62	51	61

2019 cost of goods purchased by item			
Type	Unit	Construction equipment	Construction workforce
Purchase amount	KRW 100 million	16,424	5,664
Purchase ratio	%	74	26

Customer and Brand Management <sup>2)</sup>					
Type		2017	2018	2019	
Customer Satisfaction Index	KCSI	Korea Management Association Consulting	Ranked No.1	Ranked No.1	Ranked No.1 (for 9 consecutive years)
Brand Index	K-BPI	Korea Management Association Consulting	Ranked No.1	Ranked No.1	Ranked No.1 (for 21 consecutive years)
	NBCI	Korea Productivity Center	Ranked No.1	Ranked No.1	Ranked No.1 (for 16 consecutive years)
	KS-PBI	Korean Standards Association	Ranked No.1	Ranked No.1	Ranked No.1 (for 7 consecutive years)

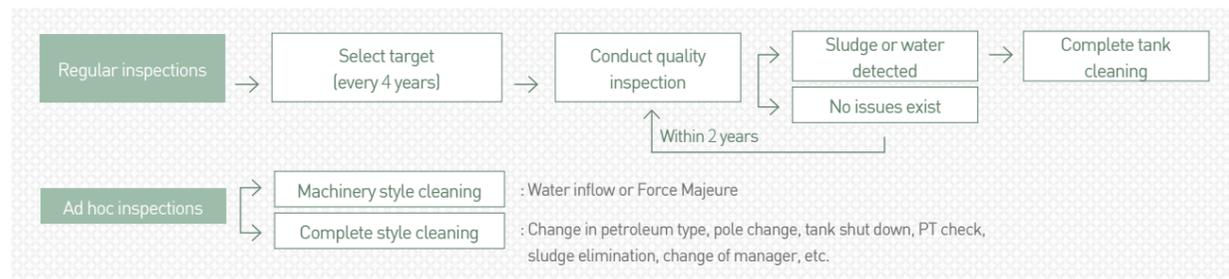
1) For South Korea

2) For SK energy

Customer and Quality Management					
Type	Unit	2017	2018	2019	
Customer complaint processing	Number of complaints	Number	2,319	3,031	2,480
	Complaints process rate	%	100	100	100
Quality inspection	Service station quality inspection	Number	11,982	11,998	11,359

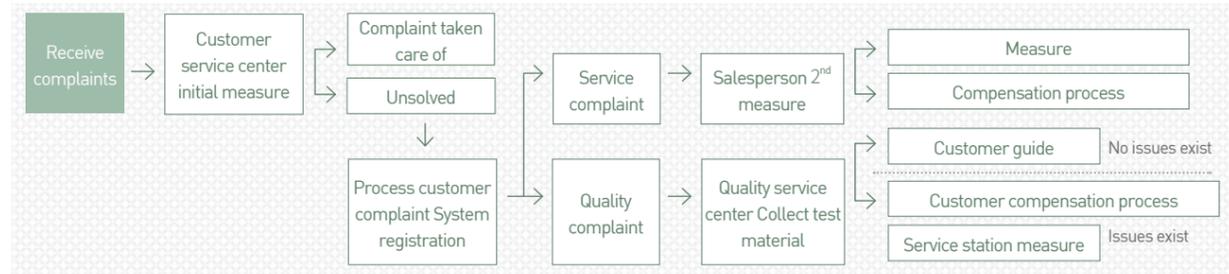
**Product Quality Control Process**

SK energy conducts regular quality inspections to manage quality at the point of contact with customers. We clean out all tanks in the according service station if we detect water or sludge during our periodical quality checks. In addition, when cleaning is necessary excluding inspection periods, we conduct machinery style or complete tank cleaning on an ad hoc basis to improve customers' reliability on quality.



**Registration Process of Customer Complaints**

Our rule is to solve customer complaints on the day of occurrence. We developed a system to share our process (CCS) so that complaints are categorized into service or quality and promptly sent to according authorities and processed.



Current Status of Contributions for Membership Associations and Groups <sup>1)</sup>						
Type	Unit	2015	2016	2017	2018	2019
Total annual contribution		2,834	2,961	2,855	3,112	3,123
Major groups for contribution	Korea Petroleum Association	1,452	1,619	1,486	1,491	1,460
	Korea Chamber of Commerce and Industry (Ulsan)	330	330	330	328	329
	Korea Oil Association	74	72	101	286	285
	Korea Chamber of Commerce and Industry (Seoul)	207	206	206	215	244
	Korea Petrochemical Industry Association	154	156	154	152	143
Other groups for contribution		617	578	578	640	662

<sup>1)</sup> In accordance with the Political Fund Act of Korea and SK innovation Code of Ethics Guidelines, it is strictly prohibited to provide donations and sponsorship for political purposes by using corporate assets and budgets

Current Status of Corporate Tax Payment <sup>1)</sup>												
Type	Unit	Sales	Operating profit	Taxes and public utilities' charge	Corporate tax payment	Type	Unit	Sales	Operating profit	Taxes and public utilities' charge	Corporate tax payment	
By country	Total	498,765	12,693	260	5,290	By region	Total	498,765	12,693	260	5,290	
	Korea	669,185	27,252	189	5,211		Korea	KRW	669,185	27,252	189	5,211
	Netherlands	5,961	25	2	8		Asia	100	282,107	950	22	128
	USA	54,641	(318)	6	(6)		Europe	million	49,130	12	42	72
	Spain	6,945	272	2	61		Other		(501,656)	(15,522)	6	(122)
	Singapore	KRW	251,183	656	1	1						
	UK	100	35,650	(94)	2	0						
	Indonesia		3,493	181	0	73						
	Japan		6,399	21	1	6						
	China		21,032	98	18	46						
	Russia		543	40	0	3						
	Other		(556,267)	(15,441)	39	(112)						

Type	Unit	2018	2019	Average(notes)
Earnings before tax	KRW million	2,405,486	376,459	Income statement
Nominal tax paid	KRW million	706,439	310,684	Income statement
Nominal tax rate	%	29.4	82.5	
Effective tax paid	KRW million	729,672	528,960	Statement of cash flow
Effective tax rate	%	30.3	140.5	

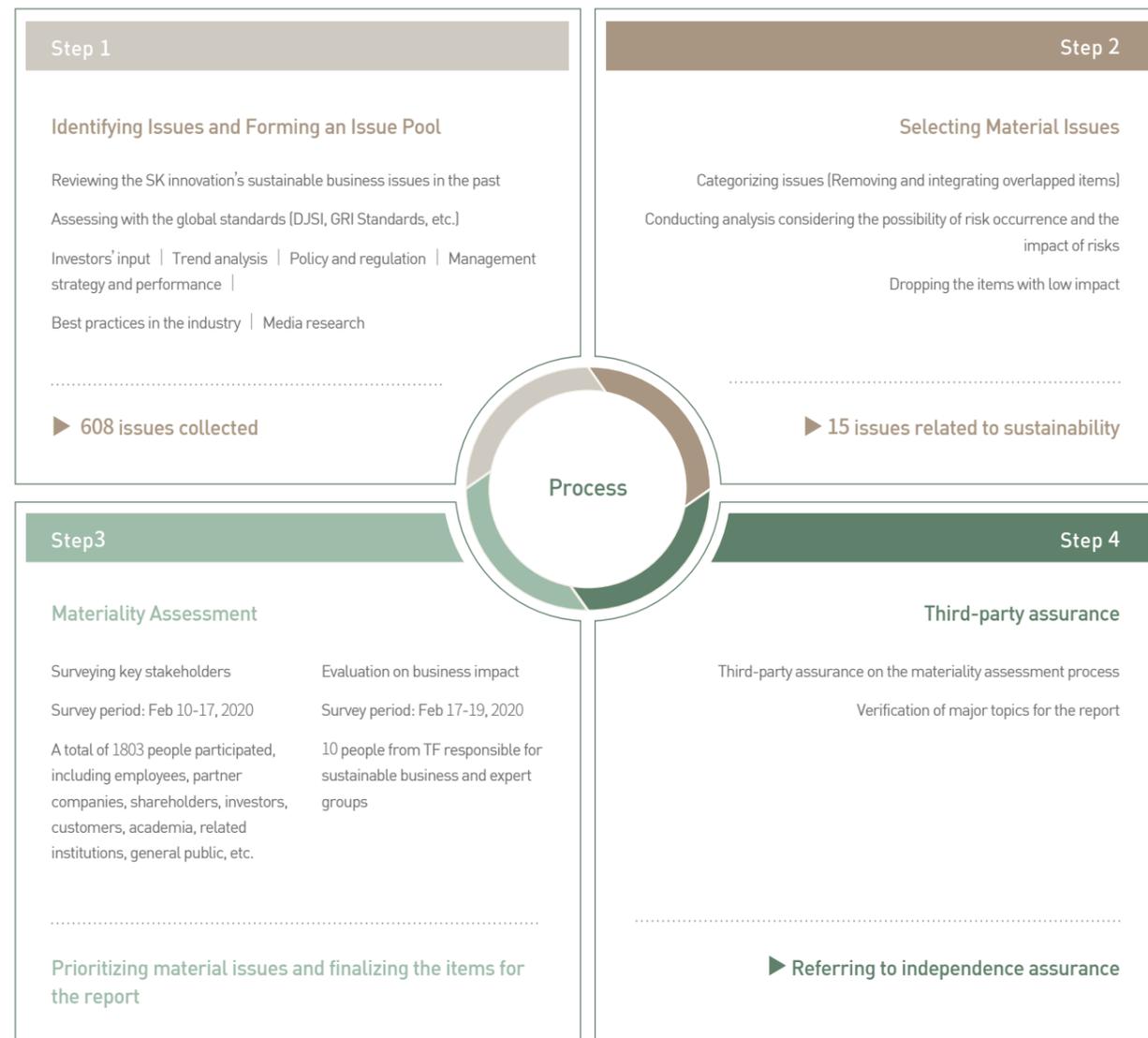
Type	Unit	2018	2019	Average(notes)
Nominal tax amount vs. effective tax amount		(23,233)	(218,276)	
Difference in reversion period - Period of corporate tax payment: March to May of the following year		(164,073)	(448,984)	
Permanent difference - Non-taxable revenue / Non-deductible expense		6,085	(175)	
Tax amount exemption and reduction difference - Tax amount exemption and reduction, non-exempt overseas paid tax amount	KRW million	101,268	92,669	
Changes of deferred tax without feasibility - Unrecognised subsidiary company loss		103,350	128,676	
Other differences - Tentative and fixed tax rate difference, etc.		(69,863)	9,538	

<sup>1)</sup> It is regional information on the consolidated target (based on the location), and internal transactions between consolidated targets are adjusted and reflected in the category of others.

# Materiality Assessment

## Materiality Assessment Process

SK innovation conducted a materiality assessment for the purpose of identifying and selecting key issues to be further managed ahead of the publication of our sustainability report 2019. In order to identify sustainable business issues and form an issue pool, we analyzed the company's performance, external evaluations, policies, regulations, and best practices in the industry. The additional analysis of corporate issues exposed by media was also done. Then, we analyzed what impacts these identified material issues will have on our stakeholders and businesses, followed by selecting final issues for report according to the results.



## Result of Materiality Assessment

The result of materiality assessment presented "reinforcement of green initiative" as the most significant topic SK innovation had to focus on in 2019. It is followed by "response to climate change," "shared growth with partner companies," "economic progress" for key topics in sustainable business. Our business approach and key activities specific to these major topics were reported as a separate category while other material issues are also contained in the report so that we can cover all issues critical to SK innovation.

Topic	Report Category	Business Impact on SK innovation	Influence on Stakeholders	The origin distance	2019 Priority	Page
		Score(X-axis)	Score(Y-axis)			
1 Reinforcement of green initiative	Focus Area 1. Tackling Climate Change	93.7	78.99	122.55	1	32-33
2 Action on climate change	Focus Area 1. Tackling Climate Change	91.1	73.59	117.11	2	32-33
3 Shared growth with partner companies	Focus Area 2. Sustainable Supply Chain	87.76	75.93	116.04	3	34-35
4 Economic growth	Focus Area 3. Advancement of Business Strategy	81.45	77.96	112.75	4	36-37
5 Risk management	Sustainability Management. Risk Management	84.41	74.01	112.26	5	44-45
6 Improving global competitiveness	Sustainability Strategy	80.71	77.84	112.13	6	14-29
7 Customer-driven management	Overview/Sustainability Strategy	82.19	76.05	111.98	7	10-29
8 More transparent governance	Sustainability Management. Board of Directors (BOD)	82.56	75.32	111.75	8	40-43
9 Customer-driven management	Sustainability Management. SHE Management	82.19	75.53	111.62	9	66-73
10 Responsible supply of raw materials	Focus Area 2. Sustainable Supply Chain	84.05	72.89	111.25	10	34-35
11 Ethics Management	Sustainability Management. Ethics Management	77.37	76.32	108.67	11	46-49
12 Happiness of employees	Sustainability Management. Employees	77.74	74.33	107.55	12	50-55
13 Spreading culture respecting human rights	Sustainability Management. Employees	72.93	74.11	103.97	13	50-55
14 Social contribution to local communities	Sustainability Management. Social Contribution	66.24	72.22	98	14	56-60
15 Engagement of stakeholders	Appendix. Engagement of Stakeholders	65.5	68.49	94.77	15	108

## Engagement of Stakeholders

SK innovation runs various communication channels depending on stakeholder characteristics. We define main stakeholders as our customers, employees, shareholders and investors, local communities and suppliers. We constantly review issues of interest by group. Through continuous communication with stakeholders, we will build a firm relationship of trust and stimulate social value creation by reflecting their opinions and needs into our business operations.

Communication with stakeholders			
Stakeholders	Major Communication channels	Areas of Interest	
Customer	Customer Happiness Center' call center operations	- Creating value through mutual growth	- Fair performance evaluation and compensation
	EnClean.com operations	- Maintaining a healthy worklife Balance	- Banning of unfair trade
	Year round meetings and events	- Securing sustainable Technology	- Improvement in communication and capacities of suppliers
	Website (SK innovation)		
	blog (SK innovation, SK energy), Facebook (SK innovation, SK energy, SK lubricants), etc.		
Employees	Intranet (Tong, etc.)	- Increased company value	- Securing sustainable Technology
	In-house Broadcasting (GBS) and company newsletters	- Innovation of intrinsic product competitiveness	- Innovation of business model and business portfolio
	iCON (Change Facilitators as messengers)	- Creating value through mutual growth	
	Well-Comm. Day (Dialogue with CEO and employees) and meetings		
	Leaders Forum (Giving lectures to CEO, all executives, and team leaders given by external experts) Harmonia (consulting coaching center to help employee's mental health and capacity)		
Shareholder, investor	Annual shareholder meetings, performance announcement	- Improved shareholderfriendly transparency based on board	- Internal and external risk management response
	Domestic and global NDR (Non-Deal Roadshow) and conferences	- Creating value through mutual growth	- Expansion of stakeholder communication
	1:1 meetings, e-mail and phone inquiries Publications	- Securing sustainable Technology	
	official notice (Dart etc.)		
Local community	Meeting with local organizations	- Improvement in communication and capacities of suppliers	- Banning of unfair trade
	Participation in local community committees near business sites	- Increased company value	- Maintaining a healthy worklife Balance
	Participation in the living and safety commissions of police precinct offices	- Expansion of stakeholder Communication	- Minimized emission of environment pollutants
	Engagement in welfare facilities and group operating commissions in the adjacent region		
Supplier	Regular meetings with partner companies	- Creating value through mutual growth	- Improvement in communication and capacities of suppliers
	CEO seminar with partner companies in Ulsan and Seoul	- Securing sustainable Technology	- Growth support through shared infrastructure
	Regular inspection meetings for logistics, machines, and equipment		
	I-step system (technology exchange and joint R&D)		
	BIOK (procurement system: a channel for suggestions regarding social values)		
	The Growth Mobile Academy (providing necessary lectures)		

## GRI Index

General Standards Disclosure				
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	102-10	Significant changes to the organization and its supply chain	61	
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	102-15	Key impacts, risks, and opportunities	8, 9, 44, 45	
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	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	69-71
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	403-9	Work-related injuries	100
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Supplier Social Assessment	404-2	Programs for upgrading employee skills and transition assistance programs	50, 51
	405-1	Diversity of governance bodies and employees	40, 101
Customer Privacy	412-2	Employee training on human rights policies or procedures	55
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
Supplier Social Assessment	413-1	Operations with local community engagement, impact assessments, and development programs	56-60, 122 Participate in community activities for all business sites
	414-1	New suppliers that were screened using social criteria	61-62
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	- No case

## Sustainability Accounting Standards Board (SASB)

Classification	SASB Code	Accounting Metric	Unit	2017	2018	2019	Note	
<b>Sustainability Disclosure Topics &amp; Accounting Metrics</b>								
Greenhouse Gas Emissions	em-rm-110a.1	Emissions	Metric tons(t) CO <sub>2</sub> -e	10,515,907	10,484,559	10,117,596		
		percentage covered under emissions-limiting regulations	%	100	100	100		
Greenhouse Gas Emissions	em-rm-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, analysis of performance against those targets		94-95 Page				
		NOx (excluding N <sub>2</sub> O)	Metric tons(t)	7,909	8,541	7,359		
Air Quality	em-rm-120a.1	SOx	Metric tons(t)	3,950	3,103	2,188		
		particulate matter (PM10)	Metric tons(t)	159	158	136		
		H <sub>2</sub> S	Metric tons(t)	4,536	4,380	3,993		
		VOCs	Metric tons(t)	332	323	297		
Air Quality	em-rm-120a.2	Number of refineries in or near areas of dense population	Number	2	2	2		
		Total fresh water withdrawn	Metric tons(t)	53,134,081	50,900,843	48,628,036		
Water Management	em-rm-140a.1	Percentage recycled	%	N/A	N/A	N/A		
		percentage in regions with High or Extremely High Baseline Water Stress	%	N/A	N/A	N/A		
Water Management	em-rm-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations		Number	2	1	1	All legal restrictions such as administrative measures and fines included
		em-rm-150a.1	Amount of hazardous waste generated	Metric tons(t)	50,229	59,326	67,491	
Hazardous Materials Management	em-rm-150a.1		percentage recycled	%	71	71	82	
		em-rm-150a.2	Number of underground storage tanks (USTs)	Number	11	11	11	It only applies to tanks in our own gas stations. There are no tanks for raw materials and products in our business sites.
Hazardous Materials Management	em-rm-150a.2		number of UST releases requiring cleanup	Number	0	0	0	
		percentage in states with UST financial assurance funds	%	N/A	N/A	N/A	Korea is not subject to UST Financial Assurance Funds	
Workforce Health & Safety	em-rm-320a.1	Total recordable incident rate (TRIR)	full-time employees	Ratio	0.40	0.67	1.36	Based on 1,000,000 man-hours
			contract employees	Ratio	1.50	1.09	1.17	
		fatality rate	full-time employees	Ratio	0	0	0	
			contract employees	Ratio	0	0	0	
Workforce Health & Safety	em-rm-320a.1	near miss frequency rate(NMFR)	full-time employees	Ratio	N/A	N/A	N/A	
			contract employees	Ratio	N/A	N/A	N/A	
Workforce Health & Safety	em-rm-320a.2	Discussion of management systems used to integrate a culture of safety		-	66 Page			

Classification	SASB Code	세부지표	Unit	2017	2018	2019	Note	
Product Specifications & Clean Fuel Blends	em-rm-410a.1	Percentage of Renewable Volume Obligation (RVO) <sup>1)</sup> met through	production of renewable fuels	%	100	100	100	It applies to domestic ULSD products based on the mixing proportion of Conventional Bio-fuel (FAME)
			purchase of separated renewable identification numbers (RIN)	%	N/A	N/A	N/A	
	em-rm-410a.2	market for advanced biofuels and associated infrastructure	Total addressable market	₩	N/A	N/A	N/A	Domestic market doesn't exist. Estimates of global market size vary depending on organizations.
Total addressable share			%	0	0	0	No production and equipment of Addressable Bio-fuel	
Pricing Integrity & Transparency	em-rm-520a.1	Total amount of monetary losses as a result of legal proceedings associated with price fixing or price manipulation	USD	0	124,463,657	0		
Management of the Legal & Regulatory Environment	em-rm-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	-		44-45 Page			
Critical Incident Risk Management	em-rm-540a.1	Process Safety Event (PSE) rates	greater consequence (Tier 1)	Ratio	0.11	0.06	0.04	Based on 1,000,000 man-hours
			lesser consequence (Tier 2)	Ratio	0.14	0	0.04	
	em-rm-540a.2	Challenges to Safety Systems indicator rate (Tier 3)	Ratio	N/A	N/A	N/A		
	em-rm-540a.3	Discussion of measurement of Operating Discipline and Management System Performance through Tier 4 Indicators	-		66 Page			
<b>Activity Metrics</b>								
Refining throughput of crude oil and other feedstocks	em-rm-000.a	Refining throughput of crude oil and other feedstocks	Barrels of oil equivalent (BOE)	381,758,802	373,759,621	353,328,659		
Refining operating capacity	em-rm-000.b	Refining operating capacity	Million barrels per calendar day (MBPD)	1.19	1.19	1.19		

1) Renewable Volume Obligation: RVO is to mandate the incorporation of more than a certain proportion of renewable fuels into fossil fuels in order to mitigate greenhouse gases

## Independent Auditors' Report

To the Stockholders and the Board of Directors of SK innovation Co., Ltd.

### Our Opinion

We have audited the consolidated financial statements of SK innovation Co., Ltd. and its subsidiaries (hereinafter referred to as "Group"). The consolidated financial statements consist of the current statements of financial position as of December 31, 2019, the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows reported through the end of 2019 as well as a summary of significant accounting policies and other explanatory information.

In our opinion, the attached consolidated financial statements of the Group are fairly displaying the group's financial status as of December 31, 2019 and the record of group's financial performance and its cash flows ending on the same date from the perspective of materiality in accordance with the Korean International Financial Reporting Standards ("K-IFRS").

### Ground of Audit Opinion

We carried out the audits in accordance with the Korean Standards on Auditing ("KSA"). Our responsibilities under KSA are described in the Auditor's Responsibility for the Audit of the Financial Statements section of the report. We are independent from the Group in compliance with Korea's ethical requirements in regard to auditing consolidated financial statements and fulfilled other ethical responsibilities required by prevailing audit regulations. We believe that the audit evidence we have obtained is sufficient and appropriate for the grounds for our opinion.

### Key Audit Matters

The key audit matters are the most significant items in our audit of the consolidated financial statements of the current period in our professional judgment. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon, and we do not provide a separate opinion in these matters.

#### (1) Recognition of lease on Consecutive Voyage Charter

The Group makes contracts with shipping companies in regard of oil transportation, and some contracts by charter include the Consecutive Voyage Charter that grants ship substitution rights to shipping companies. As described in Note 2, the Group reviews if contracts is for lease or contains lease matters and recognizes the asset containing the right to use and the lease liabilities under the article 1116 "Lease" of the Statements of Korea Accounting Standards firstly applied as of January 1, 2019.

In case of Consecutive Voyage Charter granting ship substitution rights to shipping companies, which are the suppliers of the contract by charter, the identification of lease includes judging whether the granted substitution right is feasible. The identification based on the judgment highly affects the consolidated financial statements. Accordingly, we decided to include the recognition of lease on the Consecutive Voyage Charter granting substitution rights to shipping companies in the list of our key audit matters.

Followings are the audit process we conducted in regard of this matter.

- Analyzing contracts to understand and review the substitution rights granted to shipping companies
- Reviewing whether the shipping companies have legal and financial capabilities to exercise the substitution right
- Conducting an economic feasibility study through understanding the fare and charging system under the Contract of Carriage of Goods by Sea
- Analyzing historical data, similar substitution cases in the past, and substitution cases occurring during the term
- Verifying the recalculation of the sum of lease liabilities and the right to use assets that the company presented

### Additional Matters

The Group's consolidated financial statements during the period of report ending on December 31, 2018 were audited by Deloitte Anjin LLC, while the audit report as of March 3, 2019 stipulated that the same consolidated financial statements were fairly written from the perspective of significance in accordance with K-IFRS. The consolidated financial statements which the auditor gave his opinions are the consolidated financial statements before applying the adjustments described in Note 37.

Meanwhile, we carried out the audit on the adjustments made to modify the consolidated financial statements 2018 as part of our audits on the statements in the period of report ending on December 31, 2019, as explained in Note 37. With our opinion, the adjustments were appropriate and correctly applied.

Except for the adjustments aforementioned, we did not make any contract regarding audit, review, or others on the consolidated financial statements for the year ended December 31, 2018. Accordingly, we do not express any form of audit opinions or assurance in regard to the whole consolidated financial statements for the year ended December 31, 2018.

### Responsibilities of Management and Governance Body for the Consolidated Financial Statements

The management has the responsibility of making and disclosing the consolidated financial statements in a fair way in accordance with K-IFRS. The management is also accountable for internal controls to make precise consolidated financial statements without critical distortions caused by fraud or error.

In preparation for consolidated financial statements, if an evaluation judges that the group has capabilities to maintain business as a going concern and is applicable, the management is accountable for publicly releasing the related corporate issues. In addition, unless the management has an intention to liquidate the group or terminate the operation, the management is responsible for the use of accounting based on the group as a going concern.

The governance body is in charge of overseeing the Group's financial reporting process.

### Auditors' Responsibility for the Audit of Financial Statements

Our objective is to obtain a reasonable assurance about the fact that the financial statements as a whole are free from significant misstatement due to fraud or error, and to issue an auditor's report with our opinions. The reasonable assurance means the high level of assurance, but it does not guarantee that the audit following KSA will be always flawless without any significant misstatement. The misstatement can be found due to the fraud or error and the misstatement is regarded material if it is reasonably expected to impact on the individual or collective economic decisions based on the consolidated financial statements.

As part of an audit in accordance with KSA, we maintain our professional judgement and skepticism in all stages of the auditing process. We also;

- Identify and assess the risks of material misstatement of the consolidated financial statements, design and perform audit procedures responding to those risks. Also, we collect the right amount of appropriate evidence for the audit as grounds for our audit opinions. The risk of not detecting a critical misstatement resulting from fraud is higher than the one caused by error as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Grasp a deep understanding of internal controls related to audits in order to design an audit procedure appropriate to the situation. However, it is not for the purpose of expressing our opinions of the effectiveness of internal controls.
- Assess the appropriateness of accounting policies, the rationality of accounting estimates, and the related disclosures that the management produced for preparing the consolidated financial statements.
- Make a conclusion whether there is a uncertainty remaining regarding the case or situation that can raise the material question over the capability to maintain the business on the grounds of the propriety of the accounting as a going concern and the audit evidence obtained. If we conclude that there is a significant uncertainty, we call attention about the public notice of the consolidated financial statements in the auditor's report, and we are requested to change our opinion in case the public

notice of the financial statements is found inappropriate. Although our conclusion is based on the acquired audit evidence until the date of audit report, the case or situation occurring later than that can terminate the Group's existence as a going concern.

- Evaluate the overall indications, structure, and contents of the consolidated financial statements and assess if the statements are fairly displaying the transactions and incidents that are key to financial statements.

- Acquire adequate amount of proper audit evidence related to corporate financial information or business activities in order to express our opinions on the consolidated financial statements. We have responsibility for the command, supervision, and implementation of the audit on the group and are fully responsible for the audit opinions.

We communicate with the governance body about the planned scope and period of the audit as well as the material findings from the audit, including identified shortcomings regarding internal controls.

On top of that, we comply with ethical requirements regarding independence and give our statement to the governance body that we will communicate with the governance body on all relations and matters possibly regarding our independence, and if applicable, all related institutional safe tools.

We decide the key audit matters by selecting the most material items in the consolidated financial statements during the term among all the matters we communicate with the governance body. Unless the relevant laws exclude the public disclosure of the matter or the adverse effect of stating the matter on our auditors' report reasonably exceeds the public benefit of the release through the communication, which is extremely rare case, we contain these matters on our auditors' report.

The engagement partner on the audit resulting in this independent auditor's report is Lee Bok-han.

Yeouigongwon-ro 111, Yeongdeungpo-gu, Seoul

EY Han Young

CEO, Park Yong-keun

This report is effective as of March 6, 2020, the date of the auditors' report. Accordingly, any subsequent events or circumstances that significantly affects the Group may occur between the date of the auditors' report and the time of reading this report, and these can lead to the modification of this report.

# Financial Statements

## Consolidated Financial Statements

(Unit : KRW thousand)

Classification	2018	2019
<b>Assets</b>		
I . Total Current Assets	16,634,727,479	17,352,776,869
1. Cash and cash equivalents	1,825,558,285	2,196,001,396
2. Short-term financial instruments	2,671,963,400	2,376,093,788
3. Trade accounts receivable	4,413,854,740	4,138,301,739
4. Long-term investment securities	2,591,171	1,051,171
5. Short-term loans	43,550,898	34,480,166
6. Other accounts receivable	683,702,009	749,512,768
7. Accrued income	5,083,257	5,183,656
8. Advance payments	470,726,025	402,684,301
9. Prepaid expenses	46,792,972	50,097,240
10. Current tax assets	9,266,155	15,919,531
11. Guarantee deposits	171,798,101	123,852,149
12. Derivative financial assets	72,206,845	34,458,260
13. Inventories	6,151,889,697	6,495,210,174
14. Other current assets	65,500,000	729,486,873
15. Assets classified as held for sales	243,924	443,657
II . Total Non-current Assets	19,218,655,034	22,173,279,738
1. Long-term financial instruments	4,720,012	4,615,948
2. Long-term trade accounts receivable	78,836	-
3. Long-term investment securities	333,183,684	369,486,521
4. Investments in associates and jointly controlled entities	2,881,803,332	3,495,069,938
5. Long-term other accounts receivable	196,242,473	403,691,278
6. Long-term loans	12,857,090	8,455,857
7. Property, plant and equipment	13,685,031,864	15,462,371,776
8. Right-of-use asset	-	1,125,712,493
9. Goodwill and Intangible assets	2,005,923,554	1,118,922,800
10. Long-term guarantee deposits	42,565,096	83,566,701
11. Derivative financial assets	8,502,747	40,828,407
12. Deferred income tax assets	23,934,019	41,740,920
13. Other non-current assets	23,812,327	18,817,099
<b>Total Assets</b>	<b>35,853,382,513</b>	<b>39,526,056,607</b>

Classification	2018	2019
<b>Liabilities</b>		
I . Total Current Liabilities	8,866,633,214	10,456,380,735
1. Short-term borrowings		1,131,974,169
2. Trade accounts payable	4,588,331,578	4,928,198,197
3. Other accounts payable	465,067,560	529,313,420
4. Accrued expenses	1,341,253,207	1,470,407,321
5. Advance received	117,420,458	145,159,282
6. Withholdings	642,579,054	705,518,790
7. Current tax liabilities	220,772,167	83,390,901
8. Current portion of long-term debt	1,213,849,009	1,155,413,760
9. Current lease obligations	20,509	223,202,897
10. Current leasehold deposits received	12,357,819	11,569,721
11. Current derivative financial liabilities	55,846,355	14,065,053
12. Liabilities for sale	-	7,865,246
13. Other current liabilities	55,393,418	50,301,978
II . Total Non-current Liabilities	7,812,495,075	10,860,052,110
1. Bonds payable and long-term borrowings	6,646,149,336	8,843,635,957
2. Lease obligations	3,876	937,875,544
3. Other accounts payable	12,590,361	6,179,602
4. Retirement benefit obligation	77,883,773	48,592,812
5. Long-term provisions	118,805,835	132,027,862
6. Leasehold deposits received	10,020,252	11,280,590
7. Non-current derivative financial liabilities	-	687,454
8. Financial guarantee liabilities	721,035	252,275
9. Deferred income tax liabilities	946,255,025	879,452,103
10. Other non-current liabilities	65,582	67,911
<b>Total Liabilities</b>	<b>16,679,128,289</b>	<b>21,316,432,845</b>
<b>Equity</b>		
I . Total Equity Attributable to the Owners' of the Company	18,122,637,176	17,468,081,248
1. Capital stock	468,569,950	468,569,950
2. Other paid-in capital	4,628,540,029	4,629,395,914
3. Retained earnings	12,928,527,378	<b>12,175,219,414</b>
4. Other capital components	96,999,819	194,895,970
II . Non-controlling interests	1,051,617,048	741,542,514
<b>Total Equity</b>	<b>19,174,254,224</b>	<b>18,209,623,762</b>
<b>Total Liabilities and Equity</b>	<b>35,853,382,513</b>	<b>39,526,056,607</b>

# Financial Statements

## Consolidated Statements of Comprehensive Income

(Unit : KRW thousand)

Classification	2018	2019
I. Sales	54,216,524,175	49,876,534,172
II. Cost of Sales	50,251,193,139	46,745,610,183
III. Gross Profit	3,965,331,036	3,130,923,989
IV. Selling and Administrative Expenses	1,862,165,944	1,861,631,739
V. Operating Income	2,103,165,092	1,269,292,250
Financial income	3,177,703,256	2,713,268,605
Finance costs	2,945,638,828	3,260,335,156
Gain related to investments in associates and jointly controlled entities, net	155,164,442	54,208,955
Other non-operating income	109,082,989	117,781,924
Other non-operating expenses	212,012,324	517,757,708
VI. Income from Continuing Operation before Income Tax Expense	2,387,464,627	376,458,870
VII. Income Tax Expense	701,483,046	310,684,280
VIII. Income from Continuing Operations	1,685,981,581	65,774,590
IX. Income from Discontinued Operations	13,065,342	-
X. Net Income	1,699,046,923	65,774,590
Attributable to Owners of the Company	1,651,140,324	(35,740,135)
Attributable to Non-controlling interests	47,906,599	101,514,725
XI. Other Comprehensive Income	106,877,872	84,874,262
1. Items not reclassified subsequently to profit or loss:	(32,060,033)	(50,892,149)
Remeasurement of defined benefit plan	(19,519,151)	(11,812,966)
Net change in fair value of financial assets measured at FVTOCI	(12,771,446)	(37,870,260)
Net gain (loss) on translation of foreign operations	230,564	(1,208,923)
2. Items reclassified subsequently to profit or loss:	138,937,905	135,766,411
Net change in fair value of financial assets measured at FVTOCI - 49,592	49,592	212,017
Equity adjustments of investments in associates and jointly controlled entities	58,819,987	54,245,404
Net gain (loss) on translation of foreign operations	71,897,840	88,971,192
Net change on valuation of derivative financial instruments	8,170,486	(7,662,202)
XII. Total Comprehensive Income	1,805,924,795	150,648,852
Attributable to Owners of the Company	1,757,787,632	50,343,050
Attributable to Non-controlling interests	48,137,163	100,305,802
XIII. Earnings Per Share		
1. Basic earnings per share	18,264 won	(434) won
2. Basic earnings per share of preferred stocks	18,314 won	1,600 won
3. Basic earnings per share from continuing operations	18,119 won	(434) won
4. Basic earnings per share of preferred stocks from continuing operations	18,169 won	1,600 won

# Third Party's Assurance Statement

## To the Readers of SK INNOVATION Sustainability report 2019:

### Foreword

Korea Management Registrar Inc. (hereinafter "KMR") has been requested by of SK INNOVATION to verify the contents of its Sustainability report 2019 (Hereby referred to as "the Report"). SK INNOVATION is responsible for the collection and presentation of information included in the Report. KMR's responsibility is to carry out assurance engagement on specific data and information in the assurance scope stipulated below.

### Scope and standard

SK INNOVATION describes its efforts and achievements of the corporate social responsibility activities in the Report. KMR performed a type2, moderate level of assurance using AA1000AS (2008) and SRV1000 from KMR Global Sustainability Committee as assurance standards. KMR's assurance team(hereinafter "the team") evaluated the adherence to Principles of Inclusivity, Materiality and Responsiveness, and the reliability of the selected GRI Standards indices. At that time, the level of assurance was limited and the assurance team's professional judgement was applied to materiality standards.

The team checked whether the Report has been prepared in accordance with the 'Core Option' of GRI Standards which covers the followings. We also confirmed that the report was prepared in accordance with the TCFD recommendations and SASB.

- GRI Standards Reporting Principles
- Universal Standards
- Topic Specific Standards
  - Management approach of Topic Specific Standards
  - Economic Performance : 201-1, 201-2
  - Indirect Economic Impacts : 203-1, 203-2
  - Procurement Practices : 204-1
  - Anti-Corruption : 205-2, 205-3
  - Energy : 302-1, 302-4
  - Water and Wastewater : 303-1, 303-2, 303-3
  - Emissions : 305-1, 305-2, 305-5, 305-7
  - Effluents and Waste : 306-2
  - Environmental Grievance Handling System : 307-1
  - Supplier Environmental Assessment : 308-1, 308-2
  - Employment : 401-2, 401-3
  - Occupational Health and Safety : 403-1, 403-2, 403-3, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9, 403-10,
  - Training and Education : 404-1, 404-2
  - Diversity and Equal Opportunity : 405-1
  - Human Rights Assessment : 412-2, 412-3
  - Local Communities : 413-1
  - Supply Chain Social Impact Assessment : 414-1
  - Customer Privacy : 418-1
- SASB Sustainability Disclosure Topics & Accounting Metrics
- TCFD recommendations

The reporting boundary for material topics is set to include SK Innovation and its major subsidiaries (SK energy, SK global chemical, SK lubricants, SK Incheon petrochem and SK trading international), which covers 99% of revenue from SK Innovation and its subsidiary sales. This Report excludes data and information of joint corporate, contractor etc. which is outside of the organization, i.e. SK INNOVATION, among report boundaries.

### Our approach

In order to verify the contents of the Report within an agreed scope of assurance in accordance with the assurance standard, the team has carried out an assurance engagement as follows:

- Reviewed overall report
- Reviewed stakeholder engagement activities
- Reviewed materiality test process and methodology
- Interviewed people in charge of preparing the Report
- Reviewed sustainability management strategies and targets

**Our conclusion**

Based on the results we have obtained from material reviews and interviews, we had several discussions with SK INNOVATION on the revision of the Report. We reviewed the Report's final version in order to confirm that our recommendations for improvement and our revisions have been reflected. When reviewing the results of the assurance, the assurance team could not find any inappropriate contents in the Report to the compliance with the principles stipulated below. Nothing has come to our attention that causes us to believe that the data included in the verification scope are not presented appropriately.

- **Inclusivity**  
Inclusivity is the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability  
- SK INNOVATION is developing and maintaining stakeholder communication channels in various forms and levels in order to make a commitment to be responsible for the stakeholders. The assurance team could not find any critical stakeholder SK INNOVATION left out during this procedure.
- **Materiality**  
Materiality is determining the relevance and significance of an issue to an organization and its stakeholders. A material issue is an issue that will influence the decisions, actions, and performance of an organization or its stakeholders.  
- SK INNOVATION is determining the materiality of issues found out through stakeholder communication channels through its own materiality evaluation process, and the assurance team could not find any critical issues left out in this process.
- **Responsiveness**  
Responsiveness is an organization's response to stakeholder issues that affect its sustainability performance and is realized through decisions, actions, and performance, as well as communication with stakeholders.  
- The assurance team could not find any evidence that SK INNOVATION's counter measures to critical stakeholder issues were inappropriately recorded in the Report.

We could not find any evidence the Report was not prepared in accordance with the 'Core Option' of GRI standards.

**Recommendation for improvement**

We hope the Report is actively used as a communication tool with stakeholders and we recommend the following for continuous improvements.

- SK Innovation recognized response to climate change, sustainable supply chain management, and improving management strategy for economic performance  
- Global talking points in energy and chemistry - as key sustainability issues and provided a detailed report on them. It also covered in a balanced manner topics which are hard to disclose such as results of ethical management assessment across the supply chain and industry safety. The company is advised to continuously report quantitative data with consistency so that readers can understand performance changes over time.

**Our independence**

With the exception of providing third party assurance services, KMR is not involved in any other SK INNOVATION's business operations that are aimed at making profit in order to avoid any conflicts of interest and to maintain independence.

June, 1st, 2020



CEO *E. J. Hwang*

# GHG Verification Summary

**SK innovation Co., Ltd.**

26, Jong-ro, Jongno-gu, Seoul, Republic of Korea

**Verification Scope**

Korean Standards Association has conducted reasonable GHG emissions verification based on GHG report provided by SK innovation Co., Ltd. which includes Scope1 and Scope2 emissions.

**Verification Standards and Guidelines**

To conduct verification activities, verification team applied verification standards and guidelines. The standards and guidelines are as follows.

- GHG&Energy Target Scheme guideline(2020-003) provided by Ministry of Environment, Republic of Korea
- Verification guideline for management of GHG emissions trading scheme(2018-070) provided by Ministry of Environment, Republic of Korea
- KS Q ISO 14064-1,2,3 : 2006 · IPCC Guideline · IPCC Guideline

**Verification Conclusion**

As a result of verification activities, verification team has found no significant errors. Therefore, Korean Standards Association confirms that following emissions data are adequately quantified.

**2019 GHG Emissions**

Unit: tCO<sub>2</sub>eq

Subject	Scope1	Scope2	Total
SK innovation Co., Ltd.	38,528	153,040	191,568
SK energy Co., Ltd.	6,316,246	932,440	7,248,686
SK global chemical Co., Ltd.	2,478,012	729,298	3,207,910
SK incheon petrochem Co., Ltd.	1,159,681	420,506	1,580,187
SK lubricants Co., Ltd.	86,323	91,989	178,312
SK ie technology Co., Ltd.	38,806	72,681	111,487

※ Note: There is a difference between the total quantity of GHG emission and the sum of each workplace's emission. (Decimal place is not considered when calculating the emission of each workplace.)

*Angad G*

MAY 18, 2020

**KOREAN STANDARDS ASSOCIATION**

# Sustainability Initiative

## The 10 Principles of UNGC (United Nations Global Compact)

SK innovation supports the philosophy of UNGC and proactively engages in UNGC activities. Furthermore, SK innovation faithfully complies with each of the ten principles through company's sustainability management activities.

Category	Principle	Description	SK Innovation's Approach
Human rights	Principle1	Businesses should support and respect the protection of internationally proclaimed human rights	Based on the philosophy of "human-centered management," SK innovation commits no violation of human rights in business activities.
	Principle2	Make sure that businesses are not complicit in human right abuses	
	Principle3	Business should uphold the freedom of association and the effective recognition of the right to collective bargaining.	
Labor	Principle4	The elimination of all forms of forced and compulsory labor	We also recruit employees in a fair and reasonable manner and guarantee equal opportunities by considering employees' qualifications and person-job fit. Furthermore, the company acknowledges the freedom of association and collective bargaining rights and has regular communications to proactively collect and improve any grievance from employees
	Principle5	The effective abolition of child labor.	
	Principle6	The elimination of discrimination in respect of employment and occupation.	
Environment	Principle7	Business should support a precautionary approach to environmental challenges.	SK innovation selects environmental management as its core task and established and complies with its independent environmental standard, which has higher standards than government requirements. The company also minimizes GHG, wastewater and pollutants to conserve the natural environment and makes more great effort to develop eco-friendly technology and achieve the innovation of future energy.
	Principle8	Undertake initiatives to promote greater environmental responsibility.	
	Principle9	Encourage the development and diffusion of environmentally friendly technologies.	
Anti-Corruption	Principle10	Business should work against corruption in all its forms, including extortion and bribery.	SK innovation has established a code of ethics for employees based on SKMS, which is the unique management system of the group, and prepared concrete practice guidelines. The company also prevents any unethical behavior by operating an ethics consultation center and utilizing an online reporting channel.

## UNGP Reporting Framework

The UNGP Reporting Framework is the comprehensive global guidance for companies to report on how they respect human rights. KEPCO E&C is actively engaging in a various of activities for human rights protection of stakeholders, and these activities are reported in the report according to the UNGP Reporting Framework.

Criterion	Reporting Principle	Description	Page	
Governance of Respect for Human Rights	A1	Policy Commitment	Public disclosure of commitment to respect human rights	55
	A2	Embedding Respect for Human Rights	Implementation of its human rights commitment	55
	B1	Statement of salient issues	State the salient human rights issues associated with the company's activities	55
Defining the Focus of Reporting	B2	Determination of salient issues	Describe how the salient human rights issues were determined	-
	B3	Choice of focal geographies	Human rights issues focuses on particular geographies, explain how that choice was made	-
	B4	Additional severe impacts	Identify any severe impacts on human rights that occurred or were still being addressed	-
Defining the Focus of Reporting	C1	Specific Policies	Any specific policies that address its salient human rights issues	55
	C2	Stakeholder Engagement	Engagement with stakeholders in relation to each salient human rights issue	55
	C3	Assessing Impacts	Identify any changes in the nature of each salient human rights issue	55
	C4	Integrating Findings and Taking Action	Company integrate its findings about each salient human rights issue into its decision-making processes and actions	55
	C5	Tracking Performance	Efforts to address each salient human rights issue are effective in practice	-
	C6	Remediation	Effective remedy if people are harmed by its actions or decisions in relation to a salient human rights issue	-

## KCGS ESG Evaluation in 2019

Total A	Environmental[E] A	Society[S] A+	Governance[G] A
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## UN SDGs(Sustainable Development Goals)

SK innovation heartily endorses the directions where the UN SDGs are heading for and strives to be aligned for the fulfillment of the goals. To this end, we selected a few and actively implemented related activities among 17 goals. Going forward, we will accelerate our efforts to execute our actions with expanded plan in line with the UN SDGs step by step.

UN SDGs Goals	Sub-goals Aligning SDGs	SK innovation's Activities
End poverty in all its forms everywhere	1.1 2.1	- Promote agricultural technology for farming households in Peru and help create a profit model - Provide meal boxes to children skipping meals all over the country by participating in Happiness Alliance
End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	2.2 2.3 2.4	- Support residents' livelihoods through the mangrove restoration program in Vietnam - Provide meal boxes to the socially disadvantaged in Singapore
Ensure healthy lives and promote well-being for all at all ages	3.6 3.8	- Alleviate social isolation of elderly living alone and restore self-worth - Improve sociability of children with growth disabilities - Improve wellness and provide resting places to truck drivers through Netruck House - Promote self-support for children with growth disabilities, support mental stability programs for carers of elderly living alone
Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.1 4.5 4.6	- Provide education programs in areas of operation within the US - Study support for socially disadvantaged students in the Incheon area - Run 'My School' program in Peru to provide quality education service to low-income students
Achieve gender equality and empower all women and girls	5.5 5.6	- Operate W-Network, the internal women's consultative group - Implement support policies including maternity leave and child-care leave
Ensure availability and sustainable management of water and sanitation for all	6.3 6.6	- Purify ocean water by planting mangroves in Vietnam - Reduce waste water by building eco-friendly business sites
Ensure access to affordable, reliable, sustainable and modern energy for all	7.1	- Provide energy through the Cook Stove distribution project in Myanmar
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	8.3 8.5 8.8 8.9	- Create jobs by developing social enterprises - Create safe and stable working environment through our regulations and policies - Reinforce shared growth with partner companies through business, training, and financial support
Reduce inequality within and among countries	10.2 10.3	- Alleviate inequality through human rights regulations and culture
Take urgent action to combat climate change and its impacts	13.1 13.3	- Climate action through restoring mangrove forests in Vietnam - I Green We Green Campaign to protect the world environment
Conserve and sustainably use the oceans, seas and marine resources for sustainable development	14.2	- Conserve biodiversity by restoring mangrove forests in Vietnam
Protect, restore and promote sustainable use of terrestrial ecosystems and halt biodiversity loss	15.2 15.4 15.5	- Conserve biodiversity by restoring mangrove forests in Vietnam
The global partnership	17.6 17.7 17.8 17.16 17.17	- Conduct Impact Partnering program to create ecosystem for eco-friendly social venture companies - Establish the community for environmentally friendly materials (ie. Eco-friendly Plastic Packaging Materials Forum) - Launch the "Carbon Free Island Initiative" in An Binh island, Vietnam - Push for global partnership activities for sustainable management

# Membership Status

SK innovation participates in various associations and groups in each economic, social and environmental sector to identify major internal and external trends, as well as to reinforce networking with diverse stakeholders. We will strengthen the executive power and professionalism in sustainability management further through proactive external initiative activities.

Economy	SHE	Society
Korea Petroleum Association	Mae Kyung Safety & Environment Institute	UN Global Compact
Korea Chamber of Commerce and Industry (Ulsan)	Korea Institute of Hazardous Materials	
Korea Oil Association	Korean Society for Marine Environment and Energy	
Korea Chamber of Commerce and Industry (Seoul)	Korean Environmental Preservation Association	
Korea Petrochemical Industry Association	Korea Environmental Policy and Administration Society	
	Korea Chemicals Management Association	
	Korea Fire Safety Association	
	Oil Refining Safety and Environment Committee	

# Publication History of Sustainability Report



## About This Report

**Reporting Information** SK innovation has been publishing annual sustainability reports since 2005 in order to transparently publicize our major efforts and performance in pursuing sustainability as well as communicate actively with stakeholders. We will continue to gather opinions of our stakeholders in our sustainability report to include in our business operations.

**Reporting Standard** This report was prepared in accordance with the Core Option standards of the GRI (Global Reporting Initiative) Standards guideline. The reporting issues are selected considering the Oil & Gas Sector Disclosure and SASB (Sustainability Accounting Standards Board) in order to reflect major issues in the particular industry. As it abides by the recommendation from TCFD, other global initiatives including the SDGs (Sustainable Development Goals) and the 10 Principles of the UNGC (UN Global Compact) were applied as well.

**Reporting Period** This report covers our sustainability performance during the fiscal year (January 1, 2019 to December 31, 2019). Some of the highlights over the first half of 2020 are included in this report to ensure their prompt disclosure. Certain indicators for the past three years are included for continuous trend analysis.

**Reporting Scope** As for the scope of this report, financial data has the same consolidation criteria as K-IFRS (Korea International Financial Reporting Standards). Non-financial data are limited to SK innovation and major subsidiaries' headquarters in Seoul (SK energy, SK global chemical, SK lubricants, SK incheon petrochem, SK trading international, SK ie technology), production plants in Jeungpyeong, Cheongju, Seosan, Ulsan and Incheon, Daejeon Global Technology Institute and major subsidiaries and sub-subsidiaries of overseas corporations. This scope includes 99% of sales by the main body of SK innovation and subsidiaries having 100% of shares (except for SK mobile energy and SK battery systems). Some environmental quantitative performance indicators were based on major domestic operations except for overseas corporations; the detailed scope of such data is indicated separately.

**Reporting Reliability** The report is published after the thorough review of the CSR committee under the SK innovation's board of directors. In addition, the report has much higher credibility in its reporting data as it went through external verification by the independent assurance agency, KMR, on the basis of three principles (inclusiveness, materiality, and responsiveness) under AA1000AS (2008).

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**SK** innovation



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