

### Shared Growth with Suppliers

SK innovation aspires to grow together with suppliers. We conduct various projects for long-term growth for suppliers including support for technology, skills and finance.

#### Technology support

SK innovation provides support for suppliers in efforts for shared growth such as co-developing technology to create domestic equipment, co-patents, creating high-value added products and entering the global market together. In particular, SK innovation and suppliers are creating a win-win process by increasing sales of new products through co-development of technology and co-patents while SK secures a price advantage by self-producing import products.

#### Skill support

**Training program** • SK innovation promotes various skill enhancing programs to improve the intrinsic competitiveness of suppliers. We conduct a ‘Mutual Growth CEO Seminar’ targeting CEOs of suppliers to deliver know-how on business strategy, finance, HR and other fields as well as providing information on newest technology including AI and big data. In addition, we provide ‘Mutual Growth MBA’ targeting supplier employees with practical information to be applied by rank or task.

**Hiring support program** • We held the ‘Supplier Job Fair’ targeting youth in the Ulsan area. The job fair helped small and medium companies access quality talent and the fair also reduces youth unemployment and drives local economic growth. SK innovation provided special lectures from hiring officers, employment lectures and other on-site events in which 25 suppliers participated. Through our efforts, 115 were newly employed in 2018.

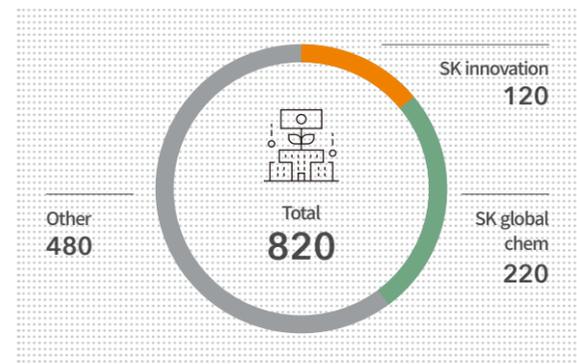
#### Finance support

SK innovation delivers 50% of the construction contract in cash within the week construction commences for stable business operations. We pay out the remainder within 1 week of construction completion. In addition, we provide various support programs such as direct support where we lend direct funds, indirect support through networks, and credit guarantee through mutual growth guarantee agreement. We also created a mutual growth fund to provide low interest finances to suppliers that are in need of emergency funds.

As of 2018, SK innovation and SK global chem contributed 1.2 billion won and 2.2 billion won respectively and SK innovation affiliates are operating a mutual growth fund amounting to 8.2 billion won<sup>1)</sup>.

1) Includes investment from financial institutions, error in last year data

Contribution to shared growth fund (unit: 100 million won)



#### 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 6th consecutive year in the Evaluation of Corporate Partnership Index in 2018 by the Corporate Partnership Commission. This is unprecedented in the chemicals industry, as well as being selected as the grand honorary corporation.



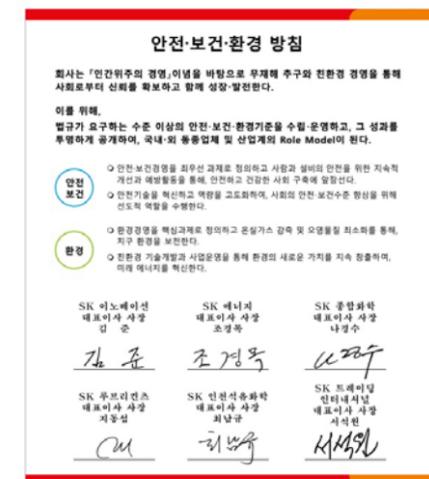
## SHE (Safety·Health·Environment) Management

SK innovation is taking a step further from SHE management based on legal compliance to applying ideas of social value creation where we grow mutually with society through trust. We will continue with our SHE management through active communication with stakeholders to gain a stance as a top global company.

### SHE Management System

#### Improving 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.



#### SHE Management System Framework



## 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 various support activities and 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.

### Implementation of Joint Emergency Response Drill

SK innovation has established a company-wide emergency response drill system and expanded the existing emergency response drill, which was previously site-based, to the entire company. We conduct collective emergency response training every year where the CEO and executives participate for the group and for individual work sites. Not only the employees but executives of all levels understand the role of organizations and response process at times of emergencies thanks to periodical training. The method also contributes to immediate response when situations arise. In 2018, our training target was SK energy logistics business site.

### Operation of Occupational Safety and Health Commission

SK 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.

### Improve SHE leadership in business sites

SK innovation is conducting activities to internalize a safe culture to meet global SHE levels. As part of these efforts, we evaluated the safety culture, tackled agenda to improve the culture and advised leaders on SHE. We also established and operated a safety act standard targeting the SK lubricants plant to define core safety leadership standards by leaders' rank and introduce an efficient management method. We plan to apply these standards and operation of safety acts to Ulsan Complex and SK incheon petrochem as well as other plants and business sites. Through these steps, we will enhance the SHE capacity and cultural standards of our employees and continuously strengthen our safety practice through SHE leadership and a unified target of leaders and employees.

In addition, we received consultation from advanced SHE managers to reflect on our leaders' SHE decision-making skills on site and improve their insight. We are continuously strengthening our SHE leadership by obtaining capacity to execute SHE on site through methods such as understanding the worries and demands of leaders to provide them with relevant knowledge and know-how as well as delivering applicable global management methods and cases.

### Expansion of Safety culture

SK innovation is currently conducting 'Safety ABC!' campaign to innovate the safety culture in our Ulsan Complex. This campaign aims to create a positive cycle based on correct understanding and communication to transform attitudes on safety leading to safe behavior. To accomplish this, we have selected various agendas to practice such as always putting on safety glasses when entering production areas, stopping first when entering intersections and safety experience with the family. SK innovation Battery Production Technology Center has published 'SHE Pocketbook', customized training material for work sites while considering the industrial trait that many new workers are employed. The center is distributing the booklets and working to make

employees understand safety hazards in production process easily and prevent accidents. SK innovation Battery Production Technology Center conducted the SHE Catch Phrase Campaign. After collecting 208 opinions from 155 employees in all departments to create a safer work environment and raise awareness, we selected "Perhaps? Entails an accident and Inspect! Entails safety" and also selected 5 major practices for all employees to comply with.

### Collaboration program for shared growth in safety and health

SK innovation engages in projects to improve overall work site environment and runs collaboration programs to prevent industry hazards through mutual growth relationships with suppliers. Through these efforts, we helped suppliers make danger evaluations, supported them in receiving KOSHA 18001 Certification, created an environment to comply with 4 core safety rules and CPR training. In 2018, our Ulsan Complex and materials business department obtained grade A which belongs to the top 10%. In addition, we evaluate the safety and health standards of suppliers every year to award excellent performers and provide motivation and encouragement on industry safety.

### Employee health care

SK innovation provides a 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.

## Chemical materials

As social awareness of the danger of chemical materials is increasing, regulations for chemical materials are also intensifying. SK innovation recognizes the social and legal responsibilities of managing chemicals and we are investing efforts to respond adequately. We have built a management system and procedure specialized for chemical materials which allow workers handling the material to learn about the potential hazard and danger of the material. We also implement safety measures while handling the material to prevent chemical accidents and secure the safety of our employees and local 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.

### Chemical materials integrated management system



**Response to climate change**

**Governance for climate change response**

SK innovation has gone beyond an internal greenhouse emissions management system to build a response system on an SK group level. In particular, we created the ‘Shared Infra Taskforce (TF)’ affiliated with our top decision-making body, SUPEX Commission, Strategy Committee to respond on a group scale. The Infra TF has engaged in activities such as creating trading process among subsidiaries, building a response roadmap by risk and scenario case, project and investment to secure carbon credit and reducing response costs. In 2018, the TF prepared SK group responses by risk scenario, conducted the Cook Stove Project in Myanmar and successfully traded 900,000 tons of carbon credit. In 2019, we will increase its size and responsibility by building a new environmental committee affiliated with SUPEX Commission Committee for Energy and Chemicals.

**Governance to respond to climate change**



**Major activities**

- Establish carbon trade process among subsidiaries**
  - Analyze response status of subsidiaries and if they are in surplus or shortage
  - Establish trade process among subsidiaries
- Comprehend risk, following scenarios and build a response roadmap**
  - Monitoring of domestic and global market, code and regulatory trends
  - Establishing possible scenarios and response road-map
- Conduct projects and investment to secure carbon credit**
  - Promote Cook Stove Project in Myanmar
  - Reduction projects related to social value creation
- Reduce emissions and response costs**
  - Secure opportunities by sharing technology, information and know-how

**Response to greenhouse gas emissions trading scheme**

SK innovation, SK energy, SK global chem, SK lubricants and SK incheon petrochem are targets for carbon cap and trade in accordance with the legislation on greenhouse emissions trading scheme which went into effect in 2015. SK innovation has built a carbon credit trade strategy to respond efficiently to government regulations and market demands arising from the greenhouse gas emissions trading scheme. We have created and implemented a procedure for greenhouse gas emissions trading scheme. Our strategy includes step-by-step methods from securing a budget, executing to purchasing and others, response method by scenario in case of price change and how to obtain carbon credit according to change of production quantity. We have summarized a prioritizing method with heed to carbon credit prices by setting a guideline for investment projects which we are utilizing.

SK innovation and subsidiaries sold 900,000 tons of carbon credit of our surplus that we secured through internal reduction and pre-reduction, pre-reduction performance, optimized emissions calculation method and others in 2017 when phase 1 came to an end. This was to respond to the government measure which would limit carry-over credit. SK innovation established a target based on Nationality Determined Contributions (NDCs) and plans to record emission reduction of 7.8% compared to BAU by 2025. In addition, we are building additional targets for greenhouse emissions reduction to decrease climate risk and contribute to the national reduction target by seeking additional methods such as developing new technology, improving energy efficiency and cancelling out our emission quantity.

**Energy quantity management**

SK innovation has set a target to reduce energy use and systematically manages the usage. In particular, we are aiming to cut energy use by improving energy efficiency in sites where a high quantity of energy is consumed including Ulsan Complex and SK incheon petrochem.

**Greenhouse emissions quantity management**

We calculate our greenhouse emissions according to the greenhouse gas emissions trading scheme guidelines. The quantity includes emissions from Ulsan

Complex (SK energy, SK global chem, SK lubricants), SK incheon petrochem, SK innovation Seosan plant, Jeungpyeong plant, Cheongju plant and SK Institute of Technology Innovation. Business sites abroad and supply chain are not included. We have set targets for quantity of greenhouse emissions and also by unit of won which we are currently managing.

**Reduction of water pollutants**

SK innovation runs a highly efficient biological wastewater treatment facility which is backed by a remote water quality inspection control system. Wastewater which includes pollutants caused during the production process is filtered through the absorb tower to be finally released. We apply an internal standard for pollutant concentration sewage which is stronger than legal standards for strict management. In addition, we used part of the treated wastewater for firefighting or landscape watering. We also installed a regenerative thermal oxidize (RTO) in our Comprehensive Wastewater Plant 1 and took a step further in safety by installing settling tanks and fiber filters in our Comprehensive Wastewater Plant 2.

**Water resource management**

SK’ main sources of water include the Daecheong Dam, Daeam Dam and Asan Bay. We calculate the amount used based on water bills to our company and major sites of domestic business operation.

**CASE. Major acts to improve energy efficiency**

**Reduced fuel cost with new heat exchange installation**

SK has retrieved Kerosene Run Down and reduced fuel cost by installing flat heat exchangers within crude distillation units. We anticipate an annual cut of 1.08 billion won in fuel cost.

**Increased heating furnace efficiency by changing air preheater**

We have improved equipment function in CDUs, improved fouling and strengthened material by exchanging fuel preheaters. We have improved our heating furnace efficiency. Renewing preheaters in CDUs of Ulsan Complexes 4 and 5 has resulted in a fuel cost reduction worth 1.56 billion won annually and additional benefit of 760 million won by reducing greenhouse emissions.

**Reducing environmental impact of business sites**

**Reduction of air pollutants**

SK innovation operates an odor preventive facility to conserve the cleanliness of air surrounding our business sites and the vicinity as well as preventing damage from odors. In addition, we applied the LDAR system in plants that emit arsenic acid to prevent damage from hazardous air pollutants (HAPs) on business sites. Furthermore, we minimize causes of air pollution by monitoring air pollutants in real-time on major waste facilities such as heating furnaces and boilers through telemetering system (TMS).

**Reduction of waste**

SK innovation controls amount of waste through an internally development waste management system. We commission recognized companies specializing in processing waste for recycling, incineration or landfill. In particular, we minimized our waste output to prepare for the basic resource circulation legislation in effect as of 2018 and put in utmost efforts to recycle of 25,000 tons of waste to promote resource circulation and correct waste treatment. Furthermore, we prevented waste from spreading by tightly sealing waste collection vehicles in our Ulsan Complex which also improved reduced waste odor.

**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 chem (Ulsan)	wastewater plant	Physical and chemical	Yongam wastewater plant
	wastewater plant	Biological	Yongam wastewater plant
SK incheon petrochem (Incheon)	wastewater plant	Biological, high temperature	Gajwa terminal disposal plant for sewage
SK innovation (Jeungpyeong)	Aerator facility	-	Terminal disposal plant for sewage in Jeungpyeong-gun general industrial complex
SK innovation (Cheongju)	-	-	Terminal disposal plant for sewage in Cheongju national industrial complex

## Oil Spill Prevention

### 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.

### Manage 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.

### Marine emergency response training



1. Surrounding ship accident areas with oil fences
2. Exterminating oil fence outskirts
3. Safety management of integrated ships
4. On-land oil fence project
5. Eliminating inside oil fences

### SHE certification status

Type	Work site	Date of certification	Certification expiry date
ISO 14001	SK innovation (Seosan)	2018. 07. 27	2019. 12. 23
	SK energy	2017. 11. 09	2020. 11. 08
	SK global chem	2017. 06. 13	2020. 06. 12
	SK lubricants	2018. 06. 18	2021. 06. 17
	SK incheon petrochem	2017. 11. 09	2020. 11. 08
ISO45001	SK Institute of Technology Innovation	2018. 11. 28	2021. 11. 27
KOSHA18001	SK incheon petrochem	2017. 12. 20	2020. 12. 19

# APPENDIX