

SK Double Bottom Line(SK DBL)

“SK Double Bottom Line principle aims to prosper with society by boosting both economic and social value in every business activity.”

SK innovation incorporated the DBL principle into its management philosophy to manage both economic and social value creation, breaking away from the conventional single bottom line principle to focus only on economic value. Through these efforts, we aim to achieve sustainable growth and stability.



SK Management System (SKMS): SK Group’s management philosophy

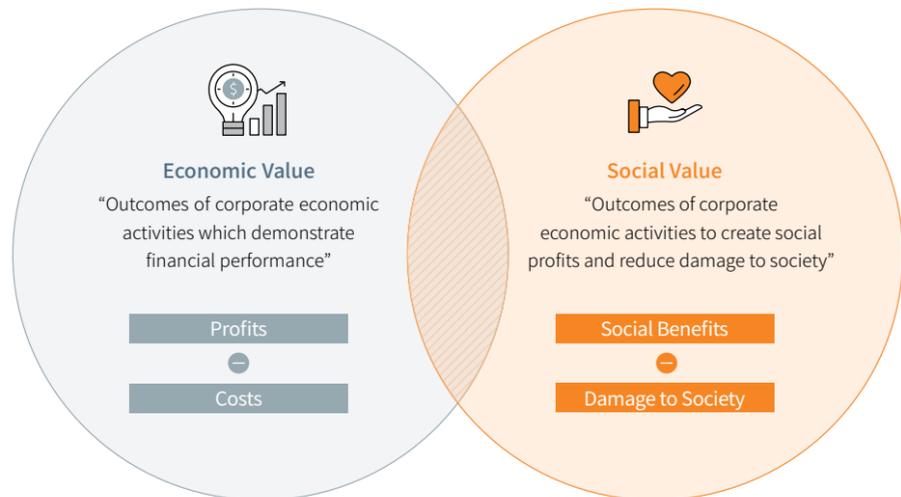
— Introduction of the DBL Principle

- To pursue stakeholders’ happiness by delivering social value
- To respond to changes in the social role of companies
- To establish strategies for sustainable growth by innovating business models

— Content of the DBL Principle

The DBL principle deals with both economic and social value. Economic value describes financial performance that is generated from corporate economic activities. Social value describes the outcomes of corporate economic activities that aim to create social profits and reduce damage to society.

• SK Double Bottom Line



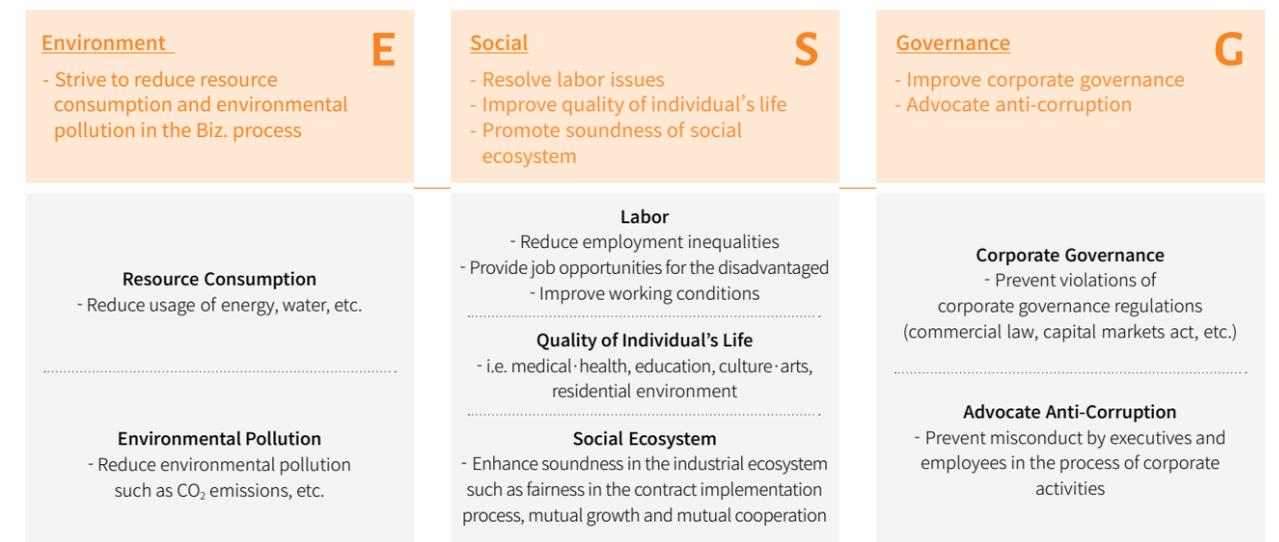
— SK DBL Strategy



— Measurement of SK innovation’s Social Value

SK innovation considers creating social value as a major business objective for sustainable growth. To manage social value creation systematically, we quantitatively measured the social performance of our every business activity regarding the environment, society, and governance. In the future, we will supplement and improve social performance measurement methods, and will utilize the results when developing business strategies.

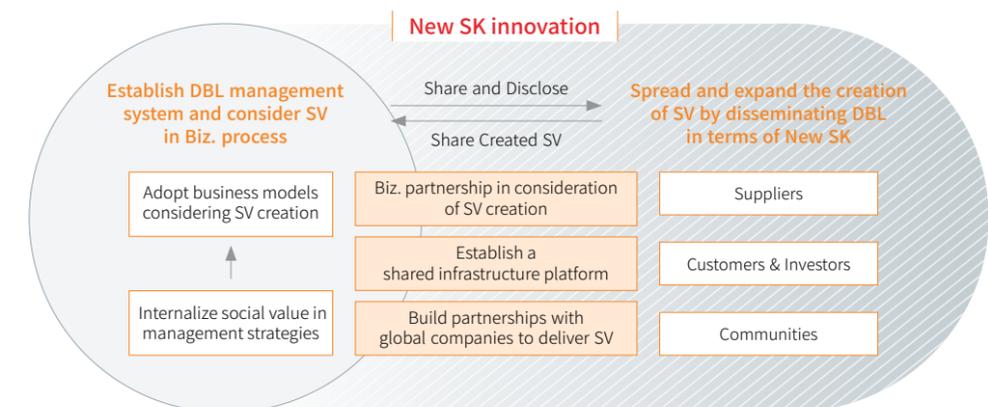
Through the measurement of social value and analysis of social performance, we identified our roles and responsibilities that we hadn’t performed, and found areas where we can create social values. Based on those results, we will actively communicate with our stakeholders.



— Mid-and Long-Term Plans for the DBL Principle

SK innovation will develop more sophisticated methods to measure social value, in both qualitative and quantitative form based on the existing method and we will share them. This will allow us to encourage all employees to actively engage and participate in exploring management activities that can increase social benefits and reduce social costs throughout all value chains.

Furthermore, we will create new business models by taking into account various factors such as social issues regarding corporate assets and capabilities, and opportunities and crises faced by enterprises, thereby establishing mid- and long-term strategies to promote evolving together with society.



— Major Achievement of Social Value

SK innovation’s Battery for Electric Vehicles

The manufacturing of batteries for electric vehicles, one of our businesses for future growth, is a representative eco-friendly business that can reduce carbon emissions. According to data released by the Korea Energy Economics Institute, electric vehicles do not emit carbon dioxide during use, and emit 53% less carbon dioxide than conventional gasoline internal combustion engines, when taking into account its electric power generation process. Considering this, the effect of greenhouse gas reduction during the battery warranty period (10 years) is estimated to be 11 tons per electric vehicle.

Last year, SK innovation sold batteries for more than 15,000 electric vehicles, accomplishing 165,000 tons of reduction in carbon dioxide emissions based on electric vehicles. This demonstrates that our battery contributed to about 30,000 tons of carbon dioxide emissions. SK innovation will strive to develop high-density batteries for electric vehicles. Moreover, as the electric car market grows, we will increase our production capacity to over 10GWh per year by 2020. In this case, it is expected to deliver social value equivalent to KRW 100 billion.

Social Problem	Increase of social concern about fine dust and carbon dioxide from internal combustion engine vehicles
Approach and Impacts	1. Increase of investment and production costs due to the reduction in greenhouse gas emissions 2. Tightened environmental regulations due to the increase of fine dust in the atmosphere
Performance	Social Outcome : - Open new production lines to expand the spread of electric vehicles
Goal	Reduce greenhouse gas emissions compared to existing internal combustion engines to decrease CO ₂ emission per mileage



Cells used for batteries of electric vehicles

SK energy’s Netruck House

SK energy is working to improve truck drivers’ working environment. First of all, we operate Netruck Houses at 19 logistics hubs nationwide, with facilities to promote drivers’ convenience. Netruck Houses have spacious parking lots with low parking fees, providing spaces which are more convenient compared to other parking lots in the downtown area. There are also facilities, such as showers and restaurants, where drivers can rest and refresh themselves after long hours of driving. On average, about 1,500 drivers use Netruck Houses every day.

Furthermore, SK energy operates Netruck Friends, a service to provide information on freight and available trucks in real-time. The company also utilizes Netruck Plus service to ease the burden for gas expense on truck drivers.

Social Problem	1. Increase in car accidents caused by drowsy driving due to a lack of rest areas 2. Increase in traffic problems in nearby urban areas due to an insufficient number of parking lots
Approach and Impacts	1. Listen to the opinions of truck drivers, one of SK energy’s major stakeholders, and develop participatory programs 2. Fulfill CSR by operating Netruck House, and develop programs tailored to truck drivers and local situations
Performance	Social Outcome : - Operate Netruck House with facilities to promote truck drivers’ convenience at 19 logistics hubs nationwide
Goal	1. Provide rest areas to reduce drowsy driving and car accidents 2. Provide parking spaces to improve the quality of life in nearby areas



Netruck house at Busan new port

SK global chemical’s Development of an Eco-Friendly Foaming Agent

SK global chemical is committed to reducing the use of environmentally toxic substances by developing eco-friendly foaming agents. As the Montreal Protocol²⁾ prohibited the use of freon gas (CFC), a foaming agent formerly used in construction, and the new regulations required the industry to reduce the use of HCFC-141b starting in 2013. Thus, the need for the development of a CFC substitute became urgent.

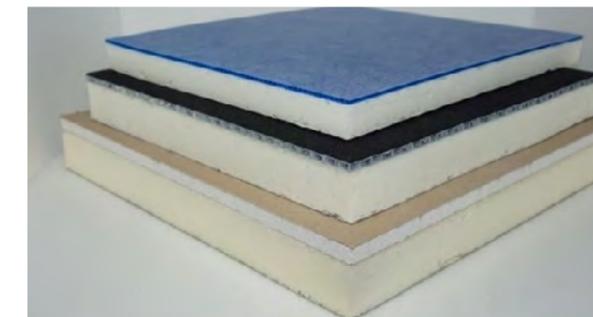
SK global chemical collaborated with customer companies to develop and test alternate materials that can substitute for the foaming agent used in PU board for the construction industry and applied them to commercial production. As a result, we began selling cyclopentane products as eco-friendly foaming agents for construction and sold 660 tons in 2017.

Social Problem	Rise of environmental problems such as ozone depletion due to CFC
Approach and Impacts	1. Environmental regulations necessitated the development of alternatives 2. Change of the construction law ¹⁾ resulted in the market expansion for the PU foaming agent for construction → Used the regulations as an opportunity
Performance	Social Outcome: - Collaborated with customer companies to develop and test alternate materials - Succeeded in entering the market
Goal	Minimize the use of toxic substances by developing eco-friendly foaming agents

Note 1) In September 2014, the government decided to integrate the standards for energy-saving design with the standards for environmentally friendly housing construction.

- Expanded the application range of building insulation: All buildings with a total floor area of 500m² or more
- Encouraged energy saving: Increased standard for the thickness of outer insulation materials to reduce the heat transfer rate

Note 2) Montreal Protocol: A protocol enacted in January 1989 to regulate the production and use of chlorofluorocarbons (CFCs), ozone-depleting substances. Korea began reducing the second specific substance (HCFC) from 2013.



Products using an eco-friendly foaming agent

SK lubricants’ High-Quality Lube Base Oil and Lubricants

SK lubricants developed high-quality lube base oil that can improve fuel efficiency and is selling them worldwide. Generally, using engine oil made with high-quality lube base oil can improve fuel efficiency by 2-3% compared to conventional products, and reduce the amount of carbon dioxide emission per vehicle by 38kg per year.

The global sales volume of high-quality lube base oil, which sells in the global market such as the U.S.A. and Europe, is over 1.5 million tons, and the resultant reduction in carbon dioxide emissions amounts to 730 thousand tons. This is equivalent to the amount that would be reduced by planting 300,000 trees.

Social Problem	Growing concerns over environmental pollutions due to CO ₂ emissions and fossil fuel consumption by using internal combustion engine vehicles
Approach and Impacts	1. Necessity for the development of high- quality lube base oil and lubricants that can reduce fossil fuel consumption and CO ₂ emissions
Performance	Social Outcome : - Mitigated environmental pollution through sales of high-quality lube base oil and lubricants
Goal	Improve fuel efficiency and reduce CO ₂ emissions through sales of high-quality lube base oil and lubricants



ZIC, a high-quality lubricant