

Materiality Assessment

Materiality Assessment Results

A total of 6 material impacts on the environment and society from SK Gas's business activities, and 14 material financial risks and opportunities related to sustainability topics, have been identified.

[Environmental and Social Impact Assessment]

Area	Sustainability Issues	Environmental and Social Impact	Type	Impact Scope			Impact Level ¹⁾
				Upstream	Own Operation	Downstream	
Environmental	Climate Change	GHG emissions and contribution to climate change resulting from fuel combustion during the marine and land transportation of LPG and LNG	Negative/Actual	●	●	●	
		GHG emissions and contribution to climate change resulting from gas extraction, refining, and liquefaction processes	Negative/Actual	●			
		GHG emissions and contribution to climate change resulting from propane use and energy consumption during gas storage	Negative/Actual		●		
		Contribution to climate change mitigation through the expansion of LNG business and the initiation of hydrogen and ESS projects	Positive/Actual		●		
		GHG emissions and contribution to climate change resulting from the thermal decomposition of LPG and LNG during downstream chemical production processes	Negative/Actual			●	
		Contribution to reduced GHG emissions during the use phase by supporting the transition to lower-carbon fuels through LPG supply	Positive/Actual			●	
	Air Pollution	Air pollutant emissions, including nitrogen oxides (NOx) and particulate matter, during upstream gas extraction, contributing to air quality deterioration	Negative/Actual	●			
		Air quality deterioration due to methane leakage following LNG storage incidents	Negative/Potential		●		
		Contribution to reduced air pollutant emissions during the customer use phase through LPG supply as a lower-emission fuel compared with coal and heavy oil	Positive/Actual			●	
	Soil Pollution	Soil contamination and ecosystem disruption due to oil leakage incidents at lubricant storage facilities	Negative/Potential		●		
Social	Waste	Additional air pollutant emissions and air quality deterioration resulting from the incineration of business waste	Negative/Actual		●		
	Occupational Health and Safety	Negative social impacts, including worker safety hazards, loss of human capital, and increased public healthcare costs, due to fire and explosion incidents at business sites	Negative/Potential		●		
		Disruption of value chain stability and social losses due to major transportation accidents during upstream and downstream logistics processes	Negative/Potential	●		●	
		Negative social impacts, including risks to customer and end-user safety, loss of human capital, and increased public healthcare costs, resulting from LPG fire and explosion incidents	Negative/Potential			●	
	Consumer and End-User Rights	Negative impacts on end-user safety due to insufficient communication of fuel characteristics and safe handling information during the LPG supply process	Negative/Potential			●	
Governance	Ethical Management	Negative impacts on fair market competition and the rule of law due to corruption, bribery, or failure to comply with tax-related legal obligations	Negative/Potential		●		
		Negative social impacts resulting from the spread of unethical practices across the value chain due to insufficient application of ethical standards to suppliers and business partners	Negative/Potential	●			
	Corporate Governance	Contribution to stakeholder trust and a virtuous economic cycle through shareholder-friendly management supported by an active dividend policy	Positive/Actual		●		

1) The impact assessment was conducted using a three-point scale. Actual impacts scoring 2.15 points or higher and potential impacts scoring 1.63 points or higher were identified as significant impacts.

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[Financial Risk and Opportunity Assessment]

Area	Sustainability Issues	Financial Impact	Type	Scope of Impact			Impact Level ¹⁾
				Upstream	Own Operation	Downstream	
Environmental	Climate Change	Increase in LNG bunkering operating profit due to strengthened decarbonization regulations in the maritime transportation sector	Opportunities			●	
		Increase in operating profit from hydrogen-related businesses due to the expansion of renewable energy infrastructure markets	Opportunities			●	
		Increase in LNG operating profit due to the strengthened role of LNG in replacing coal-fired power during the short- and mid-term transition period	Opportunities			●	
		Increase in repair, insurance, cooling, water, and operating costs due to the increasing frequency and severity of acute and chronic physical risks	Risks		●		
		Increase in emission allowance purchase costs due to the expansion of the emissions trading scheme, higher allowance prices, and an increase in the proportion of paid allocations	Risks		●		
		Decrease in LNG operating profit due to the long-term transition to carbon-free power generation based on renewable energy	Risks			●	
		Increase in electricity and utility costs due to higher industrial electricity tariffs resulting from the renewable energy transition	Risks		●		
		Decrease in operating profit of the transportation LPG business due to strengthened policies promoting the transition to electric and hydrogen fuels in the transportation sector	Risks			●	
		Decrease in operating profit of the fuel-use LPG business due to strengthened policies promoting the transition to electric and hydrogen fuels in the industrial sector	Risks			●	
		Decrease in operating profit of the raw material LPG business due to diversification and decarbonization in the petrochemical sector	Risks			●	
		Decrease in fossil fuel-related investment and increase in capital raising costs due to strengthened carbon neutrality and coal divestment policies by financial institutions	Risks	●			
		Increase in compliance costs for data management systems and climate disclosure responses due to strengthened mandatory climate disclosure regulations	Risks		●		
		Increase in procurement prices and cost of goods sold due to suppliers passing on emission reduction costs	Risks	●			
		Increase in R&D costs for fuel switching due to expanded decarbonization R&D initiatives for existing fuels	Risks		●		
		Increase in litigation response costs in the event of climate-related lawsuits arising from delays (or failure) in achieving climate targets and greenwashing	Risks		●		

1) Impact assessment was conducted based on a 3-point scale, and risks and opportunities with scores above 1.78 were selected as significant risks and opportunities.

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A total of 6 material impacts on the environment and society from SK Gas's business activities, and 14 material financial risks and opportunities related to sustainability topics, have been identified.

[Assessment of Financial Risks and Opportunities]

Area	Sustainability Issues	Financial Impact	Type	Scope of Impact			Impact Level ¹⁾
				Upstream	Own Operation	Downstream	
Environmental	Air Pollution	Administrative fines under the Clean Air Conservation Act due to air pollutant leakage during LNG import and storage processes	Risks		●		
		Increased operating costs due to stricter regulations on air pollutant emissions from facilities	Risks		●		
		Growing demand for LPG as a low-emission alternative compared to coal and heavy oil	Opportunities		●		
	Soil Pollution	Administrative fines under the Soil Environment Conservation Act due to soil contamination caused by new infrastructure development	Risks		●		
		Increased operating costs for soil investigation and facility investment due to strengthened soil contamination prevention and monitoring standards	Risks		●		
Social	Occupational Health and Safety	Decrease in revenue due to negative public perception of the safety of LPG and LNG fuels following fire or explosion incidents at refueling stations	Risks		●		
		Increase in legal and operating costs due to workers' health deterioration, fire and explosion incidents, and business interruptions	Risks		●		
		Increased costs due to reduced productivity, supplier replacement, and work stoppages following safety incidents within the supply chain	Risks	●			
	Consumer and End-User Rights	Revenue decline and increased corrective action costs due to reduced trust among users and consumers resulting from failures in LPG quality management	Risks			●	
		Revenue decline due to user incidents caused by inadequate communication of LPG characteristics and safety information, including compensation costs, business interruption, and reputational damage	Risks		●		
Governance	Ethical Management	Revenue decline due to regulatory fines and administrative penalties for failure to report assets, as well as reduced stakeholder trust	Risks		●		
		Decrease in revenue due to fines and penalties related to violations of fair trade and subcontracting laws, as well as reduced stakeholder trust	Risks		●		
	Corporate Governance	Increase in investor demand and capital inflows through shareholder-friendly dividend policies	Opportunities		●		
		Improved quality of strategic and investment decision-making, leading to increased mid- to long-term profitability and capital inflows through enhanced board expertise and independence	Opportunities		●		

1) The impact assessment was conducted on a 3-point scale, and risks and opportunities with a score of 1.78 or higher were classified as material risks and opportunities.

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Materiality Assessment Results

By comprehensively considering material impacts, risks, and opportunities, climate change, occupational health and safety, consumer and end-user rights, ethical management, and corporate governance were identified as material sustainability issues.

[Material Environmental and Social Impacts]

Ranking	Sustainability Issue	Actual Impact	Type
1	Climate Change	Contribution to climate change mitigation through the expansion of LNG business and the initiation of hydrogen and ESS projects	Positive/Actual
2	Climate Change	GHG emissions and contribution to climate change resulting from the thermal decomposition of LPG and LNG during downstream chemical production processes	Negative/Actual
3	Climate Change	GHG emissions and contribution to climate change resulting from gas extraction, refining, and liquefaction processes	Negative/Actual
Ranking	Sustainability Issue	Potential Impact	Type
1	Consumer and End-User Rights	Negative impacts on end-user safety due to insufficient communication of fuel characteristics and safe handling information during the LPG supply process	Negative/Potential
2	Occupational Health and Safety	Disruption of value chain stability and social losses due to major transportation accidents during upstream and downstream logistics processes	Negative/Potential
3	Occupational Health and Safety	Negative social impacts, including worker safety hazards, loss of human capital, and increased public healthcare costs, due to fire and explosion incidents at business sites	Negative/Potential

[Material Financial Risks and Opportunities]

Ranking	Sustainability Issue	Actual Impact	Type
1	Climate Change	Increase in LNG bunkering operating profit due to strengthened decarbonization regulations in the maritime transportation sector	Opportunity
2	Climate Change	Increase in LNG operating profit due to the strengthened role of LNG in replacing coal-fired power during the short- and mid-term transition period	Opportunity
3	Climate Change	Increase in electricity and utility costs due to higher industrial electricity tariffs resulting from the renewable energy transition	Risk
4	Climate Change	Increase in emission allowance purchase costs due to the expansion of the emissions trading scheme, higher allowance prices, and increased allocation ratios	Risk
5	Occupational Health and Safety	Increase in legal and operating costs due to workers' health deterioration, fire and explosion incidents, and business interruptions	Risk
6	Corporate Governance	Increase in investor demand and capital inflows through shareholder-friendly dividend policies	Opportunity
7	Climate Change	Increase in operating profit from hydrogen-related businesses due to the expansion of renewable energy infrastructure markets	Opportunity
8	Climate Change	Decrease in LNG operating profit due to the long-term transition to carbon-free power generation based on renewable energy	Risk
9	Climate Change	Increase in repair, insurance, cooling, water, and operating costs due to the increasing frequency and severity of acute and chronic physical risks	Risk
10	Climate Change	Decrease in operating profit of the transportation LPG business due to strengthened policies promoting the transition to electric and hydrogen fuels in the transportation sector	Risk
11	Ethical Management	Decrease in revenue due to fines and penalties related to violations of fair trade and subcontracting laws, as well as reduced stakeholder trust	Risk
12	Climate Change	Decrease in operating profit of the fuel-use LPG business due to strengthened policies promoting the transition to electric and hydrogen fuels in the industrial sector	Risk
13	Climate Change	Decrease in operating profit of the raw material LPG business due to diversification and decarbonization in the petrochemical sector	Risk
14	Occupational Health and Safety	Decrease in revenue due to negative public perception of the safety of LPG and LNG fuels following fire or explosion incidents at refueling stations	Risk

[Double Materiality Matrix]



Materiality Assessment

Management of Material Impacts, Risks, and Opportunities

The management strategies and performance related to the identified material issues are reported in detail in the relevant sections of this report.

Sustainability Issues	Environmental and Social Impacts	Financial Risks and Opportunities	SK Gas's Response Strategy	2025 Performance Highlights	Reporting Location	GRI
	Explanation	Explanation				
Climate Change	Contributing to climate change mitigation through expansion of LNG business and initiation of hydrogen and ESS projects	Increase in LNG bunkering operating profit due to stricter decarbonization regulations in maritime transportation	• Entering into charter agreements for LNG bunkering and expanding infrastructure and technology investments. • Securing long-term supply contracts for LNG to support bunkering needs.	• Conducted technical feasibility and cost analyses of existing GHG reduction measures, and identified new reduction measures • Reduced GHG emissions by 5,601 tCO₂eq through the new introduction and operation of a seawater heat exchanger at the Clean Energy Complex (CEC) • Signed an LNG marine fuel supply contract for the southeastern region of Korea through an LNG bunkering subsidiary	31-41, 117	GRI 201 GRI 302 GRI 305
		Increase in LNG operating profit due to the strengthened role of LNG in replacing coal-fired power during the short- and mid-term transition period	• Establishment and expansion of Korea Energy Terminal (KET) LNG terminal and related commercial operations • Expansion of KET's storage capacity and growth of LNG-based businesses such as bunkering and cryogenic supply			
		Increase in power and utility costs at facilities due to higher industrial electricity tariffs driven by the renewable energy transition	• Improving energy efficiency at facilities and using renewable energy sources			
	GHG emissions and climate change result from LPG and LNG pyrolysis during downstream chemical production	Increase in emission allowance purchase costs due to the expansion of the emissions trading scheme, higher allowance prices, and increased allocation ratios	• Expanding the use of renewable energy • Installing and expanding seawater heat exchangers • Reducing electricity consumption			
		Increase in operating profit from hydrogen-related businesses due to the long-term expansion of renewable energy infrastructure markets	• Operating hydrogen fuel cell power plants • Promoting ESS (Energy Storage System) projects			
		Decrease in LNG operating profit due to the long-term transition to carbon-free power generation based on renewable energy	• Reviewing new energy projects and adjusting the project portfolio • Investing in structures to prevent flood damages.			
	Causing climate change through GHG emissions during gas extraction, refining, and liquefaction processes	Increase in repair, insurance, cooling, water, and operating costs due to more frequent and severe acute and chronic physical risks	• Investing in infrastructure to enhance durability and prevent typhoon damage. • Conducting risk assessments for natural disasters (wind and flood damage, earthquakes, wildfires) through specialized companies, establishing improvement plans, and implementing corrective actions. • Developing mid- to long-term plans to respond to government policies and develop hybrid LPG solutions.			
		Decrease in operating profit of the transportation LPG business due to strengthened policies promoting conversion to electric and hydrogen fuels	• Enhancing fuel flexibility through LNG-LPG dual-fuel power plants (Ulsan GPS). • Transitioning from B-C fuel oil to LPG for industrial fuel use.			
		Decrease in operating profit of the industrial LPG fuel business due to expanding policies promoting conversion to electric and hydrogen fuels	• Expanding LPG demand for raw materials among domestic PDH and petrochemical companies, ensuring stable sales channels.			
		Decrease in operating profit of the raw material LPG business due to diversification and decarbonization in the petrochemical sector				
Occupational Health and Safety	Potential for destabilizing the value chain and causing social losses due to major transportation accidents during upstream and downstream logistics processes	Increase in legal and operating costs due to workers' health deterioration, legal liabilities, and business interruption resulting from exposure to hazardous gases and noise, and fire or explosion incidents	• Planning and implementing joint safety programs with partners and demand sites to enhance safety across the value chain • Operating an Occupational Safety and Health Management System (ISO 45001), a company-wide integrated control system, regular safety and health management diagnostics, an emergency response system, and training programs to strengthen on-site safety	• Achieving zero C-level accidents at business sites and demand sites¹⁾ • Attaining A (good) level in SHE management diagnostics • Achieving zero lost-time injury rate (LTIR)	51-60, 117	GRI 403
	Potential disruption to value chain stability and social losses resulting from major accidents during upstream and downstream logistics processes, including loss of human capital and public losses caused by fire or explosion accidents at business sites	Decrease in revenue due to negative public perception of LPG and LNG fuel safety following fire or explosion incidents at refueling stations				
Consumer and End-User Rights	Inadequate communication of fuel characteristics and safety handling information during LPG supply process leading to negative safety impact on end-users	-	• Thorough inspection according to quality standards from LPG introduction to sale with Material Safety Data Sheets (MSDS) provided during supply as required • Introduction of safety information monitoring within the Wego Safety platform to improve consumer access and convenience	• Strengthening facility integrity through detailed inspections and preventive maintenance • Achieved 100% response rate for customer support (emergency inspections/repairs)	61-66, 117	GRI 416
Corporate Governance	-	Increase in investor demand and capital inflows through shareholder-friendly dividend policies	• Establishment and disclosure of a new three-year (2024-2026) dividend policy	• Conducting interim and year-end dividend (interim dividend: 2,000 KRW, End-of-year dividend: 7,000 KRW)	92, 117	GRI 201
Ethical Management	-	Decrease in revenue due to fines for violations of fair trade and subcontracting laws, as well as reduced stakeholder trust	• Operation of the Fair Trade Self-Regulation Program	• Revision of the Fair Trade Self-Regulation Guidelines • Zero violations of fair trade-related laws	99, 117	GRI 206

1) C-grade Incident: Injury incident resulting in more than three days of lost work time or a process safety incident involving losses of KRW 100 million or more

Materiality Assessment

External Stakeholder Interview

To enhance the credibility of the materiality assessment results and to reflect external stakeholder perspectives in a balanced manner, SK Gas conducted interviews with three experts regarding the materiality assessment results.



Energy Industry
Expert

Overall Opinions on the Materiality Assessment Results

Overall, I believe that the materiality assessment results were reasonably derived. Identifying declining gas demand as a key financial risk is also a reasonable conclusion considering the current regulatory environment resulting from the strengthening of the Nationally Determined Contributions (NDC). However, rather than viewing sustainability solely through the single criterion of carbon emissions, I believe it should be interpreted together with the sustainability of the overall economic system in which the company operates. Energy is inevitably discussed in conjunction with both climate action and energy supply stability.

Recommendations for Future Enhancement

I believe the materiality assessment results should be more clearly linked to the company's overall risk management framework beyond the report itself. Rather than focusing only on carbon reduction, it is important to adopt an integrated approach that manages energy supply stability and long-term energy transition strategies within a single risk management framework. I believe that how the issues identified through this assessment are linked to SK Gas's overall strategy will become an important criterion for evaluating the trust of the market and stakeholders in the future.



ESG and Sustainable
Management Expert

Overall Opinions on the Materiality Assessment Results

I was impressed that climate change mitigation showed the highest significance in both positive and negative impacts. I believe the results of this materiality assessment clearly demonstrate how significantly SK Gas's business portfolio is influenced by the pace of the energy transition. However, there appears to be a tendency to place relatively greater emphasis on positive impacts. The structural negative impacts occurring throughout the upstream and downstream sectors should also be presented more objectively. I believe a balanced presentation of future assessment results is important.

Recommendations for Future Enhancement

From the perspective of SK Gas's communication strategy, the aspect that should be improved is the accuracy of the terminology used. Expressions such as "clean" may be misunderstood as greenwashing and should therefore be adjusted to indicate that carbon emissions are relatively lower than those of other fuels. In addition, rather than presenting the LPG business only as an opportunity, it is important to recognize the structural risks as well and present a portfolio transition strategy to address them. Given the characteristics of SK Gas's business, explanations regarding Scope 3 emission reductions and transition pathways will also become an important element of future communication.



Energy Industry and
Regulation Expert

Overall Opinions on the Materiality Assessment Results

Overall, the materiality assessment results appear to have been appropriately derived within a carbon regulation-centered framework. However, given the characteristics of the energy industry, it is necessary to better reflect the interconnections among the complex business structure of LPG trading, LNG power generation, and terminal operations. While the risk of declining LPG demand has been appropriately identified, trading opportunities arising from increased price and supply volatility should also be taken into consideration. In addition, although LNG is a realistic transition option in the short to medium term, the benefits to individual business operators may be limited. Transition opportunities such as hydrogen require a more conservative approach that takes policy and technological constraints into account.

Recommendations for Future Enhancement

Going forward, it is necessary to move beyond a carbon-centered approach and further refine risks and opportunities based on energy supply conditions and business structure. In particular, structural changes such as increasing electricity demand should be monitored closely, and sustainability should be considered in a balanced manner in strategic decision-making. As LNG is both a transition risk and an essential resource for maintaining grid stability, balanced communication that takes both aspects into account is required. In addition, terminal infrastructure is a core strategic asset that affects the overall business and should be given priority in safety and ethics risk management.