

Climate Change

Strategy

Climate Scenario Analysis

Results of Physical Risk Scenario Analysis

An analysis of physical climate risks across eight SK Gas facilities and major subsidiaries indicates that abnormal temperatures and flooding caused by heavy rainfall are expected to account for a significant share of total impacts during the 2020–2049 period. Among the assessed sites, Ulsan GPS and the headquarters are expected to experience relatively higher levels of exposure.

Across all sites, abnormal temperatures and flooding caused by heavy rainfall were identified as the most material physical risks. Under both the low-carbon (SSP1-2.6) and high-carbon (SSP5-8.5) scenarios, abnormal temperature risk shows the greatest degree of variation. The average annual loss rates across all sites show an upward trend through 2049 under both scenarios. The average annual loss rates by site projected for the 2040s (2040–2049) are presented below.

[Average Annual Loss Rate by Disaster for Major Facilities in the 2040s (2040–2049)]

Scenario: SSP1-2.6 ³⁾ <2°C							
Disaster	Extreme temperature	flooding caused by heavy rainfall	Wildfires	Typhoons	Droughts	Water Stress	River flooding
Facility							
Head Office	over 1.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
Ulsan Terminal	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
Pyeongtaek Terminal	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	0.1%~0.5%
G.Hub	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
CEC	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Not applicable	Less than 0.1%
Ulsan GPS	0.5%~1.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	0.1%~0.5%	Less than 0.1%	Less than 0.1%
SKGU ⁴⁾	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
SKGI ⁵⁾	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%

Scenario: SSP5-8.5 ³⁾ >4°C							
Disaster	Extreme temperature	flooding caused by heavy rainfall	Wildfires	Typhoons	Droughts	Water Stress	River flooding
Facility							
Head Office	over 1.5%	0.5%~1.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
Ulsan Terminal	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
Pyeongtaek Terminal	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	0.1%~0.5%
G.Hub	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
CEC	0.1%~0.5%	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Not applicable	Less than 0.1%
Ulsan GPS	0.5%~1.5%	0.5%~1.5%	Less than 0.1%	Less than 0.1%	0.1%~0.5%	Less than 0.1%	Less than 0.1%
SKGU ⁴⁾	0.5%~1.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%
SKGI ⁵⁾	0.1%~0.5%	0.1%~0.5%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%	Less than 0.1%

1) Analysis of physical risk factors (disasters) including cost increases, revenue reductions, and business operations disruptions relative to asset values

2) SSP 1-2.6: A scenario assuming minimal fossil fuel use due to advancements in renewable energy technologies

3) SSP 5-8.5: A scenario focusing on industrial technology development and expanded urban development

4) SKGU: SK Gas USA Inc

5) SKGI: SK Gas International Pte. Ltd

Analysis Results by Business Site

The headquarters is expected to face relatively high exposure to abnormal temperatures and urban flooding due to the characteristics of the Pangyo area, including frequent urban heat island effects and extensive impervious surfaces.

At Ulsan GPS, stable operation of the power plant requires continuous equipment cooling and overheating prevention, resulting in greater exposure to abnormal temperature risks than at other business sites. In addition, the site's high water consumption during operations increases its vulnerability to drought-related risks.

Although SKGU in Houston, Texas, recorded relatively high projected losses from heatwaves, the scale of exposed assets is not considered material.

Climate Resilience Assessment

SK Gas continuously monitors the likelihood of major climate-related risks, including heatwaves and urban flooding, to support stable business operations.

To strengthen resilience at Ulsan GPS, where physical climate risks are relatively higher, the company minimizes potential impacts by operating high-efficiency cooling towers and advanced monitoring systems.

Climate Change

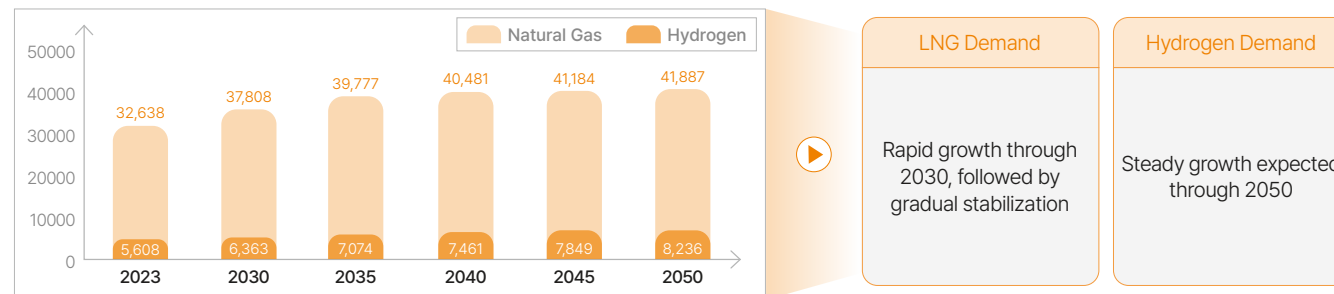
Strategy

Climate Scenario Analysis

Energy Demand (LNG, Hydrogen) Scenario Analysis

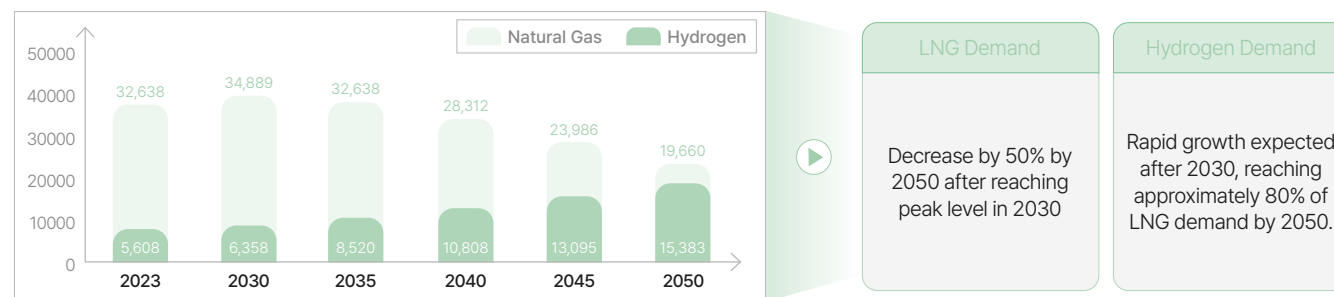
[LNG and Hydrogen Demand Outlook - STEPS¹⁾ Scenario]

(Unit: PJ)



[LNG and Hydrogen Demand Outlook - APS²⁾ Scenario]

(Unit: PJ)



1) STEPS (Stated Policy Scenarios): A scenario assuming that currently implemented policies and officially announced policy measures in each country are carried out as planned

2) APS (Announced Pledge Scenarios): A scenario assuming all climate policies, including each country's NDCs and long-term carbon neutrality goals, are implemented as planned

Energy Demand (LNG, Hydrogen) Scenario Analysis Results

In the short to medium term, increasing demand for LNG as a lower-carbon energy source is expected to create opportunities for sales growth. Under the long-term APS scenario, however, declining LNG demand may reduce sales opportunities. At the same time, continued expansion of the hydrogen market is expected to create new growth opportunities.

Short to Medium-term Response Strategies

To address growing LNG demand over the short to medium term, SK Gas is implementing its Lower Carbon Solution strategy. The company aims to secure new LNG business opportunities for industrial customers while continuously expanding LNG import capacity and supply infrastructure. At the same time, it is strengthening the foundation of its energy business by enhancing its LNG bunkering capabilities.

Long-term Response Strategy

SK Gas is advancing clean hydrogen supply projects for power generation as part of its Zero Carbon Solution strategy to meet growing hydrogen demand through 2050. In addition, the company plans to expand hydrogen co-firing at Ulsan GPS to support the transition toward a hydrogen-based energy system.

Climate Resilience Assessment

SK Gas is pursuing both its Lower Carbon Solution (LNG) and Zero Carbon Solution (hydrogen) strategies while maintaining the flexibility to adjust implementation timelines in response to changing business conditions.

In the short to medium term, the company plans to expand its LNG business to capture opportunities arising from growing demand. Over the longer term, it aims to mitigate transition risks while creating new business opportunities by focusing on its Zero Carbon Solution strategy to address increasing hydrogen demand.