

Hanwha Corp.

# 2024 CDP Corporate Questionnaire 2024

Word version

**Important: this export excludes unanswered questions**

This document is an export of your organization's CDP questionnaire response. It contains all data points for questions that are answered or in progress. There may be questions or data points that you have been requested to provide, which are missing from this document because they are currently unanswered. Please note that it is your responsibility to verify that your questionnaire response is complete prior to submission. CDP will not be liable for any failure to do so.

[Terms of disclosure for corporate questionnaire 2024 - CDP](#)

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## C1. Introduction

### (1.1) In which language are you submitting your response?

Select from:

☒ English

### (1.2) Select the currency used for all financial information disclosed throughout your response.

Select from:

☒ KRW

### (1.3) Provide an overview and introduction to your organization.

#### (1.3.2) Organization type

Select from:

☒ Publicly traded organization

#### (1.3.3) Description of organization

*Hanwha Corporation was founded in 1952 with the entrepreneurial spirit of contributing to the country and society, and has grown over the past 70 years by playing a role in the development of the country. Hanwha has its own business in the three sectors of Global, E&C and Momentum at its core, and as the parent company of Hanwha Group, Hanwha is realizing sustainable growth by entering the global market and restructuring its business structure for sustainable growth and enhancing shareholder value by promoting the integration and specialization of eco-friendly businesses within the group. In order to increase business competitiveness, the Hanwha Momentum division was spun off in July 2024, and the solar equipment business was transferred to Hanwha Solution, a subsidiary, to complete the solar power value chain of Hanwha Group. In addition, the wind power and plant business in the construction sector was transferred to Hanwha Ocean in July 2024 to establish itself as a total solution provider for the offshore wind power business. Hanwha Global provides solutions based on chemical technology that connect energy and the environment. Then succeeded in localizing dynamite for the first time in Korea and have been supplying safe and high-quality explosives and chemical products to industrial sites, leading the domestic and overseas markets as well as possessing world-class technology and safety. With more than 50 years of business capabilities, Hanwha have a stable profit base in core business areas such as gunpowder, inorganic chemicals, and machinery. In addition, Hanwha is discovering various project projects and new revenue sources through a global network established around the world, and striving to build Hanwha's own business foundation in promising industries in the future through technical alliances with leading companies. Hanwha Momentum has been producing high-value-added machinery and equipment through continuous in-house technology development and innovation, focusing on thermal technology, automation technology, and vacuum deposition technology. In addition, by combining smart factories and automation facilities in the era of Industry 4.0, Hanwha is leading the innovation of*

logistics at production sites. Hanwha Momentum is advancing to become a global leader in machinery and equipment through continuous R&D and innovation to provide total engineering solutions for the development of human society. Hanwha Engineering & Construction is a global construction company with construction experience in various construction fields such as architecture, civil engineering, and plants, as well as cutting-edge technology and an extensive network. With the goal of becoming a 'Green Infra Developer', Hanwha is growing into a leading company that leads large-scale complex development projects and eco-friendly energy projects. In particular, Hanwha E&C is an expert in the field of complex development projects that combine housing, culture, business, leisure, commerce, and social infrastructure beyond simple buildings, and has global competitiveness in the housing business represented by the premium residential brand 'Forena' and chemical engineering and power generation plants centered on industrial complexes in the Middle East and Korea. In addition, Hanwha is preparing for the coming zero-carbon era through wind power generation and hydrogen energy businesses, which are expanding business areas to the sea. In line with the Hanwha 2040 Net Zero strategy, Hanwha Group will continue to efficiently establish a unified eco-friendly business strategy, monitor risks, and manage performance through eco-friendly business value chain management, in addition to reducing greenhouse gas emissions and responding to climate change. In addition, Hanwha's reporting coverage for CDP in 2023 is consistent with the financial statements on a separate basis. The scope corresponds to Hanwha's three divisions: Global, E&C and Momentum and is limited to domestic business sites within the business division.

[Fixed row]

**(1.4) State the end date of the year for which you are reporting data. For emissions data, indicate whether you will be providing emissions data for past reporting years.**

|  | End date of reporting year | Alignment of this reporting period with your financial reporting period | Indicate if you are providing emissions data for past reporting years |
|--|----------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------|
|  | 12/30/2023                 | Select from:<br><input checked="" type="checkbox"/> Yes                 | Select from:<br><input checked="" type="checkbox"/> No                |

[Fixed row]

**(1.4.1) What is your organization’s annual revenue for the reporting period?**

7015100000000

**(1.5) Provide details on your reporting boundary.**

|  |                                                                                                        |
|--|--------------------------------------------------------------------------------------------------------|
|  | Is your reporting boundary for your CDP disclosure the same as that used in your financial statements? |
|  | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes                                         |

[Fixed row]

**(1.6) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

**ISIN code - bond**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

**ISIN code - equity**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ Yes

**(1.6.2) Provide your unique identifier**

KR7000880005

**CUSIP number**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

## **Ticker symbol**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

## **SEDOL code**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

## **LEI number**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

## **D-U-N-S number**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No

## **Other unique identifier**

**(1.6.1) Does your organization use this unique identifier?**

*Select from:*

☒ No  
[Add row]

### (1.7) Select the countries/areas in which you operate.

Select all that apply

☒ Republic of Korea

### (1.8) Are you able to provide geolocation data for your facilities?

|  | Are you able to provide geolocation data for your facilities?                                                               | Comment                                                                                |
|--|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|  | Select from:<br><input checked="" type="checkbox"/> No, not currently but we intend to provide it within the next two years | Hanwha plans to provide geolocation data for its facilities within the next two years. |

[Fixed row]

### (1.24) Has your organization mapped its value chain?

#### (1.24.1) Value chain mapped

Select from:

☒ Yes, we have mapped or are currently in the process of mapping our value chain

#### (1.24.2) Value chain stages covered in mapping

Select all that apply

☒ Upstream value chain

☒ Downstream value chain

### (1.24.3) Highest supplier tier mapped

Select from:

☒ Tier 2 suppliers

### (1.24.4) Highest supplier tier known but not mapped

Select from:

☒ Tier 4+ suppliers

### (1.24.7) Description of mapping process and coverage

*Hanwha Corporation is in the process of establishing a win-win cooperation implementing system and mapping process to strengthen win-win cooperation and ESG management in the value chain. The mapping coverage spans the entire supply chain. For all suppliers, Hanwha categorizes the primary supplier, which is the main supplier, into Tier 1 and other suppliers (Non-Tier 1, or Tier 2), and focuses on the primary suppliers. In 2023, out of 2,338 suppliers, 1,377 were identified as tier 1 suppliers. Suppliers are required to check the ESG factors described in the Supplier Code of Conduct, and pre-evaluation is conducted for new suppliers and regular evaluations are conducted for existing suppliers. In addition, in order to effectively manage the value chain, we identify and continuously manage high-risk suppliers that do not meet the standard score in accordance with the standards of the ISO Supplier Evaluation Procedure. The information collected during the mapping process includes ESG-related data of suppliers (overall environmental strategy and system supplements, safety management and compliance with working hours, violations of ethics regulations, etc.), and is used to comprehensively evaluate suppliers. As such, Hanwha will do its best to lay the foundation for creating a sustainable and win-win corporate environment through the mapping of the value chain of suppliers.*

*[Fixed row]*

## C2. Identification, assessment, and management of dependencies, impacts, risks, and opportunities

**(2.1) How does your organization define short-, medium-, and long-term time horizons in relation to the identification, assessment, and management of your environmental dependencies, impacts, risks, and opportunities?**

### Short-term

**(2.1.1) From (years)**

0

**(2.1.3) To (years)**

1

**(2.1.4) How this time horizon is linked to strategic and/or financial planning**

*Hanwha Corporation has established a net-zero goal called 'Hanwha Net Zero 2040 Roadmap'. In addition, Hanwha conducted an economic analysis for K-RE100 based on the NGFS climate scenario analysis and established a short-term plan by deriving the quantitative financial impact of Hanwha through physical/transition risk analysis. Short-term plans include improving the energy efficiency of business sites and reducing raw unit consumption.*

### Medium-term

**(2.1.1) From (years)**

2

**(2.1.3) To (years)**

7

**(2.1.4) How this time horizon is linked to strategic and/or financial planning**

*Hanwha Corporation has established a net-zero goal called 'Hanwha Net Zero 2040 Roadmap'. In addition, Hanwha conducted an economic analysis for K-RE100*

*based on the NGFS climate scenario analysis and established a mid-term plan by deriving the quantitative financial impact of Hanwha through physical/transition risk analysis. Medium-term plans include the establishment of a strategy to achieve the goals of joining K-RE100 in 2023, continuous advancement and phased implementation. Action plans include securing renewable energy power through third-party PPA contracts and introducing eco-friendly industrial boilers.*

## **Long-term**

### **(2.1.1) From (years)**

8

### **(2.1.2) Is your long-term time horizon open ended?**

Select from:

☒ No

### **(2.1.3) To (years)**

17

### **(2.1.4) How this time horizon is linked to strategic and/or financial planning**

*Hanwha Corporation has established a net-zero goal called 'Hanwha Net Zero 2040 Roadmap'. In addition, Hanwha conducted an economic analysis for K-RE100 based on the NGFS climate scenario analysis and established a long-term plan by deriving the quantitative financial impact of Hanwha through physical/transition risk analysis. Long-term plans include the provision of low-carbon products and services to achieve net zero by 2040, the capture of carbon dioxide emissions through the installation of CCUS, and the transition of special vehicles to green fuels.*

*[Fixed row]*

## **(2.2) Does your organization have a process for identifying, assessing, and managing environmental dependencies and/or impacts?**

|  | Process in place                                               | Dependencies and/or impacts evaluated in this process                                    |
|--|----------------------------------------------------------------|------------------------------------------------------------------------------------------|
|  | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes | <i>Select from:</i><br><input checked="" type="checkbox"/> Both dependencies and impacts |

[Fixed row]

### (2.2.1) Does your organization have a process for identifying, assessing, and managing environmental risks and/or opportunities?

|  | Process in place                                               | Risks and/or opportunities evaluated in this process                                    | Is this process informed by the dependencies and/or impacts process? |
|--|----------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|  | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes | <i>Select from:</i><br><input checked="" type="checkbox"/> Both risks and opportunities | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes       |

[Fixed row]

### (2.2.2) Provide details of your organization's process for identifying, assessing, and managing environmental dependencies, impacts, risks, and/or opportunities.

#### Row 1

#### (2.2.2.1) Environmental issue

*Select all that apply*

☒ Climate change

#### (2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental

## issue

*Select all that apply*

- ☒ Dependencies
- ☒ Impacts
- ☒ Risks
- ☒ Opportunities

## (2.2.2.3) Value chain stages covered

*Select all that apply*

- ☒ Direct operations
- ☒ Upstream value chain
- ☒ Downstream value chain

## (2.2.2.4) Coverage

*Select from:*

- ☒ Full

## (2.2.2.5) Supplier tiers covered

*Select all that apply*

- ☒ Tier 1 suppliers

## (2.2.2.7) Type of assessment

*Select from:*

- ☒ Qualitative and quantitative

## (2.2.2.8) Frequency of assessment

*Select from:*

- ☒ Annually

### (2.2.2.9) Time horizons covered

*Select all that apply*

- ☒ Short-term
- ☒ Medium-term
- ☒ Long-term

### (2.2.2.10) Integration of risk management process

*Select from:*

- ☒ Integrated into multi-disciplinary organization-wide risk management process

### (2.2.2.11) Location-specificity used

*Select all that apply*

- ☒ Site-specific

### (2.2.2.12) Tools and methods used

#### **International methodologies and standards**

- ☒ IPCC Climate Change Projections
- ☒ ISO 14001 Environmental Management Standard

#### **Other**

- ☒ Materiality assessment
- ☒ Scenario analysis
- ☒ Other, please specify :IEA NZE 2050, S&P Climonomics

### (2.2.2.13) Risk types and criteria considered

#### **Acute physical**

- ☒ Cyclones, hurricanes, typhoons
- ☒ Drought

- ☒ Flood (coastal, fluvial, pluvial, ground water)

#### **Chronic physical**

- ☒ Changing temperature (air, freshwater, marine water)

#### **Policy**

- ☒ Carbon pricing mechanisms

#### **Market**

- ☒ Availability and/or increased cost of raw materials

#### **Reputation**

- ☒ Negative press coverage related to support of projects or activities with negative impacts on the environment (e.g. GHG emissions, deforestation & conversion, water stress)

#### **Technology**

- ☒ Transition to lower emissions technology and products

#### **Liability**

- ☒ Non-compliance with regulations

### **(2.2.2.14) Partners and stakeholders considered**

*Select all that apply*

- ☒ Customers
- ☒ Employees
- ☒ Investors
- ☒ Suppliers
- ☒ Local communities
- ☒ Indigenous peoples

### **(2.2.2.15) Has this process changed since the previous reporting year?**

*Select from:*

- ☒ No

### (2.2.2.16) Further details of process

*Hanwha Corporation manages environmental risks and opportunities in connection with the entire process of corporate activities and annual management strategies, and responds to issues related to the dependence that the company receives from the environment and the impact on the environment through the process. The scope of Hanwha's risk and opportunity identification includes not only direct business sites but also upstream and downstream stages of supplying raw and subsidiary materials and delivering products and the scope of direct operations includes all three sectors of Hanwha: Global, E&C, and Momentum. The main areas of environmental impact where risks and opportunities are identified are air, water, waste, soil pollution, chemicals, biodiversity, other social factors and the impact of opportunities or risks is divided into financial and non-financial impacts and countermeasures are prepared. Hanwha's climate change risk management and opportunity identification process is as follows. 1. To identify risks and opportunities, Hanwha conducts a materiality assessment once a year that considers the probability of climate change risks and the impact of risks in all areas of ESG and assign risk ratings for each risk. 2. Develop response strategies and implementation tasks for identified risks and opportunities. 3. In order to manage and respond to issues, weekly monitoring of critical issues is carried out throughout the company, and sectoral strategies and tasks are implemented for identified risks. 4. As a follow-up measure, Hanwha monitors the management performance of risk and opportunity factors, derive mid and long-term management items and establish an annual action plan for the next fiscal year based on the evaluation results. As such, Hanwha systematically manages the company's risks and opportunities at the company-wide level.*

### Row 3

#### (2.2.2.1) Environmental issue

*Select all that apply*

☒ Water

#### (2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

*Select all that apply*

☒ Dependencies

☒ Impacts

☒ Risks

☒ Opportunities

#### (2.2.2.3) Value chain stages covered

*Select all that apply*

☒ Direct operations

- ☒ Upstream value chain
- ☒ Downstream value chain

#### (2.2.2.4) Coverage

*Select from:*

- ☒ Full

#### (2.2.2.5) Supplier tiers covered

*Select all that apply*

- ☒ Tier 1 suppliers

#### (2.2.2.7) Type of assessment

*Select from:*

- ☒ Qualitative and quantitative

#### (2.2.2.8) Frequency of assessment

*Select from:*

- ☒ Annually

#### (2.2.2.9) Time horizons covered

*Select all that apply*

- ☒ Short-term
- ☒ Medium-term
- ☒ Long-term

#### (2.2.2.10) Integration of risk management process

*Select from:*

- ☒ Integrated into multi-disciplinary organization-wide risk management process

### (2.2.2.11) Location-specificity used

*Select all that apply*

- ☒ Site-specific

### (2.2.2.12) Tools and methods used

#### **Commercially/publicly available tools**

- ☒ WRI Aqueduct
- ☒ WWF Water Risk Filter

#### **International methodologies and standards**

- ☒ ISO 14001 Environmental Management Standard

#### **Other**

- ☒ Materiality assessment
- ☒ Scenario analysis

### (2.2.2.13) Risk types and criteria considered

#### **Acute physical**

- ☒ Cyclones, hurricanes, typhoons
- ☒ Drought
- ☒ Flood (coastal, fluvial, pluvial, ground water)

#### **Chronic physical**

- ☒ Groundwater depletion
- ☒ Water stress

#### **Policy**

- ☒ Increased pricing of water
- ☒ Introduction of regulatory standards for previously unregulated contaminants

### Market

- ☒ Availability and/or increased cost of raw materials

### Reputation

- ☒ Negative press coverage related to support of projects or activities with negative impacts on the environment (e.g. GHG emissions, deforestation & conversion, water stress)

### Technology

- ☒ Transition to water efficient and low water intensity technologies and products

### Liability

- ☒ Non-compliance with regulations

## (2.2.2.14) Partners and stakeholders considered

Select all that apply

- ☒ Customers
- ☒ Employees
- ☒ Investors
- ☒ Suppliers
- ☒ Local communities
- ☒ Indigenous peoples

## (2.2.2.15) Has this process changed since the previous reporting year?

Select from:

- ☒ Yes

## (2.2.2.16) Further details of process

*Hanwha Corporation manages water-related dependencies, impacts, risks and opportunities in connection with the entire corporate process and annual management strategy. Hanwha conducts a company-wide double materiality assessment once a year, and analyzes issues related to water resources in the reporting issue along with the value chain impact. Hanwha's water-related risk management and opportunity identification process is as follows. 1. To identify risks and opportunities, Hanwha conducts a double materiality assessment once a year that considers the probability of climate change risks and the impact of risks for all ESG areas and assign risk ratings for each risk. 2. Develop response strategies and implementation tasks for identified risks and opportunities. 3. In order to manage and respond to*

issues, weekly monitoring of critical issues is carried out throughout the company, and sectoral strategies and tasks are implemented for identified risks. 4. As a follow-up measure, Hanwha monitors the management performance of risk and opportunity factors, derive mid and long-term management items and establish an annual action plan for the next fiscal year based on the evaluation results. In 2023, the impact on water resources was expected to be high downstream and direct operations. Therefore for precise analysis, company conducted a water stress analysis on the Global and Momentum division corresponding to Hanwha's direct business sites. The Water Stress Analysis tool is used with WWF Water Risk Filter and WRI's Aqueduct. E&C division does not conduct water stress analyses using WWF Water Risk Filters and WRI's Aqueduct, but conducts environmental impact assessments on new construction sites and minimizes negative impacts on water resources and biodiversity through environmental impact assessments. As such, Hanwha systematically manages the impact, risk, and opportunity factors of dependence on water.

[Add row]

## **(2.2.7) Are the interconnections between environmental dependencies, impacts, risks and/or opportunities assessed?**

### **(2.2.7.1) Interconnections between environmental dependencies, impacts, risks and/or opportunities assessed**

Select from:

☒ Yes

### **(2.2.7.2) Description of how interconnections are assessed**

Hanwha Corporation considers the interconnectedness between a company's dependencies, impacts, risks and opportunities according to major environmental impacts. First, analyze the risks and opportunities that could have a significant impact on the company based on seven factors. These factors include air, water, waste, soil pollution, chemicals, biodiversity, other social factors, biodiversity and water resources are the most important parts of corporate dependency and impact. For example, in the biodiversity sector, a company's impact on the environment will be evaluated and the company's production activities may take into account the loss of biodiversity near the business site and the company's recovery costs due to damage to natural capital. As a result of this impact, the company may suffer non-financial effects such as loss of corporate brand image and reputation and for dependency and impact management, Hanwha continuously monitors the off-site/in-house areas of the Boeun business site in the Global division, and the E&C division conducts a thorough environmental impact assessment at the site opening stage. For water resources, Hanwha analyzes the potential risks that water scarcity will pose to productivity and assess the opportunities that can be gained through water quality improvements. In doing so, Hanwha proactively recognize and manage environmental risks and based on the results of this analysis, efficiently manage water use for our business sites and integrate them into Hanwha's business strategy. To minimize water pollution that may occur during the construction process, Hanwha E&C has established management guidelines for each field and plans to operate wastewater treatment facilities, sewage treatment facilities, storage and device-type management facilities for the management of non-point pollution sources and utilize them as important opportunities from a mid-to long-term perspective. This approach is integrated into Hanwha's processes for assessing and managing environmental dependencies, impacts, risks, and opportunities and is aligned with the company-wide environmental management process.

[Fixed row]

## **(2.3) Have you identified priority locations across your value chain?**

### (2.3.1) Identification of priority locations

Select from:

☒ Yes, we are currently in the process of identifying priority locations

### (2.3.2) Value chain stages where priority locations have been identified

Select all that apply

☒ Direct operations

### (2.3.3) Types of priority locations identified

**Locations with substantive dependencies, impacts, risks, and/or opportunities**

☒ Locations with substantive dependencies, impacts, risks, and/or opportunities relating to water

### (2.3.4) Description of process to identify priority locations

*Hanwha Corporation prioritizes business sites in consideration of water quality risks at directly operated business sites. The tool Hanwha use is WWF Water Risk Filter which conducts a water stress analysis for manufacturing sites once a year and prioritizes business sites in consideration of water quality risks at directly operated sites. The 2023 water stress analysis was conducted on seven major manufacturing sites of Hanwha Corporation (Asan, Boeun, Changwon, Donghae, Jecheon, Onsan, and Yuldo). In particular, Hanwha intends to intensively manage workplaces with high physical risks in river basins by selecting them as high-stress priorities. The elements of a physical risk analysis for a river basin include categories such as water scarcity, flooding, water quality, and ecosystem health, respectively. Scenario analysis results. At present, in the mid-to long-term (2030,2050), the sites with high physical risk to the river basin were Boeun and Yuldo sites. Accordingly Hanwha intends to identify the Boeun and Yuldo sites as priorities for management throughout the value chain and respond to them intensively.*

### (2.3.5) Will you be disclosing a list/spatial map of priority locations?

Select from:

☒ Yes, we will be disclosing the list/geospatial map of priority locations

### (2.3.6) Provide a list and/or spatial map of priority locations

(주)한화\_WWF\_Water\_Scenarios\_Portfolio\_geological list.xlsx

[Fixed row]

## (2.4) How does your organization define substantive effects on your organization?

### Risks

#### (2.4.1) Type of definition

*Select all that apply*

- ☒ Qualitative
- ☒ Quantitative

#### (2.4.2) Indicator used to define substantive effect

*Select from:*

- ☒ Capital expenditures

#### (2.4.3) Change to indicator

*Select from:*

- ☒ Absolute increase

#### (2.4.5) Absolute increase/ decrease figure

0

#### (2.4.6) Metrics considered in definition

*Select all that apply*

- ☒ Frequency of effect occurring

#### (2.4.7) Application of definition

*When defining substantive effects in terms of risks and opportunities, Hanwha Corporation considers financial, environmental and social impacts. Through the double materiality assessment which is conducted once a year, Hanwha clearly understands external social and environmental factors that affect the company's financial position as well as the stakeholder and social needs and expectations surrounding the corporate business environment and derive important ESG issues that reflect all financial, social and environmental impacts. 1. Financial Impact Hanwha defines a significant financial impact as one involving costs or gains and losses of KRW 5*

billion or more. For financial impact, Hanwha conducts a materiality assessment based on 'probability of occurrence' and 'risk impact (strategic importance, urgency, management impact)' for major issues derived from international standard requirements review, media analysis, benchmarking analysis and internal management issue analysis. The probability of occurrence and risk impact of each issue are evaluated in three grades: I, II, III and those that fall under the first grade are classified as significant strategic impacts and selected as issues that require company-wide response. 2. In the case of environmental/social impacts, Hanwha defines substantive effects as those with a probability of 80% or more or a risk impact of level 1. Quantifiable metrics used to define substantial social and environmental impacts include probability of occurrence and risk impact (strategic importance, urgency, and managerial impact), which the Board of Directors will meet to decide as a "material matter."

## Opportunities

### (2.4.1) Type of definition

Select all that apply

- ☒ Qualitative
- ☒ Quantitative

### (2.4.2) Indicator used to define substantive effect

Select from:

- ☒ Capital expenditures

### (2.4.3) Change to indicator

Select from:

- ☒ Absolute increase

### (2.4.5) Absolute increase/ decrease figure

0

### (2.4.6) Metrics considered in definition

Select all that apply

- ☒ Frequency of effect occurring

### (2.4.7) Application of definition

*When defining substantive effects in terms of risks and opportunities, Hanwha Corporation considers financial, environmental and social impacts. Through the double materiality assessment which is conducted once a year, Hanwha clearly understands external social and environmental factors that affect the company's financial position as well as the stakeholder and social needs and expectations surrounding the corporate business environment and derive important ESG issues that reflect all financial, social and environmental impacts. 1. Financial Impact Hanwha defines a significant financial impact as one involving costs or gains and losses of KRW 5 billion or more. For financial impact, Hanwha conducts a materiality assessment based on 'probability of occurrence' and 'risk impact (strategic importance, urgency, management impact)' for major issues derived from international standard requirements review, media analysis, benchmarking analysis and internal management issue analysis. The probability of occurrence and risk impact of each issue are evaluated in three grades: I, II, III and those that fall under the first grade are classified as significant strategic impacts and selected as issues that require company-wide response. 2. In the case of environmental/social impacts, Hanwha defines substantive effects as those with a probability of 80% or more or a risk impact of level 1. Quantifiable metrics used to define substantial social and environmental impacts include probability of occurrence and risk impact (strategic importance, urgency, and managerial impact), which the Board of Directors will meet to decide as a "material matter."*

*[Add row]*

## **(2.5) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?**

### **(2.5.1) Identification and classification of potential water pollutants**

Select from:

☒ Yes, we identify and classify our potential water pollutants

### **(2.5.2) How potential water pollutants are identified and classified**

*Hanwha Corporation continuously monitors issues related to water quality through activities to identify and classify potential water pollutants. In particular the company prioritize meeting the legal requirements required by water-related laws and regulations and strictly manage wastewater treatment facilities to manage them below 50% of the legal limit. Global division has a chemical-focused business which further identifies and manages potential water contaminants associated with its business activities. In the case of Boeun sites, water quality is measured once every two days to identify potential water pollutants and the substances identified through this are TOC, SS, BOD, T-N, T-P, PH, n-Hexane, Zn, total E. coli count, etc..*

*[Fixed row]*

## **(2.5.1) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.**

## Row 1

### (2.5.1.1) Water pollutant category

Select from:

☒ Inorganic pollutants

### (2.5.1.2) Description of water pollutant and potential impacts

*During the product processing, Zinc (Zn) is occurred in Boeun and Onsan plants. This substance is a heavy metal and if released into the environment, it can affect aquatic life, causing growth retardation, reduced reproductive ability and damage immune system. It can also cause changes in the community structure of phytoplankton, zooplankton and other aquatic life. Zinc is one of the important management targets because when plants and animals absorb zinc and bioaccumulate, animals and humans can be exposed to heavy metals when they ingest these organisms in the future.*

### (2.5.1.3) Value chain stage

Select all that apply

☒ Direct operations

### (2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

☒ Reduction or phase out of hazardous substances

### (2.5.1.5) Please explain

*Hanwha Corporation operates its business activities in three business divisions: Global, E&C, and Momentum. Among them, the Global business division which provides solutions for the chemical sector, such as industrial explosives, pyrotechnics, petrochemicals, and inorganic chemicals, closely monitors potential water contaminants. For example, the Onsan plant in the Global division has improved the efficiency of wastewater treatment by adjusting the ratio of hydrochloric acid and caustic soda which are neutralizers to reduce the concentration of wastewater. In addition, by increasing the steam temperature of the wastewater concentration facility, Hanwha has contributed to reducing the amount of pollutants in the wastewater that leak outside the boundaries of the business site.*

*[Add row]*

### C3. Disclosure of risks and opportunities

**(3.1) Have you identified any environmental risks which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?**

#### Climate change

##### **(3.1.1) Environmental risks identified**

*Select from:*

☒ Yes, both in direct operations and upstream/downstream value chain

#### Water

##### **(3.1.1) Environmental risks identified**

*Select from:*

☒ Yes, only within our direct operations

**(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain**

*Select from:*

☒ Evaluation in progress

##### **(3.1.3) Please explain**

*Hanwha Corporation is identifying water risks only within the scope of its direct business sites.*

#### Plastics

##### **(3.1.1) Environmental risks identified**

Select from:

☒ No

### **(3.1.2) Primary reason why your organization does not consider itself to have environmental risks in your direct operations and/or upstream/downstream value chain**

Select from:

☒ Not an immediate strategic priority

### **(3.1.3) Please explain**

*The plastics sector is not identified as it is not a strategic priority for Hanwha Corporation to identify risks.*

*[Fixed row]*

**(3.1.1) Provide details of the environmental risks identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.**

#### **Climate change**

##### **(3.1.1.1) Risk identifier**

Select from:

☒ Risk1

##### **(3.1.1.3) Risk types and primary environmental risk driver**

#### **Policy**

☒ Other policy risk, please specify :Change price in Korea Emission Trading System

##### **(3.1.1.4) Value chain stage where the risk occurs**

Select from:

☒ Direct operations

### (3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Republic of Korea

### (3.1.1.9) Organization-specific description of risk

*The Emissions Trading System is a regulation affects Hanwha Corporation's direct operation business sites and has been implemented by the Korean government since 2015 to regulate the greenhouse gas emissions of companies that emit a lot of greenhouse gases. Companies designated under the ETS are required to receive emission allowance from the government and carry out various reduction activities in order not to exceed the allocated emission. As a result, Hanwha is experiencing an increase in direct costs due to mitigation activities such as internal reduction and investment in its business sites, expansion of the use of renewable energy and conversion to eco-friendly fuels. If the company emit more greenhouse gases than the allocated emission, must purchase emission allowance through the emission trading market, and if fail to do so, the company will be fined within the range of 100,000 won per ton and not more than 3 times the average market price of emission allowance. The government is expanding the allocation ratio for each plan period of emission trading system which has a significant impact on Hanwha, which currently designated as a company subject to allocation for the 3rd plan period. Since there is a risk of purchasing emission allowance if the emission allowance exceeds the allowance during the 3rd plan period of the emission trading system, Hanwha Corporation has set the emission allowance purchase cost as a 'liability' and reflects it in its financial statements.*

### (3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased direct costs

### (3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ The risk has already had a substantive effect on our organization in the reporting year

### (3.1.1.14) Magnitude

Select from:

☒ High

### (3.1.1.15) Effect of the risk on the financial position, financial performance and cash flows of the organization in the reporting year

Under the ETS if the company exceeds emission allowance, there is a financial risk of increasing the direct costs of purchasing emission or imposing penalties. As a 10% paid allocation is applied during the 3rd Planning period, Hanwha Corporation has prepared a response plan to discharge less than 90% of the final emission allowance of 55,591 tons allocated in 2023. Hanwha has made efforts to reduce greenhouse gas emissions within the emission allowance through energy efficiency improvement activities and CDM projects. In case the emission allowance exceeds the allowance, the price of emission to be purchased in the emission rights market is calculated in advance and reflected as a liability in the financial statements.

#### (3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

☒ Yes

#### (3.1.1.18) Financial effect figure in the reporting year (currency)

109753311

#### (3.1.1.25) Explanation of financial effect figure

Hanwha Corporation manages the proportion of paid allocation for carbon allowance included in the greenhouse gas 3rd planning period by judging it as the company's liability in the financial statements, and if the company's emissions are higher than the amount of free carbon allowance allocated in the end, it will be converted into a direct cost at the time of purchasing the carbon allowance. Accordingly when setting up the initial corporate debt, the cost of purchasing emission allowances was derived from the following assumptions. The formula for calculating the amount of carbon allowance liability in 2023  $55,591 \text{ tons of final allocation in } 2023 \times 10\% \text{ of the paid allocation ratio} \times 2023 \text{ internal carbon price (KAU 2122 cumulative average trading unit price reflected)}$  was multiplied by 19,743 won to calculate the total amount of debt for the emission trading system to be 109,753,311 won.

#### (3.1.1.26) Primary response to risk

Infrastructure, technology and spending

☒ Increase environment-related capital expenditure

#### (3.1.1.27) Cost of response to risk

49158037

#### (3.1.1.28) Explanation of cost calculation

Hanwha Corporation has spent money on the Clean Development Mechanism (CDM) project in 2023 to respond to the risks of the ETS. The total cost is KRW

49,158,037 which includes KRW 18,480,000 for monitoring and verification, KRW 11,275,000 for consulting services, and KRW 19,403,037 for CDM facility/ST implementation.

### (3.1.1.29) Description of response

*Hanwha Corporation is promoting the CDM business to respond to the risks of the K-ETS and reduce greenhouse gas emissions. This project is a reduction project to remove N<sub>2</sub>O, a greenhouse gas generated from the nitric acid manufacturing process of the Global division's Onsan plant and has been in operation since 2007 after being certified as a CDM business. Hanwha reduces about 250,000 tons of greenhouse gases every year and secure carbon credits equivalent to the reduction. In 2023 the company is in the process of transforming CDM business into a SDM (Sustainable Development Mechanism) project in accordance with the implementation of the Paris Agreement.*

## Water

### (3.1.1.1) Risk identifier

Select from:

☒ Risk1

### (3.1.1.3) Risk types and primary environmental risk driver

#### Acute physical

☒ Flooding (coastal, fluvial, pluvial, groundwater)

### (3.1.1.4) Value chain stage where the risk occurs

Select from:

☒ Direct operations

### (3.1.1.6) Country/area where the risk occurs

Select all that apply

☒ Republic of Korea

### (3.1.1.7) River basin where the risk occurs

Select all that apply

☒ Other, please specify :West sea (Dal cheon, Gong-Chon cheon)

### (3.1.1.9) Organization-specific description of risk

Unpredictable climate change events become more frequent which poses a risk of property damage and revenue loss for businesses. Hanwha conducted a water stress analysis through the WWF Water Risk Filter and found that there is a high risk of abnormal climate and physical risks for the Boeun plant and Yuldo Storage. In particular, the risk of flooding is 4.0 or higher, which is a 'very high' number. Accordingly, Hanwha Corporation has established a preemptive response system in preparation for abnormal climate such as sharing guidelines between business sites in the event of typhoons and floods. In addition, accidents caused by external factors such as typhoons cannot be controlled by the company, so Hanwha takes out property insurance to respond to risks.

### (3.1.1.11) Primary financial effect of the risk

Select from:

☒ Increased direct costs

### (3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

☒ Long-term

### (3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

☒ Likely

### (3.1.1.14) Magnitude

Select from:

☒ High

### (3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

In the long run, physical risks such as flash floods can pose a significant financial burden on Hanwha Corporation. These natural disasters can directly damage the company's business, incur recovery costs and even cause indirect losses such as lost revenue due to downtime. This has a significant impact on a company's

financial health and can have negative consequences for business continuity and market competitiveness. In response, Hanwha actively utilized the Global S&P Climonomics tool to quantitatively analyze the financial impact of flash floods on the company. The data from this tool was used as an important foundation for the company to develop a risk management strategy and an effective response plan in case of a disaster. Based on this analysis, Hanwha Corporation is looking for ways to minimize financial risks and promote long-term stable business operations.

#### **(3.1.1.17) Are you able to quantify the financial effect of the risk?**

Select from:

☒ Yes

#### **(3.1.1.23) Anticipated financial effect figure in the long-term – minimum (currency)**

519000000

#### **(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)**

1024000000

#### **(3.1.1.25) Explanation of financial effect figure**

Hanwha Corporation used WWF's Water Risk Filter tool to systematically analyze the major physical risks that companies may face by 2030 and 2050. In response to the analysis, the risk of flooding was assessed particularly highly and in response Hanwha adopted the S&P Global Climonomics tool to assess the expected financial impact of floods over a time span. The assessment was based on the asset values of the Global and Momentum business division, estimating the expected annual loss rate and amount of loss. As a result of the analysis, the minimum estimate of the short-term financial impact was estimated to be approximately 519,000,000 won, while the maximum estimate of the long-term financial impact was estimated to be around 1,024,000,000 won. Such quantitative data provides an important reference point for Hanwha to establish risk management and response strategies and contributes to maintaining financial stability and ensuring business continuity.

#### **(3.1.1.26) Primary response to risk**

**Policies and plans**

☒ Increase insurance coverage

#### **(3.1.1.27) Cost of response to risk**

2526000000

### (3.1.1.28) Explanation of cost calculation

*Hanwha Corporation maintains a strict insurance policy to protect the company's facilities and property from sudden physical risks, especially natural disasters such as floods and typhoons. These strategic measures play an important role in protecting a company's assets and ensuring rapid recovery and business continuity in the event of a disaster. As of 2023, Hanwha has comprehensive property insurance across the Global, Construction, and Momentum division which is designed to protect against potential losses that may occur in various areas of the company's business. The total amount paid in premiums was KRW 2,526,000,000 which is a combination of KRW 953,000,000 for the Global and Strategy Division, KRW 1,470,000,000 for the E&C, and KRW 103,000,000 for the Momentum. Such investments effectively manage the expected losses in the event of a disaster, contribute to minimizing the company's financial risk and lay the foundation for Hanwha to continue its stable growth in the long term.*

### (3.1.1.29) Description of response

*In order to respond to natural disasters such as sudden floods and typhoons, Hanwha Corporation has purchased comprehensive property insurance policy which is an essential measure for financial stability and sustainable operation. This type of insurance covers the loss of a company's physical assets due to unforeseen natural disasters and it can include factories, offices, inventory, machinery and equipment, etc. Extreme weather events, such as floods and typhoons, occur without warning and the damage they cause can be devastating to a company's finances. By purchasing property insurance Hanwha can be resilient to these damages and minimize the risk of business interruption. Insurance can also help businesses get back up and running quickly and maintain trust with customers and stakeholders. This protects the company's reputation and competitiveness in the market in the long run and provides a stable business environment for investors and shareholders. Therefore comprehensive property insurance plays an important role in helping companies protect themselves from the financial impact of natural disasters and maintain business continuity. So Hanwha has established an emergency response system to prepare for disasters such as sudden floods and typhoons and has prepared countermeasures such as periodically supplementing facilities in preparation for extreme weather events such as preventing sediment washout.*  
[Add row]

## **(3.1.2) Provide the amount and proportion of your financial metrics from the reporting year that are vulnerable to the substantive effects of environmental risks.**

### **Climate change**

#### (3.1.2.1) Financial metric

Select from:

☒ Assets

#### (3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

546000000

### (3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☒ Less than 1%

### (3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

4681000000

### (3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☒ 1-10%

### (3.1.2.7) Explanation of financial figures

*Hanwha Corporation conducts systematic risk analysis using S&P Climonomics tools to respond to risks caused by climate change. With this tool, company can assess the different scenarios of climate change on their business and quantify the resulting financial impact, so Hanwha can proactively identify potential risks and develop response strategies. This analysis is used as an important basis for Hanwha to actively respond to changes in the external environment, such as climate change-related policy changes, market volatility, and resource availability, and to secure long-term sustainability. Accordingly for the Global and Momentum division, Hanwha analyzed the physical risks and conversion risks for each business site and derived the quantitative financial impact of each risk. The amount of financial indicators vulnerable to conversion risk was derived by adding up the Global and Momentum amounts (KRW 420,000,000 KRW 136,000,000) and was calculated based on the 'technology' risks that are most affected by assets. The amount of financial indicators vulnerable to physical risk was derived by combining the Global and Momentum amounts (KRW 996,000,000 KRW 3,685,000,000) and was calculated based on the 'abnormal temperature' risk, which is most affected by assets.*

## Water

### (3.1.2.1) Financial metric

Select from:

☒ Assets

### (3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

546000000

### (3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

☒ Less than 1%

### (3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

520000000

### (3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental issue

Select from:

☒ Less than 1%

### (3.1.2.7) Explanation of financial figures

*Hanwha Corporation conducts systematic risk analysis using S&P Climonomics tools to respond to risks caused by climate change. With this tool, company can assess the different scenarios of climate change on their business and quantify the resulting financial impact, so Hanwha can proactively identify potential risks and develop response strategies. This analysis is used as an important basis for Hanwha to actively respond to changes in the external environment such as climate change-related policy changes, market volatility, and resource availability, and to secure long-term sustainability. Accordingly for the Global and Momentum division, Hanwha analyzed the physical risks and conversion risks of each business site and derived the quantitative financial impact of each risk. The amount of financial indicators vulnerable to water-related conversion risks was derived by adding up the amounts of Global and Momentum and calculated based on the 'technology' risks that assets are most affected (KRW 410,000,000 KRW 136,000,000). The amount of financial indicators vulnerable to physical risks was derived by adding up the amounts of Global and Momentum and was calculated based on the risk of 'flash flood' and 'drought' that have a significant direct impact on the water supply of business sites (KRW 246,000,000 KRW 273,000,000 KRW 1,000,000).*

[Add row]

**(3.2) Within each river basin, how many facilities are exposed to substantive effects of water-related risks, and what percentage of your total number of facilities does this represent?**

**Row 1**

### (3.2.1) Country/Area & River basin

Republic of Korea

☒ Other, please specify :Dal-Cheon

### (3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

### (3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

### (3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ 1-25%

### (3.2.10) % organization's total global revenue that could be affected

Select from:

☒ 1-10%

### (3.2.11) Please explain

*Hanwha Corporation's Boeun plant uses water from Dalcheon in the production process and the plant takes water from Dalcheon and discharges wastewater. According to a recent water stress analysis, the Dalcheon basin, where the Boeun plant is located has a high risk of flooding and water quality issues by 2030 and 2050. These risks are potential factors that could have a significant impact not only on the operation of the Boeun plant, but also on the business performance of Hanwha as a whole. Currently the Boeun plant's sales account for about 4% of Hanwha's sales, which emphasizes the importance of the plant and suggests that it is a key factor to consider in the long-term business strategy. In response Hanwha continues to invest in comprehensive property insurance to prepare for financial losses that may arise due to physical risks such as flooding or water quality issues. Premiums disbursed annually provide a safety net to cover potential losses which plays an important role in maintaining a company's financial stability and ensuring business continuity. In addition Hanwha has established an emergency response system to prepare for disasters such as sudden floods and typhoons and has prepared countermeasures such as periodically supplementing facilities in preparation for extreme weather events such as preventing sediment washout. Through this strategic approach, Hanwha aims to prepare for an uncertain future, protect corporate value in the long term and provide trust to its stakeholders.*

Row 2

### (3.2.1) Country/Area & River basin

#### Republic of Korea

☒ Other, please specify :Gong chon-cheon

### (3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

☒ Direct operations

### (3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

### (3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

☒ 1-25%

### (3.2.10) % organization's total global revenue that could be affected

Select from:

☒ Less than 1%

### (3.2.11) Please explain

Hanwha Corporation's Yuldo Storage takes water from Gong-chon-cheon which is adjacent to the West Sea and discharges wastewater. According to the WWF Risk Filter Water Stress Assessment conducted in 2023, the area is at high risk of flooding and physical risk from water pollution by 2030 and 2050. These risks may have a direct impact on Yuldo Storage's operations and are an important consideration for Hanwha's business strategy in the long run. Currently, Yuldo Storage accounts for about 0.84% of Hanwha's total sales, so its impact on company-wide sales may be relatively limited. However as this facility is one of the major facilities in the global business sector, it requires constant monitoring and management of potential risks. To this end Hanwha continues to invest in comprehensive property and casualty insurance, which is an important part of preparing effective countermeasures for anticipated financial losses in the event of a disaster. Through insurance investments, Yuldo Storage is protected from physical risks which contributes to the stable operation of its business sites and the long-term financial health of Hanwha. Also the company has established an emergency response system to prepare for disasters such as sudden floods and typhoons and prepared countermeasures such as periodically supplementing facilities in preparation for extreme weather events such as preventing sediment washout. This proactive risk

management approach is a key strategy for Hanwha to prepare for future uncertainties and pursue sustainable growth.

[Add row]

### **(3.3) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?**

#### **(3.3.1) Water-related regulatory violations**

Select from:

☒ Yes

#### **(3.3.2) Fines, enforcement orders, and/or other penalties**

Select all that apply

☒ Enforcement orders or other penalties but none that are considered as significant

#### **(3.3.3) Comment**

*In 2023 Hanwha Corporation received environment-related administrative action at its Global division's business site. This is based on Article 14(1) of the Act on the Integrated Management of Environmentally Polluted Facilities, which stipulates that the permitted emission standards must be observed in the process of installing and operating discharge facilities. Hanwha found that the permitted discharge standard for formaldehyde was exceeded. The cause of this discharge was ingress of some residual material into the wastewater during the cleaning process of the analytical instruments used in the analytical laboratory. So Hanwha plans to change the method of outsourcing the cleaning solution of all analytical instruments used in the laboratory to an external professional company. These measures are intended to prevent similar violations of environmental regulations that may occur in the future and to strengthen the company's responsibility to protect the environment.*

[Fixed row]

### **(3.5) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

Select from:

☒ Yes

#### **(3.5.1) Select the carbon pricing regulation(s) which impact your operations.**

Select all that apply

☒ Korea ETS

**(3.5.2) Provide details of each Emissions Trading Scheme (ETS) your organization is regulated by.**

**Korea ETS**

**(3.5.2.1) % of Scope 1 emissions covered by the ETS**

100

**(3.5.2.2) % of Scope 2 emissions covered by the ETS**

100

**(3.5.2.3) Period start date**

12/31/2022

**(3.5.2.4) Period end date**

12/30/2023

**(3.5.2.5) Allowances allocated**

55591

**(3.5.2.6) Allowances purchased**

10533

**(3.5.2.7) Verified Scope 1 emissions in metric tons CO<sub>2</sub>e**

21389

**(3.5.2.8) Verified Scope 2 emissions in metric tons CO<sub>2</sub>e**

### (3.5.2.9) Details of ownership

Select from:

☒ Facilities we own and operate

### (3.5.2.10) Comment

*Hanwha Corporation's Onsan Plant has been designated as a company subject to allocation since 2015 under the Act on the Allocation and Trading of Greenhouse Gas Emission Rights and is regulated by the Korea Emissions Trading System. This is part of a national effort to manage and reduce greenhouse gas emissions and designed to encourage company not to exceed allocated emission. From 2021 to 2025 the 3rd planning period, all of Hanwha's business sites will be regulated by the K-ETS. Hanwha accurately calculates and reports emissions for Scope 1 (direct emissions) and Scope 2 (indirect emissions, e.g., emissions from electricity use) in accordance with these regulations and has them verified. In 2023, Hanwha has 55,591 tons of emission allowance, with a total emission of 68,748 tons which is equivalent to the company's total emissions under verified Scope 1 and 2. However among them, the reduction was recognized due to the CDM business at the Onsan plant, and the total amount of emissions recognized by Hanwha is equivalent to 60,576 tons. Of the 55,591 tons of emission allowances allocated, the excess is in the process of purchasing emission permits. As such, Hanwha transparently manages greenhouse gas emissions and establishes and implements strategies for sustainable management. These efforts play an important role in strengthening the company's environmental responsibility and ensuring that it practices management in line with global standards for sustainable development. Also by taking various technical and operational measures to reduce greenhouse gas emissions, Hanwha aims to respond to climate change and contribute to the protection of the environment.*

*[Fixed row]*

### (3.5.4) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

*&lt;Strategy established to respond to the Emission Trading System&gt; (Strategy) Hanwha Corporation is a company subject to the emission trading system and checks and manages greenhouse gas emissions every month through the greenhouse gas inventory on the internal computer system with the overall organization of environment, safety and health as the main organization, and shares excellent reduction activities across all business sites. Hanwha continues to monitor the price and trading trends of greenhouse gas emission allowances on a monthly basis to determine the financial impact of KOC sales and KAU purchases. Also the company has established a net-zero goal-based 'Hanwha Net Zero 2040' reduction strategy to actively respond to regulations such as the emission trading system and is carrying out detailed tasks such as CDM projects and energy efficiency improvement through the replacement of high-efficiency facilities to achieve the reduction goals. The CDM business will be transformed into a SDM (Sustainable Development Mechanism) project in the future, and company will continue to monitor and discover additional opportunities for greenhouse gas reduction. (Period) From the 1st planning period (2015-2017), the Onsan plant was designated as a target company and participated in the emission trading system, and from the 3rd planning period (2021-2025), the scope of the target companies was expanded to all Hanwha business sites. Accordingly Hanwha conducts periodic carbon market analysis and transaction price monitoring through a dedicated organization, and establish carbon credit management strategies through methods such as competitive trading on the carbon credit exchange, carryover, borrowing, buying, and selling. (Result) As a result, Hanwha Onsan plant has been operating the N<sub>2</sub> O Reduction Project, which removes N<sub>2</sub> O, a greenhouse gas generated from the nitric acid manufacturing process, since 2007 under the CDM (Clean Development Mechanism) project and has been reducing greenhouse gas emissions by about*

250,000 tCO<sub>2</sub>-eq every year and securing carbon credits equivalent to the reduction. In 2023, Hanwha is in the process of converting our CDM business into an SDM business in accordance with the implementation of the Paris Agreement. Hanwha Global Division plans to voluntarily install N<sub>2</sub>O reduction facilities in the new nitric acid process (Yeosu area) currently under construction to carry out more active greenhouse gas reduction activities.

**(3.6) Have you identified any environmental opportunities which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?**

|                | Environmental opportunities identified                                                                                     |
|----------------|----------------------------------------------------------------------------------------------------------------------------|
| Climate change | Select from:<br><input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized |
| Water          | Select from:<br><input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized |

[Fixed row]

**(3.6.1) Provide details of the environmental opportunities identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.**

**Climate change**

**(3.6.1.1) Opportunity identifier**

Select from:

☒ Opp1

**(3.6.1.3) Opportunity type and primary environmental opportunity driver**

**Products and services**

☒ Development of new products or services through R&D and innovation

#### (3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- ☒ Upstream value chain

#### (3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- ☒ Republic of Korea

#### (3.6.1.8) Organization specific description

*Hanwha Corporation is developing an energy production technology using waste plastics and through this, identifying the competitiveness of the 'waste plastic recycling market' and the expansion of market share as a major opportunity factor. This technology generates pyrolysis gas by applying heat to plastic or waste vinyl discharged from domestic waste or businesses and cools the generated gas into oil to extract naphtha, a basic raw material for petrochemicals. Hanwha signed a business agreement with Chungcheong Buk Province in 2021 for the 'Waste Plastic Pyrolysis Activation Project for the Realization of Carbon Neutrality by 2050'. In 2023, Hanwha operates a pilot plant for demonstration tests of plastic pyrolysis technology and is continuously striving to promote the development of recycled oil production facilities by investing in additional facilities. In the mid-term, the global plastic market is expected to be worth KRW 54.4 trillion in 2026, of which Hanwha is expected to have a sales impact of KRW 1.36 billion if we consider its domestic market share (0.1%) and Hanwha's share in the domestic market (conservative estimate of 2.53%). Accordingly, Hanwha evaluated the impact of the technology on its business sites based on the criteria of time such as short-term, medium-term, and long-term, and as a result, both the 'financial impact' and 'social and environmental impact' were identified as very significant opportunity factors for the company.*

#### (3.6.1.9) Primary financial effect of the opportunity

Select from:

- ☒ Increased revenues through access to new and emerging markets

#### (3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- ☒ Medium-term

#### (3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

- ☒ Virtually certain (99–100%)

### (3.6.1.12) Magnitude

Select from:

☒ High

### (3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

*In the mid- to long-term, Hanwha Momentum plans to develop, distribute, and spread plastic recycling technology through low-temperature pyrolysis of waste plastics. Assuming a domestic share of the global recycled plastic market (0.1%) and Hanwha's share in the domestic market of 2.5%3%, the opportunity cost that Hanwha Momentum can expect from the waste plastic market in the medium term (2026) is calculated to be KRW 1,360,000,000 to KRW 1,632,000,000.*

### (3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☒ Yes

### (3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

1360000000

### (3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

1632000000

### (3.6.1.23) Explanation of financial effect figures

*The basis for calculating the financial effect figures expected in the medium term through Hanwha Corporation's plastic emulsification business is as follows. \**  
*Medium-term financial impact calculation basis: 2026 plastic market (54,400,000,000,000 won) x domestic market share (0.1%) x Korean market share (2.5% 3%)*  
*1,360,000,000 won 1,632,000,000 won*

### (3.6.1.24) Cost to realize opportunity

943000000

### (3.6.1.25) Explanation of cost calculation

Hanwha Corporation has spent a total of KRW 943,000,000 in opportunity costs in 2023, including KRW 550,000,000 in facility investment (CAPEX) and KRW 393,000,000 in operating expenses (OPEX) to promote the waste plastic emulsification business.

### (3.6.1.26) Strategy to realize opportunity

As regulations towards carbon neutrality are strengthened and the importance of carbon neutrality increases around the world, the demand for low-carbon products continues to increase. Recognizing this trend Hanwha Corporation is focusing on the development of eco-friendly technologies to increase sales profits and making the untapped blue ocean a strategic priority. The S&P Global Climanomics program identified the creation of new markets and increased sales margins through technology development as important opportunities. In line with this, Hanwha is making efforts to preempt the blue ocean market by recycling plastic waste generated at home and industrial sites and completing the development of recycled oil production facilities by utilizing low-temperature pyrolysis emulsification technology in the Momentum Division. In addition, the plastic low-temperature pyrolysis emulsification business will serve as an important opportunity factor in responding to climate change. By turning plastic waste into a valuable resource, this technology can significantly reduce greenhouse gas emissions from waste landfill and incineration. In addition, the transition to renewable energy sources will contribute to reducing dependence on fossil fuels and reducing our carbon footprint which will enable Hanwha to join global efforts to combat climate change and play a pivotal role in creating a sustainable environment. As such, Hanwha's low-temperature pyrolysis emulsification business is part of a sustainable business strategy that pursues environmental protection and corporate economic growth at the same time and is expected to present a new paradigm in responding to climate change.

## Water

### (3.6.1.1) Opportunity identifier

Select from:

☒ Opp1

### (3.6.1.3) Opportunity type and primary environmental opportunity driver

#### Products and services

☒ Development of new products or services through R&D and innovation

### (3.6.1.4) Value chain stage where the opportunity occurs

Select from:

☒ Downstream value chain

### (3.6.1.5) Country/area where the opportunity occurs

Select all that apply

☒ Republic of Korea

#### (3.6.1.6) River basin where the opportunity occurs

Select all that apply

☒ Other, please specify :An-Sung Cheon

#### (3.6.1.8) Organization specific description

*Hanwha E&C owns 52 patents in the environmental field, including PRO-MBR method ultra-advanced sewage treatment technology which has been certified as a new technology by the Ministry of Environment, 8 new environmental technologies, and 5 green technologies, thereby contributing to protection of water resources and water quality management. On December 27 2023, company signed an agreement with Pyeongtaek City to implement a private investment project to modernize the facilities of the Tongbok public sewage treatment plant. Through this project, Hanwha plans to underground and modernize the existing sewage treatment facilities to block the occurrence of odors in the Tongbok area of Pyeongtaek City. The integrated relocation facility will have a capacity of 100,000 tons per day of sewage treatment and is scheduled to start construction in 2024 and be completed in 2027. Through participation in this project, it is expected that we will be able to dramatically improve the discharged water quality of Tongbokcheon and Anseongcheon and contribute to the improvement of the residential environment in the Tongbok-dong area. In addition, the use of new technologies is expected to increase revenue from our services by the medium term, which has been identified as a significant opportunity for the organization.*

#### (3.6.1.9) Primary financial effect of the opportunity

Select from:

☒ Increased revenues resulting from increased demand for products and services

#### (3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

☒ Medium-term

#### (3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

☒ Virtually certain (99–100%)

#### (3.6.1.12) Magnitude

Select from:

☒ High

#### (3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

*Hanwha E&C's private investment project to modernize the Pyeongtaek Tongbok public sewage treatment plant is an important investment that can have a positive impact on the company's sales growth strategy and performance. In the early stages, costs are incurred for design, licensing procedures, and preparatory work, and then capital expenditures are made for the physical construction of the sewage treatment plant as it moves on to the construction and installation phase. While this phase involves a large amount of funding, Hanwha E&C is able to secure a steady cash flow through interim payments as construction progresses and long-term operating contracts after completion. Once the project is completed and operational, the sewage treatment plant becomes a stable source of revenue. This includes fees for treatment services, maintenance contracts, and, where possible, revenue from by-product sales or energy recovery. This sustained revenue will help strengthen the company's long-term cash flow and offset the initial investment costs. In addition, modern facilities will be competitive in terms of efficiency and environmental compliance, providing long-term opportunities for business expansion and technology exports. This will help strengthen the company's brand value and market position and is expected to have a positive impact on the sustainable development and financial performance of the water business.*

#### (3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

☒ Yes

#### (3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

138700000000

#### (3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

138700000000

#### (3.6.1.23) Explanation of financial effect figures

*Hanwha Corporation carried out a modernization project of the public sewage treatment plant facility and calculated financial figures based on the total construction cost and the planned process rate to predict the financial effect in the medium term. The projected rate for 2024 was set at 5%, 26% for 2025, 52% for 2026, and 17% for 2027 to reflect the progress of the project. This rate represents the ratio of work completed to date as a percentage of the total amount of work on the project. By applying these projected rate rates to the project contract amount, the financial impact was estimated by calculating the turnover for each period.*

#### (3.6.1.24) Cost to realize opportunity

126300000000

### (3.6.1.25) Explanation of cost calculation

*Hanwha Corporation has spent a total of KRW 126.3 billion in opportunity cost in 2023 to promote the Pyeongtaek Tongbok public sewage treatment plant modernization project. This amount is an investment cost to promote the project, and it reflects items such as demolition of facility equipment, civil engineering, and construction.*

### (3.6.1.26) Strategy to realize opportunity

*Water Management is a key factor for sustainable environmental and economic development. The modernization of public sewage treatment plants plays a strategically important role in this management. Modernization projects allow sewage treatment plants to operate more efficiently, minimize pollutant emissions, and increase the potential for water reuse. Modern sewage treatment facilities also offer economic benefits, such as improved energy efficiency and reduced long-term operating costs. Recognizing the importance of water resource management, Hanwha Corporation is contributing to the modernization of public sewage treatment plants by utilizing the PRO-MR sewage treatment technology method. This method uses advanced biological treatment to improve sewage quality, reduce energy consumption and increase operational efficiency. Hanwha is strategically striving to expand its public sewage treatment plant modernization business based on this technology. In 2023, Hanwha started construction on the Pyeongtaek Tongbok public sewage treatment plant modernization project, and in 2022 signed an implementation agreement for the Daejeon Sewage Treatment Plant modernization project, and succeeded in raising KRW 1.24 trillion in PF in 2023. In addition, the 212.2 billion won Cheonan Sewage Treatment Plant modernization project is proceeding without a hitch, contributing to environmental protection and promoting sustainable growth through the sewage treatment plant modernization project. This strategic business expansion will play an important role in strengthening Hanwha's technological capabilities, enhancing brand value, and building a future-oriented corporate image.*

[Add row]

**(3.6.2) Provide the amount and proportion of your financial metrics in the reporting year that are aligned with the substantive effects of environmental opportunities.**

### Climate change

#### (3.6.2.1) Financial metric

Select from:

☒ CAPEX

#### (3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

550000000

### (3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☒ Less than 1%

### (3.6.2.4) Explanation of financial figures

*Hanwha Corporation's total capital expenditure (CAPEX) for 2023 was KRW 4,698,102,000,000. Among them, the capital expenditure invested in the plastic pyrolysis emulsification business totaled 550,000,000 KRW, equivalent to 0.012% of the total direct investment cost.*

## Water

### (3.6.2.1) Financial metric

Select from:

☒ CAPEX

### (3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

126300000000

### (3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

☒ 1-10%

### (3.6.2.4) Explanation of financial figures

*Hanwha Corporation's total capital expenditure (CAPEX) for 2023 was KRW 4,698,102,000,000. Among them, the capital expenditure invested in the Pyeongtaek Tongbok public sewage treatment plant modernization project totaled KRW 126.3 billion, equivalent to 2.69% of the total direct investment cost.*

[Add row]

## C4. Governance

### (4.1) Does your organization have a board of directors or an equivalent governing body?

#### (4.1.1) Board of directors or equivalent governing body

Select from:

☒ Yes

#### (4.1.2) Frequency with which the board or equivalent meets

Select from:

☒ Quarterly

#### (4.1.3) Types of directors your board or equivalent is comprised of

Select all that apply

☒ Executive directors or equivalent

#### (4.1.4) Board diversity and inclusion policy

Select from:

☒ Yes, and it is publicly available

#### (4.1.5) Briefly describe what the policy covers

*Hanwha Corporation has prepared the Corporate Governance Charter in 2021 to secure the independence, diversity and expertise of the Board of Directors and is expanding sustainable value by protecting the rights and interests of various stakeholders. As a result, Hanwha has included people with experience and expertise in different fields on the board of directors to enhance efficiency and independence. In order not to represent specific interests in the appointment of outside directors experts in a wide range of fields such as management, legal affairs, finance, humanities and anthropology were appointed in consideration of diversity such as gender, race, nationality, origin, background, and religion. Through the diversity and independence of its outside directors, Hanwha is reviewing the organization's strategy from various perspectives and contributing to enhancing investor trust and maintaining a sound and stable governance structure through transparent policy disclosure.*

(4.1.6) Attach the policy (optional)

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[Fixed row]

(4.1.1) Is there board-level oversight of environmental issues within your organization?

|                | Board-level oversight of this environmental issue       |
|----------------|---------------------------------------------------------|
| Climate change | Select from:<br><input checked="" type="checkbox"/> Yes |
| Water          | Select from:<br><input checked="" type="checkbox"/> Yes |
| Biodiversity   | Select from:<br><input checked="" type="checkbox"/> Yes |

[Fixed row]

(4.1.2) Identify the positions (do not include any names) of the individuals or committees on the board with accountability for environmental issues and provide details of the board’s oversight of environmental issues.

Climate change

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply  
☒ Board-level committee

(4.1.2.2) Positions’ accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☒ Yes

#### (4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

☒ Other policy applicable to the board, please specify :Hanwha Corporation ESG Committee Regulations\_Enacted Chapter 2 Article 13 (Deliberation Matters)

#### (4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

☒ Scheduled agenda item in some board meetings – at least annually

#### (4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- ☒ Reviewing and guiding annual budgets
- ☒ Overseeing and guiding scenario analysis
- ☒ Overseeing the setting of corporate targets
- ☒ Monitoring progress towards corporate targets
- ☒ Approving and/or overseeing employee incentives
- ☒ Overseeing and guiding major capital expenditures
- ☒ Monitoring the implementation of the business strategy
- ☒ Monitoring the implementation of a climate transition plan
- ☒ Overseeing and guiding the development of a climate transition plan
- ☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

#### (4.1.2.7) Please explain

*Hanwha Corporation operates the ESG Committee under the Board of Directors, the highest decision-making body. In accordance with Article 13 of Chapter 2 of the 2021 Hanwha ESG Committee's Regulations, the ESG Committee shall (1) review the performance of in-house compliance control activities and review compliance management policies, (2) review eco-friendly policy activities such as reduction of greenhouse gases and harmful substances and review policy goals, (3) review of work environment improvement activities such as personal information protection, workplace safety management, gender equality, and review of in-house human rights protection policies, (4) review of policy activities and policy goals to fulfill social responsibilities such as fair competition and win-win cooperation, (5) review of*

the results of collecting shareholder opinions and deliberation of shareholder return policies to enhance shareholder value, (6) other committees or the board of directors' deliberate on matters that company has determined need to be reviewed. This mechanism contributes to the establishment of governance for professional and objective decision-making of climate change and eco-friendly policies and strategies centered on the board of directors. The ESG Committee holds a regular committee meeting once a quarter and holds an interim committee meeting in response to major issues. In 2023, a total of 7 committees were held, resulting in 16 agenda items, 7 resolutions, and 9 reports. For example, in 2023, Hanwha Corporation held a total of seven ESG committee meetings under the Board of Directors, reported on the establishment of the Supplier Code of Conduct and Evaluation Plan, and conducted the 2392nd Unsecured ESG Bond Report. In addition, Hanwha has set a 2040 net-zero goal and maintain a company-wide ESG management system through quarterly meetings of directors, such as proposing a proposal to join K-RE100.

## Water

### (4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- ☒ Board-level committee

### (4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

- ☒ Yes

### (4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

- ☒ Other policy applicable to the board, please specify :Hanwha Corporation ESG Committee Regulations\_Enacted Chapter 2 Article 13 (Deliberation Matters)

### (4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

- ☒ Scheduled agenda item in some board meetings – at least annually

### (4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- ☒ Reviewing and guiding annual budgets  
☒ Overseeing and guiding scenario analysis

- ☒ Overseeing the setting of corporate targets
- ☒ Monitoring progress towards corporate targets
- ☒ Approving and/or overseeing employee incentives
- ☒ Overseeing and guiding major capital expenditures
- ☒ Monitoring the implementation of the business strategy
- ☒ Monitoring the implementation of a climate transition plan
- ☒ Overseeing and guiding the development of a climate transition plan
- ☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

#### (4.1.2.7) Please explain

*Hanwha Corporation operates the ESG Committee under the Board of Directors, the highest decision-making body. In accordance with Article 13 of Chapter 2 of the 2021 Hanwha ESG Committee's Regulations, the ESG Committee shall (1) review the performance of in-house compliance control activities and review compliance management policies, (2) review eco-friendly policy activities such as reduction of greenhouse gases and harmful substances and review policy goals, (3) review of work environment improvement activities such as personal information protection, workplace safety management, gender equality, and review of in-house human rights protection policies, (4) review of policy activities and policy goals to fulfill social responsibilities such as fair competition and win-win cooperation, (5) review of the results of collecting shareholder opinions and deliberation of shareholder return policies to enhance shareholder value, (6) other committees or the board of directors' deliberate on matters that company has determined need to be reviewed. This mechanism contributes to the establishment of governance for professional and objective decision-making of climate change and eco-friendly policies and strategies centered on the board of directors. The ESG Committee holds a regular committee meeting once a quarter and holds an interim committee meeting in response to major issues. In 2023, a total of 7 committees were held, resulting in 16 agenda items, 7 resolutions, and 9 reports. For example, in 2023, Hanwha Corporation held a total of seven ESG committee meetings under the Board of Directors, reported on the establishment of the Supplier Code of Conduct and Evaluation Plan, and conducted the 2392nd Unsecured ESG Bond Report. In addition, Hanwha has set a 2040 net-zero goal and maintain a company-wide ESG management system through quarterly meetings of directors, such as proposing a proposal to join K-RE100.*

## Biodiversity

#### (4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- ☒ Board-level committee

#### (4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

☒ Yes

#### (4.1.2.3) Policies which outline the positions' accountability for this environmental issue

*Select all that apply*

☒ Other policy applicable to the board, please specify :Hanwha Corporation ESG Committee Regulations\_Enacted Chapter 2 Article 13 (Deliberation Matters)

#### (4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

*Select from:*

☒ Scheduled agenda item in some board meetings – at least annually

#### (4.1.2.5) Governance mechanisms into which this environmental issue is integrated

*Select all that apply*

- ☒ Reviewing and guiding annual budgets
- ☒ Overseeing and guiding scenario analysis
- ☒ Overseeing the setting of corporate targets
- ☒ Monitoring progress towards corporate targets
- ☒ Approving and/or overseeing employee incentives
- ☒ Overseeing and guiding major capital expenditures
- ☒ Monitoring the implementation of the business strategy
- ☒ Monitoring the implementation of a climate transition plan
- ☒ Overseeing and guiding the development of a climate transition plan
- ☒ Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

#### (4.1.2.7) Please explain

*Hanwha Corporation operates the ESG Committee under the Board of Directors, the highest decision-making body. In accordance with Article 13 of Chapter 2 of the 2021 Hanwha ESG Committee's Regulations, the ESG Committee shall (1) review the performance of in-house compliance control activities and review compliance management policies, (2) review eco-friendly policy activities such as reduction of greenhouse gases and harmful substances and review policy goals, (3) review of work environment improvement activities such as personal information protection, workplace safety management, gender equality, and review of in-house human rights protection policies, (4) review of policy activities and policy goals to fulfill social responsibilities such as fair competition and win-win cooperation, (5) review of the results of collecting shareholder opinions and deliberation of shareholder return policies to enhance shareholder value, (6) other committees or the board of*

*directors' deliberate on matters that company has determined need to be reviewed. This mechanism contributes to the establishment of governance for professional and objective decision-making of climate change and eco-friendly policies and strategies centered on the board of directors. The ESG Committee holds a regular committee meeting once a quarter and holds an interim committee meeting in response to major issues. In 2023, a total of 7 committees were held, resulting in 16 agenda items, 7 resolutions, and 9 reports. For example, in 2023, Hanwha Corporation held a total of seven ESG committee meetings under the Board of Directors, reported on the establishment of the Supplier Code of Conduct and Evaluation Plan, and conducted the 2392nd Unsecured ESG Bond Report. In addition, Hanwha has set a 2040 net-zero goal and maintain a company-wide ESG management system through quarterly meetings of directors, such as proposing a proposal to join K-RE100.*

[Fixed row]

## **(4.2) Does your organization's board have competency on environmental issues?**

### **Climate change**

#### **(4.2.1) Board-level competency on this environmental issue**

Select from:

☒ Yes

#### **(4.2.2) Mechanisms to maintain an environmentally competent board**

Select all that apply

- ☒ Consulting regularly with an internal, permanent, subject-expert working group
- ☒ Engaging regularly with external stakeholders and experts on environmental issues
- ☒ Integrating knowledge of environmental issues into board nominating process
- ☒ Regular training for directors on environmental issues, industry best practice, and standards (e.g., TCFD, SBTi)
- ☒ Having at least one board member with expertise on this environmental issue

#### **(4.2.3) Environmental expertise of the board member**

##### **Experience**

- ☒ Executive-level experience in a role focused on environmental issues
- ☒ Management-level experience in a role focused on environmental issues
- ☒ Experience in an academic role focused on environmental issues

## Water

### (4.2.1) Board-level competency on this environmental issue

Select from:

☒ Yes

### (4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- ☒ Consulting regularly with an internal, permanent, subject-expert working group
- ☒ Engaging regularly with external stakeholders and experts on environmental issues
- ☒ Integrating knowledge of environmental issues into board nominating process
- ☒ Regular training for directors on environmental issues, industry best practice, and standards (e.g., TCFD, SBTi)
- ☒ Having at least one board member with expertise on this environmental issue

### (4.2.3) Environmental expertise of the board member

#### Experience

- ☒ Executive-level experience in a role focused on environmental issues
- ☒ Management-level experience in a role focused on environmental issues
- ☒ Experience in an academic role focused on environmental issues

[Fixed row]

### (4.3) Is there management-level responsibility for environmental issues within your organization?

|                | Management-level responsibility for this environmental issue |
|----------------|--------------------------------------------------------------|
| Climate change | Select from:<br><input checked="" type="checkbox"/> Yes      |
| Water          | Select from:<br><input checked="" type="checkbox"/> Yes      |
| Biodiversity   | Select from:<br><input checked="" type="checkbox"/> Yes      |

[Fixed row]

**(4.3.1) Provide the highest senior management-level positions or committees with responsibility for environmental issues (do not include the names of individuals).**

### Climate change

#### (4.3.1.1) Position of individual or committee with responsibility

##### Executive level

☒ Chief Sustainability Officer (CSO)

#### (4.3.1.2) Environmental responsibilities of this position

##### Dependencies, impacts, risks and opportunities

☒ Assessing environmental dependencies, impacts, risks, and opportunities

##### Policies, commitments, and targets

☒ Monitoring compliance with corporate environmental policies and/or commitments

☒ Measuring progress towards environmental corporate targets

- ☒ Setting corporate environmental targets

#### **Strategy and financial planning**

- ☒ Conducting environmental scenario analysis
- ☒ Developing a climate transition plan
- ☒ Implementing a climate transition plan
- ☒ Managing annual budgets related to environmental issues
- ☒ Managing environmental reporting, audit, and verification processes

#### **Other**

- ☒ Providing employee incentives related to environmental performance

### **(4.3.1.4) Reporting line**

Select from:

- ☒ Reports to the board directly

### **(4.3.1.5) Frequency of reporting to the board on environmental issues**

Select from:

- ☒ Quarterly

### **(4.3.1.6) Please explain**

*Hanwha Corporation is actively responding to ESG and ESH issues such as climate change, water, waste, and biodiversity, led by the Chief Safety and Environment Officer (CSO), who oversees climate change response issues by business sector. The CSO constitutes an ESG consultative body, including team leaders and working-level members of the environment, safety, health management organization, and inspects and manages climate change response issues and tasks for each sector and workplace based on the company-wide ESG management promotion direction. The ESG Council reports to the ESG Committee within the Board of Directors when it identifies significant climate change-related issues. The ESG Council which includes the CSO reviews the performance and plans on a quarterly basis, selects improvement tasks for each sector, and manages the progress rate. In order to identify major ESG-related issues such as greenhouse gas emissions, water resources, natural disasters, and policies, Hanwha conducts a double materiality assessment once a year to determine risk ratings for each risk and derive opportunity factors. The CSO in charge of each sector defines the issues by type, establishes response strategies and implementation tasks, and manages climate change issues at the company-wide level by conducting weekly monitoring if the issues are significant.*

## **Water**

#### (4.3.1.1) Position of individual or committee with responsibility

##### **Executive level**

- ☒ Chief Sustainability Officer (CSO)

#### (4.3.1.2) Environmental responsibilities of this position

##### **Dependencies, impacts, risks and opportunities**

- ☒ Assessing environmental dependencies, impacts, risks, and opportunities

##### **Policies, commitments, and targets**

- ☒ Monitoring compliance with corporate environmental policies and/or commitments
- ☒ Measuring progress towards environmental corporate targets
- ☒ Setting corporate environmental targets

##### **Strategy and financial planning**

- ☒ Conducting environmental scenario analysis
- ☒ Developing a climate transition plan
- ☒ Implementing a climate transition plan
- ☒ Managing annual budgets related to environmental issues
- ☒ Managing environmental reporting, audit, and verification processes

##### **Other**

- ☒ Providing employee incentives related to environmental performance

#### (4.3.1.4) Reporting line

*Select from:*

- ☒ Reports to the board directly

#### (4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

☒ Quarterly

#### (4.3.1.6) Please explain

*Hanwha Corporation is actively responding to ESG and ESH issues such as climate change, water, waste, and biodiversity, led by the Chief Safety and Environment Officer (CSO), who oversees climate change response issues by business sector. The CSO constitutes an ESG consultative body, including team leaders and working-level members of the environment, safety, health management organization, and inspects and manages climate change response issues and tasks for each sector and workplace based on the company-wide ESG management promotion direction. The ESG Council reports to the ESG Committee within the Board of Directors when it identifies significant climate change-related issues. The ESG Council which includes the CSO reviews the performance and plans on a quarterly basis, selects improvement tasks for each sector, and manages the progress rate. In order to identify major ESG-related issues such as greenhouse gas emissions, water resources, natural disasters, and policies, Hanwha conducts a double materiality assessment once a year to determine risk ratings for each risk and derive opportunity factors. The CSO in charge of each sector defines the issues by type, establishes response strategies and implementation tasks, and manages climate change issues at the company-wide level by conducting weekly monitoring if the issues are significant.*

### Biodiversity

#### (4.3.1.1) Position of individual or committee with responsibility

##### Executive level

☒ Chief Sustainability Officer (CSO)

#### (4.3.1.2) Environmental responsibilities of this position

##### Dependencies, impacts, risks and opportunities

☒ Assessing environmental dependencies, impacts, risks, and opportunities

##### Policies, commitments, and targets

☒ Monitoring compliance with corporate environmental policies and/or commitments

☒ Measuring progress towards environmental corporate targets

☒ Setting corporate environmental targets

##### Strategy and financial planning

☒ Conducting environmental scenario analysis

☒ Developing a climate transition plan

- ☒ Implementing a climate transition plan
- ☒ Managing annual budgets related to environmental issues
- ☒ Managing environmental reporting, audit, and verification processes

#### Other

- ☒ Providing employee incentives related to environmental performance

#### (4.3.1.4) Reporting line

Select from:

- ☒ Reports to the board directly

#### (4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- ☒ Quarterly

#### (4.3.1.6) Please explain

*Hanwha Corporation is actively responding to ESG and ESH issues such as climate change, water, waste, and biodiversity, led by the Chief Safety and Environment Officer (CSO), who oversees climate change response issues by business sector. The CSO constitutes an ESG consultative body, including team leaders and working-level members of the environment, safety, health management organization, and inspects and manages climate change response issues and tasks for each sector and workplace based on the company-wide ESG management promotion direction. The ESG Council reports to the ESG Committee within the Board of Directors when it identifies significant climate change-related issues. The ESG Council which includes the CSO reviews the performance and plans on a quarterly basis, selects improvement tasks for each sector, and manages the progress rate. In order to identify major ESG-related issues such as greenhouse gas emissions, water resources, natural disasters, and policies, Hanwha conducts a double materiality assessment once a year to determine risk ratings for each risk and derive opportunity factors. The CSO in charge of each sector defines the issues by type, establishes response strategies and implementation tasks, and manages climate change issues at the company-wide level by conducting weekly monitoring if the issues are significant.*

[Add row]

#### (4.5) Do you provide monetary incentives for the management of environmental issues, including the attainment of targets?

##### Climate change

#### (4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☒ Yes

#### (4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

27.5

#### (4.5.3) Please explain

*Hanwha Corporation is actively responding to climate change with the CSO (Chief Safety Environment Officer) in charge of climate change response issues by business sector. CSOs are given quantitative KPIs such as the amount of greenhouse gas reduction within the company, external ESG and CDP evaluation results, qualitative KPIs for the establishment and operation of a climate change response system. In 2023, KPIs were assigned for sectoral greenhouse gas reduction and the establishment of a greenhouse gas Scope 3 calculation system. Hanwha Corporation systematically manages its goals and performance to respond to climate change through a monetary compensation system based on the KPI.*

### Water

#### (4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

☒ Yes

#### (4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

27.5

#### (4.5.3) Please explain

*Hanwha Corporation is actively responding to climate change with the CSO (Chief Safety Environment Officer) in charge of climate change response issues by business sector. CSOs are given quantitative KPIs such as the amount of greenhouse gas reduction within the company, external ESG and CDP evaluation results, qualitative KPIs for the establishment and operation of a climate change response system. In 2023, KPIs have been assigned for the amount of greenhouse gas reduction by sector and the establishment of a greenhouse gas Scope 3 calculation system. From an operational perspective, efficient management of water resources and response to hazardous substances are also reflected as important factors. Hanwha Corporation systematically manages its goals and performance to respond to climate change through a monetary compensation system based on the KPI.*

[Fixed row]

**(4.5.1) Provide further details on the monetary incentives provided for the management of environmental issues (do not include the names of individuals).**

## **Climate change**

### **(4.5.1.1) Position entitled to monetary incentive**

#### **Board or executive level**

☒ Chief Sustainability Officer (CSO)

### **(4.5.1.2) Incentives**

*Select all that apply*

☒ Bonus - % of salary

### **(4.5.1.3) Performance metrics**

#### **Targets**

☒ Progress towards environmental targets

☒ Achievement of environmental targets

#### **Strategy and financial planning**

☒ Board approval of climate transition plan

#### **Emission reduction**

☒ Implementation of an emissions reduction initiative

☒ Reduction in emissions intensity

#### **Resource use and efficiency**

☒ Energy efficiency improvement

#### (4.5.1.4) Incentive plan the incentives are linked to

Select from:

☒ Both Short-Term and Long-Term Incentive Plan, or equivalent

#### (4.5.1.5) Further details of incentives

*Hanwha Corporation provides financial incentives to CSOs through the payment of performance remuneration in addition to the basic salary, and CSOs contribute to the inspection of ESG and climate change targets and the monitoring of the results of ESG activities. Achievement of the goal usually monitored for one year and incentives will be provided in proportion to the degree of achievement. In 2023, KPIs were assigned through the establishment of a greenhouse gas reduction amount and a greenhouse gas Scope 3 calculation system for each sector. The KPI ratio of CSO for each sector is set at 25% Global Division and 30% for E&C Division and the average incentive is about 27.5% when the KPI is achieved. As such, Hanwha Corporation is making active efforts to enhance employees' efforts to respond to climate change through incentive policies and at the same time achieve climate change response goals.*

#### (4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

*Hanwha Corporation motivates CSOs individually through a monetary compensation system and contributes to the company-wide transition to climate change by achieving Hanwha Net Zero 2040 at the company level. KPIs are divided into quantitative and qualitative, quantitative KPIs are directly matched by numbers, such as the calculation of the company's greenhouse gas reduction amount, external ESG evaluation, and CDP response results, and qualitative KPIs are related to the establishment and operation of a climate change response system. In 2023, Hanwha carried out activities such as the reduction of greenhouse gas emissions by sector and the advancement of the greenhouse gas Scope 3 calculation system, and assigned KPIs that reflect both quantitative and qualitative measures to CSOs.*

### Water

#### (4.5.1.1) Position entitled to monetary incentive

**Board or executive level**

☒ Chief Sustainability Officer (CSO)

#### (4.5.1.2) Incentives

Select all that apply

☒ Bonus - % of salary

### (4.5.1.3) Performance metrics

#### Targets

- ☒ Progress towards environmental targets
- ☒ Achievement of environmental targets

#### Strategy and financial planning

- ☒ Board approval of climate transition plan

#### Emission reduction

- ☒ Implementation of an emissions reduction initiative
- ☒ Reduction in emissions intensity

#### Resource use and efficiency

- ☒ Reduction in water consumption volumes – direct operations

#### Pollution

- ☒ Improvements in wastewater quality – direct operations

### (4.5.1.4) Incentive plan the incentives are linked to

Select from:

- ☒ Both Short-Term and Long-Term Incentive Plan, or equivalent

### (4.5.1.5) Further details of incentives

*Hanwha Corporation provides financial incentives to CSOs through the payment of performance remuneration in addition to the basic salary, and CSOs contribute to the inspection of ESG and climate change targets and the monitoring of the results of ESG activities. Achievement of the goal usually monitored for one year and incentives will be provided in proportion to the degree of achievement. In 2023, KPIs were assigned through the establishment of a greenhouse gas reduction amount and a greenhouse gas Scope 3 calculation system for each sector. The KPI ratio of CSO for each sector is set at 25% Global Division and 30% for E&C Division and the average incentive is about 27.5% when the KPI is achieved. As such, Hanwha Corporation is making active efforts to enhance employees' efforts to respond to climate change through incentive policies and at the same time achieve climate change response goals.*

### (4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate

transition plan

Hanwha Corporation motivates CSOs individually through a monetary compensation system and contributes to the company-wide transition to climate change by achieving Hanwha Net Zero 2040 at the company level. KPIs are divided into quantitative and qualitative, quantitative KPIs are directly matched by numbers, such as the calculation of the company's greenhouse gas reduction amount, external ESG evaluation, and CDP response results, and qualitative KPIs are related to the establishment and operation of a climate change response system. In 2023, Hanwha carried out activities such as the reduction of greenhouse gas emissions by sector and the advancement of the greenhouse gas Scope 3 calculation system, and assigned KPIs that reflect both quantitative and qualitative measures to CSOs.

[Add row]

(4.6) Does your organization have an environmental policy that addresses environmental issues?

|  |                                                         |
|--|---------------------------------------------------------|
|  | Does your organization have any environmental policies? |
|  | Select from:<br><input checked="" type="checkbox"/> Yes |

[Fixed row]

(4.6.1) Provide details of your environmental policies.

Row 1

(4.6.1.1) Environmental issues covered

Select all that apply

☒ Climate change

(4.6.1.2) Level of coverage

Select from:

☒ Organization-wide

### (4.6.1.3) Value chain stages covered

Select all that apply

- ☒ Direct operations
- ☒ Upstream value chain
- ☒ Downstream value chain

### (4.6.1.4) Explain the coverage

*Hanwha Corporation places the "Safety, Health and Environment Policy" as the top priority that is the foundation of social responsibility and the sustainable growth of the company and strives to build an advanced culture in all activities within the company-wide and upstream downstream value chains. To respond to the climate crisis and contribute to a sustainable future, Hanwha pursues growth in harmony with the company and the environment, such as reducing greenhouse gas emissions, circulating resources, preserving biodiversity, and improving pollutant emissions by establishing carbon neutrality goals. In addition, the company equip all employees and partners with the competencies necessary for SHE management and actively promote win-win cooperation with stakeholders. As part of policy, Hanwha has demonstrated its commitment to the energy transition by joining K-RE100 in 2023 following the establishment of the Hanwha Net zero 2040 goal. In addition, Hanwha established a new code of conduct for partners, established guidelines, and shared them with partners. Hanwha Corporation will continue to strengthen its efforts to protect the global environment and create a sustainable future in order to achieve global leadership.*

### (4.6.1.5) Environmental policy content

#### **Environmental commitments**

- ☒ Commitment to comply with regulations and mandatory standards
- ☒ Commitment to stakeholder engagement and capacity building on environmental issues

#### **Climate-specific commitments**

- ☒ Commitment to 100% renewable energy
- ☒ Commitment to net-zero emissions

### (4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- ☒ Yes, in line with the Paris Agreement

### (4.6.1.7) Public availability

Select from:

☒ Publicly available

#### (4.6.1.8) Attach the policy

24\_Hanwha\_Corporation\_Sustainability\_Report\_eng\_.pdf

### Row 2

#### (4.6.1.1) Environmental issues covered

Select all that apply

☒ Water

#### (4.6.1.2) Level of coverage

Select from:

☒ Organization-wide

#### (4.6.1.3) Value chain stages covered

Select all that apply

☒ Direct operations

☒ Upstream value chain

#### (4.6.1.4) Explain the coverage

*Hanwha Corporation has a safety, health, and environment policy as its top priority that is the foundation of social responsibility and the company's sustainable growth and strives to build an advanced culture in all activities within the company-wide and upstream downstream value chain. Especially in the water sector, as part of health and environment policy, Hanwha is conducting annual water pollutant monitoring through water stress analysis at direct operation sites. In addition, Hanwha is focusing on the management of water resources of our suppliers by adding a section on wastewater management in the ESG evaluation list to manage the registration of new companies of upstream suppliers. Hanwha will continue to strengthen its efforts to protect the global environment and create a sustainable future in order to achieve global leadership.*

#### (4.6.1.5) Environmental policy content

#### **Environmental commitments**

- ☒ Commitment to comply with regulations and mandatory standards
- ☒ Commitment to stakeholder engagement and capacity building on environmental issues

#### **Water-specific commitments**

- ☒ Commitment to control/reduce/eliminate water pollution
- ☒ Commitment to reduce water consumption volumes
- ☒ Commitment to reduce water withdrawal volumes
- ☒ Commitment to safely managed WASH in local communities
- ☒ Commitment to water stewardship and/or collective action

#### **(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals**

*Select all that apply*

- ☒ Yes, in line with Sustainable Development Goal 6 on Clean Water and Sanitation

#### **(4.6.1.7) Public availability**

*Select from:*

- ☒ Publicly available

#### **(4.6.1.8) Attach the policy**

24\_Hanwha\_Corporation\_Sustainability\_Report\_eng\_.pdf  
[Add row]

#### **(4.10) Are you a signatory or member of any environmental collaborative frameworks or initiatives?**

##### **(4.10.1) Are you a signatory or member of any environmental collaborative frameworks or initiatives?**

*Select from:*

- ☒ Yes

#### **(4.10.2) Collaborative framework or initiative**

Select all that apply

- ☒ Pledge to Net Zero
- ☒ RE100
- ☒ Task Force on Climate-related Financial Disclosures (TCFD)

#### **(4.10.3) Describe your organization's role within each framework or initiative**

*Hanwha Corporation has participated in the CDP Climate Change for three consecutive years to establish greenhouse gas reduction targets in line with global standards and manage risks caused by climate change and has received an A- grade in the 2023 evaluation. The company was awarded the Carbon Management Sector Honors in the CDP Climate Change Response Industrial Goods Category, recognizing its active response to climate change. Hanwha Corporation is actively participating in global initiatives to respond to climate change including supporting the TCFD recommendations and has disclosed information on governance, strategy, risks, management indicators and targets in accordance with the TCFD recommendations. Hanwha will continue to actively disclose its climate change response activities, communicate transparently with stakeholders and establish itself as a global leader in eco-friendly management for the future global environment. Hanwha has declared its Net Zero goal by 2040 to the international community. To achieve this it is essential to expand the use of renewable energy and transition to eco-friendly energy. In January 2024, Hanwha Corporation joined K-RE100 and continue to pursue detailed strategies to convert electricity used at its business sites to renewable energy.*

[Fixed row]

#### **(4.11) In the reporting year, did your organization engage in activities that could directly or indirectly influence policy, law, or regulation that may (positively or negatively) impact the environment?**

##### **(4.11.1) External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment**

Select all that apply

- ☒ Yes, we engaged directly with policy makers
- ☒ Yes, we engaged indirectly through, and/or provided financial or in-kind support to a trade association or other intermediary organization or individual whose activities could influence policy, law, or regulation

##### **(4.11.2) Indicate whether your organization has a public commitment or position statement to conduct your engagement activities in line with global environmental treaties or policy goals**

Select from:

☒ Yes, we have a public commitment or position statement in line with global environmental treaties or policy goals

#### (4.11.3) Global environmental treaties or policy goals in line with public commitment or position statement

Select all that apply

☒ Paris Agreement

☒ Sustainable Development Goal 6 on Clean Water and Sanitation

#### (4.11.4) Attach commitment or position statement

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#### (4.11.5) Indicate whether your organization is registered on a transparency register

Select from:

☒ No

#### (4.11.8) Describe the process your organization has in place to ensure that your external engagement activities are consistent with your environmental commitments and/or transition plan

*Hanwha Corporation established a roadmap for the establishment of a 2040 carbon neutrality goal to achieve net zero of greenhouse gas emissions. Also the financial impact of climate change-related activities on corporate activities was determined by the establishment of a climate change response system in accordance with the TCFD recommendation and carbon information was disclosed. In order to achieve the goal of carbon neutrality by 2040, Hanwha has established a strategy to manage greenhouse gas emissions within its business sites as well as to increase the efficiency and circulation rate of various resources, including energy and the organization in charge of environmental safety and health is in charge of responding to climate change and engagement. Under the ESH General Organization, Site-specific Environmental and Safety Organizations are organized to inspect and improve climate change risk factors for each workplace and manage climate change performance indicators so that the climate change strategy can be implemented. The ESG Council monitors the strategic goals and results of climate change and reports to the ESG Committee once a quarter for deliberation. Hanwha Corporation identifies major company-wide risks through company-wide materiality assessments and finally implements ESG promotion plans and activities that are important to management reviewed by the Strategic ESG Committee and reflects them in the company's mid- to long-term strategic direction if necessary. As such, the organization's climate change strategy is managed with consistency across the enterprise through company-wide materiality assessments and executive discussions including CSOs.*

[Fixed row]

**(4.11.1) On what policies, laws, or regulations that may (positively or negatively) impact the environment has your organization been engaging directly with policy makers in the reporting year?**

**Row 1**

**(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers**

*One Company, One Forest*

**(4.11.1.2) Environmental issues the policy, law, or regulation relates to**

*Select all that apply*

☒ Climate change

**(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment**

**Environmental protection and management procedures**

☒ Other environmental protection and management procedures, please specify :Providing financing and incentives for sustainable forest management

**(4.11.1.4) Geographic coverage of policy, law, or regulation**

*Select from:*

☒ Regional

**(4.11.1.5) Country/area/region the policy, law, or regulation applies to**

*Select all that apply*

☒ Republic of Korea

**(4.11.1.6) Your organization's position on the policy, law, or regulation**

*Select from:*

☒ Support with no exceptions

#### **(4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation**

*Select all that apply*

☒ Participation in voluntary government programs

#### **(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)**

1508.54

#### **(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement**

*To protect the ecosystem around the business site, Hanwha Corporation selects mountains, rivers and seas near the business site and all executives and employees carry out a cleanup project for the natural environment such as "One company, One forest". In 2021, Hanwha Global Division's Boeun Plant signed a carbon-neutral One company, One forest cultivation project agreement with the Geum river Basin Authority under Ministry of Environment and planted 50 elm trees in an area of about 1,300 square meters. In 2023, maintenance activities such as tree irrigation, pruning, and mowing were carried out in three rounds and Hanwha plans to continue nature conservation activities so that young trees can form a dense forest. To achieve carbon neutrality, it is important to reduce greenhouse gas emissions while promoting carbon sinks to absorb and store additional greenhouse gases. Carbon sinks can be strengthened by protecting and nurturing natural processes such as forests and marine plants, and Hanwha Corporation is contributing to the achievement of the 2050 carbon neutrality goal set by the Korean government by expanding the carbon sinks of forests and rivers near its business sites through the One Company, One Forest project, which is being promoted together with the Geum river Basin Authority under Ministry of Environment.*

#### **(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals**

*Select from:*

☒ Yes, we have evaluated, and it is aligned

#### **(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation**

*Select all that apply*

☒ Paris Agreement

## Row 2

### (4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

*Onsan Regional Civil Environmental Patrol*

### (4.11.1.2) Environmental issues the policy, law, or regulation relates to

*Select all that apply*

☒ Water

### (4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

**Environmental impacts and pressures**

☒ Water pollution

### (4.11.1.4) Geographic coverage of policy, law, or regulation

*Select from:*

☒ Regional

### (4.11.1.5) Country/area/region the policy, law, or regulation applies to

*Select all that apply*

☒ Republic of Korea

### (4.11.1.6) Your organization's position on the policy, law, or regulation

*Select from:*

☒ Support with no exceptions

### (4.11.1.8) Type of direct engagement with policy makers on this policy, law, or regulation

*Select all that apply*

- ☒ Participation in voluntary government programs

**(4.11.1.9) Funding figure your organization provided to policy makers in the reporting year relevant to this policy, law, or regulation (currency)**

0

**(4.11.1.10) Explain the relevance of this policy, law, or regulation to the achievement of your environmental commitments and/or transition plan, how this has informed your engagement, and how you measure the success of your engagement**

*Since April 2015, Ulsan City and Ulsan Environmental Technician Association has been operating the 'Civil Environmental Patrol' to prevent environmental pollution such as odors caused by water pollution in the industrial complex located in Ulsan City. The patrol area consists of Ulsan Mipo and Onsan National Industrial Complex, as well as eight surrounding rivers. If there are strong signs of pollutant discharge or a strong odor in the vicinity, Hanwha contacts the environmental department of the city or ward office and maintain a coordination system. Hanwha has volunteered for the 2023 Onsan Regional Civil Environmental Patrol, which continuously manages and inspects the condition of four rivers in the Onsan area every month from April to October. Daejeongcheon, Dangwolcheon, Wonsancheon, and Gangyang streams in the Onsan area were designated as targets and river pollution was prevented by checking the odor condition of the river and the environment around the water system during the time when the odor is most high. As such, Hanwha Corporation will continue to voluntarily participate in government programs and continue to implement activities to reduce environmental and water pollution in local communities.*

**(4.11.1.11) Indicate if you have evaluated whether your organization's engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals**

Select from:

- ☒ Yes, we have evaluated, and it is aligned

**(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation**

Select all that apply

- ☒ Sustainable Development Goal 6 on Clean Water and Sanitation

[Add row]

**(4.11.2) Provide details of your indirect engagement on policy, law, or regulation that may (positively or negatively) impact the environment through trade associations or other intermediary organizations or individuals in the reporting year.**

## Row 1

### (4.11.2.1) Type of indirect engagement

Select from:

- ☒ Indirect engagement via a trade association

### (4.11.2.4) Trade association

Asia and Pacific

- ☒ Other trade association in Asia and Pacific, please specify :The Constriction Environment Association (South Korea)

### (4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

- ☒ Climate change  
☒ Water

### (4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

- ☒ Consistent

### (4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

- ☒ Yes, we publicly promoted their current position

### (4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

The Construction Environment Association considers awareness and response to climate change important and is making the following efforts to ensure the sustainability of the construction industry and protect the environment. The association establishes policies to respond to climate change and helps members to respond to climate change and realize sustainable management by establishing policies related to climate change and develops guidelines and guidelines for climate change response to encourage appropriate behavior and compliance within the construction industry. In addition, climate change impact assessment recommends an assessment that considers the impact of climate change on construction projects and contributes to strengthening the adequacy of construction projects and disaster response plans through climate prediction and risk assessment according to climate change. Hanwha Corporation supports the development and dissemination of eco-friendly and energy-efficient technologies to combat climate change. In terms of energy, Hanwha uses energy-saving technologies and carbon emission reduction technologies to reduce the carbon footprint of the construction industry and promote sustainable construction activities. Through the '2023 19th Construction Environment Management Best Practices Competition', eco-friendly green management systems and eco-friendly technology methods were introduced, such as smart eco-sprinkling systems, waste management system development and application of eco-friendly solutions in the construction stage for carbon reduction. As a member of the Construction Environment Association, Hanwha Corporation actively supports the activities of the Construction Association to establish policies to respond to climate change to raise climate change education and awareness.

#### **(4.11.2.9) Funding figure your organization provided to this organization or individual in the reporting year (currency)**

726.5

#### **(4.11.2.10) Describe the aim of this funding and how it could influence policy, law or regulation that may impact the environment**

Starting as the Construction Environment Association in 1995, the Korea Construction Environment Association was registered as an incorporated corporation under the Ministry of Environment in January 2012 to share information and disseminate excellent facility management practices to improve the level of environmental management in the construction industry. The construction industry has been recognized as the main culprit of environmental destruction for a long time, but as environmental issues such as carbon neutrality and fine dust waste recycling have recently become a national issue, the construction industry is also making efforts to prevent environmental damage during construction, develop new and renewable energy for eco-friendly buildings and implement eco-friendly projects. The annual fee paid by Hanwha Corporation is used as an operating expense for various activities promoted by the Construction Environment Association.

#### **(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals**

Select from:

☒ Yes, we have evaluated, and it is aligned

#### **(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation**

Select all that apply

☒ Paris Agreement

☒ Sustainable Development Goal 6 on Clean Water and Sanitation

[Add row]

**(4.12) Have you published information about your organization's response to environmental issues for this reporting year in places other than your CDP response?**

Select from:

☒ Yes

**(4.12.1) Provide details on the information published about your organization's response to environmental issues for this reporting year in places other than your CDP response. Please attach the publication.**

**Row 1**

**(4.12.1.1) Publication**

Select from:

☒ In mainstream reports, in line with environmental disclosure standards or frameworks

**(4.12.1.2) Standard or framework the report is in line with**

Select all that apply

☒ IFRS

**(4.12.1.3) Environmental issues covered in publication**

Select all that apply

☒ Climate change

**(4.12.1.4) Status of the publication**

Select from:

☒ Complete

#### (4.12.1.5) Content elements

Select all that apply

- ☒ Governance
- ☒ Public policy engagement
- ☒ Strategy
- ☒ Emissions figures

#### (4.12.1.6) Page/section reference

Governance: 60 page Policy engagement: 96, 97, 98, 99, 100,101, 102 page Emission data: 37, 69, 93 page Strategy: 56, 57 page Others: 813 page

#### (4.12.1.7) Attach the relevant publication

이온에스™ 이온이, 이온.에스.에스 이, (2024.04.30)\_2023 이, 이온.에스.에스 이, .pdf

#### (4.12.1.8) Comment

Hanwha Corporation publishes a business report every year, and the report is prepared in accordance with K-IFRS standards and discloses the company's financial and other non-financial status in detail for the year.

### Row 2

#### (4.12.1.1) Publication

Select from:

- ☒ In mainstream reports, in line with environmental disclosure standards or frameworks

#### (4.12.1.2) Standard or framework the report is in line with

Select all that apply

- ☒ GRI
- ☒ IFRS
- ☒ TCFD
- ☒ TNFD

#### (4.12.1.3) Environmental issues covered in publication

Select all that apply

- ☒ Climate change
- ☒ Water

#### (4.12.1.4) Status of the publication

Select from:

- ☒ Complete

#### (4.12.1.5) Content elements

Select all that apply

- ☒ Strategy
- ☒ Governance
- ☒ Emission targets
- ☒ Emissions figures
- ☒ Risks & Opportunities
- ☒ Water pollution indicators

#### (4.12.1.6) Page/section reference

Governance: 11, 26, 27, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85 page Risk and Opportunity: 27, 28, 29, 30, 86, 87 88 page Emission data: 34, 95 page Water pollution: 96 page Strategy: 10, 27, 28, 29, 30, 31, 32 page Emission reduction target: 33, 34 page

#### (4.12.1.7) Attach the relevant publication

24\_Hanwha\_Corporation\_Sustainability\_Report\_eng\_.pdf

#### (4.12.1.8) Comment

Hanwha Corporation publishes a sustainability report every year and continues its efforts to transparently communicate its sustainability management efforts and major achievements with internal and external stakeholders This report is prepared in accordance with GRI standards and complies with TCFD disclosure recommendations.

[Add row]



## C5. Business strategy

(5.1) Does your organization use scenario analysis to identify environmental outcomes?

### Climate change

#### (5.1.1) Use of scenario analysis

Select from:

☒ Yes

#### (5.1.2) Frequency of analysis

Select from:

☒ Annually

### Water

#### (5.1.1) Use of scenario analysis

Select from:

☒ Yes

#### (5.1.2) Frequency of analysis

Select from:

☒ Annually

[Fixed row]

(5.1.1) Provide details of the scenarios used in your organization's scenario analysis.

### Climate change

### (5.1.1.1) Scenario used

#### Physical climate scenarios

☒ RCP 8.5

### (5.1.1.2) Scenario used    SSPs used in conjunction with scenario

*Select from:*

☒ SSP5

### (5.1.1.3) Approach to scenario

*Select from:*

☒ Qualitative and quantitative

### (5.1.1.4) Scenario coverage

*Select from:*

☒ Organization-wide

### (5.1.1.5) Risk types considered in scenario

*Select all that apply*

☒ Policy

☒ Market

☒ Liability

☒ Reputation

☒ Technology

☒ Acute physical

☒ Chronic physical

### (5.1.1.6) Temperature alignment of scenario

*Select from:*

☒ 4.0°C and above

### (5.1.1.7) Reference year

2019

### (5.1.1.8) Timeframes covered

*Select all that apply*

- ☒ 2025
- ☒ 2030
- ☒ 2040
- ☒ 2050

### (5.1.1.9) Driving forces in scenario

#### **Local ecosystem asset interactions, dependencies and impacts**

- ☒ Speed of change (to state of nature and/or ecosystem services)
- ☒ Climate change (one of five drivers of nature change)

#### **Finance and insurance**

- ☒ Cost of capital
- ☒ Sensitivity of capital (to nature impacts and dependencies)

#### **Regulators, legal and policy regimes**

- ☒ Global regulation
- ☒ Global targets

#### **Direct interaction with climate**

- ☒ On asset values, on the corporate

#### **Macro and microeconomy**

- ☒ Globalizing markets

### (5.1.1.10) Assumptions, uncertainties and constraints in scenario

*Hanwha Corporation analyzed the RCP 8.5 scenario to establish a Net Zero reduction target and manage climate change risks in line with the requirements of global initiatives. RCP 8.5 assumes the highest concentration of greenhouse gases in the scenario. The parameters used in the scenario analysis include atmospheric greenhouse gas concentration, economic growth rate, population growth, but it is difficult to accurately predict the "economic growth" factor that will have the greatest impact on the scenario. Therefore, due to unexpected international issues such as wars and epidemics, Hanwha do not know which economic growth rate will fluctuate and how it will fluctuate, and the scenario analysis may be affected accordingly.*

#### **(5.1.1.11) Rationale for choice of scenario**

*Hanwha Corporation's intention in analyzing the RCP 8.5 scenario is to analyze the scenario from the most conservative point of view. RCP 8.5 is the scenario with the highest concentration of greenhouse gases and the analysis reflects the change in the economic growth rate (low growth high growth). From this conservative perspective, Hanwha plans the various investment response costs (CAPEX, OPEX) that the company will incur to respond to climate change in the future and establishes and implements business strategies accordingly.*

## **Water**

#### **(5.1.1.1) Scenario used**

##### **Water scenarios**

☒ WWF Water Risk Filter

#### **(5.1.1.3) Approach to scenario**

*Select from:*

☒ Qualitative and quantitative

#### **(5.1.1.4) Scenario coverage**

*Select from:*

☒ Facility

#### **(5.1.1.5) Risk types considered in scenario**

*Select all that apply*

☒ Acute physical

☒ Chronic physical

- ☒ Policy
- ☒ Reputation

#### (5.1.1.7) Reference year

2020

#### (5.1.1.8) Timeframes covered

*Select all that apply*

- ☒ 2030
- ☒ 2050

#### (5.1.1.9) Driving forces in scenario

##### **Local ecosystem asset interactions, dependencies and impacts**

- ☒ Changes to the state of nature
- ☒ Climate change (one of five drivers of nature change)

##### **Finance and insurance**

- ☒ Cost of capital

#### (5.1.1.10) Assumptions, uncertainties and constraints in scenario

*Hanwha Corporation is conducting a corporate water scenario analysis through the WWF filter. WWF scenario analyses primarily based on the IPCC's climate change scenarios and analyze region-specific water stress indices, reflecting geographic differences in the river basin in which the site is located. The constraints associated with this are the lack of sufficient hydrological data in some river basins and regions, or the low quality of existing data, which can make accurate analysis difficult.*

#### (5.1.1.11) Rationale for choice of scenario

*The intention of Hanwha Corporation to analyze the company's water scenario through the WWF filter is to prepare for future water shortages by analyzing and managing the water resource usage of manufacturing sites in detail. In addition, the impact of physical risks can be taken into account so that reasonable facility water-related investments and costs can be managed*

## Climate change

### (5.1.1.1) Scenario used

#### Climate transition scenarios

☒ IEA NZE 2050

### (5.1.1.3) Approach to scenario

*Select from:*

☒ Qualitative and quantitative

### (5.1.1.4) Scenario coverage

*Select from:*

☒ Organization-wide

### (5.1.1.5) Risk types considered in scenario

*Select all that apply*

☒ Policy

☒ Market

☒ Liability

☒ Reputation

☒ Technology

☒ Acute physical

☒ Chronic physical

### (5.1.1.6) Temperature alignment of scenario

*Select from:*

☒ 1.5°C or lower

### (5.1.1.7) Reference year

2022

### (5.1.1.8) Timeframes covered

*Select all that apply*

- ☒ 2025
- ☒ 2030
- ☒ 2040
- ☒ 2050

### (5.1.1.9) Driving forces in scenario

#### **Local ecosystem asset interactions, dependencies and impacts**

- ☒ Speed of change (to state of nature and/or ecosystem services)
- ☒ Climate change (one of five drivers of nature change)

#### **Finance and insurance**

- ☒ Cost of capital
- ☒ Sensitivity of capital (to nature impacts and dependencies)

#### **Regulators, legal and policy regimes**

- ☒ Global regulation

#### **Direct interaction with climate**

- ☒ On asset values, on the corporate

#### **Macro and microeconomy**

- ☒ Globalizing markets

### (5.1.1.10) Assumptions, uncertainties and constraints in scenario

*The IEA NZE 2050 scenario refers to the International Energy Agency's (IEA) "Net Zero by 2050" initiative which focuses on helping countries around the world reduce greenhouse gas emissions to zero and limit global temperature rise to 1.5C in response to climate change. Accordingly, the IEA NZE 2050 scenario was analyzed based on the assumption that nuclear power and CCUS will be converted to wind and solar PV by 2030 and that Korea will increase its renewable energy generation capacity to 35% by 2034.*

#### **(5.1.1.11) Rationale for choice of scenario**

*Hanwha Corporation chose the IEA NZE 2050 scenario because it focuses on countries around the world finding ways to reduce greenhouse gas emissions to zero and limit global temperature rise to within 1.5C in order to combat climate change. In addition, the IEA NZE 2050 scenario calls for a greater focus on renewables such as solar and wind power in the power sector and a lower reliance on nuclear power. This allows Hanwha to review renewable energy strategy more efficiently.*  
[Add row]

### **(5.1.2) Provide details of the outcomes of your organization's scenario analysis.**

#### **Climate change**

#### **(5.1.2.1) Business processes influenced by your analysis of the reported scenarios**

*Select all that apply*

- ☒ Risk and opportunities identification, assessment and management
- ☒ Strategy and financial planning
- ☒ Resilience of business model and strategy
- ☒ Capacity building
- ☒ Target setting and transition planning

#### **(5.1.2.2) Coverage of analysis**

*Select from:*

- ☒ Organization-wide

#### **(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues**

*Hanwha Corporation conducted a climate change scenario analysis using the IEA NZE 2050 scenario, NGFS scenario, and SSP scenario to establish net-zero reduction targets and manage climate change risks in line with global initiatives in 2023. The IEA NZE 2050 scenario was used as a baseline scenario to achieve Hanwha's net-zero goals. The NGFS scenario was analyzed based on NDCs, Below 2C, Net zero 2050 pathways and the financial impact of the implementation of K-RE100 was analyzed based on the scenario which provided the basis for the implementation of K-RE100. The SSP scenario was implemented to analyze the specific financial impact of each business site and the common socio-economic pathway SSP 5,3,2,1 was utilized. For the tools that analyzed the scenarios, the S&P Climonomics program for the analysis of SSP scenarios has shown that climate risk on Global and Momentum division's manufacturing sites which divided into short-term, medium-term, and long-term and the financial impact was derived for each. Through the financial impact chart, Hanwha Corporation established a response plan for the issues identified as risk and opportunity factors. Hanwha derives quantitative financial impacts for each risk and opportunity factor through SSP scenario*

analysis and these amounts are reflected in the expected capital expenditure (CAPEX) and operating expenses (OPEX) that the company incurs to respond to climate change in the future. For example, the financial impact on the carbon price of Hanwha's conversion risk is estimated to be KRW 996,000,000 from 2040 to 2049, and it can be considered as the expected debt cost due to the increase in the allocation ratio and the increase in the price of emission allocation. In terms of opportunities, the 'technology' sector was identified as an opportunity factor. Hanwha can expect an increase in sales due to the development of low-carbon products and technologies and the increase in demand, and in 2023, Hanwha will continue to promote the pyrolysis emulsification business using waste plastics which will have a positive impact on the growth and reproduction of living things by inducing the reduction of household and industrial plastics and reducing plastic waste entering the sea, rivers, and land. In this way, scenario analysis has a significant impact on Hanwha's risk management, strategy, transition plan and contributes to Hanwha's sustainable growth and strengthening its environmental responsibility.

## Water

### (5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- ☒ Risk and opportunities identification, assessment and management
- ☒ Strategy and financial planning
- ☒ Resilience of business model and strategy
- ☒ Capacity building
- ☒ Target setting and transition planning

### (5.1.2.2) Coverage of analysis

Select from:

- ☒ Organization-wide

### (5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

Hanwha Corporation analyzes water scenarios through WRI's Water Aqueduct and WWF's Water Risk Filter for water resource management. The analysis identifies and assesses risks associated with water stress, influencing direct on-site water resource management (water withdrawal, water use, discharge) and financial modeling of the site. Using the WWF tool, Hanwha used two scenarios 2030 and 2050, to derive a measure of physical risk in river basins. Deriving these metrics can help identify areas with high water stress and identify applicable opportunities to reduce water usage and discharge and increase efficiency. This in turn influenced Hanwha's sustainable goal setting and contributed substantially to the establishment and achievement of the transition plan. In addition, for businesses that are expected to be highly stressed, Hanwha has developed a water-related CAPEX and OPEX-related expenditure plan to help them plan their finances. As such, water-related scenario analysis contributes to the sustainable growth and environmental responsibility of Hanwha Corporation, which is centered on its manufacturing sites.

[Fixed row]

## **(5.2) Does your organization's strategy include a climate transition plan?**

### **(5.2.1) Transition plan**

Select from:

☒ Yes, we have a climate transition plan which aligns with a 1.5°C world

### **(5.2.3) Publicly available climate transition plan**

Select from:

☒ Yes

### **(5.2.4) Plan explicitly commits to cease all spending on, and revenue generation from, activities that contribute to fossil fuel expansion**

Select from:

☒ No, and we do not plan to add an explicit commitment within the next two years

### **(5.2.6) Explain why your organization does not explicitly commit to cease all spending on and revenue generation from activities that contribute to fossil fuel expansion**

*Hanwha Corporation, as the parent company of Hanwha Group, has entered the global market and is achieving sustainable growth. While it is difficult to completely stop dependence on fossil fuels in a short period of time, Hanwha is promoting the integration and specialization of low-carbon businesses within the Group to realize sustainable growth. As a result, Hanwha will continue to seek ways to transition to energy for existing businesses and contribute to climate transition by gradually reducing dependence on fossil fuels.*

### **(5.2.7) Mechanism by which feedback is collected from shareholders on your climate transition plan**

Select from:

☒ We do not have a feedback mechanism in place, but we plan to introduce one within the next two years

### **(5.2.10) Description of key assumptions and dependencies on which the transition plan relies**

Hanwha Corporation conducted climate scenario analysis using IEA NZE 2050, NGFS and SSP scenarios. IEA NZE 2050 was selected to more efficiently review Hanwha's renewable energy strategy and was used as a base scenario to establish Hanwha's Net Zero 2050 strategy. In this scenario, sales and investment were set as parameters and the analysis was based on the assumption that sales would continue to be maintained/increased and greenhouse gas emissions would increase due to new investments and business expansion. In the case of the NGFS scenario, it was used as a basis for Hanwha's participation and implementation of K-RE100 and sales, investment amount were also set as parameters in that scenario. The scenarios used in the NGFS used for assumptions were conducted from three perspectives: NDC, Below 2C, and Net Zero 2050 and cost-benefit of implementing or not implementing K-RE100 was derived from KRW 139,900,000,000 to KRW 370,300,000,000. The SSP scenario was implemented to derive and respond to more specific financial impacts from the perspective of sectors and manufacturing sites and assumed high economic growth and increased energy demand from a conservative perspective. Through these assumptions, Hanwha Corporation is able to derive qualitative and quantitative financial impacts on climate change issues, derive detailed action plan and approach from a strategic perspective in formulating cost execution plans to implement detailed action plans.

#### **(5.2.11) Description of progress against transition plan disclosed in current or previous reporting period**

In the previous reporting year 2022, Hanwha Corporation had a transition plan in line with the 1.5-degree scenario. The scenario used was IEA NZE 2050 scenario which became the basis for redefining the detailed plan to achieve Hanwha's carbon neutrality goals. The carbon neutrality goals included establishing a strategy to secure renewable energy with the goal of joining K-RE100 within 2023 and a plan to reorganize the greenhouse gas Scope 3 calculation system to understand the current status of emissions in the supply chain and advance the reduction plan. As a result Hanwha joined K-RE100 in 2023 reducing application of cost-based calculation methodology in Scope 3 calculation and increasing accuracy by applying calculation methodology using national LCI DB or Eco-Invent emission factor.

#### **(5.2.12) Attach any relevant documents which detail your climate transition plan (optional)**

24\_Hanwha\_Corporation\_Sustainability\_Report\_eng\_.pdf

#### **(5.2.13) Other environmental issues that your climate transition plan considers**

Select all that apply

- ☒ Plastics
- ☒ Water
- ☒ Biodiversity

#### **(5.2.14) Explain how the other environmental issues are considered in your climate transition plan**

In the area of biodiversity, Hanwha Corporation continues to conduct post-environmental impact surveys in the in-house area of the Boeun business site to preserve biodiversity near the business site and establishes and implements management measures. Regard to water, Hanwha operates water quality prevention facilities (siltation ponds) and regularly inspect the quality of effluent to manage the risk of diversion. Plastics are also closely related to water and they contribute to the management/reduction of plastics by converting them into usable materials through the emulsification business rather than simply disposing of them.

[Fixed row]

### **(5.3) Have environmental risks and opportunities affected your strategy and/or financial planning?**

#### **(5.3.1) Environmental risks and/or opportunities have affected your strategy and/or financial planning**

*Select from:*

- ☒ Yes, both strategy and financial planning

#### **(5.3.2) Business areas where environmental risks and/or opportunities have affected your strategy**

*Select all that apply*

- ☒ Products and services  
☒ Upstream/downstream value chain  
☒ Investment in R&D  
☒ Operations

*[Fixed row]*

### **(5.3.1) Describe where and how environmental risks and opportunities have affected your strategy.**

#### **Products and services**

##### **(5.3.1.1) Effect type**

*Select all that apply*

- ☒ Risks  
☒ Opportunities

##### **(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area**

*Select all that apply*

- ☒ Climate change

##### **(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area**

Based on the goal of 'Hanwha Net Zero 2040,' Hanwha Corporation is promoting sustainable growth of the company and society by discovering low-carbon, eco-friendly businesses, reducing greenhouse gas emissions and actively transitioning to a renewable energy ecosystem. In addition, Hanwha is strengthening our eco-friendly business portfolio, such as battery manufacturing facilities and renewable energy plants to expand eco-friendly and low-carbon-based business areas. In 2023, Hanwha issued green bonds worth KRW 430 billion. Through these strategic responses, the company is contributing to solving the climate crisis and securing new growth engines for the future. In the case of Global division, produces low-carbon product supply businesses such as clean ammonia import and distribution infrastructure and LOW GWP GAS manufacturing business. Case of Momentum division, promotes the construction and operation of new and renewable energy plants, the supply of specialized facilities for the entire process of secondary batteries, and the waste recycling research project. Lastly, E&C Division is promoting large-scale offshore wind power projects such as the construction and operation of the Yeongyang Wind power complex, Jeju Wind power complex and the construction of the Yangyang Suri Onshore Wind power complex (about 94MW).

## Upstream/downstream value chain

### (5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

### (5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

### (5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Hanwha Corporation strives to minimize the negative impact of corporate activities by procuring raw materials and purchasing supplies under the principles of eco-friendliness, safety and health. The Global division strives to prevent waste of resources and environmental pollution in accordance with the Green Purchasing and Eco-friendly Packaging Management Guidelines that consider environmental aspects and manages eco-friendly purchasing performance accordingly. In addition, E&C division purchases green products that have a low impact on the environment and the human body as well as quality when purchasing goods and services such as office supplies, office equipment, construction materials. In particular Hanwha is preventing waste of energy and resources, greenhouse gas reduction, and environmental pollution by expanding the purchase of raw and subsidiary materials such as ready-mixed concrete, insulation materials, and gypsum board that have obtained eco-mark certification.

## Investment in R&D

### (5.3.1.1) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

#### (5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

#### (5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Plastic waste generated from households and industrial sites is considered to be one of the main causes of environmental pollution. Accordingly, Hanwha Corporation is developing technological capabilities to recycle plastic waste. After extracting oil by pyrolysis of waste plastics at low temperatures, Hanwha is researching and developing machinery facilities that recycle it into fuel such as petroleum and operating a pilot plant for demonstration tests. The company is conducting a pilot test of a waste plastic recycling facility using the spare land of an affiliate in the Gunsan area and invested KRW 672,000,000 in 2021 for this purpose. In 2023, Hanwha is striving to complete the development of recycled oil production facilities with additional facility investment and will continue to contribute to the recycling of waste and environmental protection based on these plastic recycling technologies. Hanwha E&C and the Korea Institute of Energy Research participated in the 'Technomics Audition', a public engagement-type science and technology management hosted by the Ministry of Science and ICT and organized by the National Research Council of Science and Technology (NST), and were selected as the first place in the 'Waste Plastic Energy Conversion Plant' technology and received the Minister of Science and ICT Award. Since 2022, Hanwha E & C and Korea Institute of Energy Research have signed a business agreement to develop eco-friendly technology that processes waste plastics and converts them into hydrogen fuel or chemical fuel. Through this it can be expected to reduce waste and reduce carbon emissions by switching from waste plastic disposal methods centered on landfill and incineration to pyrolysis methods, as well as contribute to the expansion of the high-value-added recycling market by selling produced hydrogen fuel and chemical fuels. Hanwha Corporation will continue to lead the transition to a carbon-neutral society by expanding the development of innovative eco-friendly technologies.

## Operations

#### (5.3.1.1) Effect type

Select all that apply

- ☒ Risks

#### (5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- ☒ Climate change

☒ Water

#### (5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

*Hanwha Corporation's Global division is promoting OE (Operation Excellence), an activity to increase productivity by business unit to improve energy efficiency. As part of OE activities, Hanwha has discovered items related to energy efficiency and greenhouse gas reduction, analyzed and managed the implementation effect. Through OE activities at the Boeun plant in 2023, Hanwha has identified 11 items to reduce electricity use, such as improving energy efficiency by installing inverters and changing operation methods. At the Onsan plant, waste heat energy generated from the nitric acid manufacturing process is converted into steam energy and used in the manufacturing process to save energy. The use of steam produced from waste heat energy contributes greatly to the reduction of net greenhouse gas emissions at the Onsan plant with zero greenhouse gas emissions, and in 2023, 135 TJ of residual steam energy was sold to generate economic profits. In addition, Hanwha prevents energy loss by controlling the temperature of the heating and cooling system in business sites and eliminating steam waste and continue to improve the efficiency of energy use in our business sites through activities such as replacing power-efficient LED lights. In the water sector, the company conducts periodic self-measurement for wastewater discharge facilities at direct business sites to respond to the risk of exceeding effluent water quality standards. Through this, the discharge concentration of discharged water is continuously monitored. Hanwha Corporation is preemptively monitoring the management status of prevention facilities through periodic facility inspections based on legal operation.*

[Add row]

#### (5.3.2) Describe where and how environmental risks and opportunities have affected your financial planning.

##### Row 1

#### (5.3.2.1) Financial planning elements that have been affected

Select all that apply

- ☒ Revenues
- ☒ Direct costs
- ☒ Capital expenditures

#### (5.3.2.2) Effect type

Select all that apply

- ☒ Risks
- ☒ Opportunities

#### (5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

☒ Climate change

☒ Water

#### (5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

Hanwha Corporation calculates eco-friendly sales based on businesses that meet the K-Taxonomy standards. In 2023, Hanwha E&C's onshore and offshore wind power complex construction business was counted as eco-friendly sales, while the Momentum division calculated eco-friendly sales by classifying the business of supplying solar cells, modules, and secondary battery manufacturing facilities necessary for renewable energy production as green economic activities. Hanwha Corporation plans to discover and expand businesses that meet the green classification system for continuous eco-friendly management. In 2023, Hanwha's revenue from eco-friendly products and services was estimated to be approximately KRW 601.9 billion. In the case of direct costs, Hanwha continues to invest in the improvement of environmental pollutant discharge facilities and prevention facilities in order to comply with environmental laws and prevent environmental pollution. The Global division's Boeun plant implemented investments such as the construction of a designated waste storage facility, the installation of new dust collection facilities, and the replacement of old vehicles while the Onsan plant implemented investments such as the installation of new SCRs, investment in the improvement of the analysis room Scrubber, and investment in intangible assets for the registration of substances. As a result in 2023, Hanwha has made an environmental investment of KRW 1.6 billion and continues to make capital expenditures related to the environment through the operation of its business sites. In order to prevent environmental damage and environmental pollution caused by business operations, the company plans and executes environmental expenses every year and manage the usage results. Environmental expenses are divided into preventive expenses such as employee training costs and detailed diagnosis of environmentally polluted facilities to prevent environmental accidents, environmental pollution and management costs such as environmental facility operation costs and waste disposal costs. Environmental costs required for the operation of the business site Hanwha has also developed waste covers and construction machinery dust boxes. As a result, environmental expenditures of KRW 21.1 billion were incurred in 2023, an increase of KRW 2 billion compared to the previous year.

[Add row]

#### (5.4) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

|  | Identification of spending/revenue that is aligned with your organization's climate transition | Methodology or framework used to assess alignment with your organization's climate transition | Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy |
|--|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|  | Select from:<br><input checked="" type="checkbox"/> Yes                                        | Select all that apply<br><input checked="" type="checkbox"/> A sustainable finance taxonomy   | Select from:<br><input checked="" type="checkbox"/> At the organization level only                                  |

[Fixed row]

**(5.4.1) Quantify the amount and percentage share of your spending/revenue that is aligned with your organization's climate transition.**

**Row 1**

**(5.4.1.1) Methodology or framework used to assess alignment**

*Select from:*

☒ A sustainable finance taxonomy

**(5.4.1.2) Taxonomy under which information is being reported**

*Select from:*

☒ Other, please specify :K - Taxonomy

**(5.4.1.3) Objective under which alignment is being reported**

*Select from:*

☒ Total across climate change mitigation and climate change adaption

**(5.4.1.5) Financial metric**

*Select from:*

☒ Revenue/Turnover

**(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year (currency)**

83652000000

**(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)**

8.6

**(5.4.1.8) Percentage share of selected financial metric planned to align in 2025 (%)**

23.96

#### (5.4.1.9) Percentage share of selected financial metric planned to align in 2030 (%)

31.15

#### (5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

*Hanwha Corporation has shown its commitment to eco-friendly management by declaring 'Hanwha Net Zero 2040' in the face of the global climate crisis. To minimize negative environmental impacts at all stages of the corporate value chain, Hanwha is actively investing in various eco-friendly businesses, including renewable energy, low-carbon technology, energy efficiency, and generating eco-friendly sales through them. Revenues that fit the classification include wind power generation in the construction sector, secondary batteries in the Momentum division, and photovoltaic businesses. Furthermore, Hanwha is strengthening eco-friendly business portfolio, including clean ammonia business, battery manufacturing facilities, renewable energy plants to expand eco-friendly and low-carbon-based business areas. Hanwha's sales in the Global, E&C, and Momentum divisions are KRW 7,015,100,000,000, excluding the Defense division, which was split in 2022 and carried forward to 2023. The expected percentage of eco-friendly sales was calculated as follows: Reflecting a CAGR of 14% from 2020 to 2023, the projected gross sales for 2025 and 2030, respectively, were first calculated and the corresponding expenses were derived as KRW 6,458,567,184,060 and KRW 12,685,101,043,293 respectively. Compared to the total sales, the projected sales (E&C, Momentum) related to the eco-friendly business expected in 2025 and 2030 were compared to calculate the ratio of the expected sales related to the eco-friendly business in the future. However, Momentum's SE (Photovoltaic) division is scheduled to be transferred on July 1st, 2024 and is excluded from the projected sales for 2025 and 2030. As a result, the proportion of sales in line with the Climate Transition Plan in 2023 is expected to increase from 8.58% to 23.96% in 2025 and 31.15% in 2030. Hanwha Corporation is expected to increase its sales in all sectors in order to achieve its carbon neutrality goal in accordance with the 'Hanwha Net Zero 2040 Roadmap'.*

[Add row]

### (5.5) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

#### (5.5.1) Investment in low-carbon R&D

Select from:

☒ Yes

#### (5.5.2) Comment

*As the global demand for low-carbon products and services increases, Hanwha Corporation intends to expand the scope of its sustainable business through the*

development of related products and technologies. In the case of Global, continuously improving and managing the process to reduce carbon emissions and environmental impact throughout the entire production process by conducting LCA (Life Cycle Assessment) on main product, Electronic Detonator. In the case of E&C, fly ash which is incineration ash generated from power plants is used as a filling material for PHC piles that used to inject cement paste into the existing cement paste, or it is applied to the grouting method for water purification to recycle waste. In the case of Momentum, promoting a business to convert waste plastics generated from households and industries into recycled oil using low-temperature thermal differentiation technology. As such, Hanwha Corporation strives to contribute to global carbon reduction by continuously providing low-carbon products and services in each divisions.

[Fixed row]

## **(5.5.2) Provide details of your organization's investments in low-carbon R&D for capital goods products and services over the last three years.**

### **Row 1**

#### **(5.5.2.1) Technology area**

Select from:

☒ Recycling

#### **(5.5.2.2) Stage of development in the reporting year**

Select from:

☒ Pilot demonstration

#### **(5.5.2.3) Average % of total R&D investment over the last 3 years**

1.57

#### **(5.5.2.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)**

943000000

#### **(5.5.2.5) Average % of total R&D investment planned over the next 5 years**

2

#### **(5.5.2.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan**

*Hanwha Corporation has established the Hanwha Net Zero 2040 roadmap and is actively investing in various eco-friendly businesses, including renewable energy, low-carbon technologies, and energy efficiency to minimize negative environmental impacts at all stages of the company's value chain. As one of them, Hanwha Momentum signed a business agreement with Chungcheongbuk Province in 2021 for the 'Waste Plastic Pyrolysis Activation Project for the Realization of Carbon Neutrality by 2050' to spread and spread waste plastic technology, materializing the 'Chungbuk-type urban oil field creation'. Hanwha plans to supply and spread clean fuel from 2025 through commercialization of production technology and demonstration of commercialization by establishing a waste plastic collection and sorting model, pyrolysis clean oil market development model, and operation self-sufficiency model, and made an R&D investment of about 2,701,000,000 won from 2021 to 2023 to promote the business. As such, Hanwha Corporation plans to accelerate its transition plan to Hanwha Net Zero 2040 through this technology.*

*[Add row]*

#### **(5.9) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?**

##### **(5.9.1) Water-related CAPEX (+/- % change)**

149

##### **(5.9.2) Anticipated forward trend for CAPEX (+/- % change)**

176

##### **(5.9.3) Water-related OPEX (+/- % change)**

10

##### **(5.9.4) Anticipated forward trend for OPEX (+/- % change)**

37

##### **(5.9.5) Please explain**

*Hanwha Corporation expenses CAPEX and OPEX for water management every year. In 2023, water-related CAPEX increased by 149% compare to previous year,*

driven by higher costs for installing siltation tanks at construction sites, additional costs for water pollution prevention, sewage treatment facilities at plant sites. OPEX are also raised 10% compared to 2022, mainly due to Global division’s wastewater consignment treatment costs and wastewater bills at construction sites. In particular, OPEX of siltation tank is associated with an increase in installation costs. Water-related CAPEX in 2024 is expected to increase 176% to KRW 1,101,259,137, mainly due to the increase cost of installing siltation tanks in the construction sector. OPEX also expected to increase by 217% which is KRW 412,826,385 reflecting the growth rate of expenses of siltation tanks. The growth rate of OPEX in 2024 is expected to be around 37%. Hanwha is continuously expanding water related expenses.

[Fixed row]

(5.10) Does your organization use an internal price on environmental externalities?

|  | Use of internal pricing of environmental externalities  | Environmental externality priced                                    |
|--|---------------------------------------------------------|---------------------------------------------------------------------|
|  | Select from:<br><input checked="" type="checkbox"/> Yes | Select all that apply<br><input checked="" type="checkbox"/> Carbon |

[Fixed row]

(5.10.1) Provide details of your organization’s internal price on carbon.

Row 1

(5.10.1.1) Type of pricing scheme

Select from:

☒ Shadow price

(5.10.1.2) Objectives for implementing internal price

Select all that apply

☒ Drive energy efficiency

☒ Drive low-carbon investment

- ☒ Identify and seize low-carbon opportunities

### (5.10.1.3) Factors considered when determining the price

Select all that apply

- ☒ Alignment with the price of allowances under an Emissions Trading Scheme
- ☒ Scenario analysis

### (5.10.1.4) Calculation methodology and assumptions made in determining the price

*Hanwha Corporation has introduced an internal carbon pricing system to calculate the amount of greenhouse gas generated, amount of carbon allowance short/surplus, the cost of the project use it for internal decision-making and performance measurement. In order to calculate the internal carbon price, Hanwha uses the average transaction price of KAU in the previous plan period or the average transaction price of KAU accumulated in the same plan period. The internal carbon price in 2023 is KRW 19,743, based on the cumulative average transaction price (KAU2122) for the 3rd plan year. In 2023, the company used the internal carbon price to calculate the cost of implementing Hanwha Corporation's Net Zero 2040 plan, and actively used the results as a basis for major decision-making, such as reflecting the results in the ESG Committee's Net Zero goal establishment resolution in the fourth quarter. As a reference for decision-making, Hanwha refers to the carbon price of the NGFS scenario and set the internal carbon price by actively reflecting the trend of increase and decrease in emission allowance prices due to fluctuations in emission allowance prices due to international situations and policy aspects.*

### (5.10.1.5) Scopes covered

Select all that apply

- ☒ Scope 1
- ☒ Scope 2

### (5.10.1.6) Pricing approach used – spatial variance

Select from:

- ☒ Uniform

### (5.10.1.8) Pricing approach used – temporal variance

Select from:

- ☒ Evolutionary

### (5.10.1.9) Indicate how you expect the price to change over time

*The main influencing factor in Hanwha Corporation's internal carbon price is the price of Korea Emission Trading System (K-ETS). As of 2022, the carryover restrictions introduced by the government to increase the supply of emission permits caused a sharp decline in the price of carbon allowance in the K-ETS market, but the policy of easing the carryover limit at the end of 2023 has led to an increase in the price of the emission trading system again. In addition, the increase in the paid quota ratio and the reduction of the free quota are likely in the future and the price of emission permits is expected to increase considering the increase in demand due to the increase in production by companies. As a result, Hanwha's internal carbon price is also expected to increase in the future.*

#### **(5.10.1.10) Minimum actual price used (currency per metric ton CO2e)**

16292

#### **(5.10.1.11) Maximum actual price used (currency per metric ton CO2e)**

19743

#### **(5.10.1.12) Business decision-making processes the internal price is applied to**

*Select all that apply*

- ☒ Capital expenditure
- ☒ Operations
- ☒ Risk management
- ☒ Opportunity management

#### **(5.10.1.13) Internal price is mandatory within business decision-making processes**

*Select from:*

- ☒ Yes, for some decision-making processes, please specify :Issues requiring action and plan related to climate change

#### **(5.10.1.14) % total emissions in the reporting year in selected scopes this internal price covers**

100

#### **(5.10.1.15) Pricing approach is monitored and evaluated to achieve objectives**

*Select from:*

- ☒ Yes

#### (5.10.1.16) Details of how the pricing approach is monitored and evaluated to achieve your objectives

*Hanwha Corporation uses the internal carbon price as a criterion for judging financial impact at the decision-making stage and as a criterion for determining liabilities for the paid allocation cost of the emission trading system. Monitoring and evaluation process is as follows. Sectoral internal carbon prices are monitored on an annual basis, with the largest variable being the price of the emissions trading offering (Korean Allowance Unit, KAU). Accordingly, Hanwha monitors the KAU price at all times and manages the daily unit price data. The weighted average is calculated by collecting data on the closing price, ratio, fluctuation rate, opening price, high price, low price, trading volume, and transaction amount of emission allowance prices. The calculation period for the average transaction price is within one year from the date of submission of emission allowance and the internal carbon price is calculated based on the daily data collected. In 2023, the internal carbon price was used to calculate the cost of implementing Hanwha Corporation's Net Zero 2040 strategies and the results were reflected in the ESG Committee's Net Zero goal establishment resolution for the fourth quarter.*

[Add row]

### (5.11) Do you engage with your value chain on environmental issues?

#### Suppliers

##### (5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☒ Yes

##### (5.11.2) Environmental issues covered

Select all that apply

☒ Climate change

☒ Water

#### Customers

##### (5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☒ No, but we plan to within the next two years

##### (5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

☒ No standardized procedure

#### (5.11.4) Explain why you do not engage with this stakeholder on environmental issues

*Hanwha Corporation is managing engagement in Scope 3 in 2023 while calculating some categories related to downstream. However, due to the lack of a standardized process for communicating with customers about environmental issues, communication with them is limited. However, the organization is planning to establish standardization procedures to improve this and strengthen communication about the environment. We expect that this will facilitate future cooperation with our customers and drive progress on environmental issues.*

### Investors and shareholders

#### (5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☒ No, but we plan to within the next two years

#### (5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

☒ No standardized procedure

#### (5.11.4) Explain why you do not engage with this stakeholder on environmental issues

*As of 2023, Hanwha Corporation does not have a standardized procedure for communicating with shareholders and investors related to climate change, so it does not engage them separately. However, the organization is planning to establish standardization procedures to improve this and strengthen communication about the environment. We expect this to facilitate cooperation with stakeholders and drive progress on environmental issues in the future.*

### Other value chain stakeholders

#### (5.11.1) Engaging with this stakeholder on environmental issues

Select from:

☒ No, but we plan to within the next two years

#### (5.11.3) Primary reason for not engaging with this stakeholder on environmental issues

Select from:

☒ No standardized procedure

#### **(5.11.4) Explain why you do not engage with this stakeholder on environmental issues**

*Hanwha Corporation does not have a standardized procedure for communicating with stakeholders in other value chains related to climate change in 2023, so it does not engage separately. However, the organization is planning to establish standardization procedures to improve this and strengthen communication about the environment. We expect this to facilitate cooperation with stakeholders and drive progress on environmental issues in the future.*

[Fixed row]

### **(5.11.1) Does your organization assess and classify suppliers according to their dependencies and/or impacts on the environment?**

#### **Climate change**

#### **(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment**

Select from:

☒ Yes, we assess the dependencies and/or impacts of our suppliers

#### **(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment**

Select all that apply

☒ Contribution to supplier-related Scope 3 emissions

☒ Impact on pollution levels

#### **(5.11.1.3) % Tier 1 suppliers assessed**

Select from:

☒ 100%

#### **(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment**

*Hanwha Corporation sets evaluation results of the five areas (management capability, production capacity, quality control, cooperation, environment, safety and*

social assessment) as thresholds based on the standards of the ISO company evaluation procedure for evaluation of suppliers' actual dependence and impact on environment. This includes an assessment of suppliers can meet the Code of Conduct for ESG and systematically manage ESG risks. The score reflects the minimum requirements for ESG.

#### **(5.11.1.5) % Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment**

Select from:

☒ 1-25%

#### **(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment**

165

### **Water**

#### **(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment**

Select from:

☒ Yes, we assess the dependencies and/or impacts of our suppliers

#### **(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment**

Select all that apply

☒ Dependence on ecosystem services/environmental assets

☒ Impact on pollution levels

#### **(5.11.1.3) % Tier 1 suppliers assessed**

Select from:

☒ 100%

#### **(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment**

Hanwha Corporation sets evaluation results of the five areas (management capability, production capacity, quality control, cooperation, environment, safety and social assessment) as thresholds based on the standards of the ISO company evaluation procedure for evaluation of suppliers' actual dependence and impact on environment. This includes an assessment of suppliers can meet the Code of Conduct for ESG and systematically manage ESG risks. The score reflects the

minimum requirements for ESG.

#### (5.11.1.5) % Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

Select from:

☒ 1-25%

#### (5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

165

[Fixed row]

### (5.11.2) Does your organization prioritize which suppliers to engage with on environmental issues?

#### Climate change

#### (5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☒ Yes, we prioritize which suppliers to engage with on this environmental issue

#### (5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☒ Leverage over suppliers

☒ Product safety and compliance

☒ Regulatory compliance

#### (5.11.2.4) Please explain

*Hanwha Corporation's priority partners are companies with an average transaction amount of more than a certain amount for the last three years. It is important to work closely with suppliers to ensure a fast and reliable supply chain of raw materials. So Hanwha conducts regular evaluations of suppliers in five areas (management capability, production capacity, quality control, cooperation, environmental, safety, and social evaluation) in accordance with the ISO Supplier Evaluation Procedure Standards in order to prioritize suppliers to engage with. Prioritization can be based on product safety and compliance, environmental compliance and the need to strengthen suppliers' ESG capabilities. In 2023, Hanwha conducted regular evaluations on 1,563 companies and 350 new companies*

with an average transaction amount of more than a certain amount over the last three years. Among them, 243 companies were suspended due to credit rating downgrades or closure of businesses and comprehensive evaluations were conducted on financial capabilities, construction, delivery capabilities, bidding performance, including environmental areas such as energy consumption, greenhouse gas management, environmental management to identify excellent partners. Since then, Hanwha has provided customized solutions for companies that received the highest and excellent ratings in the regular evaluation of suppliers and 50 suppliers in need of strengthening ESG capabilities through ESG management diagnosis.

## Water

### (5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

☒ Yes, we prioritize which suppliers to engage with on this environmental issue

### (5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

☒ Leverage over suppliers

☒ Product safety and compliance

☒ Regulatory compliance

### (5.11.2.4) Please explain

*Hanwha Corporation's priority partners are companies with an average transaction amount of more than a certain amount for the last three years. It is important to work closely with suppliers to ensure a fast and reliable supply chain of raw materials. So Hanwha conducts regular evaluations of suppliers in five areas (management capability, production capacity, quality control, cooperation, environmental, safety, and social evaluation) in accordance with the ISO Supplier Evaluation Procedure Standards in order to prioritize suppliers to engage with. Prioritization can be based on product safety and compliance, environmental compliance and the need to strengthen suppliers' ESG capabilities. In 2023, Hanwha conducted regular evaluations on 1,563 companies and 350 new companies with an average transaction amount of more than a certain amount over the last three years. Among them, 243 companies were suspended due to credit rating downgrades or closure of businesses and comprehensive evaluations were conducted on financial capabilities, construction, delivery capabilities, bidding performance, including environmental areas such as energy consumption, greenhouse gas management, environmental management to identify excellent partners. Since then, Hanwha has provided customized solutions for companies that received the highest and excellent ratings in the regular evaluation of suppliers and 50 suppliers in need of strengthening ESG capabilities through ESG management diagnosis.*

[Fixed row]

### (5.11.5) Do your suppliers have to meet environmental requirements as part of your organization's purchasing process?

## Climate change

### (5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

☒ Yes, environmental requirements related to this environmental issue are included in our supplier contracts

### (5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

☒ Yes, we have a policy in place for addressing non-compliance

### (5.11.5.3) Comment

*Hanwha Corporation conducts supplier evaluations for new and existing suppliers that are signed in accordance with the standards of the ISO company evaluation procedure. In particular, company evaluates the environment, waste, and water quality-related management of suppliers through environmental safety and society indicators in five areas. Suppliers who receive the best and excellent evaluation results are supported with incentives such as finance and welfare, and suppliers with lower grades are induced to voluntarily improve by supporting meetings and consulting.*

## Water

### (5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

☒ Yes, environmental requirements related to this environmental issue are included in our supplier contracts

### (5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

☒ Yes, we have a policy in place for addressing non-compliance

### (5.11.5.3) Comment

*Hanwha Corporation conducts supplier evaluations for new and existing suppliers that are signed in accordance with the standards of the ISO company evaluation procedure. In particular, company evaluate the environment, waste, and water quality-related management of suppliers through the environmental safety and society indicators in five areas. Suppliers who receive the best and excellent evaluation results are supported with incentives such as finance and welfare, and suppliers with lower grades are induced to voluntarily improve by supporting meetings and consulting.*  
[Fixed row]

## **(5.11.6) Provide details of the environmental requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.**

### **Climate change**

#### **(5.11.6.1) Environmental requirement**

*Select from:*

- ☒ Implementation of a climate transition plan

#### **(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement**

*Select all that apply*

- ☒ Off-site third-party audit
- ☒ Supplier scorecard or rating
- ☒ Supplier self-assessment

#### **(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement**

*Select from:*

- ☒ 100%

#### **(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement**

*Select from:*

- ☒ 100%

#### **(5.11.6.7) % tier 1 supplier-related scope 3 emissions attributable to the suppliers required to comply with this environmental**

## requirement

Select from:

☒ 100%

## (5.11.6.8) % tier 1 supplier-related scope 3 emissions attributable to the suppliers in compliance with this environmental requirement

Select from:

☒ 51-75%

## (5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

☒ Suspend and engage

## (5.11.6.10) % of non-compliant suppliers engaged

Select from:

☒ 1-25%

## (5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

☒ Providing information on appropriate actions that can be taken to address non-compliance

☒ Re-integrating suppliers back into upstream value chain based on the successful and verifiable completion of activities

## (5.11.6.12) Comment

*Hanwha Corporation conducts regular evaluations of its suppliers in accordance with ISO standards. The assessment considers a variety of factors, including management capability, production capacity, quality control, cooperation, and social responsibility for the environment and safety. The Company classifies companies with an average transaction amount exceeding a certain level over the past three years as 'Tier 1 Suppliers', which is about 57% of the total 2,338 suppliers, or 1,337 companies. These Tier 1 suppliers must fulfill the environmental compliance requirements for climate change response and they must comply 100% of the time. If the requirements are not complied with or the evaluation results are insufficient, Hanwha will engage with the supplier to make improvements. In addition, Hanwha provides a variety of support activities, including ESG consulting to partners.*

## Water

### (5.11.6.1) Environmental requirement

Select from:

- ☒ Setting and monitoring water pollution-related targets

### (5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- ☒ Off-site third-party audit
- ☒ Supplier scorecard or rating
- ☒ Supplier self-assessment

### (5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- ☒ 100%

### (5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- ☒ 100%

### (5.11.6.5) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue required to comply with this environmental requirement

Select from:

- ☒ 100%

### (5.11.6.6) % tier 1 suppliers with substantive environmental dependencies and/or impacts related to this environmental issue that are in compliance with this environmental requirement

Select from:

☒ 100%

#### (5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

☒ Suspend and engage

#### (5.11.6.10) % of non-compliant suppliers engaged

Select from:

☒ None

#### (5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

☒ Providing information on appropriate actions that can be taken to address non-compliance

☒ Re-integrating suppliers back into upstream value chain based on the successful and verifiable completion of activities

#### (5.11.6.12) Comment

*Hanwha Corporation conducts regular evaluations of its suppliers in accordance with ISO standards. The assessment considers a variety of factors, including management capability, production capacity, quality control, cooperation, and social responsibility for the environment and safety. The Company classifies companies with an average transaction amount exceeding a certain level over the past three years as 'Tier 1 Suppliers', which is about 57% of the total 2,338 suppliers, or 1,337 companies. These tier 1 suppliers must fulfill the legally mandatory compliance requirements for water pollution control response and they must comply 100% with them. If the requirements are not complied with or the evaluation results are insufficient, Hanwha will engage with the supplier to make improvements. In addition, Hanwha provides a variety of support activities, including ESG consulting to partners.*

[Add row]

### (5.11.7) Provide further details of your organization's supplier engagement on environmental issues.

#### Climate change

#### (5.11.7.2) Action driven by supplier engagement

Select from:

- ☒ Adaptation to climate change

### (5.11.7.3) Type and details of engagement

#### Capacity building

- ☒ Provide training, support and best practices on how to measure GHG emissions
- ☒ Provide training, support and best practices on how to mitigate environmental impact

#### Financial incentives

- ☒ Provide financial incentives for environmental performance

### (5.11.7.4) Upstream value chain coverage

Select all that apply

- ☒ Tier 1 suppliers

### (5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- ☒ 100%

### (5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

- ☒ 51-75%

### (5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

Hanwha Corporation recognizes that strengthening competitiveness through the growth of its suppliers is directly related to the growth of the company and pursues continuous shared growth based on the spirit of 'Together Far Away'. In addition, Hanwha has four practical strategies for win-win cooperation. Hanwha suppliers comply with the guidelines in the Supplier Code of Conduct which includes ESG management areas. Hanwha Corporation has been conducting ESG evaluations of suppliers since 2021 to measure the socio-environmental impact on suppliers, evaluating 60 major ESG management items, including environment, safety, and society. Through this, company raises awareness of suppliers' ESG management practices and support customized solutions (monetary incentives, consulting) for each company according to the results as follow-up measures. As a quantitative criterion according to the achievement of the goal, monetary incentives are paid to the top 57 companies that receive high ratings in the evaluation. In addition, Hanwha provides customized consulting support to suppliers who received lower ratings

to help them recognize their ESG risks and develop their own capabilities to manage them. Through this engagement, the supplier understood the importance of its climate change-related response and supplemented its overall strategy and system.

#### **(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue**

Select from:

☒ Yes, please specify the environmental requirement :Provide financial incentives and consulting programs

#### **(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action**

Select from:

☒ Unknown

### **Water**

#### **(5.11.7.2) Action driven by supplier engagement**

Select from:

☒ Other, please specify :Measurement and management of water pollution

#### **(5.11.7.3) Type and details of engagement**

##### **Capacity building**

☒ Provide training, support and best practices on how to mitigate environmental impact

##### **Financial incentives**

☒ Provide financial incentives to encourage progress against water pollution targets

#### **(5.11.7.4) Upstream value chain coverage**

Select all that apply

☒ Tier 1 suppliers

#### **(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement**

Select from:

☒ 100%

#### (5.11.7.7) % tier 1 suppliers with substantive impacts and/or dependencies related to this environmental issue covered by engagement

Select from:

☒ 1-25%

#### (5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

*Hanwha Corporation recognizes that strengthening competitiveness through the growth of its suppliers is directly related to the growth of the company, and pursues continuous shared growth based on the spirit of 'Together Far Away'. In addition, Hanwha has four practical strategies for win-win cooperation. Hanwha suppliers comply with the guidelines in the Supplier Code of Conduct which includes ESG management areas. Hanwha Corporation has been conducting ESG evaluations of suppliers since 2021 to measure the socio-environmental impact on suppliers, evaluating 60 major ESG management items, including environment, safety, and society. Through this, company raises awareness of suppliers' ESG management practices and support customized solutions (monetary incentives, consulting) for each company according to the results as follow-up measures. The quantitative criteria for achieving the goals are monetary incentives for the top 5 to 7 highest-rated companies in the evaluation. In addition, company provided customized consulting support to suppliers who received lower ratings to help them recognize their ESG risks and develop their own capabilities to manage them. Through this engagement, the supplier understood the importance of compliance and efficient water management and complemented the overall strategy and system.*

#### (5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

☒ Yes, please specify the environmental requirement :Provide financial incentives and consulting programs

#### (5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

☒ Unknown

[Add row]

**(5.13) Has your organization already implemented any mutually beneficial environmental initiatives due to CDP Supply Chain member engagement?**

### (5.13.1) Environmental initiatives implemented due to CDP Supply Chain member engagement

Select from:

☒ No, but we plan to within the next two years

### (5.13.2) Primary reason for not implementing environmental initiatives

Select from:

☒ Other, please specify :Planning for advancement

### (5.13.3) Explain why your organization has not implemented any environmental initiatives

*Hanwha Corporation plans to develop capabilities to allocate emissions to company's customers in the future. But as not so many customers requiring direct initiatives from this moment, Hanwha will develop process sequentially.*

*[Fixed row]*

## C6. Environmental Performance - Consolidation Approach

(6.1) Provide details on your chosen consolidation approach for the calculation of environmental performance data.

|                | Consolidation approach used                                             | Provide the rationale for the choice of consolidation approach                                                                                           |
|----------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Climate change | Select from:<br><input checked="" type="checkbox"/> Operational control | <i>Hanwha Corporation has applied the same standards as it selects and operates the operational control method in the Korea Emission Trading System.</i> |
| Water          | Select from:<br><input checked="" type="checkbox"/> Operational control | <i>Hanwha Corporation has applied the same standards as it selects and operates the operational control method in the Korea Emission Trading System.</i> |
| Plastics       | Select from:<br><input checked="" type="checkbox"/> Operational control | <i>Hanwha Corporation has applied the same standards as it selects and operates the operational control method in the Korea Emission Trading System.</i> |
| Biodiversity   | Select from:<br><input checked="" type="checkbox"/> Operational control | <i>Hanwha Corporation has applied the same standards as it selects and operates the operational control method in the Korea Emission Trading System.</i> |

[Fixed row]

C7. Environmental performance - Climate Change

(7.1) Is this your first year of reporting emissions data to CDP?

Select from:

☒ No

(7.1.1) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

|  |                                                                 |
|--|-----------------------------------------------------------------|
|  | Has there been a structural change?                             |
|  | Select all that apply<br><input checked="" type="checkbox"/> No |

[Fixed row]

(7.1.2) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

|  |                                                                       |
|--|-----------------------------------------------------------------------|
|  | Change(s) in methodology, boundary, and/or reporting year definition? |
|  | Select all that apply<br><input checked="" type="checkbox"/> No       |

[Fixed row]

(7.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Select all that apply

- ☒ IPCC Guidelines for National Greenhouse Gas Inventories, 2006
- ☒ ISO 14064-1
- ☒ Korea GHG and Energy Target Management System Operating Guidelines
- ☒ The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard
- ☒ Other, please specify :K-ETS

(7.3) Describe your organization’s approach to reporting Scope 2 emissions.

|  | Scope 2, location-based                                                                               | Scope 2, market-based                                                                               | Comment                                                          |
|--|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
|  | Select from:<br><input checked="" type="checkbox"/> We are reporting a Scope 2, location-based figure | Select from:<br><input checked="" type="checkbox"/> We are reporting a Scope 2, market-based figure | Hanwha Corporation purchases and uses electricity through KEPCO. |

[Fixed row]

(7.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Select from:

- ☒ No

(7.5) Provide your base year and base year emissions.

Scope 1

(7.5.1) Base year end

12/31/2019

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

106768

#### (7.5.3) Methodological details

*Scope 1 covers Hanwha Corporation's headquarters and all business sites in Korea under its three business divisions: Global, E&C, and Momentum."*

#### Scope 2 (location-based)

#### (7.5.1) Base year end

12/31/2019

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

40112

#### (7.5.3) Methodological details

*Scope 2 covers Hanwha Corporation's headquarters and all business sites in Korea under its three business divisions: Global, E&C, and Momentum.*

#### Scope 2 (market-based)

#### (7.5.1) Base year end

12/31/2019

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

40112

#### (7.5.3) Methodological details

*Scope 2 covers Hanwha Corporation's headquarters and all business sites in Korea under its three business divisions: Global, E&C, and Momentum.*

### Scope 3 category 1: Purchased goods and services

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

1636330

#### (7.5.3) Methodological details

-

### Scope 3 category 2: Capital goods

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

318.0

#### (7.5.3) Methodological details

-

### Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)

**(7.5.3) Methodological details**

-

**Scope 3 category 4: Upstream transportation and distribution****(7.5.1) Base year end***12/31/2021***(7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)***6112.0***(7.5.3) Methodological details**

-

**Scope 3 category 5: Waste generated in operations****(7.5.1) Base year end***12/31/2021***(7.5.2) Base year emissions (metric tons CO<sub>2</sub>e)***5630***(7.5.3) Methodological details**

-

**Scope 3 category 6: Business travel**

#### **(7.5.1) Base year end**

12/31/2021

#### **(7.5.2) Base year emissions (metric tons CO2e)**

2383.0

#### **(7.5.3) Methodological details**

-

### **Scope 3 category 7: Employee commuting**

#### **(7.5.1) Base year end**

12/31/2021

#### **(7.5.2) Base year emissions (metric tons CO2e)**

2135.0

#### **(7.5.3) Methodological details**

-

### **Scope 3 category 8: Upstream leased assets**

#### **(7.5.1) Base year end**

12/31/2021

#### **(7.5.2) Base year emissions (metric tons CO2e)**

0.0

### (7.5.3) Methodological details

*This category is irrelevant to Hanhwa*

## Scope 3 category 9: Downstream transportation and distribution

### (7.5.1) Base year end

12/31/2021

### (7.5.2) Base year emissions (metric tons CO2e)

2509.0

### (7.5.3) Methodological details

-

## Scope 3 category 10: Processing of sold products

### (7.5.1) Base year end

12/31/2021

### (7.5.2) Base year emissions (metric tons CO2e)

0.0

### (7.5.3) Methodological details

*This category is irrelevant to Hanhwa*

## Scope 3 category 11: Use of sold products

### (7.5.1) Base year end

12/31/2021

**(7.5.2) Base year emissions (metric tons CO2e)**

1567664.0

**(7.5.3) Methodological details**

-

**Scope 3 category 12: End of life treatment of sold products**

**(7.5.1) Base year end**

12/31/2021

**(7.5.2) Base year emissions (metric tons CO2e)**

2399.0

**(7.5.3) Methodological details**

-

**Scope 3 category 13: Downstream leased assets**

**(7.5.1) Base year end**

12/31/2021

**(7.5.2) Base year emissions (metric tons CO2e)**

18310.0

**(7.5.3) Methodological details**

-

### Scope 3 category 14: Franchises

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO2e)

0.0

#### (7.5.3) Methodological details

*This category is irrelevant to Hanhwa*

### Scope 3 category 15: Investments

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO2e)

666598.0

#### (7.5.3) Methodological details

-

### Scope 3: Other (upstream)

#### (7.5.1) Base year end

12/31/2021

#### (7.5.2) Base year emissions (metric tons CO2e)

0.0

### (7.5.3) Methodological details

*This category is irrelevant to Hanhwa*

### Scope 3: Other (downstream)

### (7.5.1) Base year end

12/31/2021

### (7.5.2) Base year emissions (metric tons CO2e)

0.0

### (7.5.3) Methodological details

*This category is irrelevant to Hanhwa*

*[Fixed row]*

### (7.6) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

### Reporting year

### (7.6.1) Gross global Scope 1 emissions (metric tons CO2e)

21389

### (7.6.3) Methodological details

*Hanhwa Corporation calculated the raw units of total greenhouse gas emissions based on sales in the separate financial statements of the Global, E&C, and Momentum divisions collected fuel consumption data, and calculated Scope 1 using the country's unique emission factors for each fuel.*

*[Fixed row]*

## **(7.7) What were your organization's gross global Scope 2 emissions in metric tons CO2e?**

### **Reporting year**

#### **(7.7.1) Gross global Scope 2, location-based emissions (metric tons CO2e)**

47359

#### **(7.7.2) Gross global Scope 2, market-based emissions (metric tons CO2e) (if applicable)**

47359

#### **(7.7.4) Methodological details**

*Hanwha Corporation calculated the raw units of total greenhouse gas emissions based on sales in the separate financial statements of the Global, E&C, and Momentum divisions, collected fuel consumption data, and calculated Scope 2 using the country's own emission factors for each fuel.*  
[Fixed row]

## **(7.8) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

### **Purchased goods and services**

#### **(7.8.1) Evaluation status**

Select from:

☒ Relevant, calculated

#### **(7.8.2) Emissions in reporting year (metric tons CO2e)**

2930820

#### **(7.8.3) Emissions calculation methodology**

Select all that apply

☒ Supplier-specific method

#### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

69

#### (7.8.5) Please explain

*Hanwha Corporation calculated the following for each of Category 1: - Global: Purchase volume of major materials and raw materials X emission factor (Ecoinvent, Environmental Product Declaration published by Korea Institute of Environment, Industry and Technology (KEITI) and etc.) – E&C: 1) Raw and subsidiary materials purchased: Quantity of major construction raw and subsidiary materials purchased X emission factor (Environmental Product Declaration emission factor and etc.) 2) Services purchased (construction equipment): Input amount by construction equipment X emission factor per time by equipment 3) Services purchased (construction waste transportation): Construction waste weight X transportation distance - Momentum: Raw unit emission factor by purchased product/(GHG protocol) x amount. In addition, the emission calculated using data from Hanwha's suppliers was 69%, which is calculated by adding up the ratio of data received from Tier 1 suppliers to Category 1 for each sector. (Emissions received from suppliers by sector: 2035512 tCO<sub>2</sub>eq/Total Cat 1 emissions: 2930820 tCO<sub>2</sub>eq).*

### Capital goods

#### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

#### (7.8.2) Emissions in reporting year (metric tons CO<sub>2</sub>e)

23

#### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Supplier-specific method

#### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

#### (7.8.5) Please explain

*Hanwha Corporation applied the following calculation method for Category 2 - Capital Goods Purchase quantity by item X Emission Factor by item (Environmental*

Product Declaration emission factor)

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO<sub>2</sub>e)

6543

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Supplier-specific method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

*Hanwha Corporation applied the following calculation method for Category 3. - Upstream purchased fuel: Emission factor by fuel item X Emission factor by item (Environmental Product Declaration emission factor) - Upstream purchased power: Amount of electricity purchased X emission factor (LCI emission factor - Utilization of pre-manufacturing emission factor through power generation unit emission factor)*

## Upstream transportation and distribution

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO<sub>2</sub>e)

24566

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Distance-based method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

78

### (7.8.5) Please explain

*The following calculation method was applied to Hanwha Corporation's Category 4. - Purchased mass by major materials and raw materials X Average transportation distance (based on means of transportation: land trucks, tank lorries) X emission factor (Environmental Product Declaration emission factor)*

## Waste generated in operations

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO2e)

12562

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Waste-type-specific method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

*Hanwha Corporation made the following calculations for Category 5: - Waste Throughput (Type, Treatment Method) X Emission Factor (Environmental Product Declaration emission factor)*

## Business travel

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO2e)

10163

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Distance-based method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

*Hanwha Corporation made the following calculations for Category 6: - Overseas business trips: Distance traveled by means of business trip X emission factor by means of transportation (eco-friendly green event guidelines) - Domestic business trips: Travel distance by means of business trip X emission factor by means of transportation (eco-friendly green event guidelines)*

## Employee commuting

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

#### (7.8.2) Emissions in reporting year (metric tons CO2e)

3679

#### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Distance-based method

#### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

#### (7.8.5) Please explain

*Hanwha Corporation made the following calculations for Category 7: - Distance traveled by means of commuting X emission factor by means of transportation (eco-friendly green event guidelines) - Scale-up by calculating the criteria for responding to the survey of employees*

### Upstream leased assets

#### (7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

#### (7.8.5) Please explain

*When calculating Hanwha's Scope 1 and 2, all leased assets are included. Thus, Scope 3 emissions are 0 because it is included in Scope 1 and 2.*

### Downstream transportation and distribution

#### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO<sub>2</sub>e)

8344

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Distance-based method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

*Hanwha Corporation calculated the following for Category 9: - Distance traveled X Emission factor for each means of transportation (Environmental Product Declaration emission factor) X Total Transported Volume. However, for the domestic transportation division of the IS division, Hanwha conducted a scale-up based on sales to compensate for 3 months' worth of sales.*

## Processing of sold products

### (7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

### (7.8.5) Please explain

*Since Hanwha Corporation mainly produces finished products, processing of the sold products does not occur. In addition, some intermediate products exist in the chemical sector, but GHG emissions are not calculated under the WBCSD, Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain because they have various scopes of application and customer structures. Therefore, emissions of sold products during the processing stage are reported as zero*

## Use of sold products

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO2e)

3309699

### (7.8.3) Emissions calculation methodology

Select all that apply

☒ Methodology for indirect use phase emissions, please specify :In 2023, The main sales product was set as buildings, and since the energy mainly used in buildings is electricity, the emission calculation methodology was set to 'emissions due to indirect use'.

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

*Hanwha Corporation made the following calculations for Category 11: Since each Global, E&C, and Momentum business divisions have a different type of product to be produced and ultimately derived, different calculation methods were used. - Global: Greenhouse gas emissions from blasting by gunpowder product (internal data) X sales volume - E&C: Built-up area X emission factor for each building type (Building Energy Efficiency Rating Certificate) (In the case of a building without a building energy efficiency certificate, the coefficient is derived using a weighted average according to the building type) - Momentum: Electricity usage by product X emission factor (electricity) The sales in 2023 were 4,930 million won for the construction part, and 1,295 million won for the global and momentum parts, and the main sales product was set as a building, and since the energy mainly used in the building is electricity, the emission calculation methodology is set to 'emission by indirect use'.*

## End of life treatment of sold products

### (7.8.1) Evaluation status

Select from:

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO2e)

**(7.8.3) Emissions calculation methodology***Select all that apply*☒ Waste-type-specific method**(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**(7.8.5) Please explain**

*Hanwha Corporation made the following calculations for Category 12: - Global: Residue mass X Disposal method Emission Factor - - E&C: Weight of purchased raw and subsidiary materials X Disposal method Emission Factor - Momentum: Weight by material X Emission factor by treatment method*

**Downstream leased assets****(7.8.1) Evaluation status***Select from:*☒ Relevant, calculated**(7.8.2) Emissions in reporting year (metric tons CO2e)**

19225

**(7.8.3) Emissions calculation methodology***Select all that apply*☒ Lessor-specific method**(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

### (7.8.5) Please explain

*Hanwha Corporation made the following calculations for Category 13: - Area X Emission Factor by Hanwha-owned Leased Building in 2023*

## Franchises

### (7.8.1) Evaluation status

*Select from:*

☒ Not relevant, explanation provided

### (7.8.5) Please explain

*Hanwha Corporation does not operate a franchise-type business. Thus, Scope3 emissions from investment are zero*

## Investments

### (7.8.1) Evaluation status

*Select from:*

☒ Relevant, calculated

### (7.8.2) Emissions in reporting year (metric tons CO2e)

1060714

### (7.8.3) Emissions calculation methodology

*Select all that apply*

☒ Investment-specific method

### (7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### (7.8.5) Please explain

Hanwha Corporation calculated the following for Category 15: - Turnover of the invested company X Percentage of Hanwha (%) X Emission Factor by Industry (GHG Protocol)

## Other (upstream)

### (7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

### (7.8.5) Please explain

Hanwha Corporation does not calculate this category

## Other (downstream)

### (7.8.1) Evaluation status

Select from:

☒ Not relevant, explanation provided

### (7.8.5) Please explain

Hanwha Corporation does not calculate this category  
[Fixed row]

**(7.9) Indicate the verification/assurance status that applies to your reported emissions.**

|                                          | Verification/assurance status                                                                                     |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Scope 1                                  | <i>Select from:</i><br><input checked="" type="checkbox"/> Third-party verification or assurance process in place |
| Scope 2 (location-based or market-based) | <i>Select from:</i><br><input checked="" type="checkbox"/> Third-party verification or assurance process in place |
| Scope 3                                  | <i>Select from:</i><br><input checked="" type="checkbox"/> Third-party verification or assurance process in place |

[Fixed row]

**(7.9.1) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

## Row 1

### (7.9.1.1) Verification or assurance cycle in place

*Select from:*

☒ Annual process

### (7.9.1.2) Status in the current reporting year

*Select from:*

☒ Complete

### (7.9.1.3) Type of verification or assurance

*Select from:*

☒ Reasonable assurance

#### (7.9.1.4) Attach the statement

(주)한화 2023년 온실가스 Scope 1,2 배출량 검증의견서 (영문).pdf

#### (7.9.1.5) Page/section reference

All page

#### (7.9.1.6) Relevant standard

Select from:

☒ Korean GHG and energy target management system

#### (7.9.1.7) Proportion of reported emissions verified (%)

100

[Add row]

**(7.9.2) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

#### Row 1

#### (7.9.2.1) Scope 2 approach

Select from:

☒ Scope 2 location-based

#### (7.9.2.2) Verification or assurance cycle in place

Select from:

☒ Annual process

#### (7.9.2.3) Status in the current reporting year

Select from:

☒ Complete

#### (7.9.2.4) Type of verification or assurance

Select from:

☒ Reasonable assurance

#### (7.9.2.5) Attach the statement

(주)한화 2023년 온실가스 Scope 1,2 배출량 검증의견서 (영문).pdf

#### (7.9.2.6) Page/ section reference

All pages

#### (7.9.2.7) Relevant standard

Select from:

☒ Korean GHG and energy target management system

#### (7.9.2.8) Proportion of reported emissions verified (%)

100

[Add row]

**(7.9.3) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

**Row 1**

#### (7.9.3.1) Scope 3 category

Select all that apply

- ☒ Scope 3: Investments
- ☒ Scope 3: Capital goods
- ☒ Scope 3: Business travel
- ☒ Scope 3: Employee commuting
- ☒ Scope 3: Use of sold products
- ☒ Scope 3: Downstream transportation and distribution
- ☒ Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

- ☒ Scope 3: Downstream leased assets
- ☒ Scope 3: Purchased goods and services
- ☒ Scope 3: Waste generated in operations
- ☒ Scope 3: End-of-life treatment of sold products
- ☒ Scope 3: Upstream transportation and distribution

### (7.9.3.2) Verification or assurance cycle in place

Select from:

- ☒ Annual process

### (7.9.3.3) Status in the current reporting year

Select from:

- ☒ Complete

### (7.9.3.4) Type of verification or assurance

Select from:

- ☒ Limited assurance

### (7.9.3.5) Attach the statement

(주)한화 2023년 온실가스 Scope 3 배출량 자발적 검증성명서(영문).pdf

### (7.9.3.6) Page/section reference

All pages

### (7.9.3.7) Relevant standard

Select from:

#### (7.9.3.8) Proportion of reported emissions verified (%)

100

[Add row]

**(7.10) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Select from:

☒ Increased

**(7.10.1) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

**Change in renewable energy consumption**

#### (7.10.1.1) Change in emissions (metric tons CO<sub>2</sub>e)

0

#### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

*There is no change in renewable energy consumption.*

## Other emissions reduction activities

### (7.10.1.1) Change in emissions (metric tons CO2e)

0

### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

### (7.10.1.3) Emissions value (percentage)

0

### (7.10.1.4) Please explain calculation

*There is no change in other emissions reduction activities.*

## Divestment

### (7.10.1.1) Change in emissions (metric tons CO2e)

0

### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

### (7.10.1.3) Emissions value (percentage)

0

### (7.10.1.4) Please explain calculation

*There is no change in divestment.*

## **Acquisitions**

### **(7.10.1.1) Change in emissions (metric tons CO2e)**

0

### **(7.10.1.2) Direction of change in emissions**

*Select from:*

☒ No change

### **(7.10.1.3) Emissions value (percentage)**

0

### **(7.10.1.4) Please explain calculation**

*There is no change in acquisitions.*

## **Mergers**

### **(7.10.1.1) Change in emissions (metric tons CO2e)**

0

### **(7.10.1.2) Direction of change in emissions**

*Select from:*

☒ No change

### **(7.10.1.3) Emissions value (percentage)**

0

#### (7.10.1.4) Please explain calculation

*There is no change in mergers.*

#### Change in output

##### (7.10.1.1) Change in emissions (metric tons CO2e)

4693

##### (7.10.1.2) Direction of change in emissions

Select from:

☒ Increased

##### (7.10.1.3) Emissions value (percentage)

7.33

#### (7.10.1.4) Please explain calculation

*The increase in Scope 2 emissions due to the increase in sales compare to 2022 in the E&C division and the expansion of research equipment at the Momentum Asan plant are the main reasons of increase in emissions. The total Scope 1 and 2 in 2022 was 64,055 tCO2-eq which is an increase of  $((68,748 - 64,055) / 64,055 * 100)$  7.33% to 68,748 tCO2-eq emissions in Scope 1 and 2 in 2023.*

#### Change in methodology

##### (7.10.1.1) Change in emissions (metric tons CO2e)

0

##### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

*There is no change in methodology.*

#### Change in boundary

#### (7.10.1.1) Change in emissions (metric tons CO2e)

0

#### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

*There is no change in boundary.*

#### Change in physical operating conditions

#### (7.10.1.1) Change in emissions (metric tons CO2e)

0

#### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

*There is no change in physical operating conditions.*

### Unidentified

#### (7.10.1.1) Change in emissions (metric tons CO2e)

0

#### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

*There is no change in unidentified.*

### Other

#### (7.10.1.1) Change in emissions (metric tons CO2e)

0

#### (7.10.1.2) Direction of change in emissions

Select from:

☒ No change

#### (7.10.1.3) Emissions value (percentage)

0

#### (7.10.1.4) Please explain calculation

변동 사항이 없습니다.

[Fixed row]

**(7.10.2) Are your emissions performance calculations in 7.10 and 7.10.1 based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Select from:

☒ Location-based

**(7.12) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

Select from:

☒ No

**(7.15) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Select from:

☒ Yes

**(7.15.1) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used global warming potential (GWP).**

Row 1

#### (7.15.1.1) Greenhouse gas

Select from:

☒ CO2

#### (7.15.1.2) Scope 1 emissions (metric tons of CO2e)

13116.962

#### (7.15.1.3) GWP Reference

Select from:

☒ IPCC Second Assessment Report (SAR - 100 year)

### Row 2

#### (7.15.1.1) Greenhouse gas

Select from:

☒ CH4

#### (7.15.1.2) Scope 1 emissions (metric tons of CO2e)

17.993

#### (7.15.1.3) GWP Reference

Select from:

☒ IPCC Second Assessment Report (SAR - 100 year)

### Row 3

#### (7.15.1.1) Greenhouse gas

Select from:

☒ N2O

### (7.15.1.2) Scope 1 emissions (metric tons of CO2e)

8257.614

### (7.15.1.3) GWP Reference

Select from:

☒ IPCC Second Assessment Report (SAR - 100 year)

[Add row]

### (7.16) Break down your total gross global Scope 1 and 2 emissions by country/area.

|                   | Scope 1 emissions (metric tons CO2e) | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|-------------------|--------------------------------------|--------------------------------------------|------------------------------------------|
| Republic of Korea | 21389                                | 47359                                      | 47359                                    |

[Fixed row]

### (7.17) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

Select all that apply

☒ By business division

☒ By facility

### (7.17.1) Break down your total gross global Scope 1 emissions by business division.

|       | Business division | Scope 1 emissions (metric ton CO2e) |
|-------|-------------------|-------------------------------------|
| Row 1 | Global            | 19387.88                            |
| Row 2 | E&C               | 1750.388                            |
| Row 3 | Momentum          | 250.392                             |

[Add row]

(7.17.2) Break down your total gross global Scope 1 emissions by business facility.

Row 1

(7.17.2.1) Facility

Hanwha Headquarters

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

632

(7.17.2.3) Latitude

37.5674

(7.17.2.4) Longitude

126.9856

Row 2

(7.17.2.1) Facility

Hanwha Boeun Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

8580

(7.17.2.3) Latitude

36.5667

(7.17.2.4) Longitude

127.6315

Row 3

(7.17.2.1) Facility

Hanwha Onsan Plant

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

9704

(7.17.2.3) Latitude

35.414

(7.17.2.4) Longitude

129.3386

Row 4

(7.17.2.1) Facility

Hanwha Gangwon Branch

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

289

**(7.17.2.3) Latitude**

37.4701

**(7.17.2.4) Longitude**

129.0603

**Row 5**

**(7.17.2.1) Facility**

*Hanwha Jecheon Branch*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

136

**(7.17.2.3) Latitude**

37.1757

**(7.17.2.4) Longitude**

128.2927

**Row 6**

**(7.17.2.1) Facility**

*Hanwha Taebaek Branch*

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

37.1745

(7.17.2.4) Longitude

128.9887

Row 7

(7.17.2.1) Facility

Hanwha Gyeongsang Branch

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

17

(7.17.2.3) Latitude

35.1563

(7.17.2.4) Longitude

128.9754

Row 8

(7.17.2.1) Facility

Hanwha Daegu Gyeongbuk Branch

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

4

**(7.17.2.3) Latitude**

35.7938

**(7.17.2.4) Longitude**

128.3087

**Row 9**

**(7.17.2.1) Facility**

*Hanwha Western Branch*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

7

**(7.17.2.3) Latitude**

37.5538

**(7.17.2.4) Longitude**

126.971

**Row 10**

**(7.17.2.1) Facility**

*Hanwha Chungcheong Branch*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

4

**(7.17.2.3) Latitude**

36.6285

**(7.17.2.4) Longitude**

127.4561

**Row 11**

**(7.17.2.1) Facility**

*Hanwha LPG Filling Station*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0

**(7.17.2.3) Latitude**

36.5415

**(7.17.2.4) Longitude**

127.3367

**Row 12**

**(7.17.2.1) Facility**

*Hanwha Yeongnam Center*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0

**(7.17.2.3) Latitude**

35.1563

**(7.17.2.4) Longitude**

128.9758

**Row 13**

**(7.17.2.1) Facility**

*Hanwha Goyang Branch*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

2

**(7.17.2.3) Latitude**

37.659

**(7.17.2.4) Longitude**

126.8316

**Row 14**

**(7.17.2.1) Facility**

*Hanwha Changwon Branch*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

220

**(7.17.2.3) Latitude**

35.1984

**(7.17.2.4) Longitude**

128.6989

**Row 15**

**(7.17.2.1) Facility**

*Hanwha Asan 1st Plant*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

30

**(7.17.2.3) Latitude**

36.9131

**(7.17.2.4) Longitude**

127.0611

**Row 16**

**(7.17.2.1) Facility**

*Hanwha R&D Center (Jongyeon) / Momentum*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0

**(7.17.2.3) Latitude**

37.386

**(7.17.2.4) Longitude**

127.1228

**Row 17**

**(7.17.2.1) Facility**

*Hanwha Future Technology R&D Center (Jongyeon) / Global*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0

**(7.17.2.3) Latitude**

36.4034

**(7.17.2.4) Longitude**

127.3667

**Row 18**

**(7.17.2.1) Facility**

*Hanwha Specialty Chemical Research Center*

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

4

(7.17.2.3) Latitude

36.3824

(7.17.2.4) Longitude

127.3477

Row 19

(7.17.2.1) Facility

Hanwha Construction Headquarters

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

423

(7.17.2.3) Latitude

37.5674

(7.17.2.4) Longitude

126.9856

Row 20

(7.17.2.1) Facility

Hanwha Construction Site

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

1302

**(7.17.2.3) Latitude**

37.5677

**(7.17.2.4) Longitude**

126.9823

**Row 21**

**(7.17.2.1) Facility**

*Hanwha Signature Tower*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

26

**(7.17.2.3) Latitude**

37.5675

**(7.17.2.4) Longitude**

126.9885

**Row 22**

**(7.17.2.1) Facility**

*Hanwha Talent Management Center*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0

**(7.17.2.3) Latitude**

37.8579

**(7.17.2.4) Longitude**

127.3691

**Row 23**

**(7.17.2.1) Facility**

*Hanwha Ulsan Office*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

2

**(7.17.2.3) Latitude**

35.5395

**(7.17.2.4) Longitude**

129.3114

**Row 24**

**(7.17.2.1) Facility**

*Hanwha Yeosu Plant*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

1

**(7.17.2.3) Latitude**

34.876

**(7.17.2.4) Longitude**

127.7175

**Row 25**

**(7.17.2.1) Facility**

*Hanwha Uijeong Office*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

2

**(7.17.2.3) Latitude**

35.322

**(7.17.2.4) Longitude**

128.2612

**Row 26**

**(7.17.2.1) Facility**

*Hanwha Asan Office*

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

1

(7.17.2.3) Latitude

36.7898

(7.17.2.4) Longitude

126.9793

Row 27

(7.17.2.1) Facility

Hanwha Corporation Yeosu Branch

(7.17.2.2) Scope 1 emissions (metric tons CO2e)

0

(7.17.2.3) Latitude

37.2987

(7.17.2.4) Longitude

127.634

Row 28

(7.17.2.1) Facility

Hanwha Anyang Branch

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

0.05

**(7.17.2.3) Latitude**

37.3943

**(7.17.2.4) Longitude**

126.9568

**Row 29**

**(7.17.2.1) Facility**

*Hanwha Cheongpyeong Office*

**(7.17.2.2) Scope 1 emissions (metric tons CO2e)**

4.8

**(7.17.2.3) Latitude**

37.5943

**(7.17.2.4) Longitude**

127.4064

*[Add row]*

**(7.20) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

*Select all that apply*

☒ By business division

☒ By facility

(7.20.1) Break down your total gross global Scope 2 emissions by business division.

|       | Business division | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|-------|-------------------|--------------------------------------------|------------------------------------------|
| Row 1 | Global            | 20022.556                                  | 20022.556                                |
| Row 2 | E&C               | 21375.392                                  | 21375.392                                |
| Row 3 | Momentum          | 5961.391                                   | 5961.391                                 |

[Add row]

(7.20.2) Break down your total gross global Scope 2 emissions by business facility.

Row 1

(7.20.2.1) Facility

Hanwha Headquarters

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

443

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

443

Row 2

(7.20.2.1) Facility

Hanwha Boeun Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

5210

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

5210

Row 3

(7.20.2.1) Facility

Hanwha Onsan Plant

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

12790

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

12790

Row 4

(7.20.2.1) Facility

Hanwha Gangwon Branch

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

33

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

33

## Row 5

### (7.20.2.1) Facility

*Hanwha Jecheon Branch*

### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

47

### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

47

## Row 6

### (7.20.2.1) Facility

*Hanwha Taebaek Branch*

### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

15

### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

15

## Row 7

### (7.20.2.1) Facility

*Hanwha Gyeongsang Branch*

### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

5

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

5

Row 8

(7.20.2.1) Facility

Hanwha Daegu Gyeongbuk Branch

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

12

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

12

Row 9

(7.20.2.1) Facility

Hanwha Western Branch

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

21

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

21

Row 10

#### (7.20.2.1) Facility

*Hanwha Chungcheong Branch*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

14

#### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

14

### Row 11

#### (7.20.2.1) Facility

*Hanwha LPG Filling Station*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

11

#### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

11

### Row 12

#### (7.20.2.1) Facility

*Hanwha Yeongnam Center*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

5

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

5

**Row 13**

**(7.20.2.1) Facility**

*Hanwha Goyang Branch*

**(7.20.2.2) Scope 2, location-based (metric tons CO2e)**

7

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

7

**Row 14**

**(7.20.2.1) Facility**

*Hanwha Changwon Branch*

**(7.20.2.2) Scope 2, location-based (metric tons CO2e)**

944

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

944

**Row 15**

**(7.20.2.1) Facility**

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

2594

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

2594

Row 16

(7.20.2.1) Facility

Hanwha R&D Center (Jongyeon) / Momentum

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

2425

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

2425

Row 17

(7.20.2.1) Facility

Hanwha Future Technology R&D Center (Jongyeon) / Global

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

693

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

693

Row 18

(7.20.2.1) Facility

Hanwha Specialty Chemical Research Center

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

57

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

57

Row 19

(7.20.2.1) Facility

Hanwha Construction Headquarters

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

616

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

616

Row 20

(7.20.2.1) Facility

Hanwha Construction Site

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

20690

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

20690

Row 21

(7.20.2.1) Facility

Hanwha Signature Tower

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

64

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

64

Row 22

(7.20.2.1) Facility

Hanwha Talent Management Center

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

9

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

9

Row 23

#### (7.20.2.1) Facility

*Hanwha Ulsan Office*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

12

#### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

12

### Row 24

#### (7.20.2.1) Facility

*Hanwha Yeosu Plant*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

614

#### (7.20.2.3) Scope 2, market-based (metric tons CO2e)

614

### Row 25

#### (7.20.2.1) Facility

*Hanwha Uijeong Office*

#### (7.20.2.2) Scope 2, location-based (metric tons CO2e)

8

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

8

**Row 26**

**(7.20.2.1) Facility**

*Hanwha Asan Office*

**(7.20.2.2) Scope 2, location-based (metric tons CO2e)**

7

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

7

**Row 27**

**(7.20.2.1) Facility**

*Hanwha Corporation Yeosu Branch*

**(7.20.2.2) Scope 2, location-based (metric tons CO2e)**

9

**(7.20.2.3) Scope 2, market-based (metric tons CO2e)**

9

**Row 28**

**(7.20.2.1) Facility**

Hanwha Anyang Branch

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

5

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

5

**Row 29**

(7.20.2.1) Facility

Hanwha Cheongpyeong Office

(7.20.2.2) Scope 2, location-based (metric tons CO2e)

6

(7.20.2.3) Scope 2, market-based (metric tons CO2e)

6

[Add row]

**(7.22) Break down your gross Scope 1 and Scope 2 emissions between your consolidated accounting group and other entities included in your response.**

**Consolidated accounting group**

(7.22.1) Scope 1 emissions (metric tons CO2e)

0

(7.22.2) Scope 2, location-based emissions (metric tons CO2e)

0

**(7.22.3) Scope 2, market-based emissions (metric tons CO2e)**

0

**(7.22.4) Please explain**

*Hanwha Corporation does not manage Scope 1 and 2 on a consolidated accounting basis but manages them as a holding company (on a separate basis). This is the total emissions of the three business divisions included in the separate criteria combined in the domestic area.*

**All other entities**

**(7.22.1) Scope 1 emissions (metric tons CO2e)**

0

**(7.22.2) Scope 2, location-based emissions (metric tons CO2e)**

0

**(7.22.3) Scope 2, market-based emissions (metric tons CO2e)**

0

**(7.22.4) Please explain**

-

*[Fixed row]*

**(7.23) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?**

Select from:

☒ No

**(7.26) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.**

**Row 1**

**(7.26.1) Requesting member**

Select from:

**(7.26.2) Scope of emissions**

Select from:

☒ Scope 1

**(7.26.4) Allocation level**

Select from:

☒ Company wide

**(7.26.6) Allocation method**

Select from:

☒ Allocation based on the energy content of products purchased

**(7.26.7) Unit for market value or quantity of goods/services supplied**

Select from:

☒ Currency

**(7.26.8) Market value or quantity of goods/services supplied to the requesting member**

8000000000

**(7.26.9) Emissions in metric tonnes of CO<sub>2</sub>e**

0.605

#### (7.26.10) Uncertainty ( $\pm\%$ )

5

#### (7.26.11) Major sources of emissions

LNG, LPG, diesel, gasoline

#### (7.26.12) Allocation verified by a third party?

Select from:

☒ Yes

#### (7.26.13) Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

*Hanwha Corporation supplies displays, solar, and clean logistics equipment produced at the Asan plant of the Momentum division to Samsung Display. Accordingly, the emissions generated during the production of the delivered equipment were calculated separately, and Scope 1 took into account stationary and mobile combustion, and Scope 2 calculated the emissions from power-using facilities based on the sales amount delivered to Samsung Display.*

#### (7.26.14) Where published information has been used, please provide a reference

*Not applicable*

### Row 2

#### (7.26.1) Requesting member

Select from:

#### (7.26.2) Scope of emissions

Select from:

☒ Scope 2: location-based

#### (7.26.4) Allocation level

Select from:

☒ Company wide

#### (7.26.6) Allocation method

Select from:

☒ Allocation based on the energy content of products purchased

#### (7.26.7) Unit for market value or quantity of goods/services supplied

Select from:

☒ Currency

#### (7.26.8) Market value or quantity of goods/services supplied to the requesting member

8000000000

#### (7.26.9) Emissions in metric tonnes of CO<sub>2</sub>e

51.875

#### (7.26.10) Uncertainty (±%)

5

#### (7.26.11) Major sources of emissions

electricity

#### (7.26.12) Allocation verified by a third party?

Select from:

☒ Yes

**(7.26.13) Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

*Hanwha Corporation supplies displays, solar, and clean logistics equipment produced at the Asan plant of the Momentum division to Samsung Display. Accordingly, the emissions generated during the production of the delivered equipment were calculated separately, and Scope 1 took into account stationary and mobile combustion, and Scope 2 calculated the emissions from power-using facilities based on the sales amount delivered to Samsung Display.*

**(7.26.14) Where published information has been used, please provide a reference**

*Not applicable*

*[Add row]*

**(7.29) What percentage of your total operational spend in the reporting year was on energy?**

*Select from:*

☒ More than 0% but less than or equal to 5%

**(7.30) Select which energy-related activities your organization has undertaken.**

|                                                  | Indicate whether your organization undertook this energy-related activity in the reporting year |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Consumption of fuel (excluding feedstocks)       | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes                                  |
| Consumption of purchased or acquired electricity | <i>Select from:</i><br><input checked="" type="checkbox"/> Yes                                  |
| Consumption of purchased or acquired heat        | <i>Select from:</i><br><input checked="" type="checkbox"/> No                                   |
| Consumption of purchased or acquired steam       | <i>Select from:</i>                                                                             |

|                                                    |                                                                                                 |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------|
|                                                    | Indicate whether your organization undertook this energy-related activity in the reporting year |
|                                                    | <input checked="" type="checkbox"/> No                                                          |
| Consumption of purchased or acquired cooling       | Select from:<br><input checked="" type="checkbox"/> No                                          |
| Generation of electricity, heat, steam, or cooling | Select from:<br><input checked="" type="checkbox"/> Yes                                         |

[Fixed row]

(7.30.1) Report your organization’s energy consumption totals (excluding feedstocks) in MWh.

Consumption of fuel (excluding feedstock)

(7.30.1.1) Heating value

Select from:  
☒ HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

55312.83

(7.30.1.4) Total (renewable and non-renewable) MWh

55312.83

Consumption of purchased or acquired electricity

(7.30.1.1) Heating value

Select from:  
☒ Unable to confirm heating value

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

103106.02

(7.30.1.4) Total (renewable and non-renewable) MWh

103106.02

Consumption of self-generated non-fuel renewable energy

(7.30.1.1) Heating value

Select from:  
☒ Unable to confirm heating value

(7.30.1.2) MWh from renewable sources

18.25

(7.30.1.4) Total (renewable and non-renewable) MWh

18.25

Total energy consumption

### (7.30.1.1) Heating value

Select from:

☒ HHV (higher heating value)

### (7.30.1.2) MWh from renewable sources

18.25

### (7.30.1.3) MWh from non-renewable sources

158418.85

### (7.30.1.4) Total (renewable and non-renewable) MWh

158437.1

[Fixed row]

### (7.30.6) Select the applications of your organization's consumption of fuel.

|                                                       | Indicate whether your organization undertakes this fuel application |
|-------------------------------------------------------|---------------------------------------------------------------------|
| Consumption of fuel for the generation of electricity | Select from:<br><input checked="" type="checkbox"/> Yes             |
| Consumption of fuel for the generation of heat        | Select from:<br><input checked="" type="checkbox"/> Yes             |
| Consumption of fuel for the generation of steam       | Select from:<br><input checked="" type="checkbox"/> Yes             |
| Consumption of fuel for the generation of cooling     | Select from:                                                        |

|                                                         |                                                                     |
|---------------------------------------------------------|---------------------------------------------------------------------|
|                                                         | Indicate whether your organization undertakes this fuel application |
|                                                         | <input checked="" type="checkbox"/> No                              |
| Consumption of fuel for co-generation or tri-generation | <i>Select from:</i><br><input checked="" type="checkbox"/> No       |

[Fixed row]

**(7.30.7) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

### **Sustainable biomass**

#### **(7.30.7.1) Heating value**

*Select from:*

☒ Unable to confirm heating value

#### **(7.30.7.2) Total fuel MWh consumed by the organization**

0

#### **(7.30.7.3) MWh fuel consumed for self-generation of electricity**

0

#### **(7.30.7.4) MWh fuel consumed for self-generation of heat**

0

#### **(7.30.7.5) MWh fuel consumed for self-generation of steam**

0

#### (7.30.7.8) Comment

-

### Other biomass

#### (7.30.7.1) Heating value

Select from:

☒ Unable to confirm heating value

#### (7.30.7.2) Total fuel MWh consumed by the organization

0

#### (7.30.7.3) MWh fuel consumed for self-generation of electricity

0

#### (7.30.7.4) MWh fuel consumed for self-generation of heat

0

#### (7.30.7.5) MWh fuel consumed for self-generation of steam

0

#### (7.30.7.8) Comment

-

### Other renewable fuels (e.g. renewable hydrogen)

#### (7.30.7.1) Heating value

Select from:

☒ Unable to confirm heating value

**(7.30.7.2) Total fuel MWh consumed by the organization**

0

**(7.30.7.3) MWh fuel consumed for self-generation of electricity**

0

**(7.30.7.4) MWh fuel consumed for self-generation of heat**

0

**(7.30.7.5) MWh fuel consumed for self-generation of steam**

0

**(7.30.7.8) Comment**

-

**Coal**

**(7.30.7.1) Heating value**

Select from:

☒ Unable to confirm heating value

**(7.30.7.2) Total fuel MWh consumed by the organization**

0

**(7.30.7.3) MWh fuel consumed for self-generation of electricity**

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.8) Comment

-

## Oil

(7.30.7.1) Heating value

Select from:

☒ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

48134.51

(7.30.7.3) MWh fuel consumed for self-generation of electricity

9.46

(7.30.7.4) MWh fuel consumed for self-generation of heat

11563.07

(7.30.7.5) MWh fuel consumed for self-generation of steam

36561.98

#### (7.30.7.8) Comment

-

#### Gas

#### (7.30.7.1) Heating value

Select from:

☒ HHV

#### (7.30.7.2) Total fuel MWh consumed by the organization

7178.32

#### (7.30.7.3) MWh fuel consumed for self-generation of electricity

0

#### (7.30.7.4) MWh fuel consumed for self-generation of heat

2381.46

#### (7.30.7.5) MWh fuel consumed for self-generation of steam

4796.85

#### (7.30.7.8) Comment

-

#### Other non-renewable fuels (e.g. non-renewable hydrogen)

#### (7.30.7.1) Heating value

Select from:

☒ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.3) MWh fuel consumed for self-generation of electricity

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.8) Comment

-

**Total fuel**

(7.30.7.1) Heating value

Select from:

☒ HHV

(7.30.7.2) Total fuel MWh consumed by the organization

55312.83

(7.30.7.3) MWh fuel consumed for self-generation of electricity

9.46

#### (7.30.7.4) MWh fuel consumed for self-generation of heat

13944.54

#### (7.30.7.5) MWh fuel consumed for self-generation of steam

41358.84

#### (7.30.7.8) Comment

-

[Fixed row]

**(7.30.9) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

#### **Electricity**

##### (7.30.9.1) Total Gross generation (MWh)

18.25

##### (7.30.9.2) Generation that is consumed by the organization (MWh)

18.25

##### (7.30.9.3) Gross generation from renewable sources (MWh)

18.25

##### (7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

18.25

#### **Heat**

**(7.30.9.1) Total Gross generation (MWh)**

0

**(7.30.9.2) Generation that is consumed by the organization (MWh)**

0

**(7.30.9.3) Gross generation from renewable sources (MWh)**

0

**(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)**

0

**Steam**

**(7.30.9.1) Total Gross generation (MWh)**

122222.32

**(7.30.9.2) Generation that is consumed by the organization (MWh)**

84722.29

**(7.30.9.3) Gross generation from renewable sources (MWh)**

0

**(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)**

0

**Cooling**

#### (7.30.9.1) Total Gross generation (MWh)

0

#### (7.30.9.2) Generation that is consumed by the organization (MWh)

0

#### (7.30.9.3) Gross generation from renewable sources (MWh)

0

#### (7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

[Fixed row]

**(7.30.14) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in 7.7.**

#### Row 1

##### (7.30.14.1) Country/area

Select from:

☒ Republic of Korea

##### (7.30.14.2) Sourcing method

Select from:

☒ None (no active purchases of low-carbon electricity, heat, steam or cooling)

##### (7.30.14.10) Comment

*There are no RECs, green premiums, or third-party PPAs purchased separately by Hanwha in the reporting year.*

[Add row]

**(7.30.16) Provide a breakdown by country/area of your electricity/heat/steam/cooling consumption in the reporting year.**

**Republic of Korea**

**(7.30.16.1) Consumption of purchased electricity (MWh)**

103106

**(7.30.16.2) Consumption of self-generated electricity (MWh)**

18.25

**(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)**

0

**(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)**

0

**(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)**

103124.25

[Fixed row]

**(7.45) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Row 1**

**(7.45.1) Intensity figure**

0.98

**(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

68748

**(7.45.3) Metric denominator**

*Select from:*

☒ unit total revenue

**(7.45.4) Metric denominator: Unit total**

7015100000000

**(7.45.5) Scope 2 figure used**

*Select from:*

☒ Location-based

**(7.45.6) % change from previous year**

7.5

**(7.45.7) Direction of change**

*Select from:*

☒ Decreased

**(7.45.8) Reasons for change**

*Select all that apply*

☒ Other emissions reduction activities

☒ Change in revenue

**(7.45.9) Please explain**

Hanwha Corporation's GHG emission and sales are both increased according to the E&C division and the expansion of research equipment at the Momentum Asan plant. Compared to last year, GHG emissions increased by 4,498 tCO2-eq, an increase of about 7%, and sales increased by about KRW 1.1 trillion compared to last year, an increase of about 19%. The increase in sales was greater than the growth rate of GHG emissions, and the raw unit of GHG emissions decreased by about 7.5% compared to the previous year. In accordance with Question 7.55, Hanwha is continuously applying reduction technologies to reduce GHG emissions and is continuously striving to reduce GHG emissions by reducing approximately 318 tCO2-eq with the reduction technologies applied and implemented in 2024.  
[Add row]

## (7.53) Did you have an emissions target that was active in the reporting year?

Select all that apply

☒ Absolute target

### (7.53.1) Provide details of your absolute emissions targets and progress made against those targets.

#### Row 1

##### (7.53.1.1) Target reference number

Select from:

☒ Abs 1

##### (7.53.1.2) Is this a science-based target?

Select from:

☒ No, but we anticipate setting one in the next two years

##### (7.53.1.5) Date target was set

12/30/2020

##### (7.53.1.6) Target coverage

Select from:

☒ Organization-wide

#### (7.53.1.7) Greenhouse gases covered by target

*Select all that apply*

- ☒ Carbon dioxide (CO2)
- ☒ Methane (CH4)
- ☒ Nitrous oxide (N2O)

#### (7.53.1.8) Scopes

*Select all that apply*

- ☒ Scope 1
- ☒ Scope 2

#### (7.53.1.9) Scope 2 accounting method

*Select from:*

- ☒ Location-based

#### (7.53.1.11) End date of base year

12/30/2019

#### (7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

106768

#### (7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

40113

#### (7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

0.000

#### (7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

146881.000

**(7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**

100

**(7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2**

100

**(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**

4

**(7.53.1.54) End date of target**

12/30/2030

**(7.53.1.55) Targeted reduction from base year (%)**

65.5

**(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)**

50673.945

**(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)**

21389

**(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)**

47359

**(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**

68748.000

### (7.53.1.78) Land-related emissions covered by target

Select from:

☒ No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

### (7.53.1.79) % of target achieved relative to base year

81.21

### (7.53.1.80) Target status in reporting year

Select from:

☒ Underway

### (7.53.1.82) Explain target coverage and identify any exclusions

*Hanwha Corporation has set Net Zero targets for all Scope 1 and 2 facilities and disclose its mid-term targets when setting Net Zero targets.*

### (7.53.1.83) Target objective

*Hanwha Corporation has declared the goal of 'Hanwha Net Zero 2040', which aims to reduce emissions by about 65% by 2030 and 100% by 2040 compared to 2019 to take the lead in responding to the global climate crisis.*

### (7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year

*Hanwha Corporation has declared the goal of 'Hanwha Net Zero 2040' to take the lead in responding to the global climate crisis. Compared to 2019 emissions, Hanwha aims to reduce emissions by about 65% by 2030 and 100% by 2040. These objectives have a strategic purpose to achieve regulatory objectives and reduce the cost of cap-and-trade compliance. In 2023, company has advanced Net Zero goals and strategies that encompass all business sectors and established a K-RE100 implementation strategy to convert 100% of company's electricity use to renewable energy by 2040. Through this company is pursuing plans such as REC purchase, equity participation, and installation of solar power generation facilities. In particular, E&C division plans to procure part of the electricity required by installing solar power generation facilities at new civil engineering sites. Hanwha is developing greenhouse gas inventory to manage greenhouse gas Scope 1 and 2 emissions and also manages energy usage and greenhouse gas emissions of each business site on a monthly basis. Hanwha joined K-RE100 in January 2024 by proposing and obtaining resolutions on the Net Zero goal and K-RE100 implementation strategy as a resolution of the ESG Committee in the fourth quarter of 2023. As a result, Hanwha has set a goal to convert 100% of our electricity use to renewable sources by 2040. Especially in E&C division, company has been monitoring all sites that consume a lot of energy, identifying the causes and seeking ways to reduce them. Through this, Hanwha has continued its efforts to reduce greenhouse gas emissions across the entire value chain, such as expanding the use of low-carbon products and fuels, securing eco-friendly transportation. These achievements closely align our strategic objectives with the goals of 'Hanwha Net Zero 2040', contributing to the achievement of regulatory objectives and the reduction of the cost*

of cap-and-trade compliance. Hanwha is doing its best to achieve Net Zero within the target by continuously advancing its strategy.

### (7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

☒ No

## Row 2

### (7.53.1.1) Target reference number

Select from:

☒ Abs 2

### (7.53.1.2) Is this a science-based target?

Select from:

☒ No, but we anticipate setting one in the next two years

### (7.53.1.5) Date target was set

12/30/2020

### (7.53.1.6) Target coverage

Select from:

☒ Organization-wide

### (7.53.1.7) Greenhouse gases covered by target

Select all that apply

☒ Carbon dioxide (CO2)

☒ Methane (CH4)

☒ Nitrous oxide (N2O)

### (7.53.1.8) Scopes

Select all that apply

☒ Scope 1

☒ Scope 2

### (7.53.1.9) Scope 2 accounting method

Select from:

☒ Location-based

### (7.53.1.11) End date of base year

12/30/2019

### (7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

106768

### (7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

40113

### (7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

0.000

### (7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

146881.000

### (7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

### (7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

**(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**

4

**(7.53.1.54) End date of target**

12/30/2040

**(7.53.1.55) Targeted reduction from base year (%)**

100

**(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)**

0.000

**(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)**

21389

**(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)**

47359

**(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**

68748.000

**(7.53.1.78) Land-related emissions covered by target**

Select from:

☒ No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**(7.53.1.79) % of target achieved relative to base year**

**(7.53.1.80) Target status in reporting year**

Select from:

☒ Underway**(7.53.1.82) Explain target coverage and identify any exclusions**

*Hanwha Corporation has set Net Zero targets for all Scope 1 and 2 facilities and disclose its mid-term targets when setting Net Zero targets.*

**(7.53.1.83) Target objective**

*Hanwha Corporation has declared the goal of 'Hanwha Net Zero 2040', which aims to reduce emissions by about 65% by 2030 and 100% by 2040 compared to 2019 to take the lead in responding to the global climate crisis.*

**(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year**

*Hanwha Corporation has declared the goal of 'Hanwha Net Zero 2040' to take the lead in responding to the global climate crisis. Compared to 2019 emissions, Hanwha aims to reduce emissions by about 65% by 2030 and 100% by 2040. These objectives have a strategic purpose to achieve regulatory objectives and reduce the cost of cap-and-trade compliance. In 2023, company has advanced Net Zero goals and strategies that encompass all business sectors and established a K-RE100 implementation strategy to convert 100% of company's electricity use to renewable energy by 2040. Through this company is pursuing plans such as REC purchase, equity participation, and installation of solar power generation facilities. In particular, E&C division plans to procure part of the electricity required by installing solar power generation facilities at new civil engineering sites. Hanwha is developing greenhouse gas inventory to manage greenhouse gas Scope 1 and 2 emissions and also manages energy usage and greenhouse gas emissions of each business site on a monthly basis. Hanwha joined K-RE100 in January 2024 by proposing and obtaining resolutions on the Net Zero goal and K-RE100 implementation strategy as a resolution of the ESG Committee in the fourth quarter of 2023. As a result, Hanwha has set a goal to convert 100% of our electricity use to renewable sources by 2040. Especially in E&C division, company has been monitoring all sites that consume a lot of energy, identifying the causes and seeking ways to reduce them. Through this, Hanwha has continued its efforts to reduce greenhouse gas emissions across the entire value chain, such as expanding the use of low-carbon products and fuels, securing eco-friendly transportation. These achievements closely align our strategic objectives with the goals of 'Hanwha Net Zero 2040', contributing to the achievement of regulatory objectives and the reduction of the cost of cap-and-trade compliance. Hanwha is doing its best to achieve Net Zero within the target by continuously advancing its strategy.*

**(7.53.1.85) Target derived using a sectoral decarbonization approach**

Select from:

☒ No

### Row 3

#### (7.53.1.1) Target reference number

Select from:

☒ Abs 3

#### (7.53.1.2) Is this a science-based target?

Select from:

☒ No, but we anticipate setting one in the next two years

#### (7.53.1.5) Date target was set

12/30/2022

#### (7.53.1.6) Target coverage

Select from:

☒ Organization-wide

#### (7.53.1.7) Greenhouse gases covered by target

Select all that apply

☒ Carbon dioxide (CO2)

☒ Methane (CH4)

☒ Nitrous oxide (N2O)

#### (7.53.1.8) Scopes

Select all that apply

☒ Scope 3

#### (7.53.1.10) Scope 3 categories

Select all that apply

- ☒ Scope 3, Category 1 – Purchased goods and services
- ☒ Scope 3, Category 11 – Use of sold products
- ☒ Scope 3, Category 15 – Investments

#### **(7.53.1.11) End date of base year**

12/30/2021

#### **(7.53.1.14) Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)**

1636330

#### **(7.53.1.24) Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**

1567664

#### **(7.53.1.28) Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**

666598

#### **(7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)**

3870592.000

#### **(7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)**

3870592.000

#### **(7.53.1.35) Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)**

42

#### **(7.53.1.45) Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**

40

**(7.53.1.49) Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**

17

**(7.53.1.52) Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**

99

**(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**

96

**(7.53.1.54) End date of target**

12/30/2030

**(7.53.1.55) Targeted reduction from base year (%)**

20

**(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)**

3096473.600

**(7.53.1.59) Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)**

2930820

**(7.53.1.69) Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**

3309699

**(7.53.1.73) Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**

1060714

**(7.53.1.76) Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)**

7301233.000

**(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**

7301233.000

**(7.53.1.78) Land-related emissions covered by target**

Select from:

☒ No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**(7.53.1.79) % of target achieved relative to base year**

-443.17

**(7.53.1.80) Target status in reporting year**

Select from:

☒ Underway

**(7.53.1.82) Explain target coverage and identify any exclusions**

*Hanwha Corporation calculates and reports 12 out of 15 Scope 3 categories, and set targets for 'Categories 1, 11, and 15', which account for 99% of emissions.*

**(7.53.1.83) Target objective**

*Hanwha Corporation has declared the goal of 'Hanwha Net Zero 2040', which aims to reduce emissions by about 65% by 2030 and 100% by 2040 compared to 2019 to take the lead in responding to the global climate crisis.*

**(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year**

Hanwha Corporation is striving to continue to upgrade the Scope 3 calculation system which was first established in 2023, to manage Scope 3 emissions across the company to stabilize the calculation system and inventory for the future. To manage Scope 3 emissions, Hanwha is pursuing various strategies across the entire value chain such as expanding the use of low-carbon products and fuels and securing eco-friendly transportation. Through the Scope 3 calculation in 2023, Hanwha has realized accurate and transparent emission management by re-examining the calculation methodology for each category, the application of cost-based calculation methodology was reduced and the accuracy of the calculation methodology was improved by using national LCI DB and emission factors. These efforts have helped Hanwha to reduce greenhouse gas emissions across its entire value chain, expand the use of low-carbon products and fuels and secure eco-friendly transportation. This closely aligns our strategic objectives with the goals of 'Hanwha Net Zero 2040', contributing to the achievement of regulatory objectives and the reduction occurring cost of K-ETS. Hanwha will continue to do best to achieve Net Zero within the target time frame by continuously advancing and executing strategy.

#### (7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

☒ No

[Add row]

#### (7.54) Did you have any other climate-related targets that were active in the reporting year?

Select all that apply

☒ Net-zero targets

#### (7.54.3) Provide details of your net-zero target(s).

##### Row 1

##### (7.54.3.1) Target reference number

Select from:

☒ NZ1

##### (7.54.3.2) Date target was set

12/13/2023

##### (7.54.3.3) Target Coverage

Select from:

☒ Organization-wide

#### (7.54.3.4) Targets linked to this net zero target

Select all that apply

☒ Abs1

☒ Abs2

#### (7.54.3.5) End date of target for achieving net zero

12/30/2040

#### (7.54.3.6) Is this a science-based target?

Select from:

☒ No, but we anticipate setting one in the next two years

#### (7.54.3.8) Scopes

Select all that apply

☒ Scope 1

☒ Scope 2

#### (7.54.3.9) Greenhouse gases covered by target

Select all that apply

☒ Carbon dioxide (CO2)

☒ Methane (CH4)

☒ Nitrous oxide (N2O)

#### (7.54.3.10) Explain target coverage and identify any exclusions

We have set Net Zero goals for all Scope 1 and 2 facilities, and we disclose our mid-term goals when setting Net Zero goals.

### (7.54.3.11) Target objective

*With this goal, Hanwha aims to reduce its GHG emissions from Scope 1 and 2 by 100% by 2040. Through phased reductions, Hanwha aims to avoid the costs of complying with the emissions trading system (purchasing credits for unmet emissions).*

### (7.54.3.12) Do you intend to neutralize any residual emissions with permanent carbon removals at the end of the target?

Select from:

☒ Unsure

### (7.54.3.13) Do you plan to mitigate emissions beyond your value chain?

Select from:

☒ No, but we plan to within the next two years

### (7.54.3.17) Target status in reporting year

Select from:

☒ Underway

### (7.54.3.19) Process for reviewing target

*As the importance of reducing greenhouse gas emissions increases around the world, setting net-zero goals is becoming a necessity for businesses. In line with this global trend, Hanwha Corporation has prepared various goals and implementation measures to reduce greenhouse gas emissions. Hanwha Corporation is actively promoting the transition to renewable energy which plays an important role in reducing greenhouse gas emissions. By utilizing renewable energy sources such as solar, Hanwha is adopting strategies to reduce the use of traditional fossil fuel-based energy, thereby reducing Scope 1 and Scope 2 emissions. In addition, reducing energy consumption through energy efficiency is one of Hanwha's main goals. Hanwha is adopting the latest technologies and looking to improve the energy efficiency of company's existing facilities. Hanwha systematically manages energy usage and greenhouse gas emissions at each business site on a monthly basis, sets reduction targets based on this data and monitors progress. Mitigation activities include operating the heating and cooling system in the workplace, temperature control, and steam waste. E&C division is striving to improve energy efficiency by installing LED lights in temporary offices, strengthening insulation performance, and installing sensor lights and LED lights in temporary passages. Hanwha will not be complacent and will continue to advance and implement its strategy to achieve Net Zero within the target deadline.*

[Add row]

**(7.55) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Select from:

☒ Yes

**(7.55.1) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

|                          | Number of initiatives | Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *) |
|--------------------------|-----------------------|------------------------------------------------------------------------------------|
| Under investigation      | 3                     | `Numeric input                                                                     |
| To be implemented        | 8                     | 3062.8                                                                             |
| Implementation commenced | 0                     | 0                                                                                  |
| Implemented              | 10                    | 317.92                                                                             |
| Not to be implemented    | 0                     | `Numeric input                                                                     |

[Fixed row]

**(7.55.2) Provide details on the initiatives implemented in the reporting year in the table below.**

**Row 1**

**(7.55.2.1) Initiative category & Initiative type**

**Energy efficiency in production processes**

☒ Process optimization

#### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

34.38

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

*Select all that apply*

☒ Scope 2 (location-based)

#### (7.55.2.4) Voluntary/Mandatory

*Select from:*

☒ Voluntary

#### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

14597879

#### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

#### (7.55.2.7) Payback period

*Select from:*

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

*Select from:*

☒ Ongoing

#### (7.55.2.9) Comment

*Reduced power usage with EHT shutdown (kw/month)*

## Row 2

### (7.55.2.1) Initiative category & Initiative type

#### Energy efficiency in production processes

☒ Machine/equipment replacement

### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

9.67

### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

*Select all that apply*

☒ Scope 2 (location-based)

### (7.55.2.4) Voluntary/Mandatory

*Select from:*

☒ Voluntary

### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

4106422

### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

1000000

### (7.55.2.7) Payback period

*Select from:*

☒ <1 year

### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ <1 year

### (7.55.2.9) Comment

*Reduced power usage for oxidizer recycle pump (kw/month)*

### Row 3

### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Process optimization

### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

6.7

### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 1

### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

2606641

### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

#### (7.55.2.7) Payback period

Select from:

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ Ongoing

#### (7.55.2.9) Comment

*Reduced fuel costs by improving boiler operation efficiency*

### Row 4

#### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Machine/equipment replacement

#### (7.55.2.2) Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)

8.16

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 2 (location-based)

#### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

#### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

3466084

#### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

#### (7.55.2.7) Payback period

Select from:

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ Ongoing

#### (7.55.2.9) Comment

*Energy savings by changing boiler feedwater pump operation and installing an inverter*

### Row 5

#### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Process optimization

#### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

5.26

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 1

#### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

#### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

2044853

#### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

#### (7.55.2.7) Payback period

Select from:

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ Ongoing

#### (7.55.2.9) Comment

*Energy savings by changing boiler blowdown thresholds*

### Row 6

#### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Machine/equipment replacement

#### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

7.05

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

*Select all that apply*

☒ Scope 2 (location-based)

#### (7.55.2.4) Voluntary/Mandatory

*Select from:*

☒ Voluntary

#### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

2994423

#### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

1314000

#### (7.55.2.7) Payback period

*Select from:*

☒ <1 year

#### (7.55.2.8) Estimated lifetime of the initiative

*Select from:*

☒ <1 year

#### (7.55.2.9) Comment

**Row 7**

**(7.55.2.1) Initiative category & Initiative type**

**Energy efficiency in production processes**

☒ Process optimization

**(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)**

2.04

**(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur**

*Select all that apply*

☒ Scope 1

**(7.55.2.4) Voluntary/Mandatory**

*Select from:*

☒ Voluntary

**(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)**

794692

**(7.55.2.6) Investment required (unit currency – as specified in C0.4)**

0

**(7.55.2.7) Payback period**

*Select from:*

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ Ongoing

#### (7.55.2.9) Comment

*Energy saving in waste drug decomposition by changing cleaning operation (water oil)*

### Row 8

#### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Process optimization

#### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

0.98

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 2 (location-based)

#### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

#### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

414407

#### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

#### (7.55.2.7) Payback period

Select from:

☒ No payback

#### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ Ongoing

#### (7.55.2.9) Comment

*Reduced the amount of electricity used through efficient operation of hot water pumps and cooling water pumps*

### Row 9

#### (7.55.2.1) Initiative category & Initiative type

**Energy efficiency in production processes**

☒ Process optimization

#### (7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

6.07

#### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 2 (location-based)

#### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

**(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)**

2575901

**(7.55.2.6) Investment required (unit currency – as specified in C0.4)**

0

**(7.55.2.7) Payback period**

Select from:

☒ No payback

**(7.55.2.8) Estimated lifetime of the initiative**

Select from:

☒ Ongoing

**(7.55.2.9) Comment**

*Reduced electricity consumption by not operating the vacant F.F.U. for electronic detonator manufacturing*

**Row 10**

**(7.55.2.1) Initiative category & Initiative type**

**Energy efficiency in production processes**

☒ Machine/equipment replacement

**(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)**

237.61

### (7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

☒ Scope 1

### (7.55.2.4) Voluntary/Mandatory

Select from:

☒ Voluntary

### (7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

100278407

### (7.55.2.6) Investment required (unit currency – as specified in C0.4)

10878000

### (7.55.2.7) Payback period

Select from:

☒ <1 year

### (7.55.2.8) Estimated lifetime of the initiative

Select from:

☒ <1 year

### (7.55.2.9) Comment

Reduced use of LNG fuel by improving steam piping

[Add row]

### (7.55.3) What methods do you use to drive investment in emissions reduction activities?

## Row 1

### (7.55.3.1) Method

Select from:

☒ Compliance with regulatory requirements/standards

### (7.55.3.2) Comment

*Hanwha is regulated by the ETS thereby it is inevitable to reduce GHG emissions. Accordingly, Hanwha identifies items related to energy efficiency and GHG emission reduction, analyzes and manages implementation effect. For instance, Boeun Plant has discovered five energy reduction activities through Operation Excellence (OE) and through this, the Plant applied automation technologies such as EHT (Electric Heat Tracing) blocking system and installation of circulation pump timers to facilities gradually. As such, Hanwha discovers and applies items for GHG reduction every year and through this, the company plans to take a step closer to achieving its own goal of 2040 Net Zero in compliance with the ETS.*

[Add row]

## (7.73) Are you providing product level data for your organization's goods or services?

Select from:

☒ No, I am not providing data

## (7.74) Do you classify any of your existing goods and/or services as low-carbon products?

Select from:

☒ Yes

### (7.74.1) Provide details of your products and/or services that you classify as low-carbon products.

## Row 1

### (7.74.1.1) Level of aggregation

Select from:

☒ Product or service

#### (7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

☒ The EU Taxonomy for environmentally sustainable economic activities

#### (7.74.1.3) Type of product(s) or service(s)

**Power**

☒ Other, please specify :solar cell, solar cell module

#### (7.74.1.4) Description of product(s) or service(s)

*Renewable energy is included in mitigating climate change, one of the EU Taxonomy's six environmental goals. Hanwha manufactures specialized equipment of solar cells and modules in line with the EU Taxonomy's basic guidelines, and contributes greatly to lowering GHG emissions generated during the stage of use based on high-quality and high-efficiency cell and module equipment manufacturing technology.*

#### (7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

☒ Yes

#### (7.74.1.6) Methodology used to calculate avoided emissions

Select from:

☒ Other, please specify :Calculating the avoided emissions of non-renewable energy due to the use of renewable energy

#### (7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

☒ Use stage

#### (7.74.1.8) Functional unit used

KRW

#### (7.74.1.9) Reference product/service or baseline scenario used

*When producing the same amount of electricity, GHG reduction is calculated based on the difference of reductions between fossil fuels and renewable energy.*

#### (7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

☒ Use stage

#### (7.74.1.11) Estimated avoided emissions (metric tons CO<sub>2</sub>e per functional unit) compared to reference product/service or baseline scenario

106780

#### (7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

*The calculation formula for avoidance emissions for Hanwha's low-carbon products is as follows. Total Installed Quantity of Momentum's Secondary Battery Business Unit and SE Business Unit \* Electricity Usage by Facility (kWh)\* Operating Hours (24 Hours) \* Days of Operation (365 Days) Total Avoided Emissions (106,780 tCO<sub>2</sub>eq) Since an attribution approach was used to calculate the avoidance emissions, the calculation was made by considering the time range in which the facility is utilized, the number of facilities, and the number of days of operation, and was applied in the same way as the Scope 3 Cat 11 emissions calculation method, assuming that the use of the product contributes to the reduction of emissions during the use phase.*

#### (7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

8

[Add row]

#### (7.79) Has your organization canceled any project-based carbon credits within the reporting year?

Select from:

☒ No

## C9. Environmental performance - Water security

### (9.1) Are there any exclusions from your disclosure of water-related data?

Select from:

☒ Yes

#### (9.1.1) Provide details on these exclusions.

##### Row 1

#### (9.1.1.1) Exclusion

Select from:

☒ Facilities

#### (9.1.1.2) Description of exclusion

*Hanwha Corporation does not disclose water-related data for some of its business sites, such as Gangwon Branch, Taebaek Office, Goyang Office, and Jecheon Office, which are designated as 'branch offices' and 'sales offices'. Since these sites are not core manufacturing and research-related sites, they have not yet collected enough data on water resources, and Hanwha plans to collect and manage data while gradually advancing water resources management.*

#### (9.1.1.3) Reason for exclusion

Select from:

☒ Data is not available

#### (9.1.1.4) Primary reason why data is not available

Select from:

☒ We are planning to collect the data within the next two years

#### (9.1.1.7) Percentage of water volume the exclusion represents

Select from:

☒ Unknown

#### (9.1.1.8) Please explain

*Hanwha Corporation is currently withholding the disclosure of water-related data at some of its business sites in Gangwon, Taebaek, Goyang, and Jecheon. These sites are primarily in areas where core manufacturing and research activities are not carried out and are still in the early stages of not having large water intake and usage also not having enough water data collected. The Company plans to gradually strengthen its water resources management system for these sites, while systematically collecting and managing necessary data. This process is an important step for environmental management and sustainable operation of local business sites, and Hanwha Corporation will practice more transparent and responsible corporate activities through this.*

[Add row]

### (9.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

#### Water withdrawals – total volumes

##### (9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

##### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

##### (9.2.3) Method of measurement

*Hanwha Corporation uses a flow meter to continuously measure the total water withdrawal.*

##### (9.2.4) Please explain

*Starting in 2023, Hanwha Corporation is managing the amount of water taken from the outside across the organization by business site. These measures aim to precisely monitor water usage in the day-to-day operations of an organization and to efficiently use and manage resources. The term 'business premises' refers to Hanwha's core manufacturing facilities and major facilities including its headquarters. As a result, water management is enterprise-wide, spanning the Global, E&C, Momentum divisions and is an important strategy to strengthen corporate responsibility for efficient water use and support the goal of sustainable development.*

Through this, Hanwha Corporation is leading environmental responsibility and pursuing long-term growth through sustainable resource management.

## Water withdrawals – volumes by source

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

The water withdrawals-volumes by source is monitored for renewable sewage and water withdrawal from third parties (water supply, etc.), and continuous measurement is made using a flow meter.

### (9.2.4) Please explain

Hanwha Corporation receives water resources from renewable groundwater and water withdrawal from third parties (water supply (industrial and domestic water)) at most of its business sites. Monitoring of this method is achieved through continuous measurement using a flow meter, and the supply of each source can be continuously checked to strategically respond to risks such as water shortages. The water intake source from which Hanwha receives most of its water is 'water withdrawal from a third party', which means water purchased from a public or private water supply company, such as water supply. Through this, Hanwha Corporation will monitor the water withdrawal from all water intake sources, laying the foundation for sustainable water management.

## Water withdrawals quality

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

### (9.2.2) Frequency of measurement

Select from:

☒ Monthly

### (9.2.3) Method of measurement

*Regarding the quality of water withdrawal, Hanwha checks the quality of raw water flowing into the business site through periodic experiments, ranging from 2 or 3 times a week to 2 times a month, depending on the substance.*

### (9.2.4) Please explain

*Hanwha Corporation also carries out water quality monitoring procedures during the water withdrawal process. Regarding the water withdrawal, Hanwha verifies the water quality data through regular tests twice a week or twice a month, depending on the substance. These experiments are performed with a wider range of water quality parameters and are important for identifying potential water quality issues that real-time measuring instruments may not be able to detect. This is an essential measure to minimize the environmental impact of water use and to comply with water quality standards. These efforts contribute to ensuring the sustainable use of water resources, increasing transparency in water resource management and ensuring compliance with environmental regulations. Hanwha plans to continue its efforts for sustainable water management through such monitoring.*

## Water discharges – total volumes

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 51-75

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

*The total amount of discharge is continuously measured using a flow meter.*

### (9.2.4) Please explain

*Hanwha Corporation has established and operates a system that continuously measures the total amount of discharge using a flow meter in order to accurately identify and manage the amount of water discharged. This process monitors the amount of water discharged in real time, ensuring compliance with environmental*

regulations and laying an important foundation for the sustainable management of water resources. Continuous measurement systems allow companies to collect and analyze discharge data in real time, actively reduce impact on the environment and more effectively formulate and implement strategies for water use and management. These efforts deliver on the company's commitment to protecting the environment while contributing to the achievement of long-term goals for sustainable water management, Hanwha Corporation aims to promote the efficient use of water resources and improve water-related environmental indicators to fulfill its corporate responsibility for a sustainable future.

## Water discharges – volumes by destination

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 51-75

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

The amount of discharge by discharge destination is monitored using a flow meter for discharge to a third party (discharge to a third party without internal treatment to local government wastewater treatment facilities).

### (9.2.4) Please explain

In the process of water discharge, Hanwha Corporation discharges water by using the wastewater treatment facilities of local governments or entrusting the treatment to a third party. This discharge method is part of the company's environmental management strategy, with the aim of realizing more efficient and safer water management through the treatment facilities of external expert organizations. The amount of discharge from each discharge site is measured using a flow meter which plays an important role in ensuring compliance with environmental regulations by accurately monitoring and recording the amount of water discharged. These measurements and records reinforce the company's responsibility to protect the environment and support the company's commitment to the sustainable management of water resources. Hanwha aims to comply with environmental regulations keep corporate commitment to the sustainable use of water resources and move toward long-term goals for sustainable development.

## Water discharges – volumes by treatment method

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 51-75

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

*Hanwha Corporation's discharge by treatment method is carried out by a third party without primary treatment or treatment process, and the measurement method is monitored using flow meters and other measuring equipment.*

### (9.2.4) Please explain

*Hanwha Corporation's treatment methods include primary treatment and outsourcing to a third party without treatment. Onsan plant, which is part of the Global division is actively engaged in chemical production activities. So effluent is treated through the primary treatment process. In primary treatment, solids and other suspended solids are removed through physical methods and discharged water after this treatment process is transferred to a public wastewater treatment plant for secondary treatment and the quality of the effluent is improved through chemical treatment. In the case of the Boeun plant, the effluent generated at the business site is either entrusted to an external professional agency or transported to the wastewater treatment plant of Hanwha Solution Co., Ltd. for treatment and discharge. The Specialty Chemical Research Center entrusts the treatment to local governments or uses public sewage treatment plants to treat effluent water.*

## Water discharge quality – by standard effluent parameters

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 51-75

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

Monitoring of discharged water quality according to standard effluent parameters are carried out through periodic testing in the case of TOC and real-time measuring instruments in the case of BOD and TSS.

#### **(9.2.4) Please explain**

Hanwha Corporation manages the water quality discharged from major business sites such as Boeun Plant, Onsan Plant, and Specialty Chemical Research Center which comply with legal regulations according to indicators. To do this, key indicators such as total organic carbon (TOC), biological oxygen demand (BOD), and total suspended solids (TSS) are used as benchmarks to monitor discharge water quality. TOC plays an important role in assessing the level of organic contamination in the effluent by monitoring it through regular experiments, while BOD and TSS are continuously monitored using real-time measuring instruments. This continuous monitoring contributes to the real-time verification of the biological treatment status of the effluent and to ensure compliance with environmental standards. Hanwha's monitoring procedures aim to strictly comply with environmental regulations and are essential to minimize the impact of effluent on the surrounding aquatic ecosystem.

### **Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)**

#### **(9.2.1) % of sites/facilities/operations**

Select from:

☒ 26-50

#### **(9.2.2) Frequency of measurement**

Select from:

☒ Continuously

#### **(9.2.3) Method of measurement**

Pollutants such as nitrates, phosphates, and pesticides in discharged water are regularly measured and monitored in accordance with laws and regulations.

#### **(9.2.4) Please explain**

Hanwha Corporation monitors the discharge of pollutants such as nitrates, phosphates, and pesticides in the management of discharged water quality. These monitoring are carried out at the Boeun plant and the Onsan plant which are subject to legal control and the results are reported as total nitrogen (TN) and total phosphorus (TP) values. Through this, the level of pollutants discharged from the workplace is monitored and the impact on the environment is evaluated and managed. Regarding legally regulated pollutants, Hanwha Corporation tries to strictly comply with the relevant laws and regulations. This shows that the company takes its responsibility to protect the environment very seriously.

## Water discharge quality – temperature

### (9.2.1) % of sites/facilities/operations

Select from:

☒ Not monitored

### (9.2.4) Please explain

*Hanwha Corporation does not currently operate a formal procedure for measuring the temperature of effluent water but recognize this as an important area to improve in the future. Because the temperature of the effluent can have a significant impact on a number of environmental factors, including its impact on the ecosystem, the company recognizes the importance of closely monitoring it. Therefore, Hanwha Corporation plans to introduce a system for accurately measuring and managing the temperature of effluent for each business site in the future.*

## Water consumption – total volume

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

### (9.2.2) Frequency of measurement

Select from:

☒ Continuously

### (9.2.3) Method of measurement

*Hanwha Corporation uses calculation formula to calculate the total water consumption. Total consumption is calculated as the total amount of water withdrawals minus the total amount discharged.*

### (9.2.4) Please explain

*Hanwha Corporation actively uses a calculation formula to check the total consumption in order to accurately measure and manage water usage within its business sites. This calculation calculates the net amount of usage actually consumed within the business site by subtracting the total amount discharged from the total water withdrawal that flows into the business site. This approach plays an essential role in assessing the efficiency of water use in your business and provides valuable*

foundational data for developing water conservation and reuse strategies. Water management is an important part of Hanwha's sustainability strategy, and to this end, the company conducts continuous analysis and monitoring of water usage. The data is used to make strategic decisions to optimize water use, reduce inefficient water use and make the most of reusable water. Based on this data, Hanwha is also addressing water scarcity reducing its environmental footprint and achieving specific goals.

## Water recycled/reused

### (9.2.1) % of sites/facilities/operations

Select from:

☒ Not relevant

### (9.2.4) Please explain

Although Hanwha Corporation does not have a formal system for procedures and management systems for the reuse and recycling of effluent water, the company recognizes this field as a key factor for sustainable management and environmental protection and plans to establish and implement specific plans to improve it in the future. Reuse and recycling of effluent can contribute to promoting the efficient use of resources, addressing water scarcity, and reducing our environmental footprint.

## The provision of fully-functioning, safely managed WASH services to all workers

### (9.2.1) % of sites/facilities/operations

Select from:

☒ 100%

### (9.2.2) Frequency of measurement

Select from:

☒ Monthly

### (9.2.3) Method of measurement

Hanwha Corporation continues to manage clean drinking water and provides drinking water by installing water purifiers. This purifier uses water from sources that complies with hygiene and health standards and is regularly checked. In addition, toilets are regularly inspected for cleanliness, facility operation and cleaning and maintenance management is carried out by professional contractors.

#### (9.2.4) Please explain

*Hanwha Corporation prioritizes the provision of clean drinking water, health and safety to its employees, so the company continuously manages the quality of WASH services. The cleanliness of the water purifier and toilet is checked once every other month and every day, respectively, this is a basic measure to ensure that employees work in a safe and hygienic environment. These inspections and maintenance are carried out by professional contractors, minimizing the possibility of hygiene problems and maintaining cleanliness that exceeds standards. Measurement methods and management procedures demonstrate that Hanwha's WASH services are fully and safely managed, and reflect the company's commitment to providing a sustainable environment for its employees.*

[Fixed row]

#### (9.2.2) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

##### Total withdrawals

#### (9.2.2.1) Volume (megaliters/year)

906

#### (9.2.2.2) Comparison with previous reporting year

Select from:

☒ This is our first year of measurement

#### (9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Unknown

#### (9.2.2.4) Five-year forecast

Select from:

☒ Higher

#### (9.2.2.5) Primary reason for forecast

Select from:

☒ Increase/decrease in business activity

#### (9.2.2.6) Please explain

*Hanwha Corporation's total water withdrawal is expected to increase due to the increase in business sites and activities due to business expansion. This forecast is an assumption and the trend can be continuously grasped through the management of water intake data in the future.*

### Total discharges

#### (9.2.2.1) Volume (megaliters/year)

78

#### (9.2.2.2) Comparison with previous reporting year

Select from:

☒ Higher

#### (9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in business activity

#### (9.2.2.4) Five-year forecast

Select from:

☒ Lower

#### (9.2.2.5) Primary reason for forecast

Select from:

☒ Increase/decrease in business activity

#### (9.2.2.6) Please explain

Hanwha Corporation has been showing an increasing trend in total discharge since 2020. While this is related to the expansion of business activities and the increase in water withdrawals, the company is responsibly seeking a systematic approach to the sustainable management of water resources in response to these changes. Hanwha Corporation is continuously exploring and implementing various implementation plans to reduce wastewater generation and increase the efficiency of water use. These efforts include process optimization and the application of innovative technologies and practices to conserve water. In 2023, Hanwha increased the efficiency of centrifuges at its Boeun plant to reduce wastewater discharge and water consumption. Through this strategy, the company aims to reduce emissions in the long term which is an important step to ensure compliance with environmental regulations as well as a positive impact on local communities and the natural environment. Hanwha pursues a comprehensive approach that includes continuous improvement of internal processes to achieve its goals for sustainable water management. These efforts are expected to contribute to Hanwha fulfilling its environmental responsibilities and realizing sustainable business operations through the conservation and efficient use of water resources. Through these activities, the company will meet its environmental performance goals, including reducing effluents, and demonstrate leadership in sustainable water management.

## Total consumption

### (9.2.2.1) Volume (megaliters/year)

828

### (9.2.2.2) Comparison with previous reporting year

Select from:

☒ Lower

### (9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in efficiency

### (9.2.2.4) Five-year forecast

Select from:

☒ Lower

### (9.2.2.5) Primary reason for forecast

Select from:

☒ Increase/decrease in efficiency

#### (9.2.2.6) Please explain

*Hanwha Corporation is making efforts to focus on the efficient use and management of water resources for sustainable management. According to the latest reported data, Hanwha's total water consumption has decreased compared to 2022. These positive changes are due to a number of factors, but in particular, the change in the water quality management method of cooling tower reused water at Hanwha Global division's Onsan plant played a major role. At the Onsan plant, Hanwha introduced an innovative technology to reduce the amount of blowdown in the cooling tower which has significantly reduced water consumption. Blowdown is the process of draining some water to remove concentrated impurities from the cooling tower system. The application of this technology has resulted in increased efficiency of cooling towers, reduced wastewater generation and improved overall water use efficiency. Based on these examples, Hanwha plans to actively research and introduce technologies and methodologies to increase water use efficiency in other business sectors. This includes the development and application of water-saving technologies, the expansion of water reuse and recycling projects, and the continuous optimization of water management processes. This multi-pronged approach will contribute to promoting a sustained reduction in water consumption, reducing environmental footprint and strengthening actions towards the sustainable use of water resources.*

[Fixed row]

**(9.2.4) Indicate whether water is withdrawn from areas with water stress, provide the volume, how it compares with the previous reporting year, and how it is forecasted to change.**

#### (9.2.4.1) Withdrawals are from areas with water stress

Select from:

☒ Yes

#### (9.2.4.2) Volume withdrawn from areas with water stress (megaliters)

173.5

#### (9.2.4.3) Comparison with previous reporting year

Select from:

☒ This is our first year of measurement

#### (9.2.4.4) Primary reason for comparison with previous reporting year

Select from:

☒ Other, please specify :This is our first year measuring water withdrawals

#### (9.2.4.5) Five-year forecast

Select from:

☒ Higher

#### (9.2.4.6) Primary reason for forecast

Select from:

☒ Increase/decrease in business activity

#### (9.2.4.7) % of total withdrawals that are withdrawn from areas with water stress

19.15

#### (9.2.4.8) Identification tool

Select all that apply

☒ WWF Water Risk Filter

#### (9.2.4.9) Please explain

*As the importance of water management increases around the world, Hanwha Corporation is using the World Wide Fund for Nature (WWF)'s Water Risk Filter tool to intensively manage areas with high water stress levels among its business sites. The tool assesses water-related risks in the watersheds where the operations are located, and this assessment consists of two main components: physical and regulatory. On the physical side, factors such as water scarcity, potential flooding, water quality issues, and changes in ecosystems are considered, and on the regulatory side, water-related policies and regulations are reviewed, including the UN Sustainable Development Goals (SDGs) on water and sanitation (6.5). According to the results of the analysis of water stress scenarios for 2030 and 2050 using 2020 as the base year, Hanwha Global's Boeun plant and Yuldo Reservoir show a high stress index in terms of physical risk. In particular, the Water Availability indicator is classified as High Risk (3.4 or higher), which is interpreted as a high risk of future water depletion. Based on the results of this analysis, Hanwha Corporation recognizes the need to establish more specific and systematic water resources management measures to strengthen risk management at its business sites. The company is considering a range of strategies including the introduction of water-saving technologies, the expansion of reuse and recycling programs, improvement of water management infrastructure, and the strengthening of cooperation with local communities. Hanwha will also develop a long-term water management plan to proactively address water stress and take steps to ensure the sustainable operation of our operations. Through these efforts, Hanwha will fulfill its responsibility for water management, minimize water-related risks, and demonstrate corporate leadership for sustainable water use.*

[Fixed row]

## **(9.2.7) Provide total water withdrawal data by source.**

### **Fresh surface water, including rainwater, water from wetlands, rivers, and lakes**

#### **(9.2.7.1) Relevance**

Select from:

☒ Not relevant

#### **(9.2.7.5) Please explain**

*Hanwha does not take water from rainwater, wetlands, rivers and lakes.*

### **Brackish surface water/Seawater**

#### **(9.2.7.1) Relevance**

Select from:

☒ Not relevant

#### **(9.2.7.5) Please explain**

*Hanwha Corporation does not take water from salt water and seawater.*

### **Groundwater – renewable**

#### **(9.2.7.1) Relevance**

Select from:

☒ Relevant

#### **(9.2.7.2) Volume (megaliters/year)**

### (9.2.7.3) Comparison with previous reporting year

Select from:

☒ This is our first year of measurement

### (9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Unknown

### (9.2.7.5) Please explain

*Hanwha Corporation is taking water from renewable groundwater, and 2023 is the first year to manage water withdrawal.*

## Groundwater – non-renewable

### (9.2.7.1) Relevance

Select from:

☒ Not relevant

### (9.2.7.5) Please explain

*Hanwha Corporation does not take water from non-renewable groundwater.*

## Produced/Entrained water

### (9.2.7.1) Relevance

Select from:

☒ Not relevant

### (9.2.7.5) Please explain

*Hanwha Corporation does not take produced or entrained water.*

Third party sources

(9.2.7.1) Relevance

Select from:

☒ Relevant

(9.2.7.2) Volume (megaliters/year)

697

(9.2.7.3) Comparison with previous reporting year

Select from:

☒ This is our first year of measurement

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

☒ Unknown

(9.2.7.5) Please explain

Hanwha Corporation is taking water from the water supply (industrial water and domestic water) that is handled by a third party, and 2023 is the first year to manage the water withdrawal.  
[Fixed row]

(9.2.8) Provide total water discharge data by destination.

Fresh surface water

(9.2.8.1) Relevance

Select from:

☒ Not relevant

#### (9.2.8.5) Please explain

*Hanwha Corporation does not discharge fresh surface water*

#### **Brackish surface water/seawater**

#### (9.2.8.1) Relevance

*Select from:*

☒ Not relevant

#### (9.2.8.5) Please explain

*Hanwha Corporation does not discharge brackish surface water and seawater.*

#### **Groundwater**

#### (9.2.8.1) Relevance

*Select from:*

☒ Not relevant

#### (9.2.8.5) Please explain

*Hanwha Corporation does not discharge water into groundwater.*

#### **Third-party destinations**

#### (9.2.8.1) Relevance

*Select from:*

☒ Relevant

#### (9.2.8.2) Volume (megaliters/year)

### (9.2.8.3) Comparison with previous reporting year

Select from:

☒ Higher

### (9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in business activity

### (9.2.8.5) Please explain

*Hanwha conducts most of the discharge through a third-party consignment treatment without local government wastewater treatment facilities or internal treatment. The main reason for increase in discharge is increase of Hanwha Corporation's wastewater-generating construction sites. As a result, the discharge volume increased compared to 2022.*

*[Fixed row]*

**(9.2.9) Within your direct operations, indicate the highest level(s) to which you treat your discharge.**

### **Tertiary treatment**

#### (9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

### (9.2.9.6) Please explain

*Hanwha Corporation does not carry out the third treatment of effluent from its business sites.*

### **Secondary treatment**

#### (9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

#### (9.2.9.6) Please explain

*Hanwha Corporation does not carry out the second treatment of effluent from its business sites.*

### Primary treatment only

#### (9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Relevant

#### (9.2.9.2) Volume (megaliters/year)

47

#### (9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

☒ Higher

#### (9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

☒ Increase/decrease in business activity

#### (9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

☒ 1-10

#### (9.2.9.6) Please explain

*The business site where Hanwha Corporation conducts primary treatment is the Onsan plant which corresponds to a total of 1 facility. As of 2023, the facility accounted for about 9% of the 11 water-related business sites disclosed by Hanwha Corporation, showing an increase in discharge compared to the previous year.*

*The reason for this is the increase in discharge due to the increase in business activity. After that, the discharged water that has undergone the treatment procedure is moved to a public wastewater treatment plant, where it is treated for secondary treatment.*

## **Discharge to the natural environment without treatment**

### **(9.2.9.1) Relevance of treatment level to discharge**

Select from:

☒ Not relevant

### **(9.2.9.6) Please explain**

*Hanwha Corporation does not discharge the discharged water from its business sites into nature environment without treating it.*

## **Discharge to a third party without treatment**

### **(9.2.9.1) Relevance of treatment level to discharge**

Select from:

☒ Relevant

### **(9.2.9.2) Volume (megaliters/year)**

12

### **(9.2.9.3) Comparison of treated volume with previous reporting year**

Select from:

☒ About the same

### **(9.2.9.4) Primary reason for comparison with previous reporting year**

Select from:

☒ Unknown

### **(9.2.9.5) % of your sites/facilities/operations this volume applies to**

Select from:

☒ 31-40

#### (9.2.9.6) Please explain

*Hanwha Corporation's third-party consignment processing without processing is applicable to a total of four facilities: Onsan Plant, Boeun Plant, Specialty Chemical Research Center, and Asan Plant. As of 2023, these facilities accounted for about 36% of the 11 water-related business sites disclosed by Hanwha Corporation, and the discharge volume was similar to the previous year.*

#### Other

#### (9.2.9.1) Relevance of treatment level to discharge

Select from:

☒ Not relevant

#### (9.2.9.6) Please explain

*Hanwha Corporation does not carry out any other treatment of discharged water from its business sites.*  
[Fixed row]

#### (9.2.10) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

#### (9.2.10.1) Emissions to water in the reporting year (metric tons)

0

#### (9.2.10.2) Categories of substances included

Select all that apply

☒ Nitrates

☒ Phosphates

#### (9.2.10.4) Please explain

*Hanwha Corporation conducts water quality management for pollutants at its three major business sites, including the Boeun Plant, the Onsan Plant, and the Specialty Chemical Research Center, which belong to the global sector. At these sites, Hanwha strives to minimize impact on the environment by precisely measuring the levels of total nitrogen (T-N) and total phosphorus (T-P), which are key indicators of water pollution. The index can be converted to nitrates and phosphates and the total amount of nitrates and phosphates generated at Hanwha's operations in 2023 was measured at approximately 0.00000525431 metric tons. That's a very small amount. Hanwha Corporation plans to continue to reduce the discharge of water pollutants at its business sites and expand its management.*

*[Fixed row]*

### (9.3) In your direct operations and upstream value chain, what is the number of facilities where you have identified substantive water-related dependencies, impacts, risks, and opportunities?

#### Direct operations

##### (9.3.1) Identification of facilities in the value chain stage

Select from:

☒ Yes, we have assessed this value chain stage and identified facilities with water-related dependencies, impacts, risks, and opportunities

##### (9.3.2) Total number of facilities identified

2

##### (9.3.3) % of facilities in direct operations that this represents

Select from:

☒ 1-25

##### (9.3.4) Please explain

*Among Hanwha Corporation's direct operating business sites, the two sites that were identified as substantially water-related dependencies, impacts, risks, and opportunities were identified as facilities with high water risk through the WWF Risk Filter, namely the Boeun plant and the Yuldo Storage.*

#### Upstream value chain

### (9.3.1) Identification of facilities in the value chain stage

Select from:

☒ No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, but we are planning to do so in the next 2 years

### (9.3.4) Please explain

*Hanwha Corporation does not separately evaluate facilities with water-related dependencies, impacts, risks, and opportunities in the upstream value chain, but plans to advance management by expanding the scope of the value chain in the future.*

*[Fixed row]*

**(9.3.1) For each facility referenced in 9.3, provide coordinates, water accounting data, and a comparison with the previous reporting year.**

#### Row 1

#### (9.3.1.1) Facility reference number

Select from:

☒ Facility 1

#### (9.3.1.2) Facility name (optional)

*Hanwha Boeun Plant*

#### (9.3.1.3) Value chain stage

Select from:

☒ Direct operations

#### (9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

☒ Dependencies

☒ Impacts

☒ Risks

#### (9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

☒ Yes, withdrawals and discharges

#### (9.3.1.7) Country/Area & River basin

**Republic of Korea**

☒ Other, please specify :Dal-Cheon

#### (9.3.1.8) Latitude

36.55163

#### (9.3.1.9) Longitude

127.65786

#### (9.3.1.10) Located in area with water stress

Select from:

☒ Yes

#### (9.3.1.13) Total water withdrawals at this facility (megaliters)

170

#### (9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

☒ Lower

**(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**

0

**(9.3.1.16) Withdrawals from brackish surface water/seawater**

0

**(9.3.1.17) Withdrawals from groundwater - renewable**

0

**(9.3.1.18) Withdrawals from groundwater - non-renewable**

0

**(9.3.1.19) Withdrawals from produced/entrained water**

0

**(9.3.1.20) Withdrawals from third party sources**

170

**(9.3.1.21) Total water discharges at this facility (megaliters)**

10.75

**(9.3.1.22) Comparison of total discharges with previous reporting year**

Select from:

☒ Lower

**(9.3.1.23) Discharges to fresh surface water**

0

#### (9.3.1.24) Discharges to brackish surface water/seawater

0

#### (9.3.1.25) Discharges to groundwater

0

#### (9.3.1.26) Discharges to third party destinations

10.75

#### (9.3.1.27) Total water consumption at this facility (megaliters)

159

#### (9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

☒ Lower

#### (9.3.1.29) Please explain

*Hanwha Corporation's Boeun plant is a Global division's business site that engages in industrial explosives-related production activities. The main source of water intake at the site is renewable groundwater and the main discharge site is a third-party discharge, which is carried out through Hanwha Aerospace's wastewater treatment facility and third-party consignment treatment. Hanwha's water consumption is calculated and the water consumption used at Boeun's business sites in 2023 is calculated to be 159.25 megaliters, excluding 10.75 megaliters from the total water withdrawal of 170 megaliters.*

### Row 2

#### (9.3.1.1) Facility reference number

Select from:

☒ Facility 2

### (9.3.1.2) Facility name (optional)

*Hanwha Yuldo Storage*

### (9.3.1.3) Value chain stage

*Select from:*

☒ Direct operations

### (9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

*Select all that apply*

☒ Dependencies

☒ Impacts

☒ Risks

### (9.3.1.5) Withdrawals or discharges in the reporting year

*Select from:*

☒ Yes, withdrawals only

### (9.3.1.6) Reason for no withdrawals and/or discharges

*Yuldo Storage, a division of Hanwha Global, consumes all the water withdrawn in 2023 and does not discharge any water.*

### (9.3.1.7) Country/Area & River basin

**Republic of Korea**

☒ Other, please specify :West sea, Gong chon-cheon

### (9.3.1.8) Latitude

37.506938

**(9.3.1.9) Longitude**

126.6189

**(9.3.1.10) Located in area with water stress**

Select from:

☒ Yes

**(9.3.1.13) Total water withdrawals at this facility (megaliters)**

3.4

**(9.3.1.14) Comparison of total withdrawals with previous reporting year**

Select from:

☒ Lower

**(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes**

0

**(9.3.1.16) Withdrawals from brackish surface water/seawater**

0

**(9.3.1.17) Withdrawals from groundwater - renewable**

0

**(9.3.1.18) Withdrawals from groundwater - non-renewable**

0

**(9.3.1.19) Withdrawals from produced/entrained water**

**(9.3.1.20) Withdrawals from third party sources**

3.4

**(9.3.1.27) Total water consumption at this facility (megaliters)**

3.4

**(9.3.1.28) Comparison of total consumption with previous reporting year**

Select from:

☒ Lower**(9.3.1.29) Please explain**

*Hanwha Corporation's Yuldo Storage is a storage of Global division where stores ammonia. The main source of water intake at the site is water supply withdrawal through a third party, In 2023 the entire water withdrawal of 3.4 megaliters was consumed and the discharge amount was not calculated.*

[Add row]

**(9.3.2) For the facilities in your direct operations referenced in 9.3.1, what proportion of water accounting data has been third party verified?****Water withdrawals – total volumes****(9.3.2.1) % verified**

Select from:

☒ 76-100**(9.3.2.2) Verification standard used**

*Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN*

SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.

## Water withdrawals – volume by source

### (9.3.2.1) % verified

Select from:

☒ 76-100

### (9.3.2.2) Verification standard used

Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.

## Water withdrawals – quality by standard water quality parameters

### (9.3.2.1) % verified

Select from:

☒ 76-100

### (9.3.2.2) Verification standard used

Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.

## Water discharges – total volumes

### (9.3.2.1) % verified

Select from:

☒ 76-100

#### (9.3.2.2) Verification standard used

*Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.*

### Water discharges – volume by destination

#### (9.3.2.1) % verified

Select from:

☒ 76-100

#### (9.3.2.2) Verification standard used

*Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.*

### Water discharges – volume by final treatment level

#### (9.3.2.1) % verified

Select from:

☒ Not relevant

#### (9.3.2.3) Please explain

*The amount of discharge for each final treatment stage of Hanwha Corporation's wastewater discharge has not been independently verified.*

### Water discharges – quality by standard water quality parameters

### (9.3.2.1) % verified

Select from:

☒ 76-100

### (9.3.2.2) Verification standard used

*Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.*

## Water consumption – total volume

### (9.3.2.1) % verified

Select from:

☒ 76-100

### (9.3.2.2) Verification standard used

*Hanwha Corporation's water accounting data was included in the sustainability report in consideration of total water withdrawal, discharge, consumption, discharge of water pollutants and the quantitative data was verified based on disclosure recommendations such as Global Reporting Initiative (GRI) Standards 2021 and the UN SDGs (Sustainable Development Goals). This verification is a limited verification and was done through interviews with the person in charge of aggregating the company's information and review of relevant documents.*

[Fixed row]

## (9.4) Could any of your facilities reported in 9.3.1 have an impact on a requesting CDP supply chain member?

Select from:

☒ We do not have this data but we intend to collect it within two years

## (9.5) Provide a figure for your organization's total water withdrawal efficiency.

### (9.5.1) Revenue (currency)

7015100000000

### (9.5.2) Total water withdrawal efficiency

7742935982.34

### (9.5.3) Anticipated forward trend

*Hanwha Corporation's total sales in 2023 are KRW 7,015,100,000,000, and the economic value created by water withdrawal is calculated as 7742935982.34. As Hanwha's sales are expected to continue to increase, the economic value created by water withdrawal is also expected to continue to increase.*

*[Fixed row]*

### (9.13) Do any of your products contain substances classified as hazardous by a regulatory authority?

|  | Products contain hazardous substances                  | Comment                                                                                                                  |
|--|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|  | Select from:<br><input checked="" type="checkbox"/> No | None of Hanwha Corporation's products contain substances that have been classified as harmful by regulatory authorities. |

*[Fixed row]*

### (9.14) Do you classify any of your current products and/or services as low water impact?

#### (9.14.1) Products and/or services classified as low water impact

Select from:

☒ Yes

#### **(9.14.2) Definition used to classify low water impact**

*The standard criterion used by Hanwha Corporation to classify low water impacts is K-Taxonomy. Section 1 of K-Taxonomy 3. Considering the activity standards and stability standards for sustainable water conservation, company classifies products and services with low water impact.*

#### **(9.14.4) Please explain**

*Hanwha Corporation categorizes services with low water impact based on K-Taxonomy. In particular, provides services to install and operate water reuse facilities (sewage treatment water, rainwater, grey water, etc.) that fall under the '(6) Water Reuse' item of K-Taxonomy through the Gyeonggi Pyeongtaek Tongbok Public Sewage Treatment Plant Facility Modernization Project and the Daejeon Sewage Treatment Plant Facility Modernization Project. Hanwha owns 52 environmental patents, 8 new environmental technologies, and 5 green technologies, including the PRO-MBR method (ultra-advanced sewage treatment technology), which has been certified as a new technology for the environment, and will continue to make efforts to expand the provision of services with low water impact.*

*[Fixed row]*

#### **(9.15) Do you have any water-related targets?**

*Select from:*

☒ No, but we plan to within the next two years

#### **(9.15.3) Why do you not have water-related target(s) and what are your plans to develop these in the future?**

##### **(9.15.3.1) Primary reason**

*Select from:*

☒ We are planning to introduce a target within the next two years

##### **(9.15.3.2) Please explain**

*Hanwha Corporation has goals such as reducing water consumption by 3% per year and setting water pollutant management targets below 50% of the legal limit for sustainable environmental management. However, Hanwha still in the process of establishing specific achievement and reference years for these goals, as well as developing detailed implementation plans. Hanwha started to collect data on water withdrawal from 2023, and fully aware of the importance of this field at a time when sustainable management of water resources is important. As a result, Hanwha plans to begin work to develop a more concrete and practical water management plan. This initiative will play an important role in achieving the company's environmental goals and further strengthening its role as a socially responsible company. Hanwha will clarify commitment to environmental protection, sustainable use of resources, and seek practical steps for a better future through cooperation*

*with relevant stakeholders.*  
*[Fixed row]*

C11. Environmental performance - Biodiversity

(11.3) Does your organization use biodiversity indicators to monitor performance across its activities?

|  |                                                                            |                                                                                           |
|--|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
|  | Does your organization use indicators to monitor biodiversity performance? | Indicators used to monitor biodiversity performance                                       |
|  | Select from:<br><input checked="" type="checkbox"/> Yes, we use indicators | Select all that apply<br><input checked="" type="checkbox"/> State and benefit indicators |

[Fixed row]

C13. Further information & sign off

(13.1) Indicate if any environmental information included in your CDP response (not already reported in 7.9.1/2/3, 8.9.1/2/3/4, and 9.3.2) is verified and/or assured by a third party?

|  |                                                                                                           |
|--|-----------------------------------------------------------------------------------------------------------|
|  | Other environmental information included in your CDP response is verified and/or assured by a third party |
|  | Select from:<br><input checked="" type="checkbox"/> Yes                                                   |

[Fixed row]

(13.1.1) Which data points within your CDP response are verified and/or assured by a third party, and which standards were used?

Row 1

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

(13.1.1.2) Disclosure module and data verified and/or assured

Introduction

☒ All data points in module 1

(13.1.1.3) Verification/assurance standard

## General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

### (13.1.1.4) Further details of the third-party verification/assurance process

*Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.*

### (13.1.1.5) Attach verification/assurance evidence/report (optional)

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## Row 2

### (13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

### (13.1.1.2) Disclosure module and data verified and/or assured

Identification, assessment, and management of dependencies, impacts, risks, and opportunities

☒ All data points in module 2

### (13.1.1.3) Verification/assurance standard

## General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

#### (13.1.1.4) Further details of the third-party verification/assurance process

*Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.*

#### (13.1.1.5) Attach verification/assurance evidence/report (optional)

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### Row 3

#### (13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

#### (13.1.1.2) Disclosure module and data verified and/or assured

##### Disclosure of risks and opportunities

☒ All data points in module 3

#### (13.1.1.3) Verification/assurance standard

##### General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

#### (13.1.1.4) Further details of the third-party verification/assurance process

*Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has*

completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.

#### (13.1.1.5) Attach verification/assurance evidence/report (optional)

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### Row 4

#### (13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

#### (13.1.1.2) Disclosure module and data verified and/or assured

##### Governance

☒ All data points in module 4

#### (13.1.1.3) Verification/assurance standard

##### General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

#### (13.1.1.4) Further details of the third-party verification/assurance process

Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.

#### (13.1.1.5) Attach verification/assurance evidence/report (optional)

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#### Row 5

#### (13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

#### (13.1.1.2) Disclosure module and data verified and/or assured

Business strategy

☒ All data points in module 5

#### (13.1.1.3) Verification/assurance standard

General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

#### (13.1.1.4) Further details of the third-party verification/assurance process

Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.

#### (13.1.1.5) Attach verification/assurance evidence/report (optional)

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## Row 6

### (13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

☒ Climate change

### (13.1.1.2) Disclosure module and data verified and/or assured

**Environmental performance – Climate change**

☒ All data points in module 7

### (13.1.1.3) Verification/assurance standard

#### General standards

☒ Other general verification standard, please specify :CDP Response verification guideline

#### Climate change-related standards

☒ ISO 14064-3

☒ Korean GHG and energy target management system

☒ Other climate change verification standard, please specify :K-ETS

### (13.1.1.4) Further details of the third-party verification/assurance process

*Hanwha Corporation prepared the report in response to CDP based on the 2024 Sustainability Report and Scope 1, 2, and 3 Greenhouse Gas Emissions Statement. All quantitative and qualitative data used in this report has been third-party verified and has received a limited level of assurance. In particular, Hanwha has completed a reasonable level of verification for Scope 1 and 2 and a limited level of verification for Scope 3 for greenhouse gas emissions. In addition, Hanwha conducted a limited level of verification of the CDP response through DNV, a verification company, to increase the reliability of the answers written in the CDP. This is part of Hanwha's commitment to continue to fulfill its sustainability responsibilities and to maintain accuracy and reliability in sharing relevant information with stakeholders.*

### (13.1.1.5) Attach verification/assurance evidence/report (optional)

[Add row]

**(13.3) Provide the following information for the person that has signed off (approved) your CDP response.**

**(13.3.1) Job title**

CEO

**(13.3.2) Corresponding job category**

Select from:

☒ Chief Executive Officer (CEO)

[Fixed row]

**(13.4) Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.**

Select from:

☒ No

