Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports

No. 3 Pollutant Emission

Table of Contents

To assist listed companies in accurately understanding and applying the applicable provisions of the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* (the "*Guidelines*"), and to standardize the disclosure of information related to energy utilization in sustainability reports, the Shanghai Stock Exchange (the "Exchange") has formulated this *Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports: No. 3 Pollutant Emission* (this "*Guide*").

Chapter I Assessment of Pollutant Emission-Related Risks and Opportunities

The risks and opportunities related to pollutant emission may have negative or positive impacts on the disclosing entity's business model, operations, strategy, financial positions, etc. A disclosing entity shall, based on its own production and operation characteristics, the environmental sensitivity of its geographical location, and in light of the actual circumstances such as the requirements of ecological and environmental management, the impacts on the natural environment, and the common demands of the affected public, implement relevant environmental management systems, take effective measures to fulfil its ecological and environmental protection responsibilities, and control environmental pollution.

The risks related to pollutant emission mainly include physical risks (such as production disruptions caused by environmental emergencies or severe air pollution) and transition risks (such as policy and legal risks, market risks). If the company's own business model or the policy and natural environment which it is subject to have not undergone material changes, there is no need to conduct an annual assessment. The company shall take into account its specific circumstances and the affordability of relevant costs.

Through the identification and assessment of risks and opportunities, a disclosing entity can analyze the financial effects of pollutant emission from a qualitative or quantitative perspective by identifying how they affect its financial performance and position.

Table 1: Samples of Risks and Impacts Related to Pollutant Emission

Samples of Risks (companies may conduct analysis based on their own circumstances)	Samples of Financial Effects

Physical risks related to pollutant emission	1. Sudden changes in the natural environment caused by pollutant emission such as environmental emergencies or severe air pollution, preventing a clean production environment and causing operational disruptions 2. Risks arising from the gradual changes in the natural environment caused by pollutant emission, such as the decline in product quality and the deterioration in service quality	1. Operations and sales hindered due to production disruptions 2. Business operations and sales affected by the decline in product quality and the deterioration in service quality
Transition risks related to pollutant emission	1. Capacity constraints resulted from the total pollutant emission control 2. High environmental protection taxes incurred from large-scale pollutant emission, or the need to offset this scale through green trading. 3. Administrative penalties received from ecological and environmental authorities due to pollutant emission, such as fines, orders to suspend business for rectification, and production halts 4. Operational and sales impacts from reputational and image damage caused by non-compliant emission or negative public opinion 5. Technical bottlenecks in pollutant control, such as immature pollutant monitoring or treatment technologies, and untimely adoption of pollutant control equipment and technologies	1. Decline in revenue and profit due to capacity constraints 2. Additional green trading or investment required to address over-emission 3. Expenses incurred from administrative penalties received from ecological and environmental authorities due to non-compliant pollutant emission 4. Operational and sales impacts from reputational damage caused by non-compliant emission or negative public opinion 5. Increased costs of pollutant emission treatment due to immature pollutant control technologies

Opportunities related to pollutants mainly include market expansion, improved resource efficiency, and increased demand for products and services.

Table 2: Samples of Opportunities Related to Pollutant Emission

Samples of Opportunities (companies may conduct analysis based on their own circumstances)		Samples of Financial Effects
Opportunities related to pollutant emission	1. Development and application of new pollution control technologies, and implementation of clean production 2. Measures for reducing, reusing and recycling pollutants 3. The increased market demand for pollutant control in a certain field due to the requirements of environmental protection policies 4. Enhanced environmental performance to meet relevant green finance standards 5. Pollutant emission rights/green market trading	1. Decreased costs of pollutant disposal due to improved pollution control technologies 2. Reduced costs of pollutant disposal via the practice of circular economy and the collaboration with upstream and downstream players 3. Low-cost special funds for pollutant reduction obtained due to policy and other factors 4. Low-cost financing and advantages in products or services as a result of long-term outstanding environmental performance 5. Reduced operating costs of pollution control facilities as a result of pollution and carbon reduction or efficient control measures, with additional benefits obtained through green trading

For quantitative analysis, the following financial effects related to revenue may be considered: revenue from pollutant control products and services, revenue from waste recycling, government subsidies, tax breaks, green trading, and sales of green products, etc. The following financial effects related to costs may be considered: costs of operating pollutant control facilities, costs of purchasing environmental protection equipment, environmental monitoring costs and other expenses, costs of soil and groundwater remediation, fines and compensation expenses, environmental protection taxes, etc.

Table 3: Main Categories of Financial Effects Related to Pollutant Emission

Category	Description

Revenue	Revenue from pollutant control products and services, gains from waste recycling, government subsidies, tax breaks, green trading, sales of green products
Expense	Costs of operating pollutant control facilities, costs of purchasing environmental protection equipment, overhead expenses for environmental monitoring, costs of soil and groundwater remediation, fines and compensation expenses, environmental protection taxes
Assets & liabilities	Due to total emission control, environmental changes and introduction of related policies, as well as mandated emission reduction targets, certain fixed assets are subject to early retirement, resulting in the impairment or shortened depreciation period; the expenses and timing for the disposal of fixed assets may change due to technological progress, legal requirements or shifts in the market environment, leading to changes in estimated liabilities
Cash flow & others	Changes in costs of pollutant control caused by policy requirements, among other factors, have an impact on operating cash flows

For specific assessment methods and threshold criteria, please refer to the *Guide No. 1 - General Requirements and Disclosure Framework*. If the assessment conclude that the topic does not have financial materiality, a disclosing entity shall provide an explanation and, in accordance with the provisions of the *Guidelines*, assess whether the topic has impact materiality and make disclosures.

Chapter II Calculation of Pollutant Emission

I. Common Types of Pollutants

A disclosing entity shall, in light of its industry attributes, production processes and business realities, disclose in the sustainability report the types of pollutants that have a material impact on its production and operational activities, and that are specified in the pollutant emission permit, such as key pollutants, characteristic pollutants and controlled substances specified by international environmental conventions. A disclosing entity may give priority to disclosing the details of pollutants subject to national total controls in the sustainability report. The common types of pollutants are as follows:

1. Key pollutants: pollutants that are widely present in the environment, extensively monitored, and subject to well-defined emission standards, such as air pollutants, water pollutants, and industrial noise.

2. Characteristic pollutants: specific pollutants other than key pollutants that are reflective of the pollution characteristics of particular industries or processes.

3. Other controlled pollutants as stipulated in international environmental conventions: pollutants specified in the *Stockholm Convention on Persistent Organic Pollutants*, the *Vienna Convention for the Protection of the Ozone Layer*, the *Minamata Convention on Mercury*, the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, etc.

Table 4: Examples of Common Pollutant Types

Type	Pollutant
Key pollutant	Air pollutants such as particulate matter (PM), nitrogen oxides (NOx), and sulfur oxides (SOx); Water pollutants such as chemical oxygen demand (COD), ammonia nitrogen (NH_3-N), and total nitrogen (TN); A-weighted equivalent sound level in noise pollution; (Solid wastes may be disclosed under the topic of waste disposal)
Characteristic pollutant	Heavy metals, non-methane hydrocarbons, hydrogen cyanide, hydrogen sulfide, etc.
Controlled pollutants as stipulated in international	Persistent organic pollutants (POPs), mercury (Hg), etc.

environmental conventions	

II. Scope of Pollutant Emission Calculation

The scope of pollutant emission calculation shall be consistent with that of the consolidated financial statements of the disclosing entity. If not, companies included in the calculation scope shall be listed.

While allowing for the full consideration of cost affordability in the early stage of consolidating and calculating pollutant emissions, the disclosing entity shall at least include in its calculation scope the entities listed on the registry of enterprises legally obligated to release environmental information and within the scope of consolidated financial statements.

III. Method for Calculating and Disclosing Pollutant Emission

To ensure the conciseness and comprehensibility of data on pollutant emission in the sustainability report, the disclosing entity may calculate and disclose the pollutant emission by pollutant type. For example, it is acceptable to make a list of pollutants and disclose their emission volume on a separate basis. For the disclosure of quantitative information on pollutant emission within China, please refer to the Appendix. Quantitative information on pollutant emission by overseas subsidiaries or assets may be disclosed in compliance with local regulations of their host countries or regions, or common international standards.

Disclosing entities involved in diverse business sectors and business types or with complicated pollutant emission circumstances, may categorize, aggregate and disclose their pollutant emission results by:

1. Business segment;

2. Type of pollutant, such as air pollutants, water pollutants, and industrial noise;

3. Type of facility, such as production facilities, auxiliary facilities, and residential facilities;

4. Source of pollutant, such as production, daily life, agriculture, and transportation;

5. Type of activity, such as production, sales, and research and development.

IV. Source of Data on Pollutant Emission

The disclosing entity shall ensure the completeness, accuracy and consistency of the disclosed data on pollutant emission, and may refer to the following methods for quoting, calculating, summarizing or compiling relevant information:

1. Total emission during the reporting period: For pollutants whose total emission has been disclosed in the management information of pollutant emission permit, such information may

be quoted and consolidated. For pollutants without such disclosure, the total emission may be calculated using methods such as supervisory monitoring data, actual measurement, material balance, pollutant-emission coefficient or empirical coefficient.

2. Certified total emission: The total annual permitted emission of the pollutant as certified in the pollutant emission permit shall be consolidated.

3. Over-emission: Over-emission refers to a situation in which the disclosing entity's emission rate and/or concentration of air pollutants or surface water pollutants, the degree of soil and groundwater contamination, or the A-weighted equivalent continuous sound level of noise exceeds the threshold values stipulated in the applicable emission standards for the pollutants. The disclosing entity may disclose the frequency and multiple of over-emission in pollutant emission monitoring data (including records of exceedances from both manual and automatic monitoring for organized and unorganized emission), and may reference records of over-emission documented in the annual pollutant emission permit compliance report for the reporting period.

4. Emission reduction targets: Emission reduction targets can be classified into voluntary emission reduction targets (formulated by the disclosing entity voluntarily and independently for the purpose of achieving green development) and prescribed emission reduction targets (targets that the disclosing entity should achieve in accordance with laws and regulations, such as regional total reduction targets for air pollutants). The pollutant reduction targets mainly include year and indicators of reduction target. Voluntary pollutant reduction targets may be set at the entity's own discretion in terms of absolute value or intensity: absolute values are measured in tons or kilograms; intensity is calculated on the basis of output, output value, industry added value or income, and measured in tons or kilograms per ton of product.

Chapter III Key Disclosure Items

The *Guidelines* prescribes that any disclosing entity that has already established holistic governance structure and internal rules to manage and oversee pollutant emission-related impacts, risks, and opportunities may make consolidated disclosures of the contents specified in the governance elements in lieu of disclosures for the individual topics.

Information regarding the pollutant emission-related governance, strategy, impact, risk and opportunity management as well as indicators and targets, may be disclosed in accordance with the relevant provisions of the guide on general requirements and disclosing framework.

Key Disclosure Item 1: Information on Pollutant Emission

A disclosing entity shall disclose the pollutant emission information during the reporting period:

1. A disclosing entity shall, in light of its industry attributes, production processes and its own actual conditions, disclose in the sustainability report the types (such as air pollutants and water pollutants), names (such as nitrogen dioxide, sulfur dioxide and total nitrogen), total emission, certified total emission, over-emission (which can be presented in table form or summarily) and environmental performance grade (if any) of or in relation to the pollutants that have a significant impact on its production and operation and are covered by the pollutant emission permit, such as key pollutants, characteristic pollutants and controlled substances specified by international environmental conventions. Please refer to the relevant content in Appendix 1.

2. A disclosing entity with complex business types is encouraged to present details on its pollutant emission in the dimensions of business units or facilities, type of source, type of pollutants, or type of activity.

3. For the technologies and methods employed to treat pollutants, as well as the building, operation and results achieved by pollution control facilities (e.g., reduction in the concentration, intensity or total amount of emission), please refer to the relevant contents in Appendix 2.

4. A disclosing entity is encouraged to explain the consolidation methods and data sources for pollutant emission (such as the operating entities related to pollutant emission data), as well as the standards and methods on which pollutant emissions are based.

Key Disclosure Item 2: Information on Pollutant Emission Reduction

A disclosing entity shall disclose the reduction targets of key pollutants and the specific measures taken to achieve the relevant targets, which may include the following contents. For specific details, please refer to the relevant contents in Appendix 3:

1. Names of pollutants included in the emission reduction targets.

2. Types of emission reduction, that is, voluntary or prescribed emission reductions.

3. Emission reduction targets, including the target year and target emission reduction, may be disclosed in the form of absolute value targets, concentration reduction targets, or other types of targets. Certain industries, which face difficulties in reducing pollutant emissions in the short term or setting emission reduction targets due to current process limitations, safety design, and material restrictions, may provide a comprehensive explanation of the relevant circumstances.

4. Measures and investments to achieve emission reduction targets, including engineering measures and management protocols, such as improving existing production equipment and processes, adopting advanced pollutant control equipment or technologies, and upgrading pollutant monitoring systems. The application of emission reduction technologies and funding may also be disclosed.

5. The specific achievements of the above-mentioned pollutant reduction measures (e.g. reduction in the concentration, intensity or total amount of emission, and the improvement to the community) and the progress towards the reduction targets.

Key Disclosure Item 3: Impact of Pollutant Emission on Such Groups as its Employees and Local Communities

A disclosing entity shall disclose the impact of pollutant emission on groups such as employees and local communities. The impact of pollutant emission on employees can be disclosed in conjunction with employee-related topics. Where there has been major complaints from local communities or other groups due to environmental pollution issues, the relevant information of the complaints may be disclosed.

Key Disclosure Item 4: Information on Environmental Compliance

A disclosing entity shall disclose the circumstances where it has received major administrative penalties or been held criminally responsible for pollutant emission during the reporting period, as well as whether there are any significant deficiencies in its environmental monitoring plans and risk management measures.

Appendix 1: Sample of Pollutant Emission Disclosure

Appendix Table 1: Total Pollutant Emission Data (Sample)

Type of pollutant	Names of pollutants (key & characteristic)	Annual total emission	Certified annual total emission?(Y /N)	Certified annual total emission	Over-emission
Air pollutant	Total amount of waste gas	(m^3)		-	
	Particulate Matter (PM)	(ton)		(ton)	
	Sulfur Oxides (SOx)	(ton)		(ton)	
	Nitrogen Oxides (NOx)	(ton)		(ton)	
	Volatile Organic Compounds (VOCs)	(ton)		(ton)	
	Others	(ton)		(ton)	
Water pollutant	Total amount of industrial waste water	(m^3)		-	
	Total amount of sanitary waste water	(m^3)		-	
	Chemical Oxygen Demand (COD)	(ton)		(ton)	
	Biochemical Oxygen Demand (BOD)	(ton)		(ton)	
	Ammonia Nitrogen (NH_3- N)	(ton)		(ton)	
	Total Nitrogen (TN)	(ton)		(ton)	
	Total Phosphorus (TP)	(ton)		(ton)	
	Others	(ton)		(ton)	

Note: The company may specifically identify the types of key pollutants at its discretion based on actual emission conditions and its pollutant emission permit.

Appendix 2: Sample of Pollutant Control Disclosure

A disclosing entity may disclose the types of pollutants, key pollutant control measures and their results based on pollutant sources. Please refer to the table below for details. Disclosure may be appropriately simplified if annual variations are minor.

Appendix Table 2 Pollution Control Measures (Sample)

Environmental element	Pollutant source	Type of pollutant	Major pollutant treatment technologies and methods/ pollutant control measures	Results
Air	Waste gas from production	Particulate Matter (PM) Volatile Organic Compounds (VOCs) sulfur dioxide (SO2) Nitrogen Oxides (NOx)s …	The waste gas is collected through closed pipelines and gas collection hoods, and the PMs are removed via electrostatic precipitation; VOCs are treated through regenerative thermal oxidation (RTO) catalytic combustion, decomposing them into carbon dioxide and water. …	During the reporting year, XX tons of VOCs were treated, and the VOCs emission concentration throughout the year met the compliance requirements. …
	Heat supply	…	…	…
	…	…	…	…
Water	Waste water from production	…	…	…
	Sanitary wastewater	…	…	…
	…	…	…	…
…	…	…	…	…

Appendix 3: Sample of Disclosure Framework for Progress towards Emission Reduction Targets

Targets relating to pollutant emission may be set as short-term, medium-term or long-term quantitative or qualitative targets based on its actual conditions, with specific deadline and base year defined. The progress during the reporting period may include the target values and the actual values for the current year.

Appendix Table 3: Quantitative Emission Reduction Targets and Progress (sample)

Pollutant type / name	Reduction target					Measures taken in the reporting period	Progress in the reporting period
	Base year	Target Year	Nature	Time horizon	Description		
Air pollutants (inc. NOx, VOCs)	2015	2025	Quantitative	Short-term	The emission of air pollutants per unit output be reduced by 20%	Add a new set of RTO equipment	The emission of air pollutants per unit output reduced by 2%

Appendix Table 4: Qualitative Emission Reduction Targets and Progress (sample)

Pollutant type / name	Reduction target				Measures taken in the reporting period	Progress in the reporting period
	Target Year	Nature	Time horizon	Description		
Air pollutants (inc. VOCs)	2035	Qualitative	Medium	Reduce the emission of air pollutants and enhance the level of green new quality productive forces	Replace oil-based paint with water-based paint that has a low VOCs content	The oil-based paint used in the XX production line and products has been replaced, reducing the VOCs content in the paint to XX% and enhancing the level of green production

Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports

No. 4 Energy Utilization

Table of Contents

To assist listed companies in accurately understanding and applying the applicable provisions of the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* (the "*Guidelines*"), and to standardize the disclosure of information related to energy utilization in sustainability reports, the Shanghai Stock Exchange (the "Exchange") has formulated this *Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports: No. 4 Energy Utilization* (this "*Guide*").

Chapter I Assessment of Energy-Related Risks and Opportunities

Enterprises use a diverse range of energy resources, such as coal, petroleum, natural gas, solar, wind, hydro, biomass, geothermal, and nuclear energy. Energy-related risks and opportunities of a disclosing entity may have negative or positive impacts on its business model, operations, development strategy, or financial position. Disclosing entities shall use energy intensively and efficiently, enhance conservation management throughout the energy usage process, and promote energy reduction, reuse, and recycling in production and distribution processes.

I. Energy-Related Risks and Opportunities

(I) Energy-Related Risks

Energy-related risks mainly manifest in the impacts of energy shortages, supply disruptions, and energy price fluctuations on enterprises. Examples include insufficient recoverable reserves of fossil fuels and escalating extraction challenges, restrictions on energy imports due to geopolitical instability, limitations on energy supply continuity and stability resulting from the intermittency of renewable energy and constrained energy storage technologies, and energy price fluctuations due to short-term supply-demand mismatches. These risks could have financial effects on disclosing entities, such as direct asset losses and indirect implications from supply chain disruptions.

A disclosing entity may encounter energy-related physical risks, as well as policy, legal, technological, and market risks during the energy transition process. Energy-related physical risks are those affecting the stability of energy supply due to the disclosing entity's reliance on specific energy sources or changes in the natural environment. In comparison, energy-related transition risks stem from requirements for energy efficiency and consumption metrics, mandates for renewable energy development, demands for R&D in energy storage, hydrogen energy, or other cutting-edge technologies, and shifts in customer preferences. Depending on the nature, impact, and significance of these changes, disclosing entities may bear varying degrees of financial and market risks. If no material changes occur in a company's business model, policy environment, and natural environment, annual assessments are not required. The company shall carry out assessments based on its own circumstances, while considering cost affordability.

Physical risks associated with energy utilization, including disruptions in supply chain stability caused by extreme weather damaging energy infrastructure like power grids and refineries, may drive companies to incorporate resilience planning into corporate strategies, diversify energy supply channels, or invest in disaster-resistant facilities. Transition risks

related to energy utilization, including carbon emission caps and reductions in new energy subsidies, which are expected to raise operational costs, may prompt companies to reevaluate their production processes, adopt energy-saving technologies, or switch energy suppliers.

Table 1: Examples of Energy-Related Risks

Examples (company may conduct analysis based on its own circumstances)	
Energy-related physical risks	1. Damage to energy infrastructure, disruption of energy supply, or impediments to energy production caused by extreme weather, geological disasters, or other natural environmental changes. 2. Dependence of certain renewable energy technologies on specific resources. For example, changes in the extraction and transportation of lithium or cobalt—essential resources for energy storage—may affect the continuity and stability of energy supply; insufficient sunlight will have a direct impact on the efficiency of solar and photovoltaic power generation. 3. Changes in regional natural conditions, such as insufficient recoverable reserves of fossil fuels and escalating extraction challenges.
Energy-related transition risks	1. Impacts from environmental protection and public policies. Tightened fossil fuel policies would potentially drive GHG emission prices up; heightened energy efficiency and consumption requirements may increase operational costs. 2. Shifts in customer preferences. Reduced market demand for fossil fuels may decrease revenues of fossil fuel companies, lower the sales and income of manufacturers using fossil fuels, or pose impairment risks for fossil fuel-related production and service facilities. 3. Development of energy alternatives or new low-carbon energy (e.g., hydrogen energy, energy storage) increase companies' capital expenditures on technology development.

(II) Energy-Related Opportunities

Energy-related opportunities refer to the potential positive impacts of energy utilization on disclosing entities. For example, technological innovation can drive more efficient energy use and improve energy efficiency, thereby creating opportunities such as cost savings, development of new products and services, and expansion into international markets. Energy-related opportunities vary depending on the region, market, and industry in which the disclosing entity operates. Typical opportunities may involve, among others, markets, energy resource efficiency, products and services, capital flows and financing, as well as reputation.

Table 2: Examples of Energy-Related Opportunities

Examples (company may conduct analysis based on its own circumstances)	
Energy-related opportunities	1. By using energy-saving equipment, implementing energy cascade utilization, and establishing energy management systems, companies can enhance energy efficiency, reduce their reliance on energy resources, and lower energy procurement costs. Adopting renewable energy, hydrogen energy, and energy storage solutions, companies can further decrease operational expenses. 2. Due to financial institutions' green financial products and investor preferences, companies and projects with high energy efficiency and strong environmental performance are more likely to secure low-cost financing support. 3. Scientific energy utilization and management help build a positive image, win customer trust, enhance industry influence and brand value, and open up new product and market opportunities. 4. Companies can enjoy subsidies, tax benefits, and other policy incentives, including government subsidies, tax exemptions, or low-interest loans for clean energy and energy efficiency projects.

Energy-related opportunities, including innovations in renewable energy technologies and advancements in energy storage, allow companies to reduce energy costs and develop new energy products. These opportunities may also affect companies' strategic decisions on infrastructure investment and supply chain planning, or drive them to adjust product strategies, develop low-carbon product lines, and improve brand competitiveness through green certifications.

Disclosing entities are not required to assess energy-related risks and opportunities across their entire value chain on annually. Instead, they may conduct such assessments periodically or on an ad hoc basis based on their specific circumstances. However, reassessment shall be considered when material events or changes occur.

Table 3: Scenarios for Company to Reassess Energy-Related Risks and Opportunities Across the Value Chain

Material Changes	Examples
Material changes in energy mix	Switching from coal to natural gas as part of energy substitution efforts; shifting from traditional grid electricity procurement to self-built distributed photovoltaic power generation.

Material changes in business model, activities, or corporate structure	Seeking mergers or acquisitions that expand the company's value chain.
Material changes in energy policies within the supply chain	Making major adjustments to the company's energy supply sources and mix when energy suppliers in the value chain are affected by unexpected policy or regulatory changes.

II. Financial Effects of Energy-Related Risks and Opportunities

The financial effects of energy-related risks and opportunities on a disclosing entity stem from such risks and opportunities the entity faces and are related to the entity's strategies and decisions in managing them. These risks and opportunities may have impacts on the entity's financial position, operating results, and cash flows, including both current and expected financial effects.

The financial effects of energy-related risks and opportunities mainly involve the following financial categories: revenues and expenses (income statement); assets and liabilities (balance sheet); and cash inflows and outflows (cash flow statement).

Table 4: Major Categories of Financial Effects Related to Energy Utilization

Category	Description
Revenue	Extreme weather events can impact or even disrupt energy supply, thereby affecting revenue. As renewable energy and green low-carbon technologies receive strong national support, companies should consider the potential impacts of energy utilization on revenue while identifying opportunities to increase or create income.
Expenses	Future energy transition requires increased R&D expenditures on new technologies, including strengthening research and application of hydrogen energy, energy storage, and biomass fuels.
Assets and Liabilities	New energy efficiency metrics, climate change policies, and other relevant policies may require companies to set emission reduction targets and hence retire certain fixed assets early, leading to asset impairment or shorter depreciation period. Changes in estimated liabilities may also arise due to adjustments in the disposal costs and timing of fixed assets caused by technological advances, legal requirements, or market shifts.
Cash Flows, etc.	Extreme weather, natural disasters, and policy requirements can cause fluctuations in energy prices and transportation costs, affecting cash flows

	from operating activities.

Chapter II Method for Calculating Comprehensive Energy Consumption

A disclosing entity can calculate and disclose its comprehensive energy consumption in accordance with policy requirements issued by competent national authorities or applicable national standards. The scope of calculation covers all forms of energy actually consumed by the disclosing entity, including both direct energy (coal, gasoline, diesel, natural gas, liquefied petroleum gas, etc.) and indirect energy (electricity, steam, hot water, etc.), but excludes energy used as raw materials. Self-generated and self-consumed green electricity is excluded from comprehensive energy consumption. Energy losses during internal storage, conversion, and distribution (including external sales) shall be included in the calculation. Energy produced from energy processing and conversion, such as electricity generated from waste heat, shall be deducted from the comprehensive energy consumption, yet energy consumed by the waste heat power generation system shall be added.

Raw data for the calculation include energy meter readings, data records from online energy consumption monitoring systems, energy statistical reports, shipping documents, and energy bills.

The comprehensive energy consumption is generally calculated using Formula (1):

$$E = \sum_{i=1}^{n} (E_i \times k_i)/1000 \quad \cdots\cdots (1)$$

Where:

E — Comprehensive energy consumption, in metric tons of coal equivalent (tce);

E_i — Actual consumption of the i-th energy type in production and/or service activities, in kilograms (kg) for solid and liquid fossil fuels, in cubic meters (m^3) for gaseous fossil fuels, in kilowatt-hours (kWh) for electricity, and in megajoules (MJ) for heat;

k_i — Coal equivalent coefficient for the i-th energy type, in kilograms of coal equivalent per kilogram (kgce/kg) for solid and liquid fossil fuels, in kilograms of coal equivalent per cubic meter (kgce/m^3) for gaseous fossil fuels, in kilograms of coal equivalent per kilowatt-hour (kgce/kWh) for electricity, and in kilograms of coal equivalent per megajoule (kgce/MJ) for heat;

i — Number of energy types.

For each type of fuel consumed, the coal equivalent coefficient shall be calculated first with its as-received lower heating value using Formula (2):

$$k_i = \frac{NCV_i}{29307.6} \quad (2)$$

Where:

NCVi — Average lower heating value of the i-th fuel type, in kilojoules per kilogram (kJ/kg) for solid and liquid fossil fuels, and in kilojoules per cubic meter (kJ/m³) for gaseous fossil fuels;

29307.6 — Lower heating value of coal equivalent, in kilojoules per kilogram of coal equivalent (kJ/kgce).

In calculating coal equivalent coefficient, the lower heating value of energy shall be measured or provided by the supplier. If measured values are unavailable, the coefficient stated in relevant national standards may be taken as reference. For self-produced indirect energy, the coefficient shall be determined based on actual input-output calculations.

Chapter III Key Disclosure Items

Pursuant to the *Guidelines*, if a disclosing entity has created a holistic governance structure and internal rules for managing and supervising the impacts, risks, and opportunities related to energy utilization, it may integrate the disclosure of governance elements without disclosing the governance of energy utilization separately.

Information concerning the governance, strategy, impacts, risk and opportunity management, as well as metrics and targets related to energy utilization, may be disclosed in alignment with the general requirements and disclosure framework guidelines.

Key Disclosure Item 1: Basic Information on Energy Usage

(1) Total energy consumption (calculated in metric tons of coal equivalent) by type of direct and indirect energy (e.g., coal, electricity, gas, or oil).

(2) Energy mix.

(3) Total energy consumption intensity (e.g., calculated per unit of revenue or output).

The above information can be disclosed with reference to the following table:

Table 5: Example of Energy Usage Summary (company may determine the energy types based on its own circumstances)

Quantitative Disclosure Items	Unit	Value	Coal Equivalent (Unit: tce)
Basic information on energy usage			
Direct energy consumption	tce		
Indirect energy consumption	tce		
Total energy consumption	tce		
Comprehensive energy consumption per unit of revenue/product/output value	tce/output (tce/RMB 10,000 yuan)		

Key Disclosure Item 2: Clean Energy Usage

Companies shall disclose the types, total volume, and proportion of clean energy consumed, such as wind, solar, hydro, geothermal, biomass, and ocean energy. The proportion of clean energy can be calculated uniformly after converting all types of clean energy using the coal equivalent coefficient.

The above information can be disclosed with reference to the following table:

Table 6: Example of Clean Energy Usage Summary (company may determine the clean energy types based on its own circumstances)

Quantitative Disclosure Items	Unit	Value	Coal Equivalent (Unit: tce)	Proportion of Total Clean Energy Usage or Specific Clean Energy Type
Clean energy usage				

Notes: 1. Companies may further disclose detailed usage of each type of clean energy based on the principle of materiality.

2. Companies may voluntarily disclose the proportion of clean energy in electricity procured from the state grid. The usage of green certificate electricity, independently procured green power, or self-generated and self-consumed green electricity may reflect clean energy consumption and hence can be disclosed accordingly.

Key Disclosure Item 3: Energy Conservation Targets and Specific Actions

1. Energy conservation targets, such as absolute or intensity-based targets.

A disclosing entity can select metrics from dimensions including energy consumption intensity, energy utilization efficiency, and proportion of renewable energy. Examples include comprehensive energy consumption per unit of revenue/product/output value, reduction rate of comprehensive energy consumption, and proportion of renewable energy usage to total energy consumption. The selection of metrics should take into account industry characteristics, the entity's operational contexts, and relevant policy standards to ensure relevance and comparability.

2. Specific energy conservation actions include but are not be limited to purchasing energy-saving production equipment, lighting systems, and temperature control devices, retrofitting existing equipment for energy-saving purposes, reusing waste heat and residual pressure, and adopting energy cascade utilization. A disclosing entity may disclose the energy

conservation actions taken and their expected outcomes.

Examples of major actions are as follows:

Table 7: Examples of Energy Conservation Actions

Category	Examples	Examples of Key Performance Metrics (Quantitative/Non-Quantitative)	
Energy-saving production equipment	In procurement activities, give preference to high-efficiency motors, inverter-driven air compressors, pumps, fans, and other key power equipment that comply with national energy efficiency standards (e.g., GB 18613); select devices with advanced energy-saving technologies (e.g., permanent magnet synchronous technology, and IE4/IE5 ultra-high efficiency grades) for new projects or equipment upgrades.	The company has replaced XX outdated motors with high-efficiency motors in production lines.	Estimated annual electricity savings: XX kWh
Energy-saving lighting systems	Phase out incandescent/fluorescent lamps entirely; promote LED lighting in plants/offices /workshops/warehouses; adopt intelligent control systems with light sensors/sound controls/timers/zoning functionalities.	The company has completed LED retrofitting in plant public areas and workshops, covering XX lamps.	Comprehensive energy-saving rate: Over XX%
Energy-saving temperature control devices	Select high-efficiency air conditioning systems such as magnetic bearing chillers and variable refrigerant flow units; apply high-efficiency heat pumps for heating/ventilation systems; install intelligent temperature control systems for critical equipment.	The company has replaced screw chillers with magnetic bearing chillers at a production base.	Annual electricity savings: XX kWh
Waste heat and residual	Systematically recover waste heat from kiln flue gas, process exhaust,	The company has installed a top	Annual power generation: XX

pressure recovery	and air compressors, steam condensate, blast furnace gas pressure (through TRT), as well as chemical gas pressure.	pressure recovery turbine (TRT) for blast furnace gas in a production line.	kWh Annual coal reduction: XX tce
Application of technologies	Install waste heat boilers to generate steam for power generation; use heat pump technology to upgrade low-grade waste heat; implement closed-loop recovery of steam condensate; construct an organic rankine cycle (ORC) system for residue pressure power generation.	A factory has utilized medium-temperature exhaust from a reactor for ORC power generation.	Annual power generation: XX kWh

Note: The categories and content in this table are for illustrative purposes only. Each company shall customize actions according to its own circumstances. Quantitative outcomes can be calculated with reference to the *Guidance on Implementation of Measurement and Verification of Energy Savings GB/T 32045—2015* and other applicable standards.

3. Specific challenges encountered in energy utilization (if applicable).

A disclosing entity may disclose the challenges encountered in energy utilization based on its own circumstances, such as challenges related to energy supply concentration, stability, energy costs, energy management and technology, or talent and capital investment.

Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports

No. 5 Water Utilization

Table of Contents

To assist listed companies in accurately understanding and applying the applicable provisions of the *Guidelines No. 14 of Shanghai Stock Exchange for Self-Regulation of Listed Companies—Sustainability Report (Trial)* (the "*Guidelines*"), and to standardize the disclosure of information related to water utilization in sustainability reports, the Shanghai Stock Exchange (the "Exchange") has formulated this *Guide No.4 for Self-Regulatory Supervision on Listed Companies of the SSE—Compilation of Sustainable Development Reports: No. 5 Water Utilization* (this "*Guide*").

Chapter I Assessment of Water-Related Risks and Opportunities

Water-related risks and opportunities of a disclosing entity may have negative or positive impacts on its business model, operations, development strategy, or financial condition. Enterprises shall use water resources intensively and efficiently, enhance conservation management throughout the water usage process, and promote water reduction, reuse, and recycling in production and distribution processes.

I. Water-Related Risks and Opportunities

(I) Water-Related Risks

Water-related risks primarily include physical and transition risks. These may involve water quantity (like scarcity) and quality issues (such as suitability for use, need for pretreatment) within a basin or region.

If no material changes occur in a company's business model, policy environment, and natural environment, annual assessments are not required. The company shall carry out assessments based on its own circumstances, while considering cost affordability.

Table 1: Examples of Water-Related Risks

Type	Examples (company may conduct analysis based on its own circumstances)
Water-Related Physical Risks	1. Reduction in asset value caused by drought. 2. Unavailability of clean water resulting from sudden water contamination incidents. 3. Business shutdown or relocation in the absence of alternative water sources. 4. Direct disruption to major water-dependent processes such as agricultural irrigation, industrial cooling, and product cleaning. For example, water scarcity may constrain agricultural irrigation, leading to reduced output. 5. Deteriorating water quality necessitates increased investment in water treatment—such as pretreatment facilities and wastewater reuse systems—incurring additional pretreatment costs.

Type	Examples (company may conduct analysis based on its own circumstances)
Water-Related Transition Risks	1. Tightening regulations or policies (e.g., water supply adjustments such as changes in water allocation or usage restrictions, enhanced or new water withdrawal permits, stricter wastewater discharge standards, and amendments to water quality regulations). 2. Cost increases arising from changes in water supply, demand, and financing, including fluctuations in water availability and pricing. 3. Transition from water-intensive products or services to more efficient technologies or advancement in water purification methods may render existing technologies obsolete and increase R&D expenses. 4. Production activities (or products/services) that affect water resources may trigger complaints from stakeholders (e.g., consumers, investors, and local communities) or lead to public incidents. Growing water scarcity heightens exposure to reputational risks, while declining water availability and quality exacerbate competition for clean water, straining relations between companies and local communities.

A company may assess water-related risks in a targeted manner through the following steps.

Step 1: Understand the company's current water usage data across various business processes and identify key processes in the entire workflow that are dependent on or have an impact on water resources.

Table 2: Examples of Water Usage by Business Processes

Business Process	Examples of Water Usage
R&D	Water is used for experiments, research, and testing during the R&D of new products and the improvement of existing ones.
Production	The company's production process directly relies on the availability and quality of water, which serves as a core production input. Water is also used as an auxiliary resource in activities like cleaning and equipment cooling.
Sales and Logistics	Water acts as a supporting resource in logistics and warehousing, such as for cleaning transport vehicles, product packaging, and sales experiences at retail stores.

Business Process	Examples of Water Usage
…	…

Step 2: Understand the current water environment and relevant water usage policies in the regions where the company operates, and apprehend local water usage requirements and restrictions, so as to further evaluate and identify operational sites located in water-scarce and high-risk areas.

Water risks are largely contingent on local environment, which can be the focus of the company's attention. In water-scarce areas, ecosystems are especially vulnerable to water consumption. Water withdrawals beyond the natural replenishment capacity, or water consumption surpassing the ecosystem's carrying capacity, can trigger cascading ecological issues. These include groundwater decline leading to land subsidence, interruption of river flows damaging aquatic habitats, and wetland drying exacerbating regional droughts.

By identifying operational sites facing significant water stress, the company can determine the importance and priority of water risk management measures across different geographical areas. Monitoring evaluations by competent government authorities on water-overwithdrawn regions helps assessing regional water risks.

Table 3: Examples of Physical Water Risk Assessment Metrics for Basins Where Operations Are Located

Risk Type	Examples of Common Assessment Metrics	Source
Physical Risk	Evaluation of water scarcity based on water availability and demand	E.g., Ministry of Water Resources' *China Water Resources Bulletin*, regional water resources bulletins
	Frequency of droughts and floods	E.g., Ministry of Water Resources' disaster and hydrology data
	Regional water quality	E.g., Ministry of Ecology and Environment's water quality data, National Surface Water Quality Automatic Monitoring and Real-Time Data

Risk Type	Examples of Common Assessment Metrics	Source
		Release System
…	…	…

Step 3: Conduct a comprehensive analysis of the company's water usage, business criticality, and specific regional conditions to identify operational sites where water-related risks are concentrated and assess potential financial impacts, thereby tailoring management measures.

Table 4: Examples of Comprehensive Water-Related Risk Assessment for Operational Site

Operational Site	Business Criticality	Business Water Usage	Regional Water Availability Classification	Regional Water Quality Classification	Comprehensive Assessment Result
Region A	Critical	High proportion of total corporate water usage	Water-scarce region	Class I	Level 1 water risk; prioritize water conservation programs
Region B	Critical	High proportion of total corporate water usage	Non-water-scarce region	Class III	Level 2 water risk; continuously monitor changes in regional water quality
Region C	Non-core operational site	Low proportion of total corporate water usage	Water-scarce region	Class II	Level 3 water risk; non-core operational site; maintain ongoing monitoring

Operational Site	Business Criticality	Business Water Usage	Regional Water Availability Classification	Regional Water Quality Classification	Comprehensive Assessment Result
		…	…		…

Note: The text and values in this table are for illustrative purposes only. Each company shall customize assessments according to its own circumstances. For instance, regional water quality classifications can be based on the categorization used in the National Surface Water Quality Automatic Monitoring and Real-Time Data Release System.

(II) Water-Related Opportunities

Water-related opportunities are primarily reflected in new market development, improved resource utilization efficiency, and increased demand for products and services.

Table 5: Examples of Water-Related Opportunities

Type	Examples (company may conduct analysis based on its own circumstances)
Water-Related Opportunities	1. New market emerges. For instance, regions with poor water quality may exhibit higher demand for household water filtration systems; areas with high leakage rates could require technical solutions such as smart water management systems. 2. Rising demand for water-saving equipment and wastewater treatment technologies in industrial and agricultural sectors allows related enterprises to increase market share and competitiveness. 3. Proactive measures in water risk management may lead to partnerships with enterprises that engage in supply chain water management. 4. Improving utilization efficiency of water resources directly reduces fresh water consumption and lowers water procurement expenses. 5. By optimizing water usage processes and introducing water recycling systems, treated wastewater can be reused in production or other non-potable applications. This enhances water reuse rates, reduces water waste, and decreases wastewater treatment and discharge costs. 6. Providing professional services such as water audits, water-saving solution design, and wastewater treatment operation and maintenance to

Type	Examples (company may conduct analysis based on its own circumstances)
	other market participants can address market gaps and create new profit growth opportunities. 7. Enterprises and projects demonstrating high water usage efficiency and sustainable water management capabilities can attract financial support for technology R&D, equipment upgrades, and business expansion, accelerating their growth. 8. Establishing a differentiated advantage in water-scarce regions by producing water-efficient or water-saving products or investing in local water improvement are more likely to strengthen local customer loyalty and elevate brand value and reputation.

II. Financial Effects of Water-Related Risks and Opportunities

The financial effects of water-related risks and opportunities on a disclosing entity stem from such risks and opportunities the entity faces and are related to the entity's strategies and decisions in managing them. These risks and opportunities may have effects on the entity's financial position, financial performance and cash flows, including both actual financial impacts that have occurred in the current and/or prior years and expected financial impacts. Taking water scarcity as an example, inadequate water resources may disrupt business operations. The corresponding expected financial impact may be estimated qualitatively or quantitatively by considering the frequency of local water scarcity, the severity of individual occurrences, and the economic losses resulting from business disruptions.

The financial effects of water-related risks and opportunities mainly involve the following financial categories: revenues and expenses (income statement); assets and liabilities (balance sheet); and cash inflows and outflows (cash flow statement).

Table 6: Major Categories of Financial Impacts Related to Water Utilization

Category	Description
Revenue	Water scarcity or quality issues can disrupt production and reduce output, directly affecting corporate revenue. Insufficient water supply may force companies to reduce production capacity. In areas identified as over withdrawn in terms of water resources (e.g., surface water or groundwater), the inability to secure new water withdrawal permits can hinder potential

Category	Description
	business expansion. Proactive water management, including investing in water-saving technologies, can open up new revenue streams, such as income from wastewater recycling technologies.
Expenses	Water scarcity or pollution can escalate water withdrawal and treatment costs, adding to operating expenses. Higher water prices, water resource taxes, or fines for environmental non-compliance can further inflate expenditures. Companies may need to augment capital expenditures to tackle water risks, such as equipment upgrades or alternative water source projects. Comprehensive management in water-overwithdrawn regions—such as industrial restructuring, enhanced water conservation, water source replacement, stricter water regulation, and water rights trading—may modify operating costs. Efficient water management (e.g., water recycling) can reduce production costs in the long term.
Assets and Liabilities	Water scarcity could result in asset impairment, such as rendering high water-consuming equipment unusable. Penalties for non-compliant water usage, e.g., unpermitted water withdrawal or exceeding pollution thresholds, might invoke fines, litigation compensation, and other contingent liabilities.
Cash Flows, etc.	Extreme weather or policy requirements can cause variations in water withdrawal costs, water treatment expenses, and water resource taxes, affecting cash flows from operating activities.

Chapter II Common Method for Calculating Water Usage

I. Water Withdrawal Volume

Water withdrawal volume is the amount of water obtained from various water sources or channels, including both conventional and non-conventional sources.

Conventional water sources (i.e., fresh water) refer to fresh water withdrawn from natural environments or provided by municipal water supply facilities.

Non-conventional water sources include reclaimed water (i.e., urban wastewater that has undergone appropriate treatment processes to meet specific quality standards and functional requirements for beneficial use), harvested rainwater, seawater and desalinated seawater, and brackish water.

$$V_i = \sum_{j=1}^{n} V_{ij}$$

Where:

Vi – Water withdrawal volume during the statistical period, in metric tons

Vij – Water withdrawal volume from a specific water source during the statistical period, in metric tons. Here, “j” represents different water sources.

II. Water Consumption Volume

Water consumption volume refers to the quantity of water that is consumed or lost in various forms during production and operational activities and cannot return to surface water bodies or aquifers. This figure is equal to the water withdrawal volume minus the water discharge volume (i.e., the volume of water treated to meet specific standards and released back to surface water, groundwater, seawater, or third parties). It reflects a company’s overall impact on the water availability of downstream users.

$$V_t = V_i - V_{\mathrm{d}}$$

Where:

V_t – Water consumption volume during the statistical period, in metric tons

V_i – Water withdrawal volume during the statistical period, in metric tons

V_d – Water discharge volume during the statistical period, in metric tons

Chapter III Key Disclosure Items

Pursuant to the *Guidelines*, if a disclosing entity has created a holistic governance structure and internal rules for managing and supervising the impacts, risks, and opportunities related to water utilization, it may integrate the disclosure of governance elements without disclosing the governance of water utilization separately. Information concerning the governance, strategy, impacts, risk and opportunity management, as well as metrics and targets related to water utilization, may be disclosed in alignment with the guide on general requirements and disclosure framework.

Key Disclosure Item 1: Basic Information on Water Usage

1. Total Water Consumption

Disclosing entities shall disclose their total water consumption in metric tons, calculated with reference to the method outlined in Chapter II. Entities are also encouraged to disclose total water withdrawal volume.

2. Water Use Intensity

Disclosing entities shall disclose water use intensity (e.g., per unit of product or per unit of revenue).

Enterprises with a concentrated product range disclose water intensity per unit of product (e.g., water consumption per unit of product). Enterprises with diverse product types, multiple product lines, or service-oriented operations disclose water intensity per unit of revenue (e.g., water consumption per unit of revenue).

Key Disclosure Item 2: Water Conservation Targets and Specific Actions

1. Water conservation targets. A disclosing entity can set targets related to water consumption, water reuse, and non-conventional water sources. Examples include quantifiable and trackable targets like water consumption per unit of product/revenue or the proportion of reused water. Target selection should take into account industry characteristics, the entity's operational contexts, and relevant policy standards to ensure relevance and comparability.

2. Specific water conservation actions. An enterprise can customize actions based on its own circumstances or consider starting with the following actions.

Table 7: Examples of Specific Water Conservation Actions

Process	Examples of Specific Actions

Process	Examples of Specific Actions
Water Resource Management	1. Improve the organizational structure for water resource management, such as having the board oversee water usage and conservation efforts, establishing a water resource management department and full- or part-time personnel, and clarifying roles and responsibilities. 2. Develop water conservation policies and rules, conduct staff training on water efficiency, and enhance overall water conservation awareness. 3. Create a water usage management and accounting system. Regularly conduct water usage accounting to adjust water usage plans dynamically, and define clear physical boundaries for water resource management. For example, identify water sources (surface/ground/reclaimed water) and corresponding water rights (such as statutory withdrawal permits or customary water rights in basins) within the boundaries of all production and operational sites, including leased premises. 4. Enhance smart management. Improve water metering infrastructure and promote the installation of smart water meters to achieve precise monitoring of water usage data.
Planning and Designing	1. Prioritize water resource compatibility in site selection decisions. Conduct water withdrawal feasibility analyses and water resource assessments to align business operations with local water carrying capacity. Avoid siting high-water-consumption activities or projects in water-scarce or -stressed regions to minimize risks of water shortages, production disruptions, and supply chain interruptions. 2. Equip new, renovated, or expanded construction projects with water-saving facilities, ensuring these facilities are designed, constructed, and operated simultaneously with the main projects. 3. Integrate effective management measures, water reuse, non-conventional water sources utilization, and water-saving technologies or processes into planning, designing, and developing water usage and conservation programs.
Water Withdrawal	1. Rationally plan and calculate water withdrawal volumes to ensure total volume control and quota management. 2. Select water sources based on production needs and local water availability, obtain approvals from local water authorities, and withdraw water in accordance with approved plans. 3. Maximize the utilization of non-conventional water sources according

Process	Examples of Specific Actions
	to local conditions. Substitute high-quality water with lower-quality alternatives that meet usage requirements. For instance, enterprises in coastal areas may use seawater, while mining companies can utilize mine water. 4. Strengthen control and management of water obtained from public supply systems and external sources. 5. Equip self-built water supply systems with standard water withdrawing, metering, and treatment equipment.
Water Supply, Storage, and Usage	1. Develop and implement maintenance and management rules for water supply, storage, and usage pipelines and equipment, and conduct regular inspections. Establish a leakage control system for water supply and usage networks, and take other actions to reduce water leakage and losses. 2. Enhance management of key water-consuming equipment and processes by setting and enforcing water usage standards and operational procedures. 3. Strengthen internal water management by instituting water conservation management systems. Adopt advanced and proper water-saving technologies, processes, and equipment, such as graded water supply, efficient cooling and washing, water recycling, and wastewater treatment and reuse. Evaluate water quality and usage volume across production units to avoid mismatches between water quality and application scenarios and prevent overuse, thereby optimizing water balance. 4. Recycle cooling water from production equipment, air conditioners, and boiler condensate. High water-consuming industrial enterprises should progressively adopt advanced wastewater treatment and reuse technologies to improve water recycling rates. Enhance the design of internal water treatment and reclaimed water reuse systems to increase efficiency. Construct storage ponds/reservoirs to collect rainwater for reuse in production. 5. Develop water-saving irrigation technologies, such as sprinkler irrigation, micro-irrigation, pipeline irrigation, lined canal irrigation, and supplementary irrigation with rainwater, to enhance irrigation water efficiency.

3. Describe water recycling and reuse practices. Specific actions and outcomes of water recycling and reuse can be disclosed together with water conservation actions. Outcomes can

be measured and disclosed using quantitative metrics, such as the proportion of reused water in total water usage.

4. Describe any specific challenges encountered in water utilization (if applicable).