

Do Water Accounting Disclosure Matter for Water Resource Sustainability?

هل تعتبر إفصاحات المحاسبة مهمة لاستدامة الموارد البشرية؟

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Abstract:

This study aims to examine the breadth of water accounting disclosure in public companies. This research uses a list of companies with the SRI-Kehati index in 2024. Based on an in-depth review of the reports that were successfully accessed on the website managed from November 2024 to February 2025, this research found that companies generally report their sustainability agendas and initiatives with the main consideration of meeting regulatory demands, not on the awareness that sustainability is a business responsibility. Success in the sustainability aspect is often narrated by the presence or absence of public complaints. This is a concern and a common issue that this sustainability agenda has not become a common awareness, but only for legitimacy

Keywords : sustainability, water, accountability, sri-kehati

Jel Classification Codes : Q01, Q56, Q57

ملخص :

تهدف هذه الدراسة إلى دراسة مدى اتساع نطاق الإفصاح المحاسبي عن المياه في الشركات العامة. يستخدم هذا في عام 2024. واستناداً إلى مراجعة متعمقة للتقارير SRI-Kehati البحث قائمة الشركات المدرجة ضمن مؤشر التي تم الوصول إليها بنجاح على الموقع الإلكتروني المُدار من نوفمبر 2024 إلى فبراير 2025، وجد هذا البحث أن الشركات تُبلغ عمومًا عن أجنداتها ومبادراتها المتعلقة بالاستدامة مع مراعاة تلبية المتطلبات التنظيمية بشكل رئيسي، وليس على أساس الوعي بأن الاستدامة مسؤولية تجارية. إن النجاح في الجانب المتعلق بالاستدامة غالباً ما يقترن بوجود أو غياب الشكاوى العامة. وهذا مصدر قلق وقضية مشتركة، حيث لم تصبح أجندة الاستدامة هذه وعياً عاماً، بل من أجل الشرعية فقط.

كلمات مفتاحية: الاستدامة، المياه، المساءلة.

تصنيف Jel : Q01, Q56, Q57

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INTRODUCTION

Water accounting is relevant to be studied as a current research issue considering the abundance of water resources in Indonesia, namely as a country ranked fifth in the world with a potential of 3,200 billion cubic meters of water (DatinSDA, 2012). Climate change can be a threat to the abundance of water resources for future generations. Ensuring the availability of water sustainably is one of the global issues.

Indonesia and other countries in the world have committed to ensuring water sustainability as support for the Sustainable Development Goals (SDGs) program (Ray, 2021). Various steps in water resource management need to be considered so that current water utilization continues in the long term. To ensure water sustainability, several countries have made various efforts. Australia has implemented the concept of Water Accounting *in* accordance with the standards issued by WASB, *Water Accounting Standards Board*, (Vardon et al., 2007). This implementation aims to provide a detailed description of how to calculate, compile, report, and ensure the accuracy of information related to water resources in accounting reports. Water accounting standards in Australia are driven by the need to increase transparency and control over water resource management. This implementation helps water-related companies, including PDAM, to ensure that they can record and report all aspects related to water resources accurately and completely. The implementation of water accounting in Australia is already extensive and integrated in various industries, including agriculture and other industries. This shows that Australian water accounting practices have become an integral part of the water resource management strategy.

Momblanch et al (2014) used a water accounting standard also issued by WASB but adapted to the conditions of water sources and climate in Spain. The adjustment of the standard considers the potential of water accounting to increase transparency and control of the desired water resource management. Although the implementation details have not been fully explained, the water accounting standards in Australia and Spain generally include similar elements, namely calculating, compiling, reporting, and ensuring the accuracy of water-related information. Tilmant et al (2015) present a dynamic water accounting framework based on the marginal resource opportunity cost (MROC) of water using the East Nile River Basin in Africa as an illustration. This research integrates information from hydro-economic models to track the economic impacts of changes in individual system elements. The river basin is a value chain with water production and storage services; treating water users and reservoir operators as economic agents who can exchange water at MROC. Zhu et al (2004) examines water accounting by incorporating environmental water demand into the water accounting system poses significant challenges for policy makers in the Yellow River Basin of China. This research highlights key differences compared to water accounting methodologies commonly applied elsewhere by discussing the geography of the basin, water resource estimation, and current issues facing water management in the region. The paper emphasizes the declining trends in basin rainfall and runoff, the dramatic growth in industrial and domestic water use, and the challenges in incorporating ecological demand into the water accounting equation. Afrin et al (2022) found that corporations with a past record of responsibility experience a decline in marginal benefits from responsible water actions, while firms with a past record of irresponsibility see an offsetting effect. Firms with a record of responsible performance face

fewer negative reactions to irresponsible water actions, benefiting from an “insurance effect,” while firms that are already perceived as irresponsible face a decline in negative marginal benefits.

Zhang et al (2020) offer an alternative perspective on corporate motivations for water disclosure, focusing on avoiding future government regulation rather than simply enhancing reputation. This paper shows that firms with stronger self-regulation (e.g., water governance, policies, actions, performance) are more likely to disclose water information to the public. Second, the relationship between self-regulation and water disclosure is moderated by the firm’s water intensity. Third, firms with poor self-regulation tend to withhold water information, while firms with moderate self-regulation selectively disclose to institutional investors. These findings have practical implications for promoting water transparency and informing environmental policy.

The culture of wise use of water is reflected in state regulations, programs, and community roles. Water is a major factor in strategic environmental assessments and building food and energy security. The Indonesian government has issued Law Number 17 of 2019 concerning water resources, which aims to regulate water sustainability regulations. However, the implementation of *water accounting* in Indonesia has been very limited in the last 20 years. Only about 12 articles are available that discuss the issue of water accounting in Indonesia specifically in certain sectors such as public (BUMD) and private (agriculture, mining, trade). The article also does not fully explain the details of its implementation.

One of the water accounting studies in Indonesia was conducted by Kosasih (2024). This research evaluates water accounting practices based on GRI 303 reporting on *non-cyclical* Indonesian consumers. Content analysis techniques are used to assess compliance and quality of water governance reporting. The results of the study show an increase in water governance disclosure although it has not reached the ideal stage. Other research by Hendratno & Agustine (2018) highlighted the need for the coffee shop industry to adopt more water-efficient practices to address water scarcity. This study aimed to understand water use and efficiency in coffee shop operations, including water consumption for brewing coffee, cleaning equipment, and shop maintenance. The researchers conducted a case study by collecting data through interviews, observations, and surveys with coffee shop operational staff. The findings showed that coffee shop management is aware of the importance of water efficiency, but their standard operating procedures do not yet include water efficiency as a primary consideration. Cleaning activities in coffee shops, which can take 1-2 hours per day, consume a lot of water.

In Indonesia, the implementation of water accounting is still in its early stages and not many public corporations have implemented it. PDAM Tirta Lontar Kupang is one of the corporations that has not fully implemented water accounting (Ray, 2021) even though there have been study results that recommend water accounting practices. The challenge is that PDAM Tirta Lontar experiences an imbalance in the water distribution process with a fairly high level of water loss and water discharge that tends to decrease every year. Other research reviews the implementation of water accounting in Indonesia using the scoping review method (Maleimau et al., 2024). This study contributes to supporting the literature on water accounting in Indonesia and is expected to be used by policy makers to formulate water management policies. The research results confirm that water management in Indonesia still faces several problems, such as an ineffective water resource management system, resulting in ineffective water utilization.

One strategy to overcome this is to implement water accounting. However, water accounting in Indonesia has not been widely implemented, and the availability of supporting literature is still limited. Although this concept has begun to be developed, the availability of supporting literature on water resource management, especially by industry, has not been discussed. This research seeks to fill and add to the gap in the literature by examining the extent of water resource governance disclosure in *public companies* in Indonesia.

MATERIAL AND METHOD

This research aims to examine the extent of water accounting disclosure in *public companies* in Indonesia, especially those indexed in SRI-Kehati. This index reflects companies that apply the principles of SRI (Sustainable and Responsible Investment), as well as environmental, social and good governance (ESG) principles. Currently, the SRI-KEHATI Index is the only reference for investment principles that emphasize ESG issues in the Indonesian capital market. Through the SRI-KEHATI index, it seeks to create mutualism between the world of conservation and the business sector, including water conservation.

Companies indexed in SRI Kehati are companies that are committed to complying with green principles so that they have a positive impact on water sustainability. The SRI index consists of 25 public corporations listed on the stock exchange, which are evaluated annually in May and November. The SRI index shows the best performance compared to other major indices such as the LQ45 Index, IHSB, and JII.

Content analysis methods are used to collect and analyse information from financial statements and existing accounting practices. In this context, the analysis can be conducted with a quantitative or qualitative approach to evaluate the extent of disclosure on how companies manage and report water use. In content analysis, the indicators used to assess environmental disclosures usually follow the GRI guidelines and cover a range of topics such as: Use of raw materials, energy consumption and efficiency, use and management of water resources, and impacts on ecosystems and species or biodiversity.

This research uses synchronous semantic content analysis. This involves collecting and analysing data from various literature sources to understand how the concept is applied in different contexts. This method can include qualitative analysis, which uses a descriptive analytical approach to describe the economic and environmental benefits of integrating digital technology into water accounting. Utilizing big data technology to analyse environmental data in depth, so that companies can make more informed decisions based on accurate information. Through content analysis of water accounting disclosures, stakeholders can gain better insight into how companies manage water resources, the social and environmental impacts of their activities, and their commitment to sustainability.

RESULT AND DISCUSSION

Based on the latest data as of November 2024, Sri-Kehati constituents are as follows:

Table 1. List of Sri-Kehati constituents

No	Code	Issuer	No	Code	Issuer
1	ANTM	Antam	14	INTP	Indocement Tunggul Prakarsa
2	AUTO	Astra Auto Parts	15	JPFA	Japfa Comfeed Indonesia
3	AVIA	Avia Avian	16	JSMR	Jasa Marga
4	BBCA	Bank Central Asia	17	KLBF	Kalbe Farma
5	BNI	Bank Negara Indonesia	18	SCMA	Surya Citra Media
6	BBRI	Bank Rakyat Indonesia	19	SIDO	Sido Herbal Medicine

No	Code	Issuer	No	Code	Issuer
7	BBTN	Bank Tabungan Negara	20	SMGR	Semen Indonesia
8	BMRI	Bank Mandiri	21	SMSM	Selamat Sempurna
9	DSNG	Dharma Satya Nusantara	22	SSMS	Sawit Sumbermas Sarana
10	EMTK	Elang Mahkota Technology	23	TLKM	Telkom Indonesia
11	ICBP	Indofood CBP	24	UNTR	United Tractors
12	INCO	Vale Indonesia	25	UNVR	Unilever Indonesia
13	INDF	Indofood Success			

Source: Sri-Kehati index release (2025)

The selection of the above issuers in the SRI index is certainly based on the dimensions that the company applies the SRI (Sustainable Responsible Investment) principles and the ESG (Environmental, Social and Good Governance (ESG) principles. However, the extent to which water accounting practices are applied by the company is presented in the following study results.

ANTAM consistently reports water management in its sustainability report including in 2023. The SRI index weight in November 2024 was 2.11 (down 1.75%) from the previous period. The company constantly works to minimize the amount of water that comes from raw sources and to use water efficiently. In order to preserve the environmental balance, the objective is to keep clean water flowing around the working area.

ANTAM complies with the Groundwater Exploitation Permit and Water Use Permit (SIPA) by taking a number of steps to guarantee that the water utilized does not affect the supply of clean water for the communities surrounding the operation. For production demands, the company also makes the most of recycling, recirculation, and water from sediment ponds. Additionally, the West Kalimantan Bauxite Mining Business Unit has a public engagement process prior to issuing the surface water SIPA license, so the local population is already aware that the company uses surface water. As part of its dedication to sustainable mining operations, ANTAM has placed a great deal of emphasis on water management in 2023. The business has taken a number of steps to guarantee effective water use and reduce its negative effects on the environment. In relation to GRI standards, ANTAM presents a water management agenda in. In relation to the ESG pillar, ANTAM presents water management in Pillar 1 (EN2) Water and Air. ANTAM does not specifically present water accounting such as water supply, use, and productivity in a quantified manner. This is based on the fact that water resources are abundant in Indonesia so that water accounting is not yet a priority agenda at this time (Ray, 2021).

Astra consistently reports water management in its sustainability report including in 2023. The SRI index weight in November 2024 was 0.31 (down 0.25%) from the previous period. Astra Otoparts' aspirations related to water management are presented in the portfolio section, namely reducing the intensity of water use by 15% by rainwater harvesting. The company has taken a number of steps to improve water use efficiency in waste and water management. These consist of rainwater collection, clean production techniques, intelligent water management strategies, coolant filtration and recycling, and water recycling procedures for manufacturing.

Avia Avian AA consistently reports water management in its sustainability report including in 2023. AA was first indexed by SRI in November 2024. Regarding water management, AA has established a water sustainability strategy (1) using water optimally and in a controlled manner for the Company's activities and implementing a water conservation program (2) conducting an inventory of water usage, wastewater outlets, B3 and non-B3 waste, and air pollution.

Organizationally, AA has formed an environmental management committee including establishing a water efficiency and pollutant reduction team. This shows AA's seriousness in doing business that cares about the environment. The implementation of this policy is stated as AA's target to reduce water intensity by (1) utilizing a rainwater harvesting system and (2) using reuse water from tank washing as a mixture of raw materials. AA's achievement in 2023 is that water-based products reach 81.47%.

AA is highly committed to managing water including in its production process. In the paint production process, moving from batch to batch requires a tank and mixer washing process, so that as much as 100 liters of water can be wasted. The Production Department works together with the RDI Division to ensure that the water can be reused for the production process on certain products without reducing the quality of the product. In addition, we also develop software with vendors, so that the coloring process becomes faster even with this reuse water. In terms of product innovation, the Company's product development is also aimed at making a transition from petrochemical-based products to water-based and bio-based paint product variants or bio-mass balance products that are more environmentally friendly. Water-based paint technology can reduce the use of Volatile Organic Compound (VOC) materials so that it does not cause health problems to humans, especially when applied for indoor use.

To maintain water availability in the future, AA has implemented various programs related to water efficiency, one of which is through the reuse of used water for other purposes. Rinse water from tank cleaning and sanitation activities is reused as a mixture of paint production materials while still prioritizing quality standards. In 2023, AA reused 0.65 megaliters of industrial wastewater or had a ratio of 5.06 L/ton of water-based products. In addition to reusing wastewater, AA also always ensures that the management of liquid waste that is carried out is in accordance with applicable standards and laws and regulations. To manage liquid waste from domestic processes at the paint factory location, AA implements a Sewage Treatment Plant. Meanwhile, to treat industrial wastewater, filtration and ozonation are used. AA also always supervises the water management that has been carried out and reports the results to the relevant agencies every month to ensure that there is no wastewater that exceeds the set quality standards. In an effort to reduce water consumption, AA also implemented a cooling system and rainwater harvesting system that can significantly reduce water consumption. In addition, the Company also has a flowmeter to monitor the water flow rate in the rainwater harvesting system

Bank Central Asia (BCA) reports water management in sustainability reports consistently including in 2023. BCA has a green financing and investment policy including in the management of water and waste water sector.

Bank Negara Indonesia (BNI) consistently reports water management in its sustainability report including in 2023. BNI has commitments, policies, strategies, and/or measurable sustainability performance track records, which are presented in sustainability reports, environmental monitoring reports, and/or similar documents. These policies and strategies are then outlined in the SLL (Sustainability Linked Loan) Framework with validation in the form of a Second Party Opinion (SPO) from an accredited Independent Consultant (at least by BSN and/or KAN or other internationally recognized accreditation institutions). These programs and activities are measured by KPIs (Key Performance Indicators) and Sustainability Performance Targets (SPT) outlined in the SLL Framework document. In its implementation, BNI funds

environmentally conscious projects. This 2023 strategic initiative is presented in the 2023 BNI Environmentally Conscious Bond Report. In terms of financing, BNI implements SLL (Sustainability Linked Loan). This program requires prospective debtors to have realized the LST (Environmental, Social, and Governance) aspects in their business processes.

Debtors who achieve sustainability targets, within the agreed time period, are given incentives according to the agreement. By setting a sustainability commitment as one of the requirements that must be met by prospective debtors, BNI has contributed to sustainability efforts, including water sustainability. BNI innovates in products that also consider water resources by integrating digitally into all payment menus so that it can save water and paper. In addition, BNI also supports the provision of clean water and sanitation throughout Indonesia by disbursing funds of IDR 1.3 billion in 2023. Specifically, BNI presents water management in relation to the fulfilment of GRI 303-1 to 303-4 standards in the sustainability report on page 64 by stating that: BNI does not interact directly with water sources. Water needs for domestic office activities are obtained from PDAM and groundwater, according to the location of the office. In addition, BNI does not calculate the quality standards for the assessment of discharged effluents, because BNI's operational activities do not produce effluents that are harmful to the environment. Implementation of water technology in every office building, conducting water saving campaigns, reporting tap leaks, utilizing treated wastewater to water plants. For all BNI offices, the water usage is 1.758.134 m³/year.

Bank Rakyat Indonesia (BRI) reports water management in the sustainability report and specifically in the Climate-Related Report consistently including in 2024. In the SR report, water is specifically reported in the Water section (F8). This section is BRI's strategic idea and commitment related to efficiency as an effort to maintain water sustainability.

BRI relies on various natural resources in its operations and understands the importance of water as a crucial component in its various business activities. Water is a primary need to support vital functions in various BRI facilities such as places of worship, toilets, canteens, and so on. Given the limited sources of clean water, BRI has implemented a water conservation policy that provides direction to all parties on the most efficient use of water. BRI also conducts routine inspections of water installations to prevent leaks, water turbidity, or other serious damage. BRI applies the principle of preserving the environment. Therefore, BRI does not use groundwater or river water, thus avoiding the impact of water stress. BRI relies on PDAM services that have met the Indonesian National Standard (SNI) on the quality of clean water that is safe for use in the office.

Bank Tabungan Negara (BTN) consistently reports water management in its sustainability report, including in 2023. BTN contributes to water through various housing financing programs by providing access to clean water and sanitation for all homeowners. Provision of clean water and sanitation is one of the Company's TJSL Programs, especially during the dry season. In order to support the implementation of sustainable procurement of goods and/or services, as well as paying attention to ESG aspects, BTN requires a water disposal study document. BTN has a building wastewater treatment plant (IPAL) with an input of 260 m³/day. The IPAL produces an output water discharge of 220 m³/day in accordance with the wastewater discharge permit (July 19, 2018). BTN uses Law No. 17 of 2019 concerning Water Resources as a basis for managing sustainable water and makes the SDGs goal 6 (Clean Water and Proper Sanitation) as a basis for conserving water. BTN views water as one of the important needs.

Water is used for domestic office needs such as watering plants, ablution, cleaning toilets, filling fountains, and others. Most of the water needs are met by PDAM, and the rest from deep wells. BTN is aware of the environmental risks related to water, including scarcity, pollution, and flood risks that can affect bank and customer operations. BTN implements efficiency by referring to the value of water usage payments (PDAM) and flow meter monitoring.

The volume of water usage in 2023 decreased by 379.115 m³ compared to 2022 with water usage of 670.629 m³. Wastewater management at the head office, BTN ensures that the quality standards of wastewater discharged into water bodies are safe for the local water body ecosystem by routinely measuring the quality of wastewater at the head office every three months (referring to the Regulation of the Governor of DKI Jakarta Province No. 122 of 2005 concerning Domestic Wastewater Management in DKI Jakarta Province). As a result, there were no spills, whether from chemicals, oil, fuel, or other chemicals that affected the quality of the surrounding environment and public health in 2023. BTN also did not receive any complaints or reports of incidents of non-compliance with rules and regulations related to wastewater or effluent discharge.

Bank Mandiri (BMRI) consistently reports water management in its sustainability report including in 2023. Several programs that support the sustainability strategy include banning single-use plastic drinking water and recommending tumblers for drinking water consumption. As a financial institution, BMRI makes sectoral policies referring to the ESG aspects in 12 priority sectors: Palm Oil, FMCG, Energy and Water, Mining (Metal and Coal), Pulp & Paper, Construction, Telecommunications, other Transport Industries (Shipyards), Transportation, Oil and Gas, and Pharmaceuticals and Health Services. The proportion of the sustainable business activity category for sustainable water and wastewater management is 0.44 (44%) of the entire program, namely funding IDR1.171 billion (2023), IDR867 billion (2022), and IDR1.214 billion (2021). BMRI sets a binding credit policy for customers to have an operational IPL (Waste Treatment Plant) and water quality standard parameters are within the limits according to applicable regulations.

The environmental conservation costs incurred by BMRI in 2023 are IDR 22.5 billion and are specifically for the rejuvenation and improvement of the RO water recycle system (processing wastewater into clean water that can be reused) in 2023 IDR 0, 2022 IDR 1.51 billion, 2021 IDR 1.79 billion. BMRI office has SWR (system facilities water recycle) in Wisma Mandiri, MM Wijayakusuma, and Plaza Mandiri buildings. The water recycle system is useful for recycling water and ensuring that no water bodies around the office location are polluted. Recycled water is used for plant maintenance, toilet flushing, cooling machines and becomes drinking water through the reverse osmosis process. Water consumption from 2017-2022 has decreased by 33% through savings in clean water consumption.

In managing effluent, BMRI ensures that the effluent produced has met environmental quality standards before being discharged into receiving water bodies using a sewage treatment plant. BMRI's effluent quality is checked periodically every month by sending water samples to an accredited environmental laboratory and reported to the relevant agencies. In addition, the BMRI office also made biopore holes and infiltration wells in green open areas. In the reporting year, BMRI had 196 biopore holes and 39 infiltration wells. Other water storage facilities are in the form of an artificial lake covering an area of 1.8 hectares in the Wijayakusuma area (Mandiri University), which is the main source of water for buildings in the area after the

reservoir water is processed into raw water. There were no incidents of BMRI effluent spills into the environment or complaints related to the environment from the community in 2023.

Dharma Satya Nusantara (DSNG) reports water management in its sustainability report consistently including in 2023. The amount of water used and waste generated are monitored, reviewed, and reported regularly to the Board of Directors and stakeholders.

Reducing water consumption is a form of efficient use of factory water. DSNG does implement water-saving factory sanitation measures, reuse and recycling of water from factory processes, and increasing awareness of water conservation in household water use. DSNG has not measured the water discharged based on the discharge destination, so it does not disclose any information on water discharge and its impact management. Regarding the utilization of shared water resources, the corporation stated that the rivers around the plantation area are natural waterways. DSNG recognizes the importance of responsible water management to maintain the sustainability of resources owned and shared by the community. DSNG has obtained permission from the local government to take and utilize water. However, DSNG ensures that each PKS is involved in ensuring that the utilization of water resources by the corporation and all subsidiaries does not disrupt the availability of clean water for the local community. DSNG also periodically reports to relevant agencies to prevent a decrease in water pressure or a decrease in water level and other negative impacts.

Table 2. Water consumption

Water sources	Unit	2023	2022	2021
Palm oil business unit	m ³	3,747,759	3,910,298	4,326,586
Intensity of water use	m ³ /ton processed FFB	1.30	1.39	1.66
Wood product business unit	m ³	147,569	147,569	150,936
Intensity of water use	m ³ /production panel	1.49	1.26	1.27

Source: Sustainability report, 2024

Some conservation activities carried out by DSNG are (1) maintaining the shade and canopy of oil palm trees. The layered structure of oil palm tree leaf sheaths can protect the soil from direct rainwater so that the soil can absorb more water and reduce surface water runoff; (2) Maintaining the root system of oil palm trees. Oil palm tree roots can form natural biopores, especially near the base of the trunk, thereby increasing the ability to absorb rainwater into the soil and reducing surface water runoff; (3) Utilization of empty fruit bunches and planting *Nephrolepis*. Empty fruit bunches and *Nephrolepis* are used as ground cover to maintain soil moisture.

DSNG ensures that wastewater and wastewater are treated in accordance with government standards so as not to pollute the water used by the surrounding community. The guidelines implemented by DSNG at the Head Office, Palm Oil Business Unit, Wood Product Business Unit, and Subsidiaries are: (1) based on the Regulation of the Minister of Environment No. 5 of 2014, DSNG maintains a BOD quality standard below 5,000 mg/l in accordance with the Decree of the Minister of Environment No. 28 of 2003 concerning Technical Guidelines for the Assessment of the Utilization of Palm Oil Industry Wastewater on Land in Palm Oil Plantations. (2) The Company, through its palm oil subsidiary, utilizes wastewater for land applications with quality standards and permits granted by the local government. Throughout 2023, the volume of wastewater from the production process was equal to the intensity of wastewater of/FFB processed. Until 2023, there were no significant spills from DSNG operations.

DSNG's achievement in 2023 related to water is receiving a sustainability loan facility from ADB of USD15 million, accompanied by a commitment of technical assistance worth USD500 thousand. This loan will be used to fund the improvement of sengon and jabon wood-based products, the implementation of more efficient production processes in the use of water and energy, and the procurement of wood raw materials without deforestation for the wood product business unit. DSNG supports the commitment to not use peatlands by continuing to engage in water conservation efforts and avoiding the development of new plantations on peatlands. DSNG is also committed to preventing carbon release through emission control, renewable energy development, and effective waste and wastewater management. DSNG's operational areas are not in areas experiencing water scarcity. During 2023, the Company did not receive any public complaints, fines, or other penalties from authorities for the use of rivers, tributaries, waterways, or riparian areas. Information about rivers, tributaries, waterways, or riparian areas around its operational areas.

Elang Mahkota Teknologi (Emtek) consistently presents sustainability reports including in 2023 which includes the scope of water management. As a natural resource, water plays an important role in all aspects of our lives. Wise use of water is very important to maintain water resources considering that many of us still have difficulty getting access to clean water. The following is a calculation of water usage data specifically for Emtek Holding,

Given the scope of Emtek Holding, we do not produce liquid waste so we do not manage any liquid waste. The liquid waste produced is household and its management is carried out by the building management. Meanwhile, at the Indosiar office, Daan Mogot, West Jakarta, we have a Wastewater Treatment Plant (IPAL) to ensure that wastewater from our operations is treated first before being discharged into the sewer. The total effluent discharged in 2023 was 7,282 m³. All of this effluent has gone through a treatment process before being discharged so that it meets the established water quality standards. During 2023, we did not receive any complaints or sanctions due to wastewater discharge.

Indofood CBP Sukses Makmur (ICBP) consistently presents sustainability reports including in 2023 which includes the scope of water management in 60 business units. ICBP has an environmental policy including water, namely by striving for water conservation and protection of biodiversity, including efforts to reduce and utilize waste with the principle of 'Reuse, Recycle and Recovery. In addition, ICBP ensures a stable water supply, by conducting risk assessments, increasing the efficiency of water use and collaborating with community groups to rehabilitate ecosystems and protect water sources.

ICBP continues to monitor its environmental performance and has successfully reduced water intensity in 2023 relative to the base year 2018 (by 11.6%). In 2023, water intensity reached 2.06, lower than the previous year of 2.18 in 2022. In addition, for water disposal, 100% of wastewater distributed always meets environmental quality standards. ICBP reports this performance progress in its sustainability report. Various programs, initiatives, and actions related to water management are implemented through water efficiency, water conservation, and wastewater management. As a result, the wheat receiving port received the Green Port Award in 2023, which proves responsible waste, water, and energy management, as well as oil spill mitigation and emergency preparedness efforts.

Several programs related to water management implemented by ICBP during the reporting period include Smart Eco Factory, integrating technology and sustainability to create innovative

and environmentally friendly manufacturing facilities. This integration improves energy, water, and production efficiency and reduces negative impacts on the environment. Other initiatives include the reuse of ice water through two main activities; namely the reuse of ice water from the main cooling system to replace the cooling needs in the SCC processing process and the reuse of ice water as a supply of cold water for AHU in filling rooms. The implementation of ice water reuse has significantly reduced water usage and contributed to electricity savings. ICBP also created biopores and infiltration wells to protect water resources.

Specifically related to GRI-based reporting requirements on water management, ICBP conducted a water risk assessment using WWF, Worldwide Fund for Nature, International Water Risk Filter to map water scarcity levels and other related metrics. The assessment revealed that less than 7% of our water consumption comes from water-scarce areas. In addition, ICBP expanded the assessment to map water efficiency initiatives across the plant to measure their impact on ICBP's operations, as a guide to developing a comprehensive water efficiency program. ICBP took steps to recover steam condensate and improve production processes to reduce the frequency of Clean in Place cycles, thereby reducing intensive water use while maintaining water quality standards. The majority of water consumption (84%) is used to support production processes, steam generation, cleaning and cooling at ICBP facilities. Water is sourced from municipal water systems, groundwater and river water. This evolving water management approach enables ICBP to use this critical resource efficiently and responsibly.

In 2023, the sustainable water management commitment has successfully reused and recycled around 1.1 million m³ of water. This achievement was achieved through a series of water saving initiatives, including the reuse of steam condensate for boiler feed water, comprehensive leak audits, digitalization of the control system for deep well water intake, closed water cycles for water use in utility and cooling systems, implementation of the CIP system and implementation of rainwater harvesting. The Instant Noodle Division has implemented various solutions to improve water efficiency for both production and non-production activities. The strategic implementation of the CIP system can ensure and maintain the hygiene of alkali pipes in production equipment, while reducing the duration of the cleaning process. In addition, by repurposing unused water from the reverse osmosis process, ICBP can reduce the volume and capacity load of liquid waste that will be channeled to the WWTP. ICBP has also successfully reused the water as sanitation for production and non-production equipment. An effective steam condensate recovery system successfully recovers condensate from the heat exchanger, for later use and diversion into boiler feed water, thereby helping to reduce the overall water footprint.

Vale Indonesia (Inco) consistently reports water management in its sustainability report including in 2023. At Inco, the decrease in water consumption intensity the largest water requirement is for the operation of the hydroelectric power plant on the Larona River, with water sources from Lake Matano, Mahalona, and Towuti. Water from the lake is channelled to the reservoir in the dam and forwarded to the canal to drive the turbine. The water consumed is the same as the water taken from the lake, and no water is taken from the water stress area.

Lake Matano, Mahalona, and Towuti are also used by local residents for domestic needs, as a livelihood as fishermen and farmers, and for transportation activities. PT Vale regulates the volume of water and water discharge for hydroelectric power plants to ensure that the lakes are maintained, so that they can continue to be used by the community. The commitment to

maintaining the three lakes also supports the status as a Nature Tourism Park Conservation Area, based on the Decree of the Minister of Agriculture No. 274/Kpts/Um/4/1979 dated April 24, 1979. Total water consumption in 2023 reached 7.561.108 m³ which is equivalent to 7.561.1 Megalitres, down 11% from 2022 which reached 8.519.762 m³ which is equivalent to 8.519.8 Megalitres. The Water Consumption Intensity value in 2023 was 106.9 m³/ton Ni (0.1069 Megalitres/ton Ni), < 2022 which was 141.77 m³/ton Ni, or 0.14 Megalitres/Ton Ni.

Wastewater Impact and Management. Vale makes serious efforts not to pollute water sources around the operational area, including Lake Matano. We periodically analyse the processed effluent that will be discharged into the tributary to Lake Matano. The purpose of the analysis is to ensure compliance with the quality standards in accordance with the Regulation of the Minister of Environment No. 9 of 2006 concerning Wastewater Quality Standards for Nickel Ore Mining Businesses and/or Activities. The analysis was carried out by an accredited independent laboratory, using the SNI 6989.59:2008 Water and Wastewater method, as well as the American Public Health Association (APHA) standard method. From the results of the examination in 2023, it was found that the quality of the processed effluent had met the quality. Based on a study conducted in the PT Vale mining area in Sorowako, until the end of 2023 it is known that there is no potential for the formation of acid mine drainage because no rocks that form acid mine drainage were found. The presence of acid mine drainage is one of the environmental issues that has the potential to occur in mining activities including nickel ore because it has a negative impact on the environment, especially if it is released into water bodies such as rivers, lakes, and pollutes groundwater.

Indofood Sukses Makmur (INDF) consistently reports water management in its sustainability report including in 2023. Water, wastewater and waste profile and performance data come from all 104 manufacturing units. Most of the sustainability profile and performance data are compared to the reference year 2018, in line with Indofood's initiative to comprehensively map relevant data and improve its quality since 2018.

INDF has initiated a series of conservation initiatives to preserve water sources carried out through the CBP and Bogasari business groups. In the CBP Group, water efficiency efforts are carried out through the reuse process, and in the Bogasari Group, water conservation uses seawater sources through the reverse osmosis process. Water management is based on three main themes, namely water efficiency, water conservation, and liquid waste management. INDF has succeeded in significantly reducing the level of energy consumption and water use in 2023, namely (1) making water use more efficient so that the water intensity becomes 1.35 m³/ton of product (down 5.6% compared to the 2018 base year of 1.43 m³/ton of product); (2) 100 % of the wastewater distributed always meets environmental quality standards ; (3) INDF has succeeded in reducing methane emissions from PKS liquid waste (palm oil mill effluent, POME) by 80% through the use of aerated bunker composters. To comprehensively manage risks related to water availability, INDF integrates water-related issues into the risk assessment process. The assessment results are then communicated to the Board of Directors, and form a business strategy that prioritizes sustainable water use. The water risk assessment was conducted using the WWF, Worldwide Fund for Nature International Water Risk Filter, which maps water scarcity across our operational units. The identification results show that less than 7% of our water consumption comes from areas experiencing water scarcity. This effort is expanded through a review of water efficiency initiatives across INDF's operational units, and

an evaluation of the impact of our efforts across all operational activities. Before carrying out water extraction, INDF operational units have obtained the necessary government permits. The permits issued determine the water source and the quality of wastewater discharge. Authorities will conduct an operational impact assessment on the water source before issuing a permit. Approximately 90% of water consumption is used for manufacturing processes, such as steam generation, or cleaning and cooling processes. Water used in production facilities comes from various sources: municipal water networks, groundwater, river water and reverse osmosis of seawater. The Agribusiness Group, on the other hand, fully utilizes river water and rainwater as part of its water management practices.

Indocement Tunggal Prakarsa (INTP) reports water management in its sustainability report regularly including in 2023. In the GRI 303 theme of preserving water resources, INTP stated that it does not use water in cement production. However, INTP uses surface water for machine cooling and temperature in the gas cooling tower (bag filter). The strategy implemented by the corporation to achieve 2023 and in order to comply with regulations is to prepare a water management plan that covers the entire factory complex, build reservoirs to maintain water availability, and routinely monitor the release of effluent into water bodies.

Supervision and management of water efficiency is in the Utility Division function which is directly responsible to the Technical Director. Evaluation of water usage is carried out through weekly production meetings. The water management and efficiency aspects at Indocement have also been audited with a limited assurance level as part of Heidelberg Materials. Periodic reporting of water management performance is reported to the Plant/Division Manager every month. The evaluation results are the basis for implementing continuous improvement in the water management aspect. INTP has identified areas of operation with water stress based on the Aqueduct WBCSD (Water Risk Atlas published by the World Resources Institute). INTP is working with a third party to conduct studies and risk assessments related to water withdrawal and water discharge as part of a sustainable water management plan [303-1]. INTP has a SIPPA, Water Withdrawal and Utilization Permit throughout the factory complex to ensure that the water withdrawal process does not disrupt the sustainability of groundwater and surface water sources, and does not have a negative impact on the environment.

Japfa Comfeed Indonesia (JPFA) reports water management in sustainability reports regularly including in 2023. In addition to the action plan, JPFA also fulfils its Sustainability-Linked Bond (SLB) commitment. The construction of three additional water recycling facilities in poultry operational units marks the dedication to having an efficient production system while supporting the government's efforts to promote sustainable finance.

JPFA has successfully built eight of the nine water recycling facilities by 2023, as a form of commitment to the Sustainability Linked Bond. In addition, JPFA has successfully built three recycling facilities in RPA Magelang, RPA Medan, and RPA Boyolali in accordance with the commitments that have been set forth in the SLB. Thus, Japfa has completed 8 of the 9 recycling facilities from the total commitment. JPFA uses water from the recycling facilities for machine utility needs, flushing toilets and watering plants. These recycling facilities have gone through an external audit process. In an effort to maintain water quality in the Fish Processing Unit and Seafood Further Processing Unit (Cirebon), JPFA routinely disinfects to eliminate microorganisms that can be a source of contamination in the water. In addition, in both units, JPFA also applies water treatment using the RO system to ensure that the quality of water used

in the production process is in accordance with the established standards. Japfa has a Sustainability Performance Target for the SLB Sustainability-Linked Bond issued in 2021. The target is to build nine wastewater recycling facilities in various RPA and hatchery units within 3 years and 9 months from the date of SLB issuance. The selection of SLB targets and identification of construction locations are based on LCA and water scarcity footprint assessment. JPFA also has a rainwater harvesting system as one of the solutions to obtain water in our operational areas, especially those experiencing water scarcity. In 2023, the success of rainwater harvesting that we initiated several years ago in the Cikande unit was replicated in other units in a number of poultry operations.

Jasa Marga (JSMR) reports water management in sustainability reports routinely including for 2023. JSMR carries out water efficiency and water recycling. JSMR strives to manage water intake, use and disposal. Monitoring is mainly carried out on water intake. For water disposal, the Company monitors the quality of effluent discharged into water bodies/rivers or other disposal with quality tests carried out by third parties. Until the end of 2023, JSMR does not have any operations located in areas prone to water resources. In general, JSMR uses water for toll road preservation activities and the operational needs of the head office, regional offices and operational facility units. In toll road preservation activities, water is used for workshop activities, cleaning the road body, asphalt mixtures, and cooling the road body, while for offices and operational facilities, water is used for sanitation and office household needs. Meanwhile, JSMR uses water for operational needs sourced from PDAM and water recycling.

JSMR does not use water from rivers or water recycling. There is a significant increase in water usage, especially water from PDAM, this is because in 2022 and 2021 the calculations were without Operational APJT (both subsidiaries that are already operating and those that are not yet operating). Meanwhile, effluent (wastewater) management is carried out through the Anaerobic Wastewater Treatment Plant (IPAL). The wastewater quality testing process is carried out by a third party that has a permit and certification.

Kalbe Farma (KLBF) reports water management in its sustainability report regularly including in 2023. Through a social innovation program entitled Pancasilaist, Peaceful, Environmentally Aware, and Independent Village (Pandawa Lima Village) in Watuagung Village, Central Java, Kalbe builds community health and resilience through the provision of clean water, training, financial support, and opportunities for economic growth. The availability of clean water provides an opportunity for the community to improve their economic conditions through an environmentally-based waste management program.

The waste processing model initiated by Kalbe in Watuagung Village has become a pilot project for the Wonogiri Regency Environmental Service and has become a destination for educational tourism visits from various educational institutions. Clean water efficiency was carried out by KLBF in 2023 at a cost of Rp2.171.641.020. KLBF's commitment and efforts through one of its manufacturing facilities in Cikarang have succeeded in receiving the 2023 Gold PROPER award from the Ministry of Environment and Forestry of the Republic of Indonesia, which is one of the benchmarks of the Company's commitment to sustainable development efforts.

During 2023, Kalbe used 785,880 m³ of licensed groundwater and artesian well water. The raw water allocation profile is categorized into supporting core production processes and product raw materials (machine washing, making pure water); supporting utilities (cooling tower, steam); domestic employee consumption (toilets, cleaning); and gardening. KLBF manages

effluent (wastewater) through IPAL. KLBF ensures that the managed effluent meets quality standards before being released into wastewater channels or water bodies that are further managed by industrial area managers. Supervision of wastewater quality is carried out internally and externally by involving environmental laboratories accredited by KAN and registered with the Ministry of Environment and Forestry. The results of the supervision are routinely reported to the Ministry of Environment and Forestry, the City/District Environmental Service, and the Provincial Environmental Management Agency.

Table 3. Water consumption

	Saving Efforts	Efficiency Achievement
Water	install automatic faucet	24,921
Pollution	Recycling device	10,560 m ³ /year
	Reuse and recycle	25,620 m ³ /year
	Bio pore infiltration	12,070 m ³ /year

Source: Sustainability report, 2024

Surya Citra Media (SCM) reports water management in its sustainability report regularly, including in 2023. SCM's water needs are mostly for domestic needs and environmental maintenance in the head office area. To meet these needs, the Company uses water sourced from PDAM supplies and groundwater. Then, in the context of water resource sustainability, the Company in this case always urges employees, especially to be wise in using water in the office environment. Among the water saving efforts made is by sending e-flyers to all Company employees to save water use. In 2023, the amount of water-use in the SCM environment reached 93,563 m³ compared to the amount of use in 2022 of 83.715 m³ along with the increasing number of employees working from the Office (WFO) in 2023. SCM also manages wastewater generated from operational activities. The wastewater generated by the Company is not categorized as hazardous waste. However, to minimize environmental issues, the Company has a Wastewater Treatment Plant (WWTP) at the Daan Mogot office which functions to process wastewater to then be reused to water plants in the office area. This initiative helps the Company to manage the use of clean water in the office environment. In 2023, there were no significant wastewater spills because all wastewater can be processed and reused for the company's domestic needs.

Sido herbal and pharmacy industry. Sido reports water management in sustainability reports regularly including in 2023. Sido is committed to implementing clean and efficient production from the production planning stage, production process, to waste management. Efforts are made by increasing the efficiency of energy and water use in operational activities. This commitment is realized by successfully reducing the intensity of clean water use for the production process by 3% in 2023 (baseline 2021). Sido is dedicated to ensuring sustainable water management in operational areas through responsible water resource management. In an effort to preserve the environment, the company is committed to taking and using water wisely and measurably, taking into account the welfare of the local community. Therefore, operational areas that have large water withdrawals are required to ensure the availability of water for local community resources. Sido's approach to water management is underscored by strict adherence to local regulations and a strong commitment to obtaining the necessary permits from local government authorities for water withdrawals. In addition, we undertake mitigation efforts involving various stakeholders such as communities, workers, and authorities to ensure that the

distribution of water resources to the community is carried out properly and does not adversely affect the surrounding environment. Recognizing the potential impact of water withdrawals for production and other purposes on local water availability, Sido actively participates in various initiatives to mitigate the risk of water consumption.

Table 4. Water consumption

Description	Unit	2023	2022	2021
Water intake				
– River surface water	m ³	62.7	56.8	74.8
– Groundwater	m ³	224.9	237.1	262.7
– Waste water recycling	m ³	20.6	22.2	21.8
– Water supplied, third party	m ³	109.9	131.3	132.7
Water consumption	m ³	109.9	131.3	132.7
Clean water supply for the community	m ³	34.774	22.441	27.443
Liquid waste fr the production process	m ³	82.9	82.4	89.1
Liquid waste from supporting facilities	m ³	19.2	21.8	24.2

Source: Sustainability report, 2024

Sido also seeks to increase the capacity of water sources that are at risk of degradation due to industrial activities. Some of the initiatives we have undertaken include the utilization of recycled water and the construction of water retention ponds (embung). Sido has built 56 infiltration wells, consisting of 51 shallow infiltration wells and 5 deep infiltration wells, which have the potential to increase the water reserve capacity by around 112.142 m³. To ensure the availability and quality of water in the factory environment, Sido have also built monitoring wells. Responsible water management from upstream to downstream is a priority to ensure that there are no significant negative impacts from the use of water for the production process. Mitigation of negative impact risks has included management of liquid waste, reduction of greenhouse gas emissions, and land management. In addition, Sido also continuously monitors the environmental impacts that may occur as a result of water use.

Semen Indonesia (SIG) reports water management in its sustainability report regularly, including in 2023. This year, SIG succeeded in reducing fresh water withdrawals by 11.5% in 2023. SIG gives particular consideration to the requirement for clean water, which is expressed by, “Ensuring the availability and sustainable water and sanitation management for everyone”. To avoid having an adverse effect on the environment and the communities in which it operates, the company makes an effort to control water use as much as feasible.

Since the dry method uses a lot less water than the wet process, it is currently used in all SIG cement facilities. Additionally, the engine coolant water is recycled. At the same time, the Ministry of Industry awarded all SIG plants a Green Industry Certificate, with one requirement being that water use be less than 0.25 m³/ton of cement.

Furthermore, the company reduces its water usage through a number of methods, such as reusing factory wastewater reservoirs, repairing, maintaining, and adjusting piping systems, water use in production systems, and rainwater harvesting by using settling ponds in mining areas. Through these initiatives, SIG hopes to meet its goal of an 11.5 percent reduction in particular raw water use by 2030. The company has consistently managed and monitored waste water discharged into the environment by an accredited laboratory and reported it to the appropriate authorities. Everything remains in compliance with the quality standards outlined

in regulations using the calculating standard SNI 3554-2015, according to the results of monitoring the waste water's quality throughout 2023 before it is released into water bodies. The amount of water outflow has been calculated by GIS. The amount of water used, the amount of recirculated cooling water used, and the amount of water consumed by all plants are compared in order to do calculations. The following table details the amount of water discharged by the company in 2023. 2,304,547 m³ of water were extracted and used from the reservoir in 2023, accounting for 27% of the company's overall water withdrawal. With the reservoir's water volume reaching 2,214,735 m³, this volume is higher than it was in 2022.

Selamat Sempurna (SMSM) reports water management in its sustainability report regularly including in 2023. Several annual targets related to water sustainability and their realization in 2023 are summarized in the following table:

Table 5. Water consumption

Parameter	Unit	2023	2022	2021
Water consumption, from third parties	m ³	25,007	17,054	22,519
Wastewater reprocessed through IPAL	m ³ /day	80	80	80
STP wastewater test	m ³	13.68	9.69	3.99
WWT wastewater test	m ³	12.72	9.01	3.71
Water disposal, GRI 303-4	m ³	14.21	9.03	-

Source: Sustainability report, 2024

The General Affairs (GA) Division is in charge of the wastewater treatment facilities located in each of the company's business units. Effluent, or liquid waste from the industrial process, will be sent straight to the wastewater treatment plant (WWTP) using flocculation and coagulation techniques. Domestic wastewater will initially undergo aerobic and anaerobic treatment in a sewage treatment plant (STP). Through routine wastewater quality testing, the company has made sure that wastewater disposal has fulfilled the threshold value of quality criteria in compliance with applicable laws and regulations before it is released into the water surface body. However, the company also conserves water by installing infiltration wells and bio pore holes, managing waste through wastewater treatment, and installing a cooling tower circulation system for cooling molds or machinery.

Sawit Sumbermas Sarana (SSMS) reports water management in its sustainability report regularly including in 2023. The 2023 water management performance is reported as follows:

Table 6. Water consumption

Parameter	Unit	2023	2022	2021
Water intensity	m ³ /ton	0.85	1.38	1.53
Water intake	m ³	3,331,103	3,143,112	3,088,018
Industrial wastewater	m ³	131.112	151.507	154.374
Regulation	Mitigation	Method		
Water quality requirements are mandated by rules from the Ministry of Environment and the Ministry of Health.	The company develops domestic WWTPs to reduce waste water contamination, monitors the environment, and employs a water treatment plan to supply clean water.	supplying clean drinking and drinking water using a water filter and recycling clean water through a water treatment plan		
If the company doesn't keep an eye on the quality of the water it produces, its reputation will suffer.	The business begins keeping an eye on the water quality requirements for its operations.	Water Filter and Domestic WWTP		

incidents of B3 or non-B3 waste spills or leaks	there were no significant incidents of B3 or non-B3 waste spills or leaks	-
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Source: Sustainability report, 2024

The company uses water for a variety of operational purposes, including boilers, the manufacturing of palm oil, and household tasks such as latrines, washing machines, and bathing facilities (MCK). Surface water is the source of water for the company. The company has a water management policy that includes water conservation to safeguard the flow of rivers, lakes, and other springs as well as to protect them from activities that could degrade and harm the water quality, the physical state of the banks, and the bottom. The company makes sure that neither operational operations nor the use of liquid waste on plantation property pollute the water. This is accomplished by regularly checking the water quality in three monitoring wells-application monitoring wells, non-application monitoring wells, and resident monitoring wells-twice a year. The company has pledged to refrain from using paraquat, a prohibited pesticide, since 2016. The Decree of the Minister of Environment No. 29 of 2003 concerning Guidelines for Terms and Procedures for Licensing the Utilization of Palm Oil Mill Effluent on Soil at Oil Palm Plantations states that none of the three wells monitored in 2022 exceed the quality standards. Consistent with the RSPO's tenets, the company constantly works to control the wastewater it generates. By applying the effluent as a fertilizer substitute and boosting FFB output, the corporate has been successful in using in compliance with the permit.

Telkom Indonesia (TLKM) reports water management in its sustainability report consistently, including in 2023. TLKM takes great care to monitor water use in the office buildings where they operate in order to minimize the effects on the environment. The amount of water used in 2023 was 1,518,789 m³, which was 3% more than the year before. This shift was brought about by the increase in building occupancy as well as the global El Nino hot weather impact in 2023. The Regional Drinking Water Company, is the source of the water used, and the data displayed originates from Telkom Property-managed buildings. Additionally, as part of its environmental commitment, TelkomGroup trains staff members on how to utilize water responsibly. In keeping with their environmental commitment, they also carry out water conservation projects. As an illustration, they manage wastewater recycling by using condensation wastewater from the Air Handling Unit (AHU) as a medium for building yard plant watering and air cooling.

United Tractors (UNTR) reports water management in its sustainability report regularly including in 2023. The Company is committed to implementing careful water management to avoid negative impacts on the surrounding ecosystem and community. The Company ensures that the use of water for operations is carried out responsibly, involving water resource conservation and wastewater management activities before being released into water bodies.

The Company uses various water sources, with office activities supplied by groundwater or third-party water suppliers (Regional Drinking Water Companies), while mining activities obtain their main water requirements from surface water sources that are processed at water treatment installations at operational locations. Water management efforts include socialization of water saving, use of water saving equipment, and maintenance of water installations. The Company conserves water sources and water catchment areas through land restoration and tree planting programs as part of mine restoration activities and the Company's social responsibility program in the environmental sector. Wastewater generated from both domestic and production activities is first treated according to its characteristics before being discharged into the

environment through the Wastewater Treatment Plant (WWTP) and Sewage Treatment Plant (STP) until it meets the wastewater quality standards according to regulations. The Company has several main programs related to water and wastewater management that support the principles of sustainability and environmental responsibility. Several main programs that reflect the Company's commitment to water and wastewater management include (1) the use of tap technology and water-saving equipment (2) recycling wastewater for toilet flushing (3) reverse osmosis (RO) technology and (4) reprocessing of mining water. In 2023, the Company successfully complied with regulations related to the use of clean water and the discharge of wastewater into water bodies and there were no cases of waste spills into the environment.

Table 7. Water consumption

Parameter	Unit	2023	2022	2021
Water intake				
– Surface water	m ³	5,731,48	5,635,47	5,070,70
– Ground water	m ³	765.33	526.83	742.93
– Third party water	m ³	382.35	336.55	376.01
Total		6,879,15	6,498,85	6,189,64

Source: Sustainability report, 2024

Unilever Indonesia (UNVR) reports water management in its sustainability report consistently, including for 2023. Unilever's initiative in ensuring the availability and management of clean water and sustainable sanitation is realized through (1) Efficient use of water, including recycling wastewater from the Wastewater Treatment Plant (IPAL) as part of Sustainable Wastewater Management; (2) Creating goods like Sunshine dishwashing solutions that devoid of crude oil to reduce water pollution (3) Working along with the University of Indonesia's School of Environmental Science (SIL UI) to develop a rainwater management system for Islamic boarding schools (4) The Clean in Place initiative at the Home Care factory, which reuses water from piping and mixing operations to save water consumption by 8%; and (5) as part of the Water Stewardship Program, we installed a rainwater harvesting system for 1,000 students at Al-Binaa Islamic Boarding School in partnership with the School of Environmental Science, University of Indonesia. The Indonesia Water Resources Alliance Foundation and the Indonesia Nature Conservation Foundation founded the Indonesia Water Coalition, of which Unilever Indonesia is a member. The Indonesia Water Coalition is a multi-stakeholder collaboration that uses collective action at the watershed level to promote sustainable water resource management

Conclusion:

This research aims to examine the extent of water accounting disclosure in *public companies* indexed by SRI-Kehati. There are 25 companies indexed by SRI-Kehati each year. This research uses a list of companies with the SRI-Kehati index in 2023. In general, corporations that report sustainability reports are to meet regulatory demands. Corporations report SR using GRI guidelines. The parameters reported are about water use/consumption, water consumption sources, and water releases, especially those containing liquid waste. Specifically for banking corporations, whose business operations are not related to direct activities that threaten the sustainability of water resources, they still contribute to maintaining water sustainability by implementing efficient water use in all of their operational offices. The contribution of each entity (bank) and non-bank can be seen in the following tabulation. For bank entities, the largest water use is at BNI bank. However, the largest water management costs are managed by BCA bank. Banks generally support the sustainability of water resources through funding strategies for environmentally friendly projects as shown in the tabulation below. The information that can be obtained is that Bank BTN, through its business processes, is engaged in housing financing so that no form of sustainability is identified to support water sustainability. Meanwhile, other banks generally contribute to water conservation with financing policies on priority for entities with sustainable business activity categories (KKUB) or sustainability linked loans.

This research recommends that by looking at the fact that water sustainability information is generally compiled by corporations to meet regulatory demands. Success in the sustainability aspect is often narrated by the presence or absence of public complaints. The sustainability agenda is considered successful if there are no complaints or grievances and vice versa. This means that sustainability initiatives are only a response to regulatory pressure (Mady et al., 2024; Shui et al., 2025), not because of the awareness that the water sustainability agenda is the responsibility of the industry.

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