Sustainability Key Performance Indicators

Social

	Data Type	Unit	FY 2023/24	ISS-ESG Standard and Indicator	Additional info (if applicable)
Product design and development: a. Test and assessments	qualitative		Product safety is ensured in the design process through compliance with industrial standards and, where necessary, also through service life evaluations. For this purpose, the component stresses determined from numerical analyses (e.g. finite element method) are evaluated with the aid of relevant rule sets such as the Computational Strength Assessment Guideline (FKM). If necessary, supplementary material tests for service life durability are performed on materials and environmental conditions. To ensure the accuracy of the calculations for modeling, measurements are also carried out during operation of the hydropower components. For example, pressure fluctuations, vibrations, and strains on critical components can be measured in the relevant operating states. Safety tests are always carried out, both during the manufacturing process and during installation and commissioning. For all products and components, an Inspection and Test Plan defines the specific test criteria and responsibilities, as well as the documentation requirements: During commissioning, each machine undergoes a clearly defined test phase, the results of which are logged. All essential functions and signals, from idle to full load, are verified, as is compliance with the limit values. The scenarios investigated include boundary states up to emergency shutdown at maximum load. The machine is only passed for commercial operation once the contractually agreed test program for verification has been completed.	A.2.2.2.2.1.a	
Product design and development: d. Noise emissions	qualitative		At Voith Hydro, noise emission targets are set on a project-specific basis in our calls for tender. Specifically, regarding noise emissions, Voith Hydro pursues the goal of predicting noise emissions increasingly accurately and defining the necessary abatement measures in advance. One example of a project-specific measure to reduce noise emissions is Voith's turbine gearbox for the Barrage du Seujet hydropower plant on Lake Geneva. For many years, the power plant could not be operated at night due to low-frequency vibrations that were clearly discernable inside the buildings in the neighboring residential area. Together with the power plant operator's technical partner, Voith developed a concept for an improved gear unit arrangement, achieving an outstanding gear system efficiency of over 99 % in the process. Moreover, it was possible to reduce noise emissions to such an extent that the power plant can now be operated continuously.	A.2.2.2.2.1.d	

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Customer support and protection: a. Safety data sheets	qualitative		All products must at least meet the safety, health, and environmental requirements of the relevant EU directives, irrespective of the market area. Risk Assessment Sheets are available for all machines and products, both in relation to the European directives or any national directives that exceed their scope. To ensure best possible safety for our customers and their systems, all safety-relevant information on Voith Hydro products is also documented in the operating manuals.	A.2.2.2.2.2.a	
Customer support and protection: a. Coverage of Safety data sheets	quantitative	%	100%	A.2.2.2.2.2.a	
Customer support and protection: b. Customer training and counselling	qualitative		Support: In line with its Business Management System, Voith Hydro continues to monitor its products during the use phase for potential safety risks and major machine damage. In doing so, we always adhere to product liability law and its specifications regarding active product monitoring. In the event of a safety risk or safety-relevant event, Voith Hydro informs customers immediately and always in accordance with legal requirements. To ensure best possible safety for our customers and their systems, all safety-relevant information on Voith Hydro products is also documented in the operating manuals. Training: Voith Hydro provides its customers with safe systems throughout their entire service life. In addition to occupational health and safety protection, plant safety is a top priority for us and applies to all products and services of the Group Division. On the customer and employee side, we have established the Voith HydroSchool, a permanent training institution offering a comprehensive training program. Skilled specialists with many years of experience in Voith HydroSchool courses, as well as comprehensive on-the-job training, ensure that our customers' employees are taught to implement the requirements for safe conduct in the daily operation of the machinery and continue developing their knowledge into the future. Voith Hydro trains both its own employees and its customers' employees in applying relevant specifications and in dealing with the corresponding framework conditions and regulations. These are available on our Group-wide databases and through internal communication channels. We also offer training to our customers at our Training Center, directly on location, or via digital media and channels. Skilled specialists with many years of experience in Voith HydroSchool courses, as well as comprehensive on-the-job training, ensure that our customers' employees are taught to implement the requirements for safe conduct in the daily operation of the machinery and continue developing their knowledge into the future.	A.2.2.2.2.2.b	HydroSchool | Voith
Customer support and protection: b. Coverage of Customer training and counselling	quantitative	%	100%	A.2.2.2.2.2.b	
Customer support and protection: c. Monitoring of products during use phase	qualitative		Monitoring until use: In line with its Business Management System, Voith Hydro continues to monitor its products during the use phase for potential safety risks and major machine damage. In doing so, we always adhere to product liability law and its specifications regarding active product monitoring. In the event of a safety risk or safety-relevant event, Voith Hydro informs customers immediately and always in accordance with legal requirements. To ensure best possible safety for our customers and their systems, all safety-relevant information on Voith Hydro products is also documented in the operating manuals.	A.2.2.2.2.2.c	

Environmental

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Extension of useful product life: a. Longevity b. Repairability c. Upgradability	qualitative		A decisive quality characteristic of the machines and systems produced by the Voith Hydro Group Division is their long service life, which is also an integral part of plant specification. Hydropower plants are designed for a specific number of operating cycles, which generally guarantees an operating life of at least 40 years. Against this background, all Voith products that are used in a plant can be upgraded, retrofitted, and repaired even after many years. As part of our HyService activities, we support power plant operators in maximizing the service life and availability of their plants. During inspections and repairs (e.g. cavitation repairs and generator rewinds), we take care to recondition all existing components for further use wherever possible. In the case of modernizations, which are generally due after 30 to 40 years, we strive to achieve an optimum improvement in system efficiency together with our customers, while preparing operation-critical parts of the plant for further use. In particular, the diagnostic evaluations of plant operating data on the current condition of systems, subsystems, and components of hydropower plants support plant operators in the safe operation of the plants and make it possible to extend runtimes until fundamental rehabilitation measures are required.	B.2.2.1.2.a B.2.2.1.2.b B.2.2.1.2.c	HyService, Keep your energy flowing | Voith Modernizing & upgrading your hydropower plant | Voith
Extension of useful product life: d. Recyclability	qualitative		Ensuring 95% of the materials used for machine sets in hydropower plants are recyclable: Not least because of their very long service life, recycling the materials used in a hydropower plant is an issue that quite literally spans generations. The materials used in a hydropower plant, primarily steel and copper, can be easily and almost completely recycled at the end of the product's service life. For example, the proportion by weight of recyclable materials in the machine sets is more than 95%. Due to the plant's long service life, the energy consumption required for recycling has very little impact on the overall energy balance.	B.2.2.1.2.d	
Material efficiency of products: a. Company position	qualitative		At Voith we manage our use of working and raw materials centrally across the Group to make our processes as resource efficient as possible. Significant challenges arise from the broad scope of our product portfolio and our correspondingly diverse process landscape. In addition to decarbonization and digitalization, Voith is also committed to the circular economy principle. We want to drive innovations that help to close cycles in our industries and promote the principle of circularity. The same applies to our own production process cycles.	B.2.2.2.2.a	2024-12-02_Grundsatzerklaerung_Nachhaltigkeit_EN.pdf
Material efficiency of products: b. Targets	qualitative		A key goal for Voith Hydro regarding the use of materials is a consistent reduction in material costs. These derived primarily from technical measures leading to improvements in material efficiency, such as: a) Avoiding waste when punching and laser-cutting generator sheets by suppliers optimizing their roller widths, b) using burnout waste to manufacture large, welded structures for the production of transport reinforcements and c) designing cast and forged semifinished products to approximate their final shape, thereby reducing machining costs. The materials used in a hydropower plant, primarily steel and copper, can be easily and almost completely recycled at the end of the product's service life. For example, the proportion by weight of recyclable materials in the machine sets is more than 95%.	B.2.2.2.2.b	

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Material efficiency of products: c. Measures and reporting on progress	qualitative		As part of our HyService activities, we support power plant operators in maximizing the service life and availability of their plants. During inspections and repairs (e.g. cavitation repairs and generator rewinds), we take care to recondition all existing components for further use wherever possible. In the case of modernizations, which are generally due after 30 to 40 years, we strive to achieve an optimum improvement in system efficiency together with our customers, while preparing operation-critical parts of the plant for further use. In particular, the diagnostic evaluations of plant operating data on the current condition of systems, subsystems, and components of hydropower plants support plant operators in the safe operation of the plants and make it possible to extend runtimes until fundamental rehabilitation measures are required. In general, we have an increased focus on HyService: its share of total sales is growing and with it our contribution to material efficiency.	B.2.2.2.2.c	Our Service – Part of your Business: HyService
Substances of concern contained in products: Ban on substances of concern in products	qualitative		EU Directives such as the REACH Regulation are particularly relevant to Voith Hydro. The Group Division thoroughly applies the Candidate List, the List of Substances Subject to Authorization (Annex XIV), and the List of Restricted Substances (Annex XVII) in accordance with the REACH Regulation. The centrally managed Group Standardization Department is responsible for implementing and complying with these regulations. The central Technical Department has already identified substances that will likely be banned by REACH in future, and appropriate replacement options are currently being assessed in a development project. If asbestos is found in old machinery during modernization projects, specialized companies ensure its proper disposal and full compliance with all applicable rules and regulations pertaining to this substance. The exact procedure is set out in a Group Division Directive.	B.2.2.3.2.1.	
Strategy to optimise energy efficiency of products: a. Company position	qualitative		Voith Hydro contributes to decarbonization by continuously improving the efficiency and therefore the energy efficiency and carbon footprint of its products. Efficiency optimization is continually in focus in product development across Voith Hydro's full product spectrum. While energy consumption in production is an important cost factor, the energy consumption of hydropower plants in operation is of lesser significance.	B.2.2.4.1.a	
Strategy to optimise energy efficiency of products: c. Measures and reporting on progress	qualitative		Continuous optimization of energy efficiency is therefore key to ensuring our products remain competitive, and our sustainability and business objectives are met. To this end, Voith operates test rigs at its Brunnenmühle Hydropower Research & Development Center in Heidenheim, Germany, that are among the best of their kind worldwide. Regular tests and model acceptance trials are carried out here, allowing various parameters to be analyzed before the turbine is built: efficiency, maximum output, throughput speed, hydraulic forces, as well as the dimensions of the machine and the cavitation behavior at different operating points. These also serve as proof of guaranteed parameters and safety in extreme situations. In addition, Voith Hydro's development departments have access to state-of-the-art supercomputers, enabling them to carry out advance development at the highest level.	B.2.2.4.1.c	

Further Sustainability Key Performance Indicators

Additional Information

	Data Type	Unit	FY 2023/24	Standard and Indicator	Additional info (if applicable)
Product monitoring: 1. Policies or commitments	qualitative		In line with its Business Management System, Voith Hydro continues to monitor its products during the use phase for potential safety risks and major machine damage. In doing so, we always adhere to product liability law and its specifications regarding active product monitoring. In the event of a safety risk or safety-relevant event, Voith Hydro informs customers immediately and always in accordance with legal requirements. To ensure best possible safety for our customers and their systems, all safety-relevant information on Voith Hydro products is also documented in the operating manuals.	Ecovadis	
Product external recognition: 1. CSR-related	qualitative		In 2022, ten StreamDiver turbines, each with a power output of 250 kW, were put into operation as part of the Notre Dame Hydro project in the USA. With their clean and renewable electricity, they make the largest contribution to date to the University of Notre Dame's goal of becoming carbon neutral by 2050. Voith Hydro North America was awarded the University of Notre Dame Procurement Partner Sustainability Award in recognition of its exemplary innovations, products, and services.	Ecovadis	
Promotion of sustainable consumption 1. Policy	qualitative		Even with hydropower projects, however, the greatest possible sustainability can only be assured if all stakeholders work together, and all diverse aspects are considered. For this reason, Voith has been a member of the International Hydropower Association (IHA) for many years and signed the San José Declaration on Sustainable Hydropower in September 2021. In doing so, Voith Hydro recognizes sustainable hydropower as a clean, green, modern, and affordable solution to climate change. The declaration also contains a number of principles and recommendations for sustainable hydropower, including a clear rejection of hydropower development in UNESCO World Heritage Sites. In this fiscal year, Voith Hydro was again represented on the Hydropower Sustainability Governance Committee (HSGC), a multi-stakeholder group that administers the Hydropower Sustainability Standard. This industry standard was introduced in September 2021 and helps assess the ESG performance of hydropower projects. If projects meet or exceed international good practice requirements, they are allowed to use the "Certified Sustainable Hydropower" label. Voith Hydro supports certifications according to this standard and encourages its customers to use it to demonstrate the sustainable development and responsible operation of their hydropower projects.	Ecovadis	San José Declaration on Sustainable Hydropower Hydropower Sustainability Alliance | Driving ESG Solutions

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Product environmental impacts: 1. Objectives and targets	qualitative		Voith technologies play a decisive role in minimizing the environmental impact of hydropower plants – from improving water quality through aerating turbines, through oil-free hubs that prevent water contamination, to innovative runners that improve fish passage, and novel concepts that facilitate sediment transport. Voith Hydro also works tirelessly to further minimize residual environmental impacts. Tighter environmental protection standards and stricter legal framework conditions also require hydropower to make an ever-greater contribution to sustainability. Voith not only meets this challenge itself, but also provides its customers with the required technology. We work with suppliers, environmental authorities, universities, and our customers to find the most sustainable and energy-saving solutions possible. We want to make hydropower even more sustainable through targeted research. With its comprehensive approach, Voith covers everything from fish protection and water quality to energy efficiency. For example, the Voith StreamDiver compact turbine can be operated entirely without oil. The machine has waterlubricated bearings and therefore does not emit any lubricant into the water flow. This protects sensitive hydrophilic ecosystems from potential damage caused by spillage of even minute amounts of oil.	Ecovadis	Power Generation for a Sustainable World | Voith
Environmental Impacts from Product End-of-Life: 1. Objectives and targets	qualitative		Not least because of their very long service life, recycling the materials used in a hydropower plant is an issue that quite literally spans generations. The materials used in a hydropower plant, primarily steel and copper, can be easily and almost completely recycled at the end of the product's service life. For example, the proportion by weight of recyclable materials in the machine sets is more than 95 %. Due to the plant's long service life, the energy consumption required for recycling has very little impact on the overall energy balance.	Ecovadis	
Product design: 1. Eco design	qualitative		Voith technologies play a decisive role in minimizing the environmental impact of hydropower plants – from improving water quality through aerating turbines, through oil-free hubs that prevent water contamination, to innovative runners that improve fish passage, and novel concepts that facilitate sediment transport. Voith Hydro also works tirelessly to further minimize residual environmental impacts. Tighter environmental protection standards and stricter legal framework conditions also require hydropower to make an ever-greater contribution to sustainability. Voith not only meets this challenge itself, but also provides its customers with the required technology. We work with suppliers, environmental authorities, universities, and our customers to find the most sustainable solutions possible.	Ecovadis	
Studies on key products: 1. Carbon footprint	qualitative		We are receiving more and more customer inquiries about the carbon footprint of Voith Hydro products. To meet these requirements, we created a simplified tool in the 2021/22 fiscal year, based on data from the world's leading LCA database Sphera and revised the tool in this reporting year. It enables us to make fast and reliable statements about the carbon emissions of our products. In addition to the materials and quantities used, information on transportation is also considered.	Ecovadis	
Studies on key products: 2. Life Cycle Analysis	qualitative		At Voith Hydro, a generic Life Cycle Assessment (LCA) model for hydropower plants was created back in 2010 and evaluated in a case study for a pumped storage plant. A detailed LCA for StreamDiver applications was carried out in 2018, and a LCA for vanadium redox flow batteries was also completed in the 2021/22 fiscal year.	Ecovadis	

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Products and packaging: 1. Recyclability	qualitative		To raise resource efficiency further still and improve the repairability and longevity of products, the Voith Hydro Group Division is increasingly focusing on modular mechanical engineering concepts as well as the targeted use of components that have been proven in previous projects. This is based on our objective of not only designing products and machine components for multiple use, but also making them easy to use. Not least because of their very long service life, recycling the materials used in a hydropower plant is an issue that quite literally spans generations. The materials used in a hydropower plant, primarily steel and copper, can be easily and almost completely recycled at the end of the product's service life. For example, the proportion by weight of recyclable materials in the machine sets is more than 95 %.	Ecovadis	