Tallinna Vesi

Climate Impact Reduction Plan

International Agreements

AS Tallinna Vesi provides water and wastewater services to more than one third of Estonia's population, which is why we are very much dependent on natural resources. We recognize that, in order for natural resources and a valuable living environment to exist also for generations to come, we too must contribute to protecting and preserving it.

The European Union and Estonia have set ambitious targets to reduce the impacts on the environment and climate, and as a responsible and resource-intensive company, we recognize our responsibility to contribute to achieving these ambitions. We are contributing to the implementation of several agreements, including:

EU Green Deal

The goal is to make the EU **climate-neutral by 2050** and reduce greenhouse gas (GHG) emissions by **55% by 2030** (compared to 1990).

General principles of Estonian Climate Policy until 2050

A 70% reduction in GHG emissions (compared to 1990) **is expected by 2030**

National Energy and Climate Plan

Target of **at least 42%** renewable energy in gross final energy consumption **in 2030**

Carbon Footprint Measurements

The first extensive carbon footprint measurements were done based on figures from 2020. To this end, the internationally recognized and most widely used *GHG Protocol Corporate Accounting and Reporting Standard* was used.

The standard divides greenhouse gas emissions from the Company's operations into three categories, called scopes:

1

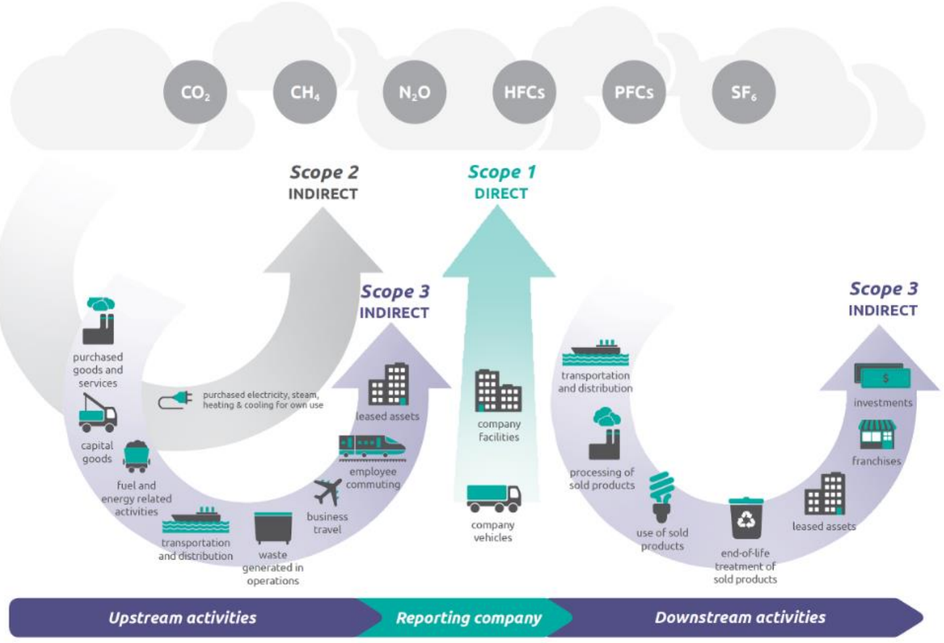
Direct emissions from sources owned or controlled by Company

2

Indirect emissions from purchased energy

3

All other indirect emissions from Company’s value chain



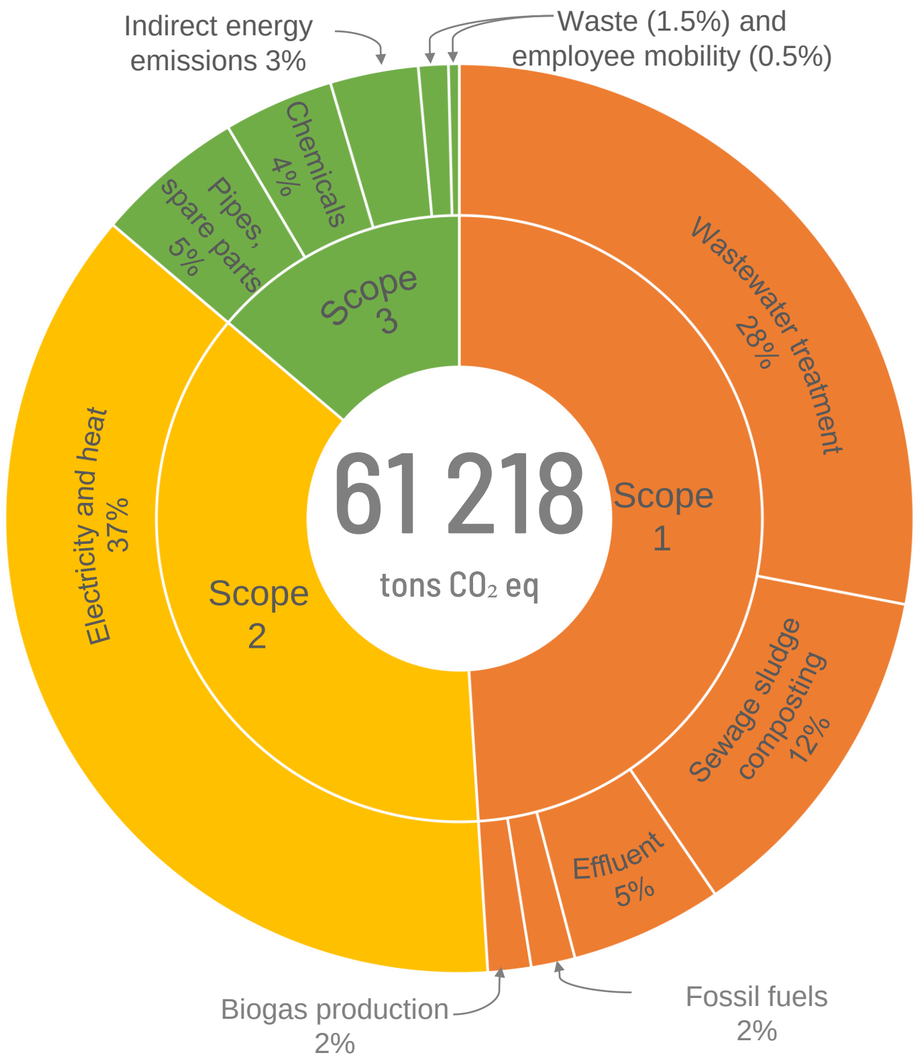
https://ghgprotocol.org

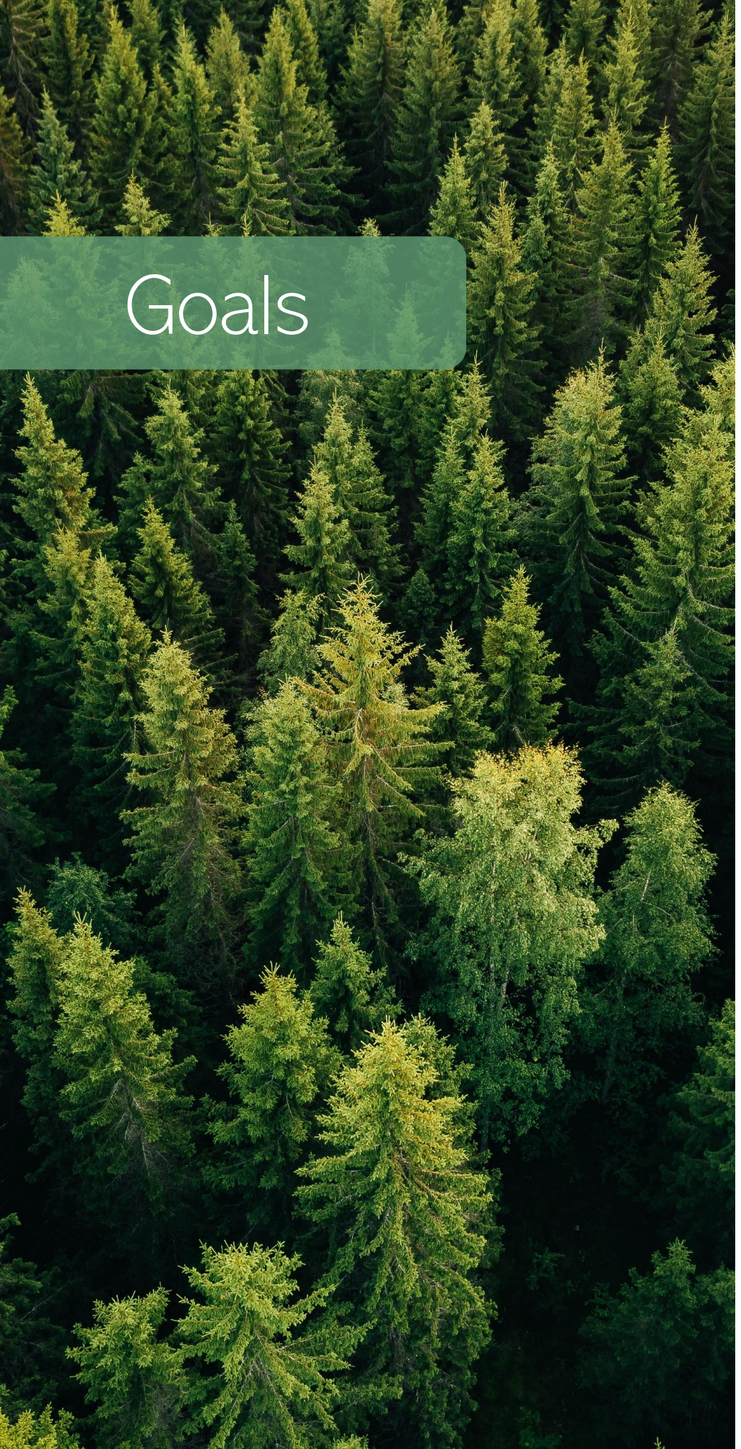
Carbon Footprint

The carbon footprint assessment scope in 2020 included the wastewater and drinking water treatment and the head office. For Watercom OÜ, activities directly related to the provision of the main service in the service area of AS Tallinna Vesi were included. Emissions from services that Watercom OÜ provided to third parties were not included.

The highest emission sources are the use of electricity and the wastewater treatment processes. These two together **produce 72% of the Company's total carbon footprint.**

The biggest impact in the wastewater treatment process comes from N_2O and CH_4. Nitrous oxide (N_2O) is generally produced during the biological nitrogen removal process and occurs in all wastewater treatment plants applying biological treatment. Methane (CH_4) is the largest component of biogas that we use to produce heat. Methane is released into the environment mainly in the treatment process, from leaks in the system, and also during composting process. Since CH_4 and N_2O have a global warming potential of 25 and 298 times that of CO_2, respectively, they produce a significant proportion of the Company's footprint.





Goals

The Company is carbon-neutral by 2040 at the latest. To become carbon-neutral, we need carbon capture mechanisms, such as clear and transparent CO_2 offset, or GHG capture technologies. We are closely monitoring the market and technological developments in this area and will meet the ambitious goal at the earliest opportunity.

By 2030, we have reduced GHG emissions from Scopes 1 and 2 by at least 50% compared to 2020. For Scope 3, **we apply principles of green procurement** and other mitigation measures to emissions that can be influenced by choices made by the Company.

We only use **electricity from renewable sources** and **have replaced natural gas with heat from renewable sources by 2030.**

As an energy-intensive company, **we produce at least 50% of all electricity and heat within the Company by 2030 at the latest.** For this, we use the energy (biogas and heat) contained in wastewater and build solar parks.

We have reduced the heat and electricity consumption by at least 10% by 2030, compared to 2020.

Actions To Reduce Emissions

	Emission source	t CO_2 eq 2020	%	Actions to reduce emissions
Scope 1	Burning fossil fuels	959	2	· Prefer lower emission vehicles. · Prefer fuels from renewable sources. · Join district heating network at the earliest opportunity to replace the use of natural gas at water treatment plant. · Find a use for the thermal energy contained in wastewater.
	Mechanical and chemical-biological treatment of wastewater	17156	28	· Work together with other companies and research institutions to optimize the wastewater treatment process and help reduce N_2O and CH_4 emissions.
	Production and incineration of biogas	939	2	· Install a cogeneration plant (CHP), reducing the amount of biogas incinerated and released directly into the environment.
	Composting of sewage sludge	7624	12	· Work together with other companies and research institutions to find an optimal solution for the treatment of sewage sludge emitting less N_2O and CH_4.
	Discharge of treated effluent and stormwater into receiving waters	3319	5	· Monitor the quality of wastewater discharged by customers to identify major sources of pollution, reducing the pollution load to wastewater treatment plant. · Increase monitoring of stormwater to detect sources of pollution and reduce pollution load to receiving waters.
Scope 2	Use of electricity and heat	22763	37	· Only use electricity and heat from renewable sources. · Produce electricity and heat from biogas (CHP) and set up solar parks in wastewater and water treatment plants. · Reduce the use of electricity by optimizing treatment stages, reconstructing pipelines and replacing energy-intensive equipment with more efficient one. · Switch ozone production to clean oxygen (reducing electricity consumption by ~30%). · Reconstruct buildings to reduce heat loss.
Scope 3	Use of chemicals in treatment plants	2399	4	· Prefer manufacturers of chemicals with a lower CO_2 footprint and strive to find effective solutions to reduce the cost of chemicals.
	Emissions from manufacture of pipes and spare parts, use of peat	3252	5	· Prefer to buy services from suppliers with low carbon emissions.
	Emissions from waste	650	1	· Raise employee awareness of the sorting and reduction of waste. · Raise consumer awareness of what can be flushed and what should not be flushed to reduce the amount of municipal waste ending up in wastewater treatment plant.
	Indirect energy and fuel emissions	1920	3	· Decreasing proportionally with the actions under Scope 1 and Scope 2.
	Business travel and employee mobility	237	1	· Prefer digital channels for communication with external partners. · Allow employees to work from home.
	Total	61218	100	

Climate Change Adaption

Climate change will also have an impact on the services provided by the Company. It is most important that the vital service that we provide is always available and of high quality, meeting all requirements. To this end, we periodically assess the impact of risks and plan preventive measures. Climate changes that affect us the most include long drought and heavy downpours.

Drought

The Company produces 90% of drinking water from surface water, which is why we are highly dependent on levels of water bodies. In order to ensure availability of drinking water at any time, a larger surface water catchment system has been created, formed by canals and water reservoirs. **With water reservoirs, we ensure necessary water reserves during drought periods. Additionally, we are contributing to awareness-raising among customers on the importance of sustainable use of water.** To this end, we offer free classes on environment, join various campaigns and attend events.

Downpours

Climate change bring along heavy downpours, causing floodings where water cannot be drained off the streets quickly enough. Stormwater is mostly discharged to the wastewater treatment plant and this, too, has a limited capacity. In order to reduce flooding in the city and reduce the number of opening emergency overflows at the wastewater treatment plant, a plan has been prepared in co-operation with the City of Tallinn **to replace the combined sewerage system with a separate sewerage system.**

Positive Handprint

Activities accompanying our core business that contribute to the reduction of emissions in another sector are considered a positive handprint. We do not take this into account when measuring our carbon footprint, but we do recognize that contributing to these activities will bring broader benefits. These accompanying positive effects include high quality tap water and recycling of sewage sludge.

Tap water is drinking water

The carbon footprint of tap water is hundreds of times smaller than that of bottled water, the production and consumption of which involves a lot of waste and emissions. Tap water of high quality and meeting all requirements is the best alternative to bottled water. We continue to contribute to raising consumer awareness and keep the quality of tap water at a high level to reduce the need for buying bottled water.

Circular economy

In the course of the wastewater treatment, approximately 40,000 tons of sewage sludge are generated every year. Sludge contains high levels of nitrogen and phosphorus which are valuable plant nutrients. During composting, the sewage sludge is mixed with peat and within a year, this becomes a compost soil. We hand out compost soil for free to all those interested in improving the properties of their soil. This reduces the need for nitrogen and phosphorus fertilizers and the use of compost soil contributes to the circular economy.


We create better life with pure water!
Tallinna Vesi