Protecting the environment

Innovent wind farm supplying ST Bouskoura, Morocco

Our approach to the environment

ST Ang Mo Kio, Singapore

Longstanding commitment

Our first environmental report was issued in 1998, covering our 1997 performance. It stated ST's vision to be recognized as a leader in environmental care. It also set out our environmental mission: 'To eliminate or minimize the impact of our processes and products on the environment, maximizing the use of recyclable or reusable materials and adopting, as far as possible, renewable sources of energy, striving for sustainable development'.

This 25th edition of our sustainability report confirms that our commitment to respecting the environment has never faltered. In fact, it is now even stronger, following our decision announced at the end of 2020 to become carbon neutral by 2027.

Comprehensive management approach

Strong governance

Our Environmental policy (available on **www.st.com**) has been in place since 1993. It is supported by our sustainability charter (available on **www.st.com**), which outlines our commitments and goals for the next 10 years (see 2021 progress on sustainability goals). Under the leadership of the executive management, the Corporate Environmental team is responsible for developing environmental programs and procedures. These are then implemented and executed at operational level by dedicated environmental teams at each site.

Robust management system

Our environmental management is aligned with international standards such as ISO14001, ISO50001, ISO14064 and EMAS[1]. Our performance and management systems are evaluated yearly through third-party surveillance audits, and our certifications are renewed every three years. In 2021, although we had to postpone some audits due to the COVID-19 pandemic, we adapted to the situation and performed a number of audits remotely. Despite these challenges, all our sites maintained their certifications.

10

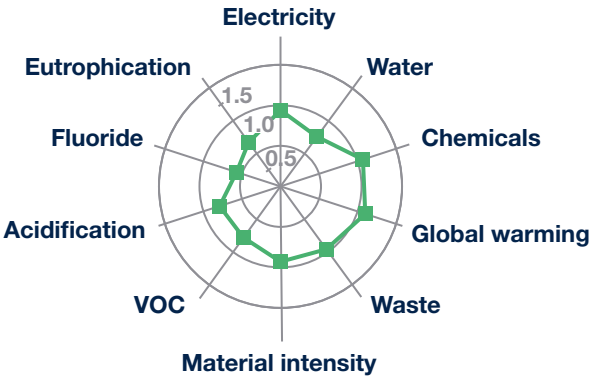
EHS legal compliance audits

To support our culture of continuous improvement, we also conduct internal audits on a three-yearly basis. Moreover, to assess the compliance status of the sites and to limit any risks related to our license to operate, we have a three-year program to conduct third-party environment, health, and safety (EHS) legal compliance audits. This program covers 38 sites, including all our manufacturing sites, all our sites with more than 150 employees and some smaller sites and warehouses. In 2021, we conducted 10 EHS legal compliance audits. I 103-2 I

Monitoring performance

We evaluate our overall environmental performance by monitoring multiple indicators, such as resource consumption, waste, and air emissions. Since 2001, we have used an internal tool to analyze data we have gathered on the inputs and outputs of our manufacturing operations. The smaller the footprint, the better the performance, with a score of 1.0 or below considered good. It allows us to compare the environmental impact of each ST manufacturing site, as well as our overall progress year on year. We analyze the results to identify potential improvements and define the priorities we need to address. In 2021, our eco-footprint score was 0.71. This was 0.07 better than our 2020 score and ahead of our 2021 target of 0.77. I 103-3 I

All environmental data within ST is collected and reported regularly (monthly, quarterly, and yearly) on our internal central environmental database. Managed by the environment managers and their teams, this platform helps us monitor multiple indicators across our sites. Tracking the progress of each indicator allows sites to constantly adjust and improve their performance. We share the results and best practices with all teams during quarterly environment steering committee meetings.



Close cooperation

Acting with employees

We all have a role to play in raising awareness of our environmental approach. This was reflected in our 2021 employee engagement survey results where 85% of our employees said that ST is taking action to protect the environment, 21 points above the GEEM[2] norm.

85%

of employees believe ST is taking action to protect the environment

In 2021, our Tours site (France) launched an innovative environmental escape game for ST employees and students. Participants become 'special environment agents' and receive different missions to tackle in order to progress in the game. The purpose of these missions is to identify energy savings, ensure effective treatment of wastewater, and control the sorting, disposal,

(1) EMAS: Eco-Management and Audit Scheme.

(2) GEEM: CultureIQ Global Electronic Equipment/Instruments Manufacturing norm.

and recycling of waste. More than 50 people participated in the first sessions, which received positive feedback.

Our employees also play a leading role in helping to make the change to a greener world. All our sites undertake initiatives to encourage people to respect the environment. For example, in 2021, our Kirkop site (Malta) launched a program called 'ST goes green' to encourage creative initiatives with a positive impact on the environment. During the year, the site collected innovative suggestions related to water, electricity consumption, office heating, outdoor activities, and other topics.

Similarly, the Green Committee of our Hong Kong site developed several activities to improve indoor air quality, recycle more, increase energy savings, and use sustainable supplies. The committee also launched a Green Certificate Reward program, where ST employees can accumulate points to win prizes by participating in the site's sustainability activities. The teams at our Rennes site (France) also demonstrated their commitment to sustainability by participating in the city's urban forest project and planting 1,300 seedlings on 400m^2 of land.

Biodiversity is essential for a healthy ecosystem. We are committed to preserving the biodiversity around our sites and our employees are very active in proposing and running initiatives adapted to the local context. Some examples of these are an insect hotel at our Tours site (France), beehives at our Rennes and Crolles sites (France), wild orchid protection at our Crolles site, an endemic plant garden at our Kirkop site (Malta), a butterfly farm at our Calamba site (the Philippines) and sheep at our Rousset site (France).

Participating in industrial and trade associations

We are members of numerous trade associations, working alongside other semiconductor businesses to define the future and consider the environmental impact of the electronics industry. In 2021, we continued our collaboration with the European Semiconductor Industry Association (ESIA), the European arm of the World Semiconductor Council, which was presided by Jean-Marc Chery, President and CEO of ST until the end of 2021. Pascal Roquet, our Corporate Environment Director, leads the ESIA EHS committee to align with our peers on a leading and proactive approach to EHS responsibilities. Throughout the year, our experts actively participated in working groups on resource conservation, air emissions and chemicals, as well as health and ergonomics. I 102-12 I

Energy and Climate Change

Innovent wind farm supplying ST Bouskoura, Morocco

At the end of 2020, we announced our commitment to becoming carbon neutral by 2027. This commitment is part of our response to the global climate challenge and reflects our ambition to reduce the impact of our activities on the environment. I 103-1 I

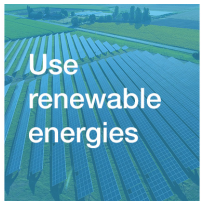
By the end of 2021, we were on track towards our carbon neutrality targets, which include:

- compliance with the Paris Agreement's 1.5°C scenario by 2025, implying a 50% reduction in direct and indirect greenhouse gas (GHG) emissions vs 2018
- sourcing 100% renewable energy by 2027

To help us achieve these targets, we defined five main workstreams to focus on. I 103-2 I

CARBON NEUTRAL

by 2027

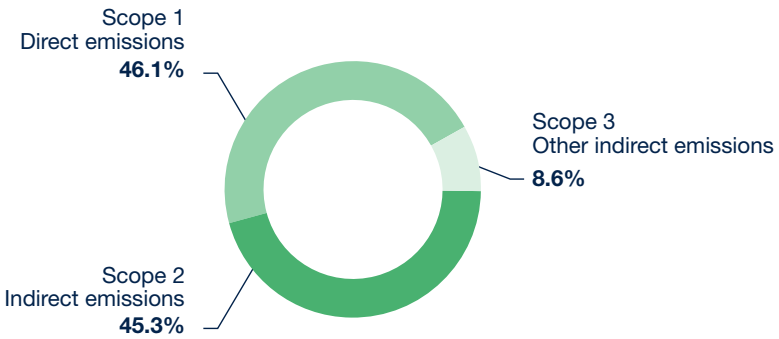


During 2021, we completed a full review of 14 major ST sites. Each site now has a roadmap to eliminate as much as technically possible all direct emissions, implement additional energy-saving investments and leverage opportunities for renewable energies.

Our comprehensive program

ST has been working on minimizing the impact of its operations on climate change for more than 25 years. The programs in place in all our manufacturing sites address our direct and indirect emissions, defined as scopes 1, 2 and 3 according to the GHG Protocol.

Summary of net CO_2 equivalent emissions in 2021 (%) I 305-1 I 305-2 I 305-3 I



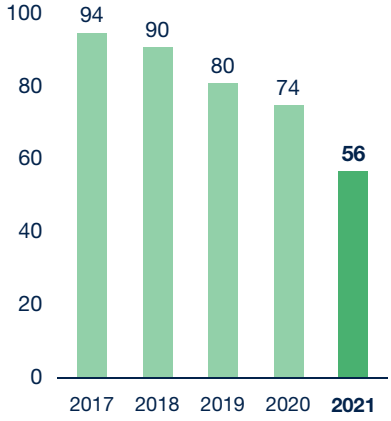
Scopes 1, 2, 3 according to Greenhouse Gas (GHG) Protocol.

Reducing our direct emissions

The use of perfluorinated compounds (PFCs) in the manufacture of semiconductors accounts for a significant share of our direct air emissions, as defined by scope 1 of the GHG Protocol. It is therefore a central part of our environmental strategy to reduce their use and ensure they are treated appropriately before being released into the atmosphere.

PFC emissions
I 305-4 I

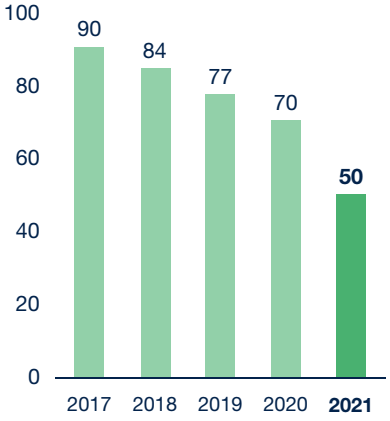
Per unit of production – normalized values



Baseline 100 in 2016.

CO_2 emissions equivalent
I 305-4 I SDG 13.1

Per unit of production – normalized values



Baseline 100 in 2016.

In 2021, as part of our commitment to reduce our direct emissions by 50% by 2025 vs 2018, we conducted assessments at all our manufacturing sites to explore the feasibility of introducing additional PFC abatement systems, and which types of system would be best.

Abatement systems
to treat PFCs

Our Ang Mo Kio site (Singapore), one of the highest contributors to our total GHG emissions, has initiated several action plans and investments over the last few years. The site continued these efforts in 2021 by installing 19 systems, reducing direct PFC emissions by 9% compared to 2020. In the meantime, our Agrate site (Italy) reduced its PFC emissions by 8% thanks to the installation of a new thermal processing unit.

As part of our carbon neutrality journey, our Grenoble site (France) installed new uninterruptible power supply (UPS) battery backups to replace the five diesel generators used as electricity back-ups for many years. This will save diesel consumption as well as reduce particle emissions.

Christian Rivolta
Program Manager, Front-end Manufacturing Central Functions

I'm coordinating a cross-site working group looking to optimize process and cleaning recipes and use gases with a lower environmental impact. We are also identifying opportunities for lower energy consumption within the subcomponents of process equipment, such as pumps and chillers. The individual gains are small, but the high number of units installed makes the overall savings noteworthy. I am proud to be part of ST's journey towards carbon neutrality."

Saving energy

In 2021, we decreased our energy consumption by 18% vs 2020 (per unit of production), although we slightly increased our absolute energy consumption by 3%, due to a significant increase in production. This demonstrates that the actions we have implemented have improved our energy efficiency.

-18%
energy consumption vs 2020

All our manufacturing sites develop initiatives to better manage and reduce their energy consumption. Environment, health and safety (EHS) teams at our major sites worked on 53 improvement projects during 2021, saving 35GWh of energy.

FOCUS

INNOVATE TO SAVE ENERGY

In 2021, our French sites installed new-generation chillers to improve energy performance and reduce natural gas consumption. The project included installing refrigeration units with energy recovery, which offer two main advantages:

- cooling the clean room production equipment more efficiently than current units
- recovering heat to use for heating sites' offices

Our Rousset site pioneered and installed a free cooling system that uses the outside air to cool the production equipment, thereby reducing the use of refrigeration units during winter. With this project, the site estimates an energy saving of 3GWh per year.

These projects have reduced the use of gas boilers, saving 1,300 tons of CO_2 per year, and have also reduced electricity consumption, saving 6.9GWh per year.

As part of our carbon neutrality program, we conducted external audits of all our manufacturing and R&D sites to identify actions to further improve our energy efficiency. With our partner, Schneider Electric, we identified more than 200 potential actions and selected around 150 of them, which our sites will implement from now till 2027.

Increasing our use of renewable energy

Of the total electricity we purchased in 2021, 51% came from renewable sources, compared to 43% in 2020.

51%

of renewable electricity

Our Bouskoura site (Morocco) is a good example of renewable energy sourcing. In 2021, the site finalized a power purchase agreement with Innovent for wind electricity supply. The wind farm started producing electricity in September and will reach its full capacity in the second half of 2022. With an annual output expected to reach more than 80GWh of green energy, the wind farm should supply at least 50% of the power needs of the site and contribute to reducing its CO_2 emissions by about 50,400 metric tons per year.

In 2021, the 1GWh of green electricity produced by the photovoltaic carport at our Bouskoura site (Morocco) partially powered the clean room. Similarly, the solar power installations at our sites in Catania (Italy) and Grenoble (France) produced 2GWh of green electricity.

By the end of the year, as part of the Apple clean energy initiative, we reached the target of supplying products to Apple that are manufactured with 100% renewable energy.

During the year, we also conducted a market study to identify potential green energy projects based on each site's local context. This analysis will enable us to build a robust and reliable strategy to reach 100% renewable energy sourcing by 2027.

Minimizing our indirect emissions from transportation

3

categories of scope 3 emissions

Reducing CO_2 emissions from the transportation of our people and products has been part of our sustainability strategy for 25 years. We report on employee commuting, business travel and transportation of our goods – the three most material categories we can act on out of the 15 categories defined in scope 3 of the GHG Protocol.

We noted a 5% increase in 2021 compared to 2020. This is mainly due to emissions related to goods transportation, which represent 53% of our scope 3 emissions and increased 15% during the year, due to a growth in our business activities and higher production volumes.

As in 2020, due largely to the COVID-19 pandemic, we were able to reduce emissions related to business travel by 28% in 2021 and encouraged eligible employees to work from home.

We also encouraged all employees to develop greener commuting solutions and promote local mobility plans. On this specific topic, our Rennes R&D site (France) organized a 'mobility week' with workshops and challenges to encourage more cycling, more car-pooling and more use of public transport. The 89 employees who participated in this initiative saved almost 9,000km of solo driving.

Offsetting emissions

To become carbon neutral by 2027, we will develop reforestation and innovative carbon sequestration programs. To help us achieve this, we worked with our partner, Schneider Electric, to review carbon market options, define project preferences and criteria, and review offset options for future implementation.

Over the year, the 6,200 hectares of forests planted on our behalf between 2002 and 2005 sequestrated[(1)] 220,500 tons of CO_2. However, due to the age of these forests, they are not part of our carbon neutrality program and their impact is not considered in our emissions reporting.

(1) Internal calculation method.

Addressing climate-related risks

Since 2020, when we publicly declared our support for the Taskforce on Climate-related Financial Disclosure (TCFD), we have been working towards implementing TCFD recommendations (see also **Risk Management** and **TCFD index**).

We support the TCFD

We adopt a double perspective when considering climate-related risks:

- impact of our activities on the environment and people
- impact of climate change on our activities

In 2021, our environmental and resilience teams worked closely together to address physical risks resulting from climate change that are either chronic (induced by longer-term shifts in climate patterns) or acute (event-driven) in a way that is consistent with the TCFD and the EU Green Deal classification. This is illustrated in the table below.

Addressing natural hazards risks

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust and sandstorms), including medicanes	Heavy precipitation (rain, hail, snow/ice)	Landslide (including rock fall)
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, groundwater)	Subsidence
			Glacial lake	

Covered by climate change study	Covered by specific site studies when required
Covered by water scarcity study	Non-applicable to ST footprint

Source: EU commission

We commissioned a specific science-based study from Axa Climate to assess current and future climate risks on our 140 most critical locations (ST and partner sites in 23 countries). The analysis was based on two climate change scenarios defined by the United Nations Intergovernmental Panel on Climate Change (IPCC):

- RCP4.5 (+2.4°C by 2100 vs pre-industrial levels)
- RCP8.5 (+4.3°C by 2100 vs pre-industrial levels)

For each scenario and for each location, climate projections for 2030 and 2050 show the likely impacts across a range of indicators, such as number of days of heatwaves, high winds, and heavy rain. This allows us to calculate a combined climate-related 'peril score' for each location.

We commissioned a second study from Quantis, a specialist firm, specifically focusing on the characteristics and impact of our carbon footprint and water scarcity (see **Water**).

In addition to these global analyses, site-specific studies on particular natural hazards are also conducted where necessary due to local conditions.

Overall, the purpose of these different climate-related analyses is to inform our site-level business interruption risk assessments and business impact analyses, as well as our site resilience index. Ultimately, they feed into our regularly updated improvement, adaptation, and mitigation plans, addressing environmental and resilience issues.

We are proactively addressing the transition to a lower-carbon economy. In this context, we are in the process of further identifying and assessing policy, legal, technology, and market transition risks. Simultaneously, we are actively investing in researching new products to help our customers develop new energy-saving applications, transforming risk into opportunity (see **Sustainable Technology**).

Acting collectively

We firmly believe we can achieve more if we act collectively. Our carbon neutrality program aims to engage customers, employees, investors, future employees, and all our partners. We want to implement collaborative programs and partnerships in all our ecosystems to promote carbon neutrality among all stakeholders, and to encourage environmental innovations.

Joining the Science Based Targets initiative

As part of our carbon neutrality program, ST has joined the Science Based Targets initiative (SBTi), which provides a clearly defined pathway for companies to reduce their GHG emissions. By the end of 2021, we were the only semiconductor company with approved targets to limit warming to no more than 1.5°C, demonstrating our high level of ambition.

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

BUSINESS AMBITION FOR 1.5°C

Transparency towards our stakeholders

By reporting to CDP, we demonstrate to our customers and investors that we are ahead of regulatory and policy changes, we proactively identify and tackle growing risks, and we continually seek new opportunities for action. In 2021, we scored A- in the CDP Climate Change questionnaire. Our answers are available in the CDP platform and accessible to all CDP members.

Third-party audits

In 2021, we achieved ISO 14064 certification across all our manufacturing sites. ISO 14064 is an international standard for quantifying and reporting GHG direct and indirect emissions at the organizational level. This gives our sites tools and guidance to select the appropriate GHG sources, data, and methodologies, and enhance our reporting.

11

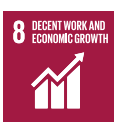
sites certified ISO 50001

Similarly, ISO 50001 certification helps us to improve energy efficiency and so reduce GHG emissions and energy costs. Our Bouskoura site (Morocco) joined the 10 ST sites already certified (see **ST certifications**).

Contributing to the Sustainable Development Goals

Our commitments and programs related to Energy and Climate Change as described above contribute to:

SDG target 7.3 – By 2030, double the global rate of improvement in energy efficiency.



SDG target 8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production.

SDG target 13.1 – Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

2027 sustainability goal	Status	Comments
SG9: Be carbon neutral by 2027 in all direct and indirect emissions from scope 1 and 2, and focusing on product transportation, business travel and employee commuting emissions for scope 3.		1,044 $KTCO_2$ (-34% versus 2018)
SG10: Adopt 100% renewable energy sources by 2027 through energy procurement and green energy installations.		46% of total energy (51% of total electricity)
SG11: Implement programs to reduce energy consumption by at least 150GWh per year by 2027.		35GWh savings implemented in 2021.

2025 sustainability goal	Status	Comments
SG12: Reduce energy consumption per wafer by 20% in 2025 vs 2016.		-19%
80% of renewable electricity by 2025.		51%
-50% absolute scope 1 and scope 2 GHG emissions by 2025 (2018 baseline).		-34%

Water

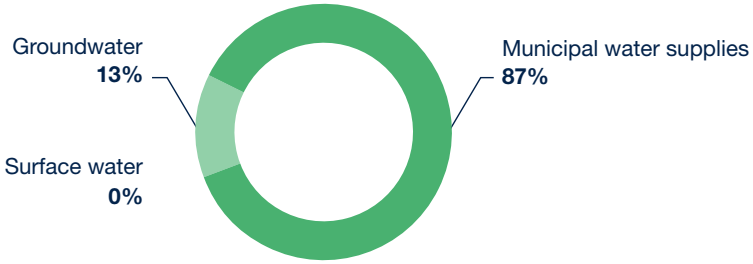
Water reclaim system with ultrafiltration, ST Shenzhen, China

Tackling the challenges of water scarcity and wastewater treatment has been part of our strategy since 1993. Water plays a key role in the manufacturing of semiconductors. Our processes require ultrapure water and generate wastewater that can be harmful to the environment and local communities. Our comprehensive management approach includes water stress assessment, conservation programs, water efficiency and wastewater treatment. I 103-1 I

Assessing and monitoring our impact

Water is a limited and shared resource, and we take responsibility for all water-related challenges wherever we operate. A reliable water supply is essential to the semiconductor manufacturing process. All ST sites manage their water-related risks according to their needs and water availability. Each site monitors the volume of water it uses and complies with local permits. One of our manufacturing sites uses groundwater for its operations. In 2021, 13% of the water used throughout our operations came from groundwater and 87% from municipal water supplies. I 303-3 I

Water withdrawal by source in 2021 (%) I 303-3 I SDG 6.4



As most of our primary water supply is local municipal water, it is fundamental to ensure the continuity of water supplies in the areas where we operate. We therefore engage in regular discussions with local stakeholders and implement solutions to reduce water extraction and consumption. In 2021, we conducted a water assessment with an external partner to assess our global water footprint and identify water stress areas, water-related risks of our operations, and our impact on local communities.

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ASSESSING WATER-RELATED RISKS

In 2021, ST conducted a water risk assessment at corporate level for all our manufacturing sites. The aim was to identify our overall water footprint and assess operational and external water-related risks. Partnering with Quantis, we took the lifecycle assessment approach to evaluate our indirect impacts linked to upstream and downstream activities, and our direct impacts linked to our manufacturing operations.

We analyzed the external factors for each site, depending on its location, applying the Water Risk Filter 5.0 methodology. As a result, we identified that most of our manufacturing sites are at medium risk for both operational and external risks. This study confirmed that water scarcity and water quality are external physical risks, while the importance of water in our operations and the production of ultrapure water are drivers of our operational risks. As a next step, each site will consider risk level and type to formalize appropriate water saving action plans.

Quantis

Tatiana Fedotova
Global Water Lead, Quantis

Water and climate risks are a priority for ST. ST partnered with Quantis to update their water and carbon footprints, conduct risk assessments, and engage with all manufacturing sites to ensure the corporate water strategy addressed differing local contexts. The next phase will be to work with suppliers and step up commitments to address impacts in water-stressed basins."

Reducing our water use

Water efficiency

Our manufacturing processes require ultrapure water. We apply the best available water-producing techniques that meet the required purity levels while minimizing water use.

We aim to reduce our water use by continuously improving water efficiency across our operations. In 2021, we reduced our water consumption per unit of production by 16% compared to 2020, in line with our 2025 target to reduce our water consumption by 20% vs 2016. This is the result of the continuous efforts of all our manufacturing sites and teams.

16%

reduction in water consumption

For example, our Crolles site (France) initiated a working group with the facilities teams to reduce water consumption at source. By optimizing idle equipment modes, the site decreased water use by 4%. Other initiatives led to a 17% reduction in their global water consumption per unit of production, versus 2020.

In Morocco, where water is a particularly scarce resource, our Bouskoura site has implemented several action plans to reduce its water consumption and increase the water recycling rate for a number of years. In 2021, the site reduced its absolute water consumption by 6.5%. In one initiative open cooling towers were replaced with closed cooling towers.

Our Shenzhen site (China) improved its water efficiency in 2021 by deploying several actions, such as optimizing nozzles for rinsing operations and recycling flux rinse water.

Water recycling

In 2021, our water recycling rate reached 40% compared to 41% in 2020. This is mainly because of our requirements for ultrapure water, which significantly increased at our front-end manufacturing sites due to higher production volumes.

40%

of water recycled and reused

One of our main approaches to overall water conservation is to reuse and recycle. However, as we use ultrapure water in our processes, it is not always possible to reuse processed water. Although water can be treated and recycled into ultrapure water, it is more often reused to cover facility needs, such as cooling towers and scrubbers.

To improve its low water recycling rate, our Calamba site (the Philippines) continued a project initiated in 2020 to recover and treat water from manufacturing processes for use in the cooling towers. As a result, the site increased its recycling rate from 22% to 38%.

Efficient wastewater treatment

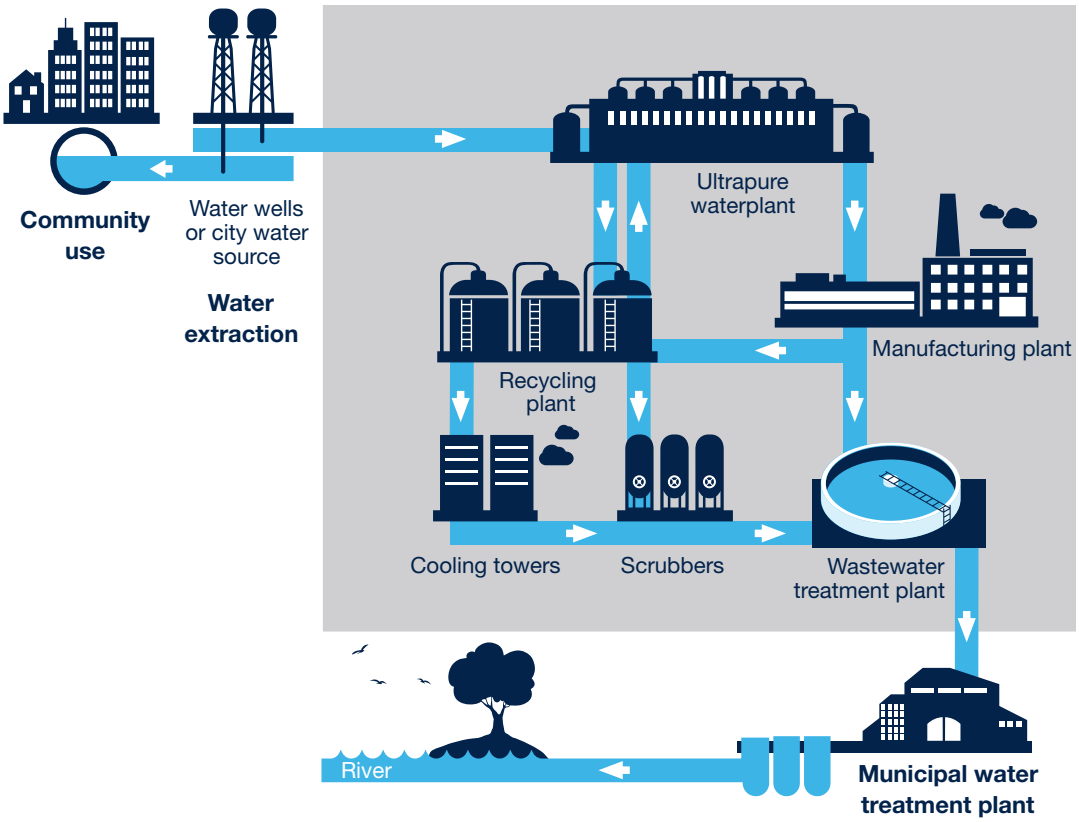
Wastewater from our manufacturing processes contains pollutants such as heavy metals and toxic solvents. To mitigate any risk of pollution, wastewater needs to be treated on site or in municipal treatment plants before being discharged back into the natural environment. Wastewater treatment involves physical, chemical, or biological processes. The quality of the discharged water is carefully controlled.

Our manufacturing sites are continually looking for ways to improve wastewater treatment and water discharge quality to minimize our impact on the environment.

As well as reducing the risk of pollution, optimizing wastewater treatment helps improve recycling efficiency, and so reduces the amount of water withdrawn. Further to the redesign of its wastewater treatment plant, our Bouskoura site (Morocco) improved its water recycling rate from 33% in 2019 to 53% in 2021.

Our Kirkop site (Malta) launched an original and innovative project to address heavy metals. The site initiated a program with the University of Alessandria (Italy) to study the effectiveness and efficiency of using phytoremediation to treat a drain containing heavy metals from plating. In this process, plants clean the wastewater by absorbing the metals through their roots. If successful, this method can potentially be used at other ST sites.

Typical ST water cycle



Transparency disclosure

We have participated in the CDP since 2004 with the aim of sharing our water management performance transparently with all our stakeholders, including the associated risks and opportunities. It also allows us to compare our progress with peers in the semiconductor industry and identify improvement areas. In 2021, we received a B rating. This is lower than the previous year, but still higher than the sector average of B-. Based on the analysis of the results, we focused more on water-related risks in 2021 and plan to reinforce our water policy in 2022.

Contributing to the Sustainable Development Goals

Our commitments and programs related to Water as described above contribute to:

SDG target 6.4 – Substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity.

SDG target 8.4 – Improve progressively, through 2030, global resource efficiency in consumption and production.

2025 sustainability goal	Status	Comments
SG13: Improve our water efficiency by 20% by 2025 vs 2016.		-11%

Annual sustainability goal	Status	Comments
SG14: Recycle at least 50% of the water used each year.	✗	40%

Waste

Waste sorting and storage, ST Calamba, the Philippines

Managing our waste

Our waste management strategy is based on the proper classification, separation, and safe disposal of waste. It is driven by local regulations as well as Company policy, with our sites being expected to respect the most stringent of these requirements. Wherever possible, we give priority to reduction, reuse, recycling and recovery over incineration and landfill. Together with our customers and partners, we strive for zero waste, and promote a circular economy. I 103-2 I

Continued performance improvement

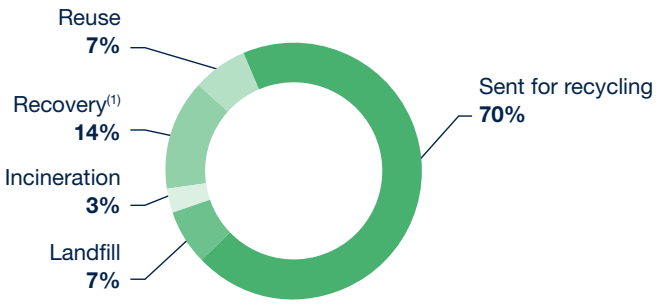
In 2021, we reused, recovered, or sent for recycling 90% of the waste generated by our operations. This was two points better than 2020, making good progress towards our 2025 goal of 95%. However, the waste sent to landfill increased to 7% from 6% in 2020, above our annual target of ≤3%. This was caused by an issue with a waste disposal supplier at one of our manufacturing sites. The problem was corrected during the year.

90%

of waste reused, recovered, or sent for recycling

Reducing landfill waste is one of our priorities. Our Shenzhen site (China) successfully passed a third-party certification 'UL zero waste' related to landfill waste. It includes an assessment of disposal methods with a focus on reducing the amount of waste sent to landfill as much as possible. Our Calamba site (the Philippines) also joined the initiative.

Waste split in 2021 (%) | 306-2 |



(1) Waste burnt with recovery of energy (combustion).

Reducing waste at the source

The best waste is the waste we do not generate. We apply this approach at all our manufacturing sites to minimize unnecessary resource consumption and waste generation across our operations.

In 2021, our Shenzhen (China) site developed a comprehensive strategy to reduce waste at the source in daily operations. The site deployed a waste scorecard to provide a global view of the main waste streams. Based on this analysis, appropriate programs were developed. These include:

- reducing the thickness of the resin used in manufacturing processes, resulting in less resin waste
- compressing cardboard boxes, thereby reducing their volume for storage and transport
- implementing a highly efficient press filter, reducing the quantity of sludge generated by wastewater treatment
- optimizing chemical usage, such as ethanol and flux cleaning in manufacturing processes, reducing chemical consumption and the waste chemicals generated

As a result, the site has reduced the absolute amount of waste generated by 11%.

Haiyan Zeng
Sustainability Manager, Shenzhen (China)

We believe the best way to manage waste is to be waste free. Waste reduction at the source is the priority focus of our innovative waste scorecard initiative. The project, launched in 2021, enables our employees to get involved in exploring various waste reduction opportunities for materials, processes and waste treatment. A series of best practices has been developed to reduce waste sources, including optimizing process parameters, improving cleaning efficiency and optimizing production arrangements. As well as improving our environmental management performance, the project further enhanced the site's sustainability culture."

During the year, our Crolles site (France) launched a working group with facilities, environment, health and safety (EHS) and manufacturing teams to reduce sulfuric acid waste. Better waste segregation and the removal of several steps in the process resulted in a decrease of 1,000 tons of waste and 600 tons of raw materials. This also saved 76 tanker journeys between the site and the waste disposal supplier, representing 32,000km and 22 tons of CO_2.

Promoting a circular economy

Using waste to create value benefits the environment, people, and our Company. Therefore, we look for opportunities to valorize our residual waste wherever possible.

For several years, we have been implementing various circular economy initiatives to find new uses for the waste generated from our activities.

Moving towards a

circular economy

- Fluoride sludge is transformed into pellets for the metallurgy industry.
- Sulfuric acids are used for recycling batteries.
- Deflashing waste powder is sent for precious metal recovery.
- Palladium is recovered for reuse in the automotive industry.
- Electronic waste is dismantled; some parts are reused, and precious metals are recovered.
- Solvents are sent for distillation and reuse.
- Solvents are burned and the energy recovered.
- Ammonia in wastewater is treated and used in agricultural fertilizers.
- Landfill industrial waste is transformed into solid combustible material and used in cement factory furnaces.
- Silicon wafer scraps are used for aluminum production for the automotive, aviation and photovoltaic industries.
- Paper, cardboard, plastics, and wood are recycled.
- Organic waste is transformed into compost.
- Spent resin and sludge are used in the cement and brick industry.
- COVID-19 protection masks from our French sites are transformed into plastic pellets.

As an example, our Agrate site (Italy) has been working for more than 10 years with a waste recovery company near Milan. Every week, the site sends the company 35 tons of sludge from two wastewater treatment plants for treatment and recycling. The company checks the sludge to ensure there is no trace of heavy metals or hazardous substances. The sludge is locally dried and then sent to cement factories for reuse. Periodically, we audit the waste recovery company to check its processes and procedures meet our high standards. The last audit was at the end of 2021 and no issues were identified.

A new lease of life for

49 tons

of quartz and plastic since 2012

A steady drive towards zero waste has enabled 49 tons of quartz and plastic from scrap photomasks, generated from our Singapore front-end operations, to be reused since the project started in 2012. To ensure the quartz and plastic remain in a reusable state, the team follows a defined process for cleaning and packing. In addition to quartz and plastic reuse, aluminum from the photomask's pellicle ring is recycled through a local metal recycling company.

FOCUS

NEW SUSTAINABLE PACKAGING

Our STM32 product team is contributing to the collective effort of the Company to reduce its environmental impact. In 2021, it created improved eco-friendly packaging

that eliminates the need for plastic blister packs. The new packaging is sustainable for:

- People: the design is better adapted to hardware tools, creating a better user experience. The product also comes with a welcome letter and a QR code that redirects users to the dedicated page on www.st.com , thus eliminating the need for 'getting started' user manuals.
- Planet: the box is made from recycled cardboard and uses water-based ink, making it fully eco-friendly and recyclable. The toughness of the box also makes it 100% reusable.
- Business: the design of the box has been optimized for different sizes so that it can be easily adapted to other products. Along with the black and white design, this helps to save a significant amount of resources.

All these changes combined will reduce the annual plastic consumption for STM32 boards by around 15 tons per year.

Controlling hazardous substances

Our various manufacturing processes can generate hazardous or potentially hazardous waste, such as chemical substances and contaminated plastics. We pay attention to all types of hazardous waste (see **Chemicals**). We seek to identify the best solution among all available treatment technologies to minimize any adverse impact from our activities. In 2021, we identified 41% of our waste as hazardous, 96% of which was reused, recovered, or sent for recycling. The remaining waste was disposed of and treated locally by specially authorized companies.

Contributing to the Sustainable Development Goal

Our commitments and programs related to waste and effluents as described above contribute to:

SDG target 3.9 – Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution, and contamination.

SDG target 6.3 – Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

SDG target 12.4 – Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

2025 sustainability goal	Status	Comments
SG16: Reuse or recycle 95% of our waste by 2025.		90%

Annual sustainability goal	Status	Comments
SG15: Ensure an annual landfill waste rate below 3%.		7%

Chemicals

Technology analysis laboratory, ST Tours, France

Responsibly managing the chemical substances and materials used in our operations is critical for protecting people, preserving the environment, and complying with legal and customer requirements. I 103-1 I

Applying a rigorous approach

To prevent any potential negative impacts of the chemicals and materials used in our operations, we take a precautionary approach when assessing new processes, chemicals, and products, as set out in Principle 15 of the Rio Declaration. I 102-11 I

For all hazards identified at each ST site, the chemical committee evaluates the best management solutions, both for new processes and modification of existing processes. The site chemical committee meets regularly to discuss and review all decisions on chemical usage and handling by evaluating chemical compositions, hazards, use conditions, medical recommendations, and industrial hygiene requirements. This includes risk management measures, personal protective equipment (PPE), waste management and administrative controls. By rigorously applying this process, we are able to identify critical substances as soon as they are introduced or reclassified. I 102-11 I 103-2 I

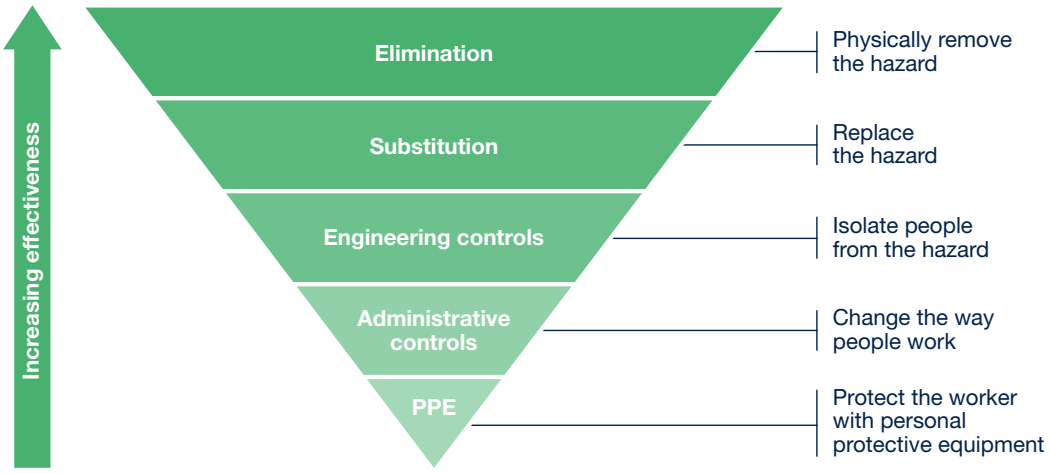
In 2021, we recorded 5,492 chemicals in use, and we conducted more than 700 new risk assessments, achieving more than 30,000 validated risk assessments by the end of the year. I 103-3 I

>700

new risk assessments

We apply the hierarchy of control approach in our chemicals management procedures. When specific chemicals or materials cannot be eliminated or substituted with less hazardous alternatives, we implement engineering measures to reduce workers' and environmental exposure.

Hierarchy of Controls



Typically, we install fully closed distribution systems in our manufacturing processes to deliver chemicals at the final equipment point of use, preventing accidental releases by design. For example, to further protect our people from hazards and to reduce potential accidental leakages, our Ang Mo Kio site (Singapore) innovated by developing a track autofill system and centralized distribution system for a chemical used in the surface treatment of wafers (Hexamethyldisilazane). Completed at the end of 2021 and installed on 33 pieces of equipment, this project reduced potential exposure and the risk of accidents, while improving productivity by eliminating equipment stops for manual refills.

Ken Leong
Head of Department, Photolithography, Ang Mo Kio (Singapore)

Our technicians are potentially exposed to Hexamethyldisilazane (HMDS) chemicals every day when performing manual chemical top ups, and this can be hazardous to their health. By deploying an HMDS chemical distribution system with full interlock protection, we have greatly reduced the risk of exposure to such chemicals. The team explored various options and finally we made it happen. This demonstrates our commitment to building a safe working environment for all our employees."

All types of equipment using chemicals are connected to centralized exhaust systems. Separate drains ensure all emissions (air and water) are treated to minimize environmental releases. Additional temporary exhaust mechanisms are provided during specific maintenance operations, while preliminary checks and cleaning operations are conducted before opening equipment or before workers are authorized to enter confined spaces.

FOCUS

A BEST-IN-CLASS CHEMICAL LAB

Our Fremont Lab (USA) develops new imaging products using quantum film technology. A new facility constructed at the lab was designed to include the most advanced systems to protect employees and the environment.

The facility features:

- a modern fire control system
- building ventilation with activated carbon scrubbers
- automated chemical waste consolidation and handling systems
- enclosed chemical handling and distribution to point of use
- substantial secondary containment systems
- leak detection systems
- uninterruptable power supply to ensure safe shutdown during power outages

During commissioning, the lab management collaborated with corporate environment, health and safety (EHS) to review the chemical hazards in detail, and ensure that employee safety and environmental exposure were addressed as a priority.

The result is a facility in which this new technology will blossom and in which the safety of employees and the environment is ensured, while also being above local air quality mandates.

Rigorous administrative controls and procedures are in place to avoid unintentional spills and releases. At many ST sites, specific emergency protocols are agreed with local authorities. In cases of abatement systems (exhaust systems to treat gases) malfunction, the site has the authority to stop the relevant production lines to avoid uncontrolled environmental releases.

Protecting our workers

We apply specific medical surveillance to workers based on potential exposure to chemicals, including biomonitoring – assessing human exposure to natural and synthetic chemicals, based on an individual's tissues, and fluids sampling and analysis. Moreover, to verify that the applied risk management measures are effective, we conduct regular analytical checks on the working environmental air. The results are compared to applicable threshold limit values (TLV). In 2021, the 22,501 measurements we performed worldwide were all below the applicable TLVs.

Workers are trained before being assigned to potentially hazardous tasks, and before implementing new process changes. Training is refreshed and updated regularly. In 2021, we provided more than 15,000 hours of training on chemicals management at our manufacturing sites.

15,000

hours of training on chemicals

Workers are trained to:

- identify specific hazards
- recognize and understand chemical labels
- apply management methods
- select and wear the required PPE
- be ready to react in case of contamination, contact, or an emergency
- ensure preventive maintenance
- properly dispose of spent chemicals according to waste management practices

Preserving the environment

We take particular care to identify ways to reduce environmental emissions in all three domains: air, water, and waste. As such, we treat our emissions (see **Water** and **Waste**), and we enforce replacement programs for hazardous substances to remove potential unwanted release all along our value chain. Volatile organic compounds (VOCs) are compounds that easily become gases or vapor, some of which may have adverse effects on human health and the environment. We pay specific attention to the control of VOC emissions and make sure our installations work properly with online monitoring. At our Crolles site (France), after installing new burners, VOC emissions decreased by 42% in 2021 compared to 2020.

Replacing hazardous substances

We seek to find the best solution among all available technologies and use innovation to replace hazardous materials in our manufacturing processes.

Finalizing the Di-ethylhexyl phthalate (DEHP) replacement program

DEHP, present in plastic tapes, is used in the assembly process at our back-end sites. Replacing DEHP in tapes is important for our upstream supply chain and to reduce the hazardous substances in waste, thereby increasing our ability to recycle the waste we generate.

The program started in 2012 when DEHP was first added to Reach Annex XIV, which meant it could no longer be used in Europe for tape manufacturing. Starting in 2013, we ensured that all products shipped to Europe were compliant. Furthermore, we decided to go beyond the regulation and become DEHP-free for all our products worldwide. In 2021, our sites of Kirkop (Malta) and Shenzhen (China) completed the substitution of DEHP, while our Muar site (Malaysia) will finalize its substitution in 2022.

Removing perfluorooctanoic acid (PFOA)-related substances

In 2021, we continued to work on the phase-out of PFOA-related substances. These are used in the photolithography process of front-end manufacturing for their resist-spreading properties. During the year, our Rousset site (France) won a CEO award at the annual ST recognition awards (STAR) for the complete eradication of PFOA-related substances in its operations by the end of 2020. The project was successfully implemented without disrupting the supply chain, while improving process quality and equipment efficiency.

97%

PFOA-free

By the end of 2021, only a few process flows remained to be modified at our Crolles site (France) and we expect the process to be completed in the first half of 2022. With a total replacement accomplishment of 97%, we are on target to reach our objective of being 100% PFOA-free by 2025, in line with the World Semiconductor Council statement and European Union regulation.

Substituting chemicals to ensure continuity of activities

During 2021, our Crolles site (France) managed to replace a chemical containing a Substance of Very High Concern (SVHC) under REACH[1] annex XIV, used in a manufacturing process chemical. The site chemical committee validated the replacement chemical, reducing the site's exposure to potential future use restrictions and ensuring manufacturing continuity.

Our Rennes site (France) made a similar breakthrough for the replacement of an SVHC-containing adhesive used to attach dies. In 2021, after 10 years of qualification tests and poor results using alternative materials available on the market, the site decided to develop its own products, according to its own specifications. As a result, two new materials were qualified.

Aligning with stakeholders' expectations

As a member of the Responsible Business Alliance (RBA), ST has embraced its updated chemical policy (available on the **RBA website**) and will focus on the Industry Focus Process Chemical List (IFPCL). An initial analysis confirmed that almost all the chemicals listed in IFPCL have not been used in ST operations for several years. In 2022, we will complete this assessment throughout our direct supply chain.

Customers

Transparency is essential in our relationship with our customers. They monitor our chemicals management practices and request the disclosure of substances contained in the products we sell to them. This information is available on **www.st.com** , in the IPC 1752 material declaration.

We have been working on the deployment of Hazardous Substance Process Management (HSPM) to identify, control, quantify, and report any hazardous elements in components, according to the IECQ080000 standard. As part of this, we have collaborated with several customers by sharing information on substances used in the manufacturing processes of products we supply to them. In 2021, we participated in the **Clean Electronics Production Network (CEPN)** initiative and completed the Process Chemical Data Collection. This was an opportunity to share and describe the chemical management system we use.

Compliance

We follow the highest standards to ensure compliance with applicable regulations on chemicals, for our manufacturing sites and our products. We apply hazardous substances process management (IECQ080000) to all the materials we purchase for manufacturing. In 2021, all employees involved in this process received third-party training.

We ensure products comply with applicable requirements such as RoHS[2] and ELV[3] by selecting only compliant materials when starting the R&D process. Furthermore, we strive to eliminate the use of restricted substances by design. Thanks to new designs, reduced dimensions and the lower energy consumption of our chips, we succeed year after year in decreasing the use of lead (Pb) in the assembly process (see our **ECOPACK results**). We also continue to identify new materials with reduced antimony and halogen content.

ST products may be subject to Substances of Concern In Products (SCIP) declarations, based on the presence of SVHCs. To ensure information is available for the safe end-of-life disposal of our products, in 2021 we continued to declare new products in the **ECHA** portal.

Suppliers

We require our suppliers to respect our EHS-regulated substances list, which contains more than 3,300 substances and is regularly reviewed. We also require them to confirm their compliance through analytical certificates, safety datasheets and commitments.

We compare all new chemical and material compositions to our EHS-regulated substances list to ensure current safety compliance and anticipate future regulatory changes.

(1) REACH: Registration, Evaluation, Authorization and Restriction of Chemicals.

(2) RoHS: Restriction of Hazardous Substances.

(3) ELV: End of Life of Vehicles.

Contributing to the Sustainable Development Goals

Our commitments and programs as described above contribute to:

SDG target 3.9 – Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

SDG target 6.3 – Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

SDG target 12.4 – Achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

2025 sustainability goal	Status	Comments
In line with the WSC statement, remove PFOA and PFOA-related substances in all manufacturing chemicals by 2025		97%

Environmental indicators

This section includes indicators and GRI Standard disclosures.

Our environmental data covers our 11 largest manufacturing sites, representing more than 95% of the overall environmental impact of the Company.

The methodologies used to calculate data are detailed in internal Company procedures, which are regularly reviewed during third-party environmental audits (EMAS, ISO 14001, ISO 50001, ISO 14064).

See **ST site certifications table** in business indicators.

ST follows the Greenhouse Gas (GHG) Protocol for managing its GHG emissions. The resulting CO_2 emissions are reported according to recognized international standards (Reference – World Resources Institute (2004) GHG Protocol – A Corporate Accounting and Reporting Standard).

Scope 1 – Direct emissions resulting from operations

- Combustion emissions: World Resources Institute (2008) – GHG Protocol Calculation tool for stationary combustion v.4.1
- PFC emissions: 2007 IPCC fourth Assessment Report Climate Change. Table 2.14. Lifetimes, radiative efficiencies and direct GWPs relative to CO_2 www.ipcc.ch

Scope 2 – Indirect emissions resulting from purchased electricity

- World Resources Institute (2014). GHG Protocol tool for stationary combustion. Version 4.8, GHG Protocol Scope 2 Guidance

Scope 3 – Emissions resulting from travel and transportation

- Mobile Combustion GHG Protocol tool v.2.6
- Supplement to the Corporate Value Chain (Scope 3) accounting and reporting standard

Environmental investments (%)

	2017	2018	2019	2020	2021
% of total Company investments	0.47	0.17	0.35	3.06	**2.71**

Consumption – absolute values | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Electricity (TJ[1])	7,812	8,094	8,208	8,716	**8,995**
Water (1,000m^3)	17,064	18,204	18,843	20,223	**21,445**
Chemicals (tons)	20,118	23,127	21,780	20,641	**24,881**
Natural gas (TJ[1])	695	666	696	706	**754**

(1) Terajoule.

Summary of net CO_2 emissions (KTons)

| 305-1 | 305-2 | 305-3 | SDG 13.1

	2017	2018	2019	2020	2021
Direct emissions Scope 1	605	644	557	486	**481**
Indirect emissions (purchased electricity) Scope 2[1]	756	791	702	564	**473**
Other indirect emissions (transportation[2]) Scope 3	132	137	143	86	**90**
Total emissions	**1,493**	**1,573**	**1,402**	**1,137**	**1,044**

(1) Market-based method calculation according to GHG Protocol standard.
(2) The transportation emissions value is a global estimate of employee transportation and transportation of goods.

Environmental burden – net values SDG 3.9 - SDG 6.3

	2017	2018	2019	2020	2021
Emissions to air					
Global warming[1] (MTCE)	407,290	428,912	382,277	310,041	**284,726**
Ozone depletion (kg R11 Eq)	0.00	0.00	0.00	0.00	**0.00**
VOCs (tons)	287	297	139	148	**193**
Atmospheric acidification (Kg SO_2 Eq)	36,084	43,856	46,018	51,207	**62,178**
Photochemical oxidant creation (Kg ethylene Eq)	49,166	43,749	35,799	38,295	**49,548**
Air emission toxicity[2] Kg PH_3 Eq	1,595	2,240	1,414	3,192	**3,717**
Emissions to water[3]					
Eutrophication (Kg (P+N))	176,555	164,027	169,575	126,286	**184,147**
Aquatic oxygen demand (Kg COD[4])	595,257	605,100	632,625	656,045	**1,213,093**
Heavy metals to water (Kg heavy metals)	11,560	14,222	9,233	6,880	**9,162**
Aquatic ecotoxicity (Kg Cu Eq)	6,208	5,764	5,211	4,290	**5,033**

(1) Includes direct Greenhouse gas (GHG) emissions from our manufacturing plants and indirect emissions from energy consumption and transport, reported in Metric Tons of Carbon Equivalent (MTCE). Does not include GHG emissions from subcontractors and foundries.
(2) Emissions of substances are considered only if they exceed the minimum threshold of 3ppm, expressed in phosphine equivalent. For Volatile Organic Compounds, Atmospheric acidification, Photochemical Oxidant Creation and Air emission toxicity, the particulate matter is not covered.
(3) Domestic wastewater is included.
(4) Total Chemical Oxygen Demand (COD).

Direct and indirect energy consumption by primary sources[1] (%) | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Green electricity purchased	25.8	21.2	26.4	39.6	**46.5**
Photovoltaic and thermal solar electricity produced by ST	0.1	0.1	0.1	0.1	**0.1**
Electricity purchased from nuclear (CO_2 free)	12.1	9.2	6.9	6.1	**6.2**
Electricity purchased from fossil fuel sources	53.7	61.8	58.6	46.6	**38.7**
Natural gas	8.1	7.6	7.8	7.5	**7.7**
Other fuels	0.3	0.3	0.3	0.2	**0.9**

[1] The sums may not add up to 100% due to rounding of the figures.

Energy consumption by source | 302-1 | 302-4 |

	2017	2018	2019	2020	2021
Electricity (TJ[1])	7,812	8,094	8,208	8,716	**8,995**
Natural gas (TJ[1])	695	666	696	706	**754**
Others (TJ[1])	24	22	22	31	**96**
Total energy (TJ[1])	8,531	8,782	8,926	9,453	**9,845**
Energy from electricity (%)	91.6%	92.2%	92.0%	92.2%	**91.4%**

[1] Terajoule.

Renewable electricity (%)

	2017	2018	2019	2020	2021
Renewable electricity/total electricity purchased	28.3	23.1	30.0	43.0	**50.9**

Consumption of energy | 302-3 | SDG 7.3
Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of energy	88	81	86	99	**81**

Baseline 100 in 2016.

Consumption of electricity | 302-3 |
Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of electricity	88	82	86	99	**81**

Baseline 100 in 2016.

Consumption of natural gas | 302-3 |
Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of natural gas	86	73	80	88	**74**

Baseline 100 in 2016.

Carbon footprint of ST's products per mode of transportation (%)

	2017	2018	2019	2020	2021
Air <2,000km	19.2	18.6	22.0	0.7	**0.8**
Air >2,000km	78.9	79.7	76.4	97.9	**97.6**
Road	1.9	1.8	1.7	1.4	**1.6**
Ocean	0.0	0.0	0.0	0.0	**0.0**

Consumption of water
Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of water	89	84	91	106	**89**

Baseline 100 in 2016.

Water withdrawal by source (1,000m^3)[1] | 303-3 | SDG 6.4

	2017	2018	2019	2020	2021
Groundwater	3,055	4,236	3,029	2,880	**2,747**
Surface water	-	0	0	0	**0**
Municipal water supplies	14,009	13,967	15,814	17,342	**18,698**
Total withdrawal	**17,064**	**18,204**	**18,843**	**20,223**	**21,445**

[1] The sums may not add up due to rounding of the figures

Recycled and reused total water | 303-5 |
SDG 6.3 - SDG 6.4

	2017	2018	2019	2020	2021
Ultrapure water used (1,000m^3)	-	-	11,243	12,331	**13,194**
Total water used (1,000m^3)	29,920	30,654	31,708	34,055	**35,888**
Total volume of water recycled and reused (1,000m^3)	12,857	12,450	12,870	13,833	**14,445**
Water recycled and reused (%)	43.0%	40.6%	40.6%	40.6%	**40.3%**

Total water discharge

	2017	2018	2019	2020	2021
Water discharge (1,000m^3)	14,406	14,926	15,621	15,912	**17,878**
Treated in ST wastewater treatment plant (%)	78%	68%	69%	85%	**86%**
Treated in external wastewater treatment plant[1] (%)	58%	57%	55%	56%	**59%**

[1] Part of this water has already been treated in ST wastewater treatment plants, meaning that 100% of water discharged is treated either internally, externally, or both.

Waste in tons | 306-2 | SDG 12.4

	2017	2018	2019	2020	2021
Total hazardous waste	14,361	16,483	16,877	19,605	**22,568**
Total waste	39,615	44,828	43,593	49,012	**55,672**

Waste split in tons | 306-2 |

	2017	2018	2019	2020	2021
Reuse	1,543	2,097	1,614	3,628	**3,825**
Sent for recycling	32,182	34,434	33,607	33,653	**38,952**
Recovery[1]	2,244	4,642	5,224	5,944	**7,559**
Incineration	2,128	1,671	1,497	2,809	**1,538**
Landfill	1,519	1,983	1,651	2,977	**3,798**
Total waste	**39,615**	**44,828**	**43,593**	**49,012**	**55,672**

(1) Waste burnt with recovery of energy (combustion).

Non-hazardous waste split[1] (%) | 306-2 |

	2017	2018	2019	2020	2021
Reuse	3.7	5.0	3.5	10.0	**9.7**
Sent for recycling	88.9	83.9	86.1	69.1	**72.6**
Recovery[2]	1.7	3.3	3.6	4.4	**4.1**
Incineration	1.4	2.4	2.4	7.8	**3.2**
Landfill	4.5	5.4	4.4	8.8	**10.3**

(1) The sums may not add up to 100% due to rounding of the figures.
(2) Waste burnt with recovery of energy (combustion).

Hazardous waste split (%) | 306-2 | SDG 12.4

	2017	2018	2019	2020	2021
Reuse	4.1	3.1	3.1	3.5	**2.7**
Sent for recycling	62.7	71.8	70.9	68.0	**66.1**
Recovery[1]	18.5	18.3	20.0	23.8	**27.5**
Incineration	12.2	4.8	3.9	2.7	**2.1**
Landfill	2.5	2.0	2.1	2.0	**1.7**

(1) Waste burnt with recovery of energy (combustion).

WEEE

As a supplier of components to the electronics industry (and not a manufacturer of electronic equipment), our silicon products are not directly affected by the European Directive 2012/19/ EU Waste of Electrical and Electronic Equipment (WEEE). However, since 2018, demonstration and evaluation boards supplied by ST are subject to the Directive.

Consumption of chemicals SDG 12.4
Per unit of production – normalized values

	2017	2018	2019	2020	2021
Consumption of chemicals	97	100	98	101	**96**

Baseline 100 in 2016.

Elimination of Substances of Very High Concern (SVHC) SDG 12.4

	2017	2018	2019	2020	2021
Total number of action plans[1] completed since 2008	23	23	23	23	**24**

(1) One substance can be subject to several action plans to be eliminated from different ST processes.

ST exposure to Substances of Very High Concern (SVHC)

	2017	2018	2019	2020	2021
SVHC total list	176	191	201	209	**219**
SVHC used in ST	23	26	27	30	**34**
SVHC Annex XIV used in ST	1	1	3	4	**4**
Total SVHC used in ST replaced since 2008	7	7	7	7	**7**

Deployment of ST substances specification to key suppliers and subcontractors (%)

	2017	2018	2019	2020	2021
Response rate from key partners	100	100	97	100	**99**
Commitment from key partners to ST substances specification	80	89	72	91	**91**

Spills in 2021 | 306-3 |

None

Fines and non-monetary sanctions in 2021

Ang Mo Kio (Singapore): $400 paid for mosquito breeding offences according to the Control of Vectors and Pesticides Act, 1998.
Toa Payoh (Singapore): $200 paid for mosquito breeding offences according to the Control of Vectors and Pesticides Act, 1998.