

The Environmental Statement 2024

STMicroelectronics Malta, Kirkop



Reporting Period 2023

STMicroelectronics Malta forms part of the corporate STMicroelectronics Group.

STMicroelectronics Malta is an EMAS (EU Eco-Management and audit scheme) registered organization since 1995. The information presented in this statement fulfil the requirements of EMAS as per regulation EC/1505/2017. It has been taken in consideration the European Commission Decision (EU) 2019/63 (section for electronic components producers) that describes the best environmental management practice, the performance indicators and excellence examples. This statement is a summary of the STMicroelectronics Malta's environmental policy, objectives, activities, impacts, performance and environmental management system. This edition of the environmental statement covers the reporting period of January 2023 to December 2023.

This statement was prepared by Ede Kossari Tarnik, Environmental and Energy Champion. The statement was approved by Laurent Filipozzi, General Manager.

Scope statement applies to the assembly, testing and finishing activities of semiconductor devices, and to the supporting manufacturing and non-manufacturing activities and services within the boundaries of KK0, KK1, KK2, KK3, parking areas and electricity distribution centre of STMicroelectronics (Malta), Kirkop site.

We value your feedback and encourage contributions and debate from all stakeholders. You can email us at st.malta@st.com or write to us at STMicroelectronics (Malta) Ltd., Industry Road, Kirkop KKP 9042 or phone us on: (+356) 2368 5731.

The statement is validated by:

BUREAU VERITAS ITALIA SPA
Viale Monza, 347
Milano 20126
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Verifier no: IT-V-0006

The EMAS registration number for STMicroelectronics Malta is MT-00001.



Verified Environmental Management MT-00001
STMicroelectronics – Malta Site, Kirkop

This site is equipped with an environmental management system and the results obtained in accordance with this sector are disclosed to the public in accordance with regulation (EC) No. 1221/2009 - EMAS - updated by reg. CE 1505/2017.

Content

4	Foreword from the General Manager
5	Foreword by our President & CEO
6	2021 - 2023 Significant Events
8	Activities, Products & Services
11	Site Transformation
12	EHS Steering Committee
13	Environmental Commitments
14	STMicroelectronics Malta 2023 Status VS The Company Sustainability Commitment & Targets
14	Environmental Impacts
15	Data
16	Chapter 1: Use of Natural Resources
16	1.1 Energy
18	1.2 Water
20	Chapter 2: Chemical Use
21	2.1 Acids
22	2.2 Organic Solvents
22	2.3 Consumption of Process Materials
25	2.4 Material Intensity
27	2.5 Use of Refrigerants
28	Chapter 3: Land Use and Biodiversity
29	3.1 Site Biodiversity Baseline Assessment
30	3.2 Biodiversity Index
31	3.3 Environment, Health & Safety Week
32	Chapter 4: Wastewater Effluent
34	Chapter 5: Air Emissions
37	5.1 Greenhouse Gas Emissions
39	Chapter 6: Noise Emissions
41	Chapter 7: Waste Production
45	Chapter 8: Storage and Handling of Potentially Harmful Liquids and Other Emergency Situations
47	Chapter 9: Indirect Effects
49	Chapter 10: Eco Footprint
51	Objectives, Targets and Results
53	Appendix

Foreword from the General Manager

At STMicroelectronics Malta, as the largest private employer, we are fully aware of the major challenges that the country is facing, thereby, we take our responsibilities very seriously, economically and socially, but also environmentally.

An effective sustainable management system must be adopted in order to protect the environment given all of the obvious repercussions of these little islands' exponential expansion, especially in light of the limited natural resources that the Maltese islands possess. Our technology and solutions are designed to make cities, homes, businesses, and transportation smarter. We seek to create ways to improve energy efficiency in everyone's life as we gain a deeper understanding of our consumption patterns. Therefore, as a manufacturer, we must link our business operations with the technology we create, and our environmental strategy must be a key component of our aspirations for global sustainability.

Our primary initiatives center on reducing our impact throughout the manufacturing process, making the most efficient use of energy, and reducing our dependency on natural resources. The year 2023 stands as a significant milestone for ST Malta, underscored by the support from the Maltese Authorities via the IPCEI-ME/CT (Important Project of Common European Interest-MicroElectronics/Communication Technology) framework. This support has catalysed our investment in research and development in more sustainable products, as well as innovation within the realm of advanced manufacturing processes. As a result, we have launched pilot programs that incorporate automated production lines alongside cutting-edge digital and robotic tools, all aimed at propelling productivity forward.

Leveraging this assistance, we are prepared to develop a new operational facility, including the modernization of office spaces, restaurant areas, and the in-house medical clinic building with high energy efficiency. Our commitment extends beyond infrastructure; we are actively involved in promoting the next wave of talent in high-tech advanced manufacturing environment (digitalization and robotization). This is achieved through a series of educational and training programs, in partnership with esteemed institutions such as the University of Malta, MCAST, and the Chamber of Engineers, and by fostering a strong presence of STEM activities in schools.



Laurent Filipozzi
General Manager

Foreword by our President & CEO

Sustainability is not just a corporate responsibility, but a core component of our value proposition delivering benefits to our company, our customers, and to society. I am proud of what ST employees have achieved throughout the year, and we remain committed to doing more.

We believe that technology has a critical role to play in addressing the environmental, social, and economic challenges facing our world today. We are committed to developing innovative technologies and products that enable the transformation of our economies and societies through digitalization, smarter mobility, and decarbonization.

In the context of evolving trade dynamics and challenges resulting from climate change, we remain committed to driving progress across our sustainability programs and improving resilience across all aspects of our business. This commitment is also reflected in our ambitious goal of becoming carbon neutral on scope 1 and 2, and partially on scope 3 by 2027.

Each year we make substantial progress towards these ambitious targets. In 2023, the global sourcing of electricity from renewable energy grew to 71%, on track to reach our target of 100% by 2027. Long-term power purchasing agreements are a key part of our strategy and we signed a significant agreement in Italy to produce 250GWh renewable energy per year. In 2023 our scope 1 and 2 greenhouse gas emissions were down 45% in absolute terms compared to 2018. We achieved this while transforming our manufacturing footprint and despite the challenges in the global energy markets.

Minimizing our own carbon footprint is critical, but we also focus on the positive impact of our products by developing solutions for a more sustainable society. We continue to collaborate with our global network of academic and private partners, as we recognize the importance of partnerships in the innovation process.

We look forward to continuing to accelerate sustainability together with our customers, partners, and employees worldwide.

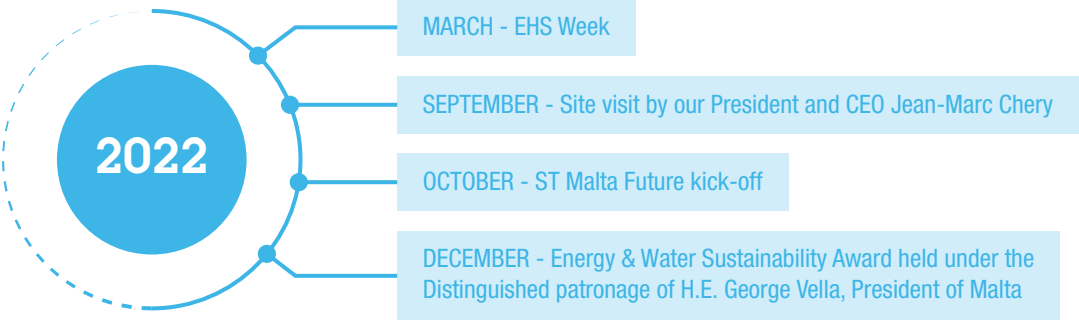
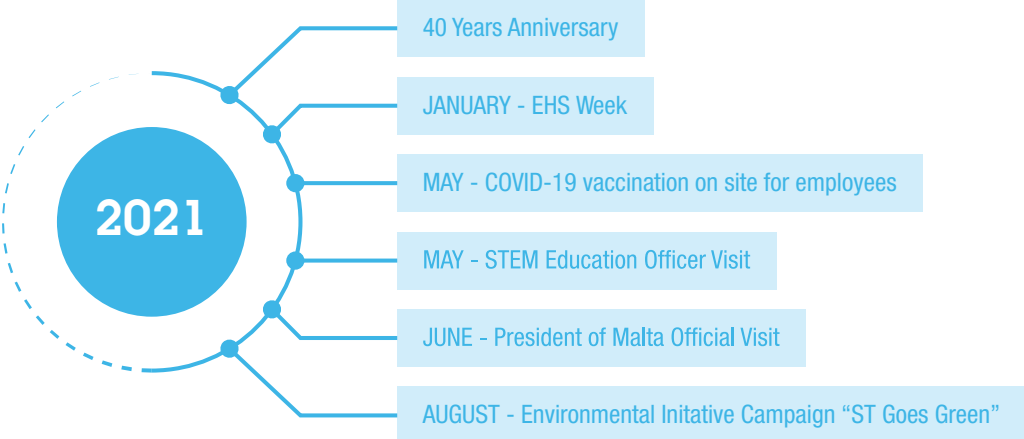


Jean-Marc Chery
President and CEO STMicroelectronics

Forewords extracted from the STMicroelectronics Sustainability Report 2024

2021 - 2023

Significant Events





Tree Planting Activity during EHS Week



Beach Cleanup Activity during EHS Week



Tree Planting by the General Manager



The most improved Back-end for EHS award



European Commission Joint Research Centre Site Visit



Meeting the ESG challenges panel discussion by Chamber of Engineers and RSM

Activities, Products & Services

STMicroelectronics Malta is located in Kirkop, adjacent to the Malta International Airport, and in close proximity to the Malta Freeport and residing localities of a loyal workforce. STMicroelectronics Malta is engaged in the assembly and testing of semiconductor devices and forms part of the Back-End Manufacturing & Testing section at STMicroelectronics. It occupies an area of 60,529m² which is divided in segments known as KK0, KK1, KK2 and KK3. The work force amounts to 1800 employees and a further 150 contractors and suppliers working on site.

The Back-end manufacturing in the semiconductor industry has a minimal or negligible impact on the environment. Nevertheless, the site evaluates the significance of its impact on the environment and characteristics for regular, unusual, and emergency scenarios. Along with corporate STMicroelectronics Sustainability Charter, customer, industry, and any other stakeholder requirements, STMicroelectronics Malta adheres with local and European regulatory compliance requirements. The site maintains ISO 14001:2015, ISO 14064:2018, ISO 50001:2018, and ISO 45001:2018 certifications, as well as Responsible Business Alliance conformity.

The environmental performance is monitored through the Environmental Management Information System (EMIS) database, which is made available to all STMicroelectronics manufacturing sites, clients, investors and listing agencies.

The assembly of semiconductors involves a number of separate processes, including the bonding of silicon “chips” to a copper frame, the encapsulation of the chip through resin moulding, and metal plating processes. These processes have a potential environmental impact. A summary of the process flow together with relevant environmental impacts for our products is shown in | [Table 1](#) |. The testing activity is not only limited to products produced on site but also to products coming from other sites. Moreover, some of our products are sent to other sites for further testing. Among the 1,500 products electronically tested on a regular basis in Malta are some of the most advanced products in the microelectronics industry: high-end MOS integrated, surface mount integrated circuit package (SOIC), Flip Chip, Micro Electromechanical Systems (MEMS), Quad Flat Pack (QFP) and Ball Grid Array (BGA). A highly skilled and dedicated workforce, matched with the most advanced equipment, ensures that the quality and cost-effectiveness of its product lines are competitive with best-in-class suppliers on the market. STMicroelectronics recognises its responsibility towards Design for Environment through the establishment of a central package development group section which produces products that are inherently less energy-demanding



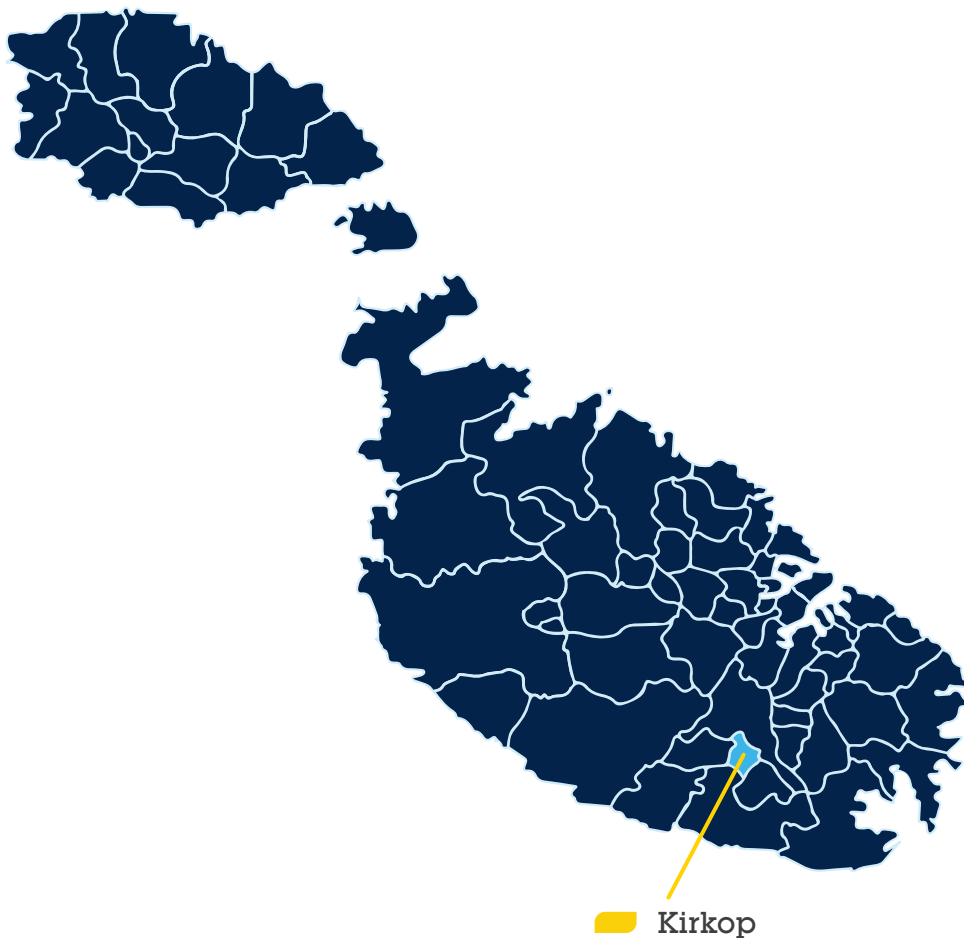
■ Production Area







































Manufacturing Area

and/or which enhance energy efficiency during their application. STMicroelectronics products are ECOPACK registered, whereby products are lead-free and RoHS-compliant (Restriction of Hazardous Substances). STMicroelectronics is a certified SONY Green Partner.

STMicroelectronics is an integrated device manufacturer. We master the complete semiconductor value chain from design to manufacturing. As the largest back-end manufacturing fab in Europe, our Kirkop site in Malta serves leading global customers across various markets ranging from automotive to satellite industries.



Process Flow and Significant Impacts | Table 1 |

Process and Description	Significant Impact			
Back Grinding: A silicon wafer is mechanically sheared on a grinding wheel, polished and laminated				
Wafer Mounting: The silicon wafer is fixed onto a semi adhesive film and then mounted onto a rigid frame				
Wafer Sawing: Individual dice separated from silicon wafer				
Die attach: Die picked up from wafer and glued onto lead frame				
Wire bonding: Metallic connections created between die pads and the lead frame				
Moulding: Die section and connections to the lead frame encapsulated with epoxy resin				
Ball Attach: Solder balls attached to substrate using flux				
Post Mold Cure: Mold cured in heating ovens				
Laser Marking & Dejunk, Dambar Cut: Devices marked with laser engraving. Leads separated and tie bar removed				
Package Saw: Individual packages separated				
Plating: Metal layer deposited on leads				
Trim & Form: Leads of device formed and separated from frame				
Testing & Finishing: Devices electrically tested, inspected and packed				

 Water Demand
  Energy Demand
  Primary Resources
  Waste/Wastewater/Waste Gas

Site Transformation

Every day, millions of chips are shipped to customers across the globe. These include suppliers of the leading automotive brands, a world leader in computer vision for others, as well as leading smartphone and consumer electronics brands. To ensure continued operational excellence and sustainable success, our site needs to transform to meet the evolving challenges of our highly complex and dynamic industry. We call this transformation ‘ST Malta Future’, and our aim is to ensure the highest standards for production and for hiring and retaining the best talent. To achieve this, we have a dual focus on introducing new products and technologies with lower process cost while implementing more advanced manufacturing methodologies based on industry 4.0 and on talent acquisition and enhancing employee engagement. The transformation will also include refurbishing buildings and staff amenities, with the goal of becoming a showcase for manufacturing in ST and in Malta. As we embark on this journey, we will continue to focus on growth and productivity so that we are the first choice for ST customers and a reference for our community, and we are committed to do this in a sustainable way. We aim to be carbon neutral and source 100% renewable energy by 2027. As a global company, we are on track to meet these goals and are accelerating our plans to create a healthier, safer and more inclusive environment for people. With these actions, our site will continue the path to be the first advanced manufacturing plant in Europe. We will set standards for industry 4.0 deployment and achieve quality, time to market and performance excellence. We will achieve this while creating an even better working environments for all our employees.

The transformation will not only include the refurbishment of the buildings, but it will also involve the adaptation of the best available technologies to overhaul the current plant facility equipment to reach the highest efficiency with lowest possible usage and conservation of natural resources. On site green energy production will also be introduced to create the lowest normalized environmental impact and significantly lower our carbon footprint.



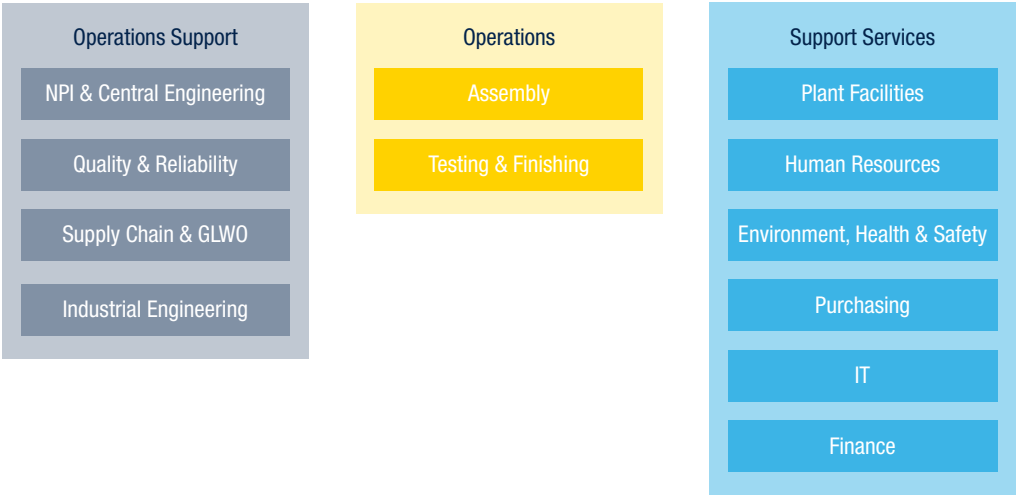
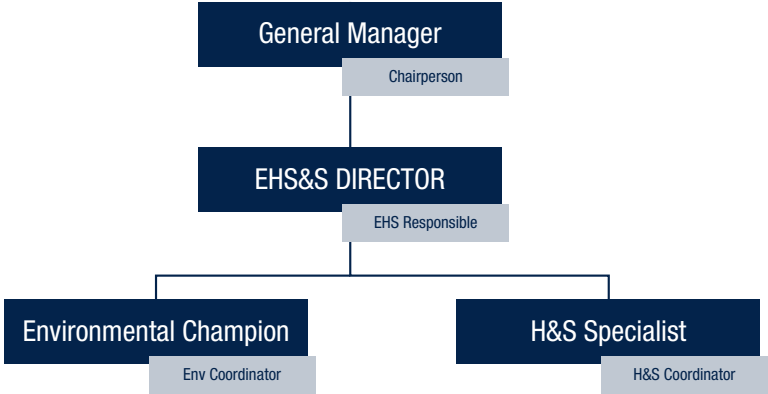
ST | **George Tabone**
Program Manager

“We are currently implementing a transformation program aimed at preparing the site for the future. This includes introducing new technology, optimizing manufacturing facilities for greater efficiency, and embracing Industry 4.0 principles with a focus on automation. Moreover, our efforts are aligned with sustainability goals, ensuring that these changes support environmentally friendly practices and contribute to a more sustainable future.”



EHS Steering Committee

An integrated Environment, Health and Safety Steering Committee that includes representatives from facilities, production, human resources, production support, and contracted specialists meets on-site to assess the condition of the environment management system. This committee meets frequently throughout the year to assess and update a variety of topics, such as the performance of the site’s environment and the state of compliance with environmental standards.



ST | **Jean Paul Attard**
EHS&S Director

“The connection between environment and sustainability is a dynamic and reciprocal one. A healthy environment supports a sustainable future, and sustainable practices help to safeguard the environment. It is a mutual relationship that requires effort and commitment from every sector of society. By embracing sustainability, we can ensure that the planet remains a hospitable place for all forms of life, both now and in the future. At STMicroelectronics, we create Sustainable Technology in a sustainable way, to make a positive contribution to the world.”

Environmental Commitments



The Sustainable Development Goals (SDGs) set by the United Nations define global sustainable development priorities and aspirations for 2030, highlighting the world's biggest social and environmental challenges. As a multinational company, we are convinced we have a responsibility and a role to play to help achieve these goals. The Company mapped the 17 SDGs to our material topics and business strategy. The sustainability goals highlighted in the “Sustainability Charter” show our key areas of engagement and summarize the operating principles for how we will conduct our business, as well as the main goals we have set for the coming years. The charter covers all of ST’s sites and production facilities globally and applies to all of our processes from design to production, and from sourcing to disposal of materials. The performance against these SDGs is highlighted throughout the ‘Sustainability Report’. ST Malta is performing a continuous eco improvement with the aim to contribute to the given commitments.



Sustainable Development Goals by the United Nations



Sustainability Charter, ST



2024 ST Sustainability Report, 2023 Performance

STMICROELECTRONICS MALTA 2023 STATUS VS THE COMPANY SUSTAINABILITY COMMITMENT & TARGETS



SG9-carbon neutrality by 2027 in all direct and indirect emissions
14,764 tons CO₂ equivalent



SG10-adopt 100% renewable energy sources by 2027
78.8% Green energy adaptation



SG13-improve our water efficiency by 20% by 2025 (vs 2016)
5% improvement



SG14-recycle at least 50% of the water used each year
AVG 47.3%



SG15-ensure an annual landfill waste rate below 3%
AVG 23.3%



SG16-reuse or recycle 95% of our waste by 2025
AVG 76.7%

Environmental Impacts

To properly understand, manage, and minimize the impacts on the environment, STMicroelectronics Malta carried out its first environmental impact assessment in 1994. Within a few years we were compliant to EMAS in 1995 as one of the first locally in Malta and to ISO14001 in 1997, therefore we have nearly 30 years' experience in managing environment systems. The site has identified its significant environmental impacts using its own methodology. The most important environmental issues are its use of energy, water, raw materials and chemicals, and its air, water and waste emissions.

As part of the sustainability commitment of STMicroelectronics, ST Malta also strives to contribute to the global aim identified by the CEO & President in 2021. We are working on minimizing our environmental impact in both direct and indirect ways addressing the local issues. In 2022 as part of the Carbon neutrality strategy ST Malta has implemented the ISO 50001 standard in order to identify, monitor and identify potential reductions on our energy usage.



Ede Kossari Tarnik
Site Environmental & Energy Champion

"The essential of safeguarding the environment and promoting for a sustainable future has attained a significant milestone. In the forthcoming years, we can expect considerable shifts in the way industries operate and manage their resources. At ST, our guiding principles and benchmarks are meticulously crafted to fulfil global criteria, thereby ensuring that we consistently operate at the zenith of our capabilities."

Data

The manufacturing of semiconductors necessitates the use of materials and machinery that consume energy, water, industrial gases, chemical products, raw materials, and packaging. Additionally, this process generates waste, including wastewater and waste gases.. The use of resources, pollution releases, and waste generation on the local scale are all shown through statistics in the sections following. All information is verified using software methods to trace material intensity, accredited laboratories, or licensed utility providers. Subsequently, the data collected is manipulated in a tool developed internally, stored in a local database and then uploaded to Enablon - the corporate tool for collecting data in each plant. The performance of the site relating to these aspects is demonstrated in absolute figures and where possible, the performance has been related to the product output (assembly and testing). Data is standardised against million pins (Mpins, i.e. number of wire or ball connections) for energy and gases, and against million units (Munits, i.e number of devices) for carbon dioxide emissions, water, waste and chemicals. Each parameter is compared with the site’s objectives and targets, corporate standards and national limits (where applicable). Details on objectives and actions are found in the section ‘Environmental Program’.

| **Table 2** | shows the product output in terms of Munits and Mpins and Complexity. The complexity of the manufactured devices indicates the average number of Pins in a Unit. The yearly variations are related to a shift in the product mix, which indicates that the site has begun to concentrate on more complex high value devices which is part of the current advanced sustainable technology and advanced manufacturing. The change in demand has led to a significant decrease in manufacturing output (Munit) because the production of this product combination necessitates more process steps than the units previously produced in Malta. Which also explains an increase in the MPins outcome.

Product Output | **Table 2** |

Unit of Measurement	2018	2019	2020	2021	2022	2023
Munits Average	912	789	798	737	697	452
Mpins Equivalent Average	31945	29902	29718	31472	35873	45969
Complexity	35	38	37	43	51	102

The data in the upcoming chapters will illustrate a notable increase in standardized results when measured against million units. This is due to the more complex processes that demand nearly the same amount of resources in the manufacturing process, even though the output of ‘Munits’ has markedly declined.





Chapter 1: Use of Natural Resources

1.1 Energy

At STMicroelectronics Malta almost all energy consumption is in the form of electricity. The electricity is being supplied by Enemalta Plc, from Delimara power station complex. The distribution of energy throughout the nation is based on the composition of the annual fuel mix from domestic production (such as natural gas, petroleum products, and renewable energy) and the supply from Italy via an interconnector (such as natural gas, renewable energy, coal, petroleum products, and nuclear energy). In addition to the primary source of energy, there are two diesel emergency generators on the site that can serve the essential users in the event of a power outage.

For the sake of saving natural resources the site has implemented heat recovery system from the compressor's cooling process in order to satisfy all heating required.

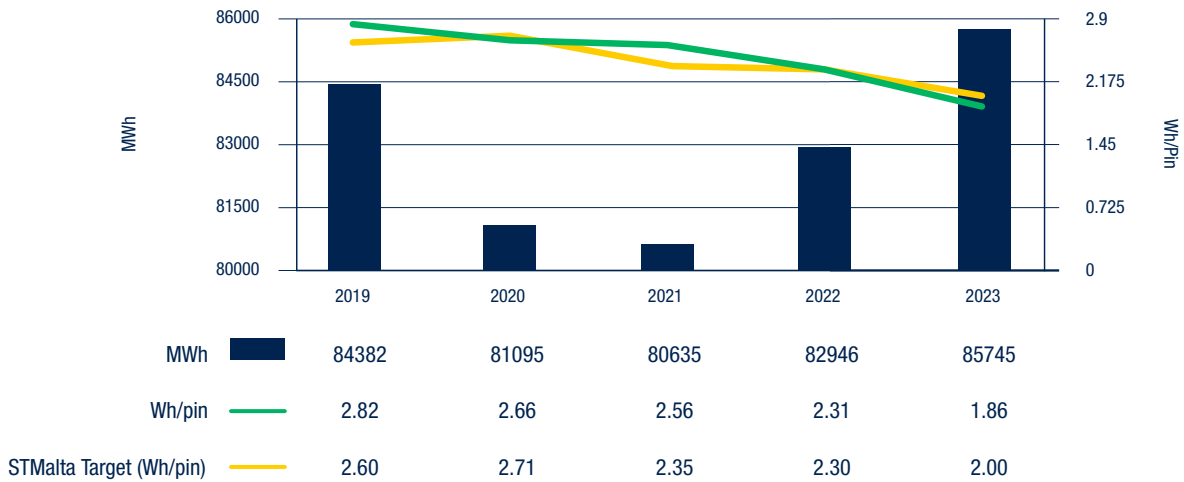
| **Chart 1** | shows the electrical energy consumption in absolute and normalized values (in Wh/pin), with most of the power demand being attributed to supply of services and manufacturing.



Ing. Christian Borg
Plant Facilities Manager

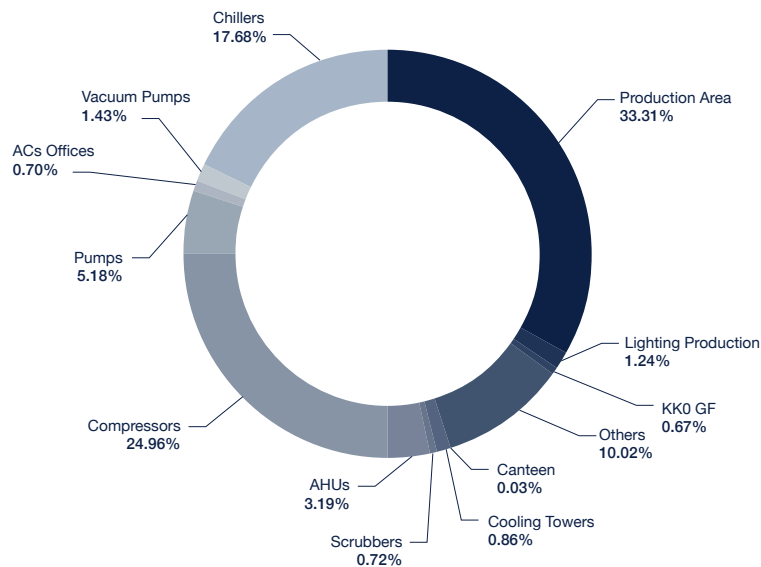
"One of ST Malta's top priorities is energy use since several aspects of our effect depend on how much electricity we consume. Every day, our engineers work to analyse and find any potential opportunities to increase our energy efficiency and reduce any energy waste. As part of our carbon neutrality effort, this endeavour has significantly reduced our indirect carbon emissions, which in turn has helped the site lessen its environmental impact."

Total Electricity Consumption | Chart 1 |



Energy usage is one of the most significant contributors to ST Malta’s overall ecological footprint. In order to lower our greenhouse gas emissions, ST Malta is concentrating on energy-saving initiatives as part of our company’s commitment to being Net Carbon Neutral by 2027. To regularly evaluate its performance, identify significant energy users (which are consuming more than 15% of the total consumption) | Chart 2 |, and be able to concentrate on the most important areas of our operation, ST Malta has obtained the ISO 50001 certification as part of the Carbon Neutrality program in 2022 in order to improve its energy efficiency. In 2023, the site continued the installation of online energy meters to ensure precise monitoring of all sectors of the company’s operations, thereby minimizing unidentified energy usage. The total consumption of the site is representing an increased by 3.4% compared to 2022 which is mainly associated to the increment in the complexity of the manufactured devices and the increasing external temperature.

Electrical Consumption Repartition 2023 | Chart 2 |



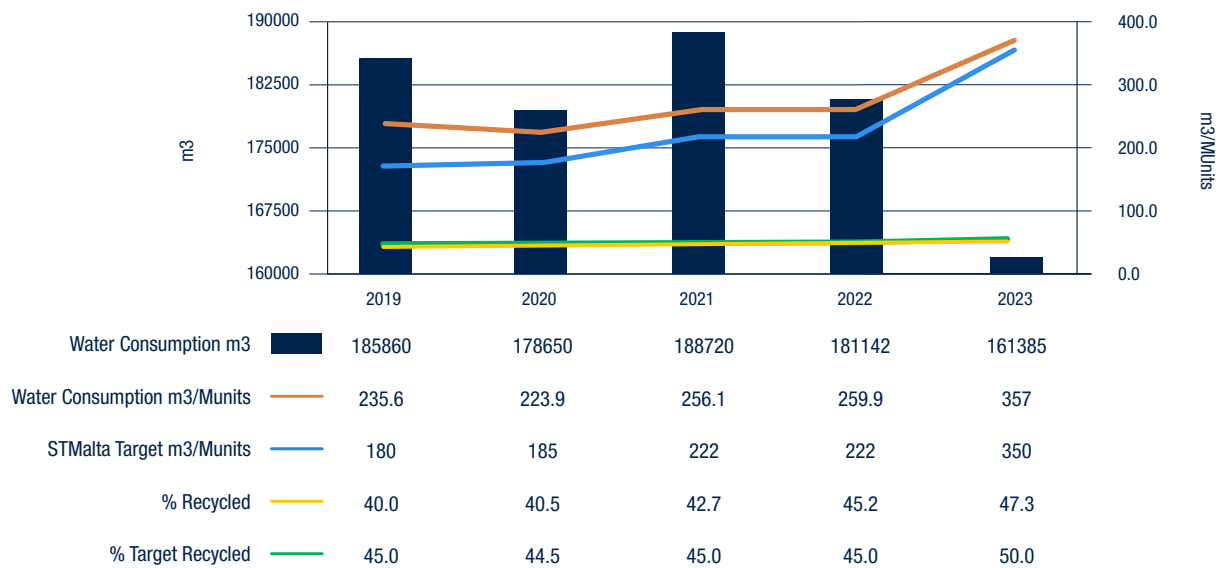
Virginia Gonzalez-Ruiz
Electrical Engineer

“Our commitment to minimize the impact of CO2 emissions is in our day-to-day work following the ISO50001 standards. Having the full visibility of our significant energy users allows us to focus our action plans and achieve ambitious targets to eliminate energy waste by ensuring the efficient usage in all our systems such as compressed dry air, ventilation, air conditioning and considering the quality of manufacturing as a top priority.”

1.2 Water

Throughout Malta, Water Services Corporation is the national utility provider that uses a very energy-intensive desalination process at its four reverse osmosis facilities to transform seawater into high-purity water before mixing it with ground water in underground reservoirs and distributing it to customers. Our manufacturing process requires high purity supply of water, for that reason the site is equipped with its own Reverse osmosis plant which is creating the required water quality to supply the operational processes. Raw Water is mostly used in our Front-End production lines for die preparation/sawing and in Back-End lines for plating and package preparation/sawing. Part of the water is used in facilities as make-up for cooling towers and air handling units, part for sanitary water, and part for canteen and irrigation. | **Chart 3** | illustrates the absolute and normalized water consumption values, in combination with the annual water recycling rates. In 2023, a critical initiative has been launched involving a comprehensive upgrade of our water treatment facilities. By integrating best available technology, we aim to significantly enhance and optimize the site's water recycling capabilities. With the project's completion, we anticipate an approximate 15% increase in our total recycling efficiency. The project is to be finalized in the final quarter of 2024. In 2023, the site has further refined the operation of the reverse osmosis plants, prioritizing maximum efficiency. This optimization is reflected in the decreased water consumption and the enhanced rate of water recycling.

Total Freshwater Consumption and Water Recycling | **Chart 3** |



Pauline Birgel
Facility Process Engineer

“Water serves as a critical asset for enterprises in every industry. It is the responsibility of each entity that utilizes this invaluable ‘blue gold’ to consider its full usage cycle, ensuring that current needs are met without compromising the ability to do so in the future. ST Microelectronics is dedicated to this cause, investing in advanced technologies for the production of deionized water and its recycling systems. Consequently, our water consumption is on the decline, contributing to the sustainable management of this essential resource”



Control Panel of the Reverse Osmosis System

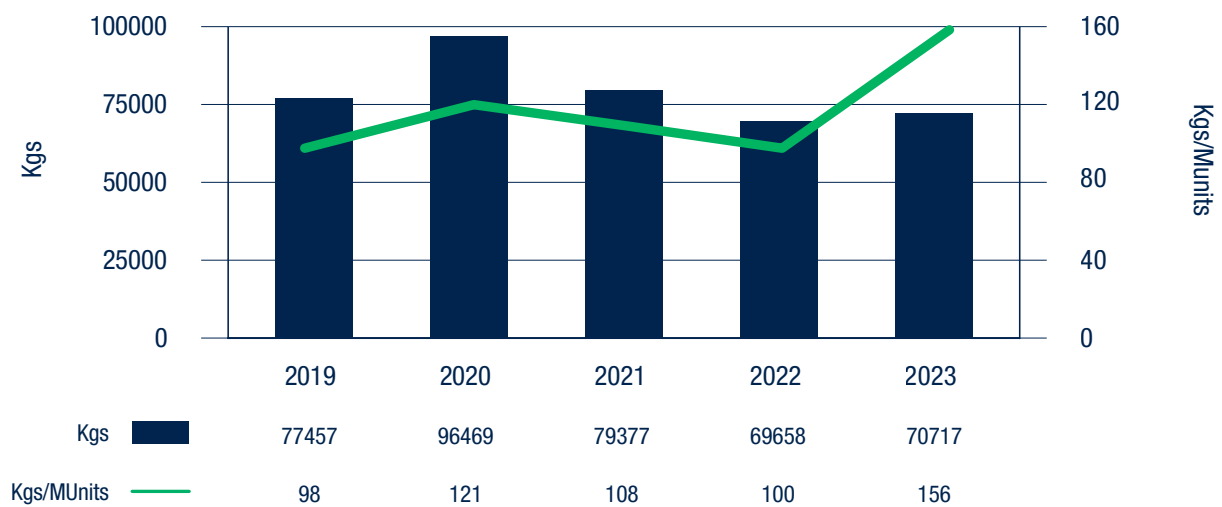


Reverse Osmosis Water Plant

Chapter 2: Chemical Use

The site uses a large number of chemicals in the assembly, testing and facility processes, housekeeping, laboratories and workshops. In the assembly process, the plating line consumes a substantial number of acids and solder. Other commonly used chemicals on site include mineral acids and bases, fluxes, solvents and gases. Any used or new chemicals are being respectively screened by the Hazardous Substances Process Management team which evaluates strictly the introduction of any new chemicals. As the best mode of reducing emission of hazardous substances is to control consumption, the site is continuously focusing on introduction of automatic dosage of chemicals in processes instead of manual, in order to control and reduce any unnecessary usage, which is leading to a decrease in our total consumption, as it can be seen compared to the past years | [Chart 4](#) |.

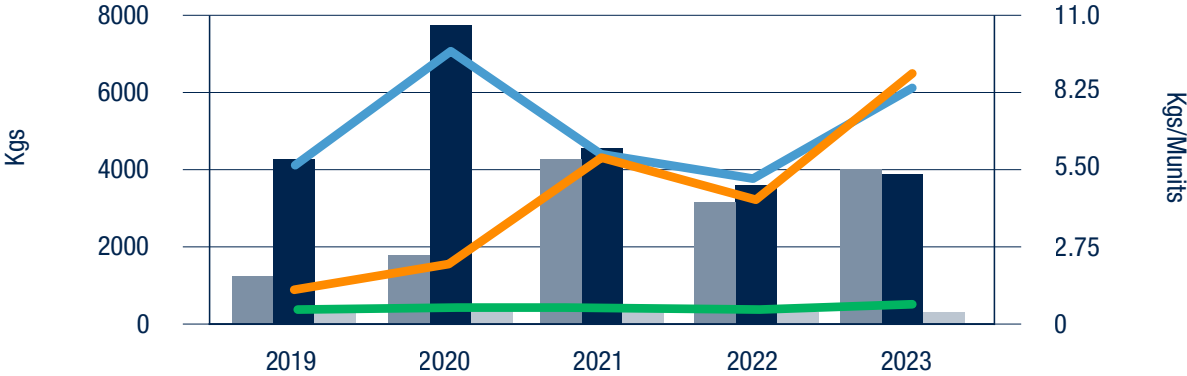
Chemical Consumption | [Chart 4](#) |



2.1 Acids

Mineral acids are employed mainly in the electro-plating baths and for ultra-pure water production. All acids are neutralized in the wastewater treatment plant before discharge. |Chart 5| shows the consumption of acids. H2SO4 is used into the WWTP process to neutralize caustic drains coming from DIW plant operation & maintenance (CIPs and regenerations of ion exchange resins) and drains from some plating bath changes. The slight increase in the chemical consumption is associated to the optimization of the water treatment plant, and the regulated maintenance in order to increase the efficiency of the plant. By 2024 new water recycling systems and a new WWTP will be installed, leading to a reduction of H2SO4 and HCl use. With the installation of the new water treatment system production of caustic basic drains will be strongly reduced by the introduction of EDIs which do not require the use of chemicals for their routine operation.

Acid Consumption | Chart 5 |

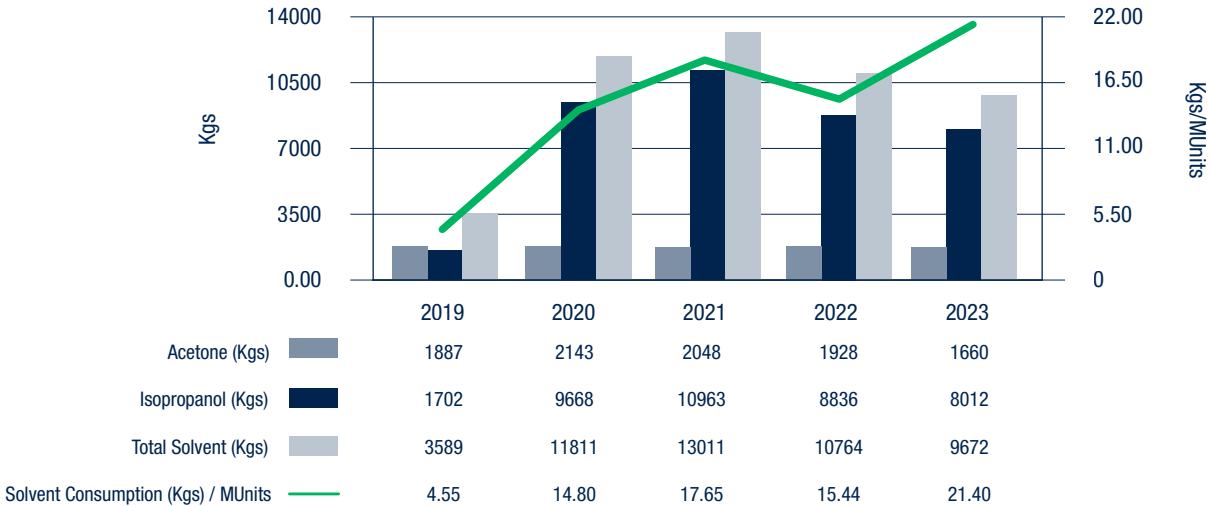


	2019	2020	2021	2022	2023
HCl Kgs	1193	1797	4411	3152	3986
HCl Kgs/MUnits	1.55	2.34	5.99	4.52	8.82
H2SO4 Kgs	4319	7771	4524	3577	3885
H2SO4 Kgs/MUnits	5.62	10.12	6.14	5.13	8.60
HNO3 Kgs	280	340	317	254	254
HNO3 Kgs/MUnits	0.36	0.44	0.43	0.36	0.56

2.2 Organic Solvents

Solvents are generally utilized for device analysis and general equipment cleaning. The normalized consumption of acetone and isopropyl alcohol is shown in [Chart 6](#), with consumption rising as more machine components need to be cleaned. The plant ceased making hand sanitizer once the corona virus outbreak receded, which can be seen in a year by year impact on our overall chemical usage.

Solvent Consumption | [Chart 6](#) |



2.3 Consumption of Process Materials

The materials that are used primarily in assembly, testing, and finishing (packing). That covers the products in packaging that are sent to the customer and materials used in the processes.

NITROGEN

Nitrogen is abundantly present in the earth’s atmosphere and is non-toxic. The environmental issue associated with its use is primarily due to the energy used in its production. The site procures high purity nitrogen in both liquid and gaseous form.

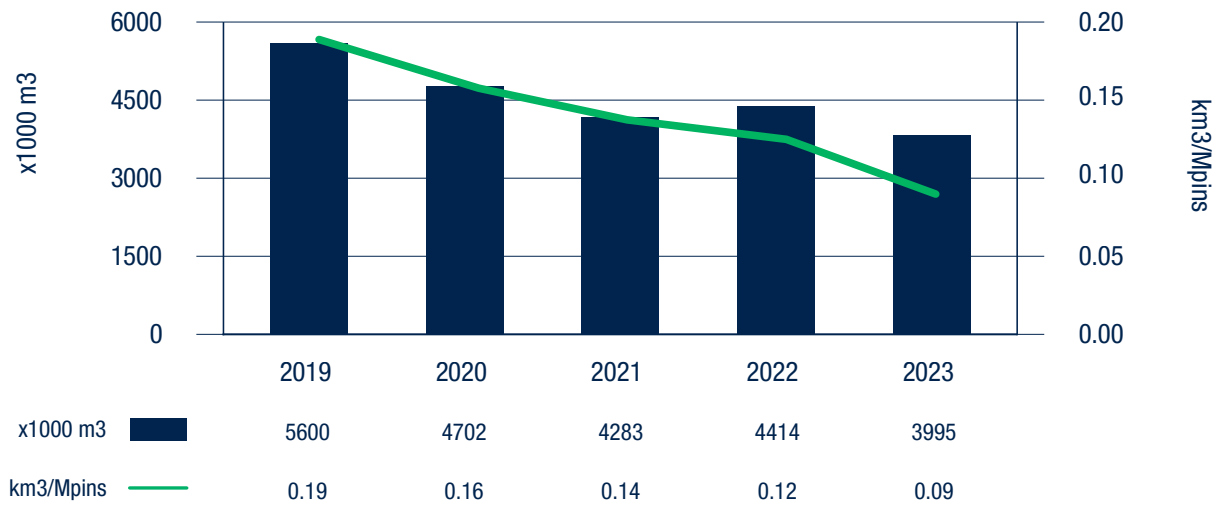
Liquid nitrogen is used primarily for the cold testing of automotive QFP devices [Chart 7](#). The reduction of Liquid nitrogen consumption is attributed to the new distribution implemented in 2021. The new system is better insulated, has less losses and leaks and safer in terms of oxygen deficiency monitoring and alarms.

Gaseous nitrogen is supplied directly from the adjacent Multigas Ltd. to distribution points in the assembly area. The processes which use gaseous nitrogen to maintain inert atmospheres include curing ovens, sawing, ball attach, die attach, and production of forming gas on site. Two flow meters were installed to monitor the consumption of gaseous nitrogen, as per [Chart 8](#). The consumption of gaseous nitrogen has increased due to its use in copper wire bonding which has increased consistently during the years, however more control is held over its consumption to stop waste.

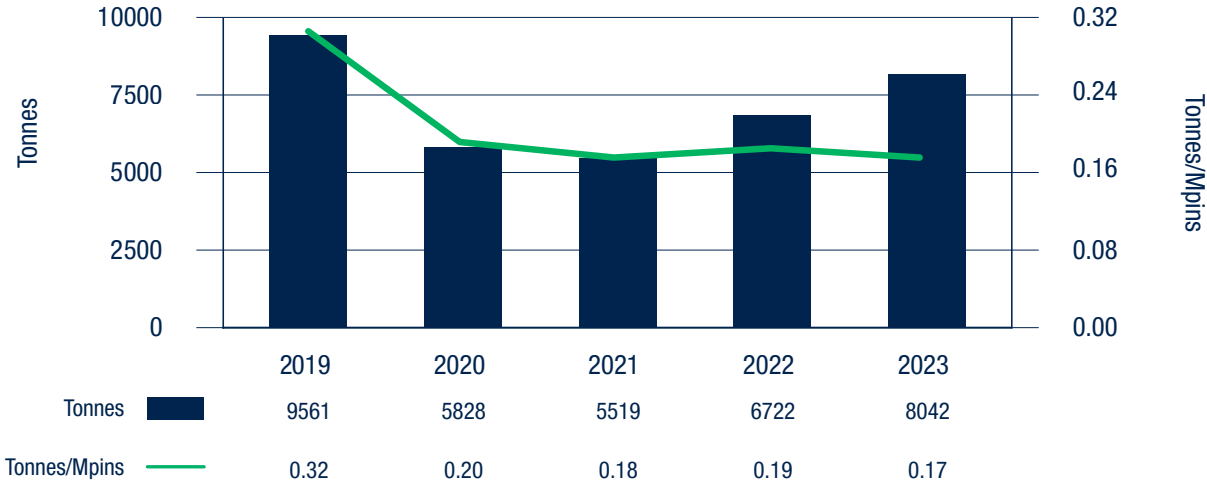


■ Liquid Nitrogen Refilling

Liquid Nitrogen Consumption | Chart 7 |



Gaseous nitrogen consumption | Chart 8 |



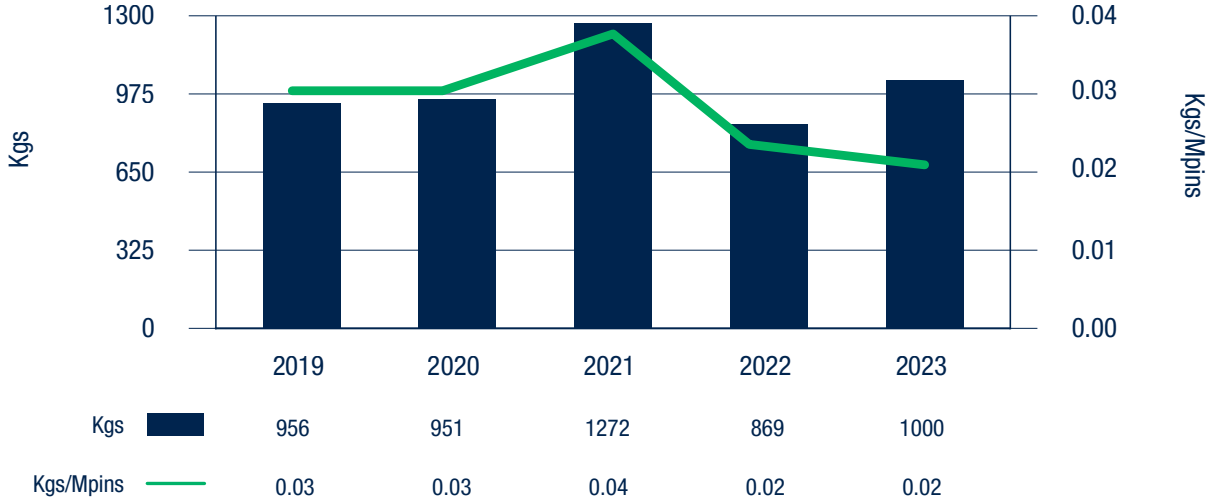
HYDROGEN

Hydrogen gas is used in the forming gas production for copper wire bonding. Like nitrogen, the main environmental issue associated with hydrogen is the energy consumed in its production and potential release of energy. | Chart 9 | shows hydrogen consumption per in standardized and normal values, where it is showing a slight increase in the consumption due to the change in the manufacturing process.



Hydrogen Bunker

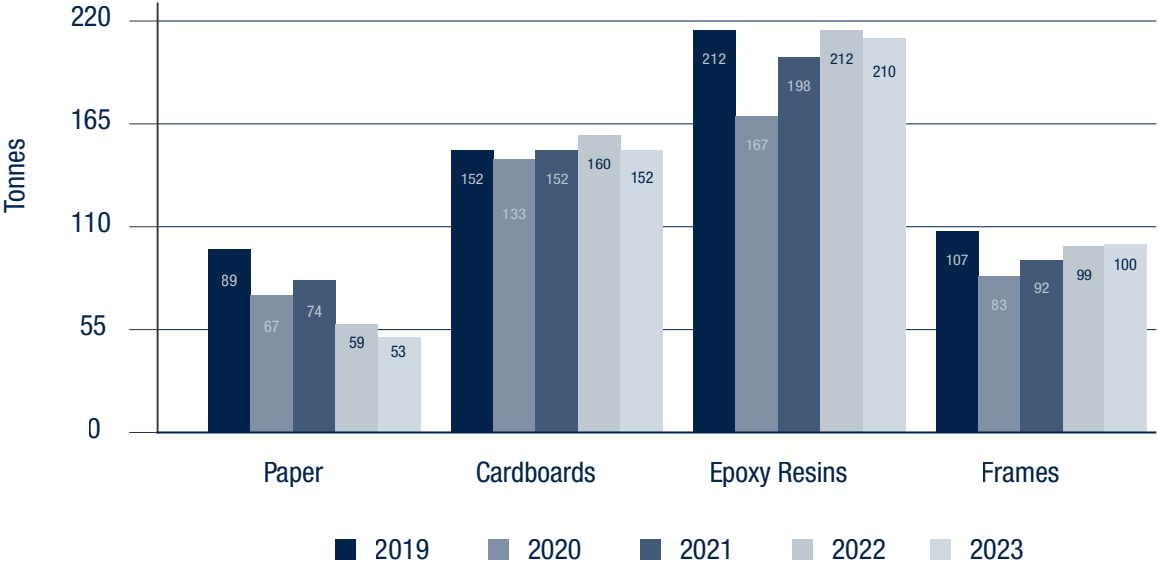
Hydrogen Consumption | Chart 9 |



2.4 Material Usage

Paper, cardboard, resin, and metal frames are the main materials that are utilized in the biggest numbers during the assembling, testing, and finishing (packing) of the devices. The site places a strong emphasis on utilizing all resources in the most effective manner to minimize material waste. The chart below shows the total usage of these resources |Chart 10|. Even though the complexity of the devices has increased by time, due to the actions implemented on site in order to reach the highest manufacturing efficiency and reducing material wastage the usage of materials is showing a slight improvement.

Consumption of Materials | Chart 10 |





Rimante Kure
LEAN & Productivity Manager

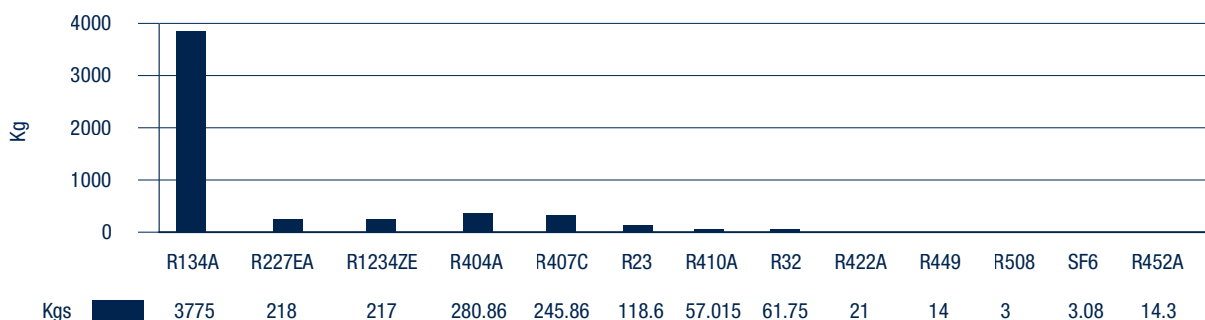
“Embracing Lean principles isn’t just about efficiency; it’s a key to sustainability. By identifying and eliminating various forms of waste, such as overproduction, excess inventory, and unnecessary transportation, STMicroelectronics can substantially reduce their ecological footprint. This leads to decreased energy consumption, decreased raw material usage, and reduced greenhouse gas emissions, contributing positively to the environment. From manufacturing to services, Lean drives positive change. By streamlining processes, reducing paper usage, and optimizing energy consumption, STMicroelectronics can significantly lower their ecological impact and contribute to a more sustainable society.

While sustainability is multi-dimensional, Lean acts as a catalyst for progress, supporting broader goals. Lean thinking is not just about doing more with less, it’s about doing better for the planet. Let’s stride towards prosperity and a greener future with Lean!”

2.5 Use of Refrigerants

The facility employs a variety of refrigerants in its lab equipment, thermal cycling ovens, air handling units, chillers, electrical equipment, and refrigeration equipment. The usage of refrigerants is strictly regulated, and a rigid maintenance schedule is kept guaranteeing compliance. Since the facility uses some procedures that still include refrigerants with a high global warming potential (GWP), periodic maintenance is closely adhered to on this equipment with a high-risk element. R134a, a refrigerant mostly used in chillers, is the main refrigerant on the premises | [Chart 11](#) |. However, ST Malta is prioritizing the upgrade of outdated plant facilities by adopting the latest available technologies. For instance, in 2023, they replaced an aged chiller with a modern, highly energy-efficient model that utilizes refrigerants with a low Global Warming Potential (GWP).

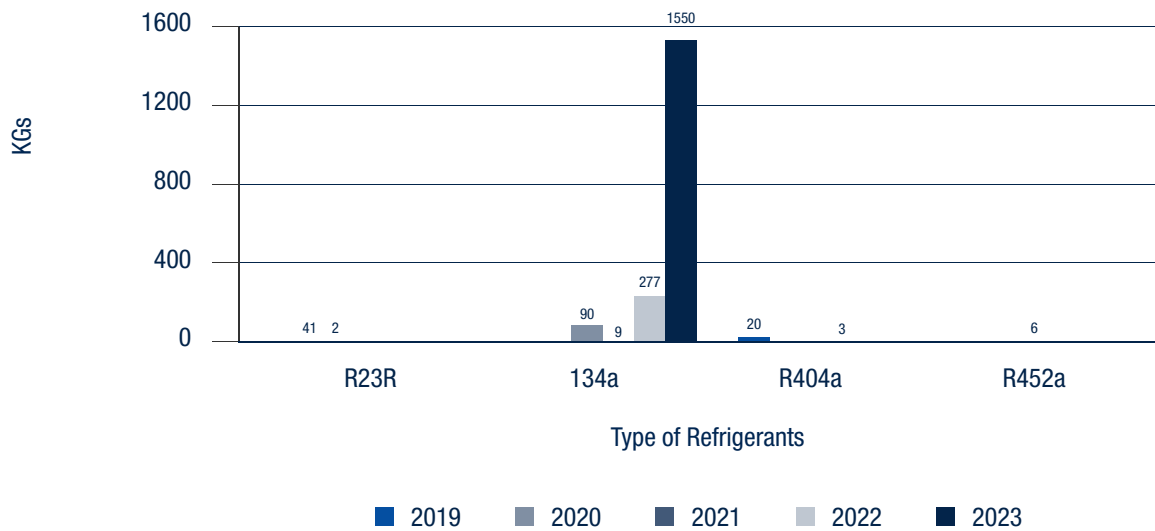
Refrigerants Present on Site | [Chart 11](#) |





2023 Replacement of Chiller

Consumption of Refrigerants | Chart 12 |

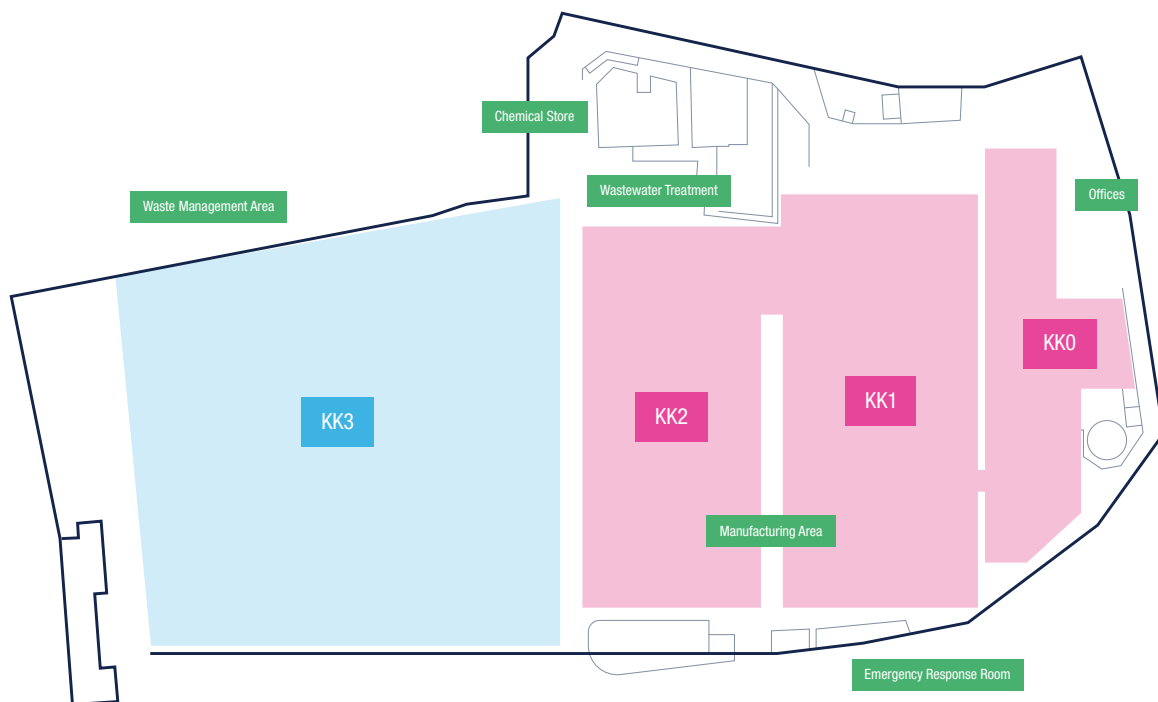


The year 2023 marked a pivotal point in addressing refrigerant leakage, particularly concerning R134A, the primary refrigerant used in the chillers. With the majority of the chillers due for replacement, the site undertook a detailed assessment and as previously mentioned, has already replaced one of its chillers within the year. Moreover, a comprehensive strategy has been laid out for future replacements to limit the release of refrigerants into the atmosphere.

Chapter 3:

Land Use and Biodiversity

STMicroelectronics Malta occupies a total land area of 60,529m², equivalent to 0.02% of the land area of the Maltese Islands. The surface area occupied by STMicroelectronics includes production areas, facilities, car park area and small green areas. A number of flora and fauna species endemic and indigenous to the Maltese islands are present on site in small areas treated as biodiversity hotspots. Flora on site includes characteristic Maltese species such as *Tetraclinis articulata*, *Olea europea*, *Cercis siliquastrum* and *Ceratonia siliqua*. Fauna on site include *Podarcis filfolensis*, *Apis mellifera* and *Passer hispaniolensis*. As a major player in Malta's economy, STMicroelectronics has the responsibility to consider the effects on the local environment and biodiversity. Further reinforced by European Union Regulations such as the EU Taxonomy Regulations, the conservation and preservation of biodiversity, both on-site and off-site, is now imperative.





Green Area
1,520 sqm



Parking Area
13,120 sqm



Roads
17,710 sqm



**Offices, Stores and
Manufacturing Area**
30,350 sqm

3.1 Site Biodiversity Baseline Assessment

STMicroelectronics Malta underwent a site biodiversity survey, conducted by Third party audit firm. The survey examined the site on a quantitative and qualitative level and tackled several themes related to biodiversity. The comprehensive survey included aspects derived from a number of international standards and indices.

Through this thorough survey, STMicroelectronics Malta has pinpointed numerous opportunities for improvement, alongside recognising the effective practices currently established across various sectors of the site.

A notable outcome of the survey was the identification of several protected sites within 5 kms the Kirkop site, such as the Malta International Airport Important Bird Area (IBA) and the Wied Qirda Special Area of Conservation (SAC). Due to Malta's position in the heart of the Mediterranean, the Kirkop site is found within a key biodiversity hotspot.



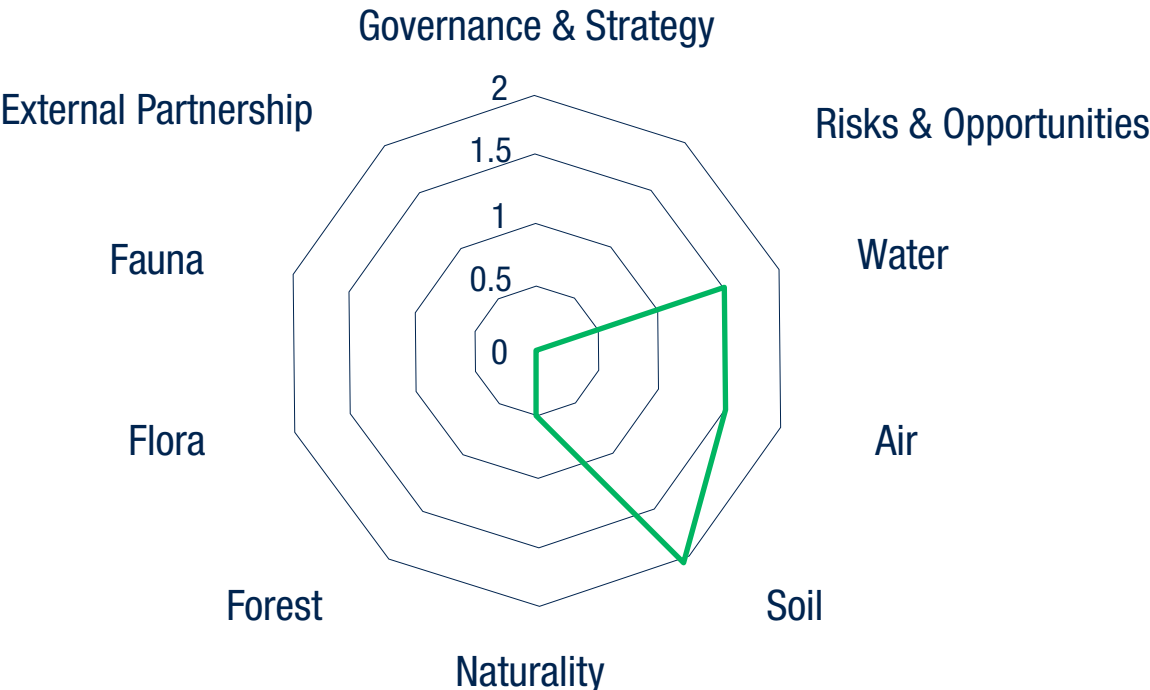
■ A map of all protected areas with 5km of STMicroelectronics Malta



3.2 Biodiversity Index

Building on the survey, 10 Biodiversity KPIs were issued to all ST sites to be scored on, resulting in a final Biodiversity Index. The KPIs are as follows; Governance & Strategy, Risks & Opportunities, Water, Air, Soil, Naturality, Forest, Flora, Fauna, and External Partnerships. With an already positive performance in KPI's regarding Water, Air and Soil - the Kirkop site scored 0.60 from a maximum score of 2. Although this is below the average score between all sites (0.73), the Kirkop sites' spatial limitations and local context are an identified challenge to local biodiversity efforts. Along with the announcement of the corporate KPI's, STMicroelectronics Malta is committed to improving our performance in biodiversity KPI's, keeping in line with both the European Union and Malta's guidelines and targets.

Biodiversity Index Results for 2023 | Chart 13 |



3.3 Environment, Health & Safety Week

In the aim of promoting education and awareness on biodiversity, the 2023 EHS Week included the construction of bird boxes by employees, which will be placed around the site to increase the number of available spaces for the birds on site. Other activities aimed at preserving local biodiversity included tree planting and nature walk session in Ta' Qali, and a cleanup campaign in Birzebbuga.



ST | Jan Proschek
Environmental Apprentice

“Biodiversity is a major cornerstone for our planet, the conservation of which is often overlooked. Located in the heart of the Mediterranean, Malta has a plethora of vital endemic species, crucial to local ecosystems. At STMicroelectronics we’ve taken responsibility and stepped up to this multifaceted challenge, in order to conserve and safeguard the future of biodiversity.”

Chapter 4:

Wastewater Effluent



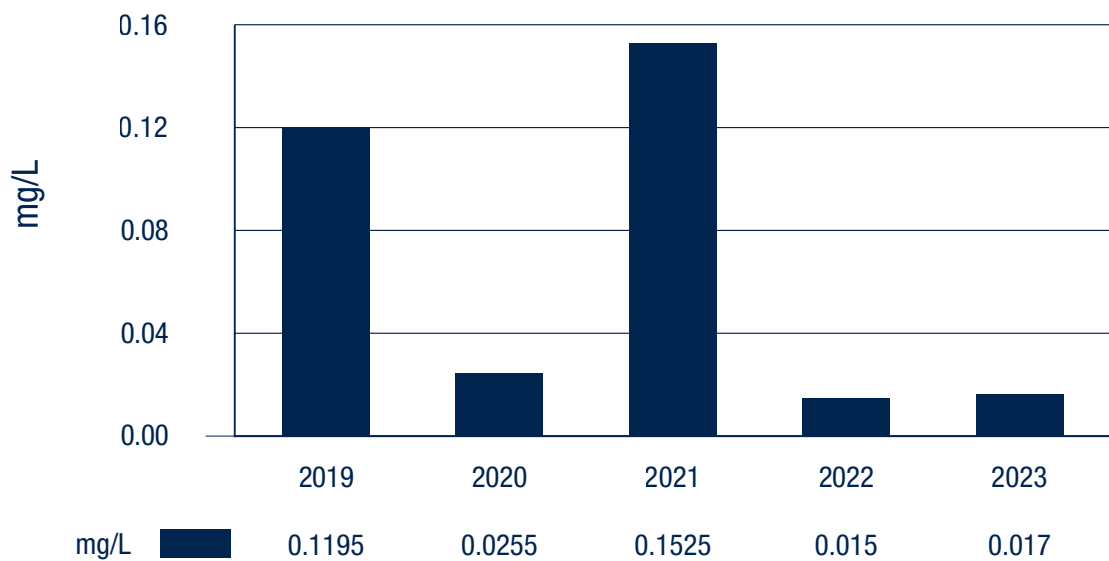
Detail of the WWTP Controller

Our present wastewater treatment plant, constructed in 1994, receives all industrial effluent streams. The process water effluents from plating and other equipment are made safe for release to the public sewers, which are linked to the main wastewater treatment facility, via this plant. Unwanted pollutants in the wastewater are precipitated out using settling tanks and the addition of appropriate treatment chemicals, and the resulting solution is then neutralized before being supplied to the main sewer system. To guarantee that it functions to the appropriate standard and that national pH limitations are not exceeded, the system is fully automated, and the acidity, which is measured as pH, is continually monitored. In addition to fulfilling the discharge limitations, the facility is being equipped with a grease trap to capture all floating grease coming from the canteen before it is released to the sewer in order to comply with the legal requirement. The grease trap is frequently cleaned, certified, and monitored. In an initiative to enhance water conservation on-site, a comprehensive upgrade of the wastewater treatment facilities commenced in 2023. The project employs the best available technology to treat both industrial and domestic wastewater. Consequently, the facility will be equipped with both chemical and biological treatment plants. The implementation of this system will facilitate the reuse of treated wastewater, with the project's completion targeted for end of 2024.

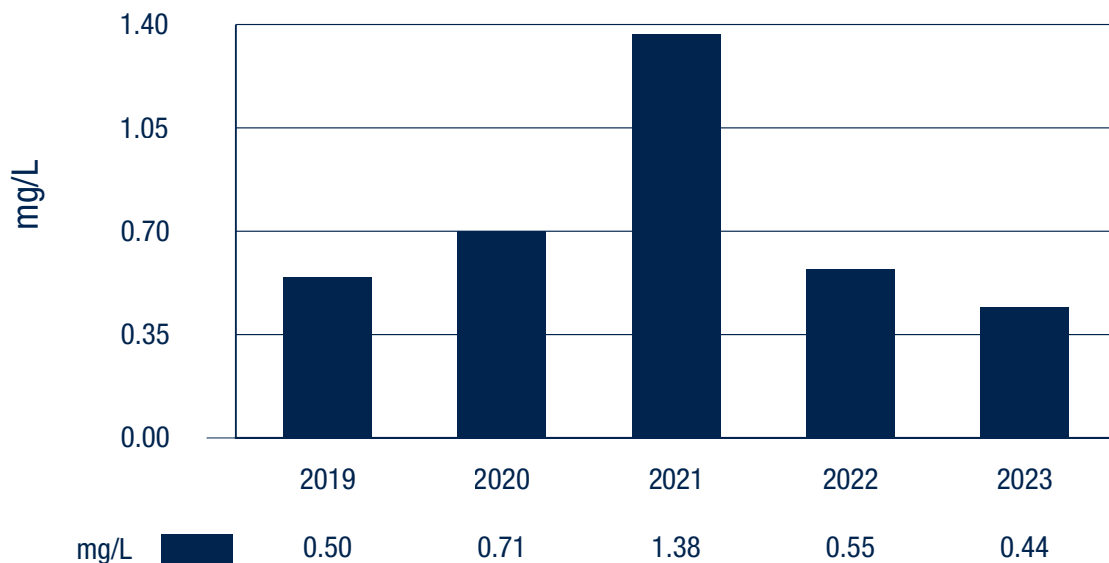
INDUSTRIAL WASTEWATER

| [Chart 14](#) | and | [Chart 15](#) | show the Lead and Copper levels in industrial wastewater. The values presented in the charts represent the average of four samples collected throughout the reporting year. All parameters were within legal limits, the improvement on the heavy metal content in the final effluent is due to maintenance of the separated stages of the treatment and the proper study of the most efficient dosage of the coagulant and flocculant in order to reach the highest removal.

Levels of lead (Pb) in wastewater (national limit is 1mg/L) | [Chart 14](#) |



Levels of copper (Cu) in wastewater (national limit is 5mg/L) | [Chart 15](#) |



Chapter 5:

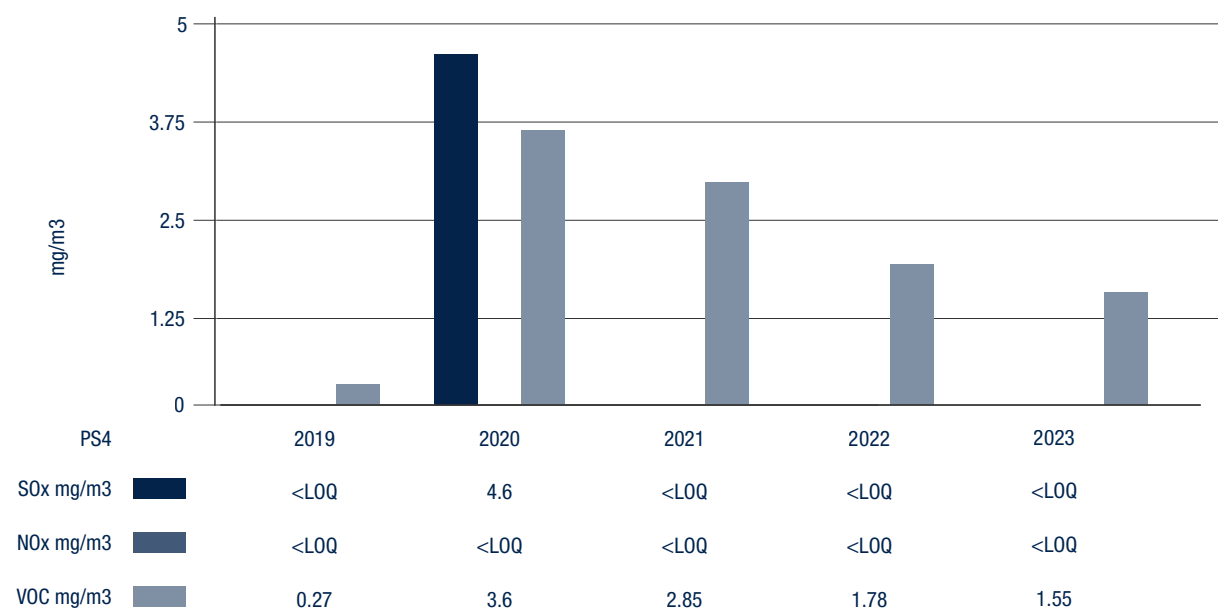
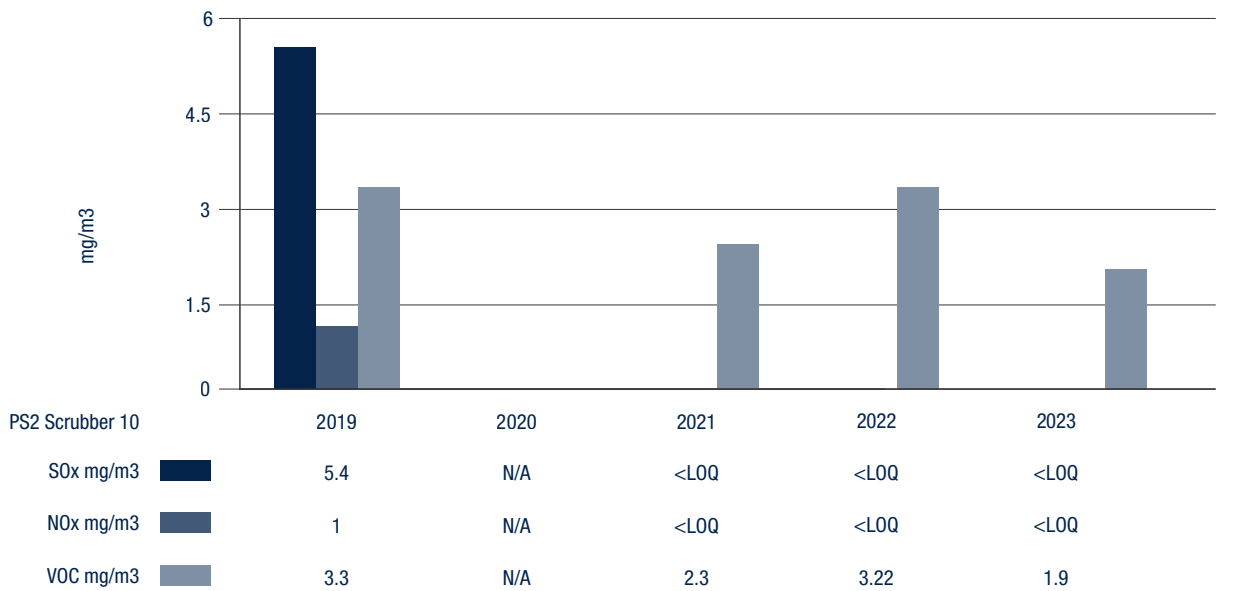
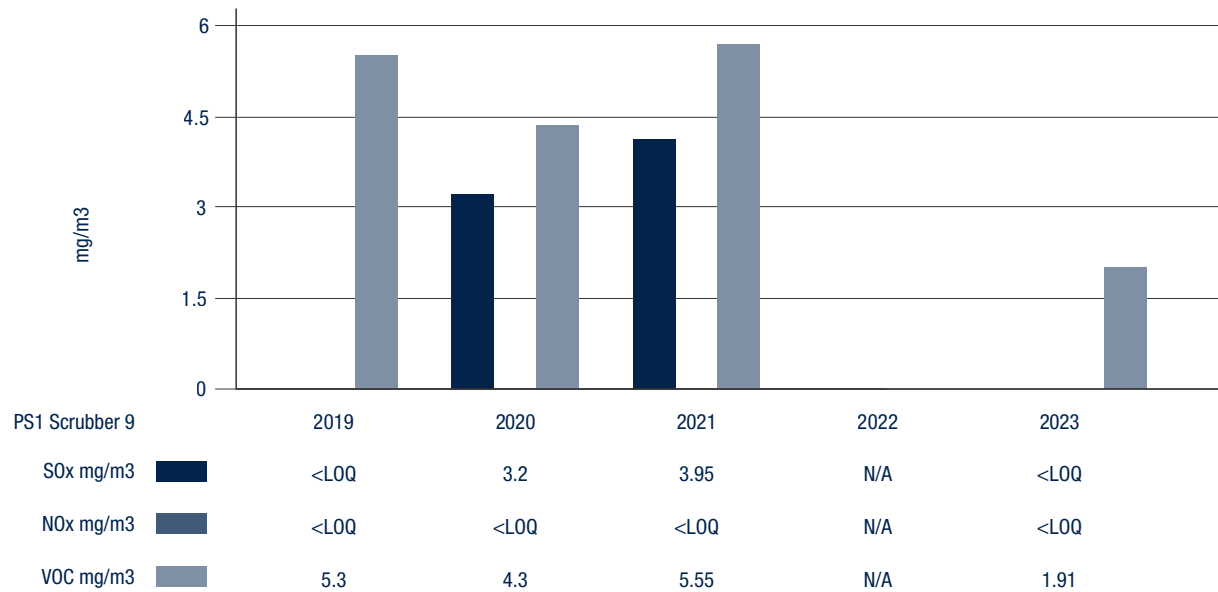
Air Emissions

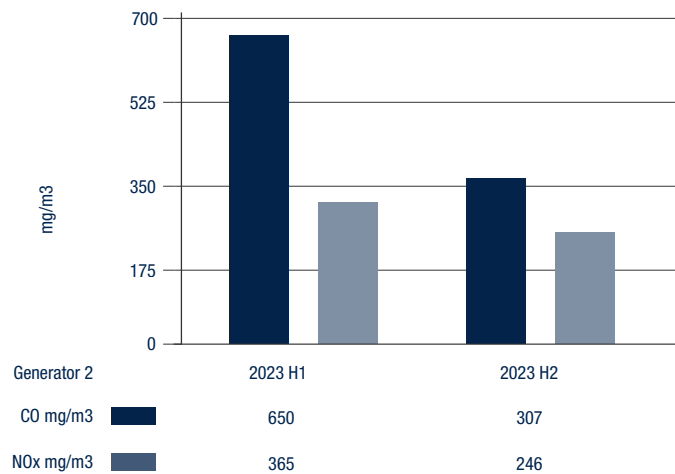
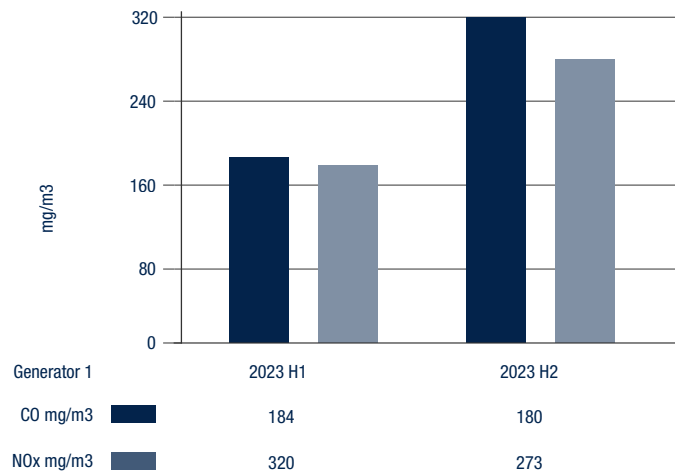
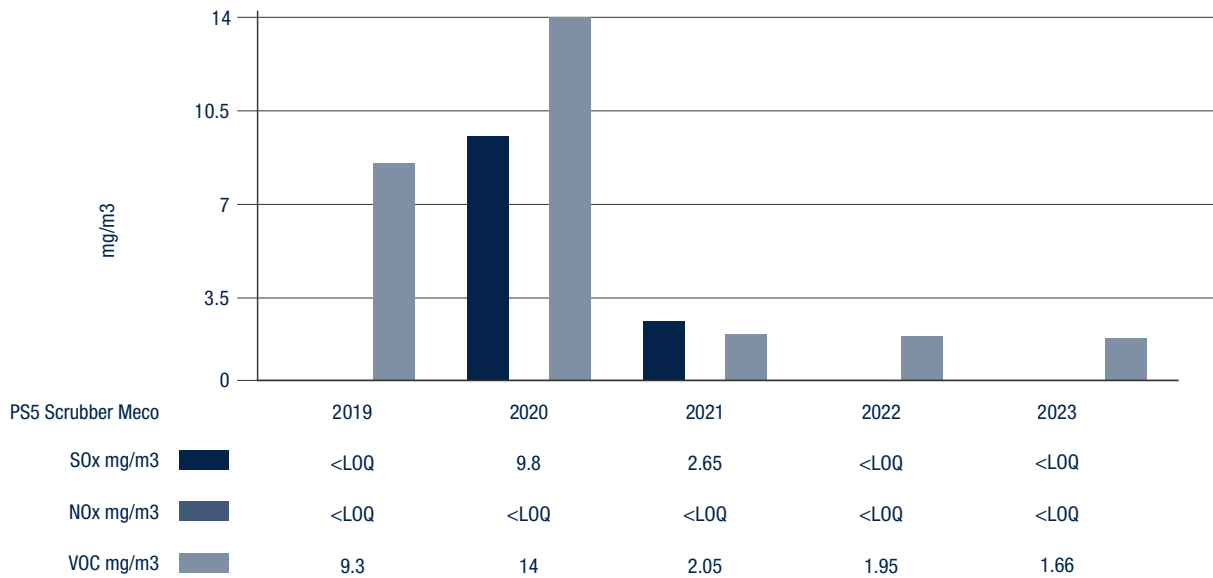
All manufacturing air, including acid vapours from plating, is cleaned in scrubbers before being released into the atmosphere. Two wet scrubbers were installed in KK1 during 1996, and one was installed in KK2 in 1994. Scrubber units are sets of equipment that use water to wash the fumes and remove the acid droplets; the water is then neutralized at the wastewater treatment facility. One adsorption filter for odours from the flammable and acid storage is additionally included in KK2. | [Chart 16](#) | shows the air emission measurements from the point sources mentioned in our site Environmental Permit. All air emission analysis were found to be in line with both Corporate and legal limits. Air emission national legal limits are the following: SO_x (Sulfur Oxide) , NO_x (Nitrous Oxides) and VOC (Volatile Organic Carbons) are 20 mg/m³. As of 2023, under the terms of the site's recently granted Environmental Permit, we have commenced preliminary surveillance of emissions from emergency generators. The regulatory body has established specific emission thresholds for NO_x (G1 – max 250 mg/Nm³ , G2-max 1850 mg/Nm³) and monitoring obligation for CO, which vary based on the generator's age. It has been determined that Generator G1 exceeds the prescribed NO_x emission standards. Consequently, ST has initiated communication with the Environmental Authority to reassess the emission limits' relevance for generators that are primarily used during power outages and for routine weekly testing.



■ PS1 and PS2 in KK1

Air Emissions (SOx , NOx and Volatile Organic Carbons) | Chart 16 |





Yu Fei Goh
Plant Facilities Director

"Sustainability drive is a journey with clear goal bounded by time-line. By embracing sustainable practices, we are not only protecting our environment but also developing our team members driving innovation and productivity within our company. This commitment will make significant impact on reducing carbon footprint and foster a culture of social responsibility in ST"

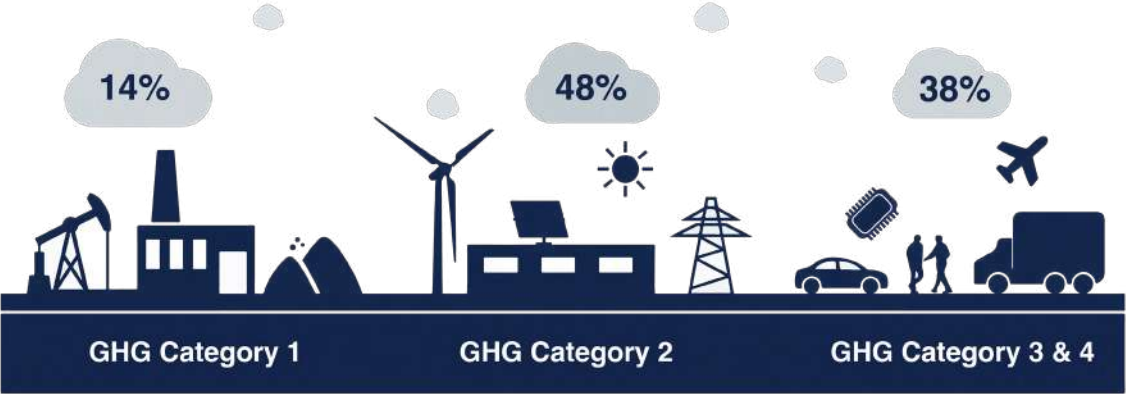
5.1 Greenhouse Gas Emissions

One of the most crucial aspects of our assessment of the impact on the environment is the Greenhouse Gas emission. STMicroelectronics has committed to being Net Carbon Neutral by 2027, thus the company has developed an effective approach to achieve the goals. Since 2013, the site has been measuring its carbon emissions in accordance with ISO 14064 using an ever-more-accurate analytical approach in order to comprehend all of the indirect effects of our operations | [Table 3](#) |. The majority of our carbon emissions come from Category 2, which is an indirect result of our energy use and is heavily reliant on regional power generation. Malta's emission factor varies over time, due to the change in the fuel mix. Since the country is lacking opportunities to integrate usage of green energy, ST Malta is acquiring verified green credits to offset our CO2 emissions from Category 2 in order to uphold the commitments outlined in the Corporate Sustainability Charter. 78.74% of our total emissions in 2023 were offset using green credits | [Chart 17](#) |.

The chart illustrates the numbered result and effectivity of the carbon neutrality program deployed.

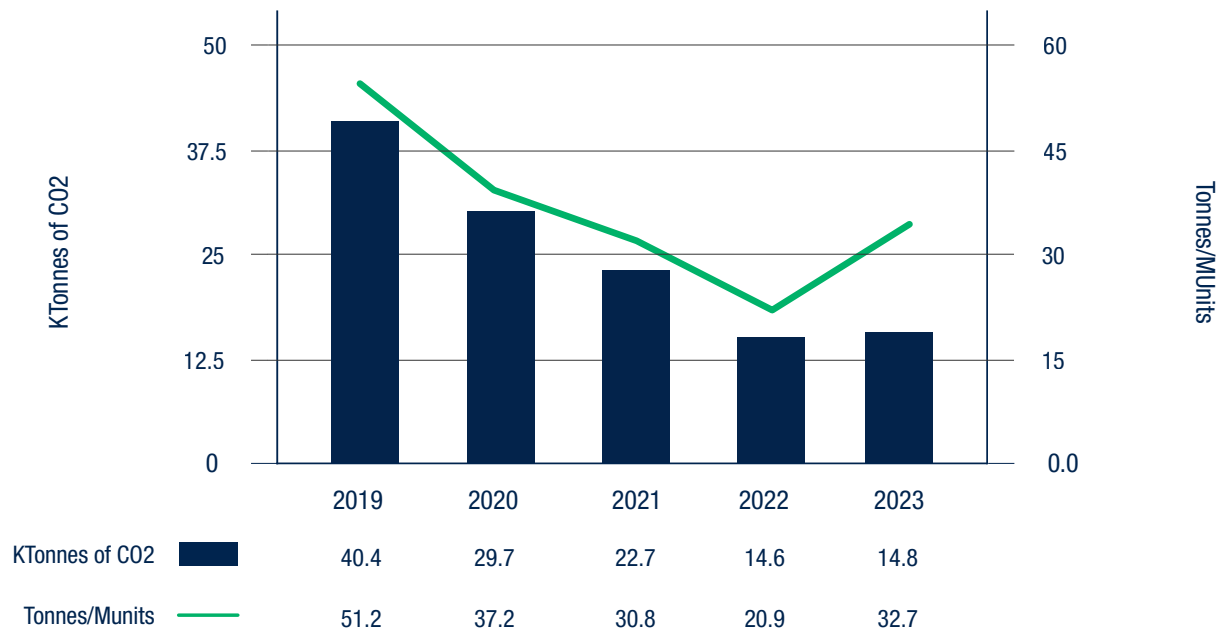
GHG Inventory | [Table 3](#) |

GHG Inventory Results						
	Ton Equivalent CO ₂ Equivalent					
	2018	2019	2020	2021	2022	2023
Category 1 Emission	26.91	158.51	25.33	179.205	428.85	2036
Category 2 Emission	39193.16	38108	25383.53	19054.37	8523.09	7020
Category 3 Emission	NA	1069	3240	2286	3790	3770
Category 4 Emission	NA	1100.98	1076	1140	1841	1938
Grand Total	39220.07	40436.49	29724.86	22659.58	14582.94	14764



Breakdown of GHG Emissions

GHG emissions | Chart 17 |

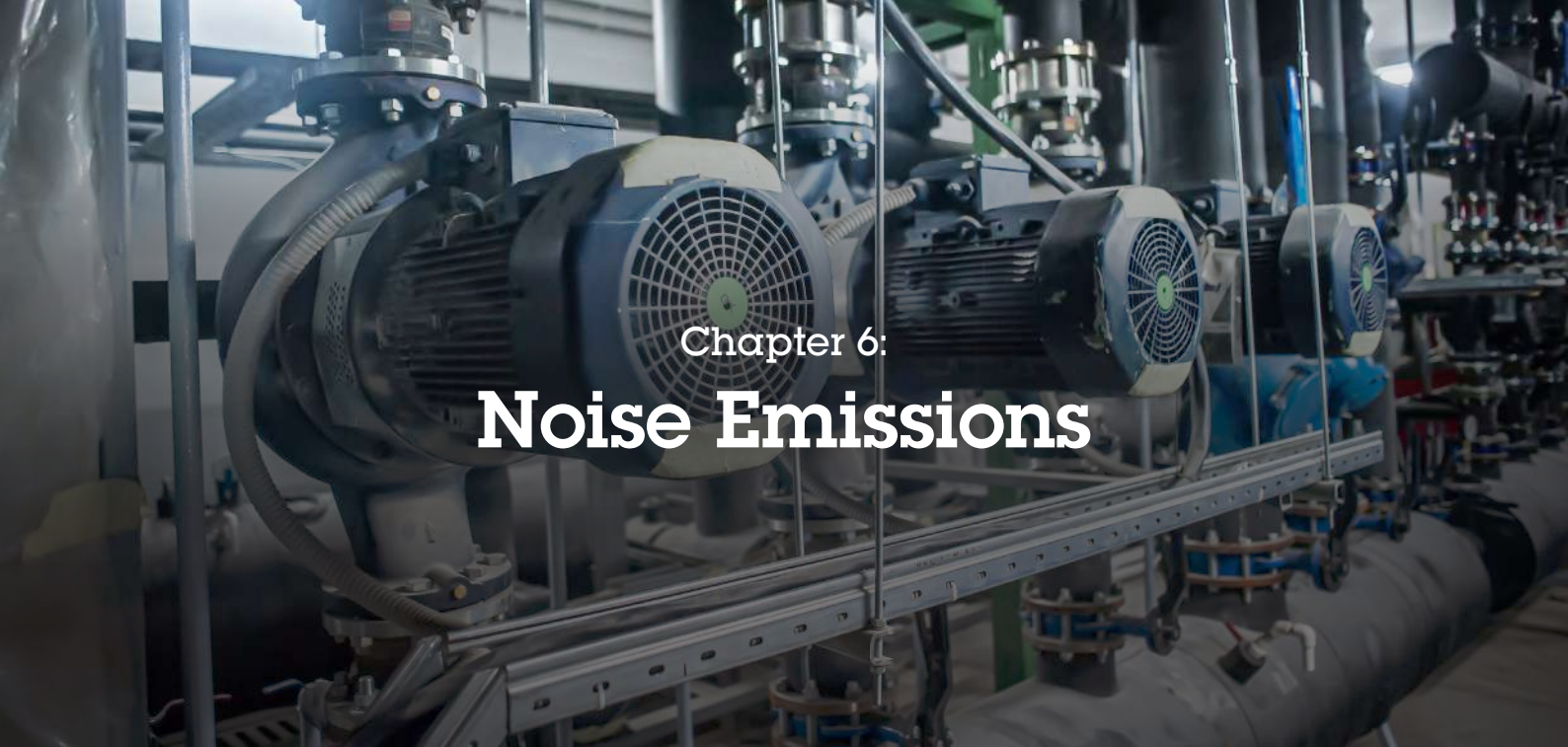


Electricity emission factors for electricity supplied to STMicroelectronics Malta | Table 4 |

Emission factor latest update reflects the reporting period of 2022

	2015	2016	2017	2018	2019	2021	2022
Electricity Emission Factor (kg CO ₂ / kWh)	0.7394	0.4516	0.4516	0.383	0.378	0.388	0.391

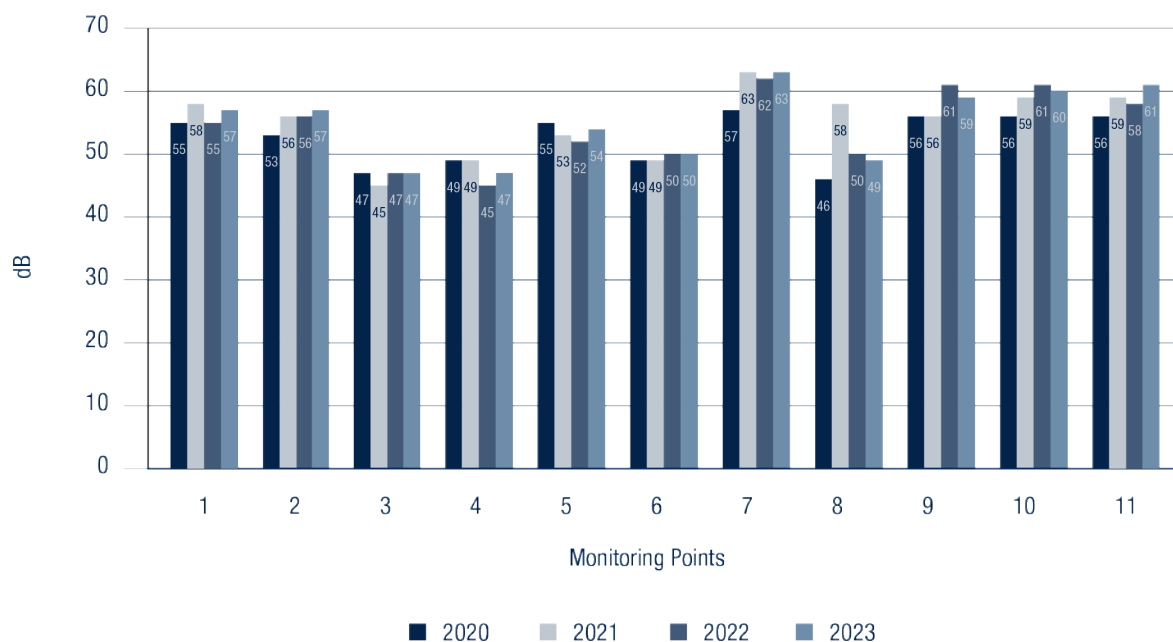


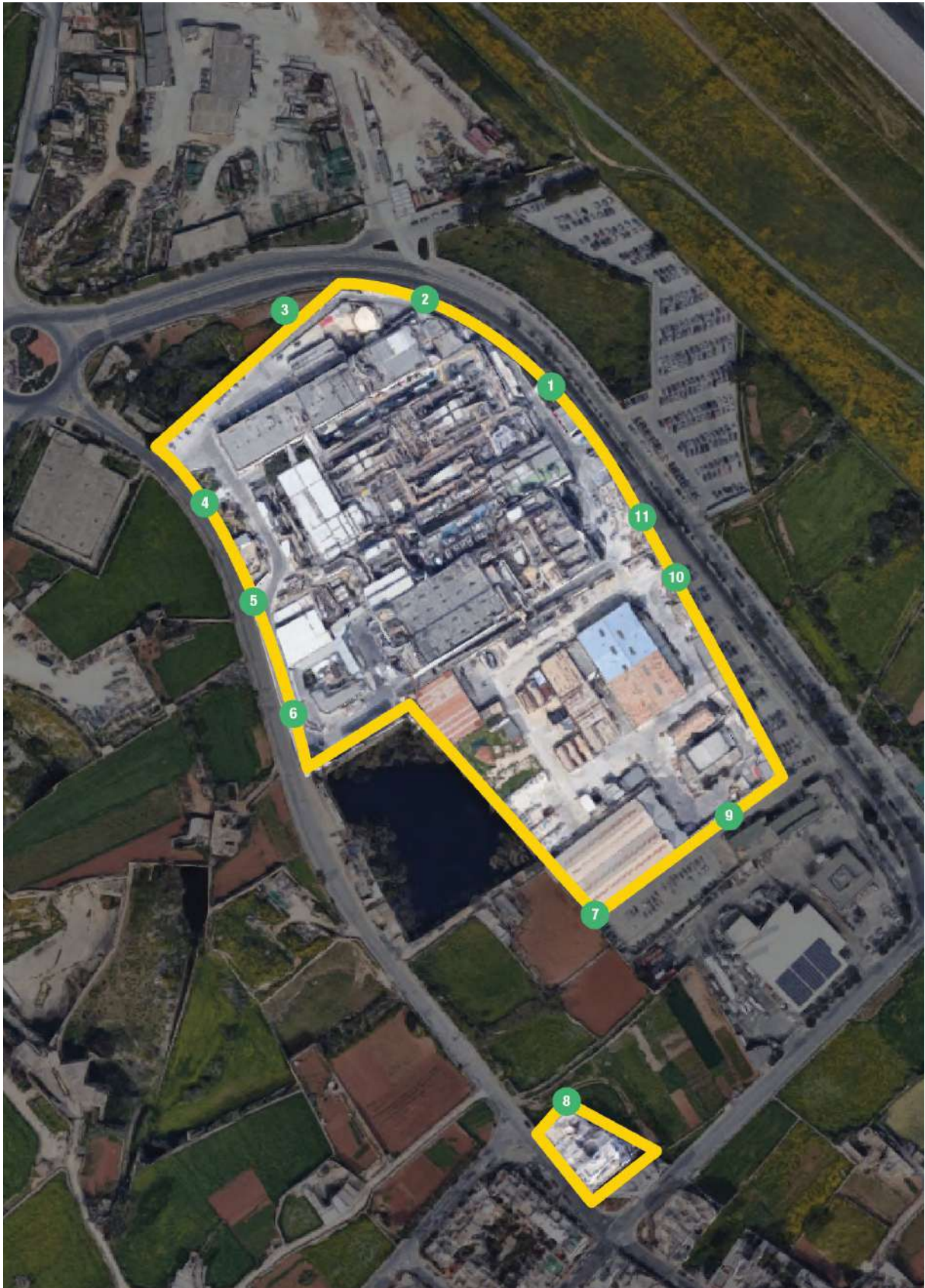


Chapter 6: Noise Emissions

The runway of Malta International Airport is 250 meters from the factory border of STMicroelectronics Malta, which is situated in an industrial region. The factory's perimeter is flanked by a major road, which adds to noise production. The closest neighbourhood is 300 meters distant. The results of the initial boundary noise survey, which was ordered in August 2016, show that STMicroelectronics Malta's activities are below the LA50 60dB(A) border noise level that is advised for an industrial zone at night and is approved by our clients and the World Health Organization. Every year, the facility conducts external boundary noise monitoring, as indicated in [| Chart 18 |](#), to validate any operational changes that could affect the noise generation. When the noise level exceeds 60 dB(A), it is verified by a third-party monitoring firm, that the external noise sources like The National Airport, or the nearby facilities are causing a recorded interference.

External Noise Study | [Chart 18](#) |





■ Noise Measurements monitoring points

Chapter 7: Waste Production

The site has various waste streams which are classified as manufacturing wastes, packing and packaging waste and general waste. All the waste is carefully managed through sorting and disposal via the appropriate channels. | [Table 5](#) | lists the wastes on site together with the European Waste Code number and disposal method. Any waste that has an asterisk (*) next to it is classified as hazardous waste and those materials which don't include an EWC are materials which are going for reuse.

Wastes on Site | [Table 5](#) |

Waste Type	European Waste Code	Description	Disposal Method
Manufacturing Waste			
Process Waste	12 01 03	Non-ferrous offcuts and turnings from mechanical treatment (brass, frames, preplated frames, wafer with tape, solder spheres, solder belts, solder anodes, copper powder, sawing blades)	Metal Recovery
	12 01 05	Plastic offcuts and turnings from mechanical treatment (substrates with gold)	Metal Recovery
	12 01 05	Spent resin	Landfill
	14 06 03*	Solvents	Recycling
	15 02 02*	Contaminated Rags/Protective clothing	Energy Recovery Incineration
	16 02 16	Defective components (BGA, MEMS, QFP, LGA, FCBGA, burn in boards)	Metal Recovery
	16 05 08*	Discarded Organic Chemicals	Energy Recovery Incineration
	15 02 03	Absorbents not Hazardous	Landfill
	16 03 04	Inorganic off-spec batches and unused products (wafers with mirrors, copper frames, copper frames with melamine resin, copper frames with die attached, pre-plated frames with melamine resin)	Metal Recovery
	16 03 06	Organic off-spec batches and unused products (substrates, substrates with melamine resin)	Metal Recovery
Treatment Waste	19 08 13*	Sludges containing hazardous substances from other treatment of industrial wastewater	Energy Recovery Incineration

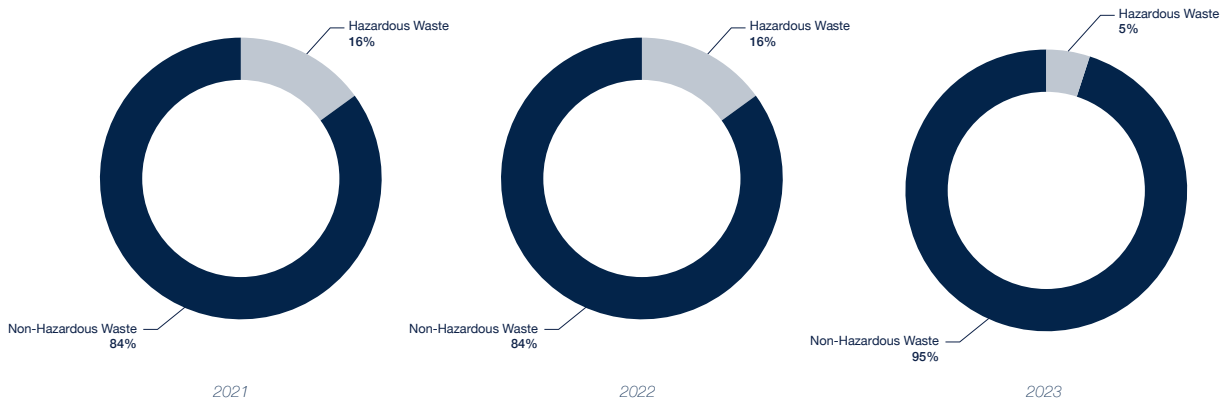
Waste Type	European Waste Code	Description	Disposal Method
Packing and Packaging Waste			
Packaging Waste/Material	15 01 01	Cardboard boxes	Recycling
	15 01 02	Plastic bales, boxes and reels, jerry cans, lids, magazines, dice canisters, tapes & reels, polystyrene/jablo	Recycling
		Trays	Reuse
		FCS Boxes	Reuse
	15 01 03	Wood Boxes / Pallets	Recycling
		Aluminium Reels	Reuse
	15 01 07	Glass Containers	Recycling
Paper Waste	20 01 01	Paper	Recycling
Other Hazardous Waste	08 03 17*	Toners and cartridges	Recycling
	13 01 11*	Hydraulic Oil	Recycling
	15 01 10*	Empty paint cans, contaminated jerry cans	Energy Recovery Invineration
	16 02 13*	Capacitors	Recycling
	16 02 13*	Industrial WEEE (machines)	Recycling
	16 05 06*	Laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals	Incineration
	16 06 01* 20 01 33*	Lead acid batteries	Incineration
	18 01 03*	Medical waste	Incineration
	20 01 21*	Fluorescent tubes	Recycling
	16 02 13*	Small WEEE (printers, computers, etc.)	Recycling
Equipment Waste	16 02 14	Scrap equipment	Recycling
Construction Waste	17 01 07	Construction waste	Recycling
	17 04 02	Aluminium Scrap	Recycling
	17 04 05	Stainless Steel	Recycling
	17 04 05	Iron Scrap	Recycling
	20 01 08	Biodegradable waste (Food Waste)	Energy Recovery Invineration
	20 02 01	Vegetation	Recycling
	20 03 01	Mixed Waste	Landfill

| **Chart 19** | illustrates the quantities of hazardous and non-hazardous waste generated on-site. | **Chart 21** | shows the relative proportions of waste that are recycled, reused, incinerated or landfilled. In 2023, there was a significant increase in the volume of waste generated, primarily due to the clearing activities in the KK3 zone for the construction of new manufacturing building, as well as the refurbishment of the offices and cafeteria in KK0. The site transformation also contributes to an increase in our recycling rate. A large amount of building waste was transported for disposal, which assisted us in increasing our recycling rate. STMalta is actively collaborating with local and foreign waste facilities to find out ways on how we can improve our environmental performance.

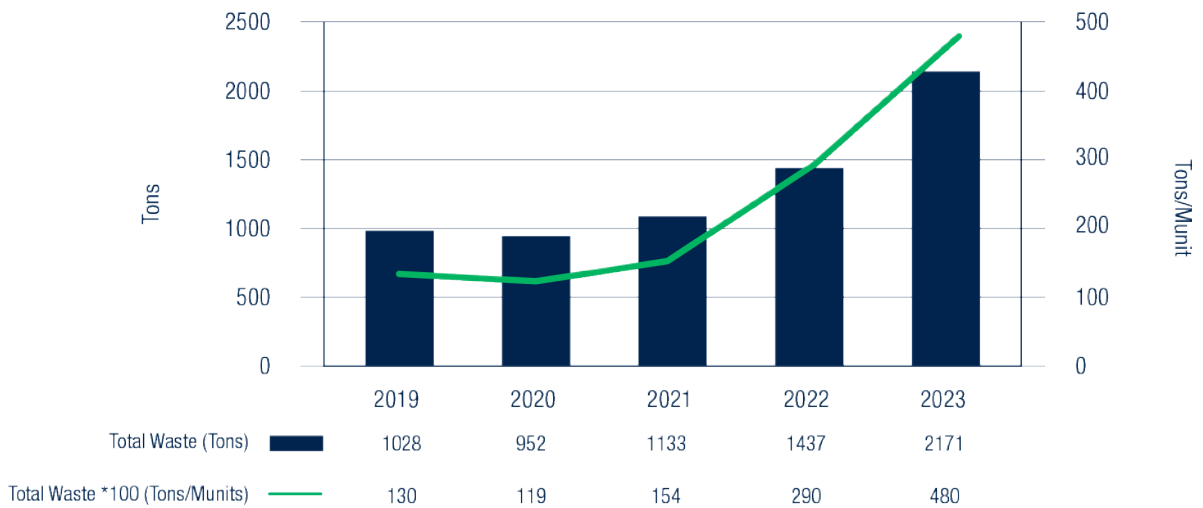


■ Separation of Paper Waste

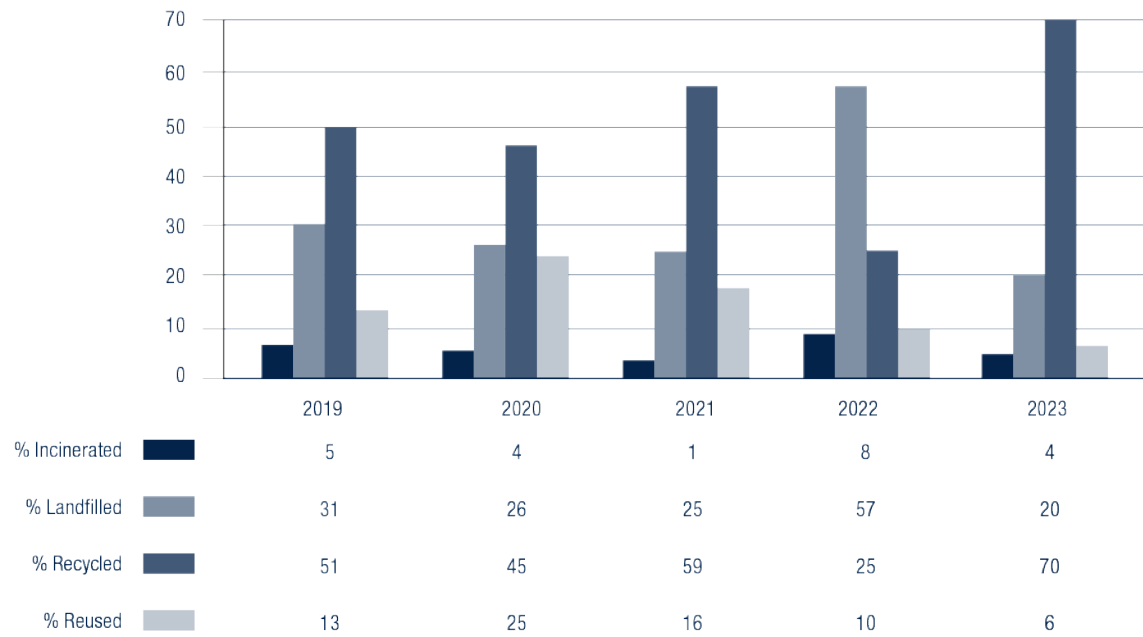
Hazardous vs non-Hazardous Waste | Chart 19 |



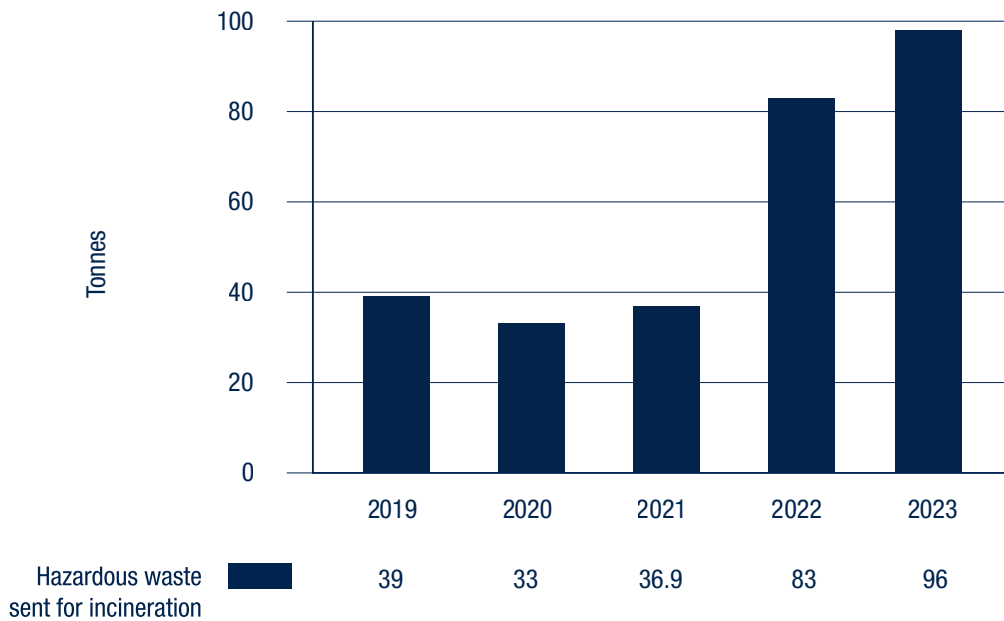
Total Waste Produced by Year | Chart 20 |



% Waste Produced by Year | Chart 21 |

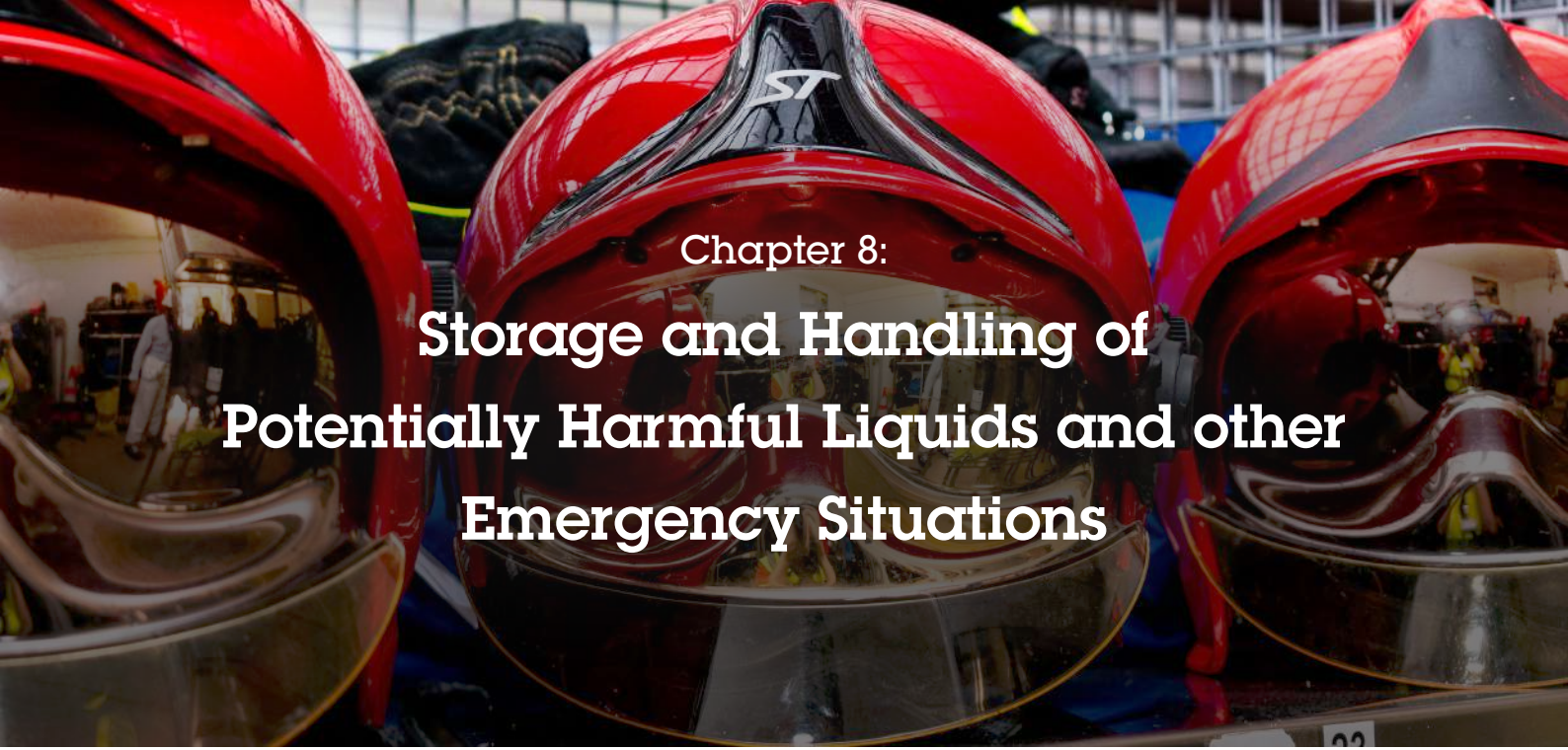


Hazardous Waste sent for incineration by Year | Chart 22 |



Michaela Farrugia
Environmental Specialist & HSPM Champion

"Effective waste management is a cornerstone of our environmental strategy. We are committed to reducing, reusing, and recycling materials to minimize landfill waste. We believe that every small action can lead to significant change. Our continuous efforts towards sustainability reflect our dedication to making a positive impact on the environment."



Chapter 8:
**Storage and Handling of
Potentially Harmful Liquids and other
Emergency Situations**

One way in which the site's activities could negatively impact the environment is through accidents such as spills or leaks of acids, solvents, diesel fuel or other materials used on site. The site invested heavily in providing secondary containment for tanks, chemical storage facilities and hazardous waste storage areas. In the event of heavy rainfall, STMicroelectronics pumps water from the adjacent aquatic habitat in the quarry to prevent it from flooding. The site has its own firefighting and emergency response team and facilities and regularly tests its emergency response procedures. STMicroelectronics is regularly audited for risk management by its insurers HDI Gerling. In September 2016, the site underwent its first ISO22301 business continuity management system audit.



Bryan Wubbels
Health & Safety Specialist

"The Disciplines of Health and Safety, Environment, and Sustainability are connected and serve as key elements to ensure a comprehensive strategy fulfil its aims and objectives at safeguarding the health of individuals, the welfare of communities, and the vitality of natural ecosystems."



Emergency Response Team Training



■ The site is equipped with a fire engine pump and emergency response facilities

Chapter 9: Indirect Effects

In addition to the direct effects on the environment as described above, the site's activities can also give rise to indirect effects. The indirect effects that the site considers are:

- The emissions of carbon dioxide, sulfur dioxide, and other pollutants from electricity generation
- The electricity consumed by the municipal reverse osmosis plants to produce the mains water used by the site
- The electricity consumed by the municipal wastewater treatment plants to treat sewage produced by the site
- Emissions of pollutant from transportation of employees to and from work.
- Emissions from transportation of good or waste

The facility increases efficiency while consuming less water and electricity in order to lessen the impact of these indirect consequences. All shift-based employees, who make up around 80% of all employees, are eligible for free collective transportation offered by our organization, in order to reduce traffic and minimize our indirect carbon emission. The site also takes into account any additional effects due to supplier actions. Contractors, local vendors, and corporate vendors are all urged to adhere to RBA, ISO 14001, and EMAS requirements. Major vendors for STMicroelectronics Malta are evaluated in part for their environmental compliance with ISO 14001.

TRANSPORTATION

| [Chart 23](#) | illustrates the results of the survey carried out on the main transportation habits of our employees. The charts perfectly show that mainly the employees use their own cars, even though 80% of our workers are entitled to collective transportation to contribute to the reduction of the GHG emission caused by transportation. The MTCO₂E for employee transportation is shown in | [Chart 24](#) |. The site places significant importance on encouraging its employees to adopt eco-friendly transportation methods. In honor of The World Sustainable Transport Day in November 2023, we launched an inspirational initiative for our staff. Employees who opted for alternative commuting methods to get to work on that day were recognized with special gifts that further support sustainable travel practices.

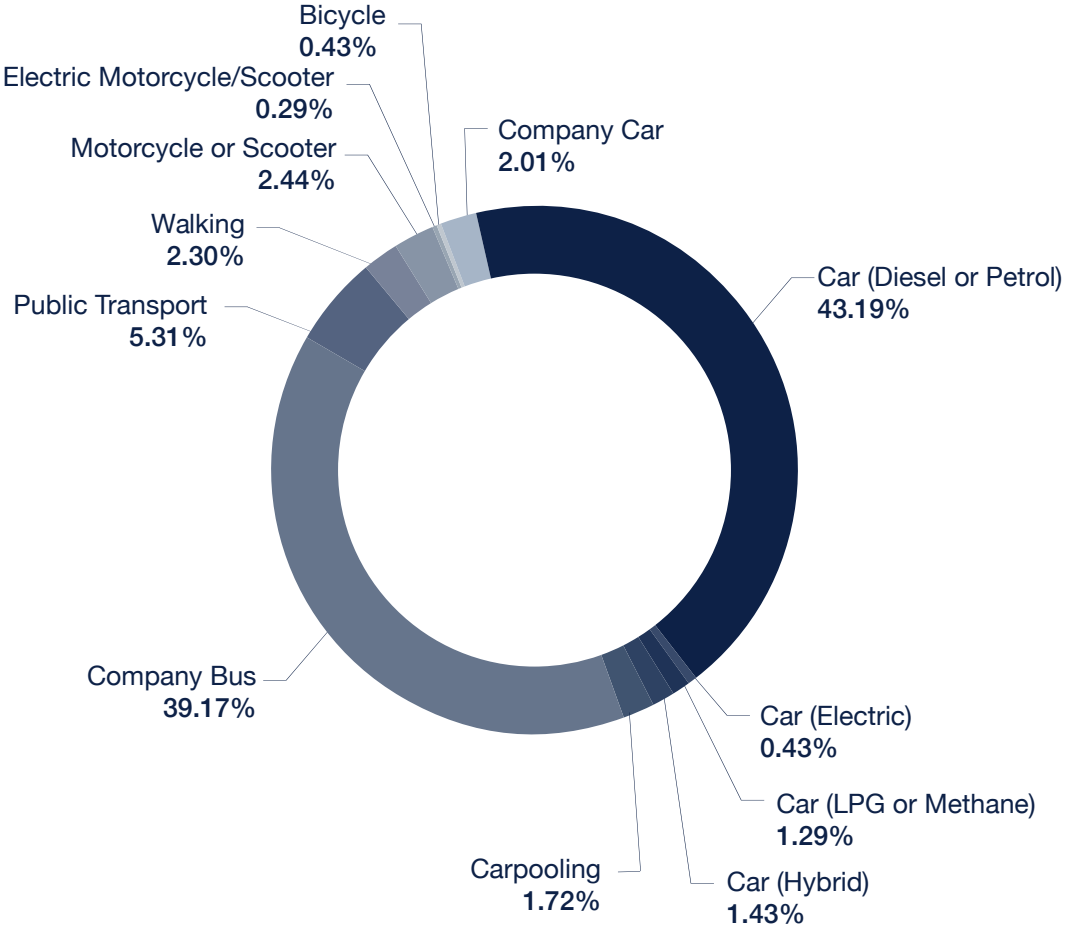


■ Rewarded employees for their participation

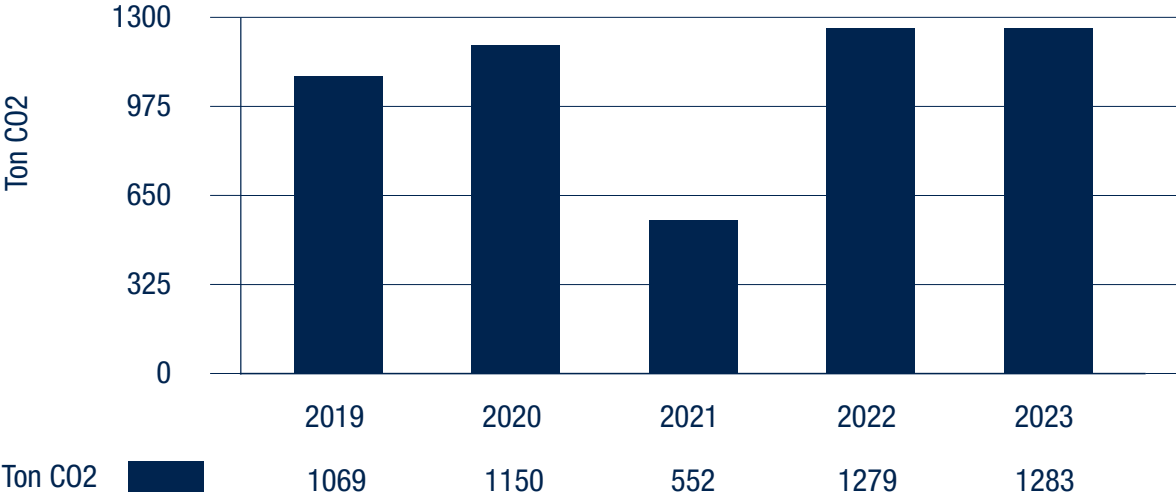


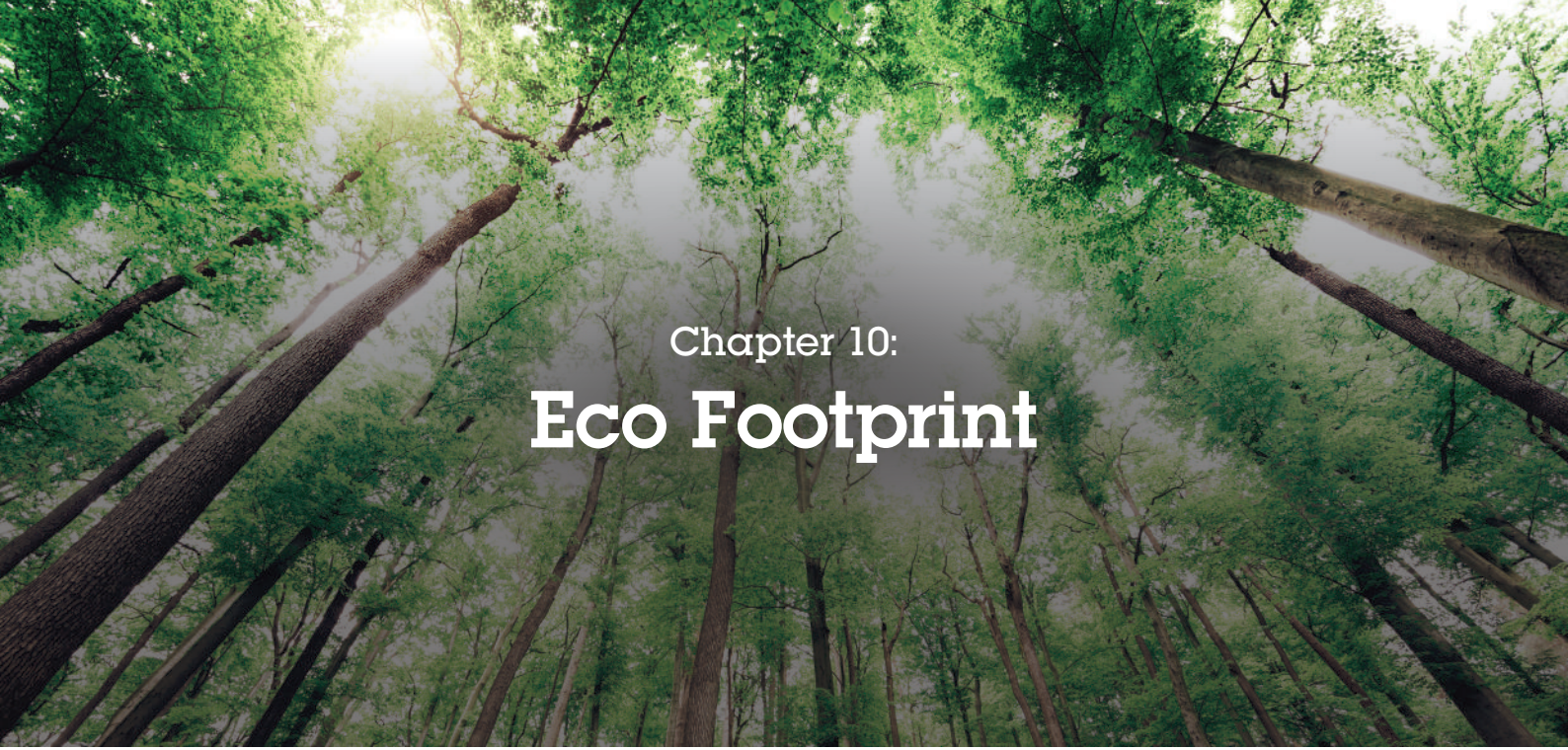
■ General Manager participating the World Sustainable Transport Day

Survey of Employees Commuting | Chart 23 |



MTCO₂E for Employee Transportation (Scope 3) | Chart 24 |





Chapter 10: Eco Footprint

The ecological footprint is an environmental indicator which takes into account all effects on the environment in a life cycle perspective tailor-made to the operation of the organisation. STMicroelectronics Malta has identified 10 environmental indicators which includes 4 input parameters, and 6 output parameters, which is being monitored evaluated in a monthly basis.

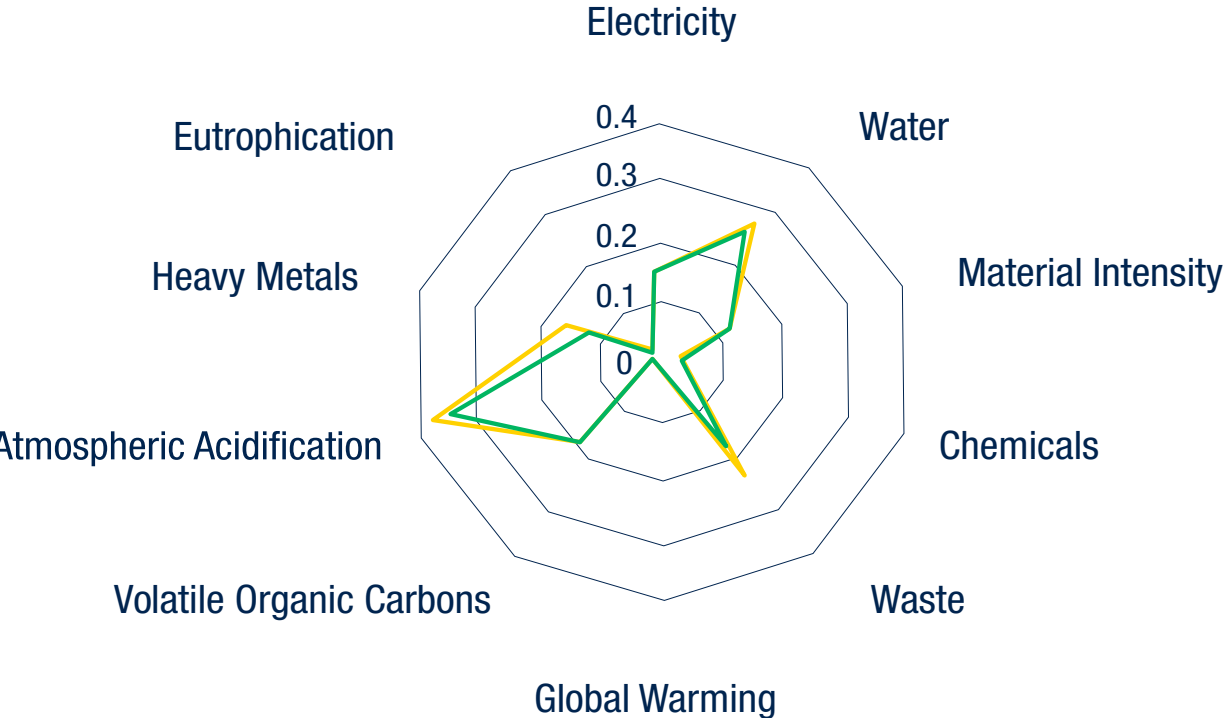
ENVIRONMENTAL INDICATORS



STMicroelectronics Malta Eco-footprint input and output elements

The parameter results are transformed into a weighted figure, with the relevant impact converted to a normalized value taking the production outcome into account. The outcome of the eco footprint for the input and output parameters is shown in the Eco-Footprint below. The objectives set for 2023 have been satisfactorily achieved. There is a notable increase in the 2023 outcomes compared to past years, primarily due to the site's method of measuring its environmental impact in relation to production output. Although the number of Million Units produced in 2023 was considerably less than in 2022, the change in the product mix and complexity of the devices has led to a rise in the ecological footprint of the facility.

Eco-Footprint | Chart 25 |



— Eco-footprint Target 2023
 — Average Eco-footprint 2023

Eco-footprint Target 2023	Average Eco-footprint 2023
1.43	1.33

Objectives, Targets and Results

STMicroelectronics Malta Environmental Objectives 2023-2026 | Table 6 |

		Objectives	2023	2024	2025	2026	Related Target 2023	Related Target 2024	
We prioritize people	People and Community	Organisation of EHS Week	✓	x	x	x	1/year	1/year	
		Environmental, Energy and Biodiversity training program	✓	x	x	x	5 EHS training hours /employee	5.5 EHS training hours/ employees	
		Overhaul of Environmental, Energy and Biodiversity Suggestion Scheme		x				10/quarter	
		Awareness event organisation	✓	x	x	x	3/year	3/year	
		Collaboration with higher education institutions	✓	x	x	x	2/year	1/year	
We protect the planet	Climate	Offset of remaining Carbon emission with green certificates	✓	x	x	x	70% Green energy	80% Green energy	
		Reduction of carbon emissions	✓	x			Global Warming 15000t CO2eq	Global Warming 15000t CO2eq	
		Engagement of employees for sustainable commuting		x	x	x		10% compared to 2023	
	Energy	Installation of Solar Panels			x		-	-	
		Control of energy consumption	✓	x	x	x	<83000MWh	<86000MWh	
		Implementation of Energy saving projects	✓	x	x	x	1248MWh saving	958MWh saving	
	Water	Phytoremediation Project (study)	✓	x			-	-	
		Improvement of hazardous substance level in wastewater	✓	x	x	x	Heavy Metals: <700Kg Eutrophication: <200Kg	Heavy Metals: <400Kg Eutrophication: <100Kg	
		Online monitoring of water consumption	✓	x			Water Consumption: <190,000m3	Water Consumption: <170,000m3	
		Improvement of water recycling rate	✓	x	x	x	Water Recycling >50%	Water Recycling >55%	
		Commissioning of New Waste Water Treatment Plant		x			EOY >60% recycling rate	EOY >60% recycling rate	
		Increment of waste recycling rate	✓	x	x	x	Reuse + Recycling Rate: EOY >80%	Reuse + Recycling Rate: EOY >80%	
		Introduction of new document management system of certifications	✓	x			-	-	
	Waste	Introduction of alternative material for landfilled waste avoidance	✓	x	x	x	Reuse + Recycling Rate: EOY >80%	Reuse + Recycling Rate: EOY >80%	
		Adaptation of UL2799 Standard				x	-	-	
		Biodiversity	External boundary Noise monitoring		x	x	x		AVG external noise <60dB
			Implementation of Biodiversity Program		x				Biodiversity Index >1

		Objectives	2023	2024	2025	2026	Related Target 2023	Related Target 2024
We protect the planet	Biodiversity	Improvement of Biodiversity Index		x	x	x		Biodiversity Index >1
		External Collaboration with NGOs		x	x	x		Biodiversity Index >1
	Chemicals	Industrial Hygiene monitoring programme	✓	x	x	x	-	-
	Others	Third Party internal audit program	✓	x	x	x	EFP target 2023 1.43	-
		Maintain ISO 50001 certification	✓	x	x	x		-
		Maintain ISO 14064 for GHG inventory	✓	x	x	x		-
		Maintain ISO 14001 certification	✓	x	x	x		-
		Publishing of Environmental Statement	✓	x	x	x		-
		Maintenance of RBA registration	✓	x	x	x		-
		Satisfaction of Customer requirements	✓	x	x	x		-
		Introduction of innovative legal compliance monitoring tool	✓	x				-
Emergency scenario test	✓	x	x	x	-			

✓ Done

x Planned

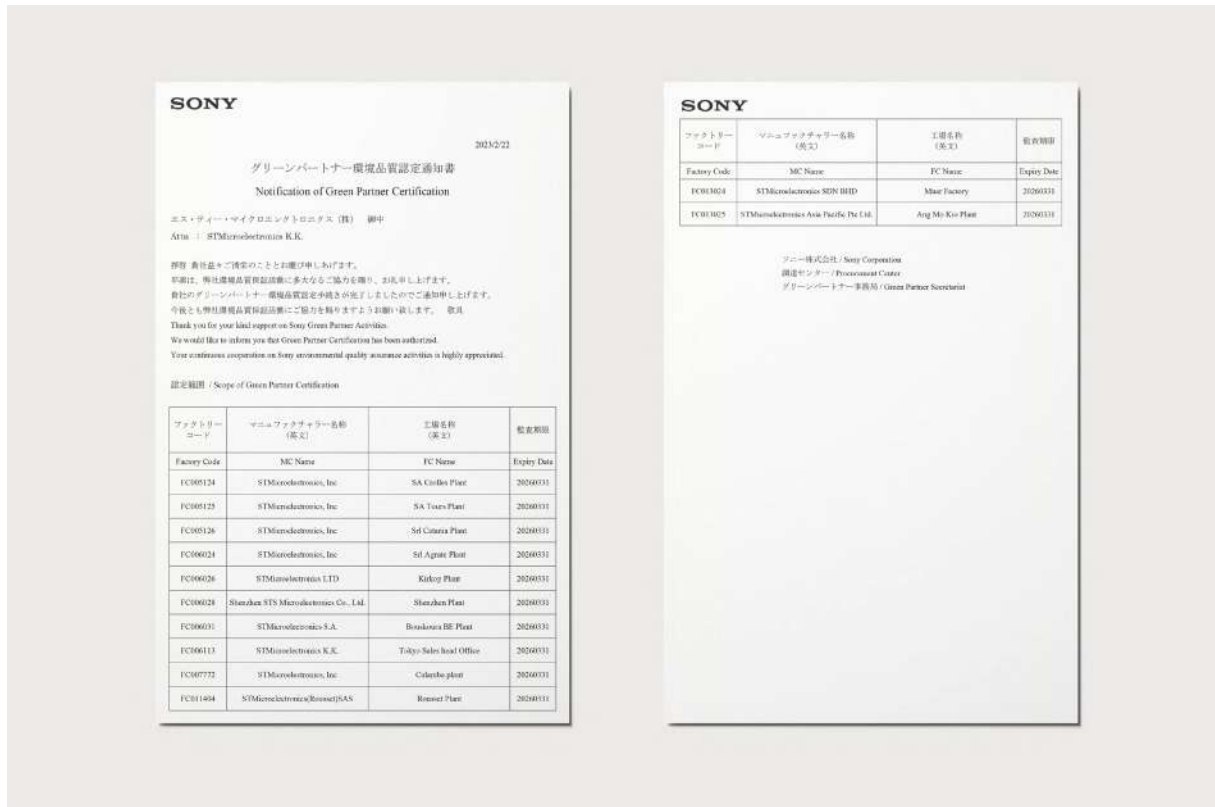
Appendix

Environmental Certifications | Appendix 1 |



■ EMAS Registration (2023), EMAS Certification (2023), ISO 14001 (2021), ISO 50001 (2022).

Green Partner Certificates | Appendix 2 |



■ SONY (2023) Green Partner Certificate

Environmental Awards and Recognitions | Table 7 |

Date	Environmental Awards and Recognitions
1995	EMAS Certificate of Registration, presented by the Malta Standards Authority
1997	Stratospheric Ozone Protection Award for corporate leadership in eliminating Ozone Depleting Substances, presented by the US Environment Protection Agency
1998	Silver Environmental Award for the Energy Consumption Reduction Improvement Team, presented by the STMicroelectronics Worldwide Back-end Manufacturing
2001	1st Prize in the Environment Award for Industry 2001, presented by Cleaner Technology Centre
2002	The Management Award for Sustainable Development in the European Awards for the Environment, presented by the European Commission
2002	Honorable Mention, Environment Award for Industry 2002, presented by Cleaner Technology Centre
2002	1st product made with recycled waste resin, presented by Citrya
2003	Best Effort in Clean up the World Campaign
2005	EMAS Award participation trophy, presented by the European Commission
2011	Most Improved Plant for EHS, awarded by STMicroelectronics Packaging & Test Manufacturing
2014	EMAS Award participation trophy, presented by the European Commission
2015	EMAS Award participation trophy, presented by the European Commission
2015	1st Prize in the Sustainable Enterprise Award, presented by the Ministry for Economy, Investment and Small Businesses
2015	National Pioneer EMAS Award, presented by the European Commission
2016	Special Certificate for Continuing Commitment to Environment Protection in the Environment Award for Industry 2015, presented by Cleaner Technology Centre
2016	Associate of the Energy Efficiency Partner Initiative as per 2012/27/EU, presented by the Sustainable Energy and Water Conservation Unit
2017	Most improved plant in EHS award, presented by STMicroelectronics Back-end Manufacturing & Technology
2021	25th Anniversary of EMAS “Early Birds” registration
2022	Energy & Water Sustainability Award by Energy & Water Sustainability Award and the Chamber of Engineers Malta - first runner-up
2023	The most improved Back-end plant for Environment, Health & Safety

Environmental Permits and Registrations | Table 8 |

Date of Current Permit	Expiry of Current Permit	Subject	Permit Ref
04/03/2023	04/03/2027	Environmental Permit	EP0021/22
23/03/2023	23/03/2024	Public Sewer Discharge Permit	DMU4103
23/02/2023	01/03/2026	EMAS certificate of registration	MT-00001
01/04/2023	31/03/2024	Registration as a Packaging Producer	WMP/00005/07
01/04/2023	31/03/2024	Registration as a Producer of Electronic and Electric Equipment	WME/00052/14
02/01/2022	01/01/2026	REWS authorisation for secondary storage of diesel	SSF/45
11/08/2020	10/08/2030	REWS permit authorisation for secondary storage tank of LPG	SS/319

Acronyms

Abbreviation	Definion	Abbreviation	Definion
BGA	Ball Grid Array	P&P	Packing and Packaging
CO ₂	CarbonDioxide	PS	Point Source
dB(A)	A-weighted decibels	Q	Quarter of a year (three months)
EHS	Environment, Health and Safety	QFP	Quad Flat Pack
EICC	Electronics Industry Citizenship Coalition Code of Conduct	SF ₆	Sulfur Hexafluoride
EMAS	Eco-Management and Audit Scheme	VOC	Volatile Organic Carbons
GHG	Greenhouse Gas	WEEE	Waste Electrical and Electronic Equipment
MEMS	Micro Electro Mechanical Systems	WWTP	Wastewater Treatment Plant
Mpin	Million pin	YTD	Year to date, referring to the period of January to June
MTCO ₂ E	Metric Tons CO2 Equivalent	RO	Reverse Osmosis
Munit	Million unit	CO	Carbon Monoxide
LOQ	Limit of Quantification	EDI	Electrodeionization
IPCEI-ME/CT	Important Project of Common European Interest - Microelectronics and Communication Technologies	STEM	Science, Technology, Engineering, and Mathematics

Environmental Policy

STMicroelectronics Malta site is located in Kirkop and is engaged in the assembly and testing of semi-conductor devices and forms part of Back-End Manufacturing & Testing at STMicroelectronics.

STM Malta is committed to protect the planet by minimizing our environmental impact in all our activities and by the products we are developing.

STM Malta strategy is to establish action plans that will bring continuous improvements to the environmental impact of the site in line with the ST Global Environmental Processes.

Environmental care is an integral part of STMicroelectronics, and it is therefore present in all Company activities with the following commitments:

- Assimilate the corporate sustainability goals withing the Environmental Management System.
- Review and perform environmental monitoring in order to control air, water, waste and soil pollution.
- Study the environmental impacts of all the processes performed within the ST Malta boundaries.
- Maintain all the environmental certifications in place ISO14001, ISO 50001, ISO14064, EMAS, ISO 45001.
- Comply with all applicable national and local EHS and Corporate regulations, whichever more stringent.
- Strengthen EHS Culture through dedicated training, communication and campaigns.
- Support EHS projects, events, encourage employees to participate in EHS committees and community activities.
- Strive to share experience with other manufacturing sites and local communities.

Laurent Filipozzi
General Manager
April 2022

Energy Efficiency Policy

STMicroelectronics (Malta) Ltd. site is engaged in the assembly and testing of semiconductor devices. It forms part of the Back-End Manufacturing & Technology organization of STMicroelectronics.

STMicroelectronics Malta commits to analyse the impact of its processes on the overall energy uses and consumption to set and review its objectives and energy targets.

STMicroelectronics Malta follows the Corporate EHS directions and adheres to these principles, including the principals related to energy performance to be established, implemented, and maintained in accordance with the ISO 50001 International Standard.

STMicroelectronics Malta commits to allocate the necessary resources and provide the required information to achieve its energy efficiency objectives and to assure continuous improvement in the energy performances of the Energy Management System.

STMicroelectronics Malta must also comply with local and corporate regulations related to energy use, energy efficiency and energy consumption, whichever more stringent.

STMicroelectronics Malta supports the procurement of energy efficient products, services and design activities that are considered as an improvement in energy performance.

STMicroelectronics Malta commits to assimilate the corporate sustainability goals within the Energy Management System.

STMicroelectronics Malta commits to involve the best available technologies within the site transformation to improve its energy efficiency.

People are Essential to the Success of our Programmes

- Actively participate to green initiatives
- Adhere to the energy management system policy and procedures
- Report faulty equipment that might lead to a decrease in energy performance
- Comply to industry and legal requirements
- Prioritizing energy efficiency, utilizing all energy users in accordance with the company policy to reduce wastage of energy.

Laurent Filipozzi
General Manager
August, 2023
STMicroelectronics (Malta) Ltd.

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