TRANSFORMING AVIATION

22

Sustainability Report

MTU AERO ENGINES AG

BUSINESS YEAR 2022

HIGH STANDARDS IN SITE OPERATIONS

Environmental management

Environmental protection is a maxim guiding how we do business. We want to be efficient in our use of energy and resources, minimize emissions and avoid environmental risks. Continuous improvement has been achieved in particular in the reduction of energy consumption and CO_2 emissions.

Our environmental management for site operations includes monitoring of our energy consumption as the basis for efficiency measures, which come into effect in, for example, our company climate action strategy, ecoRoadmap.

Operational environmental protection at our production sites is an important principle guiding our behavior and is implemented in MTU's business processes. It is also enshrined in the global Code of Conduct for all employees as well as in our Policy Statement on the Protection of Human Rights. The Executive Board assumes responsibility for company-wide environmental protection and climate action.

Standards are applied through a management system that defines processes, responsibilities and targets at the site level. Environmental protection is part of MTU's integrated management system (IMS). The environmental criteria apply to all divisions and processes and are laid down in documented process flows and special company standards. Minimum operating standards for our machines and facilities, such as engine test cells, are laid down by national legislation and subordinate regulations.

In our global Code of Conduct, MTU commits to an integrated approach that incorporates environmental protection and climate action into its business decisions. Environmental responsibility is also enshrined in the MTU Principles in the section entitled “Environment and society.” In addition, MTU’s mandatory Code of Conduct commits suppliers to act in an environmentally conscious way.

The Executive Board receives a quarterly IMS report on environmental and climate action data. Since 2021, the report has included the energy consumption of the production sites in Munich, Hannover, Ludwigsfelde, Rzeszów and Vancouver (measured in terms of production hours). Regular reports on CO_2 reductions in site operations (Munich, Hannover, Ludwigsfelde and Rzeszów) to the Executive Board and the management are part of MTU’s climate strategy.

GREEN INVESTMENT

11.4 m euros

We spent this amount on investments and ongoing expenses for environmental protection and climate action at our German production sites in 2022.

Environmental management is not centralized, with the environmental departments at all production sites assuming responsibility for the local implementation of relevant rules and regulations. Individual site managers are directly responsible for environmental protection; they receive advice and support from the local specialists. Those specialists regularly share their innovations and best practices with each other. The German sites are certified to ISO 14001, the international standard for environmental management systems, and/or to the EU Eco-Management and Audit Scheme (EMAS).

Getting employees involved

We get our employees involved in active environmental protection via information campaigns and training courses–for instance, to motivate them to conserve energy at work. This is done, for example, as part of the initial instruction for new employees, in the form of special awareness days and through short videos on how to protect the environment in day-to-day life. The Code of Conduct stipulates measures to support employees in acting in an eco- and climate-conscious way.

We maintain a dialogue with our stakeholder groups about MTU’s environmental impacts. Through environmental statements, the MTU sites in Munich, Hannover and Ludwigsfelde inform the public annually about their environmental impacts and performance. Stakeholders can use the available media channels to direct complaints and report abuses to us, which we will immediately follow up. This applies to employees, suppliers, residents and other stakeholders. In the reporting year, we received no complaints regarding negative environmental impacts. At the German sites, environmental officers are available to answer any questions or comments. → More information about stakeholder dialogue In addition, stakeholders can provide feedback about sustainability issues via an online survey on the MTU website.

ENVIRONMENTAL STATEMENTS FOR PRODUCTION SITES

We also pursue environmental protection and climate action through joint initiatives. Besides its commitment to the UN Global Compact, whose ten principles include environmental sustainability, MTU is also involved in several local initiatives. These include the BEEN-i Bavarian Energy Efficiency Network Initiative, the Unternehmensnetzwerk Klimaschutz corporate climate action network, the Munich Business Climate Pact and the Bavarian Environmental and Climate Pact.

Emergency management plans have been prepared to deal with operational disruptions with a negative environmental impact, and a crisis committee has been set up. We also hold regular staff drills and provide instructions on what to do in the event of an emergency. In 2022, there were no incidents with a negative environmental impact, nor were any fines levied against the company for breaches of statutory requirements relating to the environment. No non-monetary sanctions were brought against MTU.

Services & tools

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GRI: 102-11, 102-12, 102-43, 103-2, 103-3, 307-1

UNGC: 7, 8

ON THE WAY TO MTU GREEN GLOBAL

Climate action at the production sites

We are realigning our energy management to permanently reduce our use of fossil fuels and emission of greenhouse gases in production and maintenance. More green energy and CO_2 avoidance are key here. In the long term, MTU aims to achieve climate neutrality in its site operations. As of 2045, we want all the Group's production sites to be carbon neutral for Scope 1 and 2.

MTU's own green electricity production via photovoltaic systems in Munich and Rzeszów heralds the transformation toward green energy.

MTU aims to continuously reduce the greenhouse gas emissions resulting from manufacturing and maintenance work at its facilities as a contribution to global climate action in line with the objectives of the Paris Agreement. In 2021, MTU launched its ecoRoadmap climate action strategy for its headquarters in Munich. The following year, this strategy was expanded to all European production sites (Munich, Hannover, Ludwigsfelde, Rzeszów) under the banner of MTU Green Europe. Green Europe aims to reduce MTU's carbon footprint by 60% by 2030. This effort will involve sustainable measures, the expansion of our own emissions-free power generation and the increased use of green energy (measured in terms of significant emissions from Scope 1 and 2, base year: 2019). We compensate for any unavoidable CO_2 emissions that arise through operations at the Munich site by means of high-quality offsets, such that we have been able to operate this location on a climate-neutral basis since 2021. The integration of the production sites in Canada and Serbia (in operation since 2022) into the climate strategy starts in 2023. Langfristig strebt die MTU Klimaneutralität im Standortbetrieb an. In the long term, MTU aims to achieve climate neutrality in its site operations. By 2045, we want all the Group's production sites to be carbon neutral for Scope 1 and 2 without offsetting.

Fast Facts: #GreenMTU

FOOTPRINT

60 %

CO_2 emissions of the production sites to be significantly reduced by 2030 (base year 2019).

DEEP GEOTHERMAL ENERGY

80 %

We want to cover our heating needs at the Munich site mainly by using thermal water from the ground.

GREEN ELECTRICITY

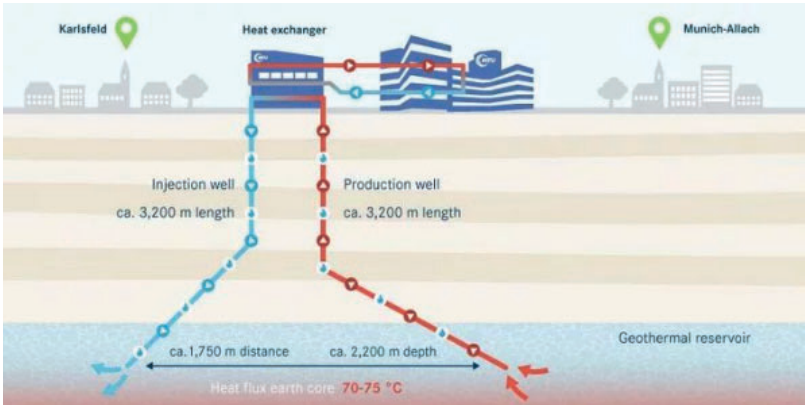
75 %

MTU's electricity consumption already comes mainly from renewable sources.

More green energy for MTU

Our climate action experts are developing sustainable measures for the Green Europe locations and are implementing them together with the departments. These measures include replacing equipment with low energy efficiency, systematically fixing compressed-air leaks and better insulation through roof greening and renovation. MTU's own green electricity production via photovoltaic systems in Munich and Rzeszów heralds the transformation toward green energy. The emission factor for electricity used at the locations in Hannover and Munich has improved compared to previous years. At the Poland site, electricity consumption is completely emissions-free for the second year in a row. More than 75% of the company's total electricity consumption already comes from renewable sources. For the Munich site, MTU continues to advance deep geothermal energy, having carried out exploratory drilling on the site in 2022. By using thermal water from the ground to supply heat, the site could become largely independent of fossil fuels starting in late 2024.

MTU PLANS TO USE GEOTHERMAL ENERGY



→ More information

Following promising preliminary studies, MTU has decided to press ahead with its plans to use geothermal energy at the Munich site. The aim is to make the site's heat supply largely independent of fossil fuels.

In addition, the production sites have been implementing local environmental programs that predate the ecoRoadmap. The Hannover site has, for example, focused on implementing measures to reduce gas and electricity consumption in machinery and building management. The Eco Facility 2025 project at the location in Rzeszów, Poland, aims to reduce environmental impacts and to promote environmentally conscious behavior among the workforce: improvements in media and material consumption as well as in the amount of waste generated are expressed in terms of CO_2 to raise awareness.

When it comes to climate action at its sites, MTU also counts on its employees' ideas and participation. As part of an eco-ideation challenge in 2021, employees submitted concepts for low-emission site operations in Munich. The resulting ideas are both pursued in the departments (e.g. in logistics) in a decentralized manner and developed further in a centralized manner (e.g. for heat neutrality).

Employees plant trees at the Forest Day

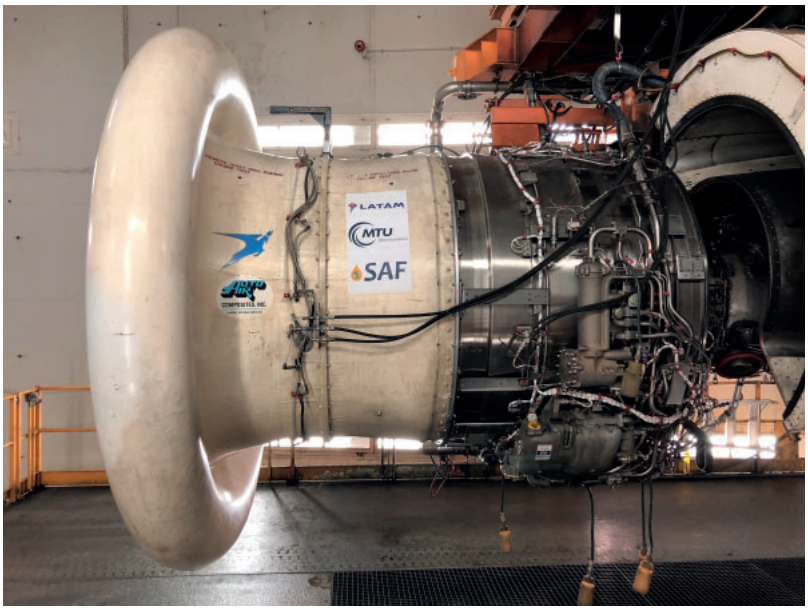
At MTU's first Forest Day in Dietramszell, Bavaria, apprentices and employees planted larches and spruces. After a walk through the trees guided by the forest ranger, the MTU crew lent a hand to the gradual conversion of the wooded area from pure stand to mixed forest.

Energy consumption in 2022

CO_2 emissions in production and maintenance (Scope 1 and 2) essentially result from the energy consumption required for site operations. Regarding non-renewable primary energy, we use natural gas and the aviation fuel kerosene as well as fuels for mobility, which make up a very small proportion of the total. In Munich, we generate electricity and heat using a cogeneration plant (BHKW), which is much more efficient and emits less pollution than a conventional power plant. We intend to use more photovoltaic energy in the future, and we have commissioned our first photovoltaic systems at the Munich and Rzeszów sites. In addition, the Hannover site makes use of solar energy with the aid of a solar thermal power plant and also employs a cogeneration plant comprising three micro gas turbines for generating electricity and heat. What's more, a new heat pump for combined heating and cooling went into operation in 2022. We also achieve greater energy efficiency by having the sites use waste heat from compressed air generation as thermal energy (combination principle).

The total energy requirement for Scope 1 and 2 was 306.7 gigawatt-hours (GWh) in 2022, which is lower than in the previous year (331.3 GWh). This goes to show the success of our energy-saving measures, both in terms of our climate strategy and as a result of the requirements stipulated in the Energy Security of Supply Ordinance, which became effective in Germany in 2022. Our **energy demand for Scope 1 (direct energy consumption)** was also lower than in the previous year. Scope 1 primarily concerns the energy sources natural gas and kerosene. Natural gas is used primarily for heating, in production and, to a lesser extent, for test stand operation. Kerosene is used as a fuel for testing engines on the test stand, so consumption depends on how extensive the tests are, the number of test runs and on engine size. MTU has no direct influence on the type and duration of test runs. All newly maintained or manufactured engines must complete a test run prior to delivery for safety reasons and to demonstrate their performance. The use of simulations in development and manufacturing reduces the amount of development testing for new engines. We are able to run our test stands in Hannover on sustainable aviation fuels (SAFs), and in 2022 we carried out initial test runs of customer engines with alternative aviation fuels at MTU Maintenance.

SUSTAINABLE AVIATION FUELS



→ To the press release

Together with LATAM, Latin America's biggest airline, MTU Maintenance used sustainable aviation fuels (SAFs) in test runs on the test stand at the MTU site in Hannover.

In 2022, we procured a total of 136.0 GWh (2021: 130.1 GWh) of **external energy (Scope 2)**. This increase is largely due to the Munich site's higher electricity consumption caused by a failure of the cogeneration plant that lasted some time. Electricity is a major energy source for us. It accounts for 42.2% of our total energy consumption (externally sourced electricity only). This electricity is drawn from renewable sources in varying proportions. At the site in Poland, for example, it was completely emissions-free. MTU Maintenance Canada gets a large portion of its electricity from hydroelectric power stations, which are a renewable resource. As part of our ecoRoadmap, in the future we aim to successively increase the purchase of green electricity generated exclusively from renewable sources.

Energy consumption
Scope 1 and 2 (in GWh)
GRI 302-1

	2022	2021	2020
Total	**306.7**	**331.3**	**307.5**
Direct energy consumption, natural gas, kerosene, mobility = Scope 1	170.7	201.2	191.5
Indirect energy consumption, electricity, district heating = Scope 2	136.0	130.1	116.0

The energy consumption of fuels for mobility excludes the site in Canada. Energy consumption other than that shown in the table (e.g. other fuels) is not reported, as its contribution to total Group consumption is immaterial. Energy consumption from externally outsourced test runs of engines and industrial gas turbines is not included. We have corrected the calorific value for natural gas, resulting in an adjusted presentation of energy data for previous years compared to previously reported values.

Electromobility at MTU

Fleet and company cars: In Germany, we have a total of 31 all-electric and 44 plug-in hybrid vehicles in use, representing 40% of the whole fleet. We expect to be able to increase this proportion to around 47% in 2023. A further increase continues to be dependent on delivery conditions. In addition, we have installed 20 regular charging stations, including eight in employee parking lots. We are planning to further expand charging capacity as demand grows.

Job tickets: We promote sustainable commuting practices among our workforce, through a special discounted "job ticket" for the local public transportation network or web portals for carpooling.

Our carbon footprint for 2022

In the reporting year, MTU generated 47,600 metric tons of CO_2e emissions at its production sites throughout the Group from its use of major energy sources (2021: 54,800 metric tons). This means we achieved a reduction of 13% compared to the previous year and a decrease in CO_2 emissions for both Scope 1 and 2. We were able to bring about these reductions primarily through our climate strategy.

CO_2 emissions (in t CO_2 equivalents)
Scope 1 and 2
GRI 305-1, 305-2

	2022	2021	2020
Total	**47,600**	**54,800**	**83,200**
Scope 1	38,000	44,400	42,200
Scope 2	9,600	10,400	41,000

MTU's Scope 1 CO_2e emissions result from consumption of the direct energy sources kerosene, natural gas and fuels for mobility. Meanwhile, MTU's Scope 2 CO_2e emissions result from the consumption of bought-in energy (electricity and district heating). The calculation of Scope 2 emissions uses emission factors from energy suppliers (market-based method). Other sources of CO_2e such as refrigerants or other fuels are not reported as their contribution to Group emissions is immaterial. Consumption in Canada is included, but without mobility data. CO_2e resulting from externally outsourced engine and industrial gas turbine test runs and the combustion of sustainable aviation fuels during engine test runs in Hannover is not included in the balance sheet. We have corrected the calorific value for natural gas and the emissions factor for electricity at Rzeszów site (conversion to market-based), resulting in an adjusted presentation of emissions data for previous years compared to previously reported values.

MTU compensated the remaining Scope 1 and 2 CO_2e emissions for operations at Munich by means of high-quality offsets, such that this site achieved net-zero status in 2022.

CO_2 reduction is an important ESG goal

Due to the high priority of climate action at MTU, the reduction of carbon emissions is an important environmental, social and governance (ESG) goal. CO_2 is an ESG-relevant KPI that factors into the variable compensation of the Executive Board and senior managers. Our goal attainment is based on the Europe-wide climate action strategy for emissions generated by the European production sites (Munich, Hannover, Ludwigsfelde and Rzeszów). It is measured in terms of residual CO_2 emissions as "maximum residual CO_2 emissions" (based on current emission factors) and in terms of "CO_2 savings through sustainable measures" (based on 2019 emission factors) compared to the base year 2019. A twelve-month period that deviates from the reporting year is considered the performance period for this purpose (Dec. 1, 2021 to Nov. 30, 2022). At 44,000 metric tons of CO_2, the result was below the target value of 54,000 metric tons due to systematic CO_2 reduction and the purchase of green electricity. The savings target for sustainable measures was also reached (2,000 metric tons; target value: 1,750 metric tons).

To make our company's climate impact still more transparent, we take part in the annual assessment by the international non-profit organization **CDP**, which collects data on companies' greenhouse gas emissions, climate risks and climate strategies on an annual basis. For 2022, we achieved a rating of B on a scale from D- to A+.

First Scope 3 carbon footprint in preparation

CO_2 emissions that do not result from energy use in site operations on MTU's part fall under Scope 3. This includes upstream value creation (suppliers), downstream product use and employees' commute to and from MTU. The plan to determine the Scope 3 carbon footprint is now part of our sustainability strategy. We aim to record and evaluate significant upstream and downstream activities and to establish an appropriate management system at the fully consolidated sites. Scope 3 emissions from business travel in the Notes

MTU's reforestation projects

CO_2 STORAGE

4,136 t

This is how much CO_2 storage we have already created through reforestation in domestic forests. (As of April 2022)

In addition to our high-quality offsets for residual emissions at the Munich site, we run reforestation projects together with our partner Deutim to create a regional CO_2 reservoir. The Forest Day for MTU employees is also part of this voluntary commitment. We will pursue reforestation in Bavaria together with Deutim until 2025 and thus create climate-stable mixed forests for future generations.

The following reforestation projects have already been realized:

Services & tools

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GRI: 102-3, 103-2, 103-3, 302-1, 302-4, 302-5, 305-1, 305-2, 305-3, 305-5

UNGC: 7-9

A RESPONSIBLE RAW MATERIAL ECONOMY

Conservation of resources

For us, conservation of resources means the responsible use of primary resources, improved material efficiency, and the careful handling of water. This is in addition to waste management and recycling.

Valuable waste: MTU takes great care to separate metals by type. In this way, high-value chips can be returned to the cycle.

MTU is reliant upon raw materials for manufacturing and maintenance at its facilities. In addition to the use of renewable and non-renewable energy, there is also the use of water and the consumption of various materials. Our environmental management system controls our demand for and use of raw materials with the aim of obtaining high levels of efficiency in manufacturing and maintenance. This means low resource consumption and a circular approach for products and processes insofar as possible. We have set out the responsible use of resources as a guideline for all employees in our Code of Conduct and our MTU Principles. Our demand for raw materials depends fundamentally on batch sizes in production and maintenance.

Water management

We use water responsibly as a natural resource, and we have set up a local water management system for water protection at the production sites. In keeping with the precautionary principle, we treat wastewater properly and in accordance with the applicable legal requirements. MTU's water consumption depends on the production volume. Goals for the protection of this resource have been formulated at the local level.

Our fully consolidated production sites are situated in Germany, Poland and Canada, none of which are water-stressed regions as determined by the World Resources Institute's Aqueduct Water Risk Atlas (water risk for those countries: low or low/medium). Water-stressed regions are regions in which water is a scarce resource. We monitor the development of water availability in the regions in which we operate, which allows us to make decisions about additional measures to take, if required.

Our water consumption

We use drinking water for production and maintenance processes, in sanitary facilities and in the cafeteria. In addition, we use well water for cooling processes in machinery. Total water withdrawal in the reporting year amounted to around 8.5 million m^3 (2021: 8.1 million m^3). At the Munich site, we use large amounts of Quaternary groundwater from our own wells for cooling. In other words, the water used by the MTU Group in 2022 was 97.9% groundwater and only 2.1% came from the municipal drinking water supply. Using well water contributes to environmental protection and climate action, as it eliminates the need for energy-intensive cooling processes such as compressor cooling systems. MTU is required by the authorities to constantly release a small amount of well water into the Schwabenbächl river near the site. This water is regularly tested for pollution to ensure stable conditions for the river's wildlife.

We use recirculated water as much as possible in chemical process baths for applying protective coatings to blades and also for the process water in installations for testing component damage. Thanks to this recirculation, we have to treat only a small amount of wastewater before discharging it into the municipal sewers. At the Munich site, for example, we were able to save around 678,700 m^3 of water. We also use recycled water for the chemical cleaning of engine parts. Our sustainable water management also includes systematic inspection and renovation of the well water and sewer networks.

Water withdrawal (in 1,000 m^3)
GRI 303-3

		2022	2021	2020
	Total	**8,538.5**	**8,079.6**	**8,327.3**
Withdrawal	Municipal water	183.4	159.9	175.0
	Groundwater	8,355.1	7,919.7	8,152.3

No water withdrawal in water-stressed regions, figures on water discharge and consumption according to GRI 303-4 and 303-5 in the Notes.

Water quality

We treat wastewater in suitable sewage systems according to the type and extent of pollution. After treatment, the quality of the discharged wastewater complies with the official requirements for the respective sites. We carry out strict monitoring at the sites to ensure that legal limits are observed and comply 100% with all local authority requirements. Neither water sources nor water surfaces were negatively impacted or polluted by our operating activities. This applies in particular to our location in Canada, which is situated in direct proximity to the ocean.

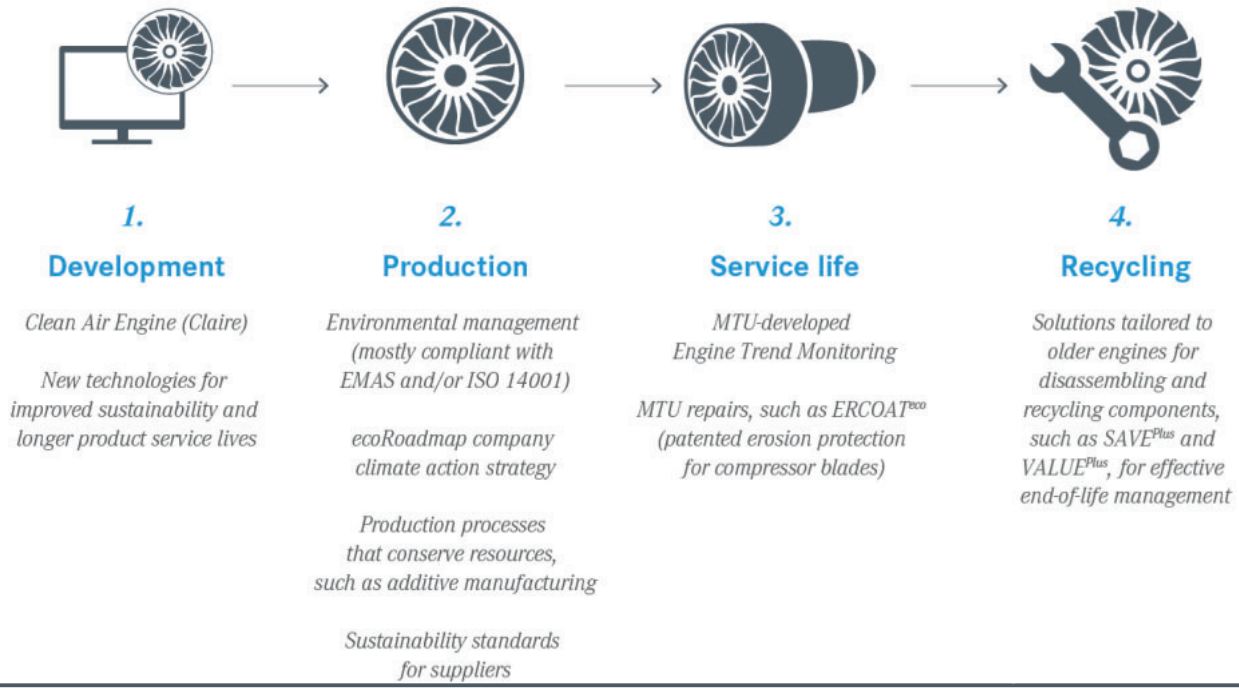
Resource conservation campaigns

MTU Aero Engines Polska's Eco Facility team organized a cleaning campaign in a nearby forest for Earth Day and collected around 520 kilograms of garbage (left). At MTU Maintenance Canada, a team took action and collected garbage at Centennial Beach.

Circular economy

What we mean by circular economy is a lifecycle approach for our products that takes into account all phases of an engine, including the design of products and processes according to closed-loop principles. This includes the responsible use of primary resources, improved material efficiency and the use of secondary materials without impairing the quality or safety of our products. And responsible waste management and recycling are also part of the MTU approach. In addition, we are working on extending the service life of products; and we can prevent the use of new parts by means of customized repairs in particular.

Sustainability over the lifecycle of an engine



Engine materials such as titanium, nickel and alloying elements such as platinum or rhenium are of high value, and this explains why aircraft engines have very high recycling rates. As a vendor, we have no direct influence over the scrapping of engines, which is carried out by specialist companies.

Product development and design

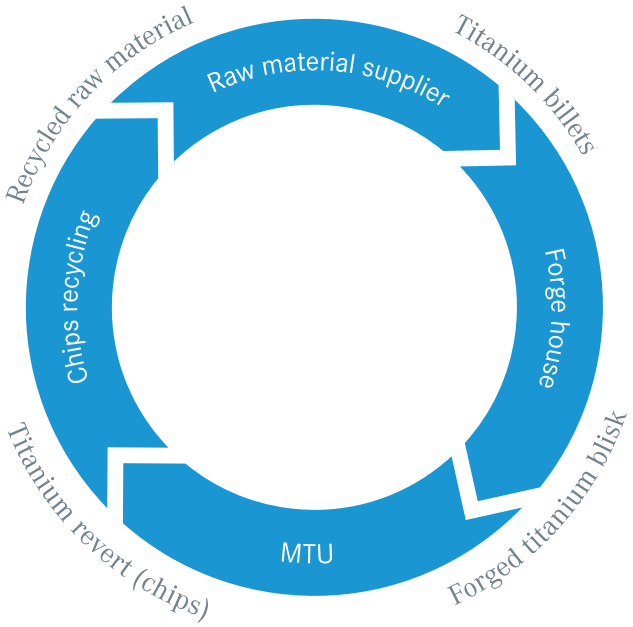
In product development, designs must comply with all safety requirements and aim to create highly robust engines with a long service life. As a rule, aircraft engines spend 30 years in service before they are decommissioned. And since climate impact and energy consumption are a focus of product design, conserving resources is an integral part of the products' lifecycle. In addition, designs ensure that the product can undergo multiple repairs throughout its service life, as repairing existing parts conserves more energy and resources than fitting new ones. At the end of an engine's lifecycle, the metallic properties of all its constituent materials (e.g. titanium, nickel) means that they are almost entirely recyclable.

Use of materials in production and maintenance

The long service life of our products and the continuous improvement of our maintenance processes ensure our demand for raw materials is reduced. In all of our production methods, we pay attention to efficiency in the use of materials and seek to avoid waste. We develop our own production and repair methods that are characterized by their high material efficiency. The use of new repair techniques and targeted maintenance programs increases the service life of engines.

Circular economy: The example of titanium chips

Sustainable process for high-quality titanium



We return chips from alloys to the supply chain, building a sustainable path to supply security, contribute to the careful use of resources and can reduce CO_2 emissions in the value-added process through recycled raw materials.

We achieve greater material efficiency in the production of new parts through the use of additive processes such as the 3D printing of metals. This manufacturing technology enables the rapid 3D production of highly complex components and allows for more freedom in designing them. Components are laser-melted directly from a powder bed according to CAD data–with just 5–10% of the powder ending up as excess material that cannot be used. We plan to employ this particularly resource-conserving method more and more as time goes on.

Our area of expertise: Engine repairs

With its “repair beats replacement” philosophy, MTU Maintenance achieves a truly impressive depth in aircraft engine repair. Using special techniques we have developed in-house, we repair engine components that in other maintenance shops would have to be replaced with new parts. For example, we manage to give around 70% of all engine blades a second, third or even fourth lease on life. We are gradually expanding this product recycling approach to include new processes with an eye to achieving even longer service lives and thus greater material efficiency. For instance, in the case of life-limited parts, we have succeeded in repairing integrally manufactured engine blades and disks, known as “blisks.” This is important because the number of blisks being installed in engines is increasing. MTU is one of the world’s leading companies in the field of blisk production and repair. On top of that, efficient and eco-friendly processes are used for repairs. One example is the use of water jets to remove coatings from components, which avoids the need for environmentally harmful chemical processes.

In addition, we offer repairs and various other measures to improve the operating behavior of components and engines. Special coatings in particular are able to increase the performance capability and durability of components, while targeted individual repairs of components can also help lower engine emissions and improve operating behavior.

Repairs to engine components not only avoid the energy- and resource-intensive manufacture of spare parts, but also offer further opportunities in the context of the circular economy for the usage and recycling phase–for example, through the targeted use of customized repair scopes, components can be repaired not just once but multiple times.

We collect all metal parts and components for targeted recycling, especially the highly valuable materials nickel, titanium and rhenium.

Material consumption in 2022

Our material consumption mostly occurs in production. The value our plants add depends on production materials (alloys, spray powder) as well as on consumables and supplies. In 2022, our total material consumption amounted to 8,740 metric tons, of which about 10% came from renewable materials.

Material consumption (in metric tons)
GRI 301-1

	2022	2021	2020
Total	**8,740**	**8,230**	**7,380**
Production material	3,690	2,840	3,350
Consumables and supplies	4,200	3,770	3,510
Other materials	850	1,620	520

Externally sourced material for production sites; production material comprises titanium and nickel alloys and spray powder; consumables and supplies include oils, cooling lubricants, chemicals, lubricants, gases and kerosene and diesel used as fuel; the other material comprises paper, cardboard packaging and wooden pallets and boxes. For engine parts, MTU uses returnable packaging that can be reused several times.

Our products require the use of materials that are classified as conflict minerals due to their possible origin in Central Africa and can be problematic with regard to human rights violations. As we do not procure these mineral raw materials directly, we have implemented appropriate processes in our supplier management in order to comply with our human rights due diligence. → More information about human rights in the supply chain

Chemicals according to the REACh regulation

Wherever possible, we avoid using materials that are hazardous to the environment or to human health in our manufacturing processes and products. According to the European REACh (Registration, Evaluation, Authorisation and Restriction of Chemicals) regulation, certain substances of very high concern (SVHCs) containing chromium(VI) are subject to authorization. We implement all provisions of the EU regulation for protecting employees and the environment. We use REACh-listed materials chromium trioxide at our Munich site e.g. for wear and corrosion protection. The European Chemicals Agency ECHA authorized MTU to continue its use in several of our processes until 2029 on the basis of the extremely safe workplace standards in our surface coating activities. At the same time, we are pushing ahead with the long-term elimination of SVHCs that require authorization. Through technology projects, we are searching for substitutes for chromic acid / chromium(VI). We oblige our suppliers to comply with the EU's legal requirements (registration, authorization, etc.) via our General Terms and Conditions of Purchase if they use REACh substances in their auxiliary or operating materials.

Our waste management

MTU practices sustainable waste management with the safe disposal of waste sorted according to waste type and recycling process. First and foremost, we try to avoid waste, reuse leftover materials and use waste either for its materials or as energy; if recycling is not possible, waste is disposed of properly. In this way, we seek to minimize material consumption and waste disposal volumes, as well as achieving high recycling rates.

BACK INTO CIRCULATION

71.5%

We were also able to recycle a large proportion of our Group-wide waste in 2022.

Total waste generation in 2022 rose to 7,950 metric tons due to capacity utilization (2021: 6,800). The proportion of hazardous waste was 43% (2021: 40.5%). Measured against that total, the MTU Group achieved an overall recycling rate of 71.5%. The amount of waste produced and of recyclables utilized depend primarily on production capacity utilization.

Waste footprint (in metric tons)
GRI 306-3, 306-4, 306-5

	2022	2021	2020
Total waste	**7,950**	**6,800**	**7,040**
Recycled	5,680	5,310	5,440
Disposed of	2,270	1,490	1,600
Share of hazardous waste	**3,420**	**2,760**	**2,790**
Recycled	1,300	1,380	1,370
Disposed of	2,120	1,380	1,420

Excludes construction waste

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UNGC: 7, 8