

Sustainability report **2021**



Sustainability Report 2021



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Presentation





We have now reached the publication of KME's fourth sustainability report.

Thanks to the commitment of all employees, the KME Sustainability Report can finally be defined as a corporate report for the year 2021.

For Kme, sustainability is 'doing' before 'communicating'. In this first 'Group' Report, our concrete, daily commitment to work, produce, and sell according to the most advanced standards of environmental and social sustainability is described and accounted for. A commitment that in the last two years has coincided with dramatic emergencies - the pandemic, the war at Europe's doorstep, the energy crisis and the deepening of the climate crisis - which have naturally also affected us and which all, in one way or another, reinforce the urgency of bringing economic action ever closer to the values of social responsibility and attention to environmental balances.

We have planned the future development of the sustainability plan with the definition of precise and ambitious targets for 2030 with on-going audits, the first in 2024, because we are convinced of the need for pre-accountability also in the area of ESG.

The 2021 report confirms the growth trend in the use of recycled materials and the achievement of targets.

The decarbonisation plan also continues through the application of further technological innovations and circular economy practices in order to improve the efficiency of all business processes, also thanks to the progressive implementation of digitalisation to allow full control of these processes. Particular attention in this field deserves the work carried out at Oasi Dynamo with the planting of thousands of trees that make an important contribution to the absorption of carbon dioxide.

KME's circular vision of sustainability is therefore one that increasingly takes into account all the factors of modern industry, attentive to the needs of all stakeholders but also to the challenges posed by the evolving reality, starting with climate change, to which both KME's products and its production processes can contribute to provide an effective and concrete response.

Also in the area of workplace safety, all indices credit the continuous improvement activities implemented by the company.

> Vincenzo Manes KME Group Chairman & CEO

Report Guide





KME Group Sustainability Reports

As of this year, the KME Group's sustainability reports have a further evolution. The reporting activity, which in previous years has already covered the production sites of Fornaci di Barga (Italy), Mansfeld (Germany), Osnabrück (Germany) and the Service Centres in Barcelona (Spain) and Besançon (France), is now also extended to the SCT plants in Serravalle Scrivia (Italy) and KMD Stolberg (Germany) as well as the ILNOR Service Centre in Brescia (Italy).

This makes it possible to present an even broader picture of the KME Group's activities in Europe. For this reason, in addition to the reports on the individual companies and/or production sites, this **first KME GROUP Sustainability Report** is also presented. It contains information and data on the Group's activities and at the same time reports, in aggregate form, the most important environmental and social data on almost all of the Group's plants and subsidiaries and investee companies.



The individual sustainability reports, to which reference is made for specific information and detailed data, cover the following plants and companies:

- Fornaci di Barga (KME Italy and EM Moulds); this report also includes service centres in Barcelona (KME Spain), Besançon (KME Rolled France) and Brescia (Ilnor)
- Mansfeld (KME Mansfeld GmbH)
- Osnabrück (KME Germany GmbH and KME Special Products GmbH)
- Serravalle Copper Tubes

KME Spain

Service Centre

Barcelona

Stolberg (KMD Connectors Stolberg Germany GmbH)



A choice of transparency and social responsibility

Although it is not a legal obligation, the presentation of the sustainability report is an important act of **transparency** and **social responsibility** towards KME's stakeholders, as well as a tool for developing appropriate corporate strategies and new business models in the ecological transition scenario.

Guidelines and Indicators

The KME Group's sustainability reports are prepared on the basis of the guidelines of the **Global Reporting Initiative** (GRI), an independent international organisation recognised by the UN and the main reference for sustainability reporting worldwide. Four groups of indicators are used to report the company's activities and performance according to the GRI guidelines:

- 1. general information on the company and governance;
- 2. environmental indicators, covering the main environmental aspects and in particular energy, materials used, waste, water, emissions;
- **3. social indicators**, covering the main social aspects and in particular employees, occupational safety, training, equal opportunities, suppliers;
- 4. economic indicators





THE GLOBAL GOALS For Sustainable Development

The report also refers to the **sustainability** goals of the UN '2030 Agenda'.



In addition to reporting on the basis of GRI standards, the KME Group's reports also contain **circularity indicators** that measure the company's performance among the **circular economy** principles.

Reporting Perimeter

In addition to the most significant information and data relating to the KME Group, the report gives an aggregated account of the environmental and social data of the activities of the following production sites and group companies:

- Fornaci di Barga factory (KME Italy S.p.a. EM Moulds S.p.a.)
- Mansfeld Plant (KME Mansfeld GmbH)
- Osnabrück Plant (KME Germany GmbH and KME Special Products GmbH)
- Serravalle Scrivia Plant (Serravalle Copper Tubes S.r.l.)
- Stolberg Plant (KMD Connectors Germany GmbH)
- Service Centre Barcelona (KME Spain S.A.U.)
- Besançon Service Centre (KME Rolled France SAS)
- Brescia Service Centre (ILNOR S.r.l.)

Reporting Period The sustainability report is for the year 2021.

The Sustainability Report

Essential tool for companies in the ecological transition

Since 2014, the European Directive on 'non-financial financial statements' has provided for the presentation of the sustainability report as a mandatory requirement for certain specific types of companies (listed companies, banks, insurance companies, etc.). Independently of that directive, however, an increasing number of companies, although not obliged, have decided to voluntarily present their sustainability report. sustainability report. This is a sign of a profound change in the world of economics and business culture. This instrument - the sustainability report - is set to to play an increasingly important role in the European context in the future.

European context

With the **Green Deal** and the Next Generation EU, the European Union has in fact put in place a strategy focused on ecological and digital transition, and among the numerous actions planned for the implementation of the Green Deal

includes the strengthening and extension of sustainability reporting of sustainability reporting. To this end, the European Commission has presented the proposal of a new Sustainability Reporting Directive which broadens the range of stakeholders with a twofold objective: on the one hand to increase information on opportunities and risks associated with sustainability, on the other hand to support companies on their path to growth in the ecological transition. of the ecological transition. The new Directive is linked to the EU Taxonomy Regulation, the world's first classification system for sustainable sustainable economic activities, while ESG factors (Environmental, Social and Governance) factors are assuming an increasingly important role in credit assessment. The sustainability report is therefore an increasingly important tool for companies: on the one hand to communicate transparently their results to their stakeholders, on the other hand to strengthen and innovate corporate strategies in the context of the ecological transition.

THE COMMENT

Christine Lagarde President of the European Central Bank

I warmly welcome the European Commission's project on corporate sustainability reporting and believe that it can finally address the major data gaps currently plaguing the EU sustainable finance landscape. By integrating sustainability with financial data, we will create a one-stop shop for all information about a company, including its green credentials, which will also be immensely useful for investors.

Green taxonomy

The EU Taxonomy Regulation, which comes into force in 2020, is intended to contribute to the achievement of the Green Deal goals. It is a classification system for economic activities that enables the evaluation of the environmental sustainability of investments. According to the regulation, an economic activity can be considered environmentally sustainable if it contributes to at least one of the following objectives: • climate change mitigation;

- adaptation to climate change;
- sustainable use and protection of water and marine resources;
- transition to a circular economy, including waste prevention and increased use of secondary raw materials;
 prevention and reduction of pollution;
- protection and restoration of biodiversity and ecosystems.

To be considered sustainable, economic activities must contribute substantially to at least one of these six environmental objectives, not cause significant damage to any of them, and be carried out in compliance with minimum social safeguards.

ESG factors in credit assessment and business **strategies**

Confirming that ESG (*Environmental, Social and Governance*) factors are increasingly important in **credit assessment**, in 2021 the European Supervisory Authorities issued regulatory technical standards that require banks not only to integrate climate and sustainability risks into their *frameworks*, but also to include specific ESG factor policies in the credit granting process.

In the context of **corporate strategies**, alongside the objectives of economic sustainability and the creation of shareholder value in the medium and long term, the objectives of social and environmental sustainability and corporate governance are becoming increasingly important. This development is also increasingly influencing the dynamics of financial markets. It is estimated that by 2025, the global market for ESG financial products will exceed USD 50 trillion. **Environmental sustainability** refers to a company's ability to guarantee standards and performance that go beyond those prescribed by current regulations, in particular with regard to greenhouse gas emissions and environmental impact.

Climate change, energy efficiency and renewable energy, waste, water, efficient use of raw materials and the development of the circular economy.

Social sustainability covers a wide variety of topics, such as, for example, the workers health and safety, welfare systems, gender equality, inclusiveness, combating all forms of discrimination, combating corruption and respect for human rights throughout the supply chain. These issues must be understood with reference to their two dimensions: 'internal' and 'external'. The former includes employees and their families and, more generally, categories of individuals directly connected to the company's activities, while the latter includes people, communities and territories outside the company.

Sustainability of governance concerns, in particular, the adoption of responsible behaviour by the company, compliance with applicable regulations and self-regulatory codes, combating all forms of corruption, and supply chain management.





A new European directive for corporate **sustainability**

On 23 February 2022, the European Commission adopted a new proposal for a directive that aims to promote sustainable and responsible business behaviour along all value chains. With these new rules, it is intended to offer greater transparency to consumers and investors, providing legal certainty and a level playing field for companies, with the aim of making progress in the ecological transition and protecting human rights in Europe and the rest of the world.

The new rules will apply to the following companies and sectors:

• company with over 500 employees and a net turnover in excess of 150 million euro;

• other companies operating in certain high-impact sectors with more than 250 employees and a net turnover of more than 40 million euro.

The rules will apply to the operations of companies, their subsidiaries and their value chains (consolidated direct and indirect business relations).

In order to comply with the duty of due diligence, companies shall:

- integrate the duty of care into company policies;
- identify actual or potential negative effects on human rights and the environment;
- prevent or mitigate potential effects;
- end or minimise the actual effects;
- establish and maintain a complaints procedure;
- monitoring the effectiveness of due diligence policies and measures;

- give a public account of the duty of care.

More concretely, this means **avoiding negative effects on the environment** contrary to major environmental conventions and **protecting human rights** under international conventions. Companies that fall within the scope of the proposal will have to take appropriate measures in this direction. Furthermore, companies will have to have a plan to ensure that their business strategy **is compatible with limiting global warming** to 1.5 °C, in line with the Paris Agreement.

In order to ensure that due diligence becomes part of the overall functioning of companies, there is an obligation for company directors to establish and monitor the implementation of due diligence and to in- tegrate it into the corporate strategy. In fulfilling their obligation to act in the best interests of the company, directors must take into account human rights, climate change and the environmental consequences of their decisions. If directors enjoy variable remuneration, they will be incentivised to contribute to the fight against climate change by linking their remuneration to the implementation of the business plan.

The objective of the proposal is to ensure that the European Union - both in its public and private sector

- acts on the international stage in full compliance with its commitments to protect human rights and promote sustainable development, as well as to comply with international trade rules.





Building a sustainable future



BUILDING A SUSTAINABLE FUTURE





These are no ordinary times we are living in. Few other times we have been facing so many difficult challenges as at the turn of the century. First, in 2020, the pandemic that devastated the world, causing millions of victims and a severe economic recession. Then, in 2022, the war in Ukraine and acute tensions in international relations. The economic recovery that had characterised 2021 was held back by the difficult international environment and difficulties in the supply of energy and raw materials. The sharp rise in the prices of gas and other energy sources led to a rise in inflation, affecting not only the economic recovery and business activity, but also the incomes and living conditions of a large part of the population. All this in a context in which the effects of the environmental and climate crisis are becoming increasingly evident, requiring a change in production and consumption systems.

To face these crises and build a better future, many things must change, starting with the need for **sustainable development within** a framework of peaceful coexistence and international cooperation. An **environmentally** sustainable development to preserve ecological balances and combat the cli-

mate crisis.

Socially sustainable, in order to guarantee human rights, reduce inequalities, strengthen inclusion and solidarity. **Economically** sustainable, through companies capable of operating for the necessary production and financial results but also for the well-being of communities.

More than ever, in these difficult times, it is necessary to be aware of how everyone's behaviour can contribute to the common good. The sustainability of development depends on the choices of governments and institutions, of course, but also on the behaviour of businesses and citizens.

KME, for its part, works in this direction every day. We want to be a benchmark for environmental and social sustainability, aware that this represents a challenge to continuous innovation and, at the same time, a responsibility towards future generations. Concrete facts and figures, such as those reported in this report, show our commitment to help achieve the **sustainable development goals of the United Nations** and the **European Union's Green Deal**.

The 2030 United Nations Agenda

In 2015, the United Nations approved the Global Agenda for Sustainable Development, containing 17 goals (Sustainable Development Goals - SDGs) to be achieved by 2030. Evaluating the current development model as unsustainable, the UN emphasises the need for all countries to commit themselves to steering global development towards sustainability. Achieving these goals requires a strong commitment not only from governments but also from all social actors, starting with businesses and citizens.



KME's activities refer, in particular, to the following goals set out in the 2030 Agenda: · Health and well-being

- Good jobs and economic growth
- · Innovation and infrastructure
- Sustainable Cities and Communities
- Responsible consumption and production
- Fighting climate change

Europe looks

to the **future**

portunity for a new development model.

Green Deal

- Quality education
- Reducing Inequalities
- Life on Earth
- European it for 55 reen Deal Already at the end of 2019, even before the health emergency, the European Commission had launched the Green Deal, with the aim of making the climate challenge an op-With the Green Deal, Europe wants to become the first

carbon-neutral continent - i.e. with 'zero net emissions' of greenhouse gases - by 2050 through a socially just ecological transition and an industrial revolution capable of ensuring sustainable production.

In this context, the new Circular Economy Action Plan was approved in 2021 and the 'Fit for 55' climate and energy transition package was adopted. Before that, the new European Industrial Strategy was adopted. Different instruments but with a common goal: to build a green and digital economy, to make Europe a global leader in sustainability and strengthen its economic competitiveness.

Next Generation EU

When the Covid-19 pandemic broke out in 2020, the European Union took a further step in the direction of the Green Deal. Faced with the severe economic and social crisis, it deployed a strategy that focuses on the ecological transition, together with the digital transition, as a lever for recovery. Thus the **'Next Generation EU' Plan was** born. The Plan is based on the awareness that one cannot limit oneself to repairing the damage caused by the pandemic, but must think about the future and the next generations, focusing on sustainable development.



The National Recovery and Resilience Plans

To utilise EU funding, each state must implement its own **National Recovery** and **Resilience Plan** with **reforms** and **investments** aimed at 'Next Generation EU' targets by 2026. At least 37 per cent of the investments must be in projects to achieve climate targets. All expenditure must in any case be consistent with the goals of the Paris Climate Agreement and the principle of '*do no harm to the environment*'. This is an extraordinary opportunity to accelerate the construction of sustainable development, steering public policies and private investments in this direction, with the aim of a solid and lasting economic recovery.

The New European Industrial Strategy



A EUROPEAN INDUSTRIAL STRATEGY A new Industrial Strategy for a clobally compatibility

for a globally competitive, green and digital Europe In 2020, the European Commission presented its new industrial strategy. The aim is to support Europe's industrial leadership by directing industrial policy towards three priorities:

- maintain and strengthen the competitiveness of European industry at global level;
- make Europe a 'carbon neutral' continent;
- develop digital infrastructure.

The strategy defines the *drivers* of Europe's industrial transformation and proposes a series of actions to accelerate the ecological transition to an increasingly green, circular and digital economy.

KME GROUP SUSTAINABILITY STRATEGIES AND GOALS

In **2019**, KME updated and set the **strategy for the sustainability** of its products and processes. At the same time, it set a number of **targets** (taking into account the starting conditions) to be achieved by **2030**, with an intermediate target of 2024.

KME's strategy is based on **four main pillars** and is developed through a series of actions that, although they may differ between the various production sites, lead to the set objectives.

Actions

1. Maximum use of raw materials from recycling and circular economy

KME has always aimed at maximising the use of **recycled metals**. A choice that had to face obstacles such as the continuous availability of scrap on the market and technological difficulties (scrap processing plants). In recent years, the market difficulties have been significantly reduced thanks to a series of positive factors such as easier transport of goods (more organised logistics), growing awareness and attention to the recovery of raw materials, industrial development in some parts of the world, and thus greater availability of secondary raw materials.

KME has always been at the forefront of scrap re-

fining and recovery technologies, but in the 2000s it made further decisive steps in this direction. As can be imagined, using scrap to obtain raw materials with the same characteristics as those obtained from virgin raw materials requires a strong commitment in terms of investment and, above all, dedicated know-how that is not available on the market, but is the result of in-house research and development. For KME, this translates into:

- investments (made and to be made) of approximately € 60 million
- development of three Research Centres (two in Germany and one in Italy)
- more than 100,000 hours of specific training (over the period covered by the strategy)

Thanks to this, KME has become the only operator in the sector able to operate with a high percentage of recycled material. Developed know-how and technology are the basis of this competitive advantage, which, as we will see below, will be further increased over the next decade. Investments are being made to build new foundries capable of operating with recycled material, expanding the range of usable scrap.

However, it should be noted that it is not always possible to reach the 100 per cent recycled quota, due to the presence of both technical limits in the production process and administrative limits dictated by the various bodies that oversee the characteristics of the products sold in the relevant markets.

With the development of circular business models and the further increase in the use of **raw materials from recycling** - aiming to reach **66%** by **2030**, net of further internal recycling processes - not only do we contribute to the development of the circular economy but also, to a significant extent, to the reduction of greenhouse gas emissions.

KME also - in line with the recent proposals of the European Commission to make products on the EU market more sustainable and circular throughout their entire life cycle - aims to further expand its **'eco-friendly' product** range, which already includes a number of products, e.g. in the automotive and telecommunication sector, made from 100% recycled metals.

Its profound expertise in the circular economy, as well as its conviction that the circular economy will be an important *workstream* for many industries over the next decade, allowed KME to establish the Circular Academy, a centre for education, research and innovation dedicated to the circular economy. A reference point for companies, with educational activities and workshops equipped to support the development of the circular economy. The activities kicked off in 2019 with the first highly specialised course 'Circular economy for business', realised in cooperation with the Scuola Universitaria Superiore Sant'Anna in Pisa.

2. Optimisation of production processes and resource use

It is a series of complex and innovative activities that go through the **company's digitisation**. Through a cloud platform, all data - process data, but also data that was previously not taken into account due to a lack of adequate and suitable tools - is stored and managed by means of specific algorithms. The data management system allows the optimisation of all resources and the possibility of unifying processes at group level, with the obvious advantage of being able to utilise any improvements achieved in one or more plants of the group quickly and generally.

In particular, this makes it possible to keep track of the KPI, which in the KME Group's industrial jargon we call 'metal yield optimisation'. The metal **yield is** the ratio between the weight of the product at the end of the process (finished product) and the weight of metal at the beginning of the process, and is therefore an important indicator of the level of **efficiency in the use of resources**. The results of these activities are perfect control and reduction:

- consumption of raw materials, process materials and packaging materials
- energy consumption
- water consumption
- waste production
- greenhouse gas emissions
- pollutants

In addition, the company, thanks in part to the recent acquisitions completed, has increased an important product specialisation strategy for the group's industrial sites, defined both on the basis of the site's technological characteristics and on the basis of other important management aspects (logistics, proximity to reference markets, etc.), generating further efficiency in the use of resources. These activities also lead to significant improvements in **occupational safety** and thus to a further improvement in the indicators concerning the frequency of accidents (*Injury rate*) and their severity (*Gravity index*), with the goal of 'zero accidents'.

3. Decarbonisation of processes and reduction of greenhouse gas emissions

In addition to the actions already described (development of circularity and digitisation), the achievement of this objective is particularly marked by three main actions:

- conversion of all methane gas-fired melting furnaces to electric furnaces, while aiming to increase the use of renewable energy
- realisation of energy platforms for self-consumption (first and foremost sources)
- · carbon offset projects.

Already today, KME's specific greenhouse gas emissions (direct and indirect) in relation to production are lower than the industry average. The goal is to **further reduce them by 40% by 2030**. The KME Group is already far ahead in terms of the conversion of smelting plants (in Italy the activity has been completed, in Germany it is in progress), while the realisation of energy platforms is more difficult due to bureaucratic and authorisation obstacles (in particular the one in Fornaci di Barga, where a modern 10 MW pyrogasifier for the production of electrical and thermal energy, fuelled by paper industry waste, is to be built). In addition, **emission offsetting measures** have been implemented through the Oasy Dinamo project.

4. Ongoing growth and evolution of social impact

KME has always been committed to conducting projects and initiatives with a significant social impact through a series of activities that go beyond the company's borders: since its inception, it has taken care of the families of its employees, then of the community hosting the factories, and finally, it has reached out to children all over the world. In 2007, it founded Dynamo Camp, the first Recreational Therapy camp in Italy, which hosts children and young people suffering from serious or chronic illnesses and their families free of charge for periods of holiday and fun with qualified assistance.

Dynamo is at the centre of a social economy system - a 'new social enterprise' - as a second industrial activity that has created a sustainable economic system in 15 years through continuous support in a variety of forms, investments, donations of resources and assets, support for running costs, donations of expertise. Through Dynamo, which today is a solid and independent reality, KME has combined its commitment to sustainability with new social businesses: it concretely takes care of children and families with serious illnesses, the preservation of the community's natural heritage, and the training of thousands of people and professionals in the common good. The Dynamo system is therefore a founding pillar of the Group's sustainability strategy. KME will ensure its continuous development characterised by a constant focus on innovation and the creation of new models that maximise social impact.

BUILDING A SUSTAINABLE FUTURE

TARGETS AND KPI

The following table shows a number of targets to be achieved by 2030, with an intermediate target in 2024, taking into account the starting situation (2019) and the current situation (2021).



* Percentage of recycled metals (net of internal recycling) in relation to total metals used

** Direct emissions (from internal activities to establishments) and indirect (related to production of electricity purchased from the network)

*** Percentage of recycled and reused water in relation to the total amount of water used

**** Ratio of product weight at process ending (finished product) and the weight of metal at the start of the process



BUILDING A SUSTAINABLE FUTURE

KME is committed to a sustainable **strategy** in the organisation of its production and commercial processes



- 2. Strict observance of a *Code of Conduct*
- 3. 'Zero-accident' goal by providing a safe and healthy working environment for employees, co-workers and visitors
- 4. Ongoing risk assessment in relation to operational procedures and future activities
- 5. Proactive adherence to legal specifications, customer requirements and other requests
- 6. Implementation and support of best available techniques and procedures for continuous process improvement
- 7. Development of preventive strategies to avoid environmental pollution and accidents
- 8. Ensuring the long-term viability of KME
- 9. Efficient use of materials and energy in the production and delivery of products and services
- 10. Manufacture of products that provide safety, energy efficiency and recyclability requirements
- 11. Open communication with stakeholders
- 12. Promoting a culture in which all employees share these commitments

The corporate guidelines define the binding global standards for all companies operating within the KME Group.

1.2 Copper in the ecological transition

The red metal that helps the green economy

Copper has a central role to play in the transition we are about to experience: it is and will be the *ENABLER* of the ecological transition: it is an 'outclass' for the conduction of electricity: its electrical and thermal conductivity, together with its mechanical properties, make it a key player in meeting the growing demand for energy and data. Indeed, it is indispensable for the development of renewable energy plants, where its resistance to corrosion is also crucial, and it is one of the key players in the ongoing automotive industrial revolution: the transition to e-mobility.

Moreover, in a society where contact has become a source of anxiety during these pandemic years, copper is an ideal solution for the prevention of infection, significantly reducing the risks of spreading and transmitting infections. It is a naturally antimicrobial material that eliminates viruses and bacteria from its surfaces in less than 10 minutes. Among the pathogens that copper and its alloys can eliminate are bacteria such as Legionella and Escherichia coli and viruses such as influenza, Rotavirus, HIV and Coronaviruses, including SARS-CoV2.

But copper is above all the sustainable material par excellence: it is 100% recyclable and retains all its original properties, no matter how many times it has been recycled or for which applications it has been used, copper retains all its characteristics indefinitely. It is estimated that 80% of the copper extracted since antiquity is still in use today and 1/3 of the copper used in the world today comes from recycling. In Eu-



rope alone, more than two million tonnes of copper come from end-of-life products or production waste. Copper plays a key role in the circular economy. This is a very important potential for all of us and for future generations: by recycling copper, we can protect the environment by saving more than 900,000 tonnes of CO, each year.

This metal will therefore be one of the undisputed drivers of the new paradigm that will mark the next development cycle.

Copper in the circular economy

Copper, copper. We find it everywhere. More than we can imagine. A smartphone, for example, can hold around 15 grams of copper. A car between 25 and 50 kg. A house around 100 kg. A wind turbine up to 5 tonnes. A high-speed train even 10 tonnes. But why does copper play such an important role in the transition to the circular economy? For several reasons. Firstly, because it can be recycled without



losing its properties. Recycled copper is no different from mine-produced copper. Once the useful life of a product is over, it can therefore be recovered and reused to make new products. As can easily be imagined, it is mainly the technologically more advanced countries that recover and recycle copper, thereby reducing the consumption of virgin raw materials and dependence on exporting countries. The high **recyclability** of scrap, at the same time, minimises copper's contribution to waste generation.

Another important quality of copper is its durability. The life cycle of a copper product is very long. And **durability** is another strong point with respect to the principles of the circular economy. That is why copper - a true 'permanent resource' - is an essential player in the transition to the circular economy.



An **eternal** material

Who knows if the ancient alchemists, in choosing to adopt the Egyptian symbol of ankh for copper, were thinking of something similar to what we now call the 'circular economy'. For the ancient Egyptians, in fact, that symbol evoked eternal life. And if there is one material that, due to its potentially infinite recyclability, can be considered eternal, it is copper. What is certain, even without bothering the ancient Egyptians or medieval alchemists, is that copper is today a major player in the circular economy and energy transition. It is the sustainable material par excellence: it is 100 per cent recyclable and retains all its original properties, no matter how many times it has been recycled or for which applications it has been used. Copper retains all its properties indefinitely.





The benefits of recycling

Approximately one third of the global demand for copper is met through recycling. In Europe the percentage is even higher: according to the International Copper Study Group, on our continent about 50% of the copper used comes from recycling. This helps to meet the growing demand (+250% since the 1960s) and at the same time reduces the **environmental impact** of production. As is evident, at the same time, **dependence** on raw material producing countries is **reduced**, with positive effects both economically and geological, all the more so at a time of conflicts and tensions in international relations.

But it is above all the environmental benefits that jump out at you. First of all, the **lower consumption of natural resources**: a fundamental issue on a planet with limited resources and where global consumption of raw materials could double in the next 30 years if no corrective action is taken. Then the **lower consumption of energy**: recycling requires up to 85% less energy than in primary production. Among the environmental benefits is, above all, the reduction of CO_2 emissions: on a European scale alone, it is estimated that, thanks to recycling, emissions are reduced by around 30 million tonnes per year.

On our continent, more than 2 million tonnes of copper from end-of-life products and production waste recovered directly within production cycles are reused annually. The increase in recycling is also due to innovative technological solutions that enable greater efficiency in the refining of secondary scrap and in the processing for melting high-purity copper scrap.

A crucial material for the energy transition

Copper is the best conductor of heat and electricity; only silver is a better conductor, but being a precious metal it cannot be used on a large scale. Due to its characteristics, it is the most widely used metal in the key sectors of the green economy: from renewable energy to high-efficiency plants, from

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smart building to sustainable mobility. Copper is therefore a crucial - but perhaps the crucial material - in the energy transition. It is essential both for renewable energy production plants - from photovoltaic to wind power, from hydroelectric to geothermal - and for transmission and distribution networks. It is essential for electric mobility: cars, charging stations, batteries. It plays an important role in the energy efficiency of buildings and in information systems - smart grids, fibre optics, home automation - that are transforming our cities.

A growing demand for copper

The energy transition therefore requires the use of a large quantity of materials. Copper, first of all. And then cobalt, nickel, graphite, manganese, lithium, palladium, zirconium, platinum, rare earths. These are the so-called 'critical raw materials'. Renewable energy systems, for example, require 4 to 12 times more copper than energy generation from fossil fuels. Electric vehicles, on the other hand, use up to four times as much copper as those with conventional engines.

The International Energy Agency's report 'Role of Critical Minerals in Clean Energy Transitions' published in 2021 predicts, in connection with the outgrowth of fossil fuels and the implementation of climate agreements, a **sharp increase in the consumption of copper** and 'critical materials' over the next twenty years. The dimensions are impressive. Overall, their consumption could increase sixfold by 2040 compared to current values. An even more recent report, 'Future of copper' by S&P, predicts that the demand of copper will increase from the current 25 million tonnes to around 50 million tonnes by 2035, a record level that will be maintained and continue to grow to 53 million tonnes by 2050. The demand for copper is set to grow dramatically. And without an adequate supply of copper, it will not be possible to fully realise the goals of the ecological transition and the reduction of global CO₂ emissions. This is clearly a problem with strong environmental, economic and political implications, as the supply depends on a limited number of countries.

Developing the circular economy

How can the growing demand for copper be met? How can the gap between demand and supply be prevented from compromising the energy transition? An important, though not entirely decisive, contribution can come from the development of the circular economy. By using resources even more efficiently. Designing products so that they are more durable, reusable and repairable. Reducing production waste as much as possible. Increasing the recycling of scrap and the recovery of production waste. Developing industrial symbiosis. Thus, responding to the growing demand for copper mainly through recycling and greater efficiency in the use of resources. In short, the success of the energy transition and climate strategy will depend heavily on the ability to develop the circular economy, hand in hand with technological innovation.

Eliminating bacteria and viruses **naturally** for a safer and more sustainable future



KME has launched SaCup, a range of copper and copper alloy products designed to enhance the metal's antimicrobial properties, making public or highly frequented places safer. The SaCup line includes finished and semi-finished products that can be applied in various environments to neutralise viruses and bacteria that are deposited on the surfaces in greatest contact (handles, plates, runners, floor lamps).

Thanks to its intrinsic properties, copper has a permanent germicidal effect that activates in a very short time to remove viruses, bacteria and fungi such as E. Coli, influenza, MRSA, Rotavirus, Salmonella, Campylobacter, Legionella and Coronavirus (including SARS-CoV2).

It is estimated that 80 per cent of infectious diseases are transmitted precisely through contact with surfaces: SaCup products are therefore ideal in sectors such as hospitals, sports, large-scale distribution, catering, trade and schools to reduce the chances of.

Scientific evidence

Scientific evidence based on numerous internationally recognised studies leads to the identification of a broad consensus on the antimicrobial properties of copper; moreover, these unique characteristics persist over time. Studies have shown that copper reduces exposure to clinically relevant pathogens that are often associated with nosocomial infections.

In 2020, the Institute of Virology at the University of Pisa showed that the viral load of SARS-CoV2 on copper surfaces is reduced by 90% in 10 minutes and neutralised by 100% in 60 minutes. A property that remains valid also for copper alloys, where after 10 minutes there is an 85% reduction in charge and after 60 minutes 100%.

Copper as a **natural** barrier against infection by viruses and bacteria

- Antimicrobial properties remain unchanged throughout the product's lifetime
- 100% recyclable
- Area approved by the Environmental Protection Agency (EPA)
- Safe for humans
- Easy to clean
- · Extremely durable



Milan - Fuorisalone 2022 KME supports Plenitude in 'Feeling the Energy' installation

In June 2022, KME contributed to the installation *Feeling the Energy*, realised by Plenitude (Eni) designed by Carlo Ratti Associati with the collaboration of Italo Rota, as part of the exhibition organised by INTERNI magazine 'Design Re Generation' at the Orto Botanico in Brera.

Thanks to 500 metres of copper pipe supplied by KME, it was possible to create a path where visitors can experience the many forms of sustainable energy. It is an interactive pathway, made of antibacterial copper, a valuable ally in making the experience created in total safety: in fact, copper is not only an 'Out-of-Class' for the conduction of electrical and thermal energy, which is indispensable for the development of renewable energy plants, but it is also a naturally antimicrobial material: it is therefore an ideal solution for the prevention of infections, significantly reducing the risks of spreading and transmitting infections as it eliminates viruses and bacteria from surfaces in less than 10 minutes. Among the pathogens that copper and its alloys can eliminate are several families of bacteria and viruses, including SARS-CoV2.





The Linate project a'**safe touch**' airport

KME and SEA (management company of the Milan Linate and Malpensa airports) initiated a project for the installation of copper applications within the renovated air terminal of Milan Linate, which will undergo renovation during 2021. The project saw the installation of the following applications (all 100% copper - no alloys):

- The handrails of the new staircase ramps/passages inside the terminal
- All luggage trolley handles
- The handrails of all buses operating in the terminal

The intervention, with design solutions well framed in the context of the redevelopment of the site, aimed to make Linate airport a touchless or safe touch place: touch as little as possible and, when unavoidable, touch a safe surface thanks to the properties of copper, a naturally antimicrobial material.





KME Group







KME in the world





KME GROUP



history

Our history dates back to 1873. In that year, we began a journey that, in almost 150 years, has led us to develop and consolidate in Europe copper production facilities through seven different companies. In 2006, KME acquired a majority share in China, where it expanded further through a joint venture in 2014; in 2017, KME also expanded into the United States.

	The Orlando family took over the	SMI acquires 76.9% of the leading	The Group GIM-SMI founds KM Europa Metal AG (KME), which controls 100 per cent of the industrial activities Group in Germany, France,		
Foundation of the Draht und Stiftfabrik Wittle und Kamper in Osnabrück.	leadership of SMI (Società Metallurgica Italiana). SMI was founded in 1886 and had been listed on the Milan Stock Exchange since 1897.	German manufacturer of semi-fin- ished copper products and alloys of copper KM - Kabelmetal AG and becomes the GIM-SMI Group.	Italy and Spain. KME and Outokumpu create a joint venture 50% in LOCSA (Laminados Oviedo Cordoba S.A.) for production of laminates.	Intek S.p.A. hires control of the Group.	Joint venture with Golden Dragon and Chogqu- ing Wanzhou Economy Technology Development Co. (the 'JV KMD (HK)').
1873	1902 19	990 1	995 20)05	2014







KME **GROUP**

Productions

Thanks to its properties, copper has not only always been a widely used material, but is now more essential than ever for the most innovative applications, e.g. in modern communication technology, the automotive sector and renewable energies. The range of services offered by KME extends from the rolling, pressing and extrusion of semi-finished products to the design, mechanical production and full service of special plants for customers all over the world.



LAMINATES

- Used in the electrical and electronics industry, construction, architecture, appliance manufacturing, automotive, renewable energy, power transmission, mechanical engineering, coinage and telecommunications.
- End markets: electrical industry, construction, mechanical engineering, automotive, renewable energy, architecture.

PIPES

- Solutions for most civil and industrial plumbing and heating applications.
- Industrial hoses used for air conditioning, heat exchangers, boilers, medical applications and fittings production.
- End markets: construction, renewable energy, medical industry, electrical industry, health care.

SPECIALS

- Tubular and plate ingot moulds for continuous steel casting, cooling plates and casting wheels.
- Bars, profiles and tubes with welding and machining applications.
- Marine hoses, flanges, pipes and fittings
- End markets: steel and metal industry, machine building, chemical industry, shipbuilding, off-shore, domestic energy.









Since 13 October 2021, a one-tier corporate governance system has been in force at KME SE, based on a Board of Directors appointed by the Shareholders' Meeting. This system was identified as the most suitable for a European company acting as the industrial holding company of an international group, in order to streamline the decision-making process and ensure efficient management. Its adoption and the new Articles of Association were approved by the Shareholders at the Extraordinary Shareholders' Meeting on 15 September 2021.

The previous two-tier governance system adopted by KME SE was based on a Supervisory Board appointed by the Shareholders' Meeting, responsible for major strategic operations, and a Management Board appointed by the Supervisory Board, responsible for the management of the Company.

KME SE is controlled by KME Group (formerly Intek Group S.p.a.) a company listed on the MTA segment of the Milan Stock Exchange. The parent company, as a listed entity, adopts best practices in governance, and therefore has a high level of transparency in its governance practices, among which the following stand out

- increasing attention to the composition of boards of directors from a qualitative and quantitative point of view;
- the constant need for transparency in remuneration practices in order to verify the alignment of remuneration to performance actually achieved by top managers;
- increased attention to non-financial information.





The Code of Conduct commits the Company and its employees to strictly comply with the regulations in force and to abide by the rules and ethical principles laid down for company policy. It concerns the following issues in particular

- 1. Fair Competition and Antitrust
- 2. Anticorruption
- 3. Environment, health and safety
- 4. Prohibition of child labour
- 5. Respect for human rights
- 6. Avoiding infringement of our property rights or those of third parties
- 7. Avoiding conflicts of interest
- 8. Information processing

Code of Conduct

KME is one of the largest producers of semi-finished copper and copper alloy products in the world. With this Code of Conduct, which applies to KME SE and its subsidiaries worldwide ("KME"), KME aims to establish the basic principles of cooperation with business partners, customers, colleagues, competitors and the public. Since the performance of KME is strongly influenced by the actions and behaviour of each employee, it is important that all employees - regardless of their function or job title - work together.

- comply with this Code of Conduct in the performance of their work.

All employees are obliged to comply with applicable laws and company directives. Although the Code of Conduct is not an all-encompassing document and cannot cover all possible situations and circumstances, unethical conduct of any kind, even if not expressly regulated in this document, is not permitted in any circus. Violations of the law are of course not permitted under any circumstances.

KME employees who violate the principles of the Code of Conduct expose themselves to severe sanctions, including termination of employment. No employee who violates these principles can find justification for his or her behaviour in having acted in the interest of KME, as any violation inevitably has a detrimental effect on the Company. The Code of Conduct aims to promote a culture of value creation by making employees aware of the current regulatory provisions and obliges them to respect the rules and ethical principles in their daily work.

The Code of Conduct, however, encourages and sensitises employees to proactively seek clarification in cases of doubt, because ignorance of the rules is no defence against the possible consequences of violations of criminal, civil and labour law. In case of doubt, employees can and should contact their line manager or the Legal Department.

Furthermore, every employee has the right to report any circus that may indicate a violation of internal rules. This possibility should be used in the best interests of KME and its employees. To this end, KME has appointed a trusted external lawyer (the so-called 'Ombudsman') to whom the employee has the right to report.

employees may report such irregularities, if necessary also anonymously. Every employee, who makes a report in good faith, is protected. All information will be followed up in a professional manner, respecting the rights of all persons involved.

PRINCIPLES OF CONDUCT

Fair Competition, Antitrust and Trade Rules

KME respects the rules of fair competition. Employees of KME shall comply with the provisions of competition and antitrust law applicable in the individual countries and regions where KME does business, including, in particular, European and U.S. antitrust law. KME shall show no leniency to employees who violate antitrust laws.

particular, KME employees must not:

- exchange with competitors any kind of information, in any field, concerning prices, costs, cost structures, discounts, terms of supply, contract territories, capacity utilisation, production, sales volumes, bids, customers and suppliers, competitors, profits, profit margins, information on production activity, market and distribution strategies or any other information of a similar nature;
- 2. enter into agreements with competitors aimed at limiting competition, restricting relations with suppliers, submitting fake offers to acquire or share customers, markets, territories or production programmes;
- influence the resale prices charged by customers or attempt to induce them to restrict the export or import of goods supplied by KME;
- 4. exchange price lists or information on prices or other price components with competitors, even if such lists are publicly available.

Should a competitor refer to any of the above topics, KME employees shall be obliged to interrupt the conversation and consult the legal department or the Ombudsman. In addition, KME complies with applicable national and international rules regarding exports and imports of goods, as well as trade, economic and financial restrictions or embargoes on sales/purchases to countries, entities or persons subject to embargoes, restrictions or sanctions.

Anti-corruption and anti-money laundering

KME rejects all forms of corruption, in accordance with the 2003 United Nations Convention against Corruption, in force since 2005. Therefore, KME will not engage in any business

relationship that involves violations of applicable laws or violations of company regulations regarding the giving/acceptance of money or other benefits, even if it is aware that this may result in the loss of some business.

The possibility of obtaining higher profits or gains, of whatever amount, shall under no circumstances justify illegal business practices. This principle applies without exception at all levels in the KME Group.

In some foreign countries, local customs provide for the offering of gifts as a sign of courtesy and respect. In such cases, it is important to ensure that no dependence develops on either the donor's or the recipient's side, and that all applicable regulations - national and international - are respected. The responsible person must be informed of any gifts received and the provisions contained in section 10 of this document must be observed.

KME complies with the anti-money laundering provisions of international regulations and applicable national laws. Therefore, KME will not engage in any legitimate business dealings that may conceal the criminal origins of money or assets found to be the proceeds of crime. In case of doubt, employees should contact their supervisor or the Legal Department.

Environment, health and safety

KME is committed to achieving a sustainable competitive advantage through leadership and excellence in environmental, health and safety issues.

To this end, KME pursues strategies to prevent environmental pollution and accidents at work, so as to ensure long-term sustainability and is committed to the continuous improvement of an internal management system to protect the health of employees. The company pursues the goal of 'zero' work-related accidents by providing a healthy and safe working environment for its employees, visitors and contractual partners.

Prohibition of Child Labour

KME guarantees the prohibition of child labour, i.e. the employment of personnel under the age of 15, with the express exception of international conventions (ILO Convention 138) for emerging countries where the age limit is 14.

Respect for human rights

KME promotes equal opportunities in the employment and treatment of its employees. Every employee shall avoid any form of direct or indirect discrimination on the grounds of race, origin, colour, nationality, religion, ideology, sex, age, physical appearance and characteristics, sexual orientation or membership of protected categories in the country concerned. These principles apply both with regard to cooperation within the company and with regard to conduct towards external partners.

KME guarantees respect for the personal dignity, reserve and rights of each individual and does not force anyone to work against their will. KME ensures compliance with the maximum number of working hours established by applicable laws and recognises the right of its employees to free association and not to favour or discriminate against members of workers' organisations or trade unions. Violation of these standards will



not be tolerated in any way. Any violations shall be reported to the employee's line manager, the Human Resources Department or the management of the respective company. These persons will, where necessary, take appropriate measures to adequately address any violations and to avoid recurrence of non-compliance with the Code.

Prohibition of violations of property rights

The results of scientific research and technical development work are valuable resources of the company's assets. Inventions, patents and, in general, all of KME's intellectual property represent fundamental elements for the future of our company. Therefore, the greatest possible care must be taken to ensure that the rights to intellectual property created by KME receive adequate protection. Furthermore, KME itself operates with respect for the legally recognised intellectual property rights of third parties.

Trade secrets and new technical knowledge must not be disclosed to third parties or disclosed without adequate legal protection. Care must be taken to ensure that any unintentional public disclosure of intellectual property resulting from the negligent use of company information is avoided. Company data must in any case be safeguarded against access by unauthorised third parties.

KME has adopted state-of-the-art cyber-security measures to protect KME's electronic network. KME employees must comply with all internal rules (e.g. regarding external access and password policy) and contact their line manager or the Legal Department in case of doubt.

Prohibition of conflicts of interest

In accordance with KME's general principles, all employees of KME shall keep their personal interests clearly separate from those of KME. Each employee shall, in his or her work assignments and during working hours, exclusively promote the

KME GROUP



corporate interests of KME. Every KME employee shall be obliged to inform his or her hierarchical superior of possible conflicts of interest that could have a potential influence on the performance of their professional duties.

If an employee wishes to apply for a personal supply or otherwise establish a business relationship with a person or entity that already has a pre-existing business relationship with KME, and if that employee is in a position to influence that pre-existing KME supply or business relationship, the employee must receive approval from his or her supervisor before entering into the agreement with that person or entity.

A conflict of interest may also arise in the course of a business relationship with a competitor or customer of KME, or participation in collateral activities that might prevent the employee from being able to adequately fulfil his or her responsibilities in the company. Business relations with third parties shall be based on objective criteria.

Information processing

The prerequisite for preventing violations of this Code of Conduct is the full documentation of all business processes and procedures. The archives, especially those containing documents of accounting relevance, must be complete, correct, orderly and such that the course of such transactions can be clearly understood. Each archive and document must be managed in such a way that it can be delegated to a colleague at any time.

KME employees must also take care to retain documents for as long as required by applicable laws and internal regulations, and must not destroy documents relevant to pending or threatened legal proceedings. Accounting records and related documentation must fully and accurately reflect all business operations and provide a true and fair view of the company's activities.

Data protection

As a European Group with worldwide operations, KME is obliged to adhere to the applicable national and international data protection regulations.

This obligation shall apply equally to all employees of KME, who shall comply with the applicable national and international data protection provisions and, in particular, those relating to the protection of personal data - in the proper meaning of the relevant regulations - against unauthorised access by third parties.

In cases of doubt and in the event of a breach of applicable data protection rules, the DPO (data protection officer) must be informed immediately in order to take all appropriate measures (including notification to the competent authority, where required).

Acceptance of gifts and other benefits

With certain limitations, the exchange of gifts and benefits between business partners may be a common practice. However, this practice may entail the risk of conflicts of interest and also, at least in specific cases, may create an impression of dishonesty.

The acceptance of gifts and other benefits is prohibited in cases where the acceptance could potentially threaten the employee's ability to judge, either in real terms or in terms of the mere perception of this behaviour by others. KME considers the acceptance of gifts and other benefits to be admissible if the material value (excluding cash and vouchers) does not exceed the threshold of Euro 35 per business
partner and year. In the case of gifts and other benefits that exceed this value and cannot be refused or returned, e.g. because in the specific situation this would constitute discourtesy, the gifts should be disposed of in another way, e.g. by means of an internal lottery or by giving them to a charity. The employee must inform the hierarchical superior of this. In this way, any influence on the person is avoided.

Giving gifts and other benefits

KME considers it acceptable to give gifts and other benefits up to a value of EUR 35 per business partner and year, if such gifts and benefits are socially acceptable, appropriate and recognisable as business courtesies. KME is committed to ensuring that such gifts and benefits are socially acceptable, appropriate and recognisable as business courtesies.

How the Code affects daily work of each person

All KME employees are required to review their conduct in the light of the principles set out in this Code of Conduct applies to KME SE and the companies in which KME SE holds - of Conduct and to ensure that these standards are met. Individual KME employees who violate the general principles set forth in the Code of Conduct, in addition to any criminal proceedings before the competent authorities, shall be exposed to civil and labour law sanctions. These consequences may also result in the termination of the employment relationship and must be complied with by employees. Similarly, KME employees who do not comply with the rules of their respective companies.

Validity

The Code of Conduct is valid as of March 2021 and applies to KME SE and the companies in which KME SE holds directly or indirectly - the voting majority of the shares or which are under the control of KME SE.

In any case, the special provisions and/or organisational models adopted in accordance with the regulations of the various jurisdictions in which the companies are located shall retain their validity and effectiveness and shall be complied with by the corresponding companies' employees.

ISO

IATF

No supply from war zones

KME purchases materials only from approved and registered suppliers, and constantly inspects their work. It does not purchase **materials from** mines located in regions with **armed conflict** situations.

2.4 Management system

The management system implemented at KME complies with the requirements of international standards:

- ISO 9001:2015 (Quality Management)
- IATF 16949:2016 (Additional QM requirements for automotive sectors)
- ISO 14001:2015 (Environmental Protection)
- ISO 45001:2018 (Occupational Safety and Health Protection)
- ISO 50001:2018 (Energy Management)

2.5 Activities and markets

In 2021, the volume of sales to the market was **385,573 tonnes***, of which:

- 82.6% in Europe
- 8% in Asia
- 7.4% in America
- 2% in other countries



1501400

IS0

ISO 50001



Environmental Sustainability





Companies producing copper and semi-finished copper products operate in compliance with EU environmental legislation and national laws.

Environmental permits are regulated by the **Industrial Emissions Directive** 2010/75/EU, which sets emission limits and requires the use of best available technologies. Copper industries are covered by the **Emission Trading Scheme** (ETS) for the reduction of CO₂ emissions. They are also affected, directly or indirectly, by EU legislation on chemicals, such as the **REACH regulation**, and the **ROHS** and **WEEE** Directives.

In order to guarantee even higher standards of environmental protection than those required by the regulations, KME adopts voluntary certification systems, including **ISO 14001**:2015 (environmental protection) and **ISO 50001**:2018 (energy management).



Reach

REACH is a European Union regulation, in force since 2017, to protect people and the environment from potential risks from chemicals.

KME supplies copper and copper alloy products in the form of hot and cold rolled sheets and strips, as well as pressed and drawn tubes, sections and bars, perforated parts and special products such as casting moulds. Within the meaning of the REACH regulation shall be understood as products. All materials or preparations contained in

the products have been registered or pre-registered by KME or an upstream actor in the supply chain. KME is a downstream user of substances that are contained in copper or copper alloy products. These substances are subject to the



registration procedure as phase-in substances whose use in the production of copper and copper alloy products is being considered for registration.

With regard to semi-finished products made of copper and copper alloys, according to REACH, these are products that are not subject to the legal obligation of a safety data sheet. KME's intention is in any case to provide its customers with the information contained in the safety data sheets, thus product information documents. The information sheet is a

voluntarily produced document, which does not set out to indicate the formal requirements of the REACH regulation. Compliance with the requirements under REACH is coordinated centrally.

RoHS

The European Directives RoHS (2011/65/EU) and WEEE (2012/19/EU) restrict the use of hazardous substances in electrical and electronic equipment in order to contribute to the protection of human health and the environment, including the environmentally sound recovery and disposal of electrical and electronic equipment waste.



ENVIRONMENTAL SUSTAINABILITY



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Recycled materials

The **KME** plants make extensive use of **recycled materials**: these are mainly **copper and brass scrap**, classified as 'end-of-waste' according to EU Regulation 715/22013. In addition, in-house recycling processes are used to minimise waste.



In addition, a significant proportion of by-products and production waste is reused through **in-house recovery processes**. This further reduces the consumption of virgin raw materials and scrap, reducing waste and increasing efficiency in the use of materials.



Compared to 2019, the use of recycled metals increased by 16.7 per cent. KME's goal is to increase this by 110% by 2024 and 175% by 2030 (compared to 2019 levels).

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ENVIRONMENTAL SUSTAINABILITY





Proper waste management plays a key role in the transition to the circular economy. The primary objective is to reduce the production of waste and increase as much as possible its valorisation as a resource through recycling or other forms of recovery.

71.2% was non-hazardous waste, 28.8% hazardous waste.



A very high percentage of the waste produced, **83.2%**, was **sent for recycling** or other forms of recovery. The remaining portion (16.8%) was disposed of in landfills.



Compared to 2019, waste generation per unit of product showed a significant reduction (-6%). KME's goal is to reduce this by 20% by 2024 and 40% by 2030 (compared to 2019 levels).



Reducing greenhouse gas emissions is an unavoidable goal to combat climate change. Copper producing industries are subject to the Emission Trading Scheme (ETS), adopted by the European Union to achieve CO_2 reduction targets in the main industrial sectors.

KME is committed to this direction through measures to reduce both direct emissions generated by the plants and indirect emissions related to the purchase of electricity, as well as through CO₂ offsetting actions.



Towards a zero-emission Europe

The Paris Climate Agreement and the UN Sustainable Development Goals call for effective action to reduce greenhouse gas emissions. A growing number of countries around the world are committed to this.

The European Union aims to achieve a net-zero greenhouse gas-emission economy by 2050, thus becoming the first *carbon-neutral* continent. The intermediate target set in the European Climate Act, passed in 2021, is to reduce emissions by at least 55% by 2030 compared to 1990 levels.



How emissions are measured

The calculation of GHG emissions is based on the GHG reporting system, which classifies GHG emissions into:

direct emissions* from in-plant processes;

indirect emissions**, resulting from the production processes of purchased energy;

other indirect emissions (e.g. for a company, those resulting from transport for the delivery and shipment of goods).

As no information on the latter is available, the calculation of emissions concerns direct emissions and indirect emissions related to the production of electricity purchased from the grid.

*For the calculation of direct emissions, reference is made to the values declared by the KME Group companies

**For the calculation of indirect emissions, reference is made to electricity consumption and greenhouse gas emission factors related to the national energy mix or the energy mix of individual suppliers used by KME Group companies



Compared to 2019, emissions per unit of product decreased by 4.4 per cent. KME's target is to reduce them by 15% by 2024 and 40% by 2030 (compared to 2019 levels).

Offsetting climate-changing emissions

With the aim of decreasing their corporate carbon footprint and contributing to the achievement of climate neutrality, the main industrial companies of the KME Group (KME Italy, KME Mansfeld and KME Germany) have implemented carbon offsetting measures2 through an agreement with the associated company Natural Capital Italia, SpA, the first Italian holding company dedicated to the protection and conservation of natural capital (water, air, soil, biodiversity). Natural Capital Italia is an initiative launched by KME with the aim of accelerating the transition to new forms of natural capital management. The company now owns and manages Oasy Dynamo ('l'Oasi'), a WWF-affiliated nature reserve characterised by a predominantly wooded area, which is home to unspoilt flora and fauna and protects rare plant species and a wide variety of animals, located in the heart of Tuscany, at an altitude of 1,100 metres in the municipality of San Marcello Piteglio.





Under this agreement, **11,640 tonnes** of CO_2 generated by the KME Group's plants in **2020** and a further 11,640 tonnes generated in **2021** were offset.

Dynamo Oasis

The area constitutes a true 'green lung'. Oasi Dynamo takes great care of its forests, trying to find the right balance between the different functions of natural capital, starting with the use of the forest as a source of biodiversity and environmental mitigation.

In particular, Oasi Dynamo has equipped itself with a forest management plan focused on the sustainable use of woody resources, allowing plants to maximise their ability to sequester CO_2 . Plants, as is well known, are an important tool for reducing the greenhouse effect, as through their photosynthesis activity they are able to lock up large quantities of CO_2 and store carbon in the form of biomass. On average, the amount of CO_2 absorbed annually by a tree varies from 20 to 50 kg; an adult forest can store more than 150 t/ha of CO_2 in the form of organic carbon compounds. At Oasi Dynamo, the CO_2 fixation capacity is also increased through an active agricultural practice on approximately 123 hectares of land.

The measures implemented through the agreement with the KME Group produce an **average annual increase in absorption capacity of 12 tonnes of CO_2, per hectare, for a total of 11,640 tonnes of CO_2 in the entire area** (970 hectares).

Together with these measures to offset CO_2 emissions, the agreement between the KME Group and Natural Capital Italia also envisages **other measures** related to conservation practices and the enhancement of woodland and rural heritage in the 'Dynamo Oasis' area. In particular, interventions for the conservation of biodiversity, maintenance on the hydrographic reticles and water regulation services, soil conservation through environmentally sound agronomic practices, and maintenance of the oasis structures.



Metals pro Climate

KME is a member of Metals pro Climate, an initiative of leading companies in the non-ferrous metals industry committed to climate protection.





Protecting air quality means protecting the environment and health. KME uses the best available techniques to this end.

Air quality

The main sources of air pollution are industry, transport and domestic heating. Since the 1970s, the first two sectors have been subject to increasingly strict regulations in all industrialised countries to protect air quality and health.

Industrial plants were the first to be subject to **emission limits** and the obligation to adopt the **best available techniques** to reduce the production of pollutants and abate them before they are released into the atmosphere.

The **emission limit values** indicate for each pollutant the maximum quantity that can be released into the atmosphere by an individual facility.

Emissions from the KME Group's activities concern in particular:

- nitrogen oxides (NO_x)
- sulphur oxides (SO_x)
- volatile organic compounds (VOC);
- particulate matter (PM)
- HAPs (hazardous air pollutants)

The emissions per tonne of production in 2021 are 0.122 kg NO_x , 0.044 kg VOC, 0.019 kg PM, 0.026 kg SO_x . There are also emissions of 0.000028 mg of HAP per tonne of production.

Compared to 2019, there was an overall reduction in emissions per unit of product, albeit in different ways between plants and by type of pollutant.



ENVIRONMENTAL SUSTAINABILITY



Water is a precious resource: avoiding any possible waste is an essential goal. As far as possible, it should also be recycled. After use, it must be properly treated in purification plants.

KME works to reduce the amount of water taken from wells or water networks, even resorting to rainwater harvesting in some cases. Furthermore, thanks to a series of technical solutions,



the logic and installations, water is recycled and reused in industrial processes.

Water withdrawn from water networks and wells is 6.4 m³ per tonne of production, while water recycled and reused is 41.1 m³. The total water used per tonne of production is 48.1 m³.



Compared to 2019, water recycling increased by 2.4%. KME's target is to increase this further by 4.8% by 2024 and 8.4% by 2030 (compared to 2019 levels).

Purification and Drainage

Following purification, the water is discharged in compliance with legal limits.



Social sustainability



SOCIAL SUSTAINABILITY



*excluding Joint Ventures and Trefimetaux Group.

** the number of employees of the companies included in the scope of this report at the same date was 3,818; indicators subsequently reported do reference to that figure.

Labour relations are governed by the relevant national collective agreements.

As far as professional qualifications are concerned, 73.4 per cent were blue collar workers, 22.3 per cent white collar workers, 3.6 per cent executives and 0.7 per cent managers.







KME, as stated in its code of conduct, considers the **employees health and safety protection** an essential element. To this end, it develops prevention activities with the goal 'zero accidents at work'.

KME adopts the ISO 45001:2018 (Occupational Safety and Health Protection) certification, which, in addition to the relevant national laws, defines a voluntary occupational safety and health management system.





Management in the KME Group companies pursues the following objectives:

- Reducing stress and workload
- Preventing work-related diseases and health risks
- Permanently improving health and safety in the workplace
- Maintaining employee productivity
- Increasing employee motivation and satisfaction
- Ensuring the long-term success of the company

In order to realise these objectives, medical services, flexible working models, in-company integration management, counselling, and training activities are provided for employees.

In 2021, KME* registered:

- an accident **frequency** rate (Injury Rate: number of accidents with an absence of more than 1 day/ number of hours worked x 200,000) of 2.06.
- an accident **severity** rate (Gravity Index: days of absence due to accidents/number of hours worked x 1,000) of 0.34.
- an Occupational Diseases Rate of zero.



2021

Compared to 2019, there was an overall improvement in the main indicators, albeit to varying degrees between plants.

*data referring to establishments of Fornaci di Barga, Osnabrück, Mansfeld, Serravalle and the Besançon Service Centres and Barcelona

Measures taken to deal with the pandemic

KME's activities were also affected by the pandemic. To cope with the situation, all the necessary prevention, monitoring and control measures were taken to protect the workers health and safety. This ensured the continuity of production in compliance with safety regulations.

• Informing workers, the 10 rules of conduct to be followed



• Differentiated employee access at time slots so as to reduce co-presence, access guarded by systems to prevent infection such as thermoscanners and GP readers.

- Sanitisation of premises: in addition to normal cleaning, plans were adopted for the periodic sanitisation of work, dining and communal areas, as well as the sanitisation of air conditioning units.
- Measures to ensure spacing in common areas such as the canteen, changing rooms and meeting rooms. The canteen room in particular was refitted with spaced tables and double stations separated by copper panels. A table-cleaning service was also introduced after each meal.
- Health surveillance and prevention: during the pandemic period, health surveillance was reinforced through screening activities, and serological tests were carried out on all workers every 21 days as well as confirmation swabs.





and were serological tests performed

From the start of the pandemic have been distributed 135,000



surgical masks

Target

7,300

"ZERO ACCIDENTS ON WORKPLACE"

SOCIAL SUSTAINABILITY



Internal training

Training activities amounted to 4.1 hours, on average, per employee in 2021.

Europe's leader in job **training**

With a view to expanding business downstream of the production process, KME launched the KME Academy project, also establishing itself as a European leader in professional training in the field of construction and architecture, offering a rich programme of courses across Europe with a clear focus on the needs of the end customer and on promoting the use of copper.



Immediately after its launch at the end of 2010, the KME

Academy began imparting top-level practical skills to professional installers on the use of copper products for building roofs (TECU®, Architectural Solutions) and plumbing systems (SANCO®, WICU®, SMISOL® etc.). The **KME Academy's** programme of training courses and seminars incorporates multiple prerogatives to meet the markets and regulatory principles of different European countries, integrating country-specific requirements together with topics of general interest to the construction industry.

Theoretical seminars are complemented by specific, sometimes certified courses on the design and installation of plumbing and heating systems. Training dedicated to the cladding of roofs and façades with copper laminates offers extraordinary opportunities to learn more about working techniques, regulations and professional standards. All activities are conducted by experienced trainers with in-depth knowledge of the best solutions in the various fields of application. The **KME Academy** is therefore one of Europe's leading professional training programmes in the building industry.

Apprenticeship programmes

KME Group companies, in particular KME Germany, are part of a structured and successful apprenticeship *training programme*. In Osnabrück, Germany, a partnership is in place with the Chamber of Commerce and professional institutes in the region to offer schools' students a field training programme. The programme lasts for three years. The company runs the programme in a structured way by having an ad hoc function involving approximately 10 people. Each year, more than 40 students are involved in the programme, and at the end of the programme 80 per cent of the students are hired.

External training

Circular Academy

KME Italy has set up the Circular Academy in Fornaci di Barga, a centre for training, research and innovation dedicated to the circular economy. A point of reference for companies, with educational activities and laboratories equipped to support the development of circular economy.

The activities kicked off in 2019 with the first highly specialised course '*Circular economy for business*', realised in cooperation with the "Scuola Universitaria Superiore Sant'Anna di Pisa". The aim is to provide functional knowledge to interpret the role of circular economy manager in an informed and innovative way, to develop the ability to manage companies in a circular logic, to deal with transformation processes according to the principles of the circular economy in all business processes, from design to supply chain management, from production to marketing.

Dynamo Academy

Set up by Fondazione Dynamo, Dynamo Academy is a social enterprise that deals with training and consulence, accompanying students, companies and top managers in the development of value-creating projects to meet the challenge of Corporate Philanthropy, by conjugating managing business and social responsibility. Dynamo Academy offers innovative corporate team building programmes, standardised and ad hoc training projects, and consultancy activities.

BiG Academy

BiG Academy is a new Management Academy conceived and managed by ACSI, the Association for Industrial Culture and Development founded in early 2020 by five major international companies operating in Tuscany: KME, Baker Hughes, El.En Group, Leonardo and Thales together with the University of Florence. Following its foundation, three other companies based in Tuscany joined ACSI: Ceam Group, Enegan, Sime and Sirio Solutions Engineering. The objective of ACSI is to shape a cultural and professional experience in the field of business management and the professional development of people in managerial roles and positions, in a perspective of high and continuous training, through the contribution of the most important companies and public and private entities in the area. ACSI is therefore a synergy and network project, a new and innovative point of reference for the growth and development of aspiring managers, who work in particular in the energy, mechanical, optical, electronic and information technology sectors and in the supply chains connected to these, with the aim of providing important support to the local entrepreneurial fabric in strengthening its ability to respond to today's economic and industrial challenges.





On the basis of **national labour agreements** as well as **services provided by companies** of the group, KME employees can benefit from services that complement public welfare systems.

In Italy, the Group has made a further corporate welfare instrument available to employees: the benevolent fund. This is a fund that provides non-repayable grants to cope with situations of imminent need (due to an adverse family event, e.g. bereavement or a serious health problem) by families of KME employees.





KME adopts sustainability criteria in the organisation of its business processes. Corporate guidelines define binding standards for all companies operating within the KME Group.

With regard to the supply of **metals**, considering the peculiarities of raw materials, purchases are made according to market availability. For **energy supplies**, purchases are only made from national suppliers, while for other purchases of a general nature preference is for **local suppliers**, according to criteria of quality/price ratio.

In selecting suppliers, criteria are adopted in order to qualify on an organisational, environmental and social level the potential partner. For the supply of all products or services, preference is given (preferential requirement though not binding) **environmental** management system **certifications** (ISO 14001 or EMAS), safety management system certifications (BS OHSAS 18001), **guality** system certifications (ISO 9001).

With regard to the procurement of raw materials, KME **does not use minerals from regions with armed con-flicts**. Due to the complex supply chain and the many metal transformation processes, KME - aware that it is not possible in any case to fully trace the procured materials, especially with regard to recycled materials - considers participation in EICC-*GesiConflict-Free* (an initiative of the *Electronic Industry Citizenship Coalition and Global e-Sustainability*) as a prerequisite when selecting new suppliers.

Responsibility in the supply chain

KME wants to further consolidate the principle of sustainability throughout the value chain. By 2030, 100 per cent of spending on relevant supplies will have to be made with certified or sustainability audited suppliers.

SOCIAL SUSTAINABILITY

In 2021 suppliers were around 5,800, amounting to approximately 2 billion euro (of which approximately 1.8 billion euro for metals and 200 million for other goods and services.

About 2 4 5,800 5,800 5 5,800 5 5 billion euro

4.7 Social impact

In 2007, the KME Group set up a project of great social value: Dynamo Camp. Today, the initiative is a success story in the third sector, and was the first entity able to implement an innovative project that radically revised the way of doing social enterprise.

Dynamo Camp

Dynamo Camp is located in Limestre in the province of Pistoia, in a WWF-affiliated oasis of over 900 hectares, Oasi Dynamo, and is part of the *SeriousFun Children's Network*, an association founded in 1988 by Paul Newman and active worldwide.

The activities take place at the Dynamo Camp facility and through the **Dynamo Programs** project also in hospitals, associations and family homes.

The Camp

Founded in 2007 by Fondazione Dynamo, Dynamo Camp Onlus offers free **Recreational Therapy** programmes with specific assistance to children suffering from serious or chronic illnesses, and their families.

The result of an industrial redevelopment project, Dyna- mo Camp is composed of a series of buildings that, respecting the specific and particular needs of the children accommodated and in dialogue with the surrounding nature, are used as rooms, common areas, play activities, sports and Recreational Therapy workshops.

Every year, more than 10,000 children in Italy are diagnosed with serious or chronic illnesses, who risk losing the serenity and light-heartedness of childhood, involving the entire family, including parents and healthy siblings. Sick children and young people are subjected to invasive or long-term therapies, often with intense periods of hospitalisation, whose fear and weariness caused by the treatment is compounded by the lack of normal socialisation.

The Mission

With the knowledge that the care path is complex and that











It is a changing experience, it makes you realise your importance. We are all unique and special and no one and nothing will be able to stop you in your life. Dynamo Camp makes you just realise that".

(a little girl)

not everyone gets well, but that everyone has the **right to happiness**, the mission of Dynamo Camp Onlus is to offer **sick children the chance to 'simply be children'** and improve the **quality of life of their families**. Dynamo Camp pursues the mission of guaranteeing the right to happiness in line with the World Health Organisation's concept of **Quality of Life** by offering **Dynamo Recreational Therapy programmes** conducted with the assistance of qualified staff.

With the aim of providing assistance to the multiple needs of sick children and their families, Dynamo Camp in particular offers:

• periods of **Recreational Therapy** holidays **for ill children and young people** who come to Dynamo Camp unaccompanied by their parents (*Soli camper programmes*);

• Recreational Therapy programmes at Dynamo Camp for the **whole family** (*Family Sessions*);

• Recreational Therapy holiday periods at Dynamo Camp for **healthy siblings** (*Sibiling Camp*);

• Dynamo Recreational Therapy activities in hospitals, pathology associations and family homes in major cities nationwide (*Dynamo Programs*).

SOCIAL SUSTAINABILITY



Results

From the project's inception in 2007 to 2020 Dynamo Camp Onlus has hosted 8,799 ill children at Camp in programs for Soli Camper; 8,164 children, youth and parents in family programs; in addition, through the Dynamo Programs, has reached with Recreational Therapy activities 25,340 sick children in hospitals, pathology associations and family homes, thus offering assistance with programs of Dynamo Recreational Therapy to more than 42,300 people.

Social inclusiveness

To date, there are 70 pathologies hosted at Dynamo Camp; in accordance with its mission of **social inclusiveness**, Dynamo Camp works with the aim of welcoming an increasing number of **children with complex pathologies** and with specific medical assistance needs to the Camp. In addition, with the aim of making Recreational Therapy accessible where it is needed, **Dynamo Programs** reach **sick children in hospitals, pathology associations and family homes** in the main cities nationwide, favouring the continuous presence of staff and training volunteers in the individual facilities.

Dynamo Foundation

Fondazione Dynamo Camp Onlus is a project of Fondazione Dynamo. The mission of **Fondazione Dynamo** is to support the **design and development of business organisations that address social problems** such as education, health, social services and the environment, while fostering new employment.



Dynamo companies

Pro Dynamo Srl and Acqua Dynamo Srl Società Benefit are respectively brands of technical sportswear and water bottling and distribution products that support the social projects promoted by Fondazione Dynamo.

Dynamo Oasis

Covering 1,200 hectares in the Tuscan Apennines, Oasi Dynamo - a WWF affiliate in Limestre - is a unique national case of perfect synergy between conservation, management, environmental enjoyment and social activism. Oasis Dynamo is managed by Oasi Dynamo Società Agricola: an agricultural enterprise with a mission to safeguard the biodiversity of the naturalistic oasis environment through farming activities, eco-tourism projects and scientific research programs aimed at learning about and promoting the nature of the area.



Economic sustainability







The 2021 performance of the KME Group shows significant growth:

- Turnover: 2,172.5 million euro (+14.4% vs. 2020)
- Turnover net of raw materials: 537.1 million euro (+13.8% vs. 2020)
- EBITDA 95.5 million euro (+27.2% over 2020).







Research and development activities are of fundamental importance to the KME Group in order to guarantee **innovation**, efficiency and quality. Research is aimed in particular at developing **innovative materials**, but also at the innovation of **production processes** and **applications** of copper and copper alloy products.

With 49 registered patents and 64 trade marks, research and development activities have top priority for KME. A special coordination unit makes it possible to develop these activities in the best possible way, avoiding the overlapping of projects between different **research centres** (Fornaci di Barga, Osnabrück, Mansfeld) and, at the same time, optimising the utilisation of the company's competences.

The laboratories, where qualified teams of scientists and engineers work, are well equipped and **certified** according to **IATF 16949**. In the test benches, alloys and casting techniques can be carried out in situ on a production scale and with in-depth scientific expertise. Experimental and test castings provide fast and effective development results. All necessary tests and analyses can be carried out: damage and material analyses, corrosion research, material tests (to determine mechanical and physical properties) and chemical analyses.

KME runs **cooperation projects** with **companies**, **universities** and **research centres** worldwide and actively supports national research projects and international. It also participates in the standardisa-



tion of products and processes and is committed to supporting training.

Focal points of research activities:

- Material treatment and recycling
- Metallurgy and casting technology
- Production technology (rolling, extrusion, forging, drawing, stamping, machining, painting, joint preparation)
- Simulation procedure
- Materials Science
- Surface technology
- Material tests
- Procedural development
 Application techniques



ECONOMIC SUSTAINABILITY

Cell connectors

KME has developed an innovative, sustainable and efficient technology for connections in energy storage systems. This is a key technology for electric vehicles.

KME cell connectors have already been tested according to LV 214 (Test Specification for German Automotive OEM Connectors) with very good results. The connectors are made from two different alloys. Thanks to the production process, it is also a very resource-efficient solution that allows process waste to be fed back into the recycling loop.

Due to its versatile and attractive properties such as high mechanical strength, good forming behaviour and excellent electrical conductivity, copper is one of the most widely used base metals in innovative applications such as electric mobility. The KME product range also includes a broad spectrum of high-tech copper alloys for this application area.





Technological solutions for 5G

5G is essential for applications requiring high data rates, such as artificial intelligence (AI), smart home applications, and autonomous driving.

This requires special, high-performance material solutions. KME produces perforated strips for the production of radiant cables used in the 5G network. Radiant cables are basically coaxial cables in which the strips are perforated in the outer conductor, allowing controlled amounts of electromagnetic energy to be radiated and absorbed by the cable.





During 2021 and the first months of 2022, important transactions were carried out to implement the KME Group's strategy of focusing on copper and copper alloy rolled products, in which the group intends to focus and grow in the future, given the attractive growth rates expected in the main target markets.



Core business strategy in **KME**

Before embarking on the **'Core Business' strategy**, the KME Group consisted of almost 30 production sites (including plants and service centres) and 6 industrial product macros. Although enjoying good health, the system was not fully consistent with potential results. It was therefore necessary to change strategy to achieve the expected and identified results.

Starting in 2005, KME therefore decided to focus its attention on its core competencies, in order to **maximise its competitive advan**tage in copper metallurgy and, at the same time, to orientate its strategies even more towards sustainability and ecological transition. Thus, the Core Business strategy was born, with the identification of the sector as the primary interest around which to build the company's development and future, and through the rationalisation of the number of plants and product lines.

At the beginning of 2022, KME has a profoundly changed configuration:

- 1 Core Business Laminates only
- 2 Remaining non-core business (copper tubes and rods)
- 5 factories with foundries
- 2 plants with partial process
- 1 Re-roller Laminates
- 5 Laminate Service Centres
- 3 Research Centres Laminates

This made it possible to acquire a leading position in the world market for laminated products.



STRATEGY IN **KME**: TIMELINE





Circular economy



CIRCULAR ECONOMY



KME intends to contribute to transition's acceleration to a circular economy. Already today, its productions are to a significant extent guided by the principles of circularity, as it makes significant use of materials from recycling and recovery processes. The KME Group pursues continuous improvement goals in the efficient use of material, energy and water resources. This strategic commitment is also translated into specific projects by the group companies.

The transition to the circular economy

The transition to a circular economy is one of the main strategic challenges Europe is facing. A challenge of great importance for environmental reasons, as it means reducing the consumption of natural resources and greenhouse gas emissions, but also for economic and geopolitical reasons because a circular economy is a more efficient, competitive economy that is less dependent on other parts of the world for raw material availability.

Accelerating the transition to the circular economy requires action in four directions:



The new EU Circular Economy Action Plan approved in 2021 pays special attention to sustainable product design and circularity in production processes, as well as to certain resource-intensive sectors with a high environmental impact. The measures concern in particular:

 support for research and innovation to accelerate the transition to a circular economy, with cross-cutting actions in all sectors of the economy;

the objective of increasing the market for secondary raw materials by introducing a mandatory minimum recycled content for certain products;

 the introduction of an electronic product passport with information on composition, repair and dis-assembly;

• the definition of minimum requirements to prevent environmentally harmful products from being placed on the European market;

• the provision of new standards and guidelines on green public procurement, over-packaging and waste generation.

On 30 March 2022, the European Commission presented a major new package of measures on sustainable products and eco-design, textiles, construction, consumer information rights, with the aim of accelerating the transition to the circular economy.

"We must embrace the idea of a circular economy.

As things stand, we are taking more from our planet than it can afford to give us, and the effects of this overcoming will become more dramatic and destructive with each passing year. We urgently need to reduce the environmental and carbon footprint of goods we consume. To do this, we must invest in circular technologies that reuse resources, rather than constantly producing or importing new goods and extracting more and more raw materials. The circular economy holds enormous potential not only to reduce our dependence on scarce resources, but also to create jobs. **The Green Deal is not just an environmental**

policy; it is an economic and geopolitical necessity."



Ursula von der Leyen President of the European Commission

6.1 Circularity indicators



To accelerate the transition to a circular economy, it is necessary for every company to be fully aware of its own positioning. In other words, the company needs to be able to measure circularity performance at each stage of its production process and along the entire value chain, from design to procurement, from production to sales, from logistics to maintenance and end-of-life management.

For this reason, circularity measurement methodologies are beginning to spread, with the aim of providing companies not only with analysis tools, but also with information and solutions to improve resource efficiency and circularity in the production cycle. To date, however, standardised and internationally agreed criteria are still being defined.

The European Environment Agency (EEA) has defined, with the "Bellagio Charter", some guidelines and a first set of indicators aimed at measuring the circularity of the economy and the efficient use of resources. The circularity indicators used in this report were developed on the basis of these guidelines.

RESOURCE PRODUCTIVITY **1.085**

Resource productivity rate

An important indicator is the ratio of the amount of **materials used** to a company's **output**. The resource productivity rate measures the consumption of materials per unit of output: the lower this value, the more efficient the use of resources.

KME had a resource productivity rate of 1.085 in 2021. In other words, 1.085 tonnes of materials were used for every tonne of products.

Circularity rate

The circularity rate measures the percentage of **secondary raw materials** (materials derived from the recycling of waste and the recovery of production waste) in relation to the total materials used. The higher this percentage, the more virtuous the production cycle.

Scrap (copper scrap, brass scrap, share of semi-finished products), together with a share of re-cycled wood packaging, account for 29.1% of the materials used in 2021. This contributes to a significant reduction in the consumption of virgin raw materials and environmental impacts.





When measured only on metals, the circularity rate rises to 31%.

KME's circular use of materials does not end with these figures, because in addition to the use of recycled materials outside the plant, production **waste** is reintroduced into the production cycle through recovery processes.

Thus, the share of metals from scrap and production waste **re-covery** in the total metals processed rises to 47.4%.

47.4% RATE OF METAL CIRCULATION SUBSEQUENT TO INTERNAL RECOVERY

WASTE PER UNIT OF PRODUCT **0.0475**

Waste Reduction and Recycling

Building a circular economy model requires a progressive reduction of waste and an increase in material (or energy) recovery downstream of production through proper waste management.

A first significant indicator is the **amount of waste per unit of production**. In 2021, 0.0475 tonnes of waste was generated per tonne of production. Another important indicator is the percentage of waste **sent for recycling** instead of landfilling. In 2021, this amounts to 83.2%.



Water withdrawn per unit of product 6.4 m³

Recycled water and reused per unit of product **41.1** m³

Efficient use of water resources

Using water efficiently is another essential goal in the transition to a circular economy. In 2021, 6.4 m³ of water was withdrawn (from water networks and wells) for every tonne of production.

The water **recycled and reused** within the production process amounts to 41.1 m³ per unit of product. The percentage of **recycled water** out of the total water used is **85.4%**. Thanks to the measures taken, the **consumption avoided** is **41.1** m³ of water per tonne of production.

Recycled water out of total water used

85.4%

ENERGY CONSUMPTION PER TONNE OF PRODUCT

1,662

kWh

Efficient use of energy

In a circular economy model, energy must also be used efficiently, using renewable sources to the greatest possible extent. A significant indicator in this respect is the energy consumption per unit of product.

In 2021, energy consumption per unit of product was 1,662 kWh eq.



The transition to the circular economy requires investments in research and development, ecodesign, process and product technology innovations, new materials, industrial simulation, and efficient use of resources. The KME Group is strongly committed to this direction through a series of projects consistent with the principles of the circu- lar economy.

In this context, the commitments of **KME Italy**, which is making **a circular economy pole** in Fornaci di Barga, with a series of innovative projects to further improve efficiency in the use of materials and energy, thus contributing to the development of the plant and the entire territory.

KME Italy

Industrial symbiosis project

The project has as its objectives:

- realise an industrial symbiosis experience in connection with the paper production district;
- self-producing energy, reducing its cost;
- improve the authorised emission framework of the industrial site;
- increase production and employment.

The project includes:

• interventions in the Fornaci di Barga plant for the **reconversion of the copper smelting process**, switching from the use of **thermal** energy (natural gas combustion) to the use of **electricity**, thereby reducing atmospheric emissions;

• the realisation of a plant for the production of electrical and thermal **energy** by means of **energy valorisation of paper mill** processing **residues** (pulper and process sludge) from the paper district of the province of Lucca.

This will bring a benefit in terms of competitiveness for the plant, reducing energy costs, and at the same time allow the waste paper cycle to be closed in an **industrial symbiosis** logic according to the principles of the circular economy.



Project crystallisers

The crystalliser (or ingot mould) is a copper container through which molten metal is poured to obtain an ingot. The project realised by EM Moulds makes it possible to develop a new production process with the *remanufacturing* of used end-of-life crystallisers to obtain new crystallisers. It also enables the implementation of a new Product-Service-System (PSS) business model, the development of *reverse logistics* to bring end-of-life crystallisers back to EM Moulds, the consolidation of the *remanufacturing* process to ensure quality standards, and the marketing of *remanufactured* crystallisers.



Circular Academy

Redeveloping a disused area of the factory, KME Italy has established the Circular Academy, a centre for training, research and innovation dedicated to the circular economy. A reference point for companies, with educational activities and laboratories equipped to support the development of the circular economy.

The activities kicked off in 2019 with the first highly specialised course 'Circular economy for business', realised in cooperation with the Scuola Universitaria superiore Sant'Anna in Pisa.

The aim is to provide functional knowledge to interpret the role of circular economy manager in a conscious and innovative manner, to develop the ability to manage companies in a circular logic, to deal with transformation processes according to circular economy principles in all business processes, from design to supply chain management, from production to marketing.





7.1 Methodological note

Guidelines and standards used

The Sustainability Report was prepared according to **GRI** (Global Reporting Initiative) guidelines and standards.

Reporting Perimeter

This Sustainability Report describes the profile and activities of the KME Group and contains information on key figures for the Group as a whole (including sales, turnover, employees). As far as environmental and social indicators are concerned, the scope of reporting includes the following KME Group companies, the activities of which are further detailed in the individual plant reports:

- KME Italy S.p.a. Fornaci di Barga
- EM Moulds S.p.a. Fornaci di Barga
- ILNOR Service Centre S.r.l. Brescia
- KME Rolled France SAS Service Centre Besançon
- Service Centre KME Spain SA Barcelona
- KME Germany GmbH Osnabrück
- KME Special Products GmbH Osnabrück
- KME Mansfeld GmbH Mansfeld
- KMD Connectors GmbH Stolberg
- Serravalle Copper Tubes S.r.l. Serravalle Scrivia

The reported perimeter for the year 2021, although including almost all of the group's plants, does not yet fully coincide with that of the entire KME Group.

Indicators and data

For the calculation of the environmental indicators in relation to product unit, reference was made to the aggregate sales figure of the companies within the reporting scope. This figure (454,883 tonnes) includes both sales to the market and a share of intra-group sales, and is therefore to be considered as the figure that most closely corresponds to the aggregate production of the plants within the reporting boundary for 2021.

The sales figure of the KME Group (385,573), however, only includes sales to the market, net of the two joint ventures and the Trefimetaux Group.

Reporting Period

The report reports data for the year 2021. With regard to the ILNOR service centre in Brescia, the reported period runs from 4/6/2022 (start-up date) to 31/12/2022.

Principles for defining report content Materiality:

the information contained in the report and its level of detail take into account all significant impacts (economic, environmental and social) and all aspects that could substantially influence stakeholders' assessments and decisions. **Stakeholder inclusiveness:** the report addresses all stakeholders, internal and external, who are involved or may be involved in the activities of the plant and the companies.

Sustainability Context: The report describes the performance of companies with respect to sustainability goals, taking into account both significant global impacts (such as climate change) and specific impacts in the territorial context in which the companies operate.

Principles of quality assurance of the report Balance: the report describes both positive and negative aspects of the environmental, social and economic performance of the plants, with qualitative information and quantitative data enabling the reader to make an independent and balanced judgement.

Comparability: the indicators developed in the report follow the methodologies indicated by the GRI guidelines, thus making it possible to compare the performance of companies and other industries, as well as to assess their evolution.

Accuracy: Each indicator developed in the report is elaborated according to a homogeneous scheme, showing numerical data in tables, accompanying them with explanatory graphical representations and illustrating the main findings with a summary text. The tables and graphs indicate the units of measurement used.

Clarity: The report is elaborated using a language that is as simple as possible, avoiding bringing in too much detailed technical information. The structuring of the index and the table of correspondence with the GRI index help stakeholders to identify issues of specific interest to them in the report. Graphical illustrations facilitate the understanding of the data.

Verifiability: information is provided in such a way that it can be verified over the years and possibly be subject to external scrutiny.

Production data

The aggregate production figure of the companies within the reporting boundary is to be understood as the quantity of products leaving the plants (output) during the year, while the figure for materials used refers to the quantity of materials entering (input) during the same period. The production figure may therefore include some quantities not actually produced during the year but already in stock. However, this data is also considered reliable for the purpose of measuring the efficiency of resource use with sufficient approximation over time, as the stock trend is essentially constant.

7.2 Correlation tables GRI

GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
	ORGANISATION	
	Organisation Profile	
102 - 1	Name of organisation	2.1
102 - 2	Activities, brands, products and services	2.1
102 - 3	Location of management offices	2.1
102 - 4	Localisation of existing activities	2.1
102 - 5	Ownership and legal status	2.1
102 - 7	Order of magnitude of the organisation	2.1
102 - 8	Information on employees and other workers	4.1
102 - 9	Supply chain	4.6
102 - 10	Significant changes in relations between	
	the institution and the own supply chain	
102 - 11	Precautionary Principle	2.3-3.1
102 - 12	External Initiatives	
102 - 13	Membership of associations	
	Strategy	
102 - 14	Declaration of the highest decision-making centres	Letter to the stakeholder
102 - 15	Main effects, risks and opportunities	1.1
102 - 16	Values, principles, standards and norms of behaviour	1.1-2.3
102 - 17	Ethics advisory mechanisms	
102 - 18	Governance Structure	2.2
102 - 19	Delegating process	
102 - 20	Executive level for economic, environmental topics and social	2.2
102 - 21	Consultation with stakeholders on topics	
	economic, environmental and social	
102 - 22	Composition of governance at the highest levels	2.2
102 - 23	Chairing the highest level of governance	2.2
102 - 24	Apex nomination and selection	
102 - 25	Mechanisms to counter conflicts of interest	2.3
102 - 26	Role of senior governance figures in the setting out values and intentions	
102 - 27	Cognition of senior governance figures on the individual topics	
102 - 28	Governance performance evaluation apical	
102 - 29	Identification and management of economic impacts, environmental and social	1.1-3.1
102 - 30	Effectiveness of risk management processes	
102 - 31	Monitoring of economic, environmental and social topics	1.1

GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
102 - 32	Role of top governance on the report of	
	sustainability	
102 - 33	Communication of critical aspects	
102 - 34	Nature and number of critical aspects	
102 - 35	Remuneration policies	4.1
102 - 36	Pay Determination Process	
102 - 37	Level of stakeholder involvement in the	
	remuneration process	
102 - 38	Annual total compensation ratio	
102 - 39	Percentage increase in the compensation ratio	
102 - 40	List of stakeholders involved	
102 - 41	Collective Bargaining Agreements	4.1
102 - 42	Identification and selection of stakeholders	
102 - 43	Approach to stakeholder involvement	
102 - 44	Key themes	1
	Reporting	
102 - 45	Entities included in the financial statements	5.1
102 - 46	Definition of report contents and boundaries of topics	
102 - 47	List of itopics-related materials	
102 - 48	Revisiting information	
102 - 49	Changes in reporting	
102 - 50	Reference period	2021
102 - 51	Date of most recent report	
102 - 52	Reporting Cycle	Annual
	Management approach	
103 - 1	Explanation of the topic and its boundaries	
103 - 2	Reporting obligations	

ECONOMIC PERFORMANCE		
201 - 1	Direct economic value generated and distributed	5.1
201 - 2	Financial implications and other risks and opportunities	3.5
	due to climate change	
201 - 3	Significant financing received from the public authorities	
	Market presence	
202 - 1	Ratio of local minimum wage to average wage of entry	
202 - 2	Proportions of senior management hired	
	within the local community	
	Indirect economic impacts	
203 - 1	Investments in infrastructure and services	
203 - 2	Significant indirect economic impacts	4.6-5.1

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GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
	Procurement practices	
204 - 1	Proportion of spending with local suppliers	
	Anticorruption	
205 - 1	Operations planned for the corruption	2.3
205 - 2	Communication and training on procedures	
	anti-corruption	
205 - 3	Established corrupt cases and responses	
	Comportamenti lesivi della concorrenza	
206 - 1	Legal action for anti-competitive behaviour	
	anti-trust and monopolistic practices	

	ENVIRONMENTAL PERFORMANCE	
	Materials	
301 - 1	Materials used, by weight or volume	3.3
301 - 2	Recycled materials used	3.3
301 - 3	Reused products and their	
	packaging	3.3
	Energy	
302 - 1	Energy consumption	3.2
302 - 2	Energy consumption outside the organisation	
302 - 3	Energy intensity	3.2
302 - 4	Reducing energy consumption	3.2
302 - 5	Reductions in energy requirements for products and	
	services	3.2
	Water	
303 - 1	Water withdrawal	3.7
303 - 2	Water sources significantly affected by the collection	3.7
303 - 3	Recycled and reused water	3.7
	Biodiversity	
304 - 1	Operational sites owned, leased, operated	
	in or adjacent to protected areas	
304 - 2	Significant impacts of activities, products	
	and services	
304 - 3	Protected or restored habitats	
304 - 4	Species on the IUCN red list	

GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
	Emissions	
305 - 1	Direct greenhouse gas emissions (scope 1)	3.5
305 - 2	Indirect greenhouse gas emissions (scope 2)	3.5
305 - 3	Other indirect greenhouse gas emissions (scope 3)	
305 - 4	Intensity of greenhouse gas emissions	3.5
305 - 5	Reduction of greenhouse gas emissions	3.5
305 - 6	Emissions of ozone-depleting substances	
305 - 7	Nitrogen oxides, sulphur oxides and other air emissions significant	3.6
	Waste and Discharges	
306 - 1	Final water discharge	3.7
306 - 2	Waste and disposal methodology	3.4
306 - 3	Spills	
306 - 4	Transport of hazardous waste	
306 - 5	Water bodies affected by discharges and/or outflows	3.7
	Environmental compliance	
307 - 1	Non-compliance with environmental laws	
	and requirements	
	Supplier's environmental assessment	
308 - 1	Reporting Obligations	
308 - 2	Negative environmental impacts in the supply	

	SOCIAL PERFORMANCE	
	Workers	
401 - 1	Recruitment of new employees and turnover	
	of employees	4.1
401 - 2	Benefits reserved exclusively for employees	
	full time	4.5
401 - 3	Parental leave	4.2
	Corporate labour relations	
402 - 1	Minimum notice periods concerning changes	
	operational	
	Health and safety	
403 - 1	Worker representation in committees	
	on joint management/employee healthcare	
403 - 2	Accident types and accident rates, illnesses	
	work, absenteeism and deaths at work	4.3

APPENDICE

GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
403 - 3	Workers with a high degree of accident or high risk	
	of occupational diseases	4.3
403 - 4	Health and safety issues covered by agreements	
	formal agreements with trade unions	
	Training	
404 - 1	Average annual hours dedicated to training	4.4
404 - 2	Skills Implementation Programmes	
	and transition assistance programmes	
404 - 3	Percentage of performance and review	
	Equal opportunities	
405 - 1	Diversity of management bodies	
405 - 2	Male/female wage ratio	4.2
	Non-discrimination	
406 - 1	Incidents of discrimination and actions taken	4.2
	Freedom of association and collective bargaining	
407 - 1	Operations and suppliers where there are risks	
	associative	
	Child labour	
408 - 1	Transactions and suppliers subject to labour risk	
	juvenile	2.3-4.6
	Forced labour	
409 - 1	Operations and suppliers at risk for forced labour	
	Security practices	
410 - 1	Security personnel trained in human rights	
	Rights of indigenous peoples	
411 - 1	Incidents relating to violations of the rights	
	of indigenous peoples	
	Local communities	
412 - 1	Operations subject to human rights controls	2.3
412 - 2	Training on human rights policies	
412 - 3	Agreements on investments for the protection of	
	human rights	2.3
	Local communities	
413 - 1	Community Involvement Activities premises	
413 - 2	Operations with significant impacts on communities	

GRI INDICATOR	DESCRIPTION	CHAPTER/ PARAGRAPH
	Social evaluation of suppliers	
414 - 1	New suppliers screened with criteria social	4.6
414 - 2	Negative social impacts in the supply chain	
	Public policies	
415 - 1	Public Contributions	
	Consumer health and safety	
416 - 1	Assessment of health and safety impacts	2.4-3.1
416 - 2	Incidents of non-conformity of services and products	
	Marketing and labelling	
417 - 1	Product disclosure requirements and labelling	2.4
417 - 2	Incidents of non-compliance	
417 - 3	Incidents of non-compliance with the communication	
	Consumer privacy	
418 - 1	Reasoned complaints about the violation of the	
	privacy	
	Socio-economic conformity	
419 - 1	Failure to comply with area laws	
	socio-economic	





Via Saviane 6 Firenze Italy

info@kme.com

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> GRAPHICS 9COLONNE