

The Carbon and Graphite Industry's Contribution to Sustainable Development Goals



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The UN Sustainable Development Goals were established in 2015 by all the United Nations member states with the intention of working towards a more sustainable and equal world. It calls on companies to use innovation, technology, and creativity to address developmental challenges and opportunities that the companies can impact.

The Carbon and Graphite industry recognises the responsibility and impact we have in our business activities. We have a responsibility to develop products and processes that improve the quality of life and enable a sustainable low-carbon world, and minimise the negative impact of our activities, both environmental and social.

Demand for graphite is accelerating and so too is the demand for suppliers that can meet the highest international standards of quality, safety and environmental performance. Good product quality and sustainability are integral to the Carbon and Graphite industry's drive to bring high standards of supply chain governance and product stewardship to the carbon and graphite market.

The Carbon and Graphite industry is committed to conduct business in support of the United Nations Sustainable Development Goals (SDGs).

SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY



NO POVERTY

While widespread poverty is not a major problem in Europe, the carbon and graphite industry's role in fostering positive economic growth, job creation and skills development helps ensure this will continue in Europe.

2 ZERO HUNGER



ZERO HUNGER

Widespread hunger is not currently a major problem in Europe, but a growing population will soon require increased food production. Most of the machinery used requires carbon and graphite components in one way or another.

3 GOOD HEALTH AND WELL-BEING



Safe and healthy working conditions are a top priority in the European carbon and graphite industry. Companies also frequently extend workforce health and wellbeing programmes to local communities and contractors, ensuring positive effects on people in the surrounding areas.

Mineral raw materials such as graphite have always contributed decisively to human evolution and well-being and will continue to do so in the future.

4 QUALITY EDUCATION



While quality education is accessible to all European citizens, there is a need for wider society to learn about the importance of carbon and graphite products. The sector provides a range of employment opportunities, invests in local trainings or extends workforce education and training to local communities and contractors.

5 GENDER EQUALITY



Most carbon and graphite companies in Europe have clear statements supporting gender equality, women filling visible leadership roles, processes for ensuring a safe workplace for women, as well as official processes for recruiting and retaining female employees.

6 CLEAN WATER AND SANITATION



Carbon and graphite companies have a responsibility to ensure their operations do not result in contaminated water supplies or inhibit access to clean water. Sound water practices are regulated at the EU and national levels, and companies collaborate with local experts to accurately measure, analyse and test water supplies.

7 AFFORDABLE AND CLEAN ENERGY



European carbon and graphite are raw materials needed for the products that produce clean energy, either as a direct component such as in batteries in cars or carbon brushes and carbon fibres in wind turbines for example, or as a constituent of other industrial processes, such as the production of silicon wafers or solar panels.

Carbon and graphite companies across Europe are also working to run their operations more efficiently, using more clean energy sources and reducing their overall energy consumption.

GOOD HEALTH AND WELL-BEING

QUALITY EDUCATION

GENDER EQUALITY

CLEAN WATER AND SANITATION

AFFORDABLE AND CLEAN ENERGY

DECENT WORK AND ECONOMIC GROWTH

Carbon and graphite companies collaborate with governments and their supply chains to enhance broader economic development opportunities and invest in various ways to become economically productive.

8 DECENT WORK AND ECONOMIC GROWTH



INDUSTRY, INNOVATION AND INFRASTRUCTURE

Carbon and graphite producers in Europe and their parent companies are global leaders in innovation. The sector is constantly developing stronger, more durable and more efficient materials for these purposes.

The European raw materials industry innovation and high-tech developments also contribute to very important positive impacts on the European continent and globally.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



REDUCED INEQUALITIES

The European Carbon and Graphite industry promotes diversity and is committed to achieving and maintaining a diverse and inclusive workplace.

10 REDUCED INEQUALITIES



SUSTAINABLE CITIES AND COMMUNITIES

The industry contributes to sustainable cities by supporting the development of infrastructure. Such as the recharging stations for electrified public transport.

11 SUSTAINABLE CITIES AND COMMUNITIES



GOOD HEALTH AND WELL-BEING

The European carbon and graphite industry has been contributing substantially for decades to the Circular Economy goals by providing industrial goods to recycle steel.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION

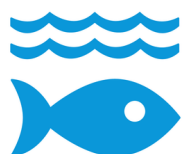


CLIMATE ACTION

Carbon and graphite will be decisive for a transition to a Low-Carbon society.

The European carbon and graphite industry has adopted ambitious carbon management policies and targets and is providing products to reduce, eliminate and offset emissions in our daily lives.

14 LIFE BELOW WATER



LIFE BELOW WATER

The European carbon and graphite industry sector contributes to the oceans' sustainability by understanding and limiting its potential impacts and contributing to the protection and conservation of the oceans and seas.

15 LIFE ON LAND



LIFE ON LAND

The European carbon and graphite sector is working to improve operations so that land is disturbed as little as possible by its operations.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS



PEACE, JUSTICE AND STRONG INSTITUTIONS

The European carbon and graphite industry is a sector complying with the jurisdictions it is operating in. It is international trading and in a transparent dialogue with its supply chains and customers creating trust and confidence. The European carbon and graphite industry is also supplying critical raw materials and products for the defence industry which is sometimes needed to keep the peace.

17 PARTNERSHIPS FOR THE GOALS

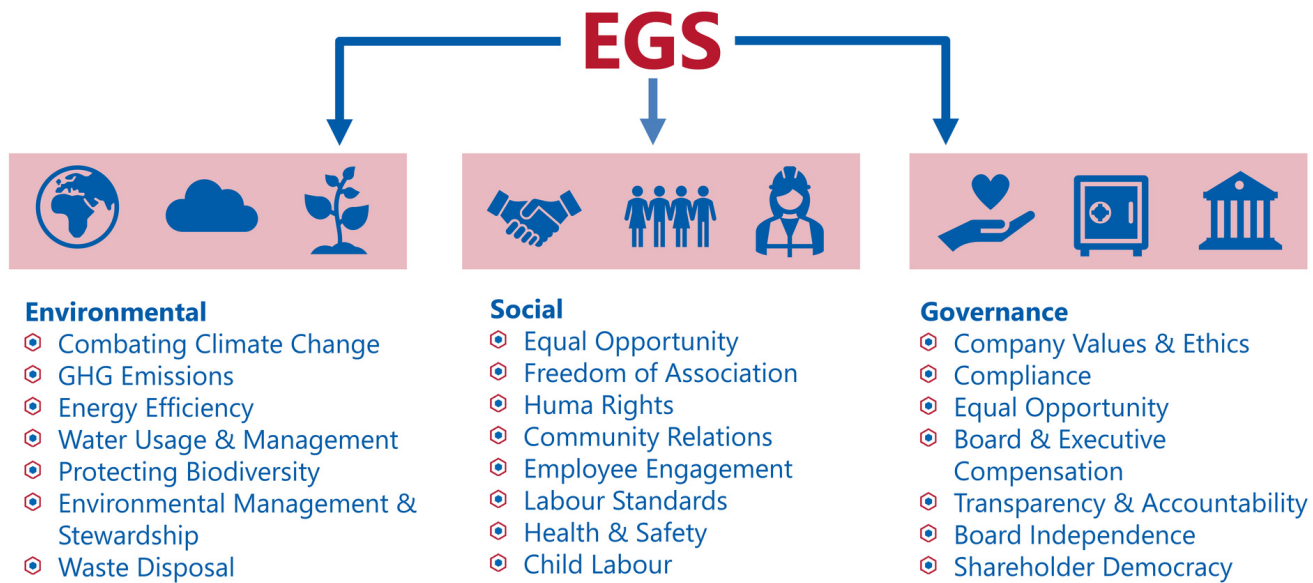


PARTNERSHIP FOR THE GOALS

The European carbon and graphite industry is a very international sector and through its companies and associations is engaged in many countries around the world and partnerships to achieve collaborative progress on the SDGs.

The Sustainable Development Goals through the ESG topics lens – Examples of actions

ECGA members review and revise their sustainability strategy on a continuous basis. The industry wants to leverage opportunities and positive sustainability effects of the activities and the products even more strategically and further reduce negative impacts. Given the interlinked nature of SDGs, below please find the examples of actions undertaken by ECGA members divided into three categories: Environmental, Social and Governmental.



Environmental Issues

The industry is constantly striving to improve the energy efficiency of its processes and reduce CO2 emissions. This is driven by both ecological responsibility and economic motivation, as energy costs represent a high proportion of our production costs.

Environmental issues are defined as material topics for our industry with a special focus on climate change, emissions, energy, waste and water. An improved understanding of the environmental and social impacts of products and services is key to ensuring a sustainable value chain for the future. Therefore, strong environmental management of chemical safety, emission to air and water, and minimising the environmental footprint are key priorities to us.



Environmental Issues

Efficient energy and resource use - Examples



- Focus on energy-efficient equipment and process optimization;
- Efficient use of resources and avoiding impacting the environment as far as possible;
- Reducing the companies' fossil CO2 footprint by increasing the use of renewable carbon sources and developing innovative production processes like carbon capture storage and utilization;
- Replacement of higher-emission fuels with less-carbon-intensive fuels;
- One of ECGA members is planning to install an energy recovery plant in its carbon black manufacturing plant;
- Upgrading electric furnace operation process to reduce CO2 emissions related to steel production;
- Assessment of companies' value-chain emissions as an important part of long-term sustainability strategy;
- Employment of digital technologies to upgrade operation processes at plants.

Electrification of processes - Example



- Although already highly electricity intensive some companies work on the electrification of high-temperature processes that were previously gas-fired or switching to hydrogen and biogas.

Sustainable Sourcing of Energy - Examples



- Increasing the amount of renewable energy used to reduce greenhouse gas emissions;
- One of the ECGA members is fostering and promoting sustainable industrialization by utilizing hydro power.
- Off-grid power supply- Installation of in-house thermal power generation systems with the boiler and the steam turbine designed to ensure the efficient supply of electricity and heat (steam) energy source from fossil fuels. This is to allow the energy to be used effectively for each of the different production processes, such as heating and distillation, at chemical plants. In the future, the switch to fuels with lower CO2 emissions per calorie is planned to achieve lower-emission operations.
- Fuel recycling;
- Reducing CO2 emissions related to transportation within the plant by switching the company fleet (forklift and other vehicle types) to HVs/EVs.

Environmental Issues

Reduction and recycling of industrial waste - Examples



- Recycled carbon fibres can be used as fleece textiles for automotive production and some feedstock sites in the GMS business unit reuse many of the by-products;
- Some ECGA members recycle all graphite waste (powders, shavings, etc.) generated by the production of graphite powder, firing and graphitization and machining, and have also implemented a process for recovering graphite waste from some of its customers;
- Circularity is becoming more and more critical throughout the value chain. We are working with customers and researchers across: reduce, reuse, recycle and renewable. For example, increase the use of recycled raw materials in our operations by collecting raw materials, reintroducing them and by valuing by-products. By joining forces with customers, the companies aim to increase the collection of end-of-life products to recycle them chemically or mechanically.

Contribution to climate protection with our products - Examples



- Carbon and Graphite materials and products made from specialty graphite, carbon fibres and composites are in demand in industries that are defining the future: Automotive, semiconductor technology, LED, solar and wind energy, and lithium-ion battery manufacturers;
- Carbon and Graphite products are used in every electric vehicle based on Li-ion batteries or based on fuel cells;
- ECGA members' solutions contribute to new progress in photovoltaic solar energy and the manufacture of wind turbine generators. The companies also work with hydroelectric generator manufacturers and help to improve the performance and reliability of the equipment and infrastructure used in new forms of urban mass transit and electric vehicles.
- Graphite electrode-driven steel recycling. Graphite electrodes are best known as a key component of electric furnaces in which iron scrap is melted to be recycled into steel.
- Electric power transmission has been one of ECGA members' key focus areas for decades. The company contributes with their expertise to the field of e-mobility: Smart Charging system enables the reliable charging of electric bus batteries in a matter of seconds – both during daily operation and in the depot.

Water consumption and recycling - Examples



- Some companies primarily use water to cool equipment used in heating processes and systematically check its quality before releasing it back into the water system;
- Wastewater treatment and reduction by recycling or reuse are standard practice.

Environmental Issues

Management of emissions to air - Examples



- Use efficient air treatment systems when necessary.
- Companies allocate significant resources to combat dust. The long-term ambition is to reduce process dust to levels where exposure is acceptable without the use of respiratory protection.

Protection of biodiversity - Example



- In particular for natural graphite extraction and processing environment monitoring is key to maintain safe efficient tailing storage and protect the local biodiversity.

Industry innovation and infrastructure - Examples



- All companies are continuously investing a percentage of their turnover in innovation;
- Some of them are participating in national or EU-funded projects and programs.

Regulatory mechanisms - Examples



- Climate change affects us in different ways, like technology development, market adaption, reputation, and regulatory limitations. One example is regulatory mechanisms like emission trading schemes.
- Therefore, changes in ETS regulations may cause a reduction of allowances and higher prices. This will increase Elkem's direct costs which is a current risk in our operations. The target to reduce GHG emissions from production is therefore a strategic goal. In addition, we are monitoring how physical chronic and acute climate change effects could affect our locations and business.

Social Issues

A safe and healthy working environment and the promotion of labour rights are key priorities to our industry. The Carbon and Graphite industry focuses on and invests in the training and competence development of our employees, as well as promoting a culture of involvement, diversity, and equality.



A safe workplace with zero harm - Examples



- Improving safety through automation.
- Setting ambitious goals and striving for continuous improvement in EHS which include reduction of accidents, HS Management System, Risk Management Framework, Critical Hazard Management System, training, and use of PPEs.

Healthy environment - Examples



- Using the same EHS systems, tools and methods, and having the same expectation for EHS performance wherever we operate around the world.
- Companies apply strict occupational, health and safety programs for all their employees and suppliers.

Social Issues

Safety culture, leadership - Examples



- The focus of the corporate team is on involvement, knowledge, and information sharing, and on management's commitment to empower their employees in continuous improvement work through shared goals and tools.
- Engaging employees: enhancing performance and engagement through open communication, prioritizing the training, development and upskilling of employees.

Promoting diversity



Committed to achieving and maintaining a diverse and inclusive workplace

- Due to some companies' growth in new world regions over the recent years, several initiatives have been implemented to ensure applicable training in their code of conduct and the principle of non-discrimination in this region.
- Companies value gender diversity and aim to achieve a better gender balance year on year. The process industry is generally male-dominated. Women are, however, increasingly expressing an interest in working in our industry as increased automation leads to less heavy manual work.

People development - Example



- A proactive policy for continuing professional development. Supporting the professional development of employees in order to retain them and help them to continue to grow. A desire to attract new talent.

Local Development - Example



- Strengthening relations with local government and the community through proactive stakeholder engagement.

Social Issues

Social Responsibility - Examples



- Some companies operate and have suppliers in countries where there are risks of child and forced labour. There is zero tolerance for the use of child or forced labour at our sites and we require that our suppliers and contractors uphold the same standard.
- It is our obligation to provide safe jobs and make sure that the employees have decent and liveable wages and a flexible work-life balance situation. In addition, we can influence the value chain through our partnerships, to make sure that our suppliers and customer also take this responsibility. Our most important tool is the code of conduct for business partners. We provide a secure and safe workday for employees and contractors.
- Companies apply and respect local labour laws and rights.

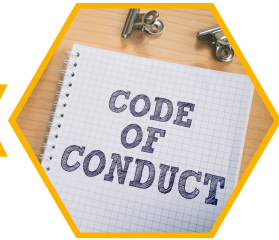
Governance Issues

The Carbon and Graphite industry considers good corporate governance to be a prerequisite for value creation and trustworthiness. In order to secure good and sustainable corporate governance, the companies strive for environmentally friendly and healthy business practices, reliable financial and non-financial reporting and strong compliance culture.



Governance Issues

Code of Conduct



- Companies operate under the Conduct which is an integral component of their management and corporate culture, and it sets standards for responsible, legally compliant behaviour.
- Sector has issued a due diligence guide according to the OECD principles.

Corporate Strategy



- Sustainability is integral to our members' corporate strategy and is designed to ensure a resilient portfolio.

Anti-corruption and bribery



- Companies demand and promote transparent, legal processing of all of the Company's transactions to create trust and secure business relationships over the long term.

Collaborative Partnerships - Examples



- Work with industries, manufacturers and suppliers to deploy solutions at scale;
- ECGA members are companies with a long tradition and rely on long-term, good relationships with customers and suppliers. Customers and suppliers are our partners, with whom we jointly pursue success. This is another important contribution to a sustainable future.

Governance Issues

Risk management - Examples



- Our products and production have an environmental footprint in all steps of the value chain. Elimination of waste is one of the key strategies for successful operations. Our environment, health, and safety (EHS) policy cover actions on energy and resource utilization, environmental impact through emission to air and discharge to water and waste reduction and waste management. Our goal is to reduce the generation of waste through good process control;
- Full compliance with all applicable environmental regulations wherever companies operate.
- Regular performance of risk identification, including potential risks associated with accidents and disasters, violation of laws, human resources and labour, business activities, supply chains, and external environment.

Operating Excellence



- Operating excellence, including personal and process safety, environmental stewardship and asset reliability, is critical to meeting our sector's strategy of growth, returns and distributions.

Reassessing our approach - Example



- Monitoring evolving global energy demand and revisiting planned actions.

Consulting, technical service - Example



- Proposing operation plans for reduced CO2 emissions.

Participation in global technical development promotion mechanisms to encourage knowledge sharing in the fields of science, technology and innovation.