

To:

- **President of the European Commission** Ursula von der Leyen
- **Executive Vice Presidents** Frans Timmermans, Margrethe Vestager, Valdis Dombrovskis;
- **Commissioners** Thierry Breton, Paolo Gentiloni, Kadri Simson

RE: CALL FOR ACTION against the negative impact of the very high electricity prices on the European Carbon and Graphite Industry

7th February 2022

Dear Members of the College of Commissioners,

On behalf of the European Carbon and Graphite Association (ECGA), we are sending you this call for action against the negative impact the very high electricity prices have had on the European Carbon and Graphite Industry.

ECGA, the representative association of EU carbon and graphite producers, including the EU based graphite electrode producers going into Europe's steel and foundry industry, electrodes and cathodes for the aluminium and ferroalloy industry, as well as a wide variety of specialty graphite and carbon products for applications ranging from electric motors to modern battery technology **is legitimately concerned about the steep increase in electricity prices registered in recent months**. These electricity cost increases cannot be passed onto consumers as the carbon and graphite companies compete at global level and must maintain cost structures comparable to the ones of their international competitors. How difficult this is, can be seen from continued anti-dumping and anti-subsidy cases that the sector has been bringing to the European Commission.

ECGA is afraid that, if the current trend continues, without any support, the industry will lose its market share and profit margins to competitors who do not face the same costs abroad. At the same time, the electricity price-related constraints on the carbon and graphite sector will also negatively impact its above-mentioned downstream European industries whose resilience is equally at stake.

The future of global energy policies is still unpredictable and current measures around the world remain fragmented and vary significantly between different regions. Even more, in most countries beyond Europe, competitors profit from regulated tariffs set by local authorities or from favourable electrical energy agreements which protect them against the recent price increases. In such an asymmetric world, the carbon and graphite sector cannot compete successfully.

In this context, ECGA calls upon the EU level and Member States decision makers to address the current electricity price emergency and take the necessary measures to:

- set up the basis of a coherent, environmental, socio-economic support framework allowing the implementation of most efficient measures to reduce greenhouse gas emissions while ensuring that long-time goals the future and international competitiveness of the industry is not undermined;
- ensure that the Emissions Trading System (2021 – 2030) remains the main market instrument for Europe's industries to cost-effectively reduce their emissions. Until a global commitment to price carbon is reached, a clear, predictable, and effective free allocation at European level should continue to be the key tool for sectors exposed to carbon leakage alongside with financial compensation for CO2 costs and

electricity prices (electricity represents a substantial share of the carbon and graphite industry operating expenses);

- ensure that the European carbon and graphite industry, as one of the most electrified industries in the global industrial production, is eligible for indirect emission costs compensation;
- ensure that non-ETS installations and their contribution to the reduction of GHG emissions are also taken into consideration;
- keep carbon and graphite - related mineralogical processes, such as artificial graphite, colloidal, semi-colloidal graphite, and preparations industry outside the scope of the Energy Taxation Directive. Energy costs, primarily due to electricity consumption, represent an important part of the sector's operating cost and thus, increasing them by adding an energy tax would slow down the investments towards the transition to a low carbon economy and implicitly leading to an investment leakage, fewer jobs, less production, and less innovation.
- ensure competitive energy prices in Europe or protection against imports from countries that have lower energy prices;
- stimulate investments in low-carbon products and technologies. It is essential that the new technologies are cost-effective, so to maintain the competitiveness of the carbon and graphite industry and its jobs. The financing instruments at EU and Member States level should continue to be present and to facilitate investments. Support for development, piloting, and up-scaling of key innovative decarbonisation and energy efficiency technologies is still needed.

Hoping that our fears and recommendations have been heard and assessed, we remain at your disposal for any additional information as well as a potential meeting, of course according to your agendas. Until then, please find below more information about the above-mentioned topics.

Please receive my highest regards,



Dr. Corina Hebestret
Secretary General

CALL FOR ACTION against the negative impact of the very high electricity prices on the European Carbon and Graphite Industry

In more detail:

1. Current context:

According to the recent [Electricity Market Report](#) published by the International Energy Agency (IEA) in January 2022, after small drop in 2020, global electricity demand grew by 6% in 2021 and that was the largest ever annual increase in absolute terms (over 1 500 TWh) and the largest percentage rise since 2010 after the financial crisis. Even more, during 2022-2024, IEA anticipates an average annual electricity demand growth of 2.7%. The demand for electricity in Europe increased by more than 4% in 2021 to about the pre-pandemic level of 2019 and during 2022 the growth is expected to continue, albeit at a slower pace of 1.7%, supported by continued economic recovery.

Wholesale electricity prices in the fourth quarter of 2021 in France, Germany, Spain and the United Kingdom were three to more than four times higher than the fourth quarter 2016-2020 average. This was mainly caused by the steep rise in gas prices, alongside increased demand, and EU ETS prices more than doubling in 2021 compared with 2020.

Europe's Nordic region also saw a surge, wholesale prices rising in the fourth quarter of 2021 almost three times compared with the fourth quarter average of 2016-2020, and over seven times higher than the same period in 2020. However, average prices of EUR 96/MWh in the fourth quarter of 2021 were only about half as high as in Western Europe.

2. Current EU level policies, measures, and support instruments

Carbon pricing is often part of a suite of climate policies targeting clean energy transitions. It comprises carbon taxes, an emissions trading system (ETS), or hybrids of the two. By the end of 2021 there were 65 carbon pricing instruments in place, all covering the electricity sector, were introduced during the year.

In 2021 the European Union put forward a wide range of reforms to its EU ETS as part of its Fit for 55 Package, to align with the new 2030 EU emissions target. Reform proposals include a more aggressive decline of the emissions cap, reinforcement of the market stability reserve to strengthen resilience to future exogenous shocks, and more targeted carbon leakage rules. They also notably proposed a carbon border adjustment mechanism (CBAM), which would subject high-carbon imports, including electricity, to a border tax. This, combined with several other factors, saw EU ETS allowance prices soar to at times levels above 80 EUR/t CO₂ in the fourth quarter of 2021, reaching record highs.

3. Importance of support measures to minimise the impact of increasing electricity prices for ECGA

3.1 Reimbursing indirect costs

The electricity intensity of the carbon and graphite sector is higher than many other electro-intensive sectors. With a 2019 average electricity consumption per mt of product of 5MWh/t for installation a Band IB > 20 GWh and of 18,5MWh/t for installation a Band IB < 20 GWh, the carbon and graphite industry positions above basic oxygen steel (0,036 MWh/t), alumina refining (0,225 MWh/t), chlorine production (2,461 MWh/t) and zinc electrolysis (4 MWh/t). Indirect emissions costs, primarily due to electricity consumption, represent an important part of the sector's operating costs.

For the carbon and graphite sector, the indirect emissions intensities are higher than the direct emissions ones, thus indirect costs are higher than the direct costs. As ETS related free allocation only offsets part of

the direct carbon cost and State Aid is currently not provided to compensate for the indirect carbon costs of the surveyed installations, the total net carbon cost to be borne by the industry is significant. At the same time, the current system for indirect cost compensation encourages installations to prefer direct emissions over indirect emissions. This hinders greater electrification of the production process, thereby slowing down an essential step in the transition to a low carbon economy.

Assuming full cost pass through of EUA prices in electricity prices, significant recent increases in the former are expected to lead to a significant increase in indirect emission costs compared to previous periods. The indirect carbon costs passed on to the sector by electricity suppliers are difficult to pass on to customers given the global market and high trade intensity. This implies that such high costs would have to be absorbed by the companies in the sector itself, at the expense of profit margins. Graphite producers operate at low profit margins, especially in the last few years due to the sharp drop in profitability. Given the low profit margins of the sector, the sector has limited capacity to absorb the cost pass through.

In conclusion, ECGA believes that the Commission should revise and amend the ETS-related State Aid Guidelines and ensure that the carbon and graphite processes are eligible for indirect cost compensation.

3.2 Keeping mineralogical processes outside the scope of the Energy Taxation Directive

Including carbon and graphite - related mineralogical processes, such as artificial graphite, colloidal, semi-colloidal graphite, and preparations industry in the scope of the Directive would lead to a severe cost burden for the industry. To reach carbon neutrality in the manufacturing of mineralogical products, our industry must deploy massive and long-term efforts (R&D, process innovation, investments etc.), which require predictable and coherent framework conditions. As the industry moves towards decarbonization, increased electrification will become the main energy source to achieve a climate neutral production. Adding an additional energy tax would therefore not only increase production costs for conventional production technologies but also severely undermine future low-carbon processes. Furthermore, even if the energy and trade intensity as well as the carbon leakage status of the industry have already been acknowledged in the ETS Directive, the industry is already confronted with the fact that the carbon and graphite sector is not compensated for indirect carbon costs associated to electricity.

4. European carbon and graphite-related products, essential to offsetting CO₂ for the downstream industries

The European carbon and graphite sector provides key products to other sectors, facilitating renewable energy production, energy savings and energy storage, recycling and recovery of other materials.

The largest market for synthetic graphite, accounting for about 32% of the worldwide total graphite market and worth about 3.7 billion EUR is the electrode market used mostly by the steel industry. The electrodes for electric arc furnaces make up the biggest revenue share and create considerable interdependencies between the two sectors. Recycling steel is carried out in Electric Arc furnaces (EAF)¹ which are using graphite electrodes to obtain the temperatures necessary to melt the steel scrap and to ensure the steel qualities of the recycled steel. Graphite electrodes are an integral part of the latest steel recycling technology and given the increased use of steel in infrastructure around the world, graphite electrodes will continue to be required

¹ An electric arc furnace (EAF) is a furnace that heats material by means of an electric arc.

to save resources for the future. Compared to Basic Oxygen Furnace (BOF)² steelmaking producing about 3,5 t CO₂ per t of steel, steel scrap recycling with graphite electrodes used in EAFs produce only 0,5 t CO₂ per t of steel.

Other contributions to the sustainable development of the European economy include:

E-MOBILITY: The fuel efficiency is increased by using lightweight structures based on composite materials lead such as: Page | 5

- Graphite specialities for vacuum and cooling systems and pumps as well as leaf springs and high-performance carbon ceramic brake discs;
- Graphite as anode material in lithium-ion-batteries;
- Carbon and graphite technology for charging stations for electric public transport

ENERGY STORAGE: Energy storage in all forms will be crucial in the future and it will not only secure the energy supply, but it will also enable electric mobility. The lithium-ion battery is one such example where carbon and graphite are crucial and where both natural and synthetic graphite are being used. Synthetic graphite as anode material in lithium-ion batteries, battery felts in stationary energy storage systems, special graphite solutions in lead-acid-batteries as well as the gas diffusion layer in fuel cells contribute to efficiency and performance of energy storage systems.

RENEWABLES: Without high-purity graphite there would be no solar panels. High-purity graphite, carbon fibres reinforced materials and felts are used for the production process of multi- and monocrystalline silicon for solar panels.

In many wind turbines today, carbon fibre-based composites are used due to their high strength and stiffness combined with their low density. New innovative specialty products are facilitating a generation of rotor blades that set new standards for performance efficiency, service life, and rotor dynamics. New types of for carbon brushes are also important functional components in wind turbine generators and an increase energy transmission.

Current supply bottlenecks along the value chain hydrogen storage: Around 30 raw materials are needed for producing FCs and hydrogen storage technologies. Of these materials, 13 materials namely cobalt, magnesium, REEs, platinum, palladium, borates, silicon metal, rhodium, ruthenium, graphite, lithium, titanium and vanadium are deemed critical for the EU economy according to the 2020 CRM list. (Source: JRC Foresight report, Page 25)

LED-PRODUCTION: LEDs generate the light in semi-conductors. Isostatic graphite is the basic materials to produce semi-conductor layers. Only very pure and homogenous graphite can provide these coatings.

DIGITALISATION: Digitalisation enables and increases speed for data management and transmission: specialty graphite is used in the production of semi-conductors for high performance computer chips and silicon carbide coated wafer carriers. Graphite used to produce graphene, electrically and thermally conductive material destined for many applications.

LEADING INNOVATION: European companies are global leaders in innovation and the suppliers of raw materials used for infrastructure development and a wide range of downstream industries. The sector is

² Basic oxygen steelmaking (BOS, BOP, BOF, or OSM) is a method of primary steelmaking in which carbon-rich molten pig iron is made into steel. Blowing oxygen through molten pig iron lowers the carbon content of the alloy and changes it into low-carbon steel. The process is known as *basic* because fluxes of burnt lime or dolomite, which are chemical *bases*, are added to promote the removal of impurities and protect the lining of the converter.

constantly developing stronger, more durable, and more efficient materials/procedures/machineries for these purposes. European innovation and high-tech development also contribute to significant positive impacts both in the EU and globally.

About the European Carbon and Graphite Association (ECGA)

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The European Carbon and Graphite Association (ECGA) represents European carbon and graphite producers, the activities concerned are those under PRODCOM code 23.99.14 which covers the most energy intensive but also the most critical activities in the sector.

The European carbon and graphite producing sector is mainly concentrated in eight European Economic Area (EEA) Member States (Spain, Norway, Austria, Poland, France, Germany, the United Kingdom and Slovakia) but trading activities are present all over Europe. It is a multimillion 'added value' generating sector, with a worldwide turnover volume of €3 to 5 billion annually. Roughly 40,000 people are employed either directly or indirectly through this industry.

The main downstream market of the sector is the electrode market, especially the steel industry, for which the recycling of scrap steel reduces the CO₂-emissions of the sector. Electrodes for electric arc furnaces make up the biggest revenue share and create considerable interdependencies between the two sectors. Other important downstream markets are refractories, the aluminium industry, electronics and lithium-ion batteries.

The European carbon and graphite sector is an energy intensive sector, whose products and raw materials are an integral part of any economy and society. Standing at the beginning of most value chains, the sector is a critical supplier of essential materials and products in other key economic sectors including electronics, steel and batteries. The carbon and graphite sector therefore generate added value and growth through employment, economic growth, development, innovation and generating trade.