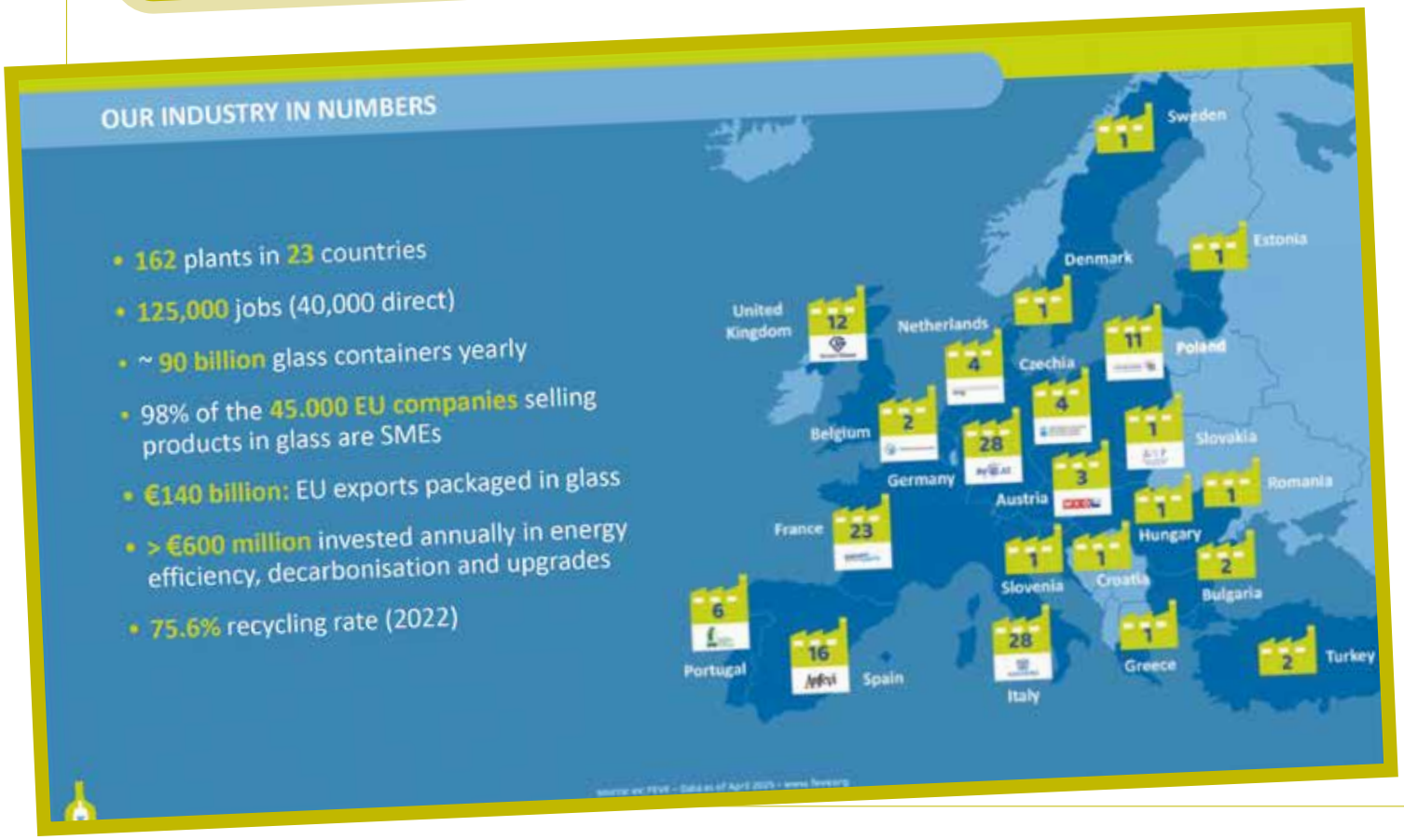
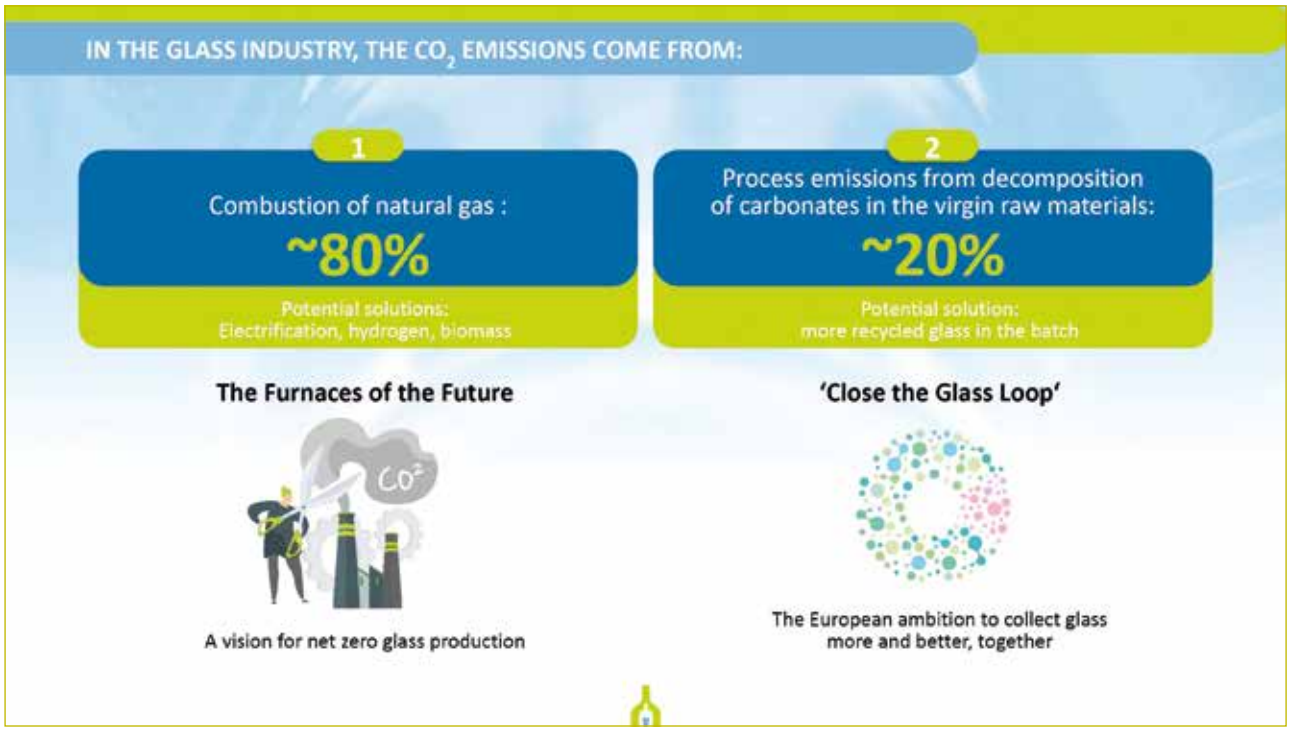
Closing the glass loop across Europe with FEVE

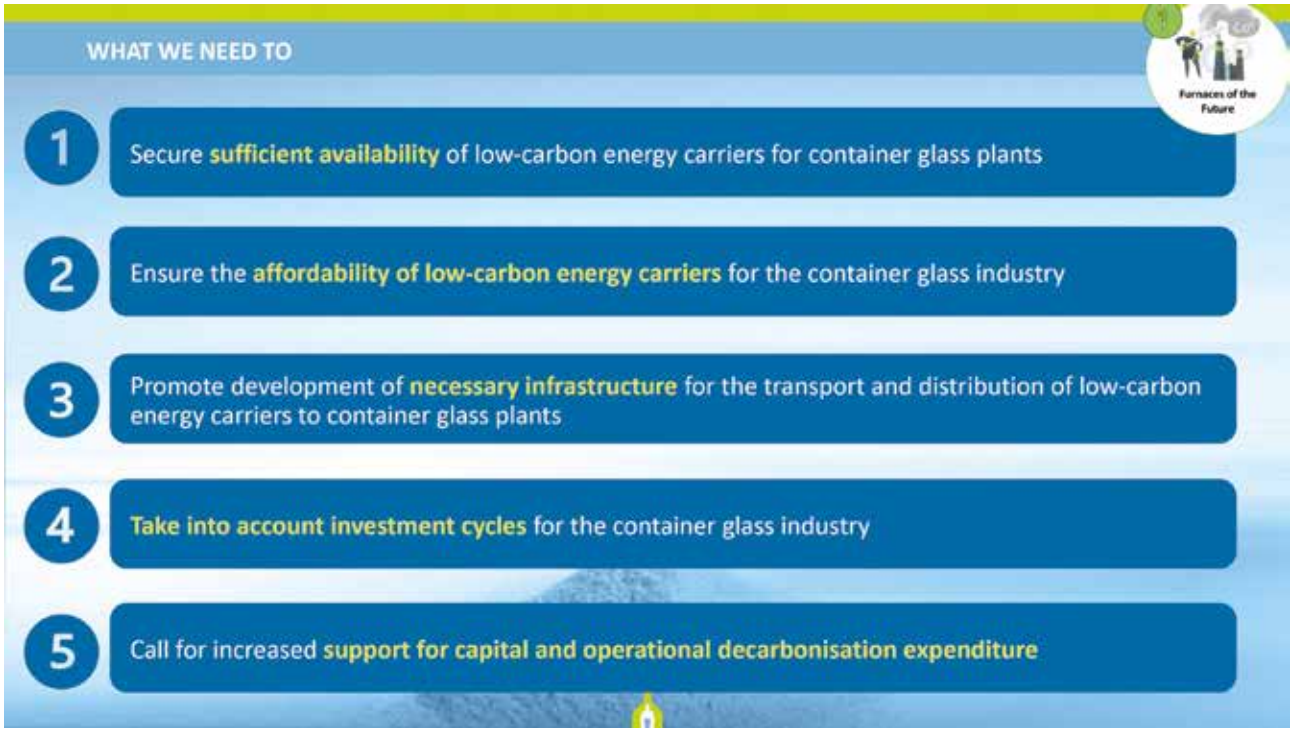
Leading the European container glass industry towards climate neutrality through advanced furnace technologies, FEVE has increased recycled content and supportive EU policies. By combining circularity, innovation and pragmatic regulation, it aims to secure a competitive, low-carbon future for glass packaging across Europe.



Decarbonising the European container glass industry is a central strategic priority for FEVE -The European Container Glass Federation- which represents a sector deeply embedded in Europe's industrial, economic and social fabric. With 162 container glass plants operating across 23 countries, the industry provides around 125,000 jobs -40,000 of them directly- and produces close to 90 billion glass containers every year. The sector is characterised by a strong SME base, with 98 percent of the 45,000 EU companies selling products in glass falling into this category.

Glass packaging plays a vital role across food and beverages, pharmaceuticals and cosmetics and perfumes, supporting European value chains while enabling circular material use. Each year, over EUR 140 billion worth of EU exports are packaged in glass, underlining the material's strategic relevance. At the same time, the industry is already investing





more than EUR 600M annually in energy efficiency, decarbonisation and plant upgrades, reflecting a long-standing commitment to continuous improvement and environmental performance.

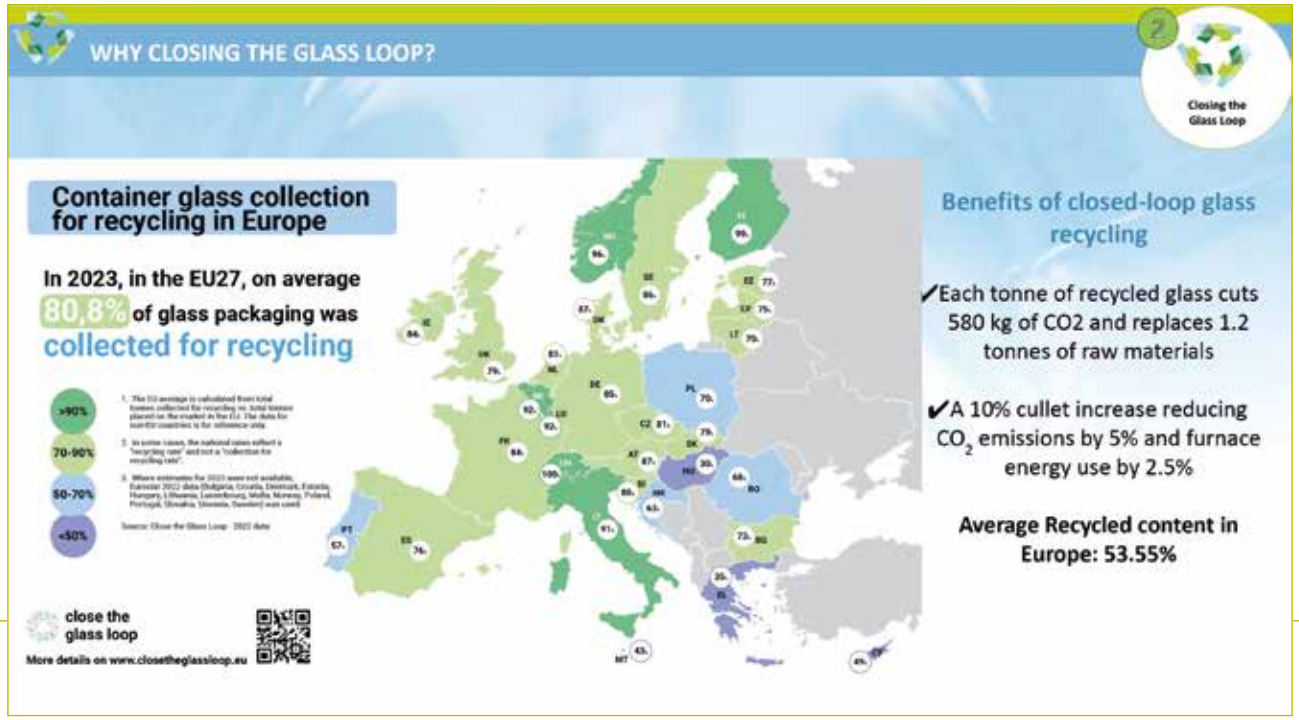
TOWARDS CLIMATE-NEUTRAL CONTAINER GLASS

FEVE has set out clear pathways towards climate-neutral container glass production, structured around five interconnected areas: furnaces for the future, closing the glass loop, sourcing and design and transport and delivery. At the heart of this transition lies the transformation of melting furnaces, which are responsible for the majority of CO_2 emissions in glass manufacturing. Approximately 80 percent of emissions stem from the combustion of natural gas, while around 20 percent result from process emissions linked to the decomposition of carbonates in virgin raw materials.

To address these emissions, FEVE identifies electrification, hydrogen and biomass as potential solutions for furnace decarbonisation, alongside increasing the use of recycled glass in the batch. This dual approach combines technological innovation with material efficiency, forming the basis of a long-term vision for net-zero glass production in Europe.

CLOSING THE LOOP

A cornerstone of FEVE's decarbonisation strategy is the ambi-



tion to 'Close the Glass Loop' - a European-wide effort to collect more glass, and collect it better, together. In 2023, an average of 80.1 percent of glass packaging placed on the market in the EU27 was collected for recycling, while the average recycled content in European container glass reached 53.55 percent.

The climate benefits of closed-loop glass recycling are substantial. Each tonne of recycled glass used in production avoids approximately 580 kg of CO_2 emissions and replaces 1.2 tonnes of virgin raw materials. Moreover, a 10 percent increase in cullet use can reduce CO_2 emissions by 5 percent and lower furnace energy consumption by 2.5 percent. To accelerate these gains, Close the Glass Loop operates as a European partnership spanning the entire glass packaging collection and recycling value chain, with 13 national platforms mobilising action at country level.

POLICY FRAMEWORKS ENABLING DECARBONISATION

FEVE actively engages with European policy developments that are critical to enabling industrial decarbonisation. The EU Emissions Trading System (ETS), as the flagship EU climate policy, requires all industrial sectors to purchase allowances corresponding to their CO_2 emissions, with the total number of allowances gradually decreasing. Under the current trajectory, allowances would run out by 2039, effectively requiring all sectors to be carbon neutral. FEVE therefore calls for a pragmatic review of the ETS trajectory to reflect industrial realities, alongside enhanced earmarking of ETS revenues for industrial decarbonisation, which currently stands at just 3 percent.

In parallel, FEVE highlights the importance of the EU ETS State Aid Guidelines, which allow Member States to compensate certain sectors for indirect CO_2 costs passed through electricity prices. At present, the container glass sector is not eligible, creating a significant barrier to electrification. FEVE advocates for the inclusion of container glass to support both competitiveness and decarbonisation, particularly in light of revised CO_2 price assumptions.

Further policy initiatives, such as the forthcoming Industrial Decarbonisation Accelerator Act and the proposed Industrial Decarbonisation Bank -with a budget of up to EUR 100 billion- are seen as key opportunities. FEVE stresses the need for streamlined permitting, faster grid connections, sufficient funding levels and fair access across industrial sectors to ensure that decarbonisation investments can be deployed at scale and in line with industry investment cycles.

FEVE
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