ACTIVITY REPORT

2023







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Cementing Europe's Future



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OUR VALUE CHAIN

Cement plays a key, but often unnoticed, role in our lives. Whilst everyone knows the word cement, it is often confused with concrete or mortar. **Cement** is a key ingredient in both **concrete** and **mortar**, and it is always mixed with other materials before its use:

- **Cement** mixed with water, sand and gravel forms **concrete**, which is what the vast majority of cement is used for.
- **Cement** mixed with water, lime and sand forms **mortar**.

Cement and concrete have been used to build durable structures for quite some time. Thanks to the special binding properties of cement, concrete is a very resilient material that can bear heavy loads and resist environmental extremes. It is the basic material for all types of construction, including housing, roads, schools, hospitals, dams and ports, as well as decorative applications (such as patios, floors, staircases, driveways, pool decks etc) and items like tables, sculptures or bookcases.

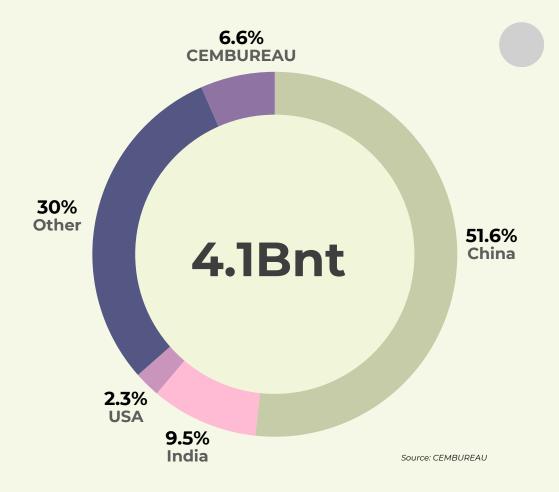
KEY FACTS & FIGURES

Cement sector employees

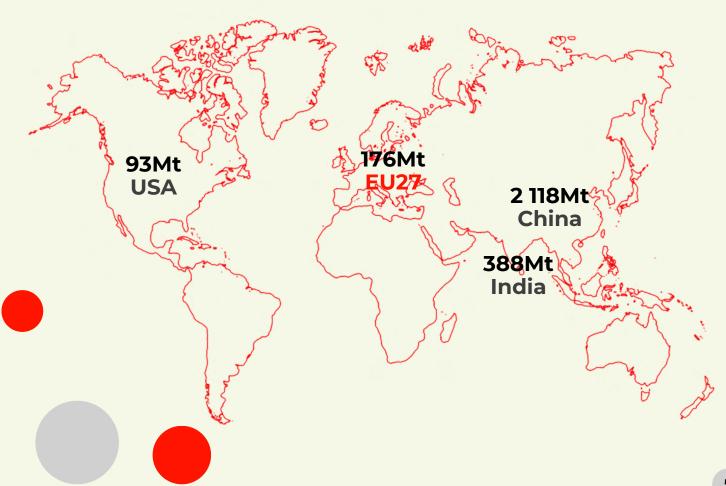


50 980 (2022) CEMBUREAU **34 975** (2022) EU 27

World cement production 2022



Main world producers in 2022





We set out pathways to reach net zero by 2050 along the cement and concrete value chain in our Carbon Neutrality Roadmap, published in 2020. Experts from the European cement industry worked relentlessly to identify CO2 reduction potential at each stage of the value chain - clinker, cement, concrete, construction and carbonation. As we reflect on the strides made towards our carbon neutrality goals in 2023, CEMBUREAU is also looking ahead. In 2024, we are excited to launch an updated version of our Net Zero Roadmap. This revision not only assesses our progress to date but also looks at what the sector could achieve at a 2040 time horizon. The Roadmap update will be a key instrument for us to engage with the European Commission when it elaborates its work programme in Spring of 2024 and to initiate dialogues with newly elected Members of the European Parliament.



We will achieve a significant portion of the emission cuts planned in our roadmap the implementation through breakthrough technologies. Nonetheless, a set of technologies, policies and production changes are needed throughout the life cycle of cement production, from the production of clinker up until the carbonation and recycling of concrete. These include for instance the use of construction demolition waste and other materials to partially replace extracted limestone;non-recyclable biomass waste to replace fossil fuels; more energy-efficient kilns; development of low-clinker innovative cements; capture deployment of carbon and storage/use (CCUS) technologies; optimised concrete mixes and building techniques and the potential for concrete to carbonate up to 23% of the CO2 process emissions (which represent two third of the total CO2 emissions in clinker production).

Throughout 2023, we emphasized the fact that to deliver on its ambition, the sector needs a business case for decarbonisation investments, supported by **appropriate policy measures**. In particular, we focused on six key areas where policymakers can make a difference:

- An effective and watertight Carbon Border Adjustment Mechanism (CBAM):

 a level playing field on carbon is indispensable to stimulate low-carbon investments and support carbon emission reductions worldwide. In this respect, it is critical that the EU CBAM is implemented swiftly and demonstrates its watertightness.
- Financial support for the decarbonisation of the sector needs to be significantly ramped up. The existing EU and national funding programs are too limited and not suitable to support large-scale deployment. In the decade to come, the cement industry will contribute significantly to the EU ETS. At least 75% of these ETS revenues should be frontloaded and put in a dedicated Deployment Fund to support the deployment of large-scale transformation projects at our manufacturing plants.
- Development of a pan-European CO2 transportation and storage network: A large number of carbon capture, use and storage (CCUS) pilot projects are being developed by the cement industry across Europe. Alongside continued support for CCUS, EU and national policymakers should urgently look at developing a pan-European CO2 infrastructure network to allow for the transport, storing and/or reuse of the CO2 captured in the cement plants. Fair access to infrastructure at reasonable conditions is also an essential prerequisite. The Net Zero Industry Act developed by the European legislator addresses some of these issues and now needs to be implemented throughout the EU.

- Access to Substituting Cementitious Materials (SCMs): throughout Europe, cement plants are actively exploring avenues to augment the incorporation of SCMs in cement manufacturing and therewith reducing the clinker content. With the availability of fly ash from the power sector and blast furnace slag from the steel sector diminishing as a consequence of the decarbonisation of both sectors, new and alternative sources of SCMs (calcined clays, recycled concrete natural pozzolans) are explored. A sizeable amount of clinker per tonne of cement will always be needed to ensure the durability and strength of concrete used.
- · Decisive action on circular economy to support the use of non-recyclable waste biomass waste in cement production - continued access to zerosustainable biomass rated and alternative raw materials: 2023 data show that the European cement industry substitutes 53% of its fossil fuels by nonrecyclable waste and biomass waste. This allows significant CO2 savings in our emissions and further brings wider benefits through the circular use of these that would otherwise incinerated or landfilled. Policies should facilitate waste shipment between EU countries, discourage landfill and minimise exports of waste outside of the EU, and support the use of non-recyclable wastes in the EU industry. It is further of crucial importance to have continued access to zero-rated sustainable biomass.

 Ambitious policies to reduce European building's CO2 footprint, based on a lifecycle approach, which incentivise the market uptake of low-carbon cements: The EU cement industry is taking an active role in the debate on a carbon neutral built environment and low-carbon construction products. The new Construction Products Regulation (CPR) and the CPR Acquis process will support a well-functioning system. The acquis process for cement already started. The new standardisation request for cement will make it possible to introduce new lower carbon cements into the EU market, and thereby facilitate the transition to a climate neutral society.





2023: A YEAR IN REVIEW

FOREWORD BY THE PRESIDENT AND THE CHIEF EXECUTIVE

The CEMBUREAU Roadmap, presented in May 2020, is firmly on track for implementation through numerous projects. The <u>map of innovation projects</u> on the CEMBUREAU website now features over 100 projects spread across Europe, covering each of the "5C" decarbonisation levers.

The cement sector's long investment cycles justify making decisions aimed at decarbonising the industry by 2050 today.

With a business focus on implementation and deployment, CEMBUREAU's policy messages have emphasized the need for a viable business case. In addition to the advocacy files covered in the Working Group reports below, CEMBUREAU's activities in 2023 focused on three pillars:

Specific needs for a viable business case: CEMBUREAU's broad policy messages have been complemented and underscored by specific regulatory requests on issues that can either hinder or facilitate the business case. By reaching out to national associations and companies, we have identified a wide range of barriers present to different degrees across the EU.

Amongst the most prominent ones are: an absence of de-risking instruments along the Carbon Capture and Storage (CCS) value chain, zoning restrictions for CCS and energy infrastructure, volume commitments imposed on capturing plants by CO2 storage operators. Other challenges include long and permitting procedures, exacerbated by a lack of coordination between different levels of government (European, national, regional), an insufficient regulatory incentive to capitalise on the circular economy potential of our industry, both upstream (where the landfill route is still often preferred over the recovery or recycling of waste in our kilns) and downstream (where recycling of construction and demolition waste remains at modest levels in large parts of the EU). Bringing these messages to light, Members emphasized the need for a full value chain approach where the cement industry decarbonises with a view to bringing low carbon concrete to market. A regulatory framework facilitating the uptake of low products, including carbon public procurement rules and standards, has been at the core of CEMBUREAU's advocacy on construction product rules.

terms of overall competitiveness conditions, Members emphasized the increase in electricity demand when decarbonising operations by a factor of two to three. This underscores the need for access to affordable non-fossil-based electricity and the inclusion of OPEX costs in public funding programs.

CEMBUREAU further conveyed to policymakers that investment viability can only be guaranteed in conditions of a competitive level playing field, where a watertight and fully operational CBAM plays a crucial role. To be watertight CBAM must be effectively policed and governed by all European Member States and the EU Commission.

External studies in support: Further facts and figures were added to this input drawn from real-life projects and operations commissioning external studies. CEMBUREAU relied on a study by the research institute VITO to relay the message that CO2 from direct air capture and biogenic sources alone will be largely insufficient to meet the demand for CO2 in various applications, ranging from chemical products over aviation fuels to construction products and drinks. Therefore, we will need CO2 sourced from unavoidable process emissions. TNO Consultants helped underscore our argument that decarbonisation of the sector will entail a substantial increase in electricity demand, while Leoben University proposed a concept for an ISO standard calculating the recycling content of alternative raw materials.

Coalition building / Network outreach: Building coalitions and extending networks has been another building block in support of CEMBUREAU's outreach. In setting out our decarbonisation journey, it is imperative to bring the workforce along. Reskilling existing workers and attracting new talent is at the core of an EU-funded joint project between CEMBUREAU and the European trade union organisation, European Federation of Building and Woodworkers (EFBWW), with ECRA providing excellent guidance as a consultant for the project.

CEMBUREAU has also joined a coalition with producers of composite materials to promote co-processing opportunities in the cement sector for decommissioned wind turbines. The establishment of <u>Concrete Europe</u> as a new legal entity between the aggregates, cement, and concrete (precast, ready-mix, concrete pavement, concrete admixtures) sectors has resulted in valuable and effective policy outreach.

All these activities have been coupled with a significant boost in CEMBUREAU's social media presence, including the launch of a podcast channel and a focus on dedicated information tools such as a webpage featuring concrete examples of co-processing projects.

The sum of all these parts makes up for an impressive whole that has allowed CEMBUREAU to engage with policymakers at all levels of government and contribute to major policy documents, including the Net Zero Industry Act (NZIA), the Construction Products Regulation (CPR), and the Industrial Carbon Management Strategy.

The professional and precise input from experts and the targeted input from Board Members and national associations have allowed our team to approach the policy debate in Europe with a clear idea of the business case needs for the cement sector. This practical approach has been welcomed and labelled as refreshing by policymakers.

Many thanks to all our Members for their continued supply of facts, data, and impact assessments. Your continued support will be essential in updating the targets set in our Roadmap and advocating for the cement sector's business case with the newly elected Members of the European Parliament and a renewed European Commission in 2024!

Ken McKnight CEMBUREAU President Koen Coppenholle CEMBUREAU Chief Executive





CEMENTING EUROPE'S FUTURE: BUILDINGS FOR A NET ZERO AGE

Our annual event 2023, "Cementing Europe's Future: Buildings for a Net Zero Age", held on October 24th in Brussels, was aimed at addressing the decarbonisation of European buildings and enhancing circularity within the construction sector. Attracting around 270 participants, both in-person and online, the event drew attention to the critical journey towards achieving carbon neutrality by 2050, under the banner #Cement2050.

Opening conference. **CEMBUREAU** the President Ken McKnight highlighted the cement and concrete industry's decarbonisation efforts, marked by over 100 projects and substantial ETS innovation funding. Following him, Kurt Vandenberghe, from DG CLIMA, offered insights into the EU Green Deal's objectives, emphasizing the need for significant investments and a strategic focus on carbon capture and behavioural changes to achieve 2050 targets.

The event's core discussions unfolded over a panel featuring insights from MEP Marcos Ros Sempere, European Parliament; Dr Josefine Lindblom from DG ENV; Sorcha Edwards, Secretary General at Housing Europe, Johannes Kreißig, CEO of the German Sustainable Building Council, and Eric Bourdon, Deputy CEO at VICAT Group, advocating for sustainable collectively materials, circular economy principles, and the pivotal role of public procurement.

CEMBUREAU CEO Koen Coppenholle wrapped up the event with a call to collective action against climate change and the announcement of a new podcast series, reinforcing the industry's commitment to a sustainable future. This gathering spotlighted the decarbonisation of European buildings and the significance of circularity in the construction value chain.





CONCRETE DIALOGUE 2023

On June 28th, Concrete Europe organised a visit to a ready-mix plant and a building site in the heart of Brussels, attended by European Commission officials and stakeholders from various European entities including business associations. and think tanks. nongovernmental organisations. The event provided an opportunity to witness firsthand integration of whole-life considerations in manufacturing and construction activities, coinciding with the European Commission's development of its EU Whole Life Carbon Roadmap, scheduled for publication in April 2024.





2050 AMBITIONS & THE ROLE OF SECONDARY MATERIALS IN THE EUROPEAN CEMENT SECTOR

Following the publishing of CEMBUREAU leaflet on the use of secondary materials, in January 2023, CEMBUREAU hosted a webinar "2050 Ambitions & The Role of Secondary Materials in the European Cement Sector," attended by 390 participants. This online event explored the essential use of secondary materials within the European cement industry, a cornerstone for achieving the ambitious carbon neutrality goal by 2050 as outlined in the **CEMBUREAU 2050 Carbon** Neutrality Roadmap. Nikos Nikolakakos, CEMBUREAU's Environment & Resources Manager, opened the webinar, setting the stage for a series of in-depth presentations. Highlights included Dr.-Ing. Volker Hoenig's overview of the ECRA study on alternative raw materials, insights into the CO2REDRES project by Prof Dr.-Ing. Danièle Waldmann-Diederich and Mr. Sinan Kaassamani, Dr.-Ing. Bernd Arnd Eberhardt's discussion on cement from processed buildina rubble. and Associate Professor Yiannis Pontikes' exposition on industrial symbiosis. The webinar concluded with encapsulating the discussions on challenges, policy actions, and showcasing ongoing projects that are crucial for increasing the share of secondary materials in cement production.



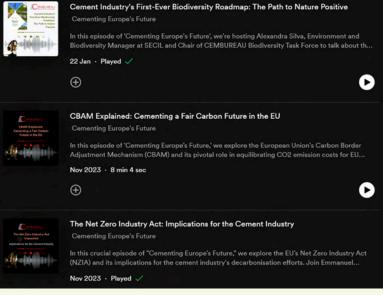
WHAT'S BUZZING IN OUR QUARRIES?

In September 2023, CEMBUREAU hosted a webinar "What's buzzing in our quarries? The European cement sector gives pollinators a helping hand", attracting around participants. This online event, welcomed key stakeholders from the European Commission, academia, and the cement industry, and focused on the vital role of quarries as habitats for pollinators. It was aligned with CEMBUREAU Biodiversity Roadmap, illustrating the sector's commitment to supporting the conservation and revitalisation of wild pollinator populations. The webinar, moderated by Dr. Carolyn Jewell, member of the CEMBUREAU Biodiversity Task Force, shed light on the diverse initiatives and strategic actions undertaken by the cement sector to mitigate pollinator decline and foster their resurgence across Europe. The session featured insightful presentations highlighting successful projects in quarry restoration and NGO partnerships to enhance pollinator species' abundance.

CEMENTING EUROPE'S FUTURE PODCAST SERIES

In October 2023, CEMBUREAU launched the "Cementing Europe's Future" podcast series, offering an audible journey into the European industry's sustainability Hosted by CEMBUREAU, this podcast is a insights platform to discuss decarbonisation targets, aligning with the EU Green Deal. Industry leaders, policymakers, and innovators discuss steps toward carbon neutrality by 2050 and the push for a circular economy. Ideal for those interested in the intersection of EU directives and the cement sector's actions, the podcast is accessible on our website and Spotify. Launched during the CEMBUREAU annual event on October 24th, the series released 7 episodes from its launch until the end of 2023, accumulating a total of 306 listens by the year's end.





CO-PROCESSING: WASTE TO WORTH – COMMUNICATION CAMPAIGN

In October 2023, CEMBUREAU launched a communications campaign about coprocessing: "From Waste to Worth:

The Co-Processing Journey". The campaign aimed to educate policymakers on the benefits and potential of co-processing and drive policy changes supporting this sustainable practice.

It featured a web landing page - including a photo gallery dedicated to success stories gathered from members -, podcast series, POLITICO newsletter sponsorship, op-eds, World Cement magazine feature, social promotions, and a banner media EURACTIV. Performance campaign on metrics, gathered until the end of 2023, highlighted significant engagement, including more than 1300 landing page views, 140 podcast plays, high engagement on LinkedIn with 73,909 impressions and 1678 new followers, and a successful banner ad on EURACTIV with 21,904 impressions. The report underscores the campaign's impactful reach and engagement across various platforms.

















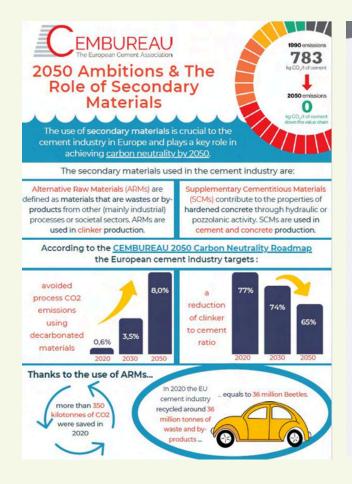


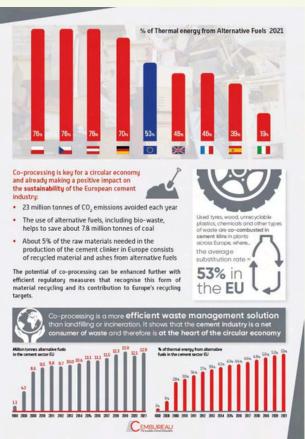




NEW COMMUNICATION MATERIALS

In 2023 CEMBUREAU <u>published</u> 28 position papers, 7 press releases, 6 reports, 5 opinion articles, a <u>leaflet on Alternative Raw Materials</u>, a <u>video on the annual event highlights</u>, 7 <u>podcast episodes</u>, updated the <u>biomass leaflet</u> and the <u>co-processing brochure</u>, and launched a photo gallery of <u>co-processing case studies</u>.





MAP OF INNOVATION PROJECTS – UPDATE

Launched in 2021, the <u>Map of Innovation Projects</u> portrays the ongoing projects and investments in technologies in the cement industry across Europe. In order to improve navigation, the updated map presents the user with a user-friendly filtering option. Currently with more than 100 projects, the filtering option allows the user to explore projects based on different criteria:

CEMBUREAU's 5Cs (as outlined in our 2050 Carbon Neutrality Roadmap), Country, EU Funding, Project Status, and Technology. The projects on the map are accompanied by compact descriptions, which allows the user to gain insight into the objectives and technological approaches. The map is frequently updated to portray projects in the European cement industry.

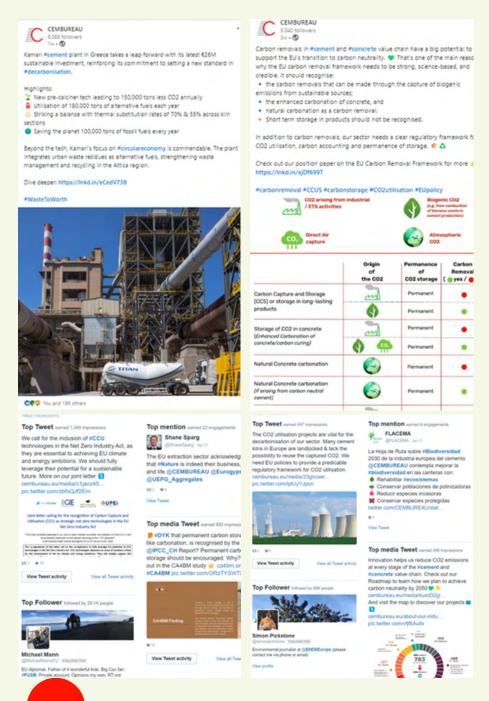


CEMBUREAU SOCIAL MEDIA PERFORMANCE

In 2023, CEMBUREAU's social media presence notably advanced, reflecting a year marked by significant growth and increased engagement on $\underline{\text{LinkedIn}}$ and $\underline{\text{X}}$.

Our LinkedIn saw an approximate 36% growth in followers, adding 1,793 individuals to the network, our number of followers exceeded 7K. Through 220 published posts, CEMBUREAU achieved 18,761 clicks, demonstrating the content's wide-reaching impact.

On X, we welcomed 270 new followers, a 6% increase, with our 330 posts attracting 701 clicks and amassing 2,000 likes.





CLIMATE CHANGE & ENERGY

WORKING GROUP A

For the European cement industry, the introduction of the CBAM, starting with a reporting period for imports and their embedded emissions for 2023-2025 leading to a full implementation in January 2026, is a major step in achieving a fair level playing field between EU and non-EU cement production. Through regular contacts with DG Taxud of the European Commission and as part of the CBAM Expert Group, CEMBUREAU is making the case for a watertight application of the CBAM and will closely follow further initiatives to be taken by the Commission on inclusion of indirect emissions in the scope and in assessing a possible solution for exports.

2023 was marked by a series of secondary legislation initiatives, guidance documents and templates for the implementation of the EU ETS. Four major issues have been identified, apart from many smaller issue:

1. Conditionality on CO2 performance: Free allocation will be reduced by 20% for the 20% worst performing installations under the benchmark. These installations will need to draft a Climate Neutrality Plan to show their commitment and progress towards carbon neutrality by 2050.

- 2. Conditionality on energy efficiency: If recommendations from energy efficiency audits have not been implemented, a reduction of 20% of the free allocations is possible. Both conditionalities (CO2 performance and energy efficiency) cannot be cumulated.
- 3. The Commission triggered in mid-2023 a discussion on the current clinker benchmark, with the proposal to move into a "grey cement clinker or alternative hydraulic binders for the production of cement, as total amount of binder produced" benchmark. The definition of alternative hydraulic binders remains unclear up until today.
- 4. The cap of the EU ETS is foreseen to reach zero in 2039 or 2040, resulting in no allowances being available after. The cement industry has joined up with other energy-intensive industries to discuss the impact and the possible solutions for installations emitting past this date (for instance, allowing carbon removals in the EU ETS). If this issue is not addressed properly, this would de facto require ETS installations to become carbon neutral by 2040 which is contrary to our pathways set out so far.

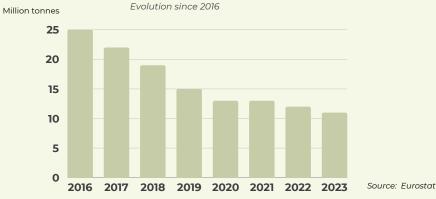
Draft legislation on a certification framework for carbon removals targeting CO2 taken from the atmosphere or from biogenic sources, has also been at the centre of CEMBUREAU's advocacy. We have argued that CO2 used for mineralisation purposes or for injection in construction products is to be considered permanent and have held the same line for CO2 use put in a chemical product recycling loop. Open questions relate to the eligibility of natural carbonation for a carbon removal considering additionality certificate the criterion and to the link between the permanence debate under this initiative and the same assessment under the EU ETS Directive which is crucial for determining where the CO2 deducted can be accounted to.

CEMBUREAU has fully endorsed the EU's emphasis on carbon capture which features very strongly in the Net Zero Industry Act that went through the legislative process in 2023.

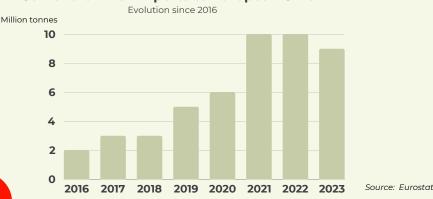
In addition to introducing an annual 50 million tonnes CO2 storage target by 2030, the NZIA obliges Member States to publish data on available CO2 storage sites on their territory, provide a mapping of CO2 storage sites and transport infrastructure, and disclose national capture strategies. The text also includes the need to guarantee fair and open access to the infrastructure, a point that CEMBUREAU highlighted in its advocacy.

Finally, through the Electricity Task Force, CEMBUREAU provided input into Commission's reform proposals for the electricity market which, unfortunately, have not led to a deep reform. Both institutions agree on investments in electricity generation to be supported by two-way Contracts for Difference and include some type of relief measures for energy intensive industries subject to carbon leakage provided they can present decarbonisation plans. The final text also includes a mechanism to support electricity users in case of electricity price crisis, but it is not triggered automatically.

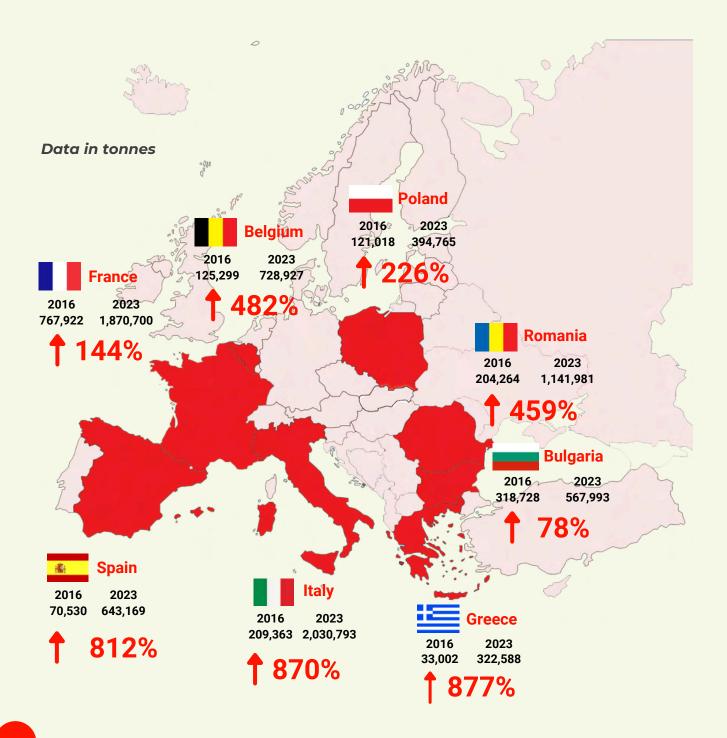
European Union cement+clinker exports



Cement+clinker imports to European Union



Focus on selected EU countries' cement imports



Source: Eurostat



During 2023, CEMBUREAU closely followed the negotiations between the European institutions regarding the Industrial Emissions Directive (IED) revision. This is key legislation for the cement industry, as each of the 200 cement plants in the EU operates in accordance with a permit granted by the authorities in the Member States following the principles and provisions of the IED. The agreement reached by the European institutions resulted in some positive points and some challenges for the future. In brief:

- The sectoral expansion of the IED scope was clarified.
- The IED will not cover greenhouse gases (GHG), which are already covered by the EU ETS.
- The IED will provide an opportunity to address unforeseen issues and developments.
- A significant challenge for the cement industry will be the additional monitoring requirements during the startup/shutdown conditions of the cement kilns.

Another challenge for the cement industry was the implementation of the Renewable Energy Directive (RED) II and the respective revision, which entered into force on 18th October 2023.

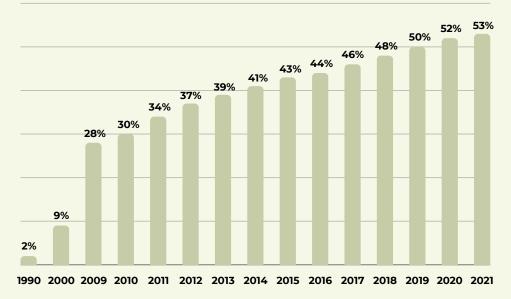
The CEMBUREAU secretariat supported its members with frequent meetings and the preparation of implementation guides to deal with the extremely complex burden related to the sustainability proof of the biowaste used in the cement kilns to replace the fossil fuel energy sources.

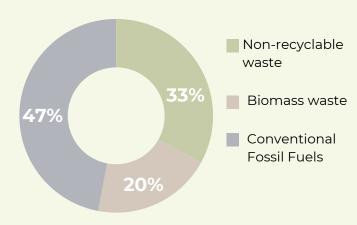
In June 2023, CEMBUREAU joined with six other associations, including those from the wind, chemical, and boat sectors, in a joint position paper highlighting that cement coprocessing offers a sustainable and circular solution for recycling end-of-life glass fibre reinforced composite materials. The co-signed associations called on the European Commission and the national authorities to recognise cement co-processing recycling process and facilitate the upscaling of co-processing with a more supportive EU regulatory framework.

As part of the Biodiversity Roadmap actions, CEMBUREAU performed its first detailed Key Performance Indicators (KPIs) collection within their membership. In light of active engagement with external stakeholders, CEMBUREAU organised two inspiring and informative webinars focusing on pollinators in limestone quarries and on the management of temporary nature in the quarries.

ALTERNATIVE FUEL USE

% of Thermal energy from alternative fuels in the cement sector in the EU 28





EMISSIONS REPORTING

According to the latest data available, the European cement industry continued to reduce its emissions per tonne of product in 2021. Data published by the GNR project, show that between 1990 and 2021, the EU27 cement industry achieved the following reductions:

- Gross CO2 emissions per tonne of grey clinker decreased by -12.9% (compared to -11.1% last year).
- Net CO2 emissions per tonne of grey clinker decreased by -23.6% (compared to -22.3% last year).
- Gross CO2 emissions per tonne of cementitious material decreased by -16.1% (compared to -13.9% last year).
- Net CO2 emissions per tonne of cementitious material decreased by -25.8% (compared to -24.4% last year).

All indicators above showed an improvement of at least 1% compared to last year.

Gross emissions Grey clinker

Source: GCCA GNR 2023

1005
980
955
930
905
880

KG CO2 per tonne

2000 2005

→ North America

2010

Net emissions Grey clinker

Asia & Pacific

2016 2017

2018

—EU27

2019

2015

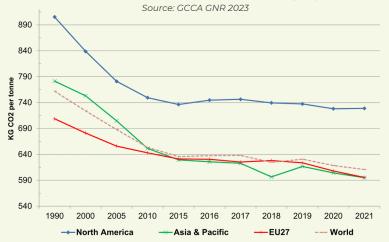
2021

2020

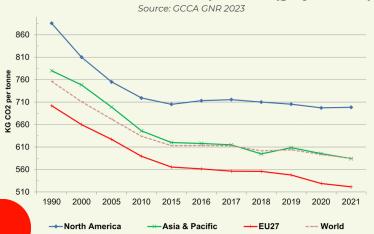
--- World

Source: GCCA GNR 2023 975 950 925 900 875 KG CO2 per tonne 850 825 800 775 750 725 700 675 1990 2000 2005 2010 2015 2016 2017 2018 2019 2020 2021 → North America --- Asia & Pacific —EU27 --- World

Gross emissions cementitious products (grey & white)



Net emissions cementitious products (grey & white)

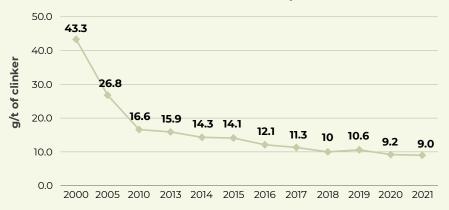


As these data show, the European cement industry is amongst the world's best performing regions with its emissions output on a continuous downward trend. In this respect, it is important to note that whilst the data for the EU covers close to 100% of plants, this is not the case for other areas.

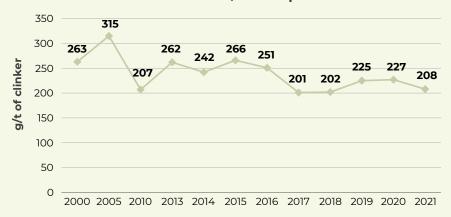
In some regions, comparison with other parts of the world is challenging as not all regions have 100% data collection coverage, typically including only the best performing plants in the GNR data collection.

The data below is collected between 2000 and 2022 within the CEMBUREAU membership region.

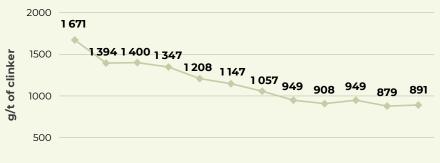
Dust emission/clinker production



SO2 emission/clinker production



NOx emission/clinker production



^{2000 2005 2010 2013 2014 2015 2016 2017 2018 2019 2020 2021}



SKILLS

When decarbonising our industry, we need to along. In this context. workers CEMBUREAU established an Ad Hoc Group on skills comprising human resources experts from our membership who offer hands-on experience and input on required skills. within Reflection the group enabled CEMBUREAU to formulate a statement on the transformation of the workforce. On 4th October, CEMBUREAU organised a webinar on skills with the participation of trade unions and representatives from the European Commission to explore the EU skills agenda and its implications for the cement industry. These initiatives will provide valuable insights for an EU co-funded project on skills, for which CEMBUREAU and the European Federation of Builders and Wood Workers (EFBWW) successfully applied. The project started in 2023 during the European Year of Skills, and focuses on mapping scenarios and skills needs for the 2030-2050 period.

CLP/REACH

Legislation on Classification, Labelling, and Packaging (CLP) and on Registration of Chemicals (REACH) are both complex sets of rules, and their impact on the cement industry is not always clear. CEMBUREAU seized the opportunity of the Commission's delay in enacting new legislation on REACH to organise a webinar in November 2023 aimed at explaining CLP and REACH to Members and providing an opportunity for interaction and sharing of views.

A revision of the CLP legislation was completed during 2023.

RCS/NEPSI

NEPSI in ACTION is an EU co-funded project that aims to promote NEPSI, the European Network of Silica, to decision-makers and members. NEPSI is a unique sectoral social dialogue agreement. In 2023, a series of national seminars took place in France, Hungary, Sweden, and Italy, to which CEMBUREAU members actively contributed and participated. All events and related information were conveyed CEMBUREAU. NEPSI clarified its **KPIs** reporting definition and reviewed its related reporting guidance for its upcoming 2024 reporting campaign. The Task Force RCM (Respirable Crystalline Materials) examined the national implementation of the (EU) 2017/2398 Carcinogens and Mutagens Directive and shared it with the NEPSI Secretariat.

SHARING GOOD PRACTICES & EU-OSHA CAMPAIGN

CEMBUREAU became an <u>EU-OSHA partner</u> on <u>Healthy Workplace Campaign on digital</u> <u>age in 2023-2025</u>. CEMBUREAU members were informed about the campaign publications and tools, and good practices from members will be shared at the campaign level. <u>Sharing good practices</u>, draft recommendations, and guidance on Health and Safety at work are valuable for all members.



Low carbon cement definition: how to define low carbon cements was at the centre of the discussions in WG D over the past year and this against the backdrop of definitions already suggested by external stakeholders. CEMBUREAU agreed on a definition based on the modified International Energy Agency approach which involves subcategories or bands based on EPDs and includes the concept of near-zero emissions. CEMBUREAU coordinated closely with the ongoing developments in the GCCA (Global Cement & Concrete Association) and is now field-testing its approach with national associations.

CPR, the CPR Acquis: CEMBUREAU was successful in its advocacy outreach on the Construction Products Regulation (CPR) where the main objective was to keep the cement industry exclusively under the CPR as proposed by the European Commission and endorsed in the final text. Under the revised CPR, the rules of the Ecodesign for Sustainable Products Regulation (ESPR) would kick in only if no sustainability requirements have been laid down through the standardisation process by 2030. Several experts from the CEMBUREAU Task Force Product Standards & Regulations have joined the European Commission expert group that discusses the "CPR Acquis" on Cement and will contribute to the development of sustainability requirements.

Dual approach in standardisation: The current European cement standard (EN-197) is composition-based. Many stakeholders now plead in favour of a performance-based standard whereby some even advocate for an overnight replacement of the composition-based standard. In contributing to the work of CEN TC 51, WG D has suggested a parallel dual-track approach which allows to keep the current standard, its advantages and market acceptance in place while, at the same time, evolving towards performance-based standards for new products.

Concrete Europe: WG D supported the creation of Concrete Europe (CE) which replaced the European Concrete Platform. The new association formed by CEMBUREAU, BIBM (precast), ERMCO (ready-mix) and EFCA (admixtures) aims to increase the visibility of the concrete value chain with policymakers and to align the messaging amongst the member associations. Aggregates Europe – UEPG and EUPave, the European Concrete Paving Association joined as Associate Members. Several experts from WG D Task Forces joined the CE committees.

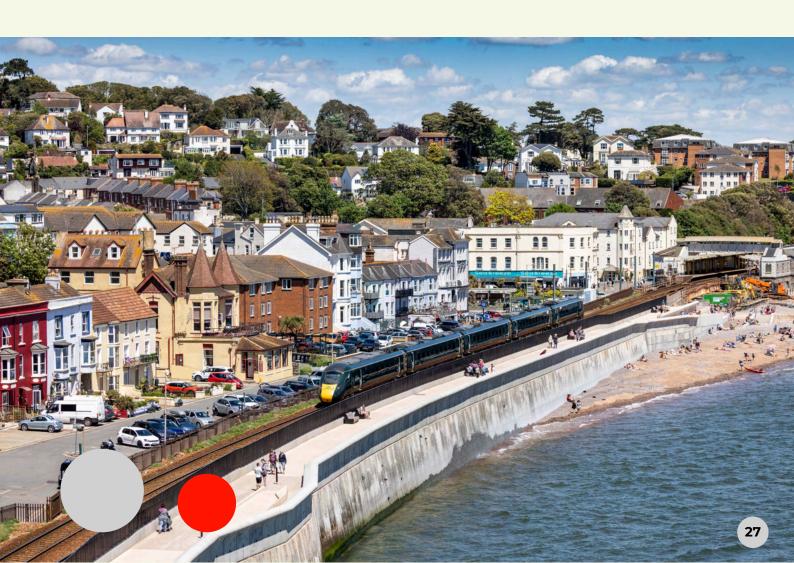
Whole life carbon: The Commission has contracted external consultants for a background study on reduction of carbon emissions on a whole life building approach. The study will feed into a Roadmap to be developed by the Commission services. CEMBUREAU and CE provided input on the cement and concrete levers in the modelling to ensure that no biases would interfere with the outcomes. CE also nominated an expert in the Commission expert group.

Circularity: A great achievement in 2023 was the publication of the new non-harmonised standard EN 197-6 to produce new cements containing recycled concrete fines supplementary cementitious materials. New and public consultations investigating setting targets and end-ofwaste criteria for concrete from construction and demolition waste. An important advocacy point has been avoiding setting minimum recycled content for concrete because, even if implemented at full scale, the supply will not meet more than 10% of the demand for aggregates.

Carbon removals: Advocacy was also intensive and successful for the recognition of mineralisation with carbonation as a permanent carbon storage in the <u>carbon removals</u> framework. CE joined the Commission expert group.

CCUS in LCAs: With the imminent deployment of CCUS, CEMBUREAU has also created momentum in CEN/TC 350 with questions on how to deal with CO2 emissions from Carbon Captured Use and Storage in LCAs for EPDs, which are not covered for the moment.

Drinking Water: CEMBUREAU has reached out to ECHA and elaborated a common statement with the downstream concrete value chain in relation to EU draft implementing acts establishing minimum hygiene requirements for materials that come into contact with water and are intended for human consumption.





GLOBAL PICTURE

The following statistics are based on data and forecasts from the International Monetary Fund (IMF) (January 2024), the European Commission (February 2024), Euroconstruct (November 2023), and the Eastern European Construction Forecasting Association (EECFA, December 2023).

The main external elements impacting the economy in 2023 were the geopolitical tensions: the Middle East conflict and especially for Europe, the Russian war with Ukraine. The negative impact on supply chains as well as on energy supply and prices has been mitigated compared to previous periods with price pressures softening even though inflation and interest rates still weighed significantly on household purchasing power. A technical recession was only narrowly avoided during the second half of 2023. Provisional figures estimate growth for 2023 at 3.1% at the global level and 0.5% in the EU.

For 2024, GDP in the EU is projected to expand by 0.9% and by 1.7% in 2025 (3.1% and 3.2% for the world). Headline or consumer price inflation in the EU is forecasted to fall from 6.3% in 2023 to 3.0% in 2024 and 2.5% in 2025; at the global level, headline inflation is projected to fall from 6.8% in 2023 to 5.8% in 2024 and 4.4% in 2025.

Concerns about persistently high global inflation are most likely to dissipate as the decline in oil prices and weakening Chinese export prices may trigger a downward inflation trend.

According to the European Commission, there is quite some uncertainty around this forecast amid extended geopolitical tensions and the risk of a spreading of the conflict in the Middle East. The increase in shipping costs as a result of the Red Sea trade disruptions is expected to have only a marginal impact on inflation. disruptions could, however, result in renewed supply bottlenecks that could obstruct production and push up prices. Within the EU, risks to the baseline projections for growth inflation are linked to whether consumption, wage growth, and profit margins underperform or outperform expectations, and to how high interest rates remain and for how long. Climate risks and the increasing frequency of extreme weather events also continue to pose threats.

Turning the focus to other regions, the IMF reported a +2.5% growth in 2023 in the US compared to a +1.9% growth in 2022 with growth projections for 2024 and 2025 at 2.1% and 1.7%, respectively. The Chinese economy grew by 5.2% in 2023, slightly slowing down with 4.6% and 4.1% growth projections respectively for 2024 and 2025. India's economy saw an even more stable evolution, growing by 6.7% in 2023, and is forecasted to grow by 6.5% in 2024 and 2025.

GLOBAL CEMENT PRODUCTION

MATRIX main world producers

The G20 Group + permanent invitee Spain

Cement production (Million tonnes)

Country	2001	2005	2010	2015	2016	2017	2018	2019	2020	2021	2022
China	661.0	1 079.6	1 881.9	2 350.0	2 403.0	2 316.3	2 176.7	2 300.0	2 376.9	2 362.8	2 118.0
India	102.9	146.8	220.0	270.0	289.3	285.0	327.7	320.0	290.0	351.6	387.6
EU28 / EU27**	225.6	251.1	192.1	167.2	169.1	175.1	179.8	182.1	171.5	182.5	175.8
USA	88.9	99.4	65.2	83.4	84.7	86.1	87.8	88.6	89.3	93.0	93.0
Brazil	39.4	39.2	59.1	72.0	57.6	54.0	53.5	53.4	61.1	65.9	63.6
Turkey	35.9	42.8	62.7	71.4	75.4	80.6	72.5	57.0	72.3	78.9	73.7
Russian Federation	28.7	49.5	50.4	69.0	55.0	54.7	53.7	54.1	55.8	60.1	60.8
Indonesia	31.1	36.1	39.5	65.0	61.3	68.0	70.8	64.2	64.8	69.2	69.5
South Korea	52.0	49.1	47.4	52.0	56.7	57.9	55.0	56.4	47.5	50.4	51.1
Japan	79.5	72.7	56.6	55.0	53.4	60.8	60.1	58.3	51.1	50.2	48.9
Saudi Arabia	20.0	26.1	42.5	55.0	55.9	47.1	42.2	42.2	53.4	53.7	52.6
Mexico	33.2	38.1	34.5	39.8	42.4	42.8	42.8	47.5	41.9	45.2	43.9
Germany	32.1	31.9	29.9	31.1	32.7	34.0	33.7	34.2	35.5	35.0	32.9
Italy	39.8	46.4	34.4	20.8	19.3	19.3	19.3	19.2	18.1	20.6	18.8
France	19.1	21.7	18.0	15.6	15.9	16.9	16.5	16.5	16.7	17.5	16.8
South Africa	8.4	12.1	10.9	14.0	13.6	13.2	12.5	12.4	13.3	13.4	13.0
Canada	12.1	13.5	12.4	12.5	11.9	12.7	13.3	13.4	13.0	14.0	13.7
Argentina	5.5	7.6	10.4	12.2	10.9	12.0	11.8	11.5	9.9	12.1	13.0
United Kingdom	11.9	11.6	7.9	9.6	9.4	9.4	9.2	9.1	8.0	9.0	8.4
Australia	6.8	9.1	8.3	9.3	10.0	10.0	9.8	10.0	9.6	9.6	10.1
Spain	40.5	50.3	26.2	15.1	15.0	16.1	16.6	17.4	16.2	18.6	18.5

^{**}EU28 until 2019 / EU27 as of 2020 reporting year

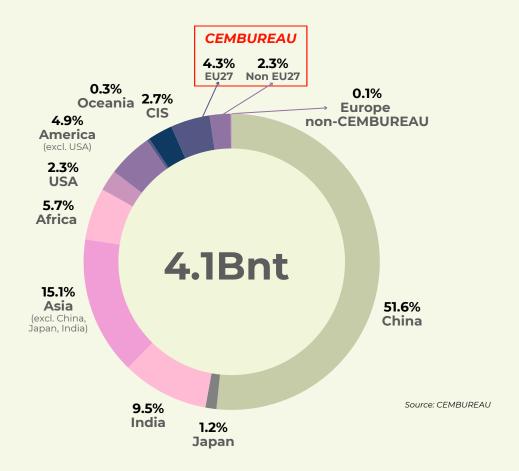
Sources: CEMBUREAU, US Geological Survey, Global Cement Report, country websites

Global cement production in 2022 is estimated at approximately 4.1 billion tonnes (Bnt). The variation from 2021 to 2022 is mainly due to China which shows an accentuating downward trend after 2025. In 2022, China still represented more than 50% of the world's cement production, with the EU27 CEMBUREAU 4.3% and representing members representing 6.6% of the world's production (this figure still included Turkey in the CEMBUREAU area). Besides the G20 countries represented, five emerging countries on the Eurasian continent produced almost 7% of the global volume in 2022, which is almost two times the EU-27 and more than **CEMBUREAU:**

Vietnam (85 Mt) and Thailand (29 Mt) in the Far East, and Iran (63 Mt), Egypt (54 Mt), and Pakistan (46 Mt) in the Middle East. Especially Vietnam and Egypt saw growth from 2021 to 2022. Focusing on continents, Asia (excluding China and Japan), Africa, and America, as shown in the pie chart below, gained a total of 4% on the global scene between 2021 and 2022.

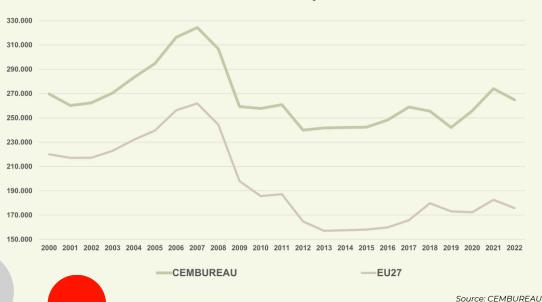
For 2023, the Global Cement Report forecasts a world production of 4.05 Bnt.

World cement production in 2022, by region and main countries, % Estimations



Looking more in detail at the CEMBUREAU membership and EU27 cement production and consumption data from 2022, we observe the following trends:

Cement Production (in Ktonnes) EU27 & CEMBUREAU / 2000-2022

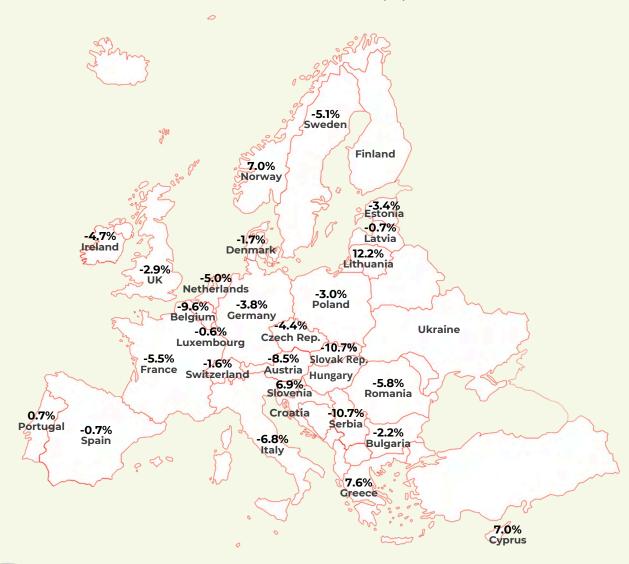


Production for the CEMBUREAU area, as shown in the graph above, decreased by 9.1 Mt to 264.8 Mt in 2022. This decrease of 3.3% is due to a volume contraction in most of the member countries, up to 10% in some countries. Additionally, the EU-27 saw a decrease of 6.8 Mt or 3.7%, reflecting market contraction in most countries, reaching 175.8 Mt.

Cement consumption decreased for CEMBUREAU members from 248.6 Mt in 2021 to 237.7 Mt in 2022. The EU27 countries saw a decrease of 7.0 Mt to 163.4 Mt in 2022. CEMBUREAU member countries experienced wide differences in consumption evolution from 2021 to 2022, as the map below shows, but the overall evolution was more negative than in 2021 vs. 2020: more than twenty countries saw a consumption contraction, whereas only six countries saw consumption growth.

Evolution of cement consumption in CEMBUREAU countries

Variation 2022/2021 (%)



Source: CEMBUREAU

Looking at the forecasts for domestic consumption of cement reported by Euroconstruct for its EU19 group, it is estimated to decrease by -2.5% in 2023, with growth forecasts of -0.6%, 0.9%, and 1.0% in 2024, 2025, and 2026 respectively.

CONSTRUCTION MARKETS

The economic forecasts of the IMF and the European Commission are also reflected in the construction forecasts of Euroconstruct (19 countries), and the member states of the Eastern European Construction Forecasting Association (EECFA, which includes Bulgaria, Croatia, Romania, Serbia, Slovenia, Russia, Turkey, Ukraine).

The construction volume in the Euroconstruct area decreased by 4.5% in 2020 and grew by 5.3% in 2021 and 2.7% in 2022, slowing down by -1.7% in 2023. In 2023, total construction output in the Euroconstruct area reached €2.07 trillion.

Major drivers of the negative evolution are the rapid, sharp rise of interest rates and the conflict in Ukraine. A diminished financial strength of many households makes sales prices of residential property less affordable, and market data from ECB showed end 2022 a first small decline in residential property prices after several years of upswing.

An evolution in construction impediments should be noticed. Bottlenecks on construction materials and equipment in 2021/2022 are now reduced to an almost insignificant level. Far more important are demand problems in the EU related to low construction confidence.

However, the situation can be very different from one country to another, depending amongst others from national authority alleviating measures. More information can be found in the Country Reports section.

Looking forward, in the Euroconstruct area, the construction volume is expected to slow further down to -2.1% in 2024, taking up again with an improving outlook for 2025 (+1.5%) and 2026 (+1.6%). The construction outputs are €2.03 trillion, €2.06 trillion and €2.09 trillion for respectively 2024, 2025 and 2026.

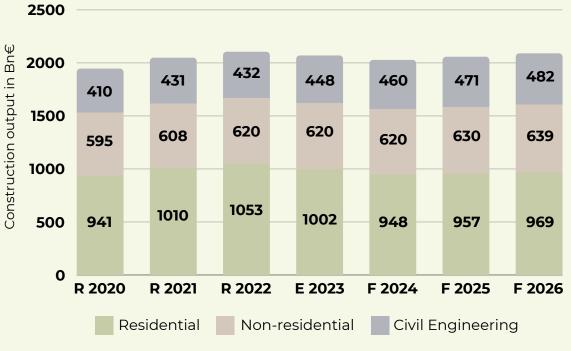
For the period from 2023 to 2025, three factors have a dampening effect on all construction market segments: general economy, public financial situation and general financing particular conditions, in the latter's deterioration since 2022 paralysing is construction industry (interest rates, rise in consumer prices, even more than construction prices). National government support, as well as EU funds can mitigate these negative influences. Often, they boost refurbishing of buildings as well as civil engineering works launched in the light of climate change mitigation and environmental strategy: energy generation and distribution, transport networks, securing water supply.

In the EECFA area, evolution of the construction market in South-eastern Europe shows no clear direction in 2023, the trend is expected to drop in 2024, but for 2025 a recovery is expected. There is still a lot of uncertainty due to the current geopolitical situation.

CONSTRUCTION MARKETS BY SEGMENTS

Contribution of segments in market size and growth

(EU-19 EUROCONSTRUCT)



R: Realised - E: Estimated - F: Forecast

Source: EUROCONSTRUCT

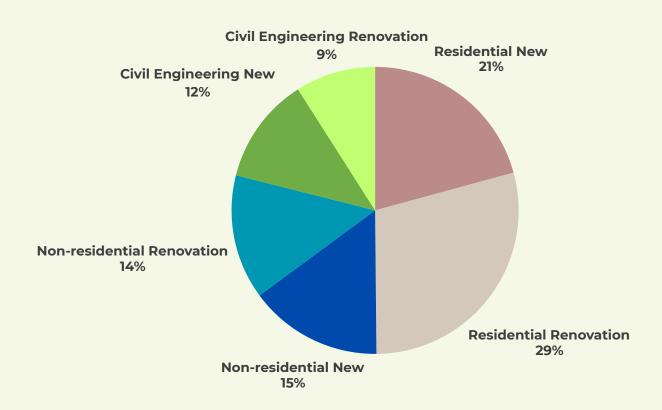
Looking at construction market segments in 2023, residential construction was challenged by persistent high inflation. Central banks tightened monetary policy, weighing on demand in the housing market as wages fell and credit became more expensive. Tight economic conditions also affected residential renovation. In non-residential buildings, industrial buildings emerged as the largest sector, driven by their transition towards greener practices. Civil engineering played a stabilising role in the construction sector, with the impact of the business cycle mitigated by numerous long-term projects. A significant portion of these projects is financed by the public sector, including the post-Covid of the recovery program European Commission, known as the Resource and Resilience Facility. The extensive pipeline of projects suggests that investment distribution will continue at least until 2026.

In the Euroconstruct area, in 2023, GDP increased by 0.5%, while construction output decreased by -1.7% to a value of €2.07 trillion. Compared to 2022, total buildings saw a contraction of -3.1% - residential buildings with -4.9% and non-residential buildings remaining status quo at 0.0%, and civil engineering grew by +3.8%. Residential building showed, as always, the most important segment, with civil engineering as the best growing segment. Residential buildings renovation is, with -2.4% in 2023, the stronghold of this sector, showing higher resilience than new residential buildings (-8.4% in 2023).

In the construction output growth forecasts for 2024, 2025, and 2026, civil engineering is taking the lead again regarding growth, with respective rates of +2.5%, +2.5%, and +2.3%, whereas residential buildings show rates of -5.4%, +0.9%, and +1.3%, and non-residential buildings forecast rates of 0.0%, 1.7%, and 1.4% for the three coming years. Rising interest rates and overall construction price growth are not in favour of residential building development.

The split between segments is almost constant over time, with 36% for new buildings, 43% for building renovations, and 21% for civil engineering. Moreover, within residential construction, renovation is the most important segment. By the end of the forecast horizon in 2026, the maintenance and modernisation of old buildings are expected to gain even more importance, with new residential buildings forecast to increase by +0.8% and renovation residential by +1.6%.

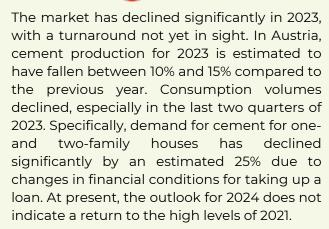
Construction markets by segments in 2022, 36% account for new buildings, 43% for building renovation & 21% for Civil Engineering



Source: EUROCONSTRUCT



AUSTRIA



BELGIUM



Cement consumption decreased by 9.6% in 2022 after experiencing a strong increase of 13.1% in 2021. In 2023, the construction added value (excluding the inflation of building materials) saw a surprising growth of 1.9%. This positive outcome can be attributed to investments in infrastructure. However, the residential sector witnessed a decline, largely influenced by higher interest rates and escalating construction costs. Despite these challenges, the scarcity of skilled labour continues to hinder construction activity. Forecasts for 2024 and 2025 are pessimistic, with sentiment in the construction sector at its lowest.

Nevertheless, Belgium has demonstrated resilience compared to other EU countries in terms of overall economic performance, with mid to long-term forecasts remaining positive. For instance, the contractors' association (EMBUILD) anticipates a need for 225,000 additional housing units by 2060 due to population ageing and growth.

BULGARIA



Based on NSI data, the market grew by approximately 5.0% in 2023, excluding Turkish imports. When considering Turkish imports as well, the market expanded by around 7.4%. Despite overcoming political instability with the establishment of a regular government in 2023, challenges persist regarding major infrastructure projects. The complex legal issues and financing uncertainties surrounding several projects, along with unresolved decisions regarding highway routes, continue to hamper infrastructure activity. However, activity in the real estate residential construction segments and remained robust in major cities throughout 2023, serving as the primary driver of cement consumption growth. Expectations for 2024 suggest that the construction sector will remain at a similar level to 2023. While a cooling real estate market is possible, some improvement in infrastructure projects is anticipated. Additionally, the continued growth in building construction permits issued at the end of 2023 may support further modest growth in cement demand for 2024.

CZECHIA 🖢

Cement consumption in Czechia declined by 20% year-on-year, and the forecast is for a decline of 4% in 2024. Construction output in 2023 decreased by 2.6% year-on-year, with a sharper decrease recorded in the civil engineering construction segment, where production dropped by 4.7% year-on-year. The production in building construction decreased by 1.8%. The decline was mainly in the second half of the year, even accelerating to 4% in Q4. Construction enterprises with 50+ employees concluded 75,986 construction orders in Czechia in 2023, 3.7% less year-onyear. The total value of these orders stagnated year-on-year (-0.6%) and amounted to CZK 329 billion at current prices. The number of permits for new constructions recorded the fastest decrease (-30.7%), whereas numbers of building permits for modifications to completed constructions of non-residential buildings increased by 8.9% year-on-year. The country's high inflation and the government's austerity programme have resulted imbalances in the construction sector.

DENMARK

Under challenging market conditions, both cement production (-20%) and consumption significant declines (-13%)experienced compared to 2022, with lower sales throughout the year. Production and consumption levels for 2024 are expected to remain at or below 2023 levels. Residential housing activity in 2023 continued its negative trend due to major price increases in energy and building materials, along with higher interest rates. Additionally, activity in the commercial building sector decreased significantly in 2023, offsetting the growth seen in 2022. However, the infrastructure sector experienced growth in 2023, driven by major projects such as the Fehmarn Belt Link between Denmark and Germany.

Large projects related to the energy sector, port facilities, and transportation further contributed to activity in this area. Overall, prospects for the construction sector in 2024 appear negative, particularly for the housing and commercial building sectors, depending on general cost developments. New and stricter building regulations regarding carbon footprint could also impact cement usage in the coming years.

ESTONIA



Cement consumption in 2023 decreased by almost 20% compared to 2022, mainly due to lower construction volumes Scandinavian market. Across all segments of construction material producers, volumes were well below those of 2022, resulting in a sector-wide decrease of 24% in monetary terms. This decline was largely influenced by high energy prices and interest rates. In 2023, there were approximately 25% residential building permits issued. In the construction sector, volumes are expected to remain low during the first half of 2024, but some improvement is anticipated in the second half, particularly in civil engineering. Residential construction is forecasted to be lower than in 2023.

FINLAND (

In 2023, cement consumption is estimated to have contracted by approximately 20%. This decline in demand is primarily attributed to a sharp reduction in housing construction and a significant drop in non-residential construction starts. Additionally, the output in civil engineering construction also saw a decrease due to factors like inflation, higher and weakening interest rates, а macroeconomic outlook. Looking ahead to 2024, construction output is expected to remain unchanged.

FRANCE (

The cement production and consumption in 2023 (based on publicly available data) are estimated to be -6.3% for production and -6.5% for consumption. The main market indicators show a decrease of 22% residential building (number of housing units), a 15% decrease in non-residential building (total surface), and a 5% increase in civil engineering turnover (constant euros) for 2023. In 2023, the deterioration of the economic situation, characterised by inflation and a decline in purchasing power, significantly impacted building construction activity. In 2024, the decrease in inflation and potential improvements in credit conditions could lead to the stabilisation of housing demand. The good financial health of local authorities should stimulate public demand and allow civil engineering to stabilise its activity.

GERMANY



2023 posed challenges for the German cement market, witnessing a significant 16% decline in both cement production and consumption. The decline in consumption was primarily attributed to the residential buildings segment, one of three demand sectors. Increased interest rates and soaring construction costs rendered many building projects economically unviable or financially unattainable. Uncertainty surrounding funding availability for new, environmentally friendly residential buildings, coupled with political blockades on tax incentives for rental housing construction, further exacerbated the situation. In contrast, the non-residential buildings segment fared slightly better due to interest rate dependencies commercial investments, though overall construction activity remained subdued. Civil engineering, however, experienced relatively stable cement demand throughout the year.

Looking ahead to 2024, the segment holds a positive outlook, with anticipated major investments in railroad infrastructure and energy grids. Conversely, demand for residential and non-residential buildings is expected to further decline. Overall, the cement market conditions in 2024 remain challenging, with VDZ projecting a consumption decrease of approximately 5%.

GREECE 🕒

The Greek economy expanded by 2.40% in 2023. Similar growth is expected in 2024. Construction activities improved significantly in 2023, with a 9.60% increase in the number of new building permits, corresponding to a 15.70% increase in building surface area. In 2022, cement production increased by 0.90%, domestic consumption improved by 7.60%, and imports of clinker and cement increased by 3.20% compared to 2021. Although the cost of energy decreased, inflation of consumer prices remains a major problem. Prospects for the cement sector in 2024 look positive, with new private and public investments in buildings and infrastructure continuing to grow.

HUNGARY



Construction output volume in November 2023 fell by 12.8% compared to the previous year. Both building construction and civil engineering saw declines, with building by 18.3% and civil construction down engineering by 3.5%. Despite this, new contract volumes grew by 60.3%, driven by a 186% increase in civil engineering contracts. Residential construction saw a 21% decrease in new dwellings built for first three quarters 2023, while the forecast for Hungary's construction output in 2024 is minimal growth, thanks to increasingly favourable economic factors such as improving interest rates and falling material prices, along with subsidies, which could stimulate the sector. Residential construction may see earlier growth than overall construction sector. Real growth for overall construction is more likely in 2025.

IRELAND (

Residential commencements continued to grow in 2023, reaching almost 33,000 units, with expected continuation commencements into 2024. This growth is partly attributable to government support and is perceived by many commentators as insufficient to meet the country's long-term housing needs. However, increased activity in residential construction is not mirrored in the non-residential market, which is adapting to new post-Covid working practices, leading to a decrease in investment attractiveness for office spaces. This downturn is anticipated to be temporary, with a projected rebound in the coming years driven by greening requirements. In October, Ireland announced the establishment of a National Infrastructure Fund in the Budget, aimed at supporting state infrastructure investment in National Development Plan, even during economic downturns.

ITALY (

In 2023, Italy is projected to see a 6.7% drop in cement consumption from the previous year, with 2024 also expected to decline. The National Recovery and Resilience Plan (NRRP) projects in 2024 may boost consumption, but this could be offset by reduced private demand in the residential sector, higher financing costs due to increased interest rates, and a slowdown in the non-residential sector due to economic deceleration. The impact of the NRRP on reversing this downturn remains uncertain. Additionally, reduced incentives for energy-efficient renovations are not expected to impact the cement sector significantly.

LATVIA 🛑

Construction output grew by approximately 19% year-on-year in 2023, rebounding from uncertainties geopolitical of 2022. Building construction served as the primary driver, while civil engineering lagged despite notable projects like Rail Baltica stations, the commissioning of three overpasses in Riga, and the construction of the 250 million EUR Kekava ring-road. Solar parks provided a boost to construction activity, although they require minimal cement usage. However, cement consumption and output did not align with construction output trends, both experiencing a nearly 10% decline. Imports also decreased by approximately 20% year-onyear, with exports affected by contracting Nordic markets and suspended exports to Belarus. Looking ahead to 2024, the outlook remains stagnant. GDP forecasts show a positive return of around 2%, but the slow recovery of export markets and cautious approaches by local developers suggest that significant improvements are unlikely to occur rapidly.

LITHUANIA



Demand in the Lithuanian cement market decreased by 4.6% comparing 2023 with the This was due to reduced 2022. investments in Lithuanian residential construction. The share of non-residential construction work was 33.8%. The share of residential construction works was 19.5%. The share of civil engineering construction works accounted for 46.7% of the total national works. In Lithuania for 2024, a growth of 2-3% in cement sales volumes in the domestic market is planned. This growth will be related to the growth of prospective infrastructure projects and the demand for civil engineering and non-residential buildings.

LUXEMBOURG

The impact of the war in Ukraine and its global economic consequences significantly affected the cement industry in 2023, leading to extremely low volumes both in domestic and export markets. All construction sectors experienced a severe demand shortfall, attributed to skyrocketing costs, higher interest rates, and market uncertainty. Civil engineering saw a slight decline, cushioned by ongoing large road projects. The domestic market ended 2023 with a 28% contraction, more severe than anticipated, with export markets faring even worse. Looking ahead to 2024, while energy and material costs are expected to stabilise, the domestic market is predicted to face continued volume pressures, especially in the first half of the year. Despite challenging market conditions, the need for price adjustments to cover production costs and investments decarbonisation remains critical.

THE NETHERLANDS



In 2023, it is estimated that the volume of cement consumption declined by around 15% to 4,100 kt. Residential construction in the Netherlands faced challenges due to lower purchasing power, resulting in increased demand for smaller houses. Additionally, high interest rates and rising construction costs have led to reduced activity in the nonresidential construction sector. However, infrastructural construction remained relatively stable throughout the period. All sectors of the construction industry in the Netherlands continue to be strongly influenced by nitrogen legislation, which impacts planning and execution. Looking ahead, the construction market forecasts for 2024 remain negative, pending potential governmental intervention to address nitrogen restrictions.

It is anticipated that both construction output and the cement market will continue to decrease in 2024.



The development of total construction output has been weak in recent years, with an estimated decline of 2.8% for 2023. The particularly residential segment, new developments, has been severely affected, experiencing a reduction of 9.0%, while residential construction is estimated to decline by 15.6%, primarily due to high interest rates. GDP is expected to increase slightly by 1.0% for 2023, compared to 3.3% in 2022. Following years are forecasted with GDP growth of 1.6-2.0% per annum. Global geopolitical uncertainty has led to a weak currency, keeping inflation and policy rates at high levels. The inflation rate is expected to rise by 5.8% for 2023. Higher interest rates are anticipated to lower inflation, with an estimated change of +4.0% in 2024.



The industry experienced declines in both production and consumption of cement in 2023 compared to 2022, with production decreasing by 11.9% y-o-y and consumption by 12.2% y-o-y. This drop was mainly due to reduced volumes of newly launched projects, particularly in multi-residential development investments. Despite this, infrastructure construction helped mitigate a larger-scale market collapse. thanks to transport investments funded by EU funds. While residential and non-residential construction sectors saw significant declines of 16% and 4% respectively, civil engineering saw a 3% increase. Overall, the total construction market contracted by 6%. Forecasts for 2024 indicate further negativity, with construction values expected to fall by 5%. Despite improved investments in the latter half of 2023, the negative forecast stems from declines in new residential and nonresidential developments in 2022 and early 2023.

However, the cement market outlook is relatively better, with forecasted sales declining by approximately 2% year-on-year. External factors such as the war in Ukraine and EU fund influxes impacting infrastructure construction are significant. The Ukrainian conflict is expected to persist, gradually influencing markets and investors, though its direct impact on the Polish construction market is predicted to diminish. Positive signals are observed with EU funds, including the transfer of National Recovery Plan funds.

PORTUGAL (B)

Cement consumption increased by 1.5% in 2023. GDP grew by 2.3% in 2023, with a projected slowdown to 1.2% in 2024. Growth will recover very gradually over 2024, benefiting from an acceleration in external demand, the impact of lower inflation on real household income, and the boost investment from European funds. The phasing out of support measures to smooth the inflationary shock is projected to be compensated by the implementation of the Recovery and Resilience Plan (RRP) and household tax cuts in 2024. The construction sector's growth estimate for 2023 is 3.4%. The civil engineering segment was the most dynamic (+5.0%). The remaining subsectors performed as follows: residential buildings +3.0%; non-residential buildings +0.7%. For 2024, cement consumption is expected to increase by 3.6%, and construction activity is expected to grow by 3.0%. The civil engineering sector will have the highest growth rate (+4.5%), but the other two sectors will also increase: residential buildings (+2.0%) and non-residential buildings (+1.0%). The outlook is constrained by uncertainty about new outbreaks of geopolitical tensions and the domestic political situation.

ROMANIA



According to provisional data from the National Institute of Statistics, cement consumption in 2023 decreased bv 2% compared to 2022. In the same year, the volume of construction works, as gross series, increased by 14.2% compared to 2022. There were different trends observed by structural elements: maintenance and current repair work increased by 6%, capital repairs increased by 19.7%, and new construction works saw an increase of 16.5%. Analysing construction objects, non-residential buildings saw a 2.3% increase, while civil engineering works experienced a significant rise of 33.2%. However, residential buildings decreased by 6.6% in volume. Looking ahead to 2024, the National Commission for Prognosis anticipates a 7.6% increase in the volume of construction works, driven by investments outlined in the National Recovery and Resilience Plan (NRRP).

SERBIA (X



The production and consumption of cement in 2023 remained at the same level as in 2022, around 2.6 million tonnes and 3 million tonnes respectively. Construction in Serbia contributed approximately 5.5% to GDP last year. surpassing the transport. telecommunications, and energy sectors. The value of construction works in experienced a real growth of 8.9% compared to the previous year, amounting to 3.8 billion euros, primarily driven by large infrastructure projects. It is anticipated that the construction industry will continue to grow in 2024, fuelled by ongoing works on road and railway infrastructure, as well as increased private investments.

SLOVAKIA 🖶

Cement production in Slovakia in 2023 is estimated to have decreased by 10-13% a record year in 2022. The followina construction market reached approximately €10 billion, with a nominal increase of over €1 billion. The residential market remained stable due to the completion of ongoing projects, with very few new building permits issued, attributed to high inflation and rising interest rates. The non-residential market saw over an 8% increase, driven by significant projects, particularly in automotive plant constructions. Civil engineering experienced the most substantial growth at 25%. The 2024 outlook suggests a modest construction activity growth of around 5%, with the Slovak cement market significantly benefiting from a new nuclear power plant in Hungary, potentially consuming over 600 kt of cement annually.

SLOVENIA 👛

The production of cement in the Slovenian market increased by 7.5% in 2023 compared to 2022, with consumption rising by 3.5% during the same period. Construction put in place saw an 11.6% increase in value compared 2022, with specialised construction activities rising by 17.2%, civil engineering by 14.2%, and buildings by 2.0%. However, building permits decreased by 4% in 2023 compared to the previous year, with 9% fewer for residential buildings and a marginal 0.2% increase for non-residential buildings. The average confidence indicator in construction for 2023 dropped to 14 p.p., 8 p.p. lower than the previous year. Consumer prices rose by 4.2% annually, with service prices increasing by 6.0% and goods prices by 3.3%.

Despite a GDP growth slowdown to 1.3% in 2023, economic growth is expected to stabilise at over 2% in the coming years, with inflation gradually easing while remaining above the monetary policy target level. Additionally, employment growth is expected to slow, while wage growth will remain high, outpacing productivity growth.

SPAIN



In 2023, cement consumption in Spain declined by 2.9%, in line with forecasts made by Oficemen earlier in the year. Total consumption reached 14.46 million metric tonnes, down by 0.42 million tonnes compared to 2022. Despite a 7.5% decrease in cement exports (4 million tonnes) and clinker exports (1.28 million tonnes) in 2023, Spain regained its position as the top exporter within the EU. Economic instability in recent years, exacerbated by the post-pandemic environment, resulted in а three-year stagnation affecting both public investments and private sector decisions. Housing starts fell by nearly 3.5%, while non-residential construction decreased by approximately 9.8%. Additionally, public investment in infrastructure is expected to decline by around 3%-5% in 2023 compared to 2022. Oficemen forecasts zero growth in cement consumption for 2024, estimating it to remain around 14.5 million metric tonnes. This projection is attributed to challenges in infrastructure investment and a stagnant residential market.

SWEDEN

Total construction output is expected to contract by -10.6% in 2023, with the residential and building segments particularly affected by high interest rates. This trend is anticipated to continue into 2024, with an estimated decline of -5.7% for the year, driven especially by the residential segment (-17.3%). The Swedish economy entered a recession in 2023, with GDP expected to fall by -0.6%. Inflation is projected to increase by 8.6% in 2023, and the policy rate sharply rose during the year, from 2.5% at the beginning of the year to 4.0% in December. However, the coming years show signs of growth, with GDP projections slowly rising to 1.0% in 2024. The inflation rate is expected to vary by +4.2% in 2024, and a deceleration in policy rate hikes from a high of 4.0% is forecasted for the new year.

SWITZERLAND

The Swiss cement industry observed a 10% downturn in deliveries over the past year. In 2023, a total of 4.37 million tonnes of cement were utilized in Switzerland, marking a 4.4% decrease compared to the previous year, with produced. 82.6% being locally construction sector faced uncertainties in 2023, complicating project planning due to volatile interest rates, inflation, uncertain energy supplies, and international supply chain dynamics. However, despite these challenges, overall construction activity is projected to experience a marginal increase in 2024. This growth is primarily attributed to the resilience of civil engineering, which compensates for the slight reduction in both residential and non-residential construction.

UKRAINE



In 2023, cement production increased by 37.5% year-on-year to 7.4 million tonnes, compared to 5.4 million tonnes produced in 2022. This rapid growth is due to the low comparison base of 2022, which saw a 50% decrease in demand. However, the situation in 2023 improved slightly, but these figures remain below the pre-war level of 2021 and fall short of our capabilities, with cement producers operating at only 60% of their prewar capacity. Cement exports saw a significant increase of 31.7% to 1.2 million tonnes, while cement imports decreased by 23.3% to 24 thousand tonnes. Cement consumption in 2023 rose by 35.6% compared to 2022, amounting to 6,165.63 thousand Additionally, the tonnes. volume construction work grew, with a 20.4% increase January-September recorded in compared to the same period in 2022. Construction of engineering structures saw a notable increase of 34.4%, driven by the rehabilitation of transportation and industrial facilities, bridges, and other infrastructure war. damaged during the However, construction of residential buildings decreased by 4.3%, and non-residential buildings saw a decline of 14.1%.

UNITED KINGDOM



Using ready-mixed concrete sales volumes as a proxy for cement demand, after a 3.8% decrease in 2022, ready-mixed concrete sales fell by a further 6.2% in 2023, reaching the lowest levels of production since 1964, excluding the pandemic-impacted 2020. Demand has suffered from scaled-back starts by major housebuilders, and the squeeze on household purchasing power has dampened large-scale private renovations. Construction output declined by 6.4% in 2023 amid persisting cost pressures and borrowing costs. Looking ahead, construction output is expected to fall by a further 2.1% in 2024 before beginning to rise again in 2025.



Situation on 1 June 2024

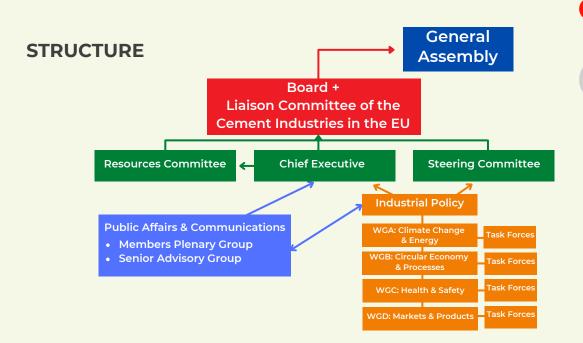
MISSION

CEMBUREAU, the European Cement Association is based in Brussels and is the representative organisation of the cement industry in Europe. Currently, its Full Members are 23 national cement industry associations and cement companies of the European Union (except for Malta) plus Norway, Switzerland and the United Kingdom. Croatia, Serbia and Slovakia are Associate Members of CEMBUREAU. Cooperation agreements have been concluded with Vassiliko Cement in Cyprus and UKRCEMENT in Ukraine.

The Association acts as spokesperson for the cement industry before the EU institutions other public authorities and communicates the industry's views on all issues and policy developments regarding technical, environmental, energy, employee health and safety and sustainability issues. In addition to the EU, permanent dialogue is maintained other international with organisations (e.g. OECD, IEA), the Global Cement and Concrete Association (GCCA) and sister associations in other parts of the world.

Serviced by a multi-national staff in Brussels and with the input from its Members via four Working Groups as well as several Task Forces set up on an ad hoc basis and directly reporting to the appropriate Working Group, CEMBUREAU acts in relation to all developments at European level affecting the cement industry.

CEMBUREAU plays a significant role in the world-wide sustainable development cement and the ready-mixed and precast concrete industries in co-operation with its Member Associations and other relevant organisations. The Association regularly organises events on specific issues aimed at improving the market perception of the concrete industry and promoting the use of generic cement and concrete products. In addition, Association the regularly commissions studies to evaluate specific issues of importance to the industry.



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OUR MEMBERS

The full members are the national cement industry associations and cement companies of the European Union (except for Malta) plus Norway, Switzerland, and the United Kingdom. Croatia, Serbia and Slovakia are associate members of CEMBUREAU. A cooperation agreement has been concluded with Vassiliko Cement in Cyprus and with the Cement Association of Ukraine.



For more information about our members, please see

https://cembureau.eu/about-us/our-members/



ALLIANCE FOR A COMPETITIVE EUROPEAN INDUSTRY

The Alliance for a Competitive European Industry (ACEI) was formed in 2004 by 11 major European industry sector associations BUSINESSEUROPE. The and common objective of its Members is to promote the competitiveness of European industry on a alobal scale. The Alliance therefore policy and encourages regulatory framework that supports that objective, reinforcing and complementing BUSINESSEUROPE's work in this respect by providing a sectoral perspective. The industry sectors concerned represent the interests at EU level of some 6 000 large companies and 1.7 million SMEs with a combined output of nearly 5 trillion euros turnover and 1.3 trillion euros added value. These companies directly employ about 23 million people in the EU.

ALLIANCE OF ENERGY INTENSIVE INDUSTRIES

The Alliance of Energy Intensive Industries is made up of fourteen European associations representing energy-intensive industries with an aggregated turnover of more than 1000 billion Euros per year and directly employing over 3 million people. These industries are fundamental to Europe's entire economic fabric and support downstream processing and employment through the entire value chain.

They also contribute to Europe's R&D, innovation and technical excellence, as well as to European balance of trade and through economic value added and taxes to the economies of its Member States.

CONSTRUCTION PRODUCTS EUROPE

Construction Products Europe represents the interests of all European construction products manufacturers. Construction Products Europe was established in 1988 as an AISBL, a non-profit making organisation under Belgian law. More recently, the association changed its name from CEPMC to Construction Products Europe to better reflect its scope and expertise. As such, the new name creates a more accurate reflection of the association's activities and alongside the change of name Construction Products Europe has developed a new logo and website. Construction Products Europe has a rotating presidency and vice presidency and their secretariat is based in Brussels.

ECRA (European Cement Research Academy)

CEMBUREAU has a long-standing relationship with the European Cement Research Academy (ECRA) based in Düsseldorf. With a membership of over 40 leading cement producers worldwide, ECRA supports and conducts research activities on the production of cement and its application in concrete.

ECRA and CEMBUREAU regularly interact in the areas of research and innovation as well as on technical matters. ECRA and CEMBUREAU have also worked together in organizing international conferences on CO2 infrastructure where technical and project-related practical expertise was linked to the overall policy context. CEMBUREAU is also a Member of the ECRA Technical Advisory Board.

CONCRETE EUROPE

<u>Concrete Europe</u> (formerly the European Concrete Platform), is a European association incorporated as a non-profit association under Belgian law. With its membership comprising BIBM (European Federation for Precast Concrete), CEMBUREAU, EFCA (European Federation of Concrete Admixtures Associations), and ERMCO (European Ready Mixed Concrete Organisation) as Members and Aggregates Europe - UEPG and EUPave (the European Concrete Pavings Association) as Associate Members, Concrete Europe covers concrete related issues at European level, including the energy performance of buildings, fire safety and Eurocodes. aims to better communicate to EU stakeholders and those within the construction value chain the concrete sector's role in attaining the objectives of the EU Green Deal concerning sustainable construction.

GLOBAL CEMENT & CONCRETE ASSOCIATION

Launched in January 2018, the <u>Global Cement</u> and <u>Concrete Association (GCCA)</u> is the voice for the sector on the global stage, representing 44 member companies and 28 affiliate organisations, including CEMBUREAU.

The GCCA aims to promote the benefits of cement & concrete for sustainable construction, highlighting the sector's innovation efforts and carbon neutrality ambitions. Headquartered in London, the GCCA complements and supports the work done by associations at national and regional level.

NEPSI

The European Network for Silica (NEPSI) is the first European multi-sectoral social dialogue agreement of its kind, which gathers the undersigned signatories of the Social Dialogue "Agreement on Workers' Health Protection Through the Good Handling and Use of Crystalline Silica and Products Containing it".

Since 2006, the Agreement aims to protect the health of employees occupationally exposed to respirable crystalline silica generated by a work process in eighteen industry sectors, minimising such exposure by applying good practices (see new guide and tools) and reporting every two years. NEPSI is recognised in Recital 19 of Directive (EU) 2017/2398 as a valuable instrument to complement regulatory measures.

REACH ALLIANCE

The REACH Alliance is an "association de fait" representing the Inorganic Industry and regrouping several sectors. The purpose of the Alliance is to represent the interests of the industrial sectors vis-à-vis the European Institutions and related Agencies (i.e. ECHA) and committees or groups (i.e. CARACAL, and subgroups) in the context of the regulations REACH and the CLP, its implementation and review, and upcoming implementation of the 'Chemicals Strategy for Sustainability'. In addition, CEMBUREAU is a member observer of the CII - Cross-Industry Initiative for better regulation in chemicals management.



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