



2019 ACTIVITY REPORT



ABOUT CEMBUREAU

The European Cement Association based in Brussels is the representative organisation of the cement industry in Europe. Currently, its Full Members are the national cement industry associations and cement companies of the European Union (except for Malta and Slovakia) plus Norway, Switzerland and Turkey. Croatia and Serbia are Associate Members of CEMBUREAU. A cooperation agreement has been concluded with Vassiliko Cement in Cyprus and with the Cement Association of Ukraine.

The Association acts as spokesperson for the cement industry before the EU institutions and 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, the permanent dialogue is maintained with other international organisations (e.g. OECD, IEA, UNEP), 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 of 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, the Association regularly commissions studies to evaluate specific issues of importance to the industry.



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Raoul de Parisot

Foreword by the President

2019 was a year of political change in the European Union with the European Parliament elections, new European Commission leadership and a new President at the helm of the European Council. While Brexit, immigration and international trade relations were still very much present on the European agenda, climate change has been the dominant theme.

The year ended with a “big bang”, as the new European Commission announced its flagship “Green Deal” aimed at turning the EU into the first carbon-neutral continent by 2050. Commission President, Ursula Von der Leyen, referred to the Green Deal as her “man on the moon” project and we are all invited on the journey.

The Green Deal undoubtedly presents a number of challenges for European industry and for the cement industry in particular. The increase of greenhouse gas emission reduction targets from 40% by 2030 to 50%-55% may have an impact on ETS sectors and the competitiveness of our industry. We will need to carefully assess how a cross border mechanism, that is now presented as the key tool to address carbon leakage, will be designed and how it will relate to the system of free allowances that is enshrined in the EU ETS Directive. We will also be open to discuss any alternative mechanism that secures a level playing field with jurisdictions without similar carbon constraints. The zero-pollution objective set out by the Commission will challenge our industry to focus on driving an improved environmental performance in relation to emissions, other than CO₂.

Above all, however, the Green Deal presents opportunities for our sector and acknowledges some key suggestions of the Masterplan for Industrial Transformation, elaborated by the High Level Group of energy-intensive industries of which CEMBUREAU is part. We are pleased the Green Deal suggests a life cycle approach in developing product policies to foster the uptake of low carbon solutions. The Green Deal also took on board our often repeated request for proper pipeline infrastructure to transport carbon and for the identification of storage sites (in view of creating industrial hubs).

The Green Deal Communication sets out an ambitious agenda for the next two years with a strong focus on impact assessments and consultations in 2020 leading up to legislative proposals in 2021. The initiatives and strategies that are announced, including an industrial strategy and a circular economy policy, will allow us to squarely put our 5C approach at the heart of policy discussions. We will be given the opportunity to convey the substantial efforts we make in each segment of our value chain, to recover energy, recycle materials, reduce our recourse to primary raw materials and therewith our footprint. We need to advocate with pride the essential role that concrete, and its unique characteristics of thermal mass and recyclability, plays in ensuring sustainable and low-carbon built environments. Recent studies show that 23% of CO₂ emissions can be reabsorbed at the end of life of a built structure through recarbonation, turning cities into carbon sinks.

Finally, the Renovation Strategy announced by the Commission and aiming at bringing together all stakeholders in the construction value chain, will be a strong instrument in assessing the future needs of the construction sector. The decision of whether to rebuild or renovate a building is a complex issue, and LCA and LCC approaches are ideal solutions to predict which solution fits better to one's need. The Renovation Strategy will anyhow demonstrate how different building materials can play a role, looking at further developing the design for deconstruction methods. It will also develop product policies taking into account their use and end-of-life phases, as well as the strength of a well-coordinated and interactive value chain. Any renovation project should take into account thermal mass, a concrete structure-inherent property that can be enhanced through both natural ventilation and smart design features such as shading, orientation and correct placing of insulation, and it comes “for free”.

As the cement industry, we are ready to contribute to forward-looking and ambitious policies and believe that we have the expertise, credibility and strength to make a difference!



Foreword by the Chief Executive

A parallel transition took place in 2019: change in the political landscape of Europe, but an equally important shift in CEMBUREAU's team. In the search for new staff, we looked for strong technical expertise and leadership, and a public affairs and communications team to drive up our presence in Brussels and bolster our image with the European institutions. The two teams complement and reinforce each other whilst strengthening CEMBUREAU's authority, ability to speak with one voice, and ensure we convey strong messages underpinned by thorough technical analysis.

Throughout 2019, the CEMBUREAU team has been able to count on strong guidance and input from its Members in all relevant bodies of the association. This has proven vital in the formulation of our positions, reports and statistics, organisation of site visits, outreach to policymakers and amplification of our messaging. It is this intense cooperation which turns CEMBUREAU into a forceful power on the European scene. Coordination with members has also allowed CEMBUREAU to be a valued partner in a number of cross-sectoral projects, including:

✓ The **High Level Group of energy-intensive industries** which delivered a "Masterplan for Industrial Transformation". This report directly fed key messages into the Green Deal, including the need for a life cycle approach, infrastructure (pipelines, storage sites) for the deployment on CCS/CCU, access to affordable energy and recycling options in a circular economy. The involvement of Member States, various departments of the European Commission and NGO's reinforced the consensual, yet strong, character of this Group.

✓ The **Strategic Forum for Important Projects of Common European Interest** for which CEMBUREAU successfully applied two years ago. The sustained input of the association and its members in the project along with the

two other sectors selected (chemicals and steel) resulted in these three sectors being acknowledged in the Green Deal as "indispensable to Europe's economy, as they supply several key value chains".

✓ The **HARMONI project**, which received funding under Horizon 2020, aimed at identifying barriers to innovation. As Rapporteur for one of the sections of the Report, CEMBUREAU reiterated its key messages on the need for coordinated public funding for breakthrough technologies, a clarification of end-of-waste rules and a proper regulatory framework for valorisation of CO₂.

✓ The **Industry4Europe alliance** which has put the need for an industrial policy at the centre of its advocacy, and has succeeded in making its points to Ministers in two Competitiveness Council meetings where CEMBUREAU took the floor on behalf of the coalition.

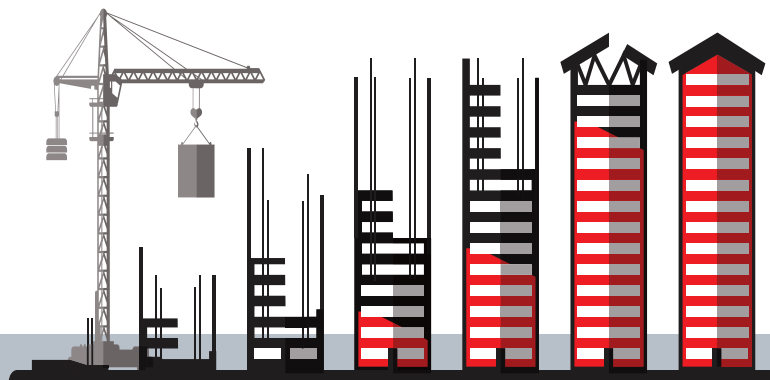
It is the combined effort of all these projects which brings the message home and reinforces the voice of the cement industry in the larger debate on competitiveness of European industry.

Lastly, regarding partnerships, CEMBUREAU has intensified its relationship with the Global Cement and Concrete Association (GCCA) by contributing to its Working Groups and the Partnership Council and looking for synergies in the areas of sustainable construction, climate change, or data collection. The joint presence of CEMBUREAU and GCCA at a COP25 event organised by Oficemen in December 2019 showed a united front on the climate change agenda between the global, regional and national levels.

The forms of cooperation referred to above have also allowed CEMBUREAU to liaise more closely with NGO's, trade unions and industries in a variety of sectors, not limited to the energy intensive sectors. A good example is the Alliance for Competitive European Industries



Koen Coppenholle



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of which CEMBUREAU holds the Chairmanship and which consists of 11 industry sectors, in addition to BusinessEurope, representing 20.6 million jobs in Europe and accounting for EUR 5.8 trillion turnover, 10.6% of the EU's GDP.

With innovation as one of the main drivers for the cement industry's transition to a low carbon future, CEMBUREAU and cement companies' presence in the SPIRE Public Private Partnership, along with seven other process industries, helps to shape the research and innovation priority areas for Horizon 2020 and Horizon EUROPE. This allows to identify consortia that will foster technological progress in our sector in a spirit of industrial symbiosis.

The work done over the course of 2019 has laid a strong foundation for CEMBUREAU's engagement on the variety of initiatives that will take place in 2020. In June, CEMBUREAU organised an innovation workshop with representatives from DG CLIMA, DG R&I, DG COMP and DG GROW in which CEMBUREAU's members presented several demonstration-level innovation projects planned for the coming 10 years. Towards the end of 2019,

CEMBUREAU's secretariat created a draft innovation paper showing the technological pathways under each of the 5Cs and examples of projects. This will be finalised and released in Q2 2020. The team is ready to take on the challenge and is confident it will continue to feel the support of its Members.

In December, CEMBUREAU Board requested that CEMBUREAU's secretariat updates the existing 2050 cement roadmap developed in 2013 to look at the whole cement and concrete value chain with the view of trying to reach climate neutrality by 2050. An expert group was set up to develop in December and the revised 2050 roadmap is aimed to be published at the end of Q1 2020.

At the time of publication of this Report, the COVID 19 crisis has heavily impacted the economic activity across the globe. The consequences for the cement value chain will need to be carefully assessed in 2020 and CEMBUREAU is working closely with its Members and the European and national governments to secure a path to recovery.



A YEAR IN REVIEW

Highlights from Public Affairs & Communications

2019 was a year of change for the EU institutions, with the election of a new European Parliament in May, and a new European Commission taking office at the close of the year. It was also marked by fast-paced political developments on the environmental front – such as the emergence of an active social movement on climate change, and a global political push for carbon neutrality that culminated with the publication of the **European Green Deal** in December.

In this changing context, CEMBUREAU's advocacy focus during the first part of the year was on preparing for the European Parliament elections held on 23-26 May 2019. We issued a **CEMBUREAU manifesto** for new MEPs focusing on our sector policy requests, which was launched during an event in Brussels in May. We also provided our members, with advocacy tools to get to know their MEPs for 2019-2024 – with mapping of MEPs per Member State, draft welcome letters and maps of cement factories for each country. All those tools were presented during several seminars across the year, focused on the new Parliament and wider political developments.

Furthermore, CEMBUREAU was active forging alliances to influence policy developments. We teamed up with other EU construction-related associations to develop a manifesto ("**Construction 2050**" **manifesto**) putting forward the construction sector's particular policy priorities. We also cooperated with 154 other EU industry associations through the Industry4Europe Coalition, via a manifesto but also a joint paper asking for an ambitious EU industrial strategy, which put Industrial Policy back on the political map of the EU Institutions.

A key milestone of the year was the publication of the **Masterplan for energy-intensive industries**, which was developed under the patronage of the European Commission, and contained several key CEMBUREAU recommendations.

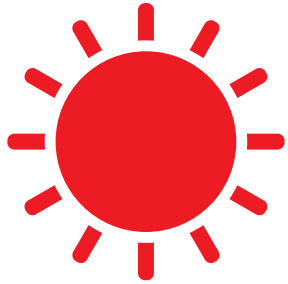
We organised several events to promote our sector. To highlight our contribution to circular economy and climate change, CEMBUREAU organised a **Green Week side event in May under the title "From crisp packets to concrete buildings"**. Moreover, sustainable construction was at the centre of the February 2019 **Concrete Initiative event "What can we learn from new trends in the construction sector?"** attended by construction stakeholders and relevant EU officials. We also co-hosted a specific event at **COP25** in Madrid in November.

CEMBUREAU also became increasingly active on the communications front, both through the publication of press releases throughout the year, but also on social media. On **Twitter**, over 7200 profile visits were attained and more than **330 new followers gained**. **LinkedIn** saw substantial growth of more than **670 new followers** and over 1800 page views, thanks to the return of regular posting of quality content on this platform. Finally, the use of video content has become a key tool for CEMBUREAU's communications and will continue to be so looking ahead.

Finally, 2019 was marked by significant changes in our Public Affairs and Communications team, with the arrival of new staff in the last part of the year. In these challenging times for the sector, we look forward to providing an ever-better service to our members in 2020.



WG A Climate & Energy



In 2019, WGA's attention was primarily on preserving the competitiveness of our industry in Europe whilst being part of a facilitating regulatory framework. The timing under consideration was 2021-2030 or Phase IV of the EU ETS.

The preparation of Phase IV required detailed discussions about the implementing mechanisms under the EU ETS Directive and its rules that govern the fourth trading period. As part of the EU's Climate Change Committee, which gathers Member States, the European Commission and industry, CEMBUREAU was able to provide input on a wide range of technical files, including the setting up of the framework for national implementation measures (NIM's), the allocation methodology, and the monitoring, reporting and verification rules. The practical and valuable input from WGA members allowed CEMBUREAU to contribute to discussions on many of these implementing texts even though the comitology procedure does not leave much room for substantial amendments.

Two files discussed in that forum deserve specific attention, the first related to the dynamic allocation method and the way a change in production will be accounted for. Long and detailed discussions were held in which experts from the Commission, Member States and industry were at odds with each other as to whether the approach to be taken should be a linear or staged adaptation of allowances once beyond the 15% increase or decrease in production which triggers, respectively, an additional or a reduced allocation. Thanks to the efforts of all stakeholders involved, a compromise was reached for a 5% staged approach.

The second file leaves industry with a concern and relates to the differentiated approach between incumbent installations and new installations in relation to the year in which allowances will be granted. While the new installations will be allocated immediately, investments in existing installations will only receive their full allocation two years after the investment. Notwithstanding arguments made by industry and supported by some Member States pointing out that investments in new technology are more likely to be made in incumbent sites rather than on green fields, the differentiated approach was maintained in the final text adopted by the Climate Change Committee. CEMBUREAU remains convinced, however, that this item deserves to be raised again with policymakers as it directly affects the investment capacity in Europe.

The investment capacity also depends on the competitiveness of European industry. In addition to the measures referred to above, the cost base of cement companies in Europe will be further influenced by a lower benchmark and rely on the eligibility of the cement sector to receive compensation for electricity costs (indirect compensation). In relation to the benchmark, the European Commission's main focus in 2019 was to collect the emissions data from the plants through the national authorities. On 19 June 2019, the Commission issued a Questions and Answers document in which it clarified that calcium aluminate cement should not be included in the grey cement clinker benchmark but will receive a free allocation based on a fall-back approach. The Commission aims to present the benchmark values by June 2020 for adoption by the Climate Change Committee where CEMBUREAU is represented.



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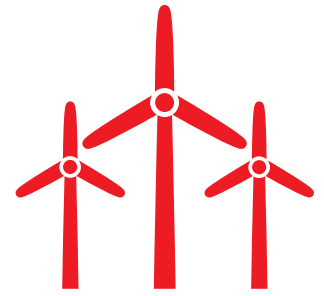
As an overall comment, the adoption of the EU ETS implementing measures, mostly with a significant impact on the operating plants, leaves little time for preparation given their entry into force on 1st January 2021.

Electricity accounts for a stable share in the energy mix (12%) of the cement industry but easily represents 50% of the energy costs. In addition, electricity consumption in the EU cement industry increased by 1.8% per year over the 2014-2016 period, much stronger than the 0.6% production growth over the same period. Decarbonisation of the cement sector will increase the electricity consumption, in some cases by 80%-120% such as for carbon capture technologies. Access to affordable electricity is therefore a key objective for the cement industry. This is why CEMBUREAU has submitted an extensive file into the targeted consultation launched by the European Commission on the revision of the indirect compensation state aid Guidelines. CEMBUREAU argued that the lack of cost passed through in the sector, its limited potential to further improve energy efficiency, its limited pricing power and severe margin deterioration, in addition to an indirect emission intensity of 1.87 kg CO₂ / EUR GVA and an average trade intensity of 10% over the reference period 2014-2016, should make the sector eligible for indirect compensation. While a first assessment by the European Commission did not include the cement sector for indirect compensation, CEMBUREAU will submit its arguments again in the public consultation in early 2020.

A successful decarbonisation of the cement sector hinges on the degree of innovation that can be carried through. As process emissions represent two thirds of the total emissions in

cement manufacturing, the cement industry is strongly involved in exploring a variety of capture technologies. All of these breakthrough technologies carry a substantial technological and financial risk which necessitates the availability of public funding. CEMBUREAU has joined forces with European Cement Research Academy to explain to the Commission that, while the sector is fully capable of carrying out research and is proceeding to demonstrators for the capture technology, the transport and storage needed requires support from Member States and a joined-up approach from different energy intensive industries might be logical. It is encouraging to see that the European Commission's Green Deal does acknowledge, building on the conclusions of the High-Level Group, that the mapping of CO₂ storage places and transport infrastructure will require specific attention. The cement industry will continue repeating its view on this to all of the EU institutions.

Lastly, the Green Deal reopened the possibility of a carbon border mechanism. The mechanism is presented in the Green Deal as a way of addressing carbon leakage and of incentivising third countries to proceed to CO₂ emission reductions. CEMBUREAU is closely following the discussions on a possible design of such a system but it is clear that free allowances as agreed under the current EU ETS Directive, adopted in 2018, need to be maintained and that WTO compatibility must be ensured. CEMBUREAU will be issuing a position paper early in 2020 with a more detailed set of criteria for a workable carbon border mechanism.



WG B Circular economy and processes



The change in name for WGB from “Resources and processes” to “Circular economy and processes” reflects the importance of the circular economy in the low carbon transition. This is unmistakably clear when going through the Green Deal in which efforts to improve the circularity of production processes and the economy in general are seen as essential elements of a low carbon future. The focus on a zero-pollution action plan for water, air and soil shows a clear drive by policymakers to also address industrial emissions other than CO₂.

The cement industry is uniquely placed to deliver on both fronts. Our industry is fully part of a circular economy along its value chain. It is a key player in waste management with a wide variety of waste streams recovered and materials recycled for use as alternative fuel and materials in cement kilns, thus replacing 46% of total fuel needs. The WGD Report will further highlight the downstream contribution to a circular economy through the recyclability of concrete and its recarbonation potential.

The cement industry’s contribution to the circular economy deserves a recognition in the existing regulatory framework. CEMBUREAU was pleased to see that the revised Waste Framework Directive requires the European Commission to identify a methodology for the recognition of the recyclability of mineral content in waste, thus allowing this mineral fraction to be taken into account in the national recycling targets. WG B has worked hard to identify an appropriate methodology and suggests that the minerals can be calculated according to a method compliant or derived from the EN-15403 “Solid recovered fuels. Determination of ash content, March 2011”.

The recognition of the material recycling as a recycling activity complements the recovery of fuels which now accounts for 46% of the total fuel needs. CEMBUREAU’s advocacy and communications have greatly benefited from the external study carried out by Ecofys that demonstrated the cement industry has the technical capacity to increase the alternative



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fuel use to 95% but that the barriers to do so were regulatory in nature, both at EU and national level. WGB has now undertaken the task to assess the growth potential in relation to alternative raw material use and started sending out questionnaires to members from selected countries.

Co-processing refers to the combination of simultaneous material recycling and energy recovery from waste in a thermal process. In discussions with policymakers and the public at large, it became clear that this terminology was not well known or understood. Therefore, WGB undertook the effort to publish a Questions and Answers document on co-processing which clarifies the difference between incineration and co-processing, which types of waste are most suitable for co-processing and how emission levels are controlled.

The advocacy efforts of CEMBUREAU and WGB Members have strongly paid off also at international level, more precisely in the process of revising the Basel Convention. An advocacy opportunity was identified during the revision of the Recovery and Disposal (R&D) lists, where one of the proposals was to add "R15 co-processing" as a new operation code. This was a unique opportunity since the revision of the Basel convention is done every 5 years. Moreover, the outcome of the work carried out at the international level is expected to be transcribed in the European and national legislation, such as the Waste Framework Directive. At the meeting of the Basel Convention Technical Committee in November 2019, the EU, several EU Member States and some third countries supported the inclusion of co-processing in R15. CEMBUREAU is now liaising with GCCA and FICEM (Latin American Cement Association) to ensure the momentum is maintained for the next meetings in June 2020 and the Plenary meeting in May 2021.

As stated before, air emissions other than CO₂ are equally relevant for the cement sector. There, we enter the area of the Industrial Emissions Directive forming the regulatory basis for the BREFs which describe the best available techniques and how national authorities should grant permits to plants. While the revision of the BREFs is not expected before 2022, WGB has engaged in preparatory work.

Following the publication of the IED Evaluation Roadmap in November 2018 in which the Commission hinted at a possible revision of the IED Directive, CEMBUREAU engaged in the evaluation process via the public consultation, the various workshops and personal interviews throughout the year. The cement industry took the position that the Directive serves well its purpose and delivers environmental performance across Europe because its approach is flexible, focuses on continuous improvements and addresses local environmental issues holistically and does therefore not need revising.

Finally, the biodiversity efforts made by our industry highlight a very positive contribution we make to society. Too often, we have left stories untold. That is why the Task Force for Biodiversity focused its efforts over the past year in collecting case studies and photos in relation to species, habitats and stakeholder engagement from across Europe, to be made available for external publication. This publication highlighted the share of area that has been rehabilitated as natural forest (33%), as grassland (23%) and as lake for biodiversity conservation (8%) whereas within the active quarry area a share of 15% serves as temporary habitat, enabling specific plants and animals to thrive without human intervention.



WGC Health & Safety



It is now the third year that we report on the detailed and technical discussions in relation to the new Annex VIII to the Classification, Labelling and Packaging Directive (CLP) which aims to provide harmonised information to poison centres for emergency health responses. CEMBUREAU and other stakeholders were successful in obtaining a postponement of the entry into force of the revised legislation. This gave more time for working out an acceptable technical solution between industry stakeholders, the European Commission, Member States and Poison Centres within the CARACAL expert group.

Based on proposals from the competent authorities of France and Germany, referred to in the Workability Study presented by consultants to the Commission, CEMBUREAU developed a generic UFI approach for each cement type covered by Cement Standard 197-1 under a 'standard formulas' approach. The suggested approach was endorsed by downstream construction sectors' associations. The European Commission commented positively to CEMBUREAU's proposals and started to prepare the legal text which should be presented in comitology in 2020 Q1.

Another item assessed in WGC was the transposition of the Carcinogens and Mutagens at work Directive (CMD) including Respirable Crystalline Silica (RCS) generated by a work process in national law. Several CEMBUREAU Members reported that their

national governments were considering setting a "binding occupational exposure limit value" (BOELV) lower than the 0.1 mg/m^3 foreseen in the Directive. Members were asked to monitor the transposition and implementation of the Directive at National level. WGC agreed to collect on site data on RCS generated by a work process over a list of defined jobs to have an overview of the state of play of the industry in 2020 in Europe. Finally, WG C's Ad Hoc Group "RCS Measurements in Bulk Products" agreed to proceed to a new Round Robin test to determine the fine quartz fraction in cement.

The reference to RCS leads us to the NEPSI Agreement. In 2019, NEPSI received EU co-funding to start a variety of actions to strengthen the governance of the social dialogue including an update of the NEPSI Agreement and Good Practice Guide (where a reference to the Carcinogens and Mutagens Directive, CMD, is taken up), a renewed reporting system with guidance, the development of a new voluntary protocol, new guidance tools for all partners with a focus on SMEs and Employees, and translation of materials in all EU languages. CEMBUREAU and its members prepared themselves for the NEPSI 2020 Reporting.

Finally, WG C continued to share best practices and safety procedures between companies and trade associations at each of its meetings throughout the year to strengthen a health and safety at work culture in the cement industry.



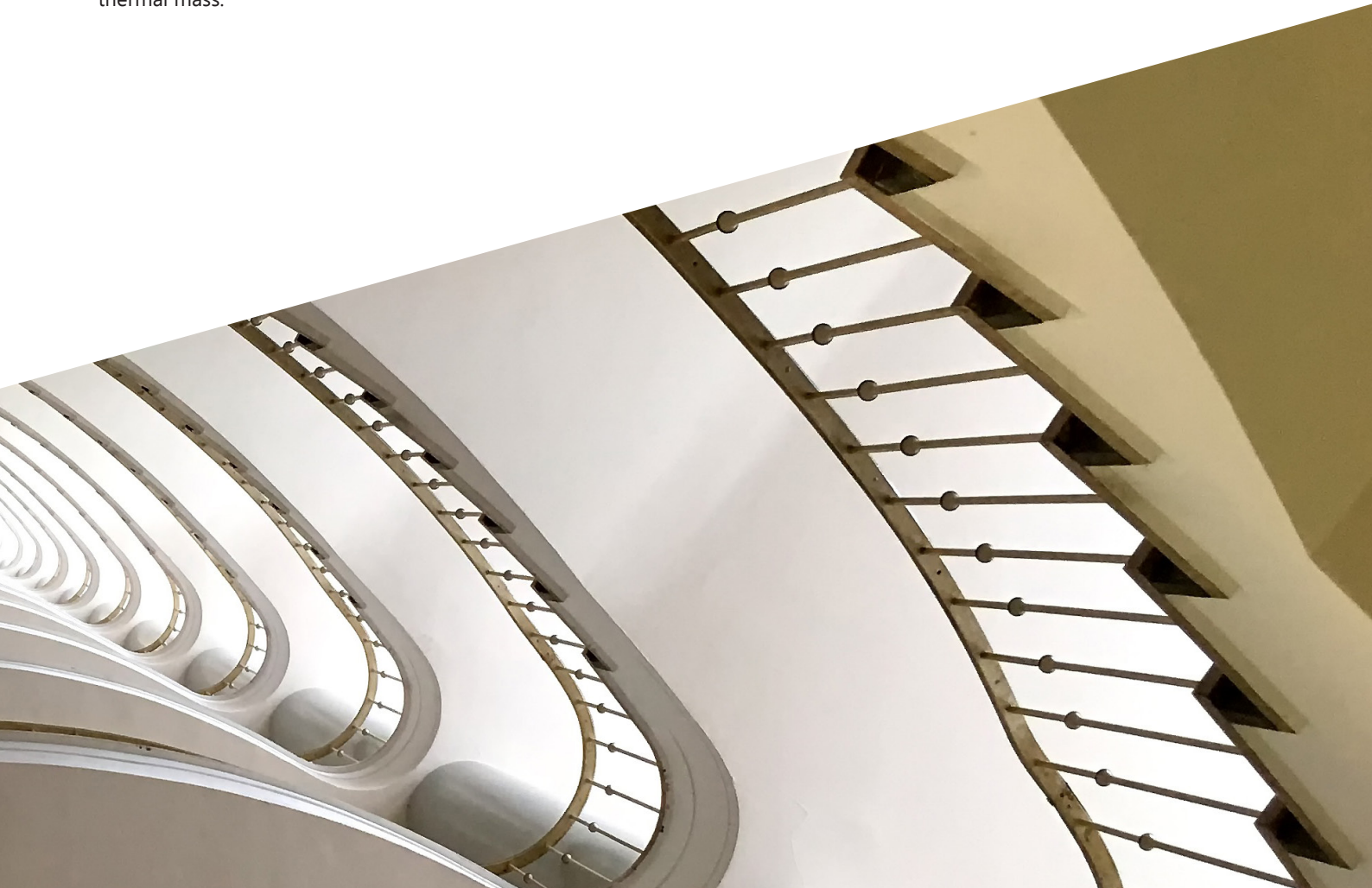
WG D Markets & Products

The activities of Working Group D covered projects, standardisation and policy initiatives with a strong focus on how to position cement and concrete as materials of choice in a sustainable built environment.

CEMBUREAU has always advocated for a life cycle assessment, whereby the carbon footprint is not only assessed when concrete is brought to the market but also when it is in use and at end of life. In this context, CEMBUREAU was eager to participate in the European Commission's new EU framework to measure the performance of sustainable buildings "Level(s)" which seeks to assess lifecycle performance while focusing on whole life carbon, resource efficiency and material circularity, and health indicators. Three cement companies came forward with buildings that have been assessed under the scheme. The results of the Level(s) approach are promising and may provide industry with a credible life cycle assessment across different building materials. CEMBUREAU is still working with the Commission to take into account dynamic energy performance calculations in order to capture the full benefits of concrete's thermal mass.

The recarbonation potential of concrete is another strong characteristic that merits further attention in the Level(s) building sustainability performance. Recarbonation is a process whereby part of the CO₂ emitted during the cement production process is reabsorbed by concrete in its use and end-of-life phase. This allows concrete to act as a carbon sink but, what is more, mineralisation permanently stores CO₂ as it is locked in concrete or can be used in a concrete curing process and strengthen recycled aggregates.

Now with the methodology for uptake of CO₂ in concrete by carbonation developed by IVL in hand, CEMBUREAU has continued joining forces with GCCA, PCA and CEMENTA AB for the implementation of the methodology. The aim was to convince governments to use this methodology in the framework of their national GHG inventories for IPPC. Contacts have been successfully set up with the governments of Sweden and the UK.



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The potential of decarbonisation efforts ahead of us in the building industry can only be correctly assessed if we have a good understanding of how CO₂ improvements have been realised over time. That is why CEMBUREAU commissioned ARUP consultants to study trends in lowering embodied CO₂ in buildings looking forward and back about 30 years, for both residential and commercial buildings, representative of construction practice across Europe. From these findings, the study will identify the levers for CO₂ reduction along the value chain, including changes in construction methods and practices. The study will further assess possible barriers to realising potential reduction in carbon emissions, e.g. the limits imposed by concrete standards and building codes across Europe.

Standards, however, are not a static element in the low carbon transition. Within CEN/TC 350, for instance, CEMBUREAU has participated in discussions on how to assess recarbonation and how to align the European Commission's Environmental Performance Footprint project with the lifecycle analysis foreseen in EN 15804. The uptake of low carbon products in the market will be facilitated by the inclusion of new cement types in cement standard EN 197-1. Unfortunately, the adoption of the revised standard on the basis of Mandate M/114 is taking much longer than anticipated due to a divergent interpretation between the Commission and European standard organisations on their respective roles in the standardisation process following case-law

of the European Court of Justice confirming that standards are part of European law. The European Commission has now engaged in a larger consultation exercise on the role of standardisation and is proceeding piece-meal with the adoption of revised standards. CEMBUREAU has expressed its strong concern with the European Commission on the delays in the standardisation process which hamper the bringing to market of low carbon cements.

WGD has recognised the added value of having European cement EPDs so CEMBUREAU has worked with ECRA to update the CEM I, CEM II and CEM III EPDs according to the new standard EN 15804. The updated EPDs will be published early 2020.

During 2019, a closer synergy was sought between the activities of The Concrete Initiative and the work carried out by many of the same partners (CEMBUREAU, BIBM, ERMCO, EFCA) in the European Concrete Platform. The latter will provide technical support for advocacy by the Concrete Initiative.

Finally, CEMBUREAU took up the challenge to improve communications on often technical subjects. WGD experts developed four narrative papers on, respectively, availability of cementitious materials, electricity use in the cement industry, low zero carbon fuels in the cement industry, and thermal mass & overheating. These papers were successfully promoted on CEMBUREAU's social media channels.



The Economy: Unlocking the value of cement

Global Cement production

Main World Producers - The G20 Group											
Cement production (Million tonnes)											
Country	2001	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
China	661.0	1 644.0	1 881.9	2 063.2	2 137.0	2 420.0	2 480.0	2 350.0	2 403.0	2 316.3	2 176.7
India	102.9	205.0	220.0	240.0	270.0	280.0	260.0	270.0	289.3	285.0	327.7
EU28 *	225.6	209.0	192.1	191.6	172.6	166.6	166.8	167.2	169.1	175.1	179.8
USA	88.9	63.9	65.2	68.6	74.9	77.4	83.2	83.4	84.7	86.1	87.8
Brazil	39.4	51.7	59.1	63.0	68.8	70.0	72.0	72.0	57.6	54.0	53.5
Turkey	30.0	54.0	62.7	63.4	63.9	72.7	71.2	71.4	75.4	80.6	72.5
Russian Federation	28.7	44.3	50.4	56.1	53.0	72.0	68.4	69.0	55.0	54.7	53.7
Indonesia	31.1	36.9	39.5	45.2	32.0	56.0	65.0	65.0	61.3	68.0	70.8
South Korea	52.0	50.1	47.4	48.2	48.0	47.3	63.2	63.0	56.7	57.9	55.0
Japan	79.5	59.6	56.6	56.4	51.3	57.4	53.8	55.0	53.4	55.5	55.3
Saudi Arabia	20.0	37.8	42.5	48.0	50.0	57.0	55.0	55.0	55.9	47.1	42.2
Mexico	33.2	35.1	34.5	35.4	35.4	34.6	35.0	39.8	42.4	42.8	42.8
Germany	32.1	30.4	29.9	33.5	32.4	31.5	32.1	31.1	32.7	34.0	33.7
Italy	39.8	36.3	34.4	33.1	26.2	23.1	21.4	20.8	19.3	19.3	19.3
France	19.1	18.1	18.0	19.4	18.0	17.5	16.4	15.6	15.9	16.9	16.5
South Africa	8.4	11.8	10.9	11.2	13.8	14.9	13.8	14.0	13.6	13.2	12.5
Canada	12.1	11.0	12.4	12.0	12.5	12.1	12.8	12.5	11.9	12.7	13.3
Argentina	5.5	9.4	10.4	11.6	10.7	11.9	11.8	12.2	10.9	12.0	11.8
United Kingdom	11.9	7.8	7.9	8.5	7.9	8.5	9.3	9.6	9.4	9.4	9.2
Australia	6.8	9.2	8.3	8.6	8.8	8.6	9.3	9.3	10.0	10.0	9.8

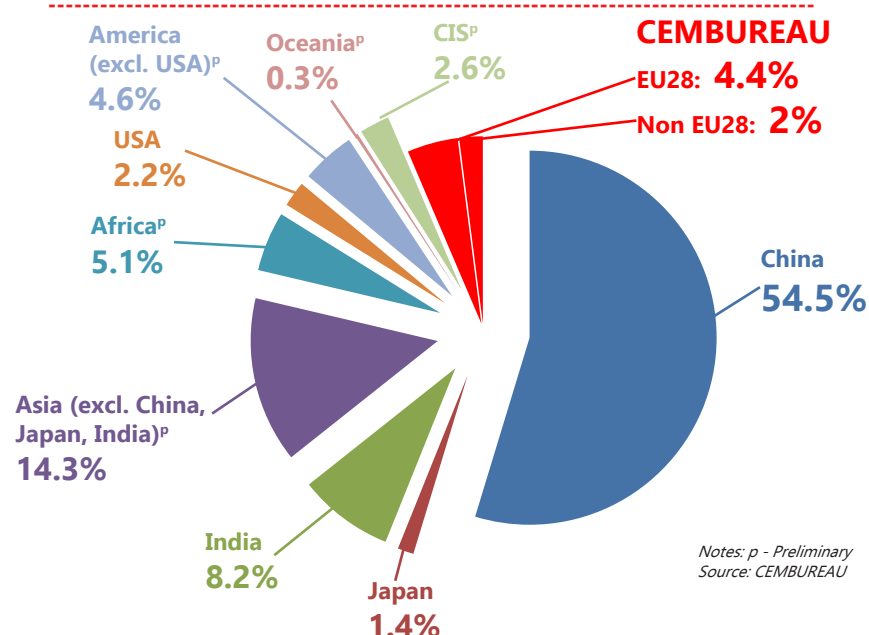
* EU28 data is compiled using latest available data

Sources: CEMBUREAU, US Geological Survey, Global Cement Report, Global Cement Directory

Global cement production in 2018 is estimated at approximately 3.99 bn tonnes, dropping below the magic 4 bn tonnes due to slower growth in China, whilst production in India has been growing significantly. China still produces 54.5% of the world's cement, with EU28 representing 4.4% and CEMBUREAU members representing 6.4% of the world's production. Compared to last year, global production has been reviewed based on per country available most recent data, with a world production volume contraction of almost 3% (2.7%).

World cement production 2018, by region and main countries, % Estimations

3.99 billion tonnes

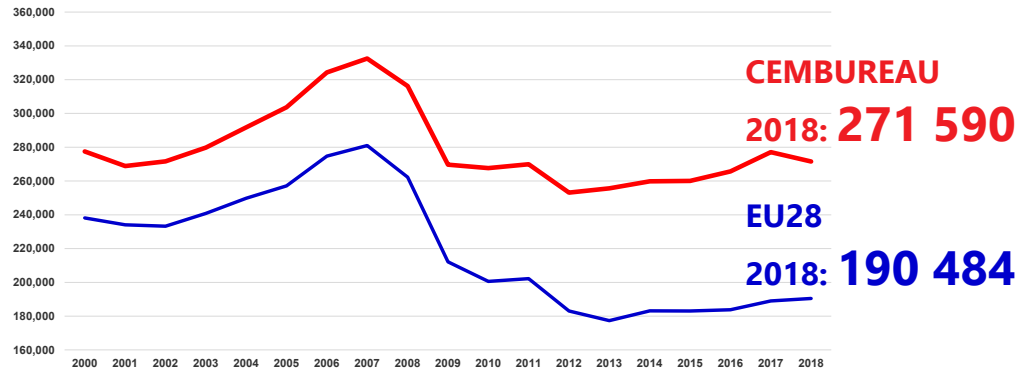


Notes: p - Preliminary
Source: CEMBUREAU

THE ECONOMY

Looking more in detail at the CEMBUREAU and EU28 cement production and consumption data from 2018, we observe the following trends:

Cement Production: EU28 & CEMBUREAU 2000-2018
Cement production + clinker exports Ktonnes



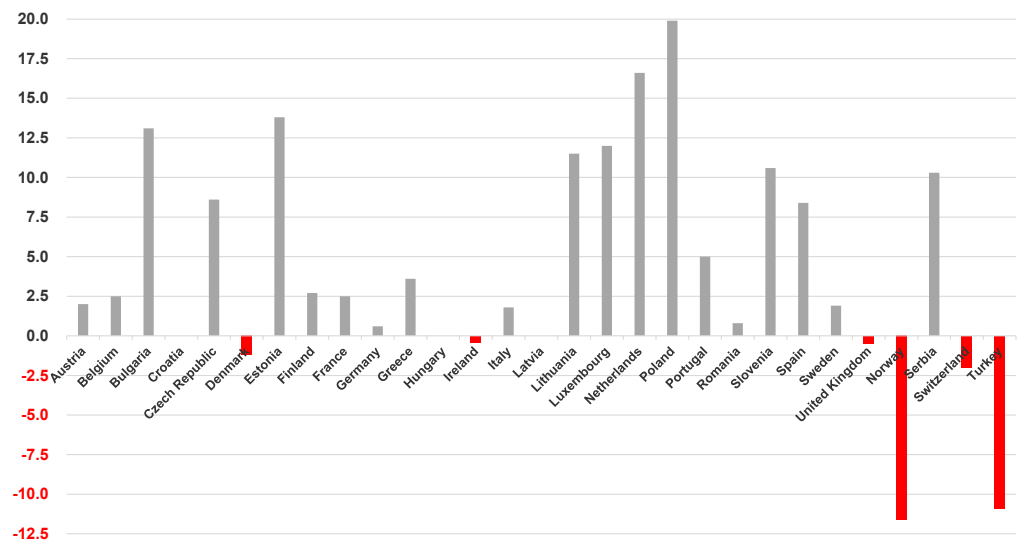
Source: CEMBUREAU

The CEMBUREAU production, or rather production + clinker exports as shown in the graph above, dropped with 5.5Mt corresponding to 271.6Mt close to the pre- and post-boom 2002 and 2009 production levels, whereas the EU28 production rose with 1.5Mt.

The consumption is almost constant for CEMBUREAU members, at a level of 237Mt. The EU28 countries saw an increase of 7.9Mt

to 167.1Mt. Individual CEMBUREAU members experienced wide differences in consumption from 2017 to 2018, as the bar chart below shows: eight countries increased with more than 10%. In decreasing order: Poland, Netherlands, Estonia, Bulgaria, Luxembourg, Lithuania, Slovenia, Serbia. Consumption decreased in Norway, Turkey, Switzerland, Denmark, United Kingdom and Ireland.

Evolution of cement consumption in CEMBUREAU countries
Variation 18/17 (%)



Source: CEMBUREAU

Construction Markets

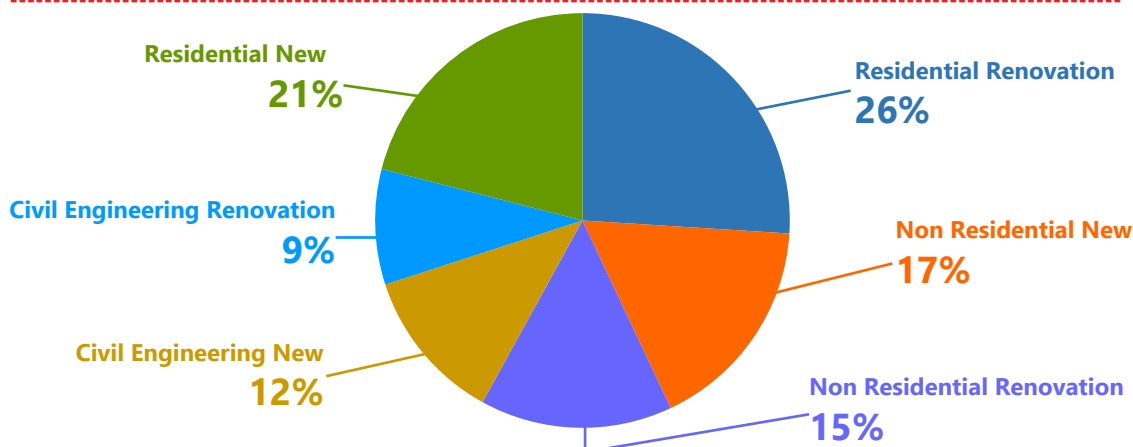
The global economic forecasts of the IMF and European Commission are also reflected in the construction forecasts of Euroconstruct (19 countries), the member states of the Eastern European Construction Forecasting Association (EECFA, which includes Bulgaria, Croatia, Romania, Serbia, Slovenia, Russia, Turkey, Ukraine) and Baltic States (Estonia, Latvia, Lithuania). The construction volume in the Euroconstruct area grew by 2.3% in 2019, by 3.6% in the Baltics and decreased by 3.4% in EECFA countries. The effect of the currency crisis on construction in Turkey leads to a growth rate for total construction output of -10.7% in 2019. A similar evolution is seen in the cement industry. How the COVID-19 pandemic affects these forecasts has yet to be determined.

In the Euroconstruct area, the construction growth reached its highest levels in Europe in 2017 since 2006, just before the crisis. The

construction output has been growing since 2014 and was set to continue up to 2022 according to the forecasts even though at a substantially lower rate of 1.1% in 2020, down from 2.3% in 2019. However, these forecasts did not take into account the impact of COVID-19.

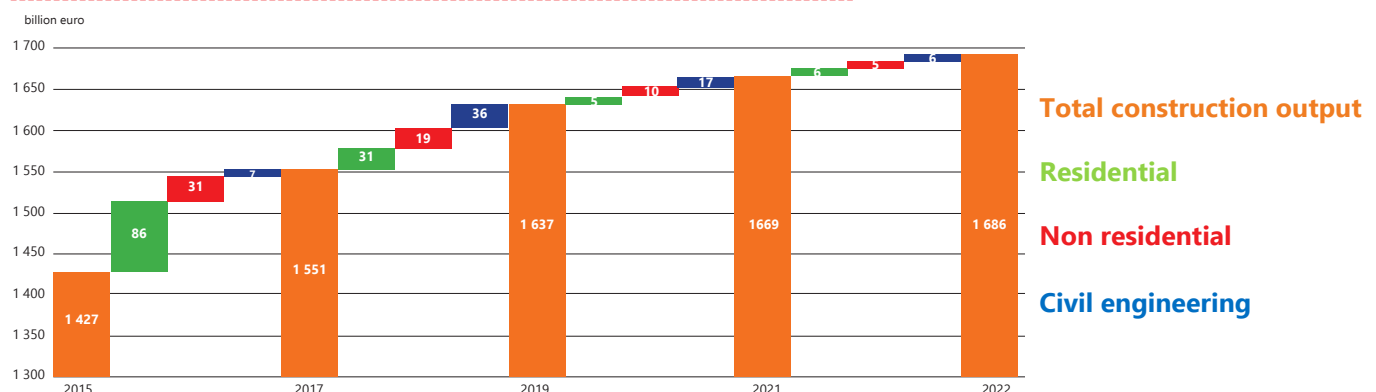
In 2019, not all countries in the Euroconstruct perimeter, EECFA and Baltics experienced growth. Construction volume contracted in Finland, Sweden and Turkey. For 2020, Finland, Sweden, Germany, Switzerland, Serbia and Turkey are forecasting negative growth. Even before COVID 19, the outlook in the Baltics for 2021 was between zero and negative; Finland, France, Germany and Sweden were all expected to see negative growth; whilst Turkey was seen recovering with 0.5% growth. These evolutions reflect a slowdown in the growth rate for the EU/CEMBUREAU region. How the COVID-19 pandemic effects these forecasts has yet to be determined.

Construction markets by segments in 2018, 38% account for new buildings, 41% for building renovation



Source: EUROCONSTRUCT

Growth contributions by segments
New residential housing weight slowing, civil engineering becoming the main driver



	2015		2017		2019		2021		2022
Total construction output	1 427		1 551		1 637		1 669		1 686
Residential	650	86	736	31	767	5	772	6	778
Non residential	469	31	500	19	519	10	529	5	534
Civil engineering	308	7	315	36	351	17	368	6	374

Source: EUROCONSTRUCT

The Euroconstruct area reached EUR 1.60 trillion value in 2018, split into 38% for new buildings and 41% for building renovations, and 21% from civil engineering (see pie chart above). These proportions are temporarily changing, however, with civil engineering becoming a major driver between 2017 and 2021 and new residential buildings falling behind in all regions and reappearing as a leading segment after 2021 (see graphs above).

A COUNTRY BY COUNTRY ANALYSIS

AUSTRIA

Cement consumption: % variation 2019 / 2018

We assume that the cement consumption in 2019 has remained stable at the very high reference level from 2018 which was above 5 million tonnes and almost reached the pre-2009 crisis level. Details will not be available before mid-2020.

Sectors

Construction volumes remain at a stable level for 2019 with a share of about 30% for residential building, 34-36% for non-residential building, whilst the rest is made up by civil engineering.

Prospects & external factors

The sector of residential and non-residential buildings is expected to remain stable at a very high level, whilst the sector of civil engineering might still even grow further.

BELGIUM

Cement consumption: % variation 2019 / 2018

After a decrease in the consumption of cement in 2017, the year 2018 ended with an increase of 2.5% compared to previous year bringing the total deliveries to the Belgian market to 6,303,000 tons.

The year 2019 should show an increase estimated at +1.6%.

Sectors

Overall, the construction sector experienced a growth of 2% in 2019 compared to 2018.

The residential subsector (renovation and new construction combined) increased by +1.6% in 2019.

The non-residential construction experienced an increase of +2.6%.

Civil engineering saw growth of +6.5% in 2019.

CYPRUS

Cement consumption: % variation 2019 / 2018

According to the Statistical service of the Republic of Cyprus, the number of building permits authorized by the municipal authorities and the district administration offices in January 2019 stood at 544. The total value of these permits reached €117.8 million and the total area 107.0 thousand square metres. These building permits provide for the construction of 548 dwelling units. Compared to the corresponding month of the previous year, the number of building permits issued increased by 8.2%. The total value of these permits decreased by 18.9% and the total area by 15.2%. The number of dwelling units recorded an increase of 15.1%. Building permits constitute a leading indicator of future activity in the construction sector.

CZECH REPUBLIC

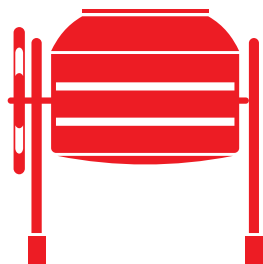
Cement consumption: % variation 2019 / 2018

The rough estimation of the cement consumption for 2019/2018 is -1.5 to -2.5%.

Sectors

In 2019, the construction output increased by 2.3% in real terms compared to previous year. The production in building construction increased by 2.0% (contribution +1.4 p. p.) and the production of civil engineering construction grew by 3.4% (contribution +0.9 p. p.).

The total value of the orders grew by 5.3%, and was CZK 248.5 billion. The building construction orders were for CZK 108.7 billion (drop by 0.6%) and those for civil engineering constructions were for CZK 139.8 billion (growth of 10.5%). The average value of a newly concluded building order was CZK 4.1 million and was by 11.1% higher. The number of building permits granted increased by 6.3%; the planning and building control authorities granted 86,283 building permits. The approximate value of constructions permitted in 2019 was CZK 414.3 billion and increased by 15.7% compared to that of 2018. The number of dwellings started in 2019 increased by 16.8%, with 38,677 dwellings. The number of dwellings started in family houses increased by 4.0%, and multi-dwelling buildings grew by 71.6%. The number of completed dwellings in 2019 grew by 7.6%, and was 36,422 dwellings. The number of completed dwellings in family houses increased by 0.5%, and the number of completed dwellings in multi-dwelling buildings grew by 23.7%.



DENMARK

Cement consumption: % variation 2019 / 2018

The estimation of the cement consumption for 2019/2018 is 0%.

Sectors

Construction and building activity was slightly higher in 2019 compared to the 2018 level. The positive trend for residential housing activity has slowed. The commercial building sector continues to benefit from the positive economic situation and improved from a historic low point in 2015. The publicly funded construction projects especially regarding infrastructure, hospitals and universities were coming to an end. The Copenhagen Metro project was finalized in 2019.

ESTONIA

Cement consumption: % variation 2019 / 2018

Cement consumption declined by 4% in 2019 compared to 2018.

Sectors

2019 was a stable year for the construction sector. Construction volumes were still at their highest level in the last ten years, and despite the price increase, which was mainly due to a labor shortage, a significant drop in sales volumes did not occur. Volumes of civil engineering and residential construction remained at the same level as the previous year. There was a certain drop in the performance of the non-residential construction sector.

FINLAND

Cement consumption: % variation 2019 / 2018

Cement consumption decreased slightly with approximately 4% between 2018 and 2019.

Sectors

Residential building construction decreased by -16%, non-residential building decreased by -5% and renovation building decreased by -5% compared to 2018. Infrastructure and civil engineering building grew by +14% compared to 2018.

FRANCE

Cement consumption: % variation 2019 / 2018

In 2019, the cement consumption forecast is between +1.2% and +1.4%.

Sectors

In 2019, residential building construction decreased by -1% (410,300 units in 2019, about 4,300 fewer units compared to 2018).

In detail, the decrease mainly concerns collective housing with 3,600 fewer units in 2019 compared to 2018 (-1.4%).

In 2019, 28.4 million m² of non-residential building surfaces increased – an increase of +7.2% compared to 2018.

In 2019, the civil engineering market was very dynamic (+12.2%). It was mainly boosted by investments made in cities, due to the municipal elections of 2020, and by investments in the Grand Paris Express, the investment plans for rollout of fiber broadband and the improvement of highways.

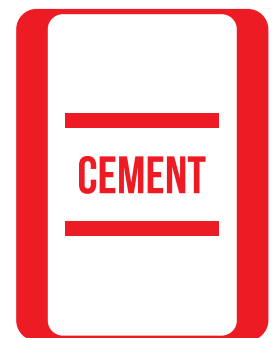
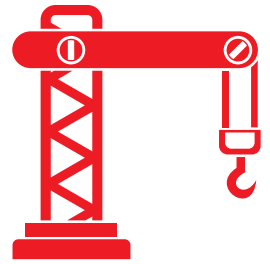
GERMANY

Cement consumption: % variation 2019 / 2018

The estimation of the cement consumption for 2019 / 2018 is +/- 0 to 1%.

Sectors

German cement consumption in 2019 is expected to have slightly increased by between 0% and 1% compared to 2018. One major contributor to this positive development is the residential building sector. According to recent estimation, 4% more apartments were completed in 2019 than in the previous year (i.e. 298,000 units). This growth comes mostly from the completion of multi-family housing – a segment in which concrete has a higher market share than in single-family homes. Nevertheless, experience has shown that the actual development of residential building completions has been less than predicted over the past few years. Further stimulus came from the commercial building sector (completions are estimated to be +1.6% in 2019 compared to 2018) and from civil engineering, which is benefitting from increased public infrastructure funding and a construction demand that has risen vastly during the past few years.





GREECE

Cement consumption: % variation 2019 / 2018

Date for 2019 is not yet available. Consumption is expected to remain at the same level as that of 2018.

Sectors

The Statistical Authority preliminary data shows an increase in the building sector of 9%.

Prospects & external factors

2020 prospects is expected to be slightly better than 2019.

HUNGARY

Cement consumption: % variation 2019 / 2018

The estimation of the cement consumption for 2019/2018 is 7-9%.

Sectors

Construction output grew by 24.4%, in the first three quarters of 2019. 10,302 new homes were built, 0.8% more than a year earlier. GDP in Hungary for 2019 Q3 increased by 5.0% compared to the same period last year. Industry, construction and market-based services contributed the most to this growth.

IRELAND

Cement consumption: % variation 2019 / 2018

Date is currently not available.

Sectors

Growth continues in the Irish housing sector. 2019 saw the construction of new dwellings rise to 21,000, up 18% from 2018. Apartment development has increased in Q4 and is likely to be sustained in 2020. There is an estimated annual demand of 35,000 homes, however, with a combination of factors including skills shortages and policy uncertainty following the recent election likely to impact investment, delivery for 2020 is still not expected to meet this. Commercial construction is continuing to proceed strongly and growth in the economy is converting to increased demand particularly in Dublin but also in key regional cities. The National Development Plan launched in 2018 may be put into doubt if there is a drastic change in the make-up of the Government.



ITALY

Cement consumption: % variation 2019 / 2018

The estimation of the cement consumption for 2019/2018 is -0.5%.

Sectors

In the current economic situation, construction output is set to accelerate in 2019, but a strategic role is still preserved by building renovation activity that continues to grow absorbing more than 60% of total construction output with a minimal impact for the cement sector. 2019 could mark the year of consolidated recovery for new building investments although still far from the levels of previous years. Investments in new infrastructures were lower than expected and represent the main cause of the negative performance in 2019.

LATVIA

Cement consumption: % variation 2019 / 2018

Latvia's total grey cement consumption in 2019 is estimated at around 500 thousand tons (+2% from previous year).

Sectors

Residential output is flattening after reaching top volumes in 2018. Non-residential is still expected to grow slightly but lacks strong drivers, such as the first IKEA shop and the Akropole shopping mall development in 2018.

LITHUANIA

Cement consumption: % variation 2019 / 2018

In 2019, cement demand in the domestic market increased by 3% compared to 2018. This was caused by investments in civil engineering, non-residential and infrastructure projects.

Sectors

In 2019, the volume of construction works in Lithuania increased by 8.3% compared to 2018. The largest part of performed construction activities (43.9%) consisted of engineering building works. Construction works of non-residential buildings amounted 37.6% and residential building construction amounted 18.5%.

LUXEMBOURG

Cement consumption: % variation 2019 / 2018

As expected, performance in 2019 was slightly below the previous three years. The domestic market performed still at a high level, considering the per capita consumption, but was marked by a slowdown of construction activity especially in office and housing construction, due to delays of some greater projects.

2020 should see a "renaissance" of both sectors, together with an even stronger performance in infrastructure projects. Exports again registered a slight increase, due to stronger, or at least even strong markets in France, Belgium and Germany.

2019 has thus been another year with a pretty strong outcome. 2020 begins on a very high level, due to good weather conditions and is forecasted to become an outstanding year with export markets continuing to perform at a high level in big cities, and even regionally it is expected to perform better. The domestic market is foreseen to come back to levels reached in 2016-2018.

THE NETHERLANDS

Cement consumption: % variation 2019 / 2018

The cement market in the Netherlands grew by more than 5% in the first 2 quarters of 2019, compared to previous year. After the summer period, the annual growth figures tempered and saw a small growth between 2.5 and 3%.

Sectors

The construction industry showed robust growth of about 4% in 2019. Although the demand for construction is still high, the production stagnated at the end of the year because of postponed projects. The new regulations on emission of nitrogen and PFAS stopped several projects or prevented permits to be granted. The new realisations in residential construction grew to about 63,000 new dwellings in 2019 and showed a plus 2.5% in new construction output. In the non-residential sector the output in new construction was over 10% higher than in 2018. This can be attributed mainly to a powerful growth in the output of industrial buildings and storage buildings. In 2019, the civil engineering market grew less hard than was expected. This was mainly due to a lack in capacity to grant permits and because of stricter legislation on the deposition of nitrogen and PFAS. Nevertheless, there still was growth of 3.6%.

NORWAY

Cement consumption: % variation 2019 / 2018

2019 saw a decrease in consumption of 9.8% from 2018.

Sectors

2019 saw increased activity within infrastructure and non-residential construction. Residential construction was slightly down.

POLAND

Cement consumption: % variation 2019 / 2018

Consumption in 2019 was at the same level of 2018, or 0% variation.

Sectors

In spite of the fourth quarter weakness, in 2019 in general construction and assembly output grew in value by 2.6% compared with 2018. This growth was driven by all market segments: civil engineering projects remained high, commercial development investments were very healthy, and there was record-breaking housing development (especially multifamily, developer market segment). Despite a growing tendency, construction companies have significant problems connected with a supply side of the market. Among the most severe problems frequently indicated by construction companies are rapidly growing labour costs, shortage of workforce (problems with increasing production capacity by hiring new staff, and the issue of unskilled workers), and high costs of building materials.

The situation in the main segments of the market:

1) *Residential construction*

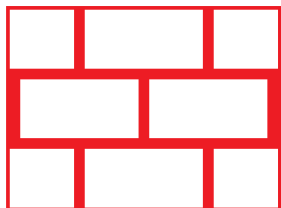
A booming residential developer's market determines great results of construction companies developing residential contracts. Residential activity recorded in 2019 was impressive:

- 237,300 new homes under construction. This is a new record, bettering the previous record set in 2018 (221,900) by as much as 6.9%.
- 207,200 homes were completed, up by 12% from 2018 and the highest figure since 1980.
- Building permits were issued (or notifications received) for 268,500 planned homes, up by 4.4%.

2) *Non-residential construction*

We have seen record-breaking activity in almost every field of commercial construction (with the exception of the retail and service segment). Industrial and warehouse buildings and office buildings were the fastest-growing segments in 2019.





3) Civil engineering

In 2019, serious problems with the implementation of road contracts (terminated or cancelled contracts) will make the results of the road sector disappointing, considering the potential result that could be achieved. Despite this, the entire civil engineering construction market recorded a slight growth, but acceleration is expected in 2020.

PORTUGAL

Cement consumption: % variation 2019 / 2018

There was an estimated increase of 15.1% in cement consumption in 2019.

Sectors

Portugal's real GDP rose by 2% in 2019, sustained by dynamic domestic demand and, to a lesser extent, exports. Robust growth in private consumption and strong investment dynamics, particularly in business GFCF, resulted in a contribution of domestic demand to GDP growth of 1.5% in 2019 (1.7% in 2018). The importance of exports in the economy is still increasing, but at a slower pace.

Growth in GFCF in 2019 is strongly related to activity in the construction sector, influenced by the execution of large infrastructure projects, in some cases related to public investment and benefiting from EU funding, and by residential construction.

Construction sector growth estimate for 2019 is 6%. Building construction sector was the most dynamic. The construction subsectors performed as follows: civil engineering, residential buildings and non-residential buildings increased 4%, 12% and 3.6%, respectively.

ROMANIA

Cement consumption: % variation 2019 / 2018

According to the provisional data of the National Institute of Statistics, the cement consumption in 2019 in comparison to 2018 increased by 13%, mainly due to the favorable weather condition towards the end of the year.

Sectors

In 2019, compared to 2018, the gross volume of construction works increased by 27.6%. By structural elements there were registered increases as follows: for maintenance and current repair work by 26.3%, for capital repairs by 1.5% and for the new construction works the increase was 32.5%.

By construction objects, the volume of non-residential buildings increased by 49.1%, residential buildings by 26.2% and civil engineering works increased by 16.6%.

SERBIA

Cement consumption: % variation 2019 / 2018

Cement consumption in 2019 increased by 7.12% compared to 2018.

Sectors

Construction output in 2019 has had a remarkable increase of 28.5% since 2018, or 100.9% since 2010, which was mainly due to infrastructure work, such as the installation of the Turkish Stream pipeline and construction of the highway "Milos Veliki".

GDP growth in 2019 was 4% as a result of faster growth in construction and fixed investment.

Reforms in building acts such as the Law on Planning and Construction and Law on Investment streamlined construction permit procedures (one-stop-shop and electronic construction permits), doubling the number of construction permits and increasing the share of construction in GDP.

SLOVENIA

Cement consumption: % variation 2019 / 2018

Cement consumption in 2019 increased by 2% compared to 2018.

Sectors

The value of construction in the first eleven months of 2019 increased by 3.3% over the same period of the previous year. Buildings went up by 2.7% and civil engineering up by 3.6%. In 2019, 5% fewer building permits were issued than in 2018. For residential buildings, 6% fewer building permits were issued and for non-residential buildings 3% fewer than in 2018. In comparison with 2018, 5% fewer building permits for new constructions were issued in 2019 and the floor area of these buildings was 9% smaller. In comparison with 2018, 7% fewer newly built dwellings were planned in 2019 and the floor area of these buildings was 8% smaller.

SPAIN

Cement consumption: % variation 2019 / 2018

Cement consumption in Spain in 2019 has continued its recovery from 2017. Indeed, throughout the year, cement consumption registered an increase of 6%, reaching approximately 14.3Mt. This growth has been consolidated mainly during Q1 and Q2 of the year while Q3 slows down significantly and a decrease is seen in Q4. As a result, the consumption stepped away from the figures of the years 2013 to 2016, during which cement consumption in Spain stagnated at approximately 11Mt. In any case, the figure



reached in 2019 will continue to be a low one, standing at levels similar to those of the mid-1960s, far away from the volume that Spain has traditionally seen, between 1970 and 2014 the annual medium consumption was around 25Mt. In recent years, the low level of cement consumption in Spain has pushed the Spanish industry to search for a way to mitigate the strong drop in activity via foreign markets. As a result, Spain has become the leading exporter of the EU and ranking eighth in the world. However, from 2017 cement and clinker exports began to reduce significantly, a situation that has been repeated in 2019. In 2019, the exports of cement and clinker have been situated at approximately 6.2Mt, which is a 40% decrease since 2016, when production was at 9.9Mt. Of the 6.2Mt exported in 2019, approximately 2.9Mt would have corresponded to clinker exports and 3.3Mt to exports of cement.

Sectors

The low level of cement consumption in Spain has been caused by a drop in construction activity, both residential and non-residential and civil engineering. However, since 2016, a recovery in building construction was recorded, mainly in housing that has passed from 35,000 in 2014 to 105,000 in 2019. The continuous growth of housings and non-residential constructions is what has allowed the rise in cement consumption, since the investment in civil works has been maintained in very low levels and with a very moderate growth rate. In any case, the growth of housing has moderated significantly during 2019, because while in the previous years rates were staying over 20%, this last year housing slowed down to approximately 5%. The continuous growth of housings and non-residential constructions is what has allowed to rise in cement consumption, since the investment in civil works has been maintained at very low levels and with a very moderate growth rate.

SWEDEN

Cement consumption: % variation 2019 / 2018

Total consumption down by 15% but mainly in the residential housing sector.

Sectors

Lower demand from the housing sector but still strong demand on infrastructure projects.

SWITZERLAND

Cement consumption: % variation 2019 / 2018

Cement consumption in Switzerland decreased by 3.5% in 2019.

Sectors

The construction industry generated sales of around 21 billion Swiss francs. Residential construction and civil engineering were important drivers. 75% of the cement supplied by the Swiss cement industry was delivered to ready-mixed concrete plants, and another 17.9% to in-situ concrete plants on major construction sites.

TURKEY

Cement consumption: % variation 2019 / 2018

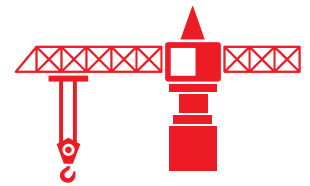
The industry produced about 60Mt of cement in 2019. The output in 2018 was 75.1Mt. Namely, we have realised a 20.1% decrease in cement production. Year on year, the Turkish cement industry realised 48Mt of domestic sales in 2019 and 45.4Mt of these sales was made by member plants of TCMA. Over the past year, 64.4Mt was sold by member plants of TCMA, total sales were around 66.9 million tons in 2018. Domestic sales diminished by 28.3% on a Turkish sectoral basis and 29.4% by TCMA members. The sector experienced a first-time 2-year downturn in its history.

Sectors

The Turkish economy grew by 0.9% in 2019. In 2019, the construction sector showed a 8.6% contraction. A recession of the construction sector began in the 3rd quarter of 2018 and the sector has been contracting for 6 consecutive quarters. The ready-mix concrete sector also realized a contraction nearly 30% in 2019. Housing sales diminished by 2% and newly-given housing permits decreased by 48% and this will affect cement sector negatively in 2020.

Prospects & external factors

The population of Turkey will be around 88.5 million by 2030. Therefore, as the population will grow, society will need more housing and infrastructure investments. Thus, it is likely housing demand will not stop, even if it may decrease at times. In 2019, approximately 0.9 million tons of waste was turned into energy as an alternative fuel and 1.7 million tons of waste was used as an alternative raw material in the cement sector. In Turkey, the amount of alternative fuel obtained from waste increases each year, fuel substitution rate is around 7%.



The potential in alternative fuels should be taken into consideration regarding high energy costs and envisaged limitations which will be applied by environmental policies. Therefore, TCMA is continuing its efforts to promote the use of alternative fuels in the cement industry. In terms of sustainability and reducing our carbon footprint, the digital revolution, also called Industry 4.0 applications, will more specifically for the cement sector enhance or improve even more fuel and logistics optimizations, predictive quality & maintenance practices, production & value chain traceability.

THE UNITED KINGDOM

Cement consumption: % variation 2019 / 2018

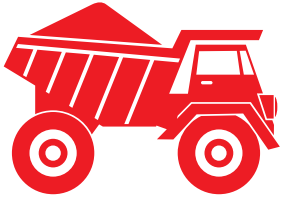
Information on cement consumption for 2019 is not available but this will be closely linked to the performance of ready mixed concrete (RMC) sales, which in 2019 fell for the third consecutive year, down 3.9% in 2019 compared to 2018 (after a 1.6% fall in 2018) and stood 8% (1.4m m³) below 2016 levels.

There were falls across eight of the eleven GB regions, with declines particularly sharp in London, the South East and North West. Taken together, the London and South East RMC markets account for a third of total GB sales. These two regions fell by 8% (476,000m³) in 2019, and stood at 14% (872,000 m³) below volumes seen in 2016.

The only regions to register growth in 2019 were the West Midlands and South West, both of which have major infrastructure projects to help sustain demand as HS2 enabling works have been taking place in the West Midlands and Hinkley Point C construction has continued throughout the year.

Sectors

The fall in RMC sales over the past 3 years has coincided with declines in commercial construction over the same period. MPA estimates that 34% of RMC goes into other new work, including commercial buildings. In the 12 months to November 2019, commercial output was 1.4% (£415m) lower than the previous 12 months, and -7.6% (£2.3bn) below the annual total for 2017. Part of the reason for this decline stems from ongoing domestic economic and political uncertainty stifling investment into the sector, notably from Brexit. Brexit-related uncertainty over the past 3 years has resulted in stalled investment in office towers, the main drivers for activity in the commercial sector, notably in London. As a result, finishing work on site has not been replaced by matching new projects and output in the sector has now been in decline since early 2018. Despite the recent breakthrough in the negotiations of the Withdrawal Agreement, uncertainty continues this year as the negotiations about future trade unfold and the risk of a 'No Deal' linger to the end of 2020.



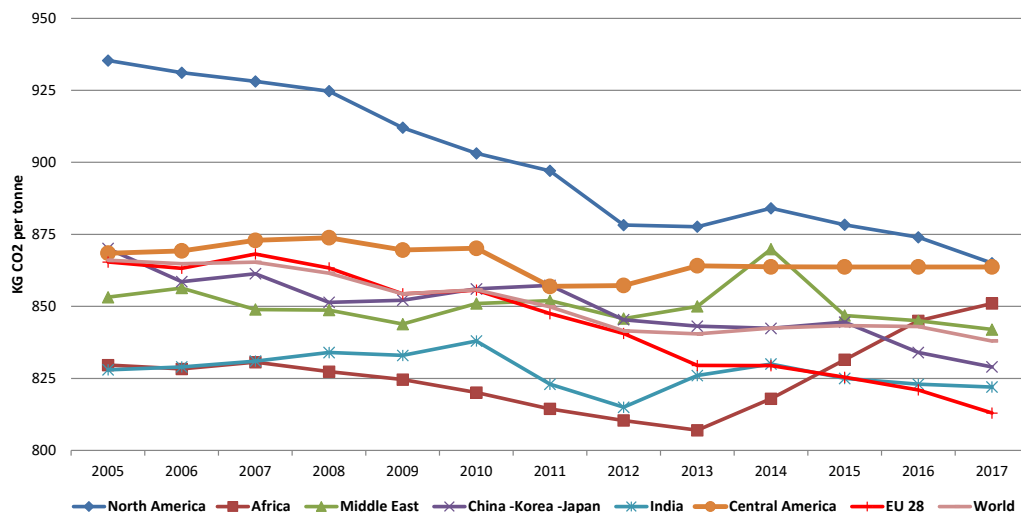
Emissions reporting: GNR & beyond

Since its launch, CEMBUREAU has contributed to the World Business Council for Sustainable Development - Cement Sustainability Initiative's (WBCSD-CSI) "Getting the Numbers Right" (GNR) project, which aims to monitor and address CO₂ emission trends from the cement industry at a global level. The management of this project was taken over as of 2019 by the Global Cement and Concrete Association (GCCA).

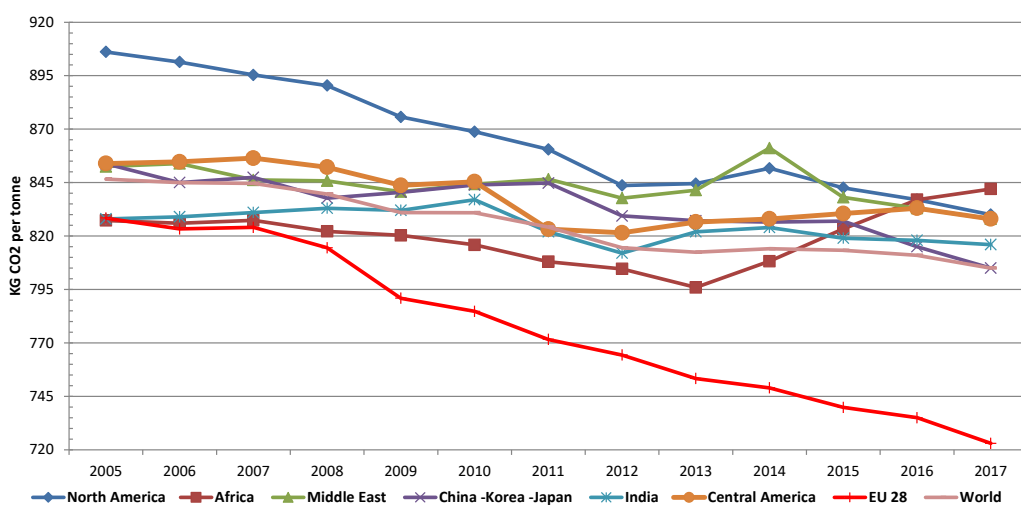
According to the latest data available, in 2017 the European cement industry continued to reduce its emissions per tonne of product. This data, published by the GNR project, shows that between 1990 and 2017, the EU28 cement industry has reduced its:

- gross CO₂ emissions per tonne grey clinker by -10.8% (last year -9.3%)
- net CO₂ emissions per tonne grey clinker by -19.9% (last year -18.6%)
- gross CO₂ emissions per tonne cementitious (all) by -13% (last year -12.3%)
- net CO₂ per tonne cementitious by -21.7% (last year -21.1%)

Gross emissions Grey clinker



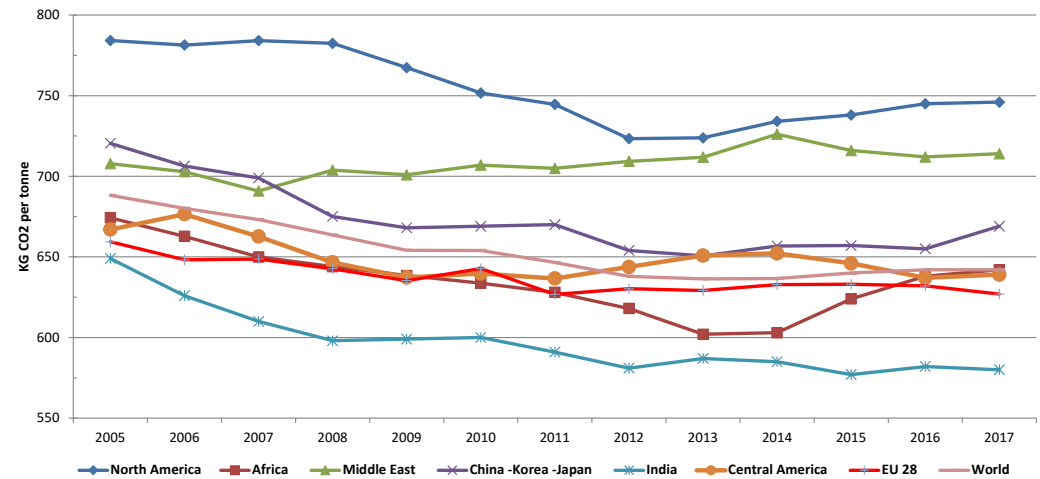
Net emissions Grey clinker



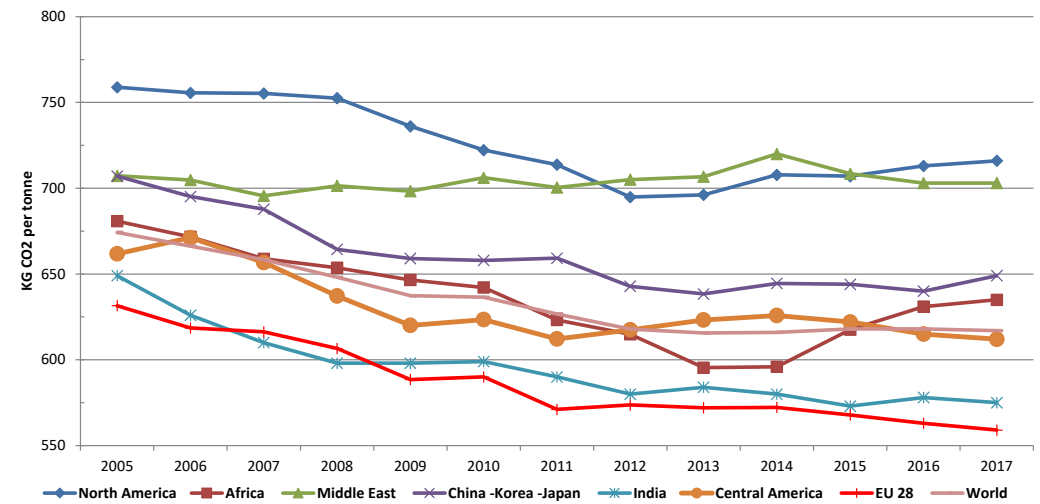
Source: GCCA GNR 2019

EMISSIONS REPORTING

Gross emissions cementitious products (grey & white)



Net emissions cementitious products (grey & white)



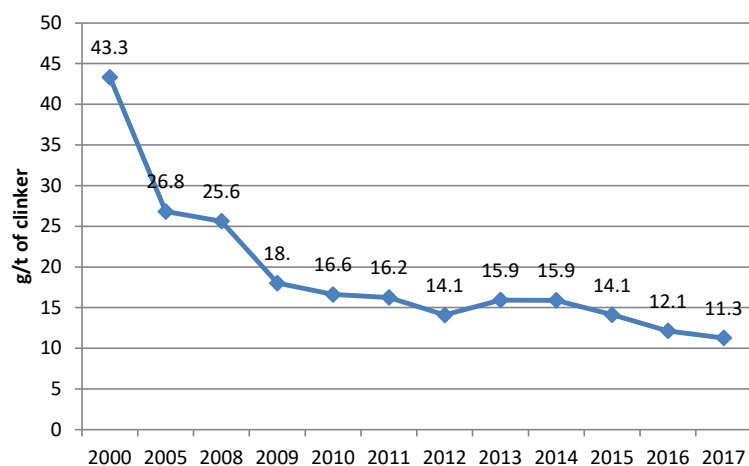
Source: GCCA GNR 2019

EMISSIONS REPORTING

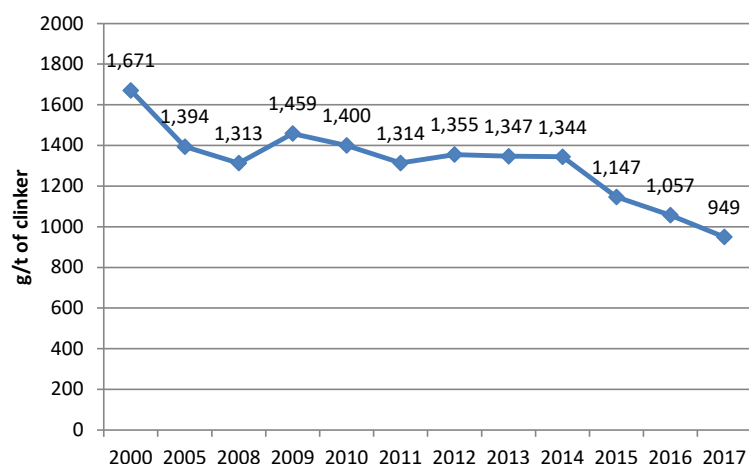
As these data show, the European cement industry is still amongst the world's best performing regions and on a continuous decreasing trend with its emissions. In this respect, it is important to note that whilst the data for the EU covers close to 100% of plants (the ones of company members of GCCA as

well as non-GCCA companies reporting to GNR through CEMBUREAU coordination) this is not the case for other areas, where it is mainly the best performing plants which are contributing to the GNR data collection (the ones of companies being members of GCCA only).

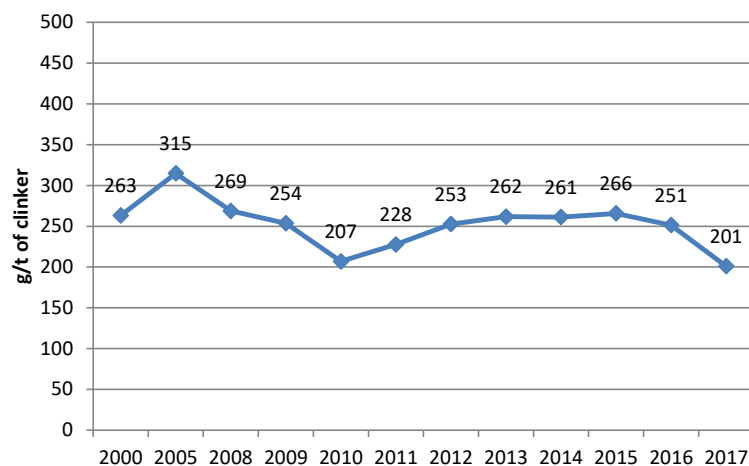
DUST Emission / Clinker Production



NO_x Emission / Clinker Production



SO₂ Emission / Clinker Production



Source: CEMBUREAU

CIMEUROPE Activities 2019

Energy markets were the primary focus of Cimeurope, through the publication of its CEMREVIEW and its annual conference CEMPROSPECTS, with a particular emphasis on the global FX, oil, coal and Petcoke markets.

Increasing prices of carbon has led to higher interest in the carbon market and greater awareness of alternative fuels. CEMREVIEW covered information and news on these new developments, in cooperation with CEMBUREAU.

The publication has seen a steady increase in readership, partly due to the subscription system allowing companies up to 30 readers for the price of 3.

In 2019, the publication started covering new geographical areas in more depth, including Turkey, India and China, and will focus on obtaining new subscribers within these regions during 2020.

Over the course of the year Frank Brannvoll, in the role of energy advisor to Cimeurope, was invited to several conferences to provide his input and energy forecasts, as well as promoting both CEMREVIEW and the CEMPROSPECTS conference. CEMREVIEW continued its good and close relationship with Argus, Coaltrans, International Cement Review and Montel, and several other media partners.

CEMPROSPECTS 2019 (CP2019)

This year the conference took place on 7-9 October in Krakow, Poland.

The event brought together more than 75 participants from the solid fuels, freight and trading markets. The conference provided insights into the major themes impacting the cement and the energy markets, offering new angles on the increased use and future of alternative fuels. Further emphasise was given to the impact from the carbon markets and the higher prices foreseen.

The upcoming IMO in the freight market was analysed and the participants were given a solid orientation and forecast for the start of 2020.

As usual the programme covered forecasts based on fundamentals delivered by experts and technical analyses for FX, oil, freight, coal and pet coke in 2020.

But this year also forecast the carbon price in the EU ETS, which is playing a significant role going forward. This conference was again successfully chaired by Darren Malone from IHS Markit, well known for its insight into the coal and petcoke markets.

The conference was attended throughout by a competition lawyer, thus ensuring full compliance with competition law rules. The lawyer also screened all presentations before the Conference.

The 2020 CEMPROSPECTS Conference will take place between on 5-7 October in Porto, Portugal and will offer excellent opportunities in which to learn, discuss and network based on the most recent information of the major themes influencing the global fuel and freight markets. Emphasise will also be given to the increased role of carbon and alternative fuels in the solid fuels market for cement companies and beyond. Forecasts for 2021 will also be provided within the global markets with expected trading-ranges. A special reduction will be given to subscribers of CEMREVIEW participating at CP20.

Very Short Market review

The US Dollar against the Euro kept a tight trading range of 1.07-1.14 during 2019, whereas the Turkish lira (TRY) weakened by 25%, from TRY7.00 against the USD to 5.20 before recovering by 20% to 6.00 by the end of 2019.

Currency markets awaiting outcomes of trade wars, geopolitical uncertainty in the Middle East, and EU countries showing signs of slow growth has combined with quantitative easing as reasons for a weakening Euro.



Energy complex – short summary from oil to Petcoke

A weakening of the USD will often lead to a USD inflation of commodity prices, as the price in the local currency will stay low or even lower if the commodity price starts to rise.

Brent Oil Futures



Brent Oil

Brent oil started 2019 from \$50 having fallen from \$90 in October 2018. Opec and Russia teamed up and agreed on production cuts which, in combination with normal production being distorted in several countries such as Venezuela and Libya, kept the price afloat during 2019.

The trade war and the shale production in the US put a lid on the market, but geopolitical risks in the Middle East kept supporting brent crude oil. A drone attack on Saudi Arabia cut 5% of the world's oil production and the price therefore rose by 20% only to fall by 25% when production was restored.

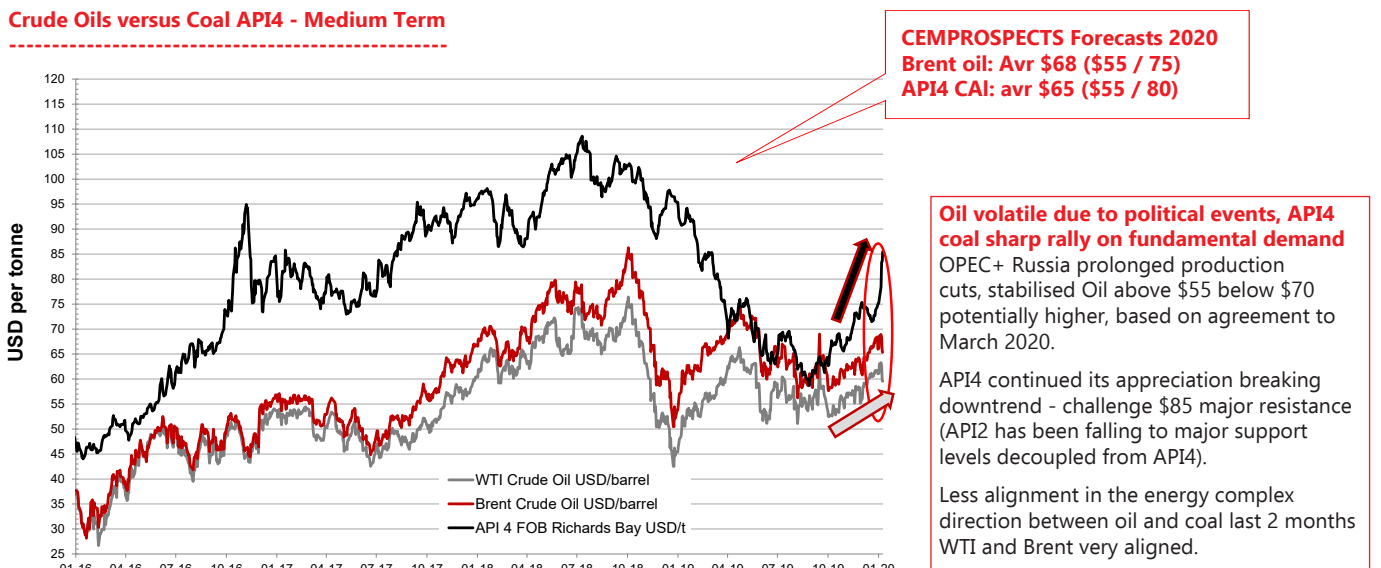
Coal

Coal followed the downward trend in oil at the end of 2018 falling from \$100 to a low of \$55, and recovered with oil.

Falling demand in Europe led to large increases in stocks and a collapse in the LNG prices saw the Atlantic coal ARA staying at very low prices. The South African API4 coal (as shown in the chart below) rose based on greater demand from India during Q4 and reached \$85 having a \$30 difference to the European API2.

CEMREVIEW forecasted the front year of API4 (FOB South Africa) coal to trade between \$55 and \$80 the European index API 2 (delivered ARA Amsterdam – Rotterdam – Antwerp). Coal to trade \$55/75.

Crude Oils versus Coal API4 - Medium Term



Petcoke Markets – trends price

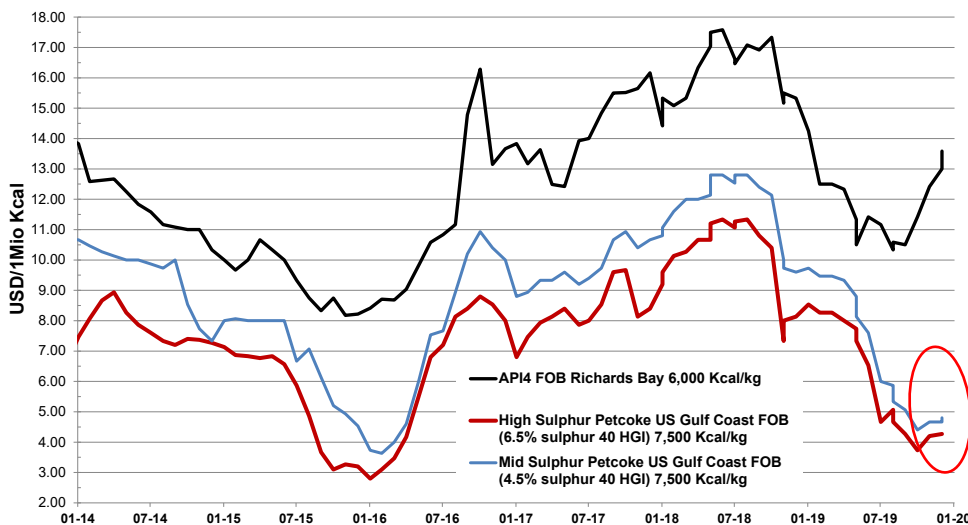
Petcoke markets followed the overall trend of coal, with the discount being relatively stable in the neutral zone of 30-40%, but by the end of 2019 impacted by lower demand in Turkey and India, and as freight prices rose – it lead to switching from petcoke to coal from several end users. This in combination with increased production – as petcoke has to move away from refineries – lead to a collapse in the FOB prices.

USGC FOB 6.5% fell from \$65 to \$28 revisiting long term lows last seen in 2011 and 2016.

This was also reflected in the FOB discount which in the space of a few months went from 30% to 65% making petcoke very cheap in comparison to coal. 2019 ended with prices just above 30 USD for the 6.5% and the 4.5% USGC FOB only 4 USD higher.

In 2019, the Venezuelan 4.5% sulphur export was no longer expected in the market. At the CEMPROSPECTS 2019 conference, CEMREVIEW forecasted the trading range for 6.5% FOB USGC petcoke to be between \$28 and \$53 with an average of \$40.

Steam Coal & Petcoke Prices - FOB Converted to 1 Mio Kcal - Medium Term

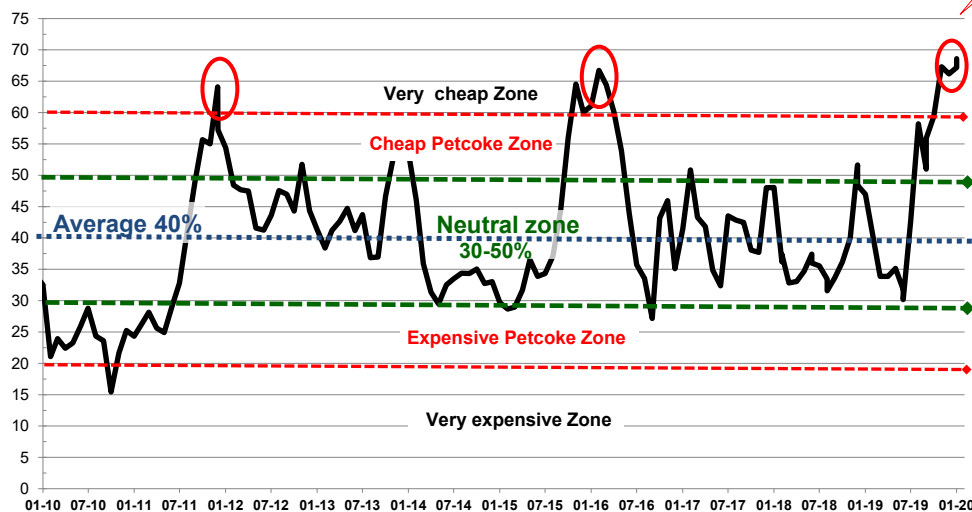


Coal rally in API4 pushing FOB discounts higher as petcoke remains resilient pressured by freight and low API2 coal prices

FOB discount = 68.7% for 6.5%

FOB discount = 64.7% for 4.5%
see Discount graphs

Petcoke discount to Coal in % API4 - USGC 6.5% FOB based on Kcal 6000 From January 2010 = avr 40%



Jan - 2020
69%

Carbon Market (EUA)

CEMREVIEW had maintained its view since the breakup from €7 that the EUA would reach €30 which was seen in Q3 2019.

Very firm statements from the European institutions on Carbon reduction via the start of MSR, as well as the Phase IV with stricter rules and reduction of free allocations – led to a hold and buy scenario. Some stakeholders were

talking of levels of €50-80, which of course would be a colossal burden for European energy intensive industry sectors.

The €30 coincidentally was seen at the same time as the UK agreed on its withdrawal agreement from the European Union, which lead to a larger auctioning to be done in 2020, and with lower coal and gas prices, resulting in the EUA falling to €22.

Technical analyze: A break of €30 would complete a rounding saucer formation from €30 in 2007 to €5 and now €30. This gives a TA target of €55. (30 + 30.5). This formation is very reliable but may take multiple years to finalize just as it has taken 10 years so far.

ICE ECF MDEC2 | 01/12/2005 00:00 - 01/06/2020 00:00 | 1 Month

**EUA Cal+1 - Monthly chart continued
2007 - 2020**



WHO WE ARE

Our team



Situation on 31 May 2020

WHO WE ARE

Our Board Members

President	R. de Parisot	
Vice-President	I. Miranda Fernandez	
	Full Members	Permanent Alternates
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Belgium	E. Fostier	M. Cobuz
Bulgaria	A. Frantzis	
Czech Republic	K. Chudej	R. Michalcik, P. Zelano
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Estonia	M. Einstein	
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United Kingdom	M. Eberlin	
Members Ex Officio		
CEMBUREAU	K. Coppenholle	
CEMBUREAU	E. Brutin	
CEMBUREAU	J. Rushworth	

Situation on 31 May 2020

WHO WE ARE

Our Liaison Committee Members

President	S. Menéndez	
Vice-President	R. Callieri	
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Austria	J.A. Primo Fernandez	
Belgium	E. Fostier	M. Cobuz
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United Kingdom	M. Eberlin	
Members Ex Officio		
CEMBUREAU	K. Coppenholle	
CEMBUREAU	E. Brutin	
CEMBUREAU	J. Rushworth	

Situation on 31 May 2020

Our Members

AUSTRIA	VÖZ – Vereinigung der Österreichischen Zementindustrie (Association of the Austrian Cement Industry)	LATVIA	CEMEX LATVIA
BELGIUM	Febelcem – Fédération de l'Industrie Cimentière Belge a.s.b.l. (Association of the Belgian Cement Industry)	LITHUANIA	Akmenės Cementas AB
BULGARIA	BACI – Bulgarian Association of Cement Industry	LUXEMBOURG	CIMALUX s.a.
CZECH REPUBLIC	Svaz výrobcu cementu CR (Czech Cement Association)	NETHERLANDS	ENCI BV - Eerste Nederlandse Cement Industry
DENMARK	Aalborg Portland A/S	NORWAY	Norcem A.S.
ESTONIA	KNC - AS Kunda Nordic Tsement (Kunda Nordic Cement Corporation)	POLAND	PCA – Stowarzyszenie Producentów Cementu (Polish Cement Association)
FINLAND	Finnsementti Oy	PORTUGAL	ATIC – Associação Técnica da Indústria do Cimento (Technical Association of the Cement Industry)
FRANCE	SFIC – Syndicat Français de l'Industrie Cimentière (Association of the French Cement Industry)	ROMANIA	CIROM – Employers' Organisation in Cement Industry and other Mineral Products for Construction in Romania
GERMANY	VDZ – Verein Deutscher Zementwerke e.V. (German Cement Works Association)	SLOVENIA	Salonit Anhovo
GREECE	HCIA – Hellenic Cement Industry Association	SPAIN	Oficemen – Agrupación de Fabricantes de Cemento de España (Association of Spanish Cement Producers)
HUNGARY	MCSZ – Magyar Cement-, Beton- és Mészipari Szövetség (Hungarian Cement, Concrete and Lime Association)	SWEDEN	Cementa AB
IRELAND	CMI - Cement Manufacturers Ireland	SWITZERLAND	cemsuisse - Verband der Schweizerischen Zementindustrie
ITALY	AITEC – Associazione Italiana Tecnico Economica Cemento (Italian Technical and Economic Association of Cement)	TURKEY	TÇMB – Türkiye Çimento Müstahsilleri Birliği (TCMA - Turkish Cement Manufacturers' Association)
		UNITED KINGDOM	MPA – Minerals Products Association - Cement

Our Associate Members

CROATIA

Croatia Cement, g.i.u.

SERBIA

CIS - Cementna Industrija Srbije (Serbian Cement Industry Association)

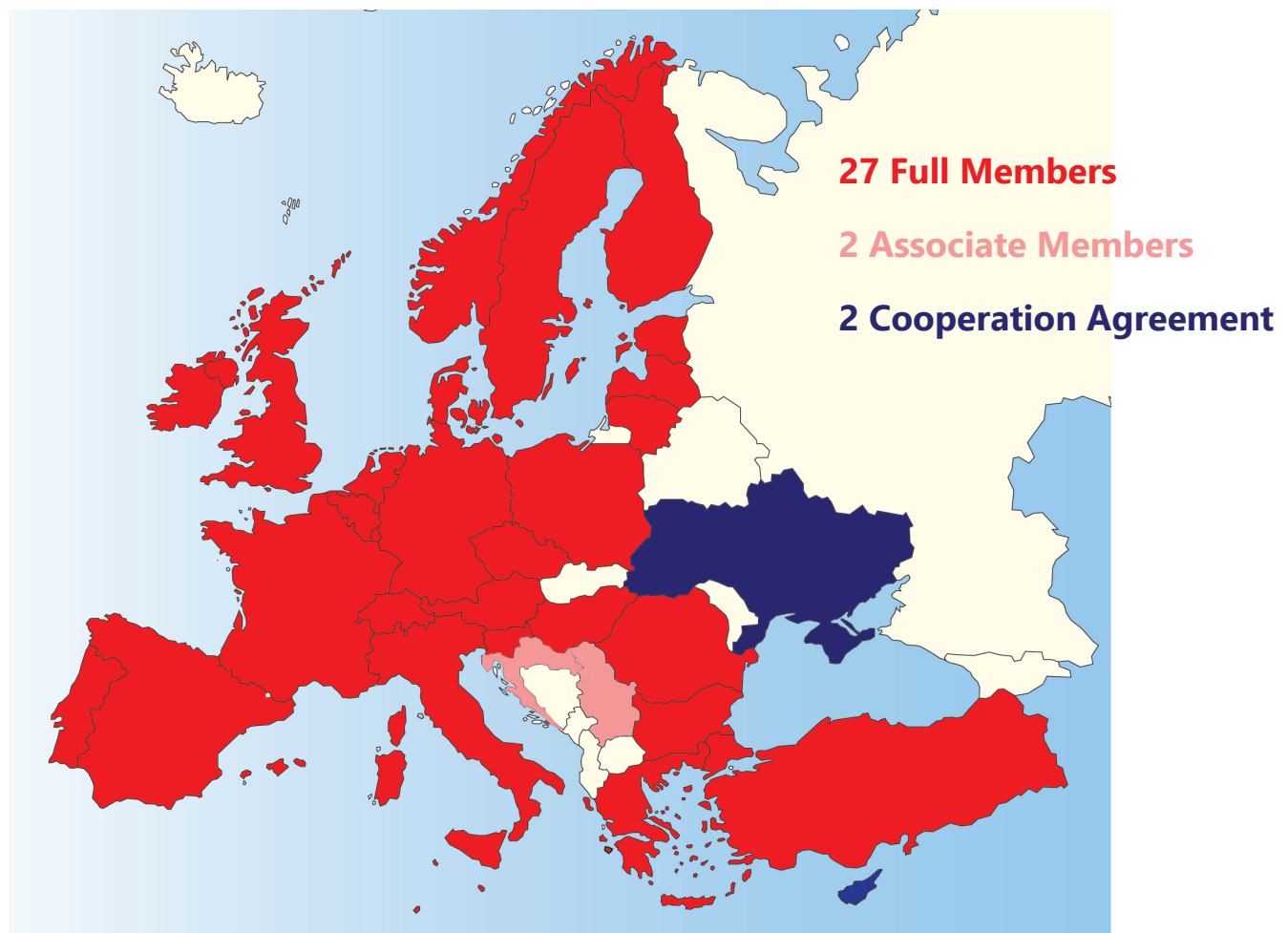
Cooperation Agreement

CYPRUS

Vassiliko Cement

UKRAINE

UKRCEMENT (Association of Cement Producers of Ukraine)



FOR MORE INFORMATION ABOUT OUR MEMBERS, PLEASE SEE

<http://cembureau.eu/about-cembureau/our-members/>

Situation on 31 May 2020

Abbreviations Glossary

ARA	Amsterdam-Rotterdam-Antwerp area
BOELV	Binding Occupational Exposure Limit Value
BREF	Best Available Techniques Reference Document
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Utilization
CEN	European Committee for Standardisation
CLP	Classification, Labelling & Packaging
CMD	Carcinogens and Mutagens at work Directive
CSI	Cement Sustainability Initiative
EPDs	Environmental Product Declarations
EUA	European Emission Allowances
EU ETS	EU Emissions Trading System
FOB	Freight on Board
GDP	Gross Domestic Product
GFCF	Gross fixed capital formation
GHG	Greenhouse Gas
GNR	Getting the Numbers Right
IED	Industrial Emissions Directive
IMF	International Monetary Fund
Kt	Kilotonnes
MEPs	Members of the European Parliament
Mt	Million tonnes
NEPSI	The European Network for Silica
RCS	Respirable Crystalline Silica
R&D	Recovery and Disposal
RMC	Ready-mixed concrete
y-o-y	Year-on-year

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N° Editeur: D/2020/5457/May

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Published by CEMBUREAU
The European Cement Association

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www.cembureau.eu



Layout & Printing by
CEMBUREAU

Photographs:
Thanks to:
Claus Bering
Pixabay, iStock

