

ACTIVITY

REPORT

2018

Built in concrete,
Made with **cement**

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 worldwide 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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**A YEAR
IN REVIEW**

MESSAGE FROM THE CHIEF EXECUTIVE



Koen COPPENHOLLE

The year 2018 has been marked by CEMBUREAU's and its Members' continued focus on policy files that directly impact our industry. The negotiations on the revised EU ETS Directive for Phase IV (2021-2030) have resulted in a regulatory framework that allows continued protection against carbon leakage for the cement industry. The rules adopted addressing the need for a better alignment between production and allocation will hopefully avoid lengthy discussions about overallocation. In the policy section of this Activity report, we also outline other actions that have been undertaken to preserve the competitiveness of the industry or to safeguard it against undue administrative burdens.

However, the core task of a trade association is not only to defend the industry's interests but also to promote its strengths and contribution to society's challenges. Both responsibilities need to be carried out with conviction and strong arguments, based on facts and figures. Developing our strategy requires a mix of content-related work, communications and public affairs, and most importantly a dedicated team.

Overall, 2018 was a year of progress. We have made conscious efforts to increase our team's expertise and turn it into a centre of excellence for the industry. We strengthened our Public Affairs capacity, increased ownership of the policy files, tested the waters in uncharted territories (such as sustainable finance/taxonomy) and found new opportunities for partnerships (the Industry4Europe coalition). This set a solid foundation for an increase in communications and overall outreach. With the help of an external coach, we addressed the need for a common goal for the team, explored better ways of cooperating amongst ourselves and of addressing Members' needs. It is this reinforced team that drove the key projects in 2018.

The year saw not only growth but also a change in the team. After 15 years in CEMBUREAU, Claude Loréa left in November to join the Global Cement and Concrete Association (GCCA). While we will miss her strong expertise and knowledge, we are very pleased to keep her in the cement and concrete family. CEMBUREAU's Health and Safety Manager, Joséphine Reinaud, who led a number of challenging files, left the association in December and we wish her all the best in her new position.

On a policy level, CEMBUREAU, together with its members, developed the 5C approach (clinker - cement - concrete - construction - carbonation), its vision for a low carbon economy. Through this strategy, we have taken stock of progress made by the industry since 2013 in achieving its 2050 CO₂ reduction targets and we have assessed how our industry can contribute, throughout its value chain, to a carbon neutral built environment.

During our Low Carbon Roadmap event organised in the European Parliament on 18th October, CEMBUREAU's messages on the need for a material-neutral and life-cycle performance-based approach were heard loud and clear by policymakers. In the same context, CEMBUREAU

analysed with interest the European Commission's "*Clean Planet for All*" vision document which sets out the path for a zero-emissions economy by 2050. In its vision, the Commission draws on some of the key findings of the study carried out by 11 energy-intensive industries, including cement, and pointing to the needs of the industry in its low carbon transition. In its messaging, CEMBUREAU has reinforced these needs, ranging from public funding for breakthrough technologies to access to affordable electricity. In addition, we advocated for to a value chain policy approach, based on full lifecycle assessments that, in case of cement and concrete, extend to the built environment. As the Commission's 2050 vision refers to industrial symbiosis and the circular economy as key engines for the low carbon transition, CEMBUREAU has developed strong messaging and organised events around co-processing and recycling of concrete, positioning the industry within the circular economy debate. The use of alternative fuels in Europe saw an increase to 44% from 2% in 1990. Strong advocacy in favour of the uptake of material recycling in the national recycling targets has resulted in a door-opener in the revised Waste Framework Directive. CEMBUREAU's focus will now turn to the design of a methodology to allow for such calculation.

Technical expertise, sharp analysis and developing good arguments only take us halfway to the destination. The second leg of the journey consists of communicating and reaching out to the right people. This is where CEMBUREAU's communications and public affairs efforts come in. With the help of an external communications agency and thanks to invaluable input from a core group of our Members who devoted considerable time and energy to the project, we have developed a Messaging Playbook. This document sets our messaging objectives in trying to demonstrate the essential qualities of cement, promote its benefits and motivate cement champions to tell our unique story. The project motivated all of us to step out of our comfort zones and reflect on the value we bring to society and to our customers, in addition to our industrial behaviour.

The messages were turned into various media projects which we describe in the communications section of this report, with the same aim of proactively and positively promoting our industry. We launched a new communications and public affairs campaign and a fresh tagline 'Built in concrete, made with cement', which proudly positions cement as a fundamental material.

Through events, including a presence at COP24, and public speaking opportunities across Europe, we touched the hearts and minds of policymakers. The challenge for 2019 will be to amplify our outreach and engage with our Members, the national associations and drive our messages at country level.

CEMBUREAU will continue to work together with regional associations and is eager to contribute its EU expertise to the newly created Global Cement and Concrete Association (GCCA).

CEMBUREAU can look back with pride to what it achieved in 2018 and aim higher and further in 2019. We are confident that we will maintain the quality and strength of the team to provide excellence to our Members and position the cement industry as an advocacy channel with the upcoming new European Parliament and European Commission.

MESSAGE FROM THE PRESIDENT



Gonçalo SALAZAR LEITE

As the association at the heart of the cement industry in Europe, CEMBUREAU represents an industrial activity sector which has a relevance without equal for the quality of life of the EU's citizens and is fundamental in creating value for the European economy. As the pillar of the concrete value chain, the indispensable and irreplaceable material, we aim to make available a European solution to society's built environment needs, especially in the current times of adaptation to worldwide climate change.

Throughout the years, CEMBUREAU has turned into an effective organisation that combines the expertise from its staff members, the Working Groups and Task Forces to develop the solutions and supporting arguments that drive our contribution to European policy and regulation. The combination of the staff's public affairs expertise and, more recently also communication skills, with the member's technical know-how has produced a balanced structure with solid capabilities. Within the analysis of the policy and legislative initiatives that affect the bottom-line of our companies, this committed team has been taking up new subjects, such as the indirect

energy costs of decarbonization, long-term strategies, such as the cooperation with other industries in establishing the low carbon value chains of Europe, and also preparing for the future, looking at the digitization of the construction industry.

The association has wholeheartedly embraced the whole lifecycle of our products and the promotion of concrete as the sustainable material of choice. Scientific data that demonstrate the equivalent or superior sustainability of concrete when compared to alternatives is beginning to emerge. The Concrete Initiative, where CEMBUREAU teams up with the aggregates, pre-cast and ready-mix business, provides us with a credible platform for the cement and concrete industry to convey its messages and open to society for discussion on the built environment. It remains our priority to strengthen our communication efforts on this front and tackle challengers and competitors head-on.

Our approach to fostering a sustainable cement industry in Europe is through joint efforts along the entire value chain: the characteristics of our end-product concrete, its thermal mass, recyclability and durability will help turn our low carbon industry vision into a reality. The recently acknowledged re-carbonation characteristics of concrete reinforces the relevance of the contribution of concrete to a sustainable balanced society.

Decarbonization to mitigate climate change is a commitment of European countries and the European Union and the cement industry has made that objective its own. The magnitude of this challenge cannot be underestimated. Still, in our recent publication "*Building carbon neutrality in Europe. Engaging for concrete solutions*", we were proud to announce that, with close to 14% emission reduction achieved in 2015 compared to 1990, the cement industry in Europe is on track to achieve its Roadmap target of 32% emission reduction through conventional technologies by

2050. In order to achieve our 80% reduction target we need a successful implementation of viable breakthrough technologies like CCS/CCU by 2050. CEMBUREAU has teamed with ECRA and other industry members to support the deployment of breakthrough decarbonation technologies and will step up that effort in the months to come.

The cement industry wants to proactively contribute to shaping the sustainable Europe of the future. That is why CEMBUREAU is now engaged in reflecting upon the best way to achieve a competitive and low-carbon industry and has started to engage with stakeholders and policy-makers on the future approaches to the regulatory systems and directives that provide the context we operate in, very specially regarding GHG emissions. This will continue to be one of our key priorities, always in keeping with our low-carbon commitments.

This new approach is underlined by our investment in communication. By developing our messages, explaining our views, grounding our arguments and proposing our plans for the future, we have implemented the foundation stones of a communication drive about the relevance of our industry to society, aimed at all stakeholders. Integrating our narratives and expanding our reach are the next steps on this long journey.

It is this combination of a proactive approach and an intense communication that is helping to shape the perception of our industry as being open, innovative and committed to the future. We are progressing towards our goal of being recognized as thought-leaders on sustainability.

Our context is changing. We must stay abreast of developments in order to keep making our peerless material available to society while maintaining our contribution to a low carbon built environment. We must thus enhance our knowledge of new developments in the areas of innovation, sustainable construction, digitization or renewable energy. That is why we have gone much beyond the day-to-day activities of CEMBUREAU and have focused also on getting insights from experts through building block workshops, establishing new partnerships, and reaching out to our partners at national and international level.

Reaching out to partners for potential cooperation requires a deep understanding of the future developments. That is why we have initiated a series of “**building block workshops**” where we invited policymakers and external experts to identify with us the challenges and opportunities for our industry. Innovation, electricity, the major innovative trends in the construction sector and the impact of digitalization are now on our agenda.

Developing new partnerships, CEMBUREAU leveraged its membership of the High-Level Group of Energy Intensive Industries to share with the European Commission the technologies under development that are essential for the industry’s transition to a low carbon economy, namely carbon capture, storage and usage. CEMBUREAU teamed up with the steel and chemical industry to promote a low carbon industrial processes project and competed with 72 other projects from a variety of industries in order to be selected as one of only six strategic value chains for Europe. The effort was successful. CEMBUREAU will now continue its work and engage with the European Commission and Member States to elaborate an action plan. CEMBUREAU’s participation in the HARMONI project seeks to identify non-technical barriers to innovation, including access to public finance for innovation, a proper recognition of CO₂ avoidance and valorisation in legislation and the recognition of material recycling in national recycling targets. Finally, in the SPIRE partnership 2050 Vision, we lay out the foundations for connecting the cement industry to circular, low-carbon industrial process hubs.

In assessing its contribution to a low-carbon built environment, CEMBUREAU is reaching out to stakeholders along the value chain and its partnership with the World Green Building Council has proven of invaluable help in securing views of cities, architects, contractors and designers. Finally, as the decarbonisation of the industry will increase the demand for electricity, CEMBUREAU has been eager to explore the potential of electricity sourcing from renewable energy and have engaged with the solar, wind-power and hydrogen associations.

Having recently committed ourselves to a strong international cooperation with organizations in other geographies and established a network of communication and cooperation, we have witnessed with enthusiasm and interest the establishment of the Global Cement and Concrete Association (GCCA) and its focus on cement and concrete promotion, which brings a unique worldwide platform for the industry. The strengths and unique properties of concrete need to be promoted with a strong and consistent voice worldwide and CEMBUREAU looks forward to leveraging the cooperation it had established with its sister associations in Latin America (FICEM and the Brazilian Cement Association), the US (PCA) and Canada (the Canadian Cement Association) to feed into the activities of the GCCA Partnership Council and its Working Groups.

Most importantly, we have invested in deepening our relations with our direct Members, the national associations. Launching a process that will continue to develop over the years, we have a joint process of dialogue on our key messages and communication channels and on how to complement these with national priorities and reach out to the Members of European Parliament and the national representatives in the European institutions. Reinforcing communication channels with national associations and building on all available national and European resources for maximum synergy is now firmly embedded in our approach to policy.

We have demonstrated that cement and concrete have a strong multiplier effect on the overall economy and provide jobs and welfare to local communities. We are committed to a positive impact on communities neighbouring our industrial facilities and to the health and safety of our workers. We are aligning our efforts with the Sustainable Development Goals.

Looking forward, all the activities outlined above provide us with a platform for the years to come. CEMBUREAU will need to consolidate and strengthen its contribution to the low carbon transition by looking at alternative strategies and strengthening its full value chain approach, intensify its cooperation with all partners and stakeholders, stay abreast of disruptive developments, increase the communication outreach and deepen its public affairs activities to remain competitive and continue creating value - all this in cooperation with the national associations and all of the European cement industry.

Looking back on what we have achieved over the past two years, I express my sincere gratitude to all participants in this joint enterprise of ours; to the CEMBUREAU staff, Working Groups and Task Forces, for their continued expert input; to the Steering Committee, for helping shape our solutions; to the national associations, for supporting the European agenda and coordinating policy and business priorities at national and European level and for helping us to reach out to the right decision-makers. Also, we all have appreciated the time and energy spent by the members of the Communications Committees who provided invaluable insights and feedback and have contributed to the success of the campaign.

I am most grateful for my fellow Board Members' guidance and support. And, last but not least, a word of appreciation for the CEMBUREAU team: our commitment, focus and responsibility allowed us to progress on our journey of proactively helping shape solutions for a better world.



**FOCUS ON
THE FUTURE:
BUILT ON STORIES**

HIGHLIGHTS FROM THE COMMUNICATIONS AND PUBLIC AFFAIRS STRATEGY



In 2018 we wanted to get closer to you: our audience, our members. We improved the way we communicate by having one voice for the industry and telling our great stories. What's our motivation? We want to encourage new thinking and open innovation throughout our sector and create a dialogue platform along our entire value chain.

And so, our first annual Communications and Public Affairs campaign 'Built in concrete, made with cement' came about, with a clear set of objectives and a fresh outlook on building consciousness about the contribution of cement at all relevant policy levels and among key EU stakeholders.

First, we switched our position from talking to listening and focusing our efforts to better understand the questions and needs of our audience. From this, we developed messages that not only represent our members and our industry, but that allowed us to create content that is actively engaged with rather than passively consumed.

With a strong foundation and clear plan in mind, we focused the attention on what policy challenges we aim to address and what are the solutions to tackle them. For 2018 we identified the launch of the

European Commission's "*Clean Planet for All*" vision document, the transition to the circular economy, contribution to sustainability as main priorities and assumed the position of persistent advocate for a strong industrial policy and committed participant in the EU Emissions Trading System (EU ETS) Directive implementation.

Cement is building our future, making it sustainable, and this is something Europe can be proud of. We set our policy agenda accordingly, by showing how the cement sector is embracing the transition towards a low carbon and circular economy.

Most citizens are well aware of how essential cement and concrete is for bridges or skyscrapers, but many other uses may go unnoticed. For this, we created a *sustainability booklet* (<http://useofcement.cembureau.eu/2018/09/11/built-in-concrete-made-with-cement/>) as a way to show examples of the many innovative cement and concrete applications that one will find across Europe. In it, you'll learn more about environmental solutions like air cleaning concrete, architectural achievements such as translucent concrete and unique other urban constructions.

Did you know the unique qualities of cement make it the perfect material to support access to drinking water and sanitation systems in rapidly expanding urban environments? That 3D printing in construction is opening new horizons for business across the globe? Or even that in a study replacing dirt floors with cement floors the researchers noted a decrease in women's levels of depression and stress, by 12.5% and 10.5%? Head over to our 'Uses of cement' web page to read more about these amazing stories.

During our yearly journey, we experimented how to communicate with different tools. We created a *360 virtual reality video* (https://www.youtube.com/watch?v=8y4khu_xz4k), inviting you for a guided tour to learn how cement is made and created a *case study video* (<http://useofcement.cembureau.eu/2019/01/08/concrete-improving-urban-water->

management/) to raise awareness on how climate change is leading to a growing threat of flooding and showing how concrete technologies can offer a solution to this global problem.

Social media was a great way to enhance our online dialogue in a world where other communication channels may be overflowing with information. We created content on our Twitter account (@CEMBUREAU) for all of the policy issues of importance to us, but also made use of other interactive media, such as polls, to hear more from our digital listeners.

The European cement industry shares the vision of a carbon-neutral construction sector in Europe. To this end, we launched our vision for a value chain

cooperation – the 5C approach: clinker, cement, concrete, construction/the built environment, and (re)carbonation. With a *revamped website* (<https://lowcarboneyconomy.cembureau.eu/5-years-on/the-5c-approach/>), we made it easier for everyone to understand our contribution to the low carbon economy. It also gave us the opportunity to put a face to our cement ambassadors, in taking head videos showing the concerted effort both of our members and the Brussels team in representing the industry.

This is just the first step in an exciting engagement exercise. We're proud of the stories we've told and hope to have shown that cement and concrete are not only visible with the eye but also present in the minds and hearts of people



POLICY FOCUS

The CEMBUREAU Board agreed on a forward-looking mission statement for the association on 6 December 2017. Our aim is to position the cement and concrete industry as offering energy-efficient, durable and affordable construction solutions while contributing to a sustainable low carbon economy.

Achieving this mission requires, on the one hand, a clear action plan and deliverables from our industry and on the other hand, a facilitating regulatory framework that allows the cement industry to thrive in Europe. The association set five priorities defining the focus areas for our four Working Groups. This will encourage debate on both the industry's efforts and policies needed to achieve our mission.



The activities in each of the Working Groups described below have a strong focus on one or more of the priorities listed above.

It's worth highlighting that the valuable work and messages from our Working Groups have been integrated and amplified under our **"Built in concrete, made with cement"** campaign so ensure it reached the right audiences.

CLIMATE AND ENERGY

(Working Group A)

Climate and energy remain at the forefront of CEMBUREAU's activities. The cement industry is aware of the responsibility to reduce CO₂ emissions and is actively making use of its innovation projects to drive this effort. As a precondition for investments in emissions reduction technologies and innovative projects, it is crucial to maintain access to affordable raw materials (including energy and electricity) and to operate in market conditions that allow fair competition, including between competing materials.

Reforming the EU Emission Trading System (EU ETS)

In this context, WG A's activities have focused on the emissions trading rules (EU ETS) for Phase IV (2021-2030). The continuation of the carbon leakage status for the cement industry is the most relevant outcome of these efforts. This allows cement plants to receive free allowances up to the level of the benchmark. The revised EU ETS Directive entered into force on 8 April 2018 but the definition of further implementation measures still requires a close follow-up. As a Member of the Climate Change Experts Group where the Member States and the European Commission discuss these implementing rules, CEMBUREAU has provided its input on a wide range of regulatory measures and Guidance documents. This includes the choice of reference years to be taken into account for calculating free allowance allocation, the alignment between production and allocation and the monitoring, reporting and verification rules. CEMBUREAU has also engaged in strong preparatory work to ensure

that the benchmark, another essential parameter to decide on the level of free allocation, is set at a level that is feasible, both from a technical and operational perspective.

Transitioning to a low carbon economy

An appropriate EU ETS regulatory framework should provide a sound basis for the cement industry's investments in the low carbon transition. This leads to the second leg in WG A's activities. Last year CEMBUREAU took up the task of assessing the contribution of the cement sector to the low carbon economy. In its work leading up to the publication of **"Building carbon neutrality in Europe. Engaging for concrete solutions"**, CEMBUREAU evaluated where the cement industry is on its journey to the 2050 targets set in its 2013 Roadmap **"The role of cement in the 2050 low carbon economy"**. The cement industry has achieved close to 14% in CO₂ emission reductions since 1990 with substantial progress achieved in thermal efficiency and the use of alternative fuels. The 32% CO₂ reduction target with conventional technologies by 2050 is well within sight. In addition, the cement industry is exploring a range of CO₂ capture technologies, including post-combustion, oxyfuel and direct separation, that will, together with the development of novel cement, allow for an 80% CO₂ reduction level by 2050. However, these technologies and new products will not materialise before 2030 and its success will depend on access to financing. CEMBUREAU and the European Cement Research Academy (ECRA) joined efforts in approaching the European Commission to present the ongoing breakthrough projects and to discuss potential funding opportunities. In this context, the cement sector actively participates in the ongoing debates on the Draft Innovation Fund Regulation shaping the regulatory framework.

The cement industry's contribution to a low carbon economy does not stop at the factory gate and reaches beyond the end-product, concrete, and its use in the built environment. In its low carbon ambition, CEMBUREAU has developed the 5C approach (clinker-cement-concrete-construction and carbonation) which aims to engage all actors along the value chain to explore a variety of solutions for a carbon-neutral future. The 5C approach was launched at a policy conference organised by CEMBUREAU in the European Parliament in October 2018. The event was hosted

by the Environment Committee Chair Adina-Ioana Valean, who confirmed that the transition to a low-carbon economy requires a concerted effort from all industry actors. It was clarified, also from the European Commission side, that the net-zero emission by 2050 has to be understood as an effort by society as a whole.

In 2019 further work will be needed to collect data and gather expertise on the contribution of cement (clinker-efficient cement; innovative binders) and concrete (use of additives, recycled aggregates, recarbonation) to the low carbon agenda.

Partnering with Energy Intensive Industries

CEMBUREAU, as Member of a European Commission advisory body "*High-Level Group of Energy Intensive Industries*", provided input to the Commission's Communication "*A Clean Planet for all*". While drafting a strategic vision for a carbon neutral Europe by 2050, the European Commission asked the industry representatives to present an assessment of the industry's policy needs leading to a successful transition to a low carbon economy. To this end, a group of 11 energy intensive industries commissioned the Institute for European Studies (Free University Brussels) to deliver a study "*A Bridge towards a Carbon Neutral Europe*". The report describes a combination of possible key solutions that will help energy-intensive industries to achieve significant emission reductions while remaining competitive, innovative and pivotal in enabling the transition to a low-carbon economy. The report also proposes a policy framework for a successful transition including an ambitious research and innovation framework combined with public funding for breakthrough technologies and access to reliable and competitively priced low CO₂ electricity. Support to the creation of industrial clusters and symbiosis is also mentioned as an important tool in improving resource efficiency and reducing CO₂ emissions of industrial facilities as well as incentives to promote low-CO₂ products through public procurement rules. CEMBUREAU provided its expertise and input to this study which was quoted by the European Commission in its in-depth analysis supporting the strategic vision communication.

The cement industry is particularly sensitive to the need for access to affordable energy. The decarbonisation path will not only imply significant CAPEX for the innovation and upgrading of existing assets, but it will also entail higher OPEX on an ongoing basis in the form of increased electricity costs. Therefore, CEMBUREAU continues to work on the eligibility of the cement sector for indirect emissions costs compensation in 2019. Advocacy efforts made in 2018 towards the European Commission have revealed that the Commission is unwilling to re-open the current list of sectors eligible for compensation but the Commission has taken good note of the sector's insistence to be included for the next trading period.

RESOURCES AND PROCESSES

(Working Group B)

The cement industry in Europe reached a level of 44% alternative fuel use and is a key actor in the management of a variety of waste streams. The simultaneous energy recovery and material recycling in co-processing turn the cement industry into a champion of the circular economy model. It allows the sector to play a key role in industrial symbiosis projects whereby different industry sectors source each other's waste to use as a resource in their production processes.

Following up on the waste legislation review

After intense discussions with the several Member States and fruitful exchanges with the European Commission, CEMBUREAU has succeeded in securing a review clause in the revised Waste Framework Directive giving the opportunity to the Commission to develop a methodology to count co-processing towards national municipal waste recycling targets. CEMBUREAU is currently working on such a methodology to be presented to the European Commission. Our experts are confident that the cement sector's contribution to the circular economy can be acknowledged in this policy framework.

Contributing to the circular economy

Last year, CEMBUREAU organised several events with policymakers to present the cement industry's contribution to the circular economy. In March 2018, CEMBUREAU, jointly with the Centre for European Policy Studies (CEPS), organised a workshop "**Energy efficiency in the cement industry and the role of alternative fuel use in the circular economy**" in Brussels. It attracted officials from different departments in the European Commission as well as the Member States and Members of the European Parliament.

In September 2018 our experts educated Members of the European Parliament (MEPs), Permanent Representation to the EU officers and European Commission representatives about the type of waste streams that can be taken up by the cement industry during co-processing. This follow-up session hosted by two MEPs served as an eye-opener and raised awareness on the cement industry's potential and role in waste management and contribution to the circular economy. Greek European People's Party (EPP) MEP Maria Spyrali acknowledged the industry's efforts by writing online "**Cement and concrete play a central role in the circular economy. In order to fully unleash the potential of these two sectors, we need to define, develop and implement the right policy framework**".

CEMBUREAU also started to identify key issues for the upcoming BREF revision and in preparation, engaged in data gathering exercises and analysed data reporting system in the Member States of the EU.

HEALTH AND SAFETY

(Working Group C)

In last year's Activity Report, CEMBUREAU referred to the introduction of a new Annex to the Classification, Labelling and Packaging Directive, aimed at providing harmonised information to poison centres for emergency health response purposes. Throughout 2018, the cement industry has actively engaged with the European Commission to draw attention to the disproportionate burden

imposed on the industry. It was proposed that the industry provides a unique identifier code per plant for all cements or at least for each type of cement. The disproportionality of such a measure is corroborated by the fact that the health hazards of all cement types are the same. CEMBUREAU is a member of a Stakeholders Workgroup that now monitors a feasibility study commissioned by the European Commission to evaluate the impact on specific industries. Even if the outcome of the study leads to amendments, the imminent entry into force of the legislation (1st January 2020) has moved CEMBUREAU to join up with other industries to solicit a postponement of the entry into force of the legislation. Discussions with the European Commission on this topic are scheduled for early 2019.

NEPSI reporting

CEMBUREAU remains a committed partner to the NEPSI Agreement. It aims to protect the health of employees by minimizing their exposure to Respirable Crystalline Silica through the sharing of knowledge and sharing of good practices. CEMBUREAU is grateful to its Members for achieving again a 100% coverage in the NEPSI reporting. As to the KPI's, the reporting revealed that, of the employees potentially exposed, 98.24% is covered by a risk assessment and the percentage of employees covered by exposure monitoring has continued to increase.

NEPSI has also developed a new website and a guide on "**management systems approach towards NEPSI implementation**" which brings together industry experts' knowledge and expertise on how to build a successful management system that ensures all is in place to support NEPSI implementation. CEMBUREAU, from its side, has elaborated an RCS exposure monitoring protocol which sets out minimum requirements to comply with the legislation, standards and NEPSI. Furthermore, NEPSI managed to introduce in the revision of the Carcinogens or Mutagens at Work Directive a reference to the NEPSI agreement as a valuable instrument to complement regulatory measures.

In a review of the REACH legislation carried out in 2018, the European Commission concluded that REACH functions well, delivers results and addresses citizens' concerns about chemical safety.

CEMBUREAU endorses the European Commission's view that more efficiency can be introduced in the legislation through a simplification of the authorisation process. The cement industry welcomes the European Commission's initiative to assess the interface between REACH and occupational health and safety and waste legislation. The issue will be discussed jointly by WG B and WG C.

MARKETS AND PRODUCTS

(Working Group D)

The focus of CEMBUREAU's low carbon work on the 5C approach calls for stronger engagement of WG D in the reflection on the low carbon transition of our industry. Two major projects will deliver a useful argument to show that cement and concrete are key enablers for the low carbon economy.

Testing the Level(s) Framework

The first project is the Level(s) framework. CEMBUREAU actively supported the European Commission in launching a framework aimed at establishing a handful of key core indicators for the environmental assessment of buildings. The framework is sufficiently rigorous to drive improvement in performance and allow for comparison between buildings, taking into account the three pillars of sustainability, using both life cycle assessment and life cycle cost. CEMBUREAU has committed to participate in the testing phase of the European Commission's project. Together with three cement companies, it found suitable structures to test and prepares to submit the project reports to the European Commission in 2019. CEMBUREAU's efforts were presented in the European Commission's conference "*Bringing Buildings into the Circular Economy*" in Brussels in December 2018.

Developing the recarbonation methodology

The second project resulted in a study, jointly sponsored by CEMBUREAU, PCA, CSI (now by the GCCA) and Cementa AB. A methodology has been

developed to calculate the recarbonation potential of concrete in the built environment at the country level. It is the intention have the methodology tested by countries with a view to having the methodology endorsed under the IPCC Guidelines. The main finding of the study is that up to 25% of the process emissions related to the production of cement can be absorbed during the lifetime of a building.

The Concrete Initiative

These two projects are strongly underpinned, on the one hand by communications and public affairs activities through The Concrete Initiative and, on the other hand, by CEMBUREAU's continued participation in standardisation activities.

CEMBUREAU has leveraged The Concrete Initiative to create a dialogue platform on the need for a whole life-cycle approach in assessing the sustainability of buildings. During an internal workshop, the relationship with ongoing work in CEN TC 350 was assessed as well as the interaction and consistency (or lack thereof) of the European Commission's "*Product Environmental Footprint*" (PEF) initiative and the Level(s) framework. The Concrete Initiative has also been invited to set out the role of cement and concrete as enablers of the transition to a low carbon economy at the "*World of Concrete*" Conference in Paris in April 2018. The Concrete Initiative also brainstormed with concrete sector experts on the digital transformation of the sector and on other construction materials' promotion strategies in a marketeer workshop in Oslo in June 2018.

The Concrete Dialogue

The Concrete Dialogue, the annual highlight event for The Concrete Initiative and this time organized in partnership with The Parliament Magazine, focused on pathways to achieve a carbon-neutral built environment. Experts agreed that a life-cycle assessment applied at building rather than product level is one of the essential preconditions to correctly measure the contribution of our industry.

Held in the European Parliament with over 100 attendees, the conference, called "*Concrete Dialogue: Pathways towards a carbon neutral built environment*", also came just ahead of a key

European Commission announcement on its vision for a carbon-neutral society by the year 2050. The two-hour debate highlighted the key role the built environment can play in enabling the transition towards a resource and carbon efficient Europe by the middle of this century. It allowed us to convey our key messages to policymakers on the strengths of concrete in a low carbon environment and on the need for a material-neutral policy framework. Bulgarian EPP MEP Vladimir Urutchev, who hosted the event, told the audience that ***“while buildings may be the biggest energy consumers, they also have vast potential to contribute to a carbon neutral society”***. The strong intervention of the Mayor of Heidelberg who spelled out the challenges but, above all, opportunities for cities in moving to a low carbon future, acted as an eye-opener for the construction industry audience.

COP24 in Poland

CEMBUREAU organised an event in the European Commission Pavilion. Together with four different organisations (VELUX, the Lithuanian Ministry of Environment, European Federation of Engineering Consultancy Associations, Polish Institute of Passive Construction), the cement industry talked about the built environment and an increasing attention to energy use and other impacts over the entire life cycle, from design to construction to renovation or demolition. This side event compared and consolidated experience gained to learn about the implications of using life-cycle approaches for reduced impacts and energy at the different project and life-cycle stages.

The Polish Cement Association also had a session at COP24 in Katowice.

Standardisation Agenda

From a standardisation perspective, the sustainability of construction and civil engineering works is taken up in CEN TC 350 where cement industry experts participate in discussions on sustainability indicators, including how they are reported in and aligned with the Environmental Product Declarations (EPD's). A full life cycle assessment also implies strong cooperation between the cement and concrete actors in formulating durability requirements for the end-

product, concrete. CEMBUREAU is working with experts to provide input in CEN TC 250 in relation to performance-based thinking to the concrete standard (EN 206) that will make its way in the next generation of Eurocodes between 2023-2025. In order to complement and broaden its views, CEMBUREAU is also actively engaged in the European Concrete Platform where these items are discussed with the ready-mix and precast concrete associations. For the cement sector, it is essential to maintain credibility when it comes to the quality of its end-product. In that context, a discussion on a performance-based approach needs to include minimum requirements in terms of exposure class of the structure, exposure resistance classes and a clear definition of design working life.

The balance between durability of the end-product and the introduction of low carbon products, both in cement and concrete, will govern the policy discussions going forward, not only in light of the European Commission's publication of its 2050 low carbon strategy, but also taking into consideration the growing number of studies that assess the benefits the products, along with their service life and even beyond (recycling) can bring to a low carbon future. As far as cement is concerned, CEMBUREAU was pleased to see that the amended Mandate M/114 for the revision of EN 197-1 to introduce new cement types in the standard has been officially released by the European Commission to CEN. CEMBUREAU continues to plead, however, for simplifying and rationalizing the standardization procedures in order to allow a faster uptake of carbon-friendly solutions.



ADVOCACY ALLIANCES

HARMONI Project (EU Horizon 2020 funded project)

The HARMONI Project aims at identifying non-technological barriers to innovation and at presenting a set of policy recommendations to address these barriers. The participants in the project include sectoral associations from steel, cement, chemicals and ceramics as well as research centres and standardisation bodies. Information is collected through a series of initiatives, ranging from company interviews over an analysis of the organisation and workings of trade associations to a two-day conference with external stakeholders and the European Commission.

The project is relevant for CEMBUREAU as barriers addressed include those in the area of industrial symbiosis and the circular economy (e.g. end-of-waste rules; material recycling not counting towards national recycling targets) and breakthrough technologies (public financing obstacles; lack of clear rules on CO₂ valorisation). The end of the project with the formulation of concrete policy recommendations is expected for the Fall of 2019.

Strategic Value Chains for Europe

In November 2017, CEMBUREAU successfully applied to be part of the Strategic Forum for Projects of Common European Interest (the "*Forum*"). The task of the Forum is to identify six strategic value chains of European common interest that would complement three value chains that have already been identified as strategic (micro-electronics; batteries; high-performance computing).

Throughout 2018, Members of the Forum have proposed value chains that should be considered strategic for the Future of Europe. In a joint proposal with CEFIC (chemicals) and EUROFER (steel), CEMBUREAU has put forward two value chains: (i) Low carbon industrial processes and carbon capture and valorisation techniques, and

(ii) net-zero energy building construction and renovation (joint proposal with construction industries). From the 72 projects suggested and after a long elimination process, 16 projects have been shortlisted in November 2018 amongst which the two in which CEMBUREAU is a partner. Finally, the low carbon industrial value chains project was selected as one of the six key strategic value chains for Europe.

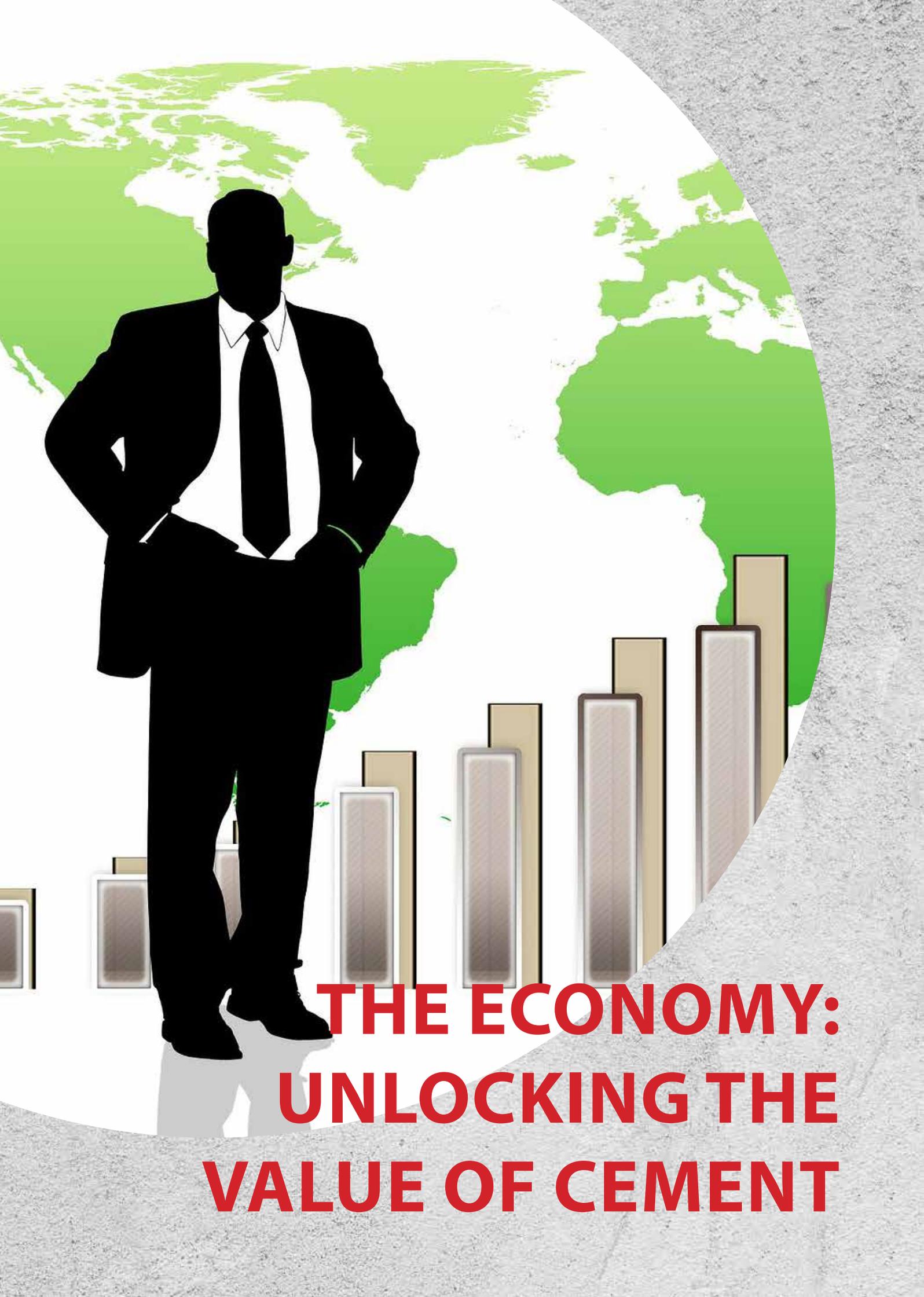
CEMBUREAU has strongly appreciated the support from its Members in reaching out to their governments for support of the projects suggested by the cement sector.

Industry4Europe Coalition

The coalition is an unprecedented group of 136 European Industries Associations founded in 2017 and dedicated to campaigning for an ambitious EU industrial strategy. The group published three papers in 2018.

The first highlighted what EU's world-leading manufacturing industry needs to succeed, followed by a paper on indicators to assess the health of the European industry and monitor the progress made by the EU's industrial strategy, and finally one which proposes a governance structure which enables the implementation of an ambitious EU Industrial Strategy.

CEMBUREAU was co-rapporteur on the last paper and presented it to the Austrian Presidency of the Council at the Council Working Party on Competitiveness. Most of the proposals proposed by the Coalition were taken up by the Council in its Autumn conclusions. Furthermore, the Coalition launched a campaign at EU and Member States level targeting candidate MEPs to support the idea of a Vice-President in charge of Industry in the next European Commission who would be in charge of putting Industrial Policy at the top of the political agenda and developing an ambitious long-term EU industrial strategy.



**THE ECONOMY:
UNLOCKING THE
VALUE OF CEMENT**

THE GLOBAL PICTURE



growth in the Euro area and 1.5% and 1.7% growth in the EU28 area. This evolution is mainly due to increased uncertainty regarding trade policies and decreasing production output (e.g. in the car industry) resulting in lower trade growth, the euro area being particularly sensible on external trade. Some other uncertainties continue to subsist and relate to the uncertain outcome of Brexit negotiations, geopolitical tensions and increasing protectionist policies. Despite these developments, the fundamentals for continued expansion of the European economy remain sound: labour market conditions and low financing costs should allow continued expansion, be it at a slower pace. The inflation in the EU28 area is seen as low. However, higher energy prices account for half of the increase within the 1.6% forecasted inflation for 2019.

CEMBUREAU's economy section is based on data and forecasts from the International Monetary Fund (IMF), the European Commission, Euroconstruct, the Eastern European Construction Forecasting Association (EECAF) and FORECON for the Baltic region.

According to the IMF World Economic Outlook, the 2018 global growth is estimated at 3.7% in 2018, and projected to grow at 3.5% in 2019 and 3.6% in 2020. In its Winter 2019 economic forecast, the European Commission estimates growth by 1.9% in both the Euro area and EU28 in 2018, down from 2.4% in 2017. The downward trend is set to continue in 2019 and 2020 with a 1.3% and 1.6%

When turning our focus to other regions, we note a 2.9% growth in the US in 2018 compared to 2.2% in 2017 with projections for 2019 and 2020 at 2.5% and 1.8%, respectively. During the last two decennia, China's economy reached a high in 2007 at 14.2%, slowing down to 9.2% during the crisis period when world growth was at -0.1%. After a brief rebound to 10.2% in 2010, the growth of the Chinese economy has been on a downward path with 6.6% growth realised in 2018, and 6.2% growth projected for 2019 and 2020.

India's economy has grown by 7.3% in 2018 and is forecasted to grow by 7.5% in 2019 and 7.7% in 2020, thanks to lower oil prices and slower pace of monetary tightening.

Overview - the Winter 2019 (interim) forecast

Real GDP

Inflation

	Winter 2019 forecast			Autumn 2018 forecast			Winter 2019 forecast			Autumn 2018 forecast		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Euro area	1.9	1.3	1.6	2.1	1.9	1.7	1.7	1.4	1.5	1.8	1.8	1.6
EU27	2.1	1.5	1.8	2.2	2.0	1.9	1.8	1.6	1.7	1.8	1.9	1.7
EU28	1.9	1.5	1.7	2.1	1.9	1.8	1.9	1.6	1.8	2.0	2.0	1.8

Source: European Commission

GLOBAL CEMENT PRODUCTION

Main world producers - The G20 Group

Cement production (Million tonnes)											
Country	2001	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
China	661.0	1 388.4	1 644.0	1 881.9	2 063.2	2 137.0	2 420.0	2 480.0	2 350.0	2 410.0	2 316.0
India	102.9	185.0	205.0	220.0	240.0	270.0	280.0	260.0	270.0	290.0	280.0
EU28 *	225.6	250.8	209.0	192.1	191.6	172.6	166.6	166.8	167.2	169.1	175.1
USA	88.9	86.3	63.9	65.2	68.6	74.9	77.4	83.2	83.4	85.9	88.5
Brazil	39.4	51.6	51.7	59.1	63.0	68.8	70.0	72.0	72.0	60.0	54.0
Turkey	30.0	51.4	54.0	62.7	63.4	63.9	72.7	71.2	71.4	75.4	80.6
Russian Federation	28.7	53.5	44.3	50.4	56.1	53.0	72.0	68.4	69.0	56.0	58.0
Indonesia	31.1	38.5	36.9	39.5	45.2	32.0	56.0	65.0	65.0	63.0	69.0
South Korea	52.0	51.7	50.1	47.4	48.2	48.0	47.3	63.2	63.0	55.0	62.6
Japan	79.5	67.6	59.6	56.6	56.4	51.3	57.4	53.8	55.0	56.0	55.2
Saudi Arabia	20.0	37.4	37.8	42.5	48.0	50.0	57.0	55.0	55.0	61.0	63.0
Mexico	33.2	37.1	35.1	34.5	35.4	35.4	34.6	35.0	39.8	40.8	46.1
Germany	32.1	33.6	30.4	29.9	33.5	32.4	31.5	32.1	31.1	32.7	34.0
Italy	39.8	43.0	36.3	34.4	33.1	26.2	23.1	21.4	20.8	19.3	19.3
France	19.1	21.2	18.1	18.0	19.4	18.0	17.5	16.4	15.6	15.9	16.9
South Africa	8.4	13.4	11.8	10.9	11.2	13.8	14.9	13.8	14.0	13.6	13.6
Canada	12.1	13.7	11.0	12.4	12.0	12.5	12.1	12.8	12.5	11.9	12.7
Argentina	5.5	9.7	9.4	10.4	11.6	10.7	11.9	11.8	12.2	10.9	12.2
United Kingdom	11.9	10.5	7.8	7.9	8.5	7.9	8.5	9.3	9.6	9.4	9.4
Australia	6.8	9.4	9.2	8.3	8.6	8.8	8.6	9.3	9.3	9.4	9.8

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

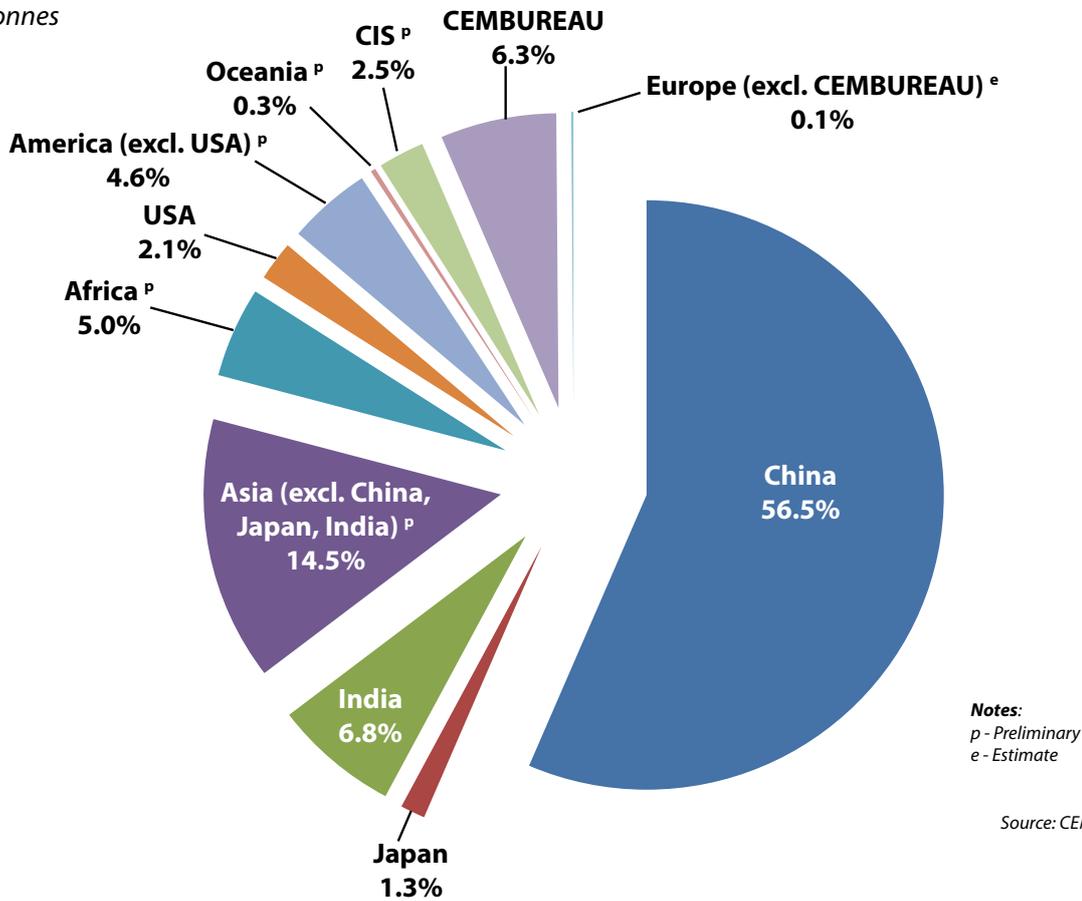
* EU28 data is compiled using latest available data

Global cement production in 2017 is estimated at approximately 4.1 bn tonnes. China produces 57% of the world's cement, with EU28 representing 4.2% and CEMBUREAU members representing 6.3%

of the world's production. Compared to last year, global production has been reviewed based on per country available most recent data.

World cement production 2017, by region and main countries, % Estimations

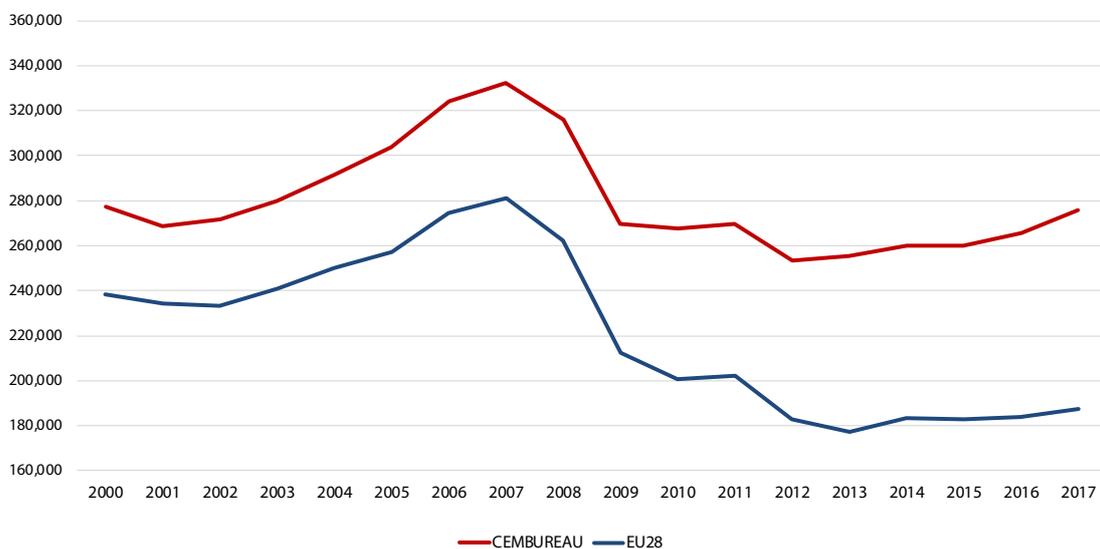
4.1 billion tonnes



Looking more in detail at the CEMBUREAU and EU28 cement production and consumption data

from 2017, we observe the following trends:

Cement production: EU28 & CEMBUREAU 2000-2017 Cement production + clinker exports Ktonnes

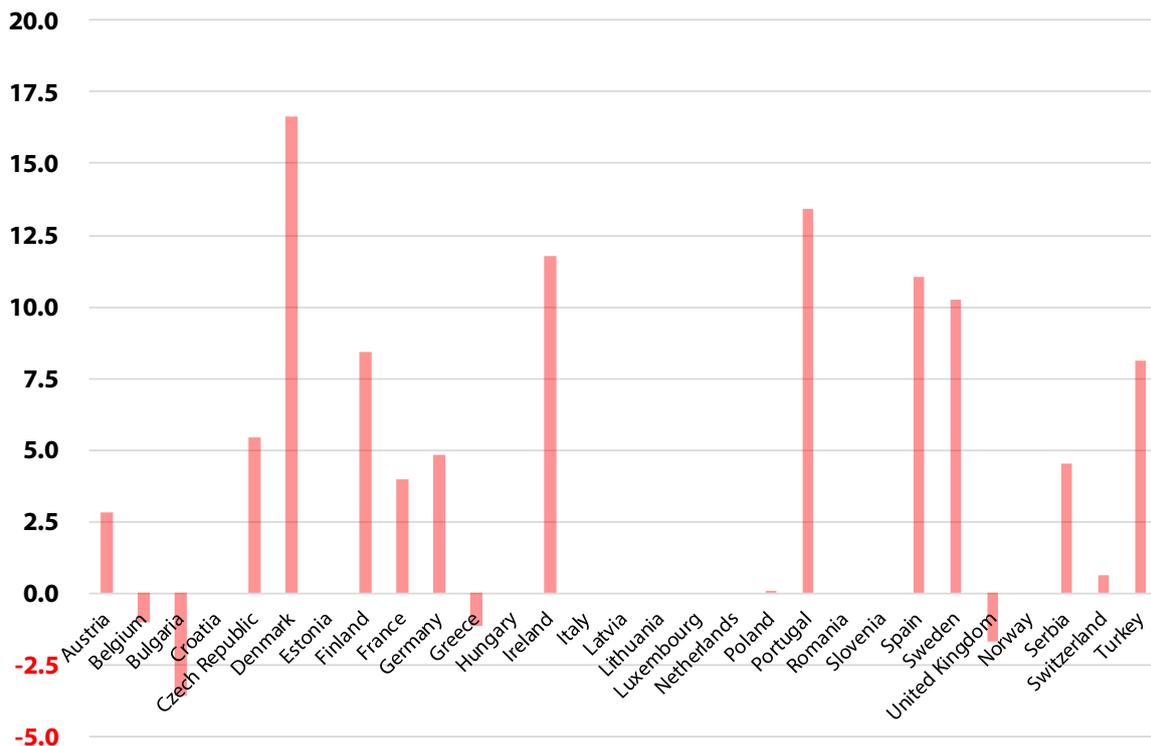


The CEMBUREAU production + clinker exports increased with 10.1Mt to 275.6Mt whereas the EU28 production + clinker exports rose with 3.9Mt.

The cement consumption is equally showing progress for the CEMBUREAU area, with an increase of 10Mt to 237.4Mt. The EU28 countries saw an increase of 4.7Mt to 159.2Mt, with trends on the

rise for both. The individual CEMBUREAU members experienced wide differences in consumption from 2016 to 2017, as shows the bar chart below: five countries increased with more than 10%. In decreasing order: Denmark, Portugal, Ireland, Spain and Sweden. Consumption decreased in Belgium, Bulgaria, Greece and the United Kingdom.

Evolution of cement consumption in CEMBUREAU countries Variation 17/16 (%)



Source: CEMBUREAU

The EU28 cement and clinker trade during 2017 shows a slight fall of 0.6Mt in both import and export, with export volume at 44.1Mt, and import volume at 19.1Mt. A solid net export of 25Mt is still seen, at the same level as last year.

Looking ahead for the consumption of cement, the Euroconstruct forecasts highlight growth is culminating in 2017 and 2018, respectively with 5.5% and 4.1%; growth figures remain positive but are decreasing, from 3.6% in 2019 to 2.5% in 2021.

Cement consumption Actual & Forecasts 2016-2021

	2016A	2017A	2018E	2019F	2020F	2021 Outlook
Euroconstruct 19	1.5	5.5	4.1	3.6	1.9	2.5
Germany	3.2	4.8				
France	1.5	3.9	3.6	1.5	-0.1	1.6
Italy	-3.1	0.3	2.6	3.7	3.2	3.1
Spain	-2.9	13.1				
United Kingdom	6.4	5.0	-1.0	1.5	2.0	0.7

Source: Euroconstruct

CONSTRUCTION MARKETS



The global economic forecasts of the IMF and European Commission are also reflected in the construction forecasts of Euroconstruct (19 countries): EECFA (Bulgaria, Croatia, Romania, Serbia, Slovenia, Russia, Turkey, Ukraine) and Baltic States (Estonia, Latvia, Lithuania). The construction volume in the Euroconstruct area is expected to grow by 2.8% in 2018, by 3.54% in the Baltics and 1.4% in EECFA countries. In Turkey, the effect of the currency crisis on construction is to be noted. The growth rate for total construction output is at 0.6% in 2018 and at -6.1% in 2019, again growing 0.7% in 2020.

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 is set to continue up to 2021 according to the forecasts (see chart) even though at a substantially lower rate at 2% in 2019, down from 2.8% in 2018.

In 2018, not all countries in the Euroconstruct perimeter, EECFA and Baltics experienced growth. Construction volume contracted in the UK and Turkey. For 2019, only the Nordic countries Finland and Sweden, also Estonia and mostly Turkey are forecasted to reach negative growth.

The Euroconstruct area reached EUR 1.56 trillion value in 2017, split into 38% for new buildings and 41% for building renovations, and 21% from civil engineering (see infograph). These proportions are starting to change, however, as civil engineering is becoming a major driver, with new residential buildings falling behind in all regions (see graph).

**Construction markets by segments in 2017,
38% account for new buildings
41% for building renovation**



RESIDENTIAL

New

Renovation

21%

26%

NON-RESIDENTIAL

New

Renovation

17%

15%



CIVIL ENGINEERING

New

Renovation

12%

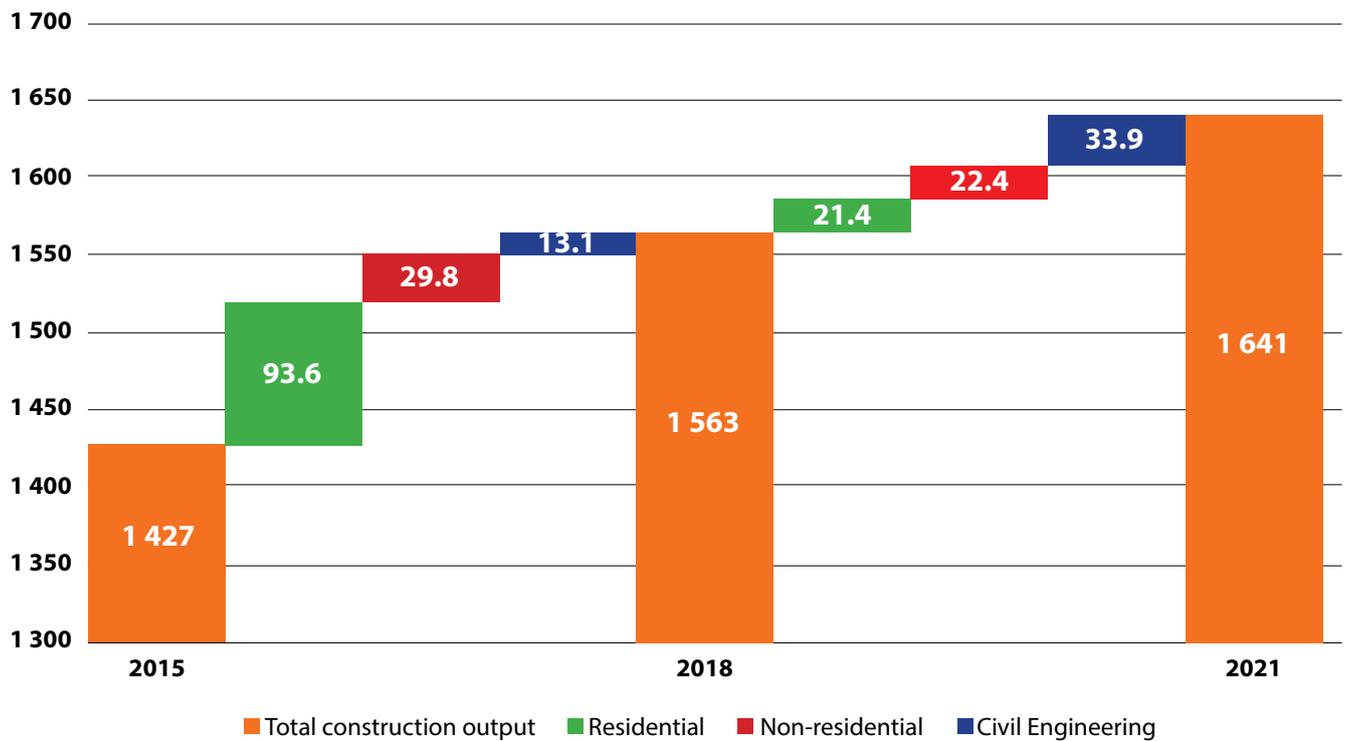
9%

Source: Euroconstruct

Growth contributions by segments

New residential housing weight slowing, civil engineering becoming the main driver

Billion euros



Source: Euroconstruct

A COUNTRY BY COUNTRY ANALYSIS



AUSTRIA

In 2018, the consumption level has raised, at a rate between 2 to 3% compared to 2017. The new residential construction sector has been the most important driver of growth in 2018, together with industrial and commercial construction. The civil engineering sector has remained stable. For 2019, no major changes are expected in terms of cement production and consumption volumes in Austria. Considering the housing construction sector in Vienna will continue to grow, the cement sector is expected to remain stable. The regulatory framework in the logistics sector (e.g. road tolls) is set to change and might influence the sector.

BELGIUM

Contrary to the slight growth forecast for cement consumption in 2017, the year ended with a decrease of -1% compared to 2016 bringing the total deliveries to the Belgian market to 6,150,000t. The year 2018 shows a slight increase compared to 2017, estimated at 2%. Overall, the construction sector experienced a growth of +2% in 2018 compared to 2017. The residential subsector (renovation and new construction combined) increased by 3 to 3.5% in 2018, while the non-

residential construction experienced a decrease from 2 to 2.5%. Civil engineering, due mainly to the municipal elections of 2018, experienced a growth of 10% in 2018. The year 2019 promises to be favourable for the construction sector, forecasts banking on a growth of 1.5 to 2%. The residential sector should still progress from 1.5 to 2% and the non-residential could benefit from a recovery of 1 to 1.5%. The volume of works in civil engineering is expected to slightly increase by 2% in 2019.

CYPRUS

The number of building permits authorised by the municipal authorities and the district administration offices during December 2017 stood at 437. The total value of these permits reached €151.4 million and the total area 187.9 thousand square meters. These building permits provide for the construction of 325 dwelling units. During the period January – December 2017, 5,728 building permits were issued compared to 5,354 in the corresponding period of the previous year. The total value of these permits increased by 48.6% and the total area by 47.3%. The number of dwelling units recorded an increase of 35.4%.

Building permits constitute a leading indicator of future activity in the construction sector.

CZECH REPUBLIC

In 2018, the increase of cement production and domestic consumption in the reference period is corresponding to the growth of the construction industry. The construction output increased by 8.4%, year-on-year (y-o-y) in real terms. The production in building construction increased by 8.6% (contribution +6.3 p.p.), y-o-y, and the production of civil engineering construction grew by 8% (contribution +2.1 p.p.), y-o-y. The total value of the orders grew by 16.4%, y-o-y, and was CZK 235.9 billion (EUR 9.1 billion). The building construction orders were for CZK 108.6 billion (EUR 4.2 billion), growth by 16.4%, and those for civil engineering constructions were for CZK 127.3 billion (EUR 4.9 billion)- growth by 16.4%. In 2018 the average value of a newly constructed building accounted for CZK 3.7 million (EUR 144 million) and was by 13% higher, y-o-y. In 2018 the number of building permits granted decreased by 3.6%, y-o-y

and the planning and building control authorities granted 81,174 building permits. The approximate value of constructions allowed in 2018 accounted for CZK 358.1 billion (EUR 13.8 billion) and increased by 1.5% compared to that of 2017. The number of dwellings started in 2018 increased by 5.1%, y-o-y and accounted for 33,121 dwellings. The number of dwellings started in family houses increased by 2.7%, and that in multi-dwelling buildings grew by 0.5%. The number of completed dwellings in 2018 grew by 18.5%, y-o-y and attained 33,868 dwellings. The number of completed dwellings in family houses jumped up by 26.3%, y-o-y, and the number of completed dwellings in multi-dwelling buildings grew by 11.5%. For 2019, the forecast in the cement consumption reports no significant increase.

DENMARK

In 2018, the construction and building activity was the same as in 2017. A positive trend continued for residential housing activity while the commercial building sector benefited from the positive increase since its historic low point in 2015. The activity in 2019 is expected to improve slightly compared to 2018. The residential building segment is expected to continue the positive trend in 2019 helped by low interest and inflation rates and high level of public housing. Growth margins are expected to be lower than in previous years. The commercial building segment is expected to continue its moderate growth, with the exception of the farming sector that will be affected by the dry summer in 2018. Activity in the construction sector will rely on big projects like the Fehmarn Link tunnel between Denmark and Germany. The continued international political insecurity (Brexit, trade wars etc.) could also have negative effects. Limited production capacity and a shortage of skilled labour are other risks to consider in the coming years.

ESTONIA

The cement consumption grew by 2.5% in 2018, compared to 2017. 2018 was a very good year for the construction industry, even though growth in cement consumption was not very remarkable, which is due to a high reference base in 2017. The share of facilities in construction was smaller than the total construction volume. Housing construction contributed the most to the growth and so did the construction of non-residential buildings. Civil engineering showed a more moderate result. During the year, issuing of building permits for new residential building projects and non-residential buildings decreased to some extent, which will influence construction volumes of the sector in the following year. In 2019, the consumption volume of cement will remain at approximately the same level as in 2018. Further growth is hindered by a lack of workforce in the building sector and a certain decrease in residential building volumes. Increase in construction prices has extended the sales periods of new residential buildings and a certain decrease in volumes is expected. Also, the construction market in neighbouring countries will have a significant impact on the sector, especially the market in Finland and Sweden, where a lot of building products are exported.

FINLAND

Overall, cement consumption decreased by 2% in 2018, compared to 2017. Residential buildings increased by 2% and non-residential building decreased by 2%, while renovation buildings remained at the same level as in 2017. Infrastructure and civil engineering decreased by 9%. Cement consumption is expected to decrease by 7% in 2019, compared to 2018. A decrease in consumption is expected in civil engineering and residential building (fewer new blocks of flats).

FRANCE

In 2018, cement consumption in France is estimated at 18.6Mt, a 2.5% increase compared to 2017. In 2018, the new residential building segment recorded a slight growth at 2.8%, despite the fact that the number of dwellings started in 2018 fell by 7% compared to 2017. The non-residential segment saw a strong increase of 7.4% while renovation has remained flat at 0.8%. Civil engineering activities have been positively oriented and increased by 7.3% (in volume) over the course of 2018. In 2019, forecasts are negative seeing a decrease of 0.5% in the building sector, mainly due to a decrease in the residential sector due to projects terminations and a reduction in building permits. The civil engineering activity should remain stable (increase by 3% in volume), mainly due to the Grand Paris projects and the coming works of the 2024 Olympic Games. For 2019, cement consumption is expected to remain stable.

GERMANY

The German cement consumption in 2018 is expected to have increased by 1% to 2% (estimated) compared to 2017. One major contributor to this positive development is again the residential building sector. According to recent estimations, 5% more apartments were completed in 2018 than in the previous year (i.e. 300,500 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. Further stimulus came from the commercial building sector (completions are estimated to be +6.4% in 2018 compared to 2017) and from civil engineering, which is benefitting from increased public infrastructure funding and a construction demand that has risen vastly during the past years. Besides private consumption, construction investments have been a driving force in the positive macroeconomic development of Germany. During the past five years, real construction investments have grown by almost 19%. According to the number of official building permits and incoming orders in the building industry, construction demand is still rising, albeit less dynamically than in former years. Thus, the outlook for the German cement market remains optimistic, although a further significant growth in cement consumption beyond the current level is not expected due to several capacity constraints.

Beside a scarcity of specialist workers (such as drivers, concrete workers, and building designers in public service) more and more building companies are restricted by a lack of raw materials or building machinery.

GREECE

The 2018 consumption is expected at the same level as in 2017. The building sector was up by about 10%, based on provisional data of the Greek Authority of Statistics. There are no forecasts available for 2019, although a large scale of public works is expected.

HUNGARY

The volume of construction output, based on raw data was 27.3% higher in 2018 than a year earlier. Output increased in both main groups of construction: in the construction of buildings by 17.8% and in civil engineering works by 40.2%. In the construction sector, output increased by 26.5% mainly due to the large number of new buildings which led to a production increase of 22.9%. In the first three quarters of 2018, 28% more dwellings were built compared to the same period in 2017. Based on new construction permits (1.2% more i.e.) a total of 10,322 residential buildings are expected to be built. The Hungarian economy grew by 4.8% in the year 2018, and such quarterly rate has been unprecedented since 2005. In the year 2019, a slowdown is expected due to weaknesses in the economy, shortage of skilled workers and rising prices. EU funds closing in 2020 will also impact growth in the year to come. The performance of the new apartment building segment can also be expected to slow down.

IRELAND

Growth has firmly returned to the Irish housing sector. 2018 saw the construction of new dwellings rise to 18,000, up 25% from 2017. However, there is still room to grow with an estimated annual demand of 30,000. However, with a combination of factors including skills shortages, delivery for 2019 is not expected to exceed 24,000 units. Apartments are starting to take a larger share of this mix, primarily in Dublin, but it is still quite less than other European capitals. Commercial construction is seeing solid growth in Dublin but also in key

regional cities. Following the launch of the National Development Plan 2018 - 2027 in 2018, a number of large infrastructure projects are due to begin in 2019. Brexit and uncertainty as to the final state of play is a serious concern. Not only would a no-deal Brexit have consequences for all Ireland operations and market in the cement industry, as well as exports to the UK, but the knock-on effects of to the broader economy may affect both new residential construction and lower tax receipts may impact on capital projects. On the other hand, the economy is now near full employment and this is resulting in mounting skills shortages in construction with insufficient people having been placed in the last years.

ITALY

According to a consolidated estimate for 2018, the construction sector output is set to speed up its growth by 1.9%. Positive signs for new buildings construction - that are increasing both for housing (3.4%) and the non-residential sector (5.6%). The fall in new civil engineering investments is due to the difficulties in transforming available resources into construction. The current evolution for the construction sector is uncertain and according to the new forecasts, the cement sector is expected to grow by 1% in 2019. GDP's growth is slowing down and there is a possibility the country will enter a recession this year. The new administrative procedures introduced with the new Code for Public Contracts have hampered the start of new construction sites. There is also uncertainty around the new Government's intentions of starting new infrastructure projects. This strategic market segment could grow by 4% in 2019, becoming the main driver of the construction market and the Italian economy.

LATVIA

The Latvian cement consumption increased by +6.5% y-o-y, according to local statistics and Belarus export statistics. Latvia's construction sector saw rapid growth in 2018 though the pace was uneven by quarters, at 35.7%, 31.6%; 10.3%; 21.4% in Q1, Q2, Q3 and Q4 respectively. The full-year construction output grew 21.4%, with residential construction output rising at 39% and non-residential registering a growth of 22.6%.

Non-residential construction output grew by 22.6% and civil engineering output grew 25.6%. It's important to note that the above statistics include construction output carried out as export services: 11.7% of total output in 2017; 10% in 2018.

Construction output continues to grow, although at a lesser pace as capacity limits are reached, particularly in terms of labour availability. Wage growth is driving construction inputs inflation. An array of efforts to reduce grey-sector activity in construction is yet to show major results but generally looks promising. Rail Baltica is finally nearing construction phases though some delays are expected and could lead to delays in major works after 2020.

LITHUANIA

Domestic demand for cement has increased by 12% in 2018 compared to 2017. Over the last few years, construction growth has been observed mainly in the industrial sector, where most of the carried-out construction works consisted of civil engineering construction, reconstruction and repair. The volume of construction works in Lithuania increased by 13.7% compared to 2017. The largest part of construction activities (52.3%) consisted of new construction works, the rest (47.7%) consisted of repair and reconstruction works. Construction of engineering works amounted to 44.5% of all construction activities carried out in the country. Construction works of non-residential buildings in 2018 amounted 37.8%, an increase of 10.2% over the year. The volume of construction work of residential buildings increased by 12.1% over the year and it amounted to 17.7% of the total construction works. It is projected that the volume of cement sales in the domestic market will grow evenly by 7-8% in 2019. This is related to the growing demand for engineering, infrastructure projects and non-residential buildings.

LUXEMBOURG

Like 2017, the year 2018 was again marked by a strong, stable domestic market and also driven by an outstanding activity in office buildings, combined with investments in new infrastructure projects. Exports registered a slight increase, mainly due to stronger activities in both the French and Belgian

markets, whereas Germany performed slightly better. 2018 has thus been another year with a strong outcome. Future rough weather conditions in winter are forecasted to make it difficult to increase performance in 2019.

NETHERLANDS

Cement consumption in The Netherlands rose in 2018 by about 8% compared to 2017. For the overall year, the total construction sector output (CSO) increased by 6%. The rise is due to the high increase in the residential sector (9%) and civil engineering (6%). The total growth in the CSO non-residential sector was 7.5% and 11% for new non-residential. In 2019, the construction sector output is expected to grow by 5%. In addition, the new housing sector is expected to grow by 5.5% and the new non-residential sector is forecasted to grow the fastest at 8%. Investments in buildings are also used for sustainability issues and CO₂ emission reduction goals.

NORWAY

Cement consumption decreased by 1.4% in 2018, compared to 2017. Norway experienced an increased activity in infrastructure and non-residential construction, while residential construction was slightly down. In 2019, increased focus on low carbon concrete and CO₂ footprint in the market will be a core priority. Continued high activity within the infrastructure sector is also expected in the year to come.

POLAND

According to the Polish Cement Association's forecast in 2018, cement consumption increased by approximately 10%, reaching about 18.6Mt of cement. In 2018 the GDP growth was 5.1%. In 2019 a GDP growth of 3.8% is expected from an increase in domestic demand and new investments. The Polish Cement Association foresees a further increase in cement consumption by about 2.5% reaching a level of 19Mt in 2019, mainly due to the construction of road and rail infrastructure as well as new investments in housing. The transition to a low carbon economy is and will remain a focus in Poland. The Polish Cement Association has already organised a session at COP24 in

Katowice and delivered the presentation on Concrete - low-emission building material in a circular economy.

PORTUGAL

Cement consumption in 2018 increased by 5.2% in 2018, compared to 2017. Portugal's real GDP rose 2.1% in 2018, mainly driven by strong domestic demand and exports gains. The weight of exports in GDP has been steadily growing since 2013, a tendency that extends to all components. Corporate Gross Fixed capital formation (GFCF) has significantly increased during this period. Private investment growth is underpinned by spending on machinery and equipment, with the vehicle manufacturing sector showing notable signs of increased capacity. Housing investment is rising strongly, due to growth in prices of both new and existing dwellings. However, public and housing investment remained below the average registered before the international financial crisis. The construction sector growth estimate for 2018 was revised downward to 3.5%. Buildings construction sector was the most dynamic. The construction subsectors performed as follows: civil engineering, residential buildings and non-residential buildings increased by 2%, 7% and 2.8%, respectively.

The Portuguese economy will maintain a growth trajectory, but is expecting deceleration (1.7% in both 2019 and 2020). The projected slowdown in the pace of activity in Portugal's major trading partners will be a headwind to future growth. However, domestic demand and further export gains will support economic activity. In particular, consumption growth will remain solid as the unemployment rate falls further. Investment is set to rebound in 2019 as EU structural funds are expected to contribute positively to investment growth in 2019 and 2020 and the banking sector is now in a better position to fund investment projects.

The construction sector should maintain a positive trajectory in 2019, but at a faster pace. The construction activity is expected to increase by around 4% in 2019. Both the civil engineering sector (3%) and different building segments have positive prospects. Residential and non-residential buildings are expected to increase by 7.5% and

2.4% in 2019, respectively. Cement consumption is expected to increase by approximately 5.7% in 2019.

ROMANIA

According to the provisional data of the National Institute of Statistics, the cement consumption in 2018 in comparison to 2017 increased by 6%, mainly due to the civil engineering constructions. In 2018, the volume of construction works decreased by 4.1%, compared to 2017. New construction works decreased by 8.4%. The volume of non-residential buildings decreased by 5.5% and residential buildings decreased by 23.6% while civil engineering works increased by 8%.

The official data from the National Commission for Prognosis estimates an increase of 7% in construction works in 2019. This optimistic increase is due to the execution of major infrastructure projects planned in the National Budget for 2019. The government has promised to focus on the development of the TEN-T network by finalising the infrastructure works that have already started and also by starting new ones.

SERBIA

Cement consumption increased by 10.4% in 2018 compared to 2017. The value of completed construction works increased by EUR 2.8 billion in 2018, which contributed to an increase in the share of construction in GDP from 4.1% in 2017 to 4.7% in 2018. For the first time in a few years, a significant increase in employment in construction was registered, as well as a trend of increase in the total number of issued building permits. Reforms in the field of construction and issuing building acts have contributed to the Republic of Serbia ranking first in the 'Doing business 2018'. In the area of issuing building permits, the Republic of Serbia entered the top ten countries of the world and this is at the same time the best result and the greatest progress made in this year's report.

The number of issued construction permits is expected to grow in the coming year due to the completion of construction works on Corridor 10, Corridor 11 and the renovation of the Belgrade - Budapest railroad and other important

infrastructure projects. This will result in a significant share of civil engineering in GDP and achieving the goal of the Ministry of Construction, Transport and Infrastructure to reach 7% of GDP from shares in civil engineering.

SLOVENIA

Cement consumption increased by 8.5% in 2018, compared to 2017. The construction sector in Slovenia expanded for the second year in succession in 2018. The value of construction increased by 21.2% in 2018, compared to the same period of the previous year. The buildings sector increased by 19.2% and civil engineering by 22.1%. In 2018, 6,388 building permits were issued, which is 5% fewer than in 2017. 44% of them were issued for residential buildings and 56% for non-residential buildings. In comparison with 2017, 3% more building permits were issued for residential buildings and 10% fewer for non-residential buildings. With building permits issued in 2018, 3,491 newly built dwellings were planned, which is 12% more than in 2017. In one-dwelling buildings 2% or 44 dwellings more were planned, while in two- and more - dwelling buildings 60% or 302 more dwellings were planned than in 2017. Economic activity in Slovenia remains favourable. A GDP growth is expected to rise up to 3.4% in 2019, and around 3% in 2020. Investment growth will remain high in 2019 and 2020. Growth is expected for all segments of investment activity, not only in construction (housing and infrastructure investments). In 2019, it is expected that the growth in civil engineering section and in buildings to be comparable. In the next two years, the growth of construction activity is forecasted to gradually slow down.

SPAIN

The evolution of cement consumption in Spain during 2018 has continued to recover since 2017. Throughout the year, cement consumption registered an increase of 8%, reaching 13.4Mt. This growth has been consolidated mainly during the second and third quarter of the year while in the fourth quarter the growth rate was moderate. As a result, the consumption was definitively higher compared to the period 2013 - 2016, where the cement consumption in Spain stagnated at

approximately 11Mt. Nonetheless, the 2018 figures are still a quite remarkably low figure, compared to the mid-1960s or between 1970 and 2014, where 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, in 2017 cement and clinker exports began to reduce at a rate of 10% and continued doing so in 2018. In 2018 exports of cement and clinker were assessed at 8Mt, compared to 9Mt and 9.9Mt in 2017 and 2016, respectively.

The low level of cement consumption in Spain has been caused by a drop in construction activity, both in residential and non-residential as well as civil engineering. However, since 2016, a recovery in building construction was recorded, mainly in the housing sector, recording a growth of 24%. The continuous growth of housings and non-residential constructions has led to an increase in cement consumption.

In 2019, the building construction sector is expected to moderately grow, while the civil engineering works will maintain the same rate as in 2018, with a slight possibility of small growth. Cement consumption is expected to continue its positive growth path and reach around 14.4Mt, implying growth of around 7%.

SWEDEN

The total cement consumption in Sweden went up mainly in the residential housing sector, due to an increase in infrastructure projects which saw a strong demand throughout 2018. The demand from the housing sector is expected to flatten out while the infrastructure demand is expected to grow.

SWITZERLAND

The cement consumption in Switzerland decreased by 1.5% in 2018, generating sales of less than 3.5% in the previous year. With the exception of commercial construction, sales declined in all sectors. The outlook for the coming months is generally positive. Incoming orders and work in progress picked up again in the second half of the year. In the last

quarter of 2018, the main construction industry recorded an increase of 7.3% in work inventories compared with the last quarter of the previous year, thanks to civil engineering. Orders received are similarly positive, rising by 9.6%.

2019 forecasts a consolidation in residential construction. Orders received for residential construction in the fourth quarter of 2018 were down by 4.2%.

TURKEY

The Turkish economy grew by 4.5% in 2018. During this period, the construction sector only showed a negligible 0.1% growth, mainly due to the recession in the 3rd quarter. The cement industry plays an important role in the Turkish economy with its nearly \$2.3 billion (EUR 2.44 billion) in turnover and \$614 million (EUR 544 million) in export revenues. The industry produced about 75.1Mt of cement in 2018, compared to an of output 82.8Mt in 2017, indicating a 9.3% decrease in cement production.

The Turkish cement industry recorded a 66.9Mt of domestic sales in 2018, 64.4Mt of which were recorded by TCMA member plants. Total sales were around 74.9Mt in 2017, out of the 72.2Mt sold by TCMA member plants. Domestic sales diminished by 10.7% in Turkey and by 10.8% for TCMA members, leading to a decline after 9 years of growth.

At the end of 2018, 7.6Mt of cement and 6.1Mt of clinker was exported and a decrease of 3.6% was recorded in cement exports and clinker exports. This decrease was driven mainly by U.S.A. and Israel markets. Clinker exports were driven mainly by Ghana. MENA & America are the most important export markets of Turkish cement sector, both having a 35-40% market share in 2018. Forecasts expect 9-10Mt cement exports. With the installation of new capacities, by the end of 2018, the total clinker production capacity reached 90Mt and is expected to increase in the years to come due to on-going projects.

In terms of new markets, the cement sector is putting an emphasis on increasing use of concrete roads and concrete barrier applications. With solutions such as the use of new technologies and roller-compacted concrete pavements, concrete

roads and barriers should have their place in Turkey's infrastructure as their manufacturing cost is nearly the same as the alternatives. They also have a low maintenance cost and are resistant to new environmental challenges. At the end of 2018, 382km of concrete road construction were completed as the Turkish Municipalities and 394km concrete roads were built as part of the Special Provincial Administration projects.

It is expected that the growth in the cement sector will be around 0-1% in 2019 with new investments in housing and infrastructure projects such as high-speed train, metro, highway. The energy plant investments are expected to decrease energy dependence of Turkey. Despite temporal economic difficulties, TCMA estimates that Turkish cement exports will continue to rise as increases in the country's capacity come online by 2020.

UNITED KINGDOM

Information on cement consumption for 2018 is not available but this is closely linked to the performance of ready-mixed concrete (RMC) sales, which in 2018 fell for the second consecutive year, down 1.6% in 2018 compared to 2017 (after a 2.6% fall in 2017). RMC sales in London fell by 4.8% in 2018 but with the region representing a fifth of total market sales in Great Britain, this has significantly weighed down the national figures. Whilst RMC is ubiquitous to general construction activity, 60% of the market is represented by buildings, including new housing, commercial and industrial construction. Weaker housebuilding and commercial construction markets in London last year are likely to have been major contributors behind the decline in RMC sales.

Construction output in 2018 grew 0.7% compared to the previous year, a marked slowdown from the 7.1% growth seen in 2017. Growth in 2018 was driven by housebuilding. Further growth was also recorded in new infrastructure and non-housing repair and maintenance. Meanwhile, construction activity on commercial buildings and other public work declined sharply throughout the year. As a result, total new work in the construction sector remained broadly flat in 2018, growing just 0.4% compared to the previous year.

Annually, the UK economy grew by 1.4% compared to 2017. This is the slowest rate of growth since 2012. Business surveys throughout the year have repeatedly pointed to Brexit-related uncertainty as a reason behind this slow growth. The level of business investment declined in all four quarters of 2018 and stood 0.9% lower in 2018 compared to the previous year. Construction output is expected to be broadly flat in 2019, followed by slow growth in 2020. Infrastructure work is forecast to increase by 8.8% in 2019 and 7.7% in 2020. This outlook for the construction industry reflects subdued economic growth prospects and Brexit-related uncertainty, both of which will impact particularly on commercial work, the second largest sub-sector. The weak outlook is still resting on the assumption that a revised Withdrawal Agreement will be agreed to ensure a transition period to December 2020, or, at least, that a delay to Article 50 will allow for renegotiation.

EMISSIONS REPORTING: GNR & BEYOND

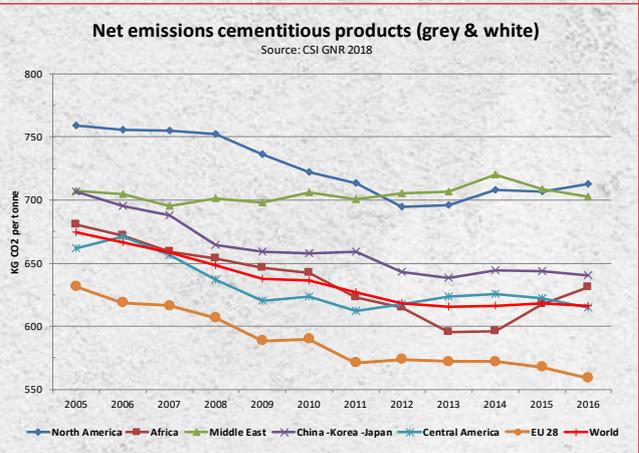
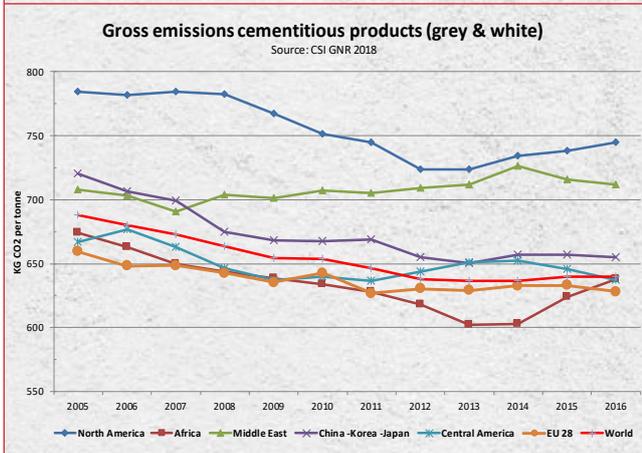
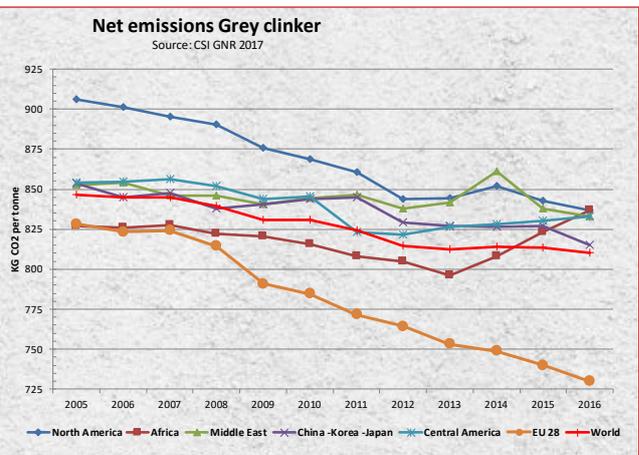
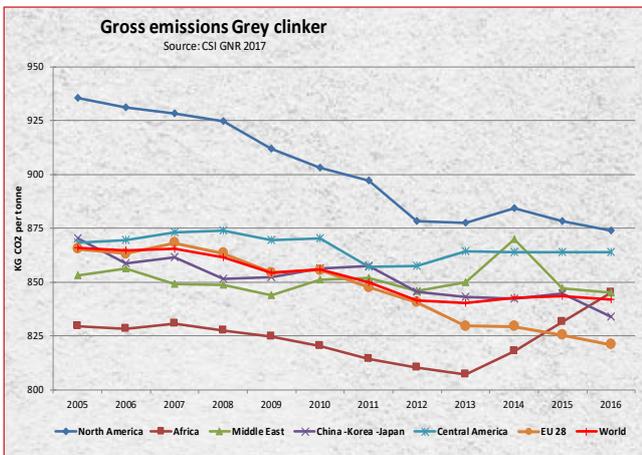
Since its launch, CEMBUREAU has contributed to the World Business Council for Sustainable Development - Cement Sustainability Initiative's (WBCSD-CSI) "Getting the Numbers Right" (GNR) project, which aims at monitoring and addressing CO₂ emission trends from the cement industry at global level. The management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

According to the latest data available, in 2016 the European cement industry has continued to reduce its emissions per tonne of product. This data, published by the GNR project, shows that between 1990 and 2016, the EU28 cement industry has reduced its:

- **gross** CO₂ emissions per tonne grey **clinker** by -9.8% (last year -9.4%)
- **net** CO₂ emissions per tonne grey **clinker** by -19% (last year -17%)

- **gross** CO₂ emissions per tonne **cementitious** (all) by -14% (last year identical)
- **net** CO₂ per tonne **cementitious** by -21.7% (last year -20.4%)

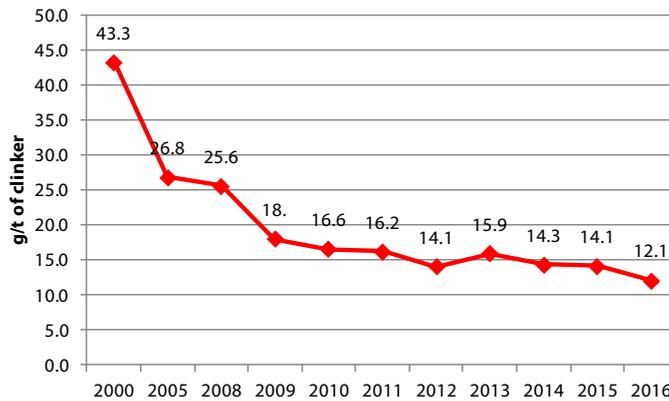
As this data show, the European cement industry is still amongst the world best performers and on a continuous decreasing trend with its emissions. In this respect, it is important to note that whilst the data for the EU covers close to 100% of plants (the company members of GCCA as well as non-GCCA 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 companies being member of GCCA only).



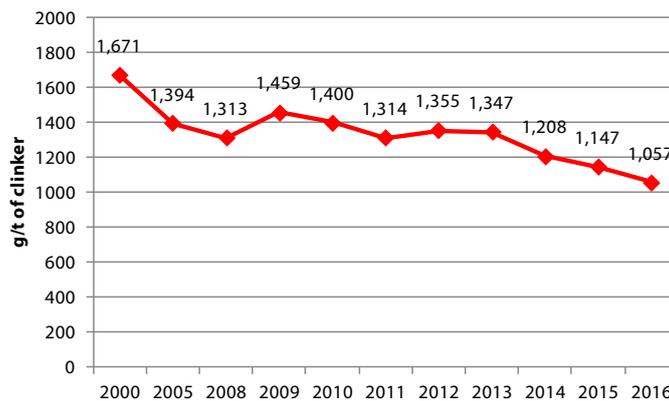
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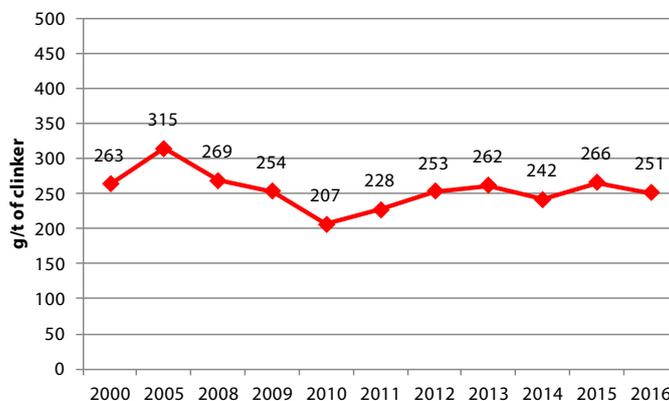
DUST emission/Clinker Production



NOx emission/Clinker Production



SO₂ emission/Clinker Production



Source: CEMBUREAU



CIMEUROPE ACTIVITIES

In 2018 *Cimeurope* maintained its focus on the energy markets through the publication of CEMREVIEW and the organisation of the annual CEMPROSPECTS Conference.

In its 2018 analysis, CEMREVIEW continued to cover the developments in the energy complex with a strong focus on oil, coal and petcoke but also on the impact of FX rates and the carbon market, one of the strongest performing markets in 2018. The publication has seen a steady number of readers over the year and we are looking forward to continuing this positive development in 2019 where we aim to expand the geographical coverage of our readers. Our monthly energy update in the International Cement Review gives a short update of the Oil, Coal and Petcoke markets based on the CEMREVIEW analysis.

In addition, CEMREVIEW been invited as a speaker, panellist and chairman on several conferences in cooperation with, among others, Argus, Coaltrans and Cemfuel.

CEMPROSPECTS 2018

The CEMPROSPECTS conference took place between the 8th and 10th of October in Prague, bringing together more than 80 participants. During the conference, an insight was given in the major trends in the energy and currency markets and presentations also covered the increasing use of alternative fuels in the cement industry.

The **2019 CEMPROSPECTS Conference will take place from 7th to 9th October in Krakow (Poland)**, offering huge opportunities to learn, discuss and network on the major themes influencing the global fuel markets.

EVOLUTION OF CURRENCY RATES AND TRADING MARKETS IN 2018

On the macro-economic front, the “*trade war*”, initiated in Spring 2018 and led by the US and China, sent ripples through the economic system and overshadowed economic activity throughout the year. The European economy was also submitted to political turmoil in several EU countries, leading to a slowdown in the German economy.

The US Central Bank began a series of interest hikes, and the European Central Bank continued its quantitative easing, which extended the interest differential between USD and the EUR, and this weakened the EUR from a high of \$1.255 in January 2018 to a trading range of \$1.12/\$1.18 from April and until the start of 2019. The EUR is likely to regain strength following the 2019 European elections.

The Turkish Lira went through high volatility in 2018, entering the year at 3.80 to the USD before depreciating during Q3 by 90% to 7.20 to the USD and then regaining 30% by end year to around 5.25 to the USD. This volatility had a big impact on energy prices measured in Turkish lira and on the import of solid fuels.



Crude Oil (see chart)

The Brent oil price continued the uptrend which started in 2016 and, driven by high economic activity, high OPEC compliance to the production agreement with Russia, and several factors from falling Venezuelan supply, the market appreciated

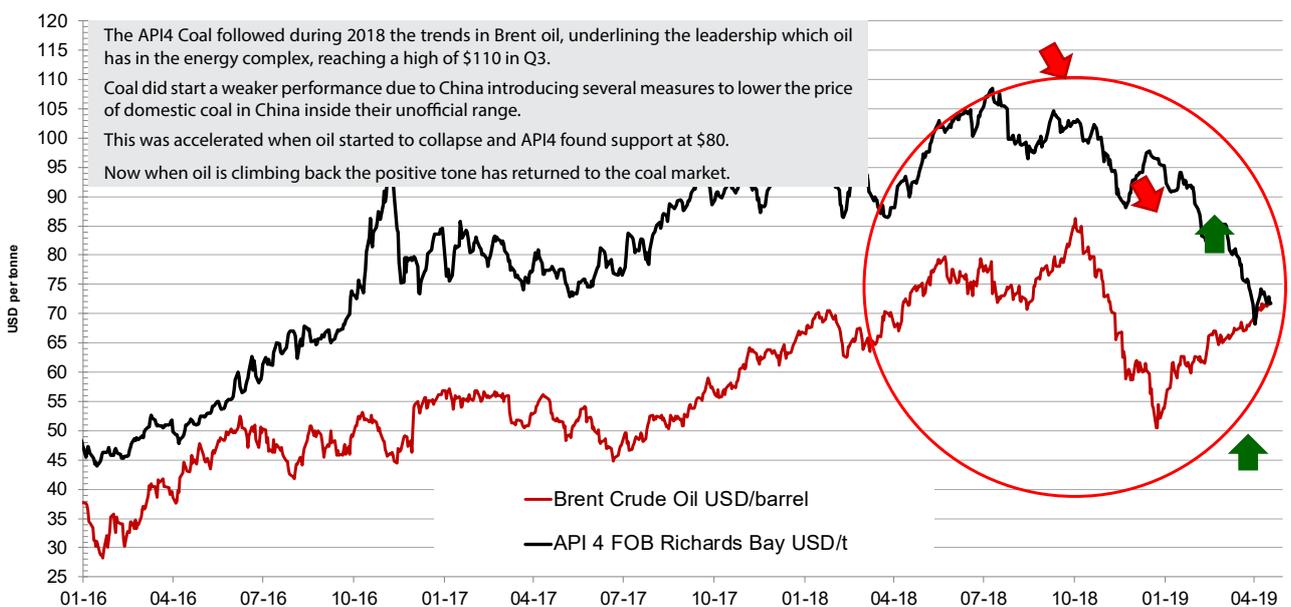
to \$85 in October 2018. The combined effect of trade wars, a massive rise in US shale oil production and weakness in equity markets led to a sharp fall in oil prices to \$50 in December 2018. While oil prices are to climb up to a \$60 - \$80 range in 2019, the drop was seen by analysts as a warning for the global economy.

**Brent Crude Oil
2014 - 2019 medium term**



Source: Cimeurope - CEMREVIEW

**Crude Oils versus Coal API4
2016 - 2019 short term**



Source: Cimeurope - CEMREVIEW

Coal Global Developments

Demand in China sent the domestic and Asian prices above the preferred targets from China's NDRC – forcing the authorities to take several measures to curb the prices. Few new supplies came to the markets and high-quality coal as API2, API4 reached highs not seen in years, also driven up by the oil market who led the full energy complex upwards. Long term coal prices have now been stabilized around \$80.

Petcoke Markets – trends prices

Petcoke markets followed the trends of the coal market. However, changes in Indian legislation putting a strain on burning petcoke, created uncertainty in the markets at the beginning of the year. In the end, the cement sector was allowed to use petcoke as fuel for its production, but several other sectors were limited. This led to negative price effects even though, due to the rally in coal prices, petcoke prices were pushed higher during the summer.

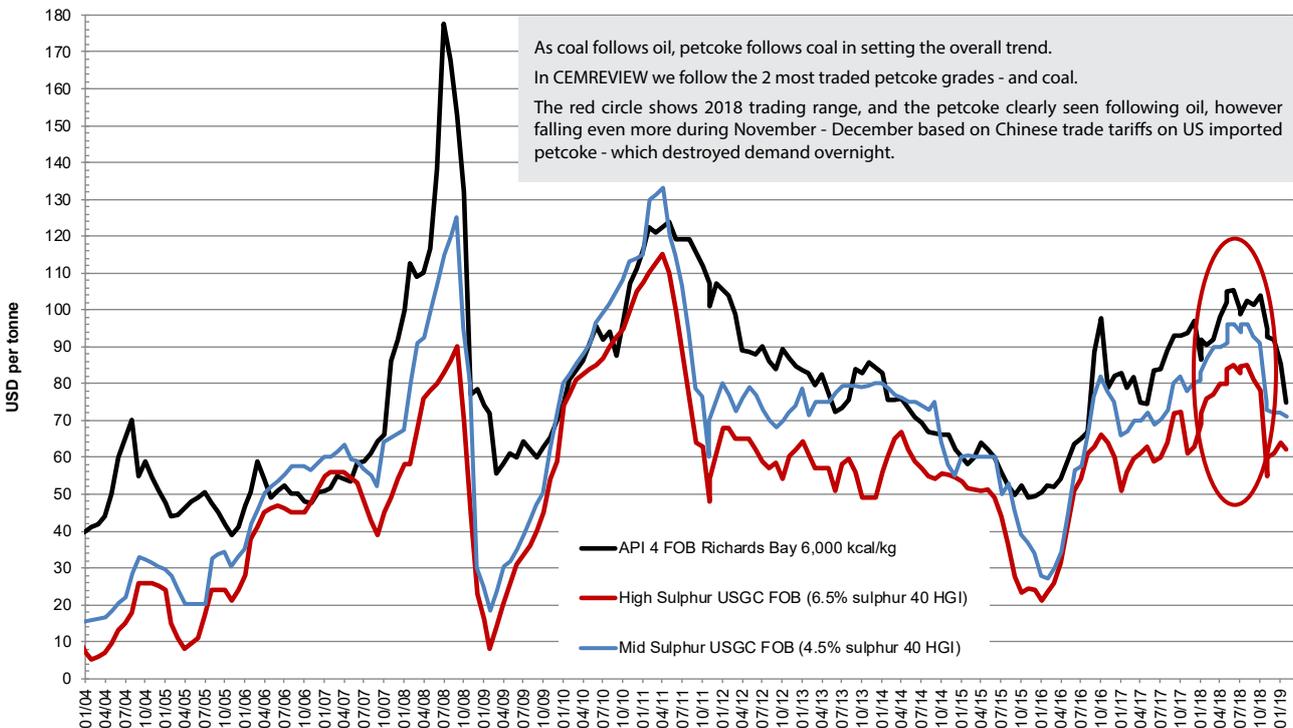
The USGC FOB 6.5% sulphur reached a peak of \$86 and the USGC FOB 4.5% mid sulphur was traded at almost \$100 during Q3.

In 2018, the Venezuelan political instability had put any export from the country almost to a complete stop, which meant the 4.5% sulphur export was no longer expected in the market. In addition, the 6.5% sulphur petcoke price took a strong hit in Q4 reaching a level of \$55 not only due to declining oil and coal prices but also following a 25% import tariff introduced by China on the US produced petcoke leading to an immediate fall in demand. Depending on various geopolitical developments, the market will well turn abruptly upwards with a forecasted trading range for 6.5% FOB USGC petcoke to be between \$67 -90 with an average of \$77.

Carbon Market (EUA)

The EU ETS was one of the most appreciating markets during 2018, tripling its price from €7.83 in January to €24 by year-end.

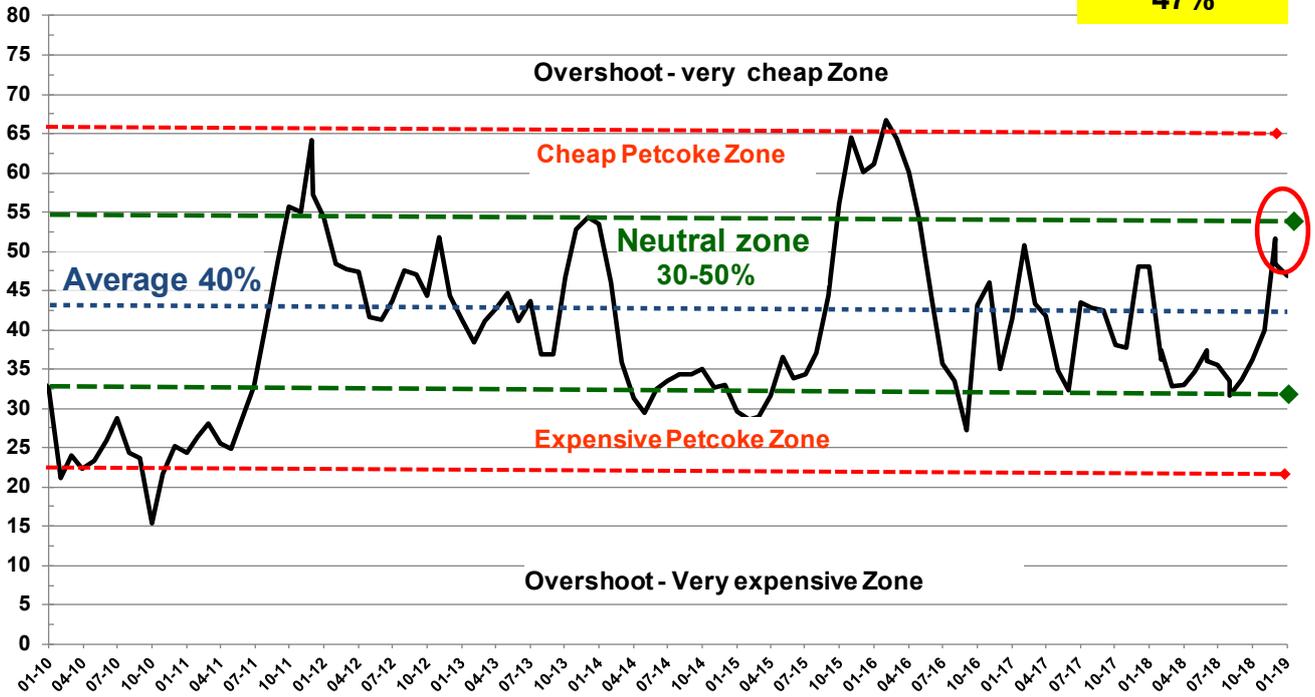
**Steam Coal & Petcoke Prices - FOB
2004 - 2019 Historical View**



Source: Cimeurope - CEMREVIEW

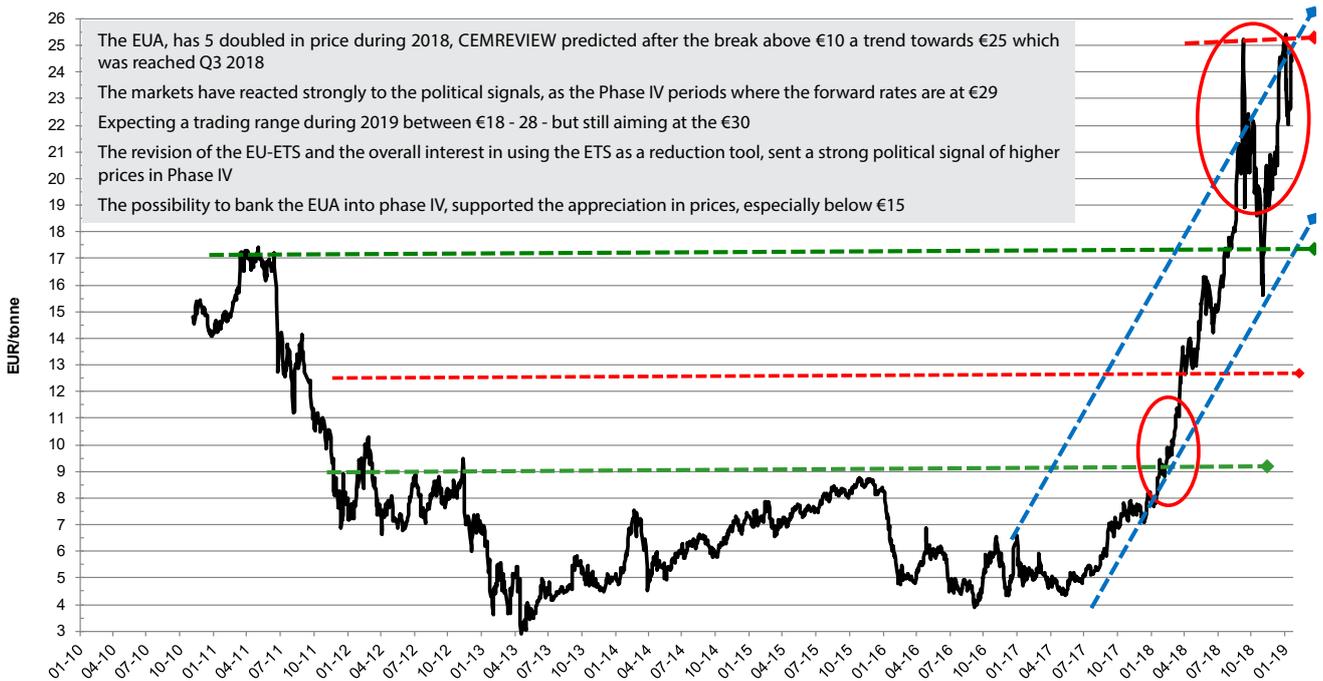
Petcoke discount to Coal in %
API4 - USGC 6.5% FOB based on Kcal 6000
 From January 2010 = avr 40%

CR315
Jan - 2019
47%

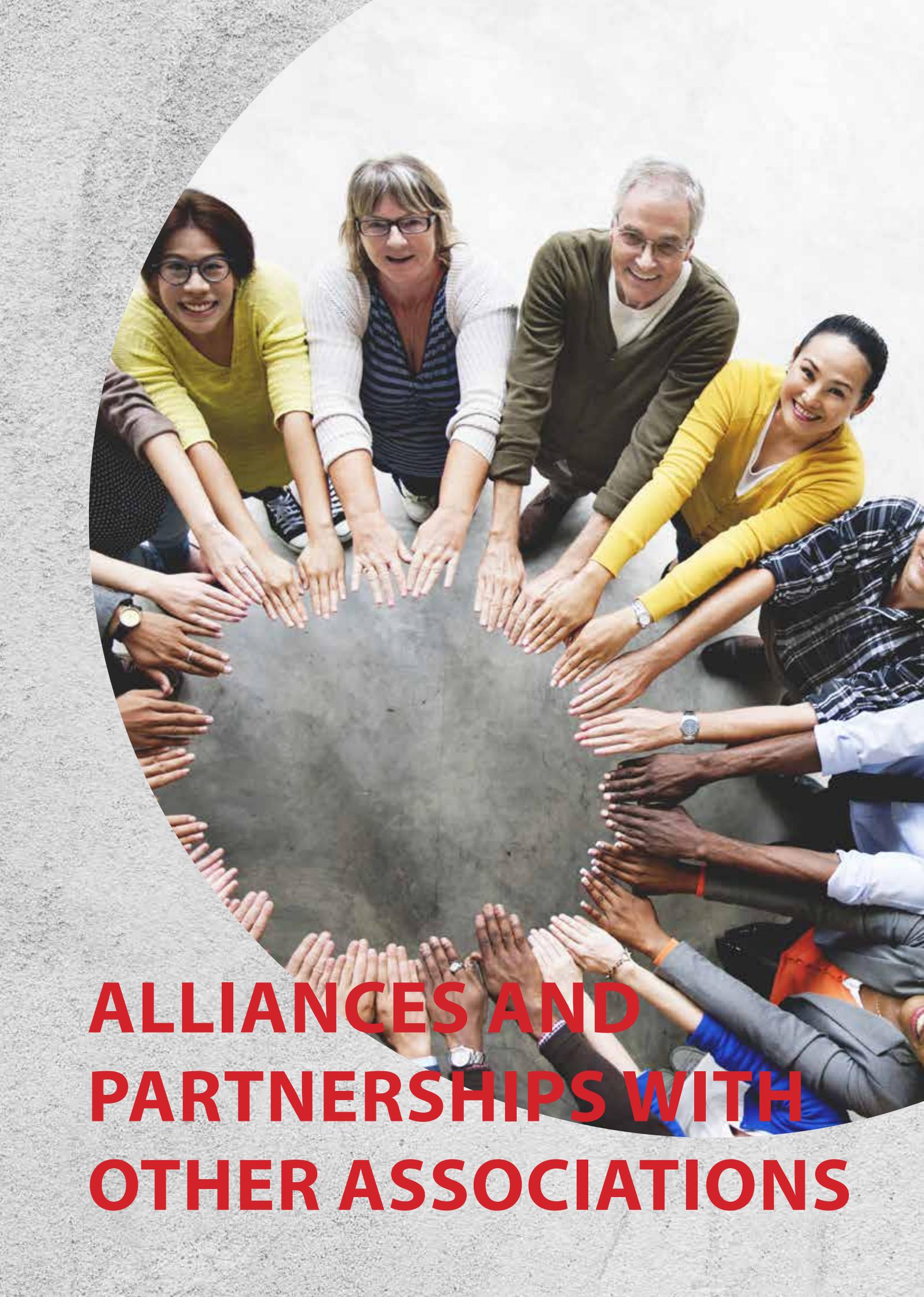


Source: Cimeurope - CEMREVIEW

Carbon Market - EUA Front year
Long term



Source: Cimeurope - CEMREVIEW

A high-angle, circular photograph showing a diverse group of approximately 15 people of various ethnicities and ages. They are sitting on the floor in a circle, leaning forward with their hands stacked in the center. The group includes a young woman in a yellow sweater, a woman with glasses in a white cardigan, a man in a brown sweater, and a woman in a yellow cardigan. The background is a plain, light-colored wall. The overall mood is positive and collaborative.

**ALLIANCES AND
PARTNERSHIPS WITH
OTHER ASSOCIATIONS**

CEMBUREAU is a key player in the mostly Brussels-based scene of European Trade Associations. CEMBUREAU interacts regularly with a number of these associations, often joining forces under alliances in order to achieve a common goal:

- Alliance for a Competitive European Industry (ACEI)
- Alliance of Energy Intensive Industries (AEII)
- Business and Biodiversity Platform
- Construction Products Europe (CPE)
- European Association for Co-processing (EUCOPRO)
- European Cement Research Academy (ECRA)
- European Concrete Paving Association (EUPAVE)
- European Concrete Platform (ECP)
- European Minerals Day (EMD)
- European Network for Silica (NEPSI)
- European Network for Sustainable Quarrying and Mining (ENSQM)
- Fire Safe Europe (FSEU)
- Industrial Emissions Alliance
- Joint Declaration for EU Industrial Strategy Group #Industry4Europe
- LEILAC (Low Emissions Intensity Lime and Cement)
- Non-Energy Extractive Industries Panel (NEEIP)
- Raw Materials Supply Group
- REACH Alliance
- Sustainable Process Industry through Resource and Energy Efficiency Public-Private Partnership (SPIRE)





SPIRE 2050 Vision

Towards the Next Generation of European Process Industries

Working document



CEMBUREAU lead story: Built in concrete, made with cement

Built in concrete, made with cement

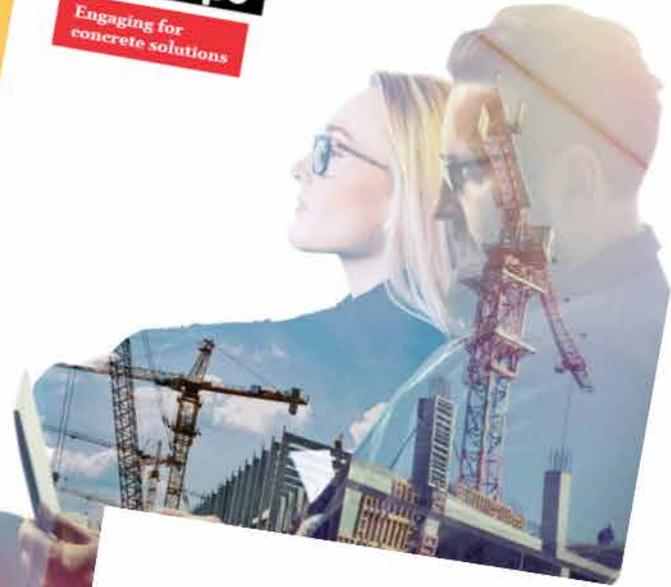
CEMBUREAU presents a series of projects, built in concrete and made with cement, which contribute to sustainability in Europe. These are just examples of the many innovative cement and concrete applications that one will find across Europe. From environmental solutions for ports and airports, to architectural achievements such as translucent concrete and unique urban constructions, to transport solutions as bridges or tunnels, cement has proved to be a trusted and valuable material, one that Europeans can rely on. Cement and concrete are building our future, making something Europe can be proud of.



#madewithcement

Building carbon neutrality in Europe

Engaging for concrete solutions



No. B 2309
October 2018

CO₂ uptake in cement-containing products

Background and calculation models for IPCC implementation

Commissioned by Cements AB and IVL research foundation

Håkan Stråhle Christer Ljungkrantz Tomas Gustafsson Ronny Andersson



PUBLICATIONS

Below is a series of publications, position papers and fact sheets produced or commissioned by CEMBUREAU over the course of 2018.

PUBLICATIONS

- SPIRE 2050 Vision: A New Value Proposition for Horizon Europe and beyond
- CO₂ uptake in cement- containing products: Background and calculation models for IPCC implementation
- Sustainability Brochure: a series of projects, built in concrete and made with cement, which contributes to sustainability in Europe
- Building Carbon Neutrality in Europe: Engaging for concrete solutions

POSITION PAPERS

- CEMBUREAU reaction paper to the European Commission's strategic long-term vision "***A Clean Planet for all***"
- Energy-intensive industries call for an ambitious EU Industrial Strategy to help the industry better contribute to the EU long-term GHG goals
- Industry4Europe Joint Paper: A Governance Structure for an ambitious EU Industrial Strategy
- Industry4Europe Joint Paper: Setting indicators for an ambitious EU Industrial Strategy
- Clean Energy negotiations final stretch: How can the final deal secure Energy Intensive Industries' competitiveness?
- Boosting Europe's Future Competitiveness as Key Priority for FP9
- CEMBUREAU Position Paper on Plastics Strategy

ARTICLES

- Self-healing concrete – the friendly bacteria that fixes cracks
- Finding sustainable uses for non-recyclable waste
- Cement's role in a low-carbon future
- Rehabilitating quarries – restoring biodiversity across Europe
- How is the cement sector approaching carbon capture technology?
- How can cement ensure clean water and sanitation for the world's growing urban population?
- Strength and beauty: How cement made the Portuguese Pavilion possible
- The cement that absorbs carbon dioxide
- Cement's solution to plastic waste
- The secrets of the world's longest concrete tunnel
- How cement is improving the health of Mexico's poorest children
- Can we 3D print a more sustainable society?
- Floating concrete: the untold story of offshore wind

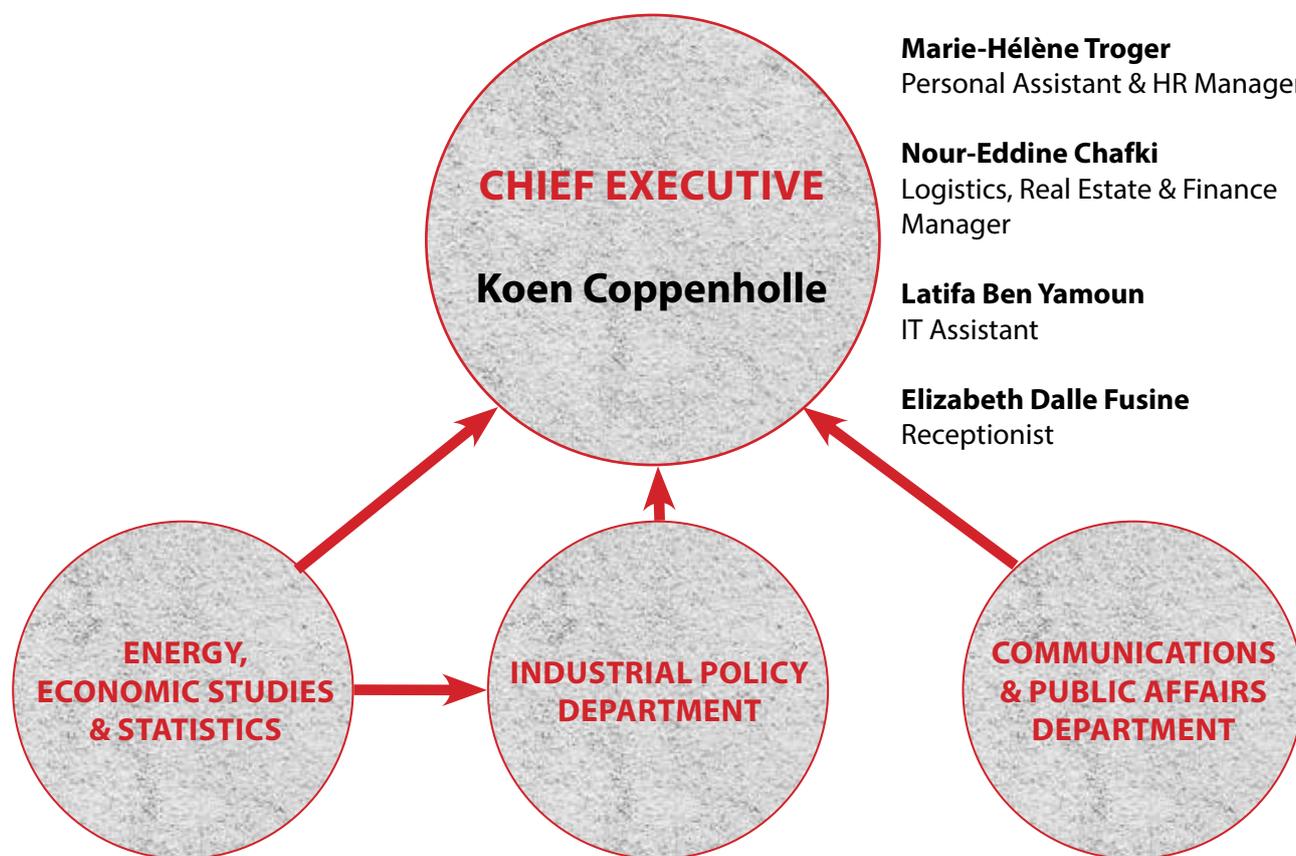




WHO WE ARE

Situation on 10 May 2019

CEMBUREAU TEAM



Marie-Hélène Troger
Personal Assistant & HR Manager

Nour-Eddine Chafki
Logistics, Real Estate & Finance
Manager

Latifa Ben Yamoun
IT Assistant

Elizabeth Dalle Fusine
Receptionist

Koen van De Put
Economic Studies & Statistics
Manager (50%)

Frank O. Brannvoll
Energy Consultant

Jim Rushworth
Director

Cathy Roeland
Personal Assistant

Vagner Maringolo
Sustainable Construction
Manager

Nikos Nikolakakos
Environment & Resources
Manager

Stella Kirabo
Climate & Energy
Manager

Sylvianne Liesen
Assistant

Jean-Baptiste Gomes
Public Affairs Director

Malgosia Rybak
Public Affairs & Media
Manager

Ruxandra Cracea
Communications
Manager

Patricia Moreaux
Graphic Design
Manager

Situation on 10 May 2019

OUR BOARD MEMBERS

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Vice-President	R. de Parisot	
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Situation on 10 May 2019

ABBREVIATIONS GLOSSARY

ARA	Amsterdam-Rotterdam-Antwerp area
BREF	Best Available Techniques Reference Document
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Utilization
C&DW	Construction and Demolition Waste
CEN	European Committee for Standardisation
CHRS	Comprehensive Health Risk Study
CLP	Classification, Labelling & Packaging
CSI	Cement Sustainability Initiative
CSO	Construction Sector Output
ECB	European Central Bank
EFSI	European Fund for Strategic Investments
EPBD	Energy Performance of Buildings Directive
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
IMF	International Monetary Fund
IPCC	The Intergovernmental Panel on Climate Change
KPI	Key Performance Indicator
Kt	Kilotonnes
MEPs	Members of the European Parliament
Mt	Million tonnes
NEC	National Emission Ceilings Directive
NEPSI	The European Network for Silica
PEF	Product Environmental Footprint
RCS	Respirable Crystalline Silica
REACH	Registration, Evaluation and Authorisation of Chemicals
RMC	Ready-mixed concrete
WtE	Waste-to-Energy
y-o-y	Year-on-year



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