

Press release

CSI/ECRA Technology Papers 2017 published

20 June 2017

The Cement Sustainability Initiative (CSI) and the European Cement Research Academy (ECRA) have released their new "CSI/ECRA Technology Papers 2017" to update the perspective of available technologies for CO₂ abatement and energy efficiency in the cement sector. The publication analyses existing and future technologies with potential to increase energy efficiency and decrease CO₂ emissions in cement production, and also analyses their costs in typical future cement plants, conditions and expected development.

The new report is available from CSI at www.wbcscement.org/technology. It comprises 52 individual technology papers and also 7 papers summarising the state-of-the-art and anticipated development in the following technological fields: Thermal energy efficiency, electric energy efficiency, use of alternative fuels, materials and biomass, reduction of the clinker content in cement, new binding materials, CO₂ capture and storage (CCS), and CO₂ use (CCU). Estimations on technology application in the cement industry are provided for the future years 2030 and 2050. The information is based on today's technical knowledge, assumptions on its further development, new research literature, internet data, discussions with stakeholders and the expert knowledge available at the European Cement Research Academy.

The decision for the further development of the technology papers in 2017 was taken by the Cement Sustainability Initiative (CSI) in the light of the discussion and ratification of the Paris Agreement of the United Nations Framework Convention on Climate Change (UNFCCC) for the reduction of global warming and a pathway towards low greenhouse gas emissions and climate-resilient development. Furthermore, the technology papers 2017 were intended to incorporate information on alternative material and fuel use in the cement industry and to form a new basis for the Energy Technology Perspective (ETP) modelling project of the International Energy Agency (IEA).

CSI assigned the project to the European Cement Research Academy. ECRA provided its competency in the field of cement technology and has close links with key stakeholders of the cement industry and technology providers among its members. The CSI/ECRA Technology Papers 2017 comprise innovative technologies and updates of their former versions from 2009. They were successfully reviewed by the CSI project group and by international stakeholders, in particular experts from cement companies, researchers and international organisations.

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It is intended that the CSI/ECRA technology papers 2017 can now again serve as an important reference document for the development of further technology roadmaps in the cement sector. Such roadmaps will be agreed on by relevant stakeholders and will identify major barriers, opportunities and measures for the industry, financial partners and policy makers in order to accelerate the research and development of technologies aiming at increasing energy efficiency and reducing greenhouse gas emissions.

The experiences of cement companies who have joined the Cement Sustainability Initiative (CSI) indicate the importance of systematically assessing the technological potentials for the improvement of energy efficiency and the reduction of CO₂ emissions, and of monitoring the progress achieved by a standardised methodology. Therefore, in 2000 CSI developed "The Cement CO₂ and Energy Protocol". It is publically available from the CSI website together with tools for its application by cement companies (www.wbcscement.org/CO2Protocol). CSI regularly collects relevant data from more than 900 cement plants based on this protocol in its project "Getting the numbers right" (GNR) and presents global and regional results for information to stakeholders. The global GNR-2014 data was used as an assured reference for the development of the CSI/ECRA Technology Papers 2017. It is the basis for the quantification of potential improvements by application of the individual technologies. The new publication is enhanced by an extensive list of references.

The Cement Sustainability Initiative (CSI) is a global effort by 23 major cement producers with operations in more than 100 countries who believe there is a strong business case for the pursuit of sustainable development. Collectively these companies account for around 30% of the world's cement production and range in size from very large multinationals to smaller local producers.

The European Cement Research Academy (ECRA) was founded in 2003 as a platform on which the European cement industry supports, organises and undertakes research activities within the context of the production of cement and its application in concrete. By creating and disseminating knowledge from research findings, ECRA's aim is to facilitate and accelerate innovation to guide the cement industry.

Specimen copy requested.

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Attachments:

I. Document download: please cite the CSI/ECRA Technology Papers 2017 as follows:

European Cement Research Academy; Cement Sustainability Initiative, Ed. *Development of State of the Art-Techniques in Cement Manufacturing: Trying to Look Ahead; CSI/ECRA-Technology Papers 2017*. Duesseldorf, Geneva, 2017 Available at: <http://www.wbcscement.org/technology>

II. Figures

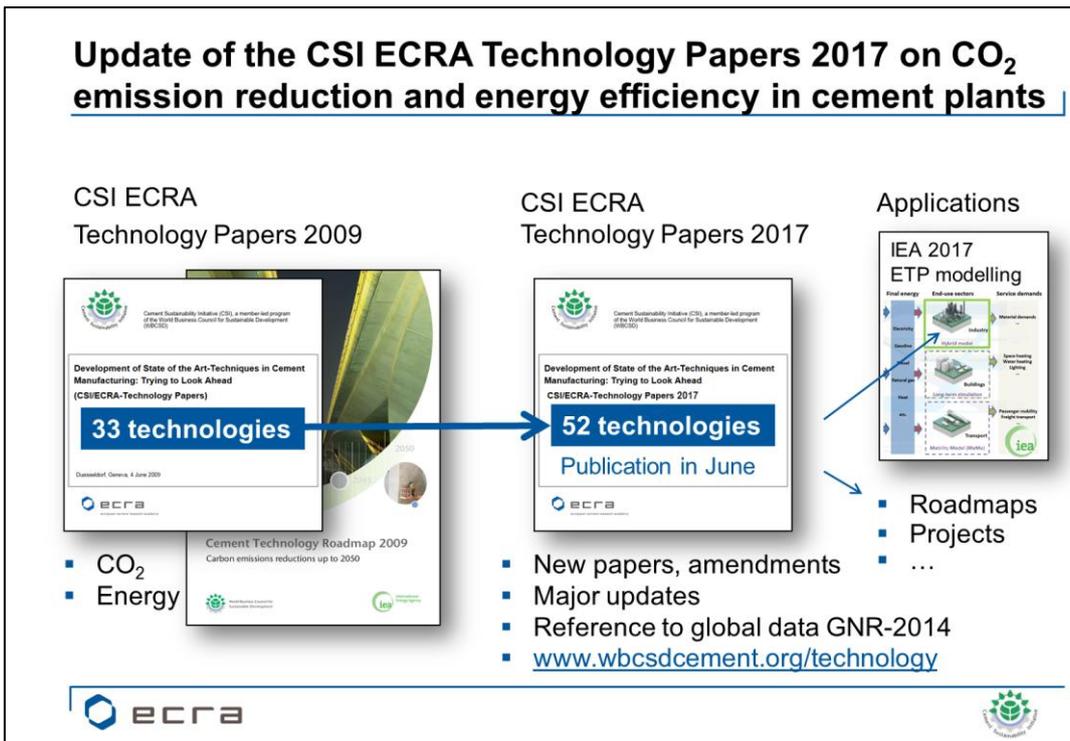


Figure 1: Update of the CSI ECRA Technology Papers 2017 on CO₂ emission reduction and energy efficiency in cement plants

Figures 2/3/4: Testing of innovative technologies for CO₂ abatement and energy efficiency in the cement sector. Example from an on-site pilot experiment during the EU research project CEMCAP.

