



wbcspd

Cement Sustainability Initiative

“Getting the Numbers Right” (GNR)

An independent database for the global cement industry

Summary

The “Getting the Numbers Right” (GNR) is an independently-managed database of CO₂ and energy performance information on the global cement industry. Standard web-based reports are available to all participating companies and to interested stakeholders. Individual queries about specific issues may be made and are answered within strict confidentiality guidelines.

The database delivers uniform, accurate and verified data so that the industry can understand its own current and future performance potential. Key drivers of emissions and performance are also included. The database provides policy makers with current performance data to aid their analysis and decisions.

The database complies with anti-trust laws and is managed by an independent third party service provider. Individual participants may only see reports based on their individual company data or aggregated results. Confidential information on individual companies or plants is not disclosed, nor made accessible, and is protected by contractual and data security measures.

Joining the GNR system provides access to state-of-the-art data and analysis of the cement industry’s global and regional performance, allowing participants to benchmark their own performance, track their emissions inventories, and develop sound, data-based responses to company and regional climate management issues.

Introduction

“Getting the Numbers Right” (GNR) is an independent database of CO₂ and energy performance information on the cement industry. It aims to develop representative statistical information on the CO₂ and energy performance as well as on the key drivers of emissions (fuel type, clinker substitutes, kiln technology, etc.) in clinker and cement production worldwide.

The GNR responds to internal and external stakeholder requests for reliable, up-to-date CO₂ emissions data from the industry. Accurate and detailed data enables cement companies and their stakeholders to track the factors and levers that can impact those emissions, and use this information to develop practical climate mitigation strategies.

Data is collected annually and currently covers the years 1990, 2000, and 2005 through 2016. In 2016 the database included information from 849 cement installations worldwide, producing 807 million tonnes of cement (19% of global cement production). Data for 2016 is available from the CSI website, directly accessible via www.wbcspdcement.org/GNR.

The Figure below shows the differences in coverage across world regions, from 90% in Europe, 61 to 83% to different regions in the Americas, to less than 20% in the Middle East. The CSI is working on increasing coverage in the latter regions.

Sharing of regional cement production included in GNR database (% of cement production, 2016)

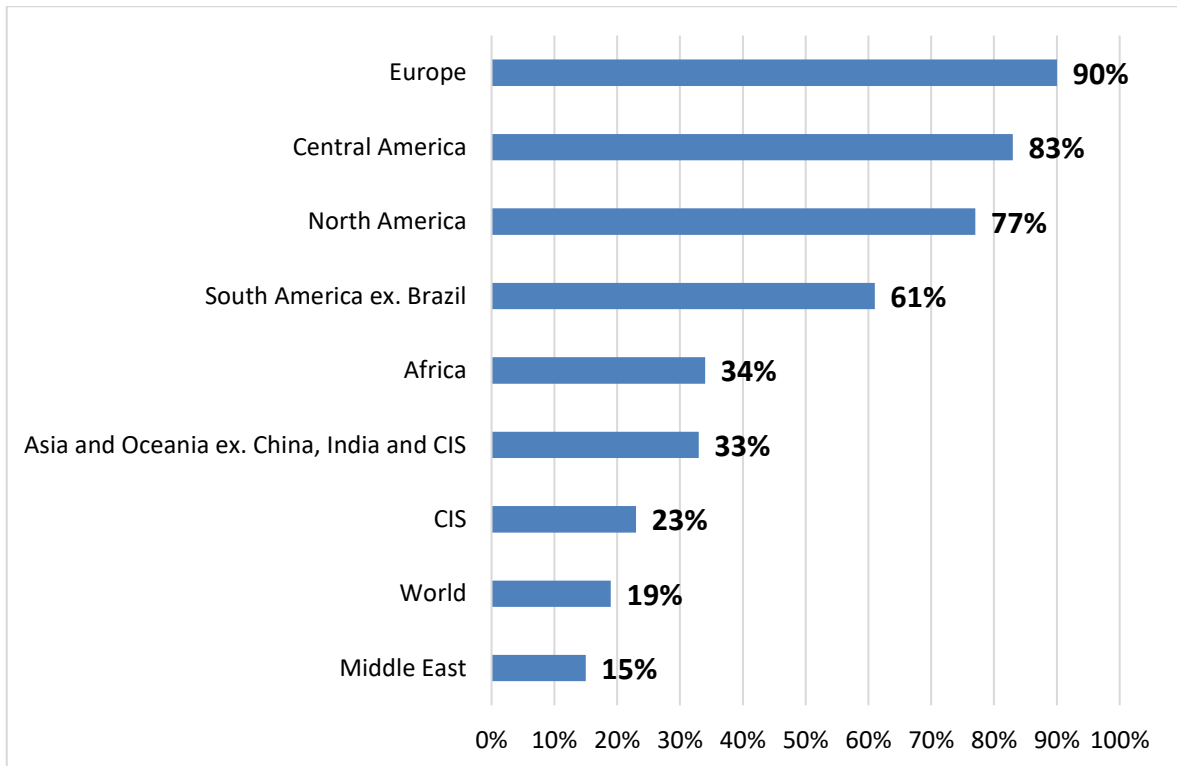


Figure 1: Regional coverage of the GNR database (2016)

* CIS: Commonwealth of Independent States (former Soviet Union countries)

Purpose

The overall goal of the GNR system is to provide an open platform for participation by companies and Trade Associations, managed by an independent third party for the broadest possible global and regional analysis of the cement sector's performance. Using a common protocol for monitoring and reporting (the [Cement CO₂ and Energy Protocol](#)¹), and a common methodology for data analysis, ensures consistency and accuracy in data input and helps provide reliable and broadly applicable output.

The cement sector must be able to provide policy-making bodies and key stakeholders with an accurate, clear picture of its CO₂ emissions and the factors that impact those emissions in order to work effectively towards reductions. The GNR database responds to this need.

Examples

¹ [The Cement CO₂ and Energy Protocol: CO₂ Accounting and Reporting Standard for the Cement Industry](#) was first developed in 2001-02 following principles outlined in work by the WBCSD and the World Resources Institute (WRI). It provides a common language, set of definitions and methodologies to estimate CO₂ emissions from cement production facilities. This version of the Protocol is specific to the cement industry, and includes tailored rules for accounting for different fuels and their carbon content, biomass, clinker substitutes and several Key Performance Indicators (KPIs). Version 3 of this Protocol was published in 2011 and companies have started using it for reporting to GNR. www.cement-co2-protocol.org/v3

The database contains individual performance indicators for levers that impact CO₂ emissions and energy efficiency, such as average thermal efficiency per tonne of clinker, and use of alternative fossil fuels and biomass, among many others. The overall performance on these levers can be shown by measuring gross and net CO₂ emissions per tonne of clinker or per tonne of cement.

Participants

Currently, all CSI member companies participate in GNR. Additionally, CEMBUREAU, the European cement association, collects information from non-CSI European cement plants, ensuring nearly full participation of all cement installations in Europe. FICEM, the Inter-American Cement Federation facilitates participation from non-CSI companies in Central and South America.

Benefits of participation

For a cement company, the participation in GNR provides a set of well managed tools to

- build and manage company-wide CO₂ inventories;
- simulate impacts on emissions of production changes, new plant additions, closures, and changes in technology; and
- benchmark company performance with other industry players at global and regional levels.

As the monetary value of CO₂ emissions will likely grow in the future, using such tools will become part of normal business and project analysis.

For Trade Associations, the GNR provides a credible, source of verified industry-wide and regional information to anchor discussions about climate policies and their potential impacts with their respective governments.

How the GNR database works

Data

The data is collected and consolidated in the following way:

- Each participating company collects information related to CO₂ emissions and energy consumption at facility, company and national levels, using the CSI CO₂ Protocol.
- Each company, using a secured internet data collection tool specifically designed for the GNR system, uploads its data to the independent database owner and manager, PricewaterhouseCoopers (PwC).
- The PwC team performs the final consolidation, and reporting phase, which involves implementing coherence checks and data consolidation at global and regional levels.

Type of data collected

CO₂ and energy performance data are collected on²:

- Absolute gross and net CO₂ emissions
- Specific gross and net CO₂ emissions per tonne of clinker and per tonne cementitious product
- Average thermal energy consumption per tonne of clinker
- Specific electric energy consumption as a kWh/tonne cement
- Fuel mix (fossil fuel / alternative fossil fuel / biomass)
- Clinker to cement ratio

To enable calculation of the percentiles, trend lines and correlations, company facilities are also required to provide:

- Location of installation
- Type of installation and kiln technology
- Production volumes for clinker, cement and cementitious products
- Differentiation by grey / white cement
- Nominal capacity

The system also collects information on the type and degree of external assurance of data and system quality at plant and company level.

Data quality

High quality data is critical to reliable, useful analysis. Data collected is only accepted into the GNR system following a series of quality control measures including:

- Use of the CO₂ Protocol and automated extraction of selected protocol results information
- Assurance of company CO₂ data by an independent third party³
- A series of data quality checks by PwC to ensure coherence, accuracy and reasonableness⁴

Independent assurance

Since 2006, CSI companies participating in GNR have used independent third party limited assurance of their CO₂ emissions information. Other participants are strongly encouraged to adopt data assurance practices as part of their participation. This assurance process is managed at a company level and involves potential visits by the independent assurance provider to a sample of a company's facilities. The number and location of such visits is determined solely by the assurance provider, and must be stated in their assurance summary.

² For specific information and a glossary of terms, please consult the report "[Cement Industry Energy and CO₂ Performance – Getting the Numbers Right](http://www.wbcasdcement.org/GNR)", available on www.wbcasdcement.org/GNR.

³ The CSI standard assurance level is to have independent third party assurance at least once every 2 years, covering data of that year and the year before.

⁴ Once data collection is complete, PwC performs a series of consistency checks to ensure that (a) data is correctly situated in the system, (b) values submitted fall within a range usually observed in the industry, and (c) data for all facilities have been supplied. Using an iterative process, PwC liaises with participant companies to assess the validity of data values that fall outside expected ranges. For unexplained anomalies the CSI has retained an independent third party cement industry specialist to provide anonymous expert review. If a suspect data point cannot be validated, the information is rejected.

Confidentiality of data and legal structure

To ensure non-disclosure of confidential information and compliance with anti-trust laws, an overarching legal and operating structure were developed to meet the goals of the program. These include:

Independent database owner and operator

Anti-trust law in Europe, the US and Japan requires that collection of business-sensitive information be properly managed to avoid inadvertent data disclosure to competitors. To ensure that no participant has access to any information but their own data and aggregated data, the independent third party service provider PwC runs the database. This includes providing appropriate IT security measures for data input and output, data quality checking procedures, etc.

PwC is responsible for ensuring that all data that can be traced back to individual companies or plants will not be disclosed, nor be accessible to any unauthorized internal or external stakeholder. PwC also provides a guarantee of non-disclosure of confidential information and compliance with competition law including when reviewing and responding to external query requests. Within PwC, IT audits are regularly undertaken to ensure adequate security and performance of the IT structure.

In addition, a Project Management Committee (PMC) was set up to serve as the single contact point for all communications between participants in the GNR system and PwC. The PMC develops the schedule for companies' data submittal to PwC and receives and approves or rejects stakeholder query requests.

Key documentation

Project Agreement

The CSI and PwC have signed a Project Agreement. It establishes the name and objectives of the project, scope of work, PwC's and participating organizations' obligations, intellectual property rights of the input data and output results, fees and expense structure and payment terms, a capped indemnification for damages for any participant, typical contractual terms such as duration, termination terms, and legal regime.

Individual Service Agreement

Each participating organization must have an Individual Service Agreement with PwC to address confidentiality, governing law and basic items identified in the Project Agreement. Working with outside counsel, the CSI developed a "sample contract" containing "typical terms and provisions" for each CSI company to use. This approach was taken to minimize both the costs and time period necessary to reach workable agreements with all CSI companies.

Annexes to the Individual Service Agreement include a Confidentiality Agreement, a Code of Conduct and the Project Management Charter. The latter defines the general framework for managing the program and governance rules for interactions between the database manager, PwC, and the participants. To minimize lengthy and costly

negotiations, each participant has agreed to use the identical terms for the Confidentiality Agreement and the Code of Conduct.

Data queries

The CSI has set up a process for handling requests for GNR database information via queries posed to the PMC, which serves as a link between PwC and the participating companies. Queries can be sent directly to: gnrPMC@wbcasd.org

The request should indicate the following information:

1. Name and function of the requesting organization
2. A description of the proposed use of the data
3. Contact details for responses or further clarification
4. Details of the requested information
5. Geographic coverage
6. Specific variables requested
7. Time frame for data

The PMC will review all requests to determine, first, if the data is available, and second, if responses to the query would fall within the limits of confidentiality and anti-trust constraints adopted for this program. These constraints will limit the ability to respond to some requests for data (e.g., requests for single country data, specific company data, etc.).

Approved requests are forwarded to PwC for processing and a final check for compliance with antitrust and confidentiality rules. Assuming that no legal issues are raised by the query, PwC will perform the database query and return the results to the PMC, which will in turn respond to the originator of the query.

Some queries need significant time for analysis. Costs of the analysis are, in general, borne by the party submitting the query, with exceptions made for public authorities and some international organizations. The party making the query will be advised and must approve the cost prior to the work being done.

How to join the GNR

Please contact the GNR Project Management Committee, at gnrPMC@wbcasd.org, if your company or organization is interested in finding out more about participating in the GNR system or about making data queries.

The cost for joining for an individual company is EUR1,000 per year (excl. VAT), provided the company uses the [CO₂ Accounting and Reporting Standard for the Cement Industry](#) and the basic legal framework established for the program. For trade associations, the cost varied depending on the number of members it has.