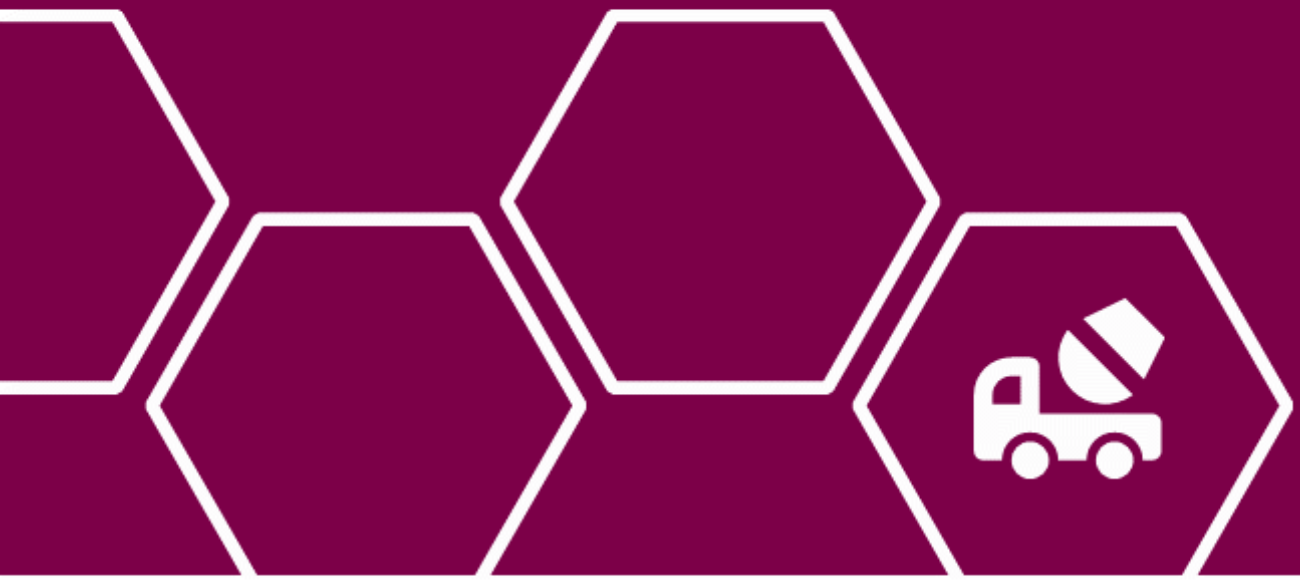
ACT

ROADTEST REPORT

Assessing low-Carbon Transition

Cement



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Background and purpose of the document

This document is part of the ACT - Assessing Low-Carbon Transition initiative and provides the main details of the ACT Cement roadtest. As part of the development of a new ACT sector methodology, this roadtest is conducted in order to improve the existing methodologies and to be adapted to a new sector: Cement production.

The current report is intended in particular for the Steering Committee (ADEME and CDP), the technical working groups (TWGs) as well as those who will contribute to TWGs.

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The roadtest of an ACT sector methodology implies the production of a detailed feedback and associated reports from the companies involved in the process which remain confidential.

This report aims at providing key findings of the roadtest and giving average results for the sample of companies assessed.

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1. ACT CEMENT ROADTEST

1.1. CONTEXT OF THE ROADTEST

Cement sector

The cement industry is the second largest industrial carbon emitter and the third largest industrial energy consumer. The need for buildings and transport infrastructure is expected to grow due to population increase and the global demand for cement will thus be increasing in the next years. The low-carbon transition of the cement sector is then essential to transition to a world compatible with 2°C or beyond climate change scenarios.

Contributing to ACT: New sector development

Since 2015 and the COP21, ADEME and CDP have been working together on a new methodology to assess companies that have set climate commitments and want to take actions.

The ACT initiative allows to have a holistic approach in order to assess company's climate strategy and determine how ready a company is to transition to a low-carbon economy. The ultimate goal is to drive action by companies and put them on a low-carbon pathway compatible with the Paris Agreement goals.

This methodology is based on a sectoral approach. Thus, the ambition of ACT® is to develop the most contributive sectors in terms of CO_2 emissions. It also implies that tools and methods need to be adapted for each new sectoral development process through different stages detailed as follows:

- Stage 1: Methodology's development
- Stage 2: Methodology's experimentation
- Stage 3: Methodology's releasing

So far, ADEME and CDP have already released 4 sectors: **electric utilities, auto manufacturers, retail and building (real estate, construction and property developer).** Moreover, new methodologies were developed for 3 new sectors: Oil & Gas, Transport and Cement. These methodologies need to be tested with companies before releasing the methodology. This report sums up the main elements and key findings of the Cement roadtest.

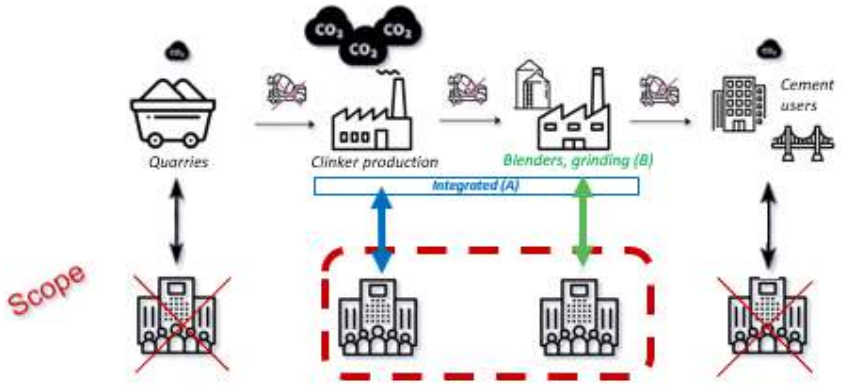
Goals of the roadtest

The project's objectives are the following:

- **Broadening the scope of ACT** by delivering one new business sector methodologies (cement)
- **Testing the consistency of the new methodology and tools** that have been previously drafted
- **Involving new stakeholders** into the ACT initiative

Assessed companies

A particular focus has been brought on the selection of voluntary companies. At least 5 companies were expected to be part of the roadtest. The selection had to include companies from both integrated cement companies and blenders and grinding operators in order to test both aspects of the methodology.



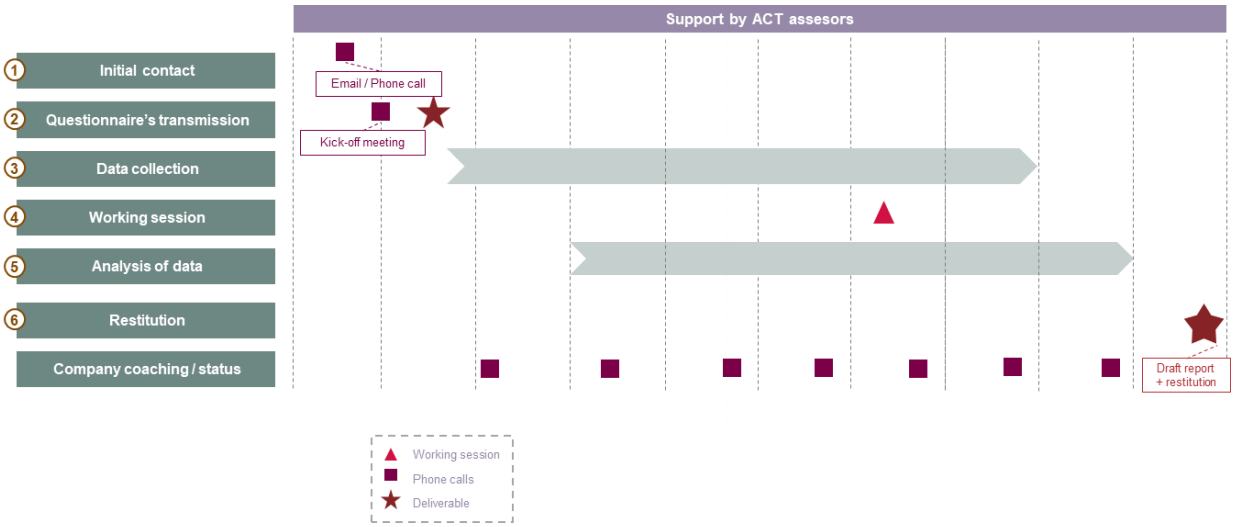
7 companies were finally selected for the roadtest with different levels of maturity in terms of climate strategy. These companies are based in a variety of countries (France, Switzerland, Ireland, India) and have facilities all over the world, which allows to really test the methodology on a global scale. Moreover, in order to further test the methodology, another 4 companies were assessed based on public data; it also allowed to experiment a different use of the methodology.

Dalmia Bharat Cement · ecocem · Hoffmann Green Cement Technologies · JSW Cement · LafargeHolcim · UltraTech Cement · VICAT

\+ 4 companies assessed using publicly available data

Assessment process for voluntary companies

Each company received a complete support all along the ACT Cement roadtest provided by I Care & Consult, Solinnen & Novasirhe.



Assessment process for companies assessed with public data

Four companies were assessed based on public data. In order to do so, analysts collected relevant and accessible data for an ACT assessment available publicly (company communications, bulk data sources with regulatory and industry data, CDP questionnaire, reputation platforms and news…).

An internal quality assurance process was conducted for all types of assessments.

1.2. THE ACT CEMENT METHOD

General approach

The ACT initiative aims at helping businesses to drive their climate strategy, their business model, their investments and operations and set targets compatible with a low-carbon pathway. The general approach of ACT is based on the Sectoral Decarbonization Approach (SDA) developed by the Science-Based Targets Initiative (SBTi) in order to compare a company's alignment with a "low-carbon world" (compatible with 2°C - or beyond - climate change scenarios).

ACT Cement Methodology assessment

The assessment generates three types of information

1. A score that breaks down into three parts:
    a. → a performance score
    b. → a narrative score
    c. → a trend score
2. A description of the information on which the assessment is based
3. A summary of the assessment

Focus on the ACT Cement Score

The performance score is determined thanks to the answers provided by the company through a quantitative and qualitative questionnaire. This questionnaire is structured according to nine modules presented in the table below:

MODULES
1. Targets
2. Material Investment
3. Immaterial Investment (R&D)
4. Sold Product Performance
5. Management
6. Supplier engagement
7. Client Engagement
8. Policy Engagement
9. Business Model

As mentioned before, the ACT Cement methodology has been developed and adapted in order to take into account specific characteristics of the cement sector.

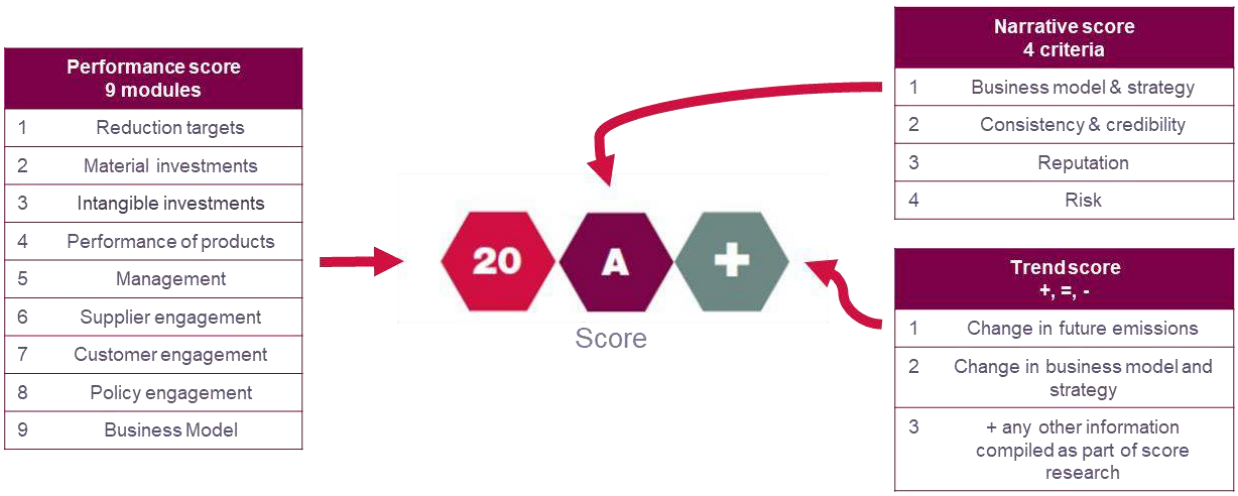
Thus, the weighting of each module has also been adapted for each type of cement companies (integrated units or blenders & grinding units) as follows:

MODULES	INTEGRATED COMPANIES	BLENDERS / GRINDING OPERATORS
1. Targets	15%	
2. Material Investment	33%	0%
3. Immaterial Investment (R&D)	10%	
4. Sold Product Performance	0%	33%
5. Management	10%	
6. Supplier Engagement	6%	
7. Client Engagement	10%	
8. Policy Engagement	6%	
9. Business Model	10%	

For hybrid companies with both integrated units and blenders & grinding units, the final weighting is based on the tons of cement produced for each type of assets.

The narrative score is based on four additional criteria: its business model, its reputation, its strategic risks related to the climate change issue, and, lastly, the consistency and credibility of the data provided in the framework of the ACT assessment.

The trend score indicates how the score is expected to change if the assessment is conducted in a near future.



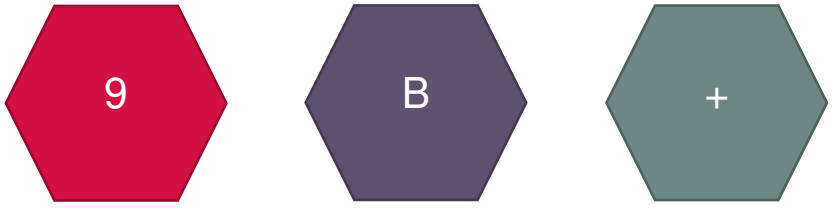
1.3. RESULTS OF THE COMPANY ASSESSMENTS

Introduction:

This section summarizes the overall results obtained by the companies that have participated to the roadtest.

Readers may refer to the presentation of the ACT method provided in the previous section in order to understand the different results presented in this section.

Overall Results:



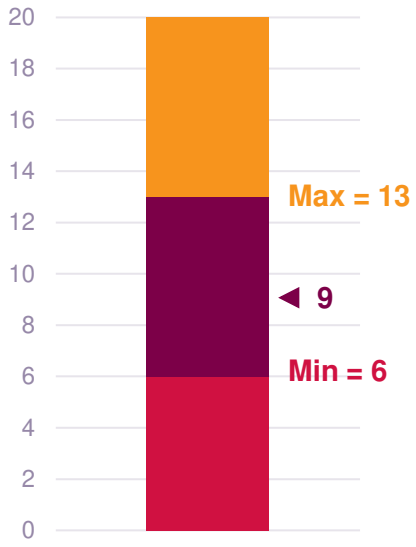
PERFORMANCE **NARRATIVE** **TREND**

The average performance score (9/20) is below the middle mark of 10/20. However, the lack of data implied that some of the indicators were not assessed (resulting in 0 score for those indicators). The score could be improved by making efforts to collect relevant data (or change the methodology if those data are not available at all) in addition to efforts to improve the climate strategy.

Nevertheless, this average represents a range of rating between 6 and 13, which indicates that the panel is rather homogeneous in the level of maturity.

The average score of 9 is quite low but it shows that cement companies have globally started working on climate strategies, even if they are at different stages.

The cement sector seems to be quite engaged on the path towards decarbonization, most companies have integrated climate issues within their management, they are publicly engaged and they set targets and invest in R&D and changes in business models. However, more efforts should be made to ensure a transition towards a low-carbon world over the whole value chain, with more engagement with clients and suppliers and mostly with material investments ambitious and consistent with the decarbonization pathway.



The average narrative score is high (B). The narrative score is rather heterogeneous, from D to A, with a majority of B.

The average trend score is "+" as almost all the companies of the panel received a "+" (no "-" and only one "="). Significant areas of improvements have been identified for all the participants in order to improve their performance score. Moreover, most of the participants have identified business models and actions to help them decarbonize their activity and have integrated climate change issues as a core strategy.

Overall profile of the 5 ACT dimensions

Commitment

Almost all companies have set targets, mostly reduction of its emissions intensity, at different time horizons (2030, 2040, 2050). The targets are usually aligned with the benchmark pathway. Some of the companies have stated a carbon neutral target by 2050 (or even a negative emissions intensity in 2050), but the share of off-setting within the target is not clearly stated.

Transition Plan

Most of the companies have identified levers of actions and business models to transition (energy efficiency, alternative fuels, substitution of clinker, carbon capture and storage…). However, those plans are often not budgeted and not detailed enough to check the consistency with the ambition and the targets set.

Present

Almost all the companies have integrated climate issues within their management. Most of them are also investing in R&D technologies, and develop business lines around low-carbon cement. Moreover, most of the companies have already started to cooperate with clients and suppliers, mostly through awareness raising.

Legacy

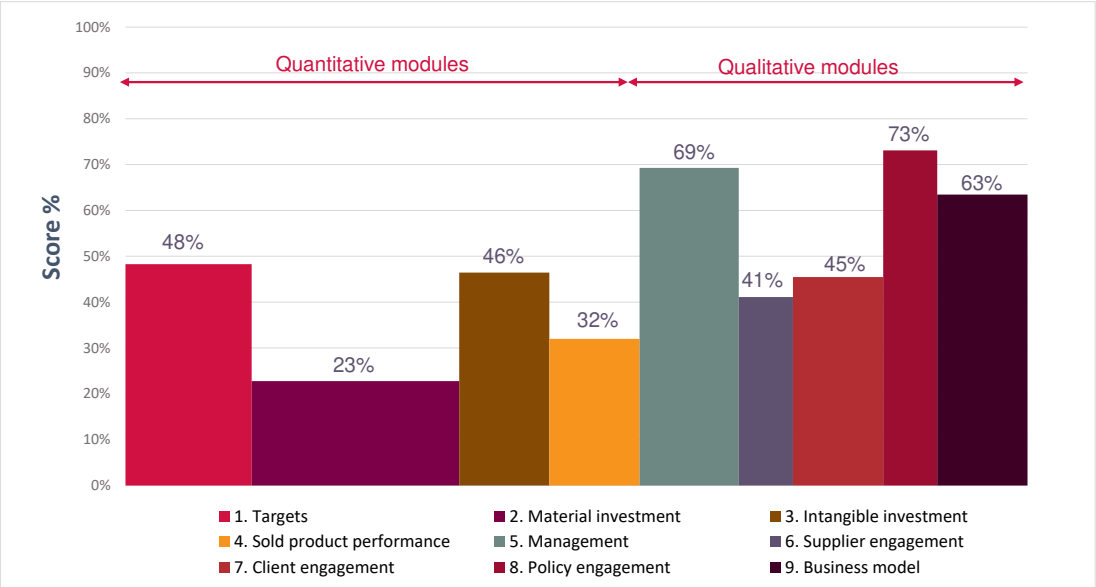
Most of the companies have historic data on their emissions, and most of them have reduced their intensity in the last years, even though this reduction seems to be slow and should be accelerated.

Consistency

Even though most companies have understood the necessity to decrease their GHG emissions, additional efforts are needed from all the companies to accelerate the decarbonization of their activity. However, most of the companies have demonstrated the will to implement the needed mechanisms to stay aligned with their climate goals.

Average ratings per module for the performance score

The graph below shows the average score obtained by the companies of the panel:

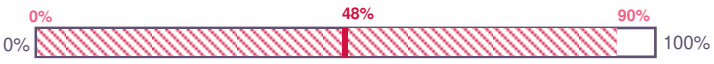


The width of the bars represents the weight of the module in the final score. The modules 2 and 4 are weighted based on the average cement production for both type of units.

One of the pillars of the methodology is that ACT scoring is based on both quantitative modules and qualitative modules in order to assess the overall climate strategy:

- **Quantitative modules**: These modules show a high variability of the scores, as data were sometimes difficult to obtain on some of the modules.
    - ***Targets*** (48%): Most companies have targets aligned with the benchmark, however most of them don't have intermediate targets and some of them did not achieve previous targets or don't seem on the right path to achieve the targets set.

1. Targets



    - ***Material investments*** (23%): This module was the most difficult to assess. For companies assessed using public data, this data is often not publicly available. Moreover, for participating companies, it was the most difficult data to collect as there was confidentiality issues and multiple data to compile, and so data around future investments were often not disclosed by the companies. This module shows that the reduction trend of past emissions intensity is often not fast enough. Moreover, the trend in future emissions has a score of 0% for all companies as no information was disclosed on future investments. And the locked-in emissions demonstrate a higher score for some of the companies, even though it is mostly due to the closing of some facilities with no information on their replacement.

2. Material investment

    - ***Intangible investments*** (46%): Companies have encountered some difficulties to provide this data with the details asked (disaggregation between mature and non-mature technologies). Most companies only provided a global amount of R&D expenditure for mitigation, which resulted in a maximum score of 50% for those companies.

3. Intangible investment

- ***Sold product performance*** (32%): This module was also hard to assess. Most of the companies were not able to provide information on the emission factor of the clinker bought, and the trend in past emissions intensity has scored 0% for all companies concerned by this module. However, good scores were obtained by some of the companies in the electricity management and the clinker/material specific intervention indicators.

4. Sold product perf.

- **Qualitative modules**: On average, companies have obtained rather good scores. It reflects the fact that they already implemented actions in their strategy in order to improve their climate impact. It also shows that the methodology is working for these modules.
  - ***Management*** (69%) reflects that climate issues have been completely integrated within the corporate strategy, at high level, and most of them have already started implementing a low-carbon plan with detailed actions.

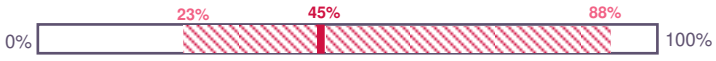
5. Management

- ***Suppliers*** (41%) have obtained the lowest score of the qualitative modules. It can be explained by the fact that companies are mostly focused on their GHG emissions and are not taking into account their supplier's GHG emissions. It represents one of the biggest areas of improvement for companies. This module is useful to make companies understand how important it is to work with the entire value chain if they want to significantly reduce the cement GHG emissions.

6. Supplier engagement

- ***Clients*** (45%) reflects that companies have started to use some leverage to engage their client in the GHG emissions reduction, but most of them are not ambitious enough in their actions to make the whole value chain change to a low-carbon world. It is particularly important for cement companies to persuade their clients to use their low-carbon products, to ensure a market and to make them aware to use the right cement in the right place.

7. Client engagement



- ***Policy engagement*** (73%) shows that companies engaged in the roadtest are involved in trade associations engaged for climate change tackling and take public positions in favor of significant climate policies.

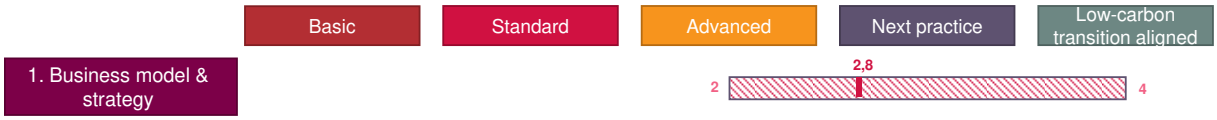
8. Policy engagement

- ***Business model*** (63%) demonstrates that all of the companies have started to implement new business models to prepare their transition to a low carbon economy. Most of them are already mature enough to be scaled up. Most efforts are made in the reduction of structural barriers to market penetration of low-carbon cements, but the companies also work on circular economy and low-carbon optimization of construction through various activities.

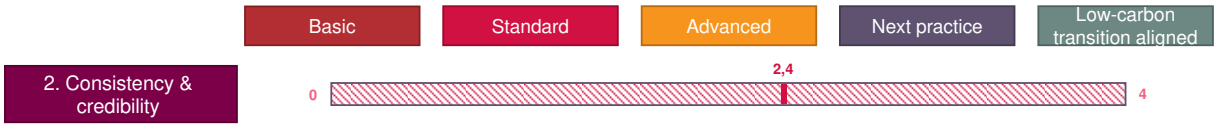
Average assessment rating by criteria for the narrative score

The narrative scoring is calculated by combining four additional criteria (Business Model & Strategy, Consistency & Credibility, Reputation and Risk).

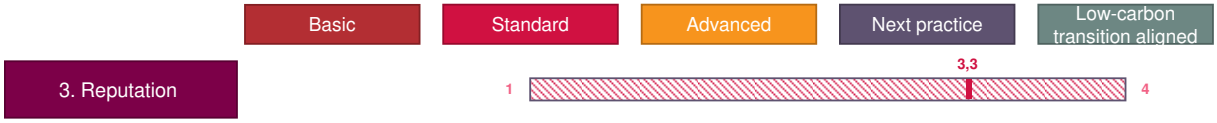
- ***Business model & strategy*** (2,8/4): most of the companies have identified profitable activities in a low-carbon economy and have integrated climate issues within their business model and strategy, and a few have already an activity that seems to be profitable and compatible with the low-carbon transition.



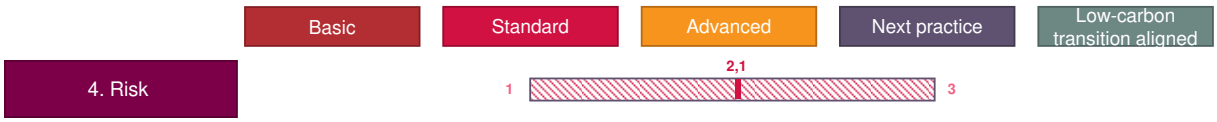
- ***Consistency & credibility*** (2,4/4): this is the criteria that shows the most variability between the companies. The past and present actions are more or less in line with the targets and ambitions, depending on the companies, with some companies that showed no consistency between targets and actions, while other companies seemed to be already in line with a low-carbon transition.



- ***Reputation*** (3,3/4): this is the highest score for the cement sector. Most of them have made reliable commitments to address environmental issues, and none of them have seem to have serious or several environmental controversies that harm the company's climate commitments.



- ***Risk*** (2,1/4): this is the lowest score for the cement sector. Minor risks were identified that could undermine the company's profitability and its ability to implement a low-carbon transition plan and those risks are not always addressed and considered in its strategy, even though they are starting to consider it.



Avenues of improvement and trend score

Most of the companies have obtained quite low scores, and they seem willing to make efforts in order to improve their climate strategies and implement new business model to achieve their targets. Most of the companies have obtained a + as trend score, showing they are on the right path to improve their global score and their climate strategy in the next years.

Moreover, points of improvement have been given to each company as a conclusion of their assessment. Some areas of improvement seem to be recurrent for some of the companies:

- *Investments in the decarbonization pathway*: most companies have provided no information about their future investments. It is crucial for the cement sector to plan the future investments according to the targets and decarbonization pathway, as these investments will impact the direct emissions of the next decade. An in-depth analysis of the investments would be appropriate for all the integrated companies.
- *Development of different business models*: even though most companies seem to have developed activities around the three major business models proposed in the methodology (Reduction of structural barriers to market penetration of low-carbon cement, Contribution to low-carbon optimization of construction and Circular economy), some of them seem to have focused only on one business model (mostly alternative fuels). It is recommended to implement other paths to decarbonize their products and various projects could be implemented to reduce the emissions.
- *Details and transparency on the transition plan*: most transition plans are not detailed enough to check the consistency with the targets set. A good transition plan should include actions as well as financial content, a monitoring plan, actions adapted at the regional or site level, with a time scale beyond 2030, and if possible, climate-change scenario testing.
- *Collaboration with suppliers and clients*: this could concern the clinker suppliers, mostly for blenders & grinding operators, as well as the partnership with clients to help them reduce their emissions. The idea is to collaborate with all the actors of the value chain to ensure a shift towards a low-carbon economy.

2. Conclusion / Outlook

2.1. SUCCESS AND LIMITS OF THE ROADTEST

➔ *11 assessments were realized on a diverse panel of companies*
The diverse panel of companies (including multinationals, start-ups, integrated companies, blenders & grinding operators, as well as participating companies and assessments based on public data and the geographic diversity of the companies) allowed to really test the methodology and check that it was suitable for all cement companies, at a global scale. The results are satisfying, even though little adjustments were needed for some of the companies (such as start-up) and indicators (as explained in the next paragraph), the methodology seemed to work for all the assessments and proved to be quite robust.

➔ *Data collection was more complicated than expected*
Due to the timeline of the project, data collection occurred during the months of July and August, at the same time as the companies were working on their CDP questionnaire. Instead of being a facilitator for the data collection, as most of the questions are quite similar, it was actually harder because the companies allowed more time in priority for the CDP questionnaire and could not allow time to fill in the ACT questionnaire. This resulted in a delayed timeline to let some time for the companies to collect as much data as possible.
Some companies also choose not to disclose some data considered as highly sensitive.

➔ *Most participants have been committed and active during the roadtest*
Even though data collection was considered as time-consuming for the companies, most of them have stayed active and committed and exchanges with the assessors have been seen as useful to keep them engaged and motivated.

➔ *Even though the results have been seen as too low, the ACT assessment were considered as useful*
Indeed, the results provided at the end of the assessment process were perceived as too low by the companies. However, the companies perceived the methodology as useful to identify their areas of improvement and the next steps to be taken in their climate strategies.

2.2. METHODOLOGY IMPROVEMENTS

Before releasing the methodology, some improvements need to be done, mostly on quantitative modules. These improvements have been discussed with the assessed companies and the Technical Working Group involved in the methodology development. Thus, here are listed several aspects that have to be taken into account for the following steps:

- **Provide an adapted benchmark:** the companies have questioned the benchmark that was used. It was identified that the benchmark covered only scope 1 emissions, while the data asked was inclusive scope 1 and 2 emissions. The benchmark will then be adapted to include scope 2 emissions, based on IEA ETP B2DS scenarios (that represents less than 10% of the CO2 emissions). A clarification on the type of emissions reported (gross emissions) was also made on the methodology.

- **Adapt some quantitative indicators:** some indicators, such as trend in future emissions and locked-in emission needed some data that was difficult to obtain (such as average compressive strength and future investments). An adaptation of those indicators was proposed in Technical Working Group, to better take into account the data that is available. Moreover, a new indicator was also proposed to take into account the difference between gross and net emissions, and the use of alternative fuels by the cement companies.

- **Include minor changes on some maturity matrices:** There is a need to adapt some maturity matrices to be more consistent with the other sectoral methodologies and closer to the IEA roadmap for cement sector, World energy outlook and SBTi approach (for instance with different levels of reduction per year of annual energy intensity).

- **Clarify key elements in the tool:** During the roadtest, some incoherencies and shortage of explanations have been discovered, for example the emissions from clinker units are not clearly identified in the tool. A few corrections also need to be brought to some formula on the tool.

2.3. CONTRIBUTION OF ACT TO ENGAGE COMPANIES IN LOW CARBON TRANSITION

Some of the companies of the panel have provided their feedback about the ACT methodology and how it helped them to transition to a low carbon economy in the Technical Working Group. Most of them were satisfied even though the low score was seen as quite demotivating. The participants have identified that the methodology is sector-oriented and covers a wide spectrum, which could sometimes lead to over-complexity, but is in the end useful to identify all the aspects of a low-carbon transition strategy. It is seen as positive that the consistency of the entire approach is questioned through this methodology. The methodology was seen as a good planning tool for the cement companies.