

ACT

**ROADTEST
LAYMAN REPORT**

Assessing low- Carbon Transition

Glass



June 2022

1. CONTEXT OF THE ROAD TEST

GLASS SECTOR

The glass sector is one of the major contributors to climate change, and is often included in greenhouse gas (GHG) emissions figures for industry and buildings). Glass production requires high temperatures and therefore energy, and the process also emits some GHGs as process emissions. In the glass manufacturing industry, heat is used to fuse the carbonates and other raw materials into the specified glass type. Some glass melting furnaces are heated using electricity. For non-electric glass melting furnaces, coal, natural gas, distillate fuel oil, and residual fuel oil are all possible fuel inputs, although most, if not all, are fired with natural gas.

ACT GLASS METHODOLOGY

For the past seven years, ADEME and CDP have been working together on developing the 'Assessing low-Carbon Transition' (ACT) initiative, a mechanism for assessing companies that have set climate commitments and want to take climate action in line with the Paris Agreement. The ACT methodologies use a holistic approach to assess a company's climate strategy and determine its readiness to transition to a low-carbon economy.

The ACT Glass methodology is designed to assess a company's climate impacts across its value chain. In practice, not all companies have activities in all stages of the value chain. As a result, the methodology used for the road test categorises companies into three types, according to the type of activities they engage in (see Figure 1):

1. **Integrated:** Companies which are active in both glassmaking and glass shaping activities;
2. **Raw material (batch house) and glass melters:** Companies which are active only in the upstream part of the value chain;
3. **Glass shapers:** Companies which are active only in the downstream part of the value chain.

GOALS OF THE ROAD TEST

The project's objectives were:

- to test the ACT Glass draft methodology and accompanying tools;
- to provide recommendations to refine the methodology in order to ensure that ACT Glass is relevant and robust for the sector;
- to engage companies and other stakeholders in the low-carbon transition.

The road test for the ACT Glass Methodology has been carried out, on behalf of ACT, by I Care, Solinnen and Novasirhe.

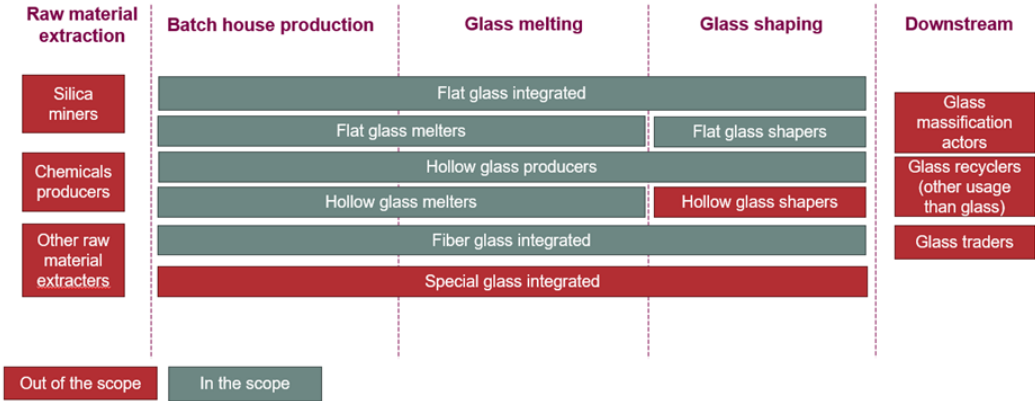


FIGURE 1: COMPANIES THAT CAN BE ASSESSED BY THE ACT GLASS METHODOLOGY

COMPANIES ASSESSED ON PRIVATE AND PUBLIC DATA



9
companies assessed on private and public data

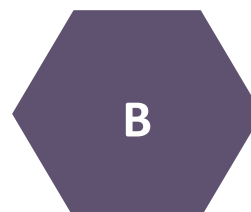
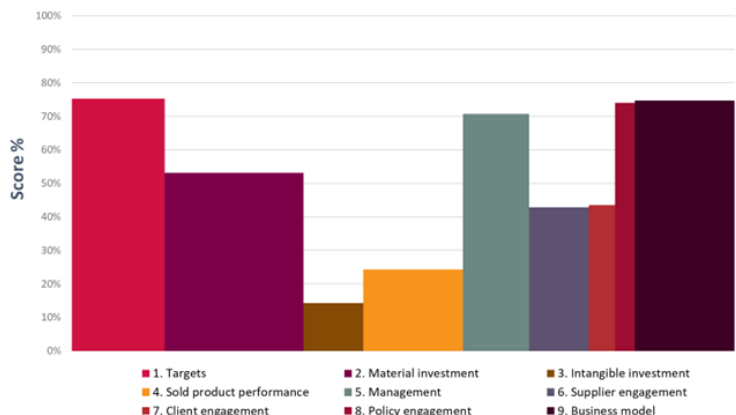
5
companies assessed solely on publicly available data

2. RESULTS OF THE COMPANY ASSESSMENTS

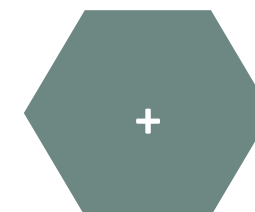
OVERALL RESULTS



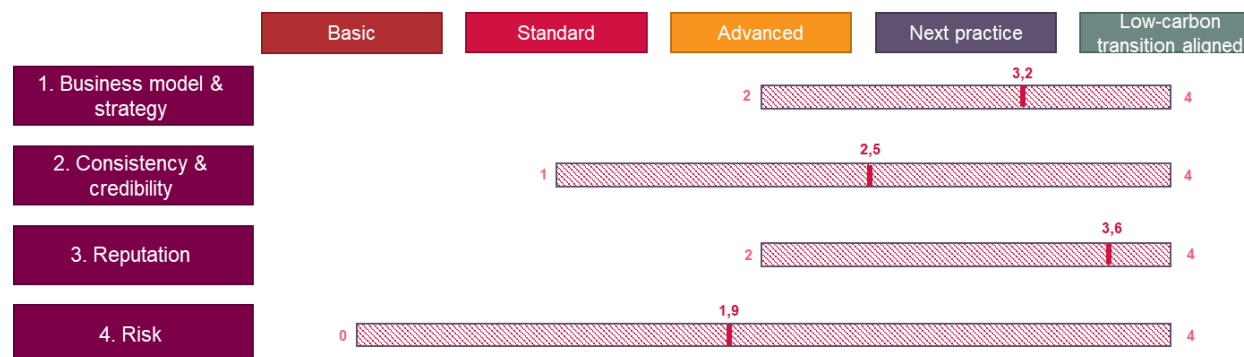
The average performance score was 10.6 where 13.9 was the highest and 8.1 the lowest score. The top performer's score is driven by its effective strategy aimed at modernizing its furnace fleet in order to increase efficiency and electrify part of the fleet in the short term, with ambitious emissions reduction targets and exhaustive scope of actions (including upstream scope 3 emissions). It is also a result of more transparency in the company's disclosure, as it provided information and complete elements of justification for all indicators. Conversely, some companies struggled to achieve a good performance score, partly due to their emissions reduction targets not being ambitious enough to align with their company pathway, and a lack of investments towards the modernization of furnaces. The lack of focus on upstream scope 3 emissions was also a significant factor.



The average narrative grade was B, indicating a high overall alignment with a low-carbon scenario. In general, companies are starting to set climate targets and implement changes in their business model in line with these objectives. However, only a few have conducted a robust and comprehensive risk analysis related to their low-carbon transition, which diminishes their credibility to effectively reduce their GHG emissions. A few companies were also downgraded due to the lack of consistency of their low-carbon transition plan. Here, the analysis showed that some companies struggled to mobilize adequate resources to support stated climate ambitions, in terms of material and intangible capital expenditure.

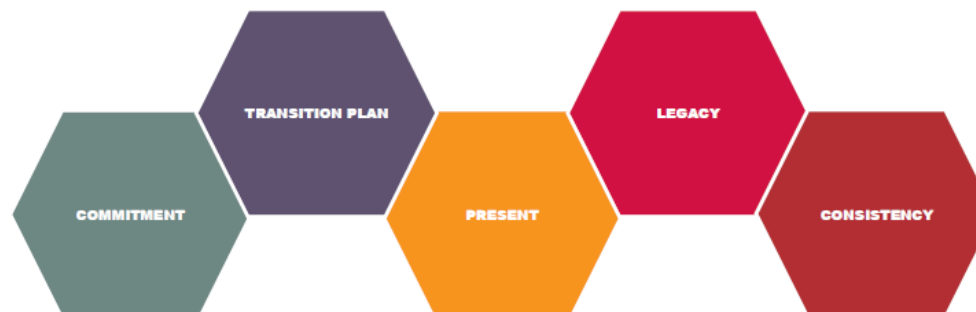


The average trend score was rated positive (+). This score reflects the nascent low-carbon transition plans that are being implemented by almost all companies that have been assessed. The assessed companies have already begun to incorporate climate issues in their management processes and are progressively developing programs, particularly in term of CAPEX and scope 3 interventions, that will come to fruition in the near future.



OVERALL PROFILE OF THE 5 ACT DIMENSIONS

Like all ACT road tests, the glass road test provides a snapshot of sector performance in each of the 5 ACT dimensions (see below). The following paragraphs summarize sector-level trends and challenges in these 5 elements. These insights do not apply uniformly to all participating companies and should not be interpreted as indicative of individual company performance. This is a high-level analysis of common trends identified throughout the road test.



1

All glass manufacturers analysed have set emissions reduction targets. However, some commitments lack long-term horizon and intermediate targets. Even among the few long-term targets, such as “net-zero by 2050”, the road test pointed out a lack of detail, preventing companies from obtaining higher scores in the dedicated module. The road test also highlighted a lack of targets covering Scope 3 emissions while companies must commit to reducing upstream emissions considering its weight in total emissions.

2

All glass manufacturers analysed reported exploring low-carbon business activities (circular economy, electrification, alternative fuels, etc.). However, some of them chose not to disclose details of the profitability of the future low-carbon businesses, limiting the analysis. Some gaps have been identified between targets set by companies (Module 1) and the ambition of transition plans in aligning with a low-carbon economy (Modules 2). Companies still need to strengthen their low-carbon transition plans to achieve the climate goals they set.

3

Most companies have developed sustainability strategies and established oversight of climate issues at a high level of responsibility within the company. The companies analysed are progressively investing in R&D and capital expenditure to reduce their emissions, but for some, the means implemented do not seem to be sufficient to achieve their climate objectives and effectively initiate their low-carbon transition. All glassmakers must now mobilise all decarbonisation levers that do not require the renovation of furnaces to start reducing their emissions as quickly as possible.

4

Past performance is fairly low for almost all analysed companies. Even if all of them have started their sustainability journey by designing transition plan, it is still too recent to see and measure its results yet. Overall, while some companies are implementing sustainability strategies, the sector is not widely recognised for previous achievements in tackling its climate impact, which is consistent with results of this ACT assessment.

5

Overall, assessments have shown that climate strategies were fairly consistent for each company and reflected the level of maturity of the company. However, some inconsistencies and gaps have been identified between companies' commitments and their transition plans (not enough material investment planned, lack of CAPEX in R&D to facilitate and ensure the future modernization of furnaces). This highlights the challenges at stake in an industrial sector that is both highly energy-intensive and where low-carbon technologies are not yet widespread.

3. CONCLUSION AND OUTLOOK



SUCCESS OF THE ROAD TEST

- 14 assessments performed leading to methodological improvements by now better reflecting how companies report their data, with a good **representation of the sector both in terms of players** (Flat Glass, Hollow Glass and Fiber Glass) and **geographies**.
- There was good engagement from many of the companies involved in the road test, including, in many cases, very thorough feedback on the data collection process and the methodology.
- The ACT Glass methodology has shown to be a robust tool to evaluate the company's readiness for its transition towards a low-carbon economy by **accurately reflecting strengths and weaknesses in company's current strategies and actions**.

The evaluated companies are generally satisfied with the road test. For example, some of them emphasised that the evaluation was a fruitful exercise, which helped them to finalise their decarbonisation strategy, or that the holistic nature of the analysis gave them a better understanding and analysis of the strategies and actions underway within their company



LIMITS OF THE ROAD TEST

- Quality of the ACT assessment depends **on the involvement of the company counterpart in gathering data**.
- **Responses to some of the maturity matrices were partially subjective** prior to the updates to the methodology that were made to improve the accuracy of these matrices.
- **Data confidentiality will be a challenge**, for many of the companies, mainly regarding the signature of non-disclosure agreements and some specific modules (3 and 9). The methodology requires companies to disclose in full commercially sensitive information. This will likely be reflected in low scores for the given modules and potential reluctances for companies to participate in the assessment.
- **Completion of data is also a key component of the credibility of the analysis**. Some analyses were done on the basis of incomplete data, resulting in underestimated scores. One public evaluation could not be carried because of lack of publicly available data.

MAIN CHANGES & RECOMMENDATIONS TO IMPROVE THE GLASS METHODOLOGY

Solinnen, I Care and Novasirhe have already implemented methodological enhancements. All inconsistencies or issues experienced by the analysts and companies during the road test have been gathered in a logbook and integrated at the end of the road test after discussion with the Steering Committee and the Technical Working Group. The following points summarise the key recommendations that have been addressed or will be addressed:

- **Provide a more user-friendly and stable online tool:** Without making the tool more user-friendly, analysts will continue to find it challenging to use the tool and carrying out the assessments. This could lead to a push-back on the methodology / framework itself. Also, companies would like to be able to review their results in the tool, and currently the Json format is not common enough for this purpose.
- **Improve the guidance in the data collection tool:** Many exchanges between analysts and assessed companies were needed to carry out these evaluations. While such engagement is important, some could have been avoided with clearer guidance on how to complete the data collection tool.
- **Adapt the methodology for several indicators:** Some indicators have been reported to be misunderstood in their current state or not complete enough to realistically assess the company's climate performance. Some changes have been proposed by the consortium on such indicators:
 - Emissions intensity metric (general) – Melted tonnes for flat glass, packed tonnes for fiberglass and hollow glass (except for flaconnage and borosilicate glass), and pulled tonnes for flaconnage and borosilicate glass.
 - Energy mix decarbonization (2.4) – New hierarchy of level of commitments regarding the low-carbon electricity indicator, with associated score (0% for electricity with no certification to 100% for electricity originating from company's low-carbon on-site generation). Score for this indicator is calculated with a weighted average computing the percentage of electricity consumed from the source at corporate level and the score associated with its level of commitment.
 - Purchased product interventions (4.2) – Exclusion of energy from the list of raw materials assessed in this module, as it is indirectly assessed in indicator 2.4 (Alternative fuels and energy mix decarbonisation). Use "reporting year-5", as well as the time horizon of the action plan of the company to measure the trend of the evolution of GHG emissions related to the transport of the purchased product.
 - Recycled content strategy (2.5) – Focus on external pre-consumer cullet and modification of the maturity matrix to remove the notion of waste hierarchy. Modification of the weightings relative to Module 2 for companies that produce borosilicate glass.
 - Intangible investments (3.1) – Add a new sub-indicator with an extension of the analysed period to include future years.
 - Business models (9) – Add a list of "others business models" that will not be assessed in this module.

Clarify the maturity matrixes in the qualitative modules: Analysts received recurrent feedback from companies about unclear questions and subsequent difficulties to identify the correct maturity level in the maturity matrices.