ACT

ROADTEST
LAYMAN REPORT

Assessing low-Carbon Transition

Chemicals

May 2022

1. CONTEXT OF THE ROAD TEST

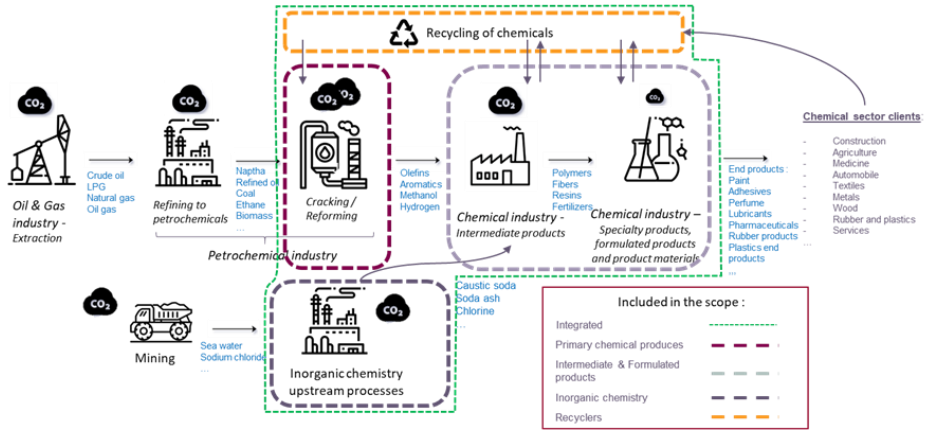
CHEMICALS SECTOR

Among heavy industries, the Chemicals sector ranks third as it accounts for 18% of CO_2 emissions from heavy industries, 4% of global CO_2 emissions. Chemicals production is highly energy-intensive, accounting for around 15% of total primary demand for oil and 9% of gas demand. The use of chemicals is associated with economic growth. In 2019, the amount of chemicals produced in the world reached 2 Gt with the main products being ammonia (9.3% of production, 185 Mt/year), ethylene and propylene (12.8% of production, 255 Mt/year), BTX (5.5% of production, 110 Mt/year), chlorine (3% of production, 60 Mt), methanol (5% of production, 100 Mt/year) and hydrogen (3.5% of production, 70 Mt/year).

ACT CHEMICALS METHODOLOGY

For the past six 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 ultimate goal is to drive action by companies and encourage them to set their business on a below 2°C-compatible pathway.

The road-test version of the ACT Chemicals 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, and, as a result, the ACT methodology categorises them as Type A, Type B and Integrated companies, according to the chemicals they produce. This classification influences the overall ACT performance results through score weightings, which adapt raw scores according to the relevance of each indicator to a company's activities.



COMPANIES THAT CAN BE ASSESSED BY THE ACT CHEMICALS METHODOLOGY

GOALS OF THE ROAD TEST

The project's objectives were:

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

The road test for the ACT Chemicals methodology has been carried out, on behalf of ACT, by I Care and Deloitte.

ASSESSED COMPANIES

Air Liquide · AGC · YARA · ECOS · TRONOX · PLASTIC ENERGY · NIPPON PAINT · HUNTSMAN · Elkem · CABOT · kemira · Firmenich · GRUPO SABARÁ

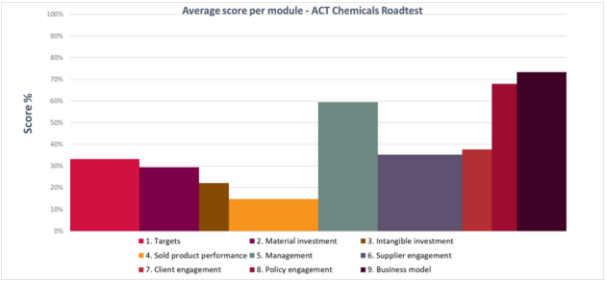
+

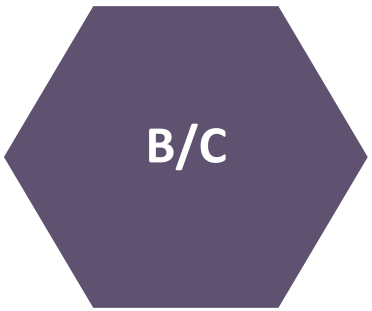
2 companies assessed using publicly available data

2. RESULTS OF THE COMPANY ASSESSMENTS

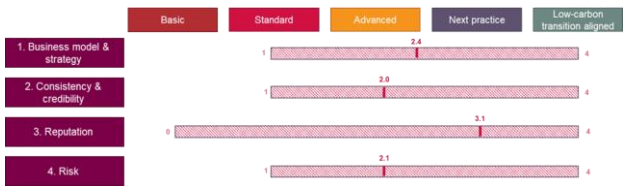
OVERALL RESULTS

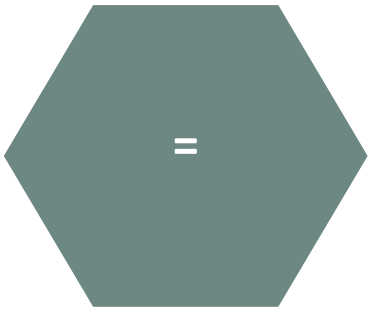
The average performance score is 7.6 where 13.7 is the highest and 2.8 the lowest score. The top performer's score is driven by its effective strategy aimed at implementing new business models around low-carbon energy (renewable electricity) and circularity (reducing waste and using by-products). The best scores are also the result of more transparency in companies' disclosure, as they provided detailed information at asset level (performance and CAPEX plan). Conversely, some companies struggled to achieve a good score in these sections because of non-disclosure.





The average narrative score lies between B and C, indicating an overall medium alignment with a low-carbon scenario. In general, companies received lower narrative scores for the Consistency and Credibility dimension, Risk was another dimension that received lower scores in general. While some companies have started to evaluate their exposure to transitional and physical risks, others lack scenario testing or diversification of their activity, for instance. Reputation analysis relied on online news research only, which may be affected by the analysts' location and access to specific databases. Therefore, it may not be comprehensive.

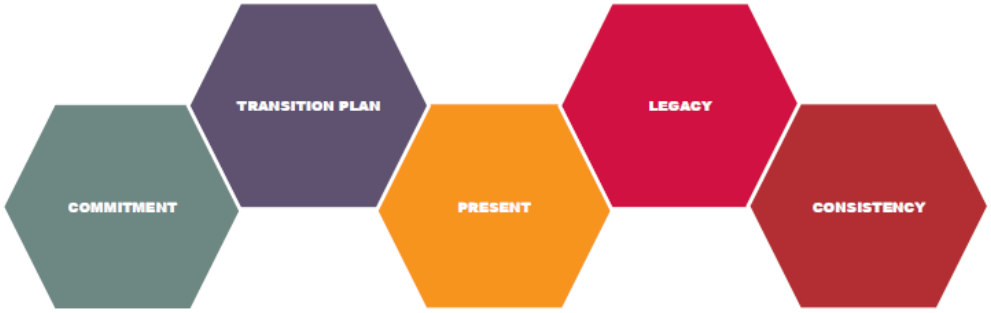




The average trend score is rated equal (=) for the chemicals sector. This indicates that most of the companies would be likely to receive a similar score if they had to take the assessment again in a few years. Also, it suggests that companies need to make additional efforts to switch to a positive trend score in the near future. The trend score considers the results of some indicators from different Modules. These specific indicators rely on companies disclosing data such as emissions intensity. Where there was a lack of information, 0 points were scored, and this directly impacted the trend score. However, as agreed with the Steering Committee, the analyst only used the trend score tool as a guide, and used other information and types of data to give the final trend score. Only 4 companies out of 15 obtained a positive trend score.

OVERALL PROFILE OF THE 5 ACT DIMENSIONS

While each ACT methodology is sector-specific, they are all based on the ACT Framework methodology and as such there are fundamental commonalities among all of them. The assessment's main goal is to evaluate past, present and (anticipated) future company performance to determine the company's maturity level with respect to its transition to a low-carbon economy. The ACT initiative focuses on five guiding principles to determine company performance:



1

Companies in the chemicals sector have for the most part set emissions reduction targets. However, some long-term targets, such "net-zero by 2050" targets lack of detail, preventing companies from obtaining good scores in the dedicated module. The road-test already highlighted a lack of targets covering Scope 3 emissions while companies must also commit to reducing upstream emissions considering their importance for many actors from the sector.

2

Companies in the sector reported exploring low-carbon business activities (circular economy, generation of renewable energy, valorisation of by-products, etc.). However, the level of maturity varies considerably between companies. Participants rarely disclosed information on profitability and effectiveness, limiting the analysts' ability to understand progress in the implementation of transition plans. From a strategic planning perspective, some companies in the sector have developed schemes to implement low-carbon technologies. However, 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 and 4). 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 report current targets to tackle their climate impacts. Current levels of data availability are still below ACT's standard, and this is an overall challenge for most companies in the sector.

4

Past performance varies between companies. Some companies in the road test have not yet made their low-carbon strategies public and are just starting their sustainability journey. Overall, while some companies are implementing sustainability strategies, the sector is not widely recognised for previous achievements in tackling its climate impact, and this is consistent with the ACT assessment results.

5

Overall, assessments have shown that climate strategies were consistent for each company and fairly reflected the level of maturity of the company. However, some incoherencies and gaps have been identified between companies' commitments and their transition plans. This has been reflected in the narrative score.

3. CONCLUSION AND OUTLOOK

SUCCESS OF THE ROAD TEST

- 2 companies assessed on public data and 13 voluntary companies.

- **Members of other companies or initiatives (e.g. SBTi) within the chemicals sector (were invited to participate in the Technical Working Group.** Their contributions were constructive and insightful for key methodological points, especially on sectoral benchmarks used for quantitative Modules.

- **The current assessment methodology allows companies to point out with clarity where the main gaps / areas** for improvement can be found, and encourages much greater transparency on climate performance, strategies, and transition plans. This will help to raise the bar for the sector.

- **The road-test made it possible to test the limits of the methodology**. Indeed, the road-test included a high diversity of companies and activities at the edge of the scope of the methodology: recyclers, air gases, mining…

- **Clear process and good coordination with key actors.** Several road tests have taken place over past years. The road test process has been clear and beneficial to key actors.

LIMITS OF THE ROAD TEST

- **Usability of the data collection tool:** without making the date collection tool more user-friendly, companies will continue to find it challenging to use the tool and provide the data needed for the assessment. Companies are expecting more guidance directly available in the tool, and a more detailed explanation as to what is expected from companies, especially in maturity matrices. Companies are also expected more overlap between ACT questions and CDP questions.

- **Sample of companies:** A majority of assessed companies are located on the downstream part of the sectoral value chain. Since the biggest levers to enable the low-carbon transition are located upstream (production of primary chemicals), it would have been interesting to assess a few more companies on such activities. Consequently, the weighting system for type A companies as well as some specific indicators (4.3, 4.4, 4.5) could not be tested properly.

  Comparability of the results: As assessed companies cover very different productions (from industrial gases to carbon black, via titanium dioxide and specialty chemicals) the comparability of the results is limited.

MAIN CHANGES & RECOMMENDATIONS TO EXTEND IT TO THE REST OF THE SECTOR

The consultancies assisting the road test, I Care and Deloitte, already implemented methodological enhancements as well as improvements to the questionnaire as a result of the road test feedback process.

All inconsistencies or issues experienced by the analysts and companies during the road test were 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 were addressed or will be addressed prior to publication of the methodology:

- **Reduction of the scope of the methodology:** It has proven difficult to create a methodology encompassing and comparing the whole value chain of the chemicals sector due to the wide variety of companies involved in the sector. The current methodology is not sector-specific enough for a number of players and another ACT methodology (ACT Generic) could evaluate downstream specialty chemicals in the same way as the ACT Chemicals Methodology. Since the main goal of ACT sectoral methodologies is to capture the most material GHG emissions activities within each sector, it was decided to reduce the scope of the methodology to only upstream companies producing primary chemicals and midstream players directly using those primary chemicals. Upstream companies will cover not only Type A companies (from the pre-road test classification) but also producers of other upstream chemical products (e.g. carbon black, titanium dioxide, etc.)

- **Consideration of Scope 3:** The road test showed that companies rarely disclose their Scope 3 emissions, or have done so only very recently, using different methodologies and focusing on different emissions sources. To deal with this issue, it was decided to define clearly in the methodology Scope 3 emissions sources to be reported and to penalize companies when a Scope 3 hotspot is not reported. Additionally, Scope 3 emissions will be de-correlated from Scopes 1 and 2 with regard to the modules “Targets” and “Sold Product Performance”.

- **Irrelevance of “bio-based” and “recycled” content for inorganic chemistry**. Several companies highlighted the fact that bio-based and recycled feedstocks are not relevant to their activities. It was decided that when bio-based and recycled feedstocks are not relevant, a new indicator assessing the optimized use of raw material / feedstock will be used.

- **Improve the low-carbon electricity indicator:** The current version of indicator 2.5 did not fully answer the question “*is the company contributing to the development of new low-carbon electricity capacity?*” which was initially aimed to be addressed. An updated version of this indicator will provide more detail on the mechanisms used by companies to consume low-carbon electricity and will value mechanisms that correspond to a commitment to the addition of new low-carbon electricity generation capacities.

- Other technical points were been addressed, including:
    - Clarification of the list of business models (Module 9) that are rewarded by the methodology
    - Change in the scoring system of those business models