

ACT

ROADTEST REPORT

Assessing low- Carbon Transition

Pulp & Paper



July 2022

ACKNOWLEDGMENTS

ADEME and CDP warmly thank the companies that agreed to be named as participants in the road test and for their contribution to the methodology improvement:



+ two other companies from the pulp and paper industry participated in the road test.

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Background and purpose of this document

This document is part of the Assessing low-Carbon Transition (ACT) initiative and provides the main details of the ACT Pulp & Paper road test. As part of the development of a new ACT sector methodology, this road test is conducted to improve the existing methodology and adjust the tools and inputs used to assess companies in this sector.

This report aims to provide the key findings of the assessments and an overview of results for the sector. Additional materials prepared during the assessment process, including detailed company data and feedback, informed the results summarised in this report but remain confidential.

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1. ACT Pulp & Paper Road Test

1.1. CONTEXT OF THE ROAD TEST

PULP & PAPER SECTOR

As the 4th most energy-intensive industry, accounting for 5.6% of the industrial energy consumption in 2014 [1], the pulp & paper sector has an important role to play in the global decarbonization. In Europe, the pulp & paper industry has already reduced the GHG emission intensity of paper and board production by 44% per tonne of product since 1990 [2] and obtained significant energy efficiency results. However, additional efforts are needed to be on track with the mitigation objectives of the Paris Agreement.

The sector's energy consumption is mostly concentrated in two steps of the industrial process, pulping and paper drying [3]. The sector's on-site emissions mainly come from the fossil fuel-based energy combustion and bioenergy combustion for boilers, lime kilns, and dyers. In this regard, coal and fossil gas reached respectively 19% and 15% of the final energy demand in 2019 according to IEA, while bioenergy accounted for 42% [4]. One of the characteristics of this industry is easy access to bioenergy, mainly due to by-products of the manufacturing processes (bark, black liquor, pulp rejects, sludges). Apart from the direct CO₂ emissions generated at the pulp and paper mills, additional emissions are associated with the off-site production of energy (i.e. heat, steam and electricity) that is purchased and transferred to the mills.

The IEA's Net Zero Emissions by 2050 scenario [5] underlines that while paper and board production is expected to grow by around 1.5% per year until 2030, the sector must limit any increase in energy consumption to 0.5% per year (energy efficiency), transition towards low-carbon energy sources, and increase the share of recovered fibres in total fibres to 60% by 2030 (vs. around 50% today [6]). The improvement of energy efficiency, through on-site waste heat recovery and co-generation for instance, and the implementation of energy management systems [7] [8] will be key for the sector's decarbonization. Furthermore, bioenergy and alternative fuels will be essential to decarbonize the industry by replacing emission-intensive energy vectors such as coal (19% of the final energy demand in 2019) and fossil gas (15%). Decarbonization of the electricity mix, on-site renewable electricity generation, and heat pumps are other levers to reduce emissions linked with electricity and heat consumption. Furthermore, increasing the share of recovered fibres generally leads to energy savings and can contribute to emission reductions compared to virgin fibre production processes, provided that the energy consumption is low carbon, which is not always the case today. Worldwide, around 55.3% of the total fibres are recovered fibres (through recycling) [3]. Europe leads the way with a recovery rate of 70%, followed by North America (67%) and Asia (50%) [6].

Nonetheless, the sector's GHG emissions are not limited to the direct emissions from the manufacturing processes. Upstream activities such as forest harvesting, can lead to significant indirect emissions in case of land-use changes (e.g. deforestation) and poor land-use management practices (e.g. forest degradation related to intensive harvest or conversion of natural forests). It is estimated that the pulp and paper industry consumes 15% of the wood harvested globally [9]. According to the World Resources Institute (WRI), during

the period 2001-2015, 100,000 ha have been annually deforested because of wood fibre plantation activities. [10] For example a study highlighted the role of one pulp and paper company causing deforestation in tropical regions and areas where peatlands are converted into wood plantations [11]. Nevertheless, there is a lack of data concerning land-use change and land-use management, specifically related to overall sector activity, but also at the company level. A roadmap developed by the Confederation of European Paper Industries (CEPI) for the sector's decarbonization in Europe [2] and other decarbonization trajectories for the pulp and paper industry, acknowledges the importance of Land Use, Land-Use Change and Forestry (LULUCF) related emissions but does not consider them quantitatively in their scenario.

As a consequence, to provide the most comprehensive picture of the industry's challenges, this methodology assesses, among other aspects, the manufacturing process emissions in a quantitative manner. It also provides a qualitative assessment of forest management practices, commitments and sourcing policies.

CONTRIBUTING TO ACT: NEW SECTOR DEVELOPMENT

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 for a 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.

ACT's ambition is to prioritise the most GHG emissions-intensive sectors. This approach implies that tools and methods must be adapted for each new sectoral development process, to accurately reflect their impact on climate change. So far, the methodologies for the Auto, Electric Utilities, Retail, Construction, Real Estate and Property Developer, Cement, Transport, Oil & Gas and Iron & Steel sectors have been released. As of May of 2022, road tests for the Chemicals, Pulp & Paper, Aluminium and Glass methodologies are all in their final stages, with these sector methodologies due to be published in summer 2022.

The stages of methodology development are as follows:

- Stage 1: Methodology development
- Stage 2: Methodology experimentation (road test)
- Stage 3: Methodology refinements & release

The ACT Pulp & Paper Methodology is designed to assess a company's climate impacts across its value chain.

GOALS OF THE ROAD TEST

The project's objectives were:

- to test the draft ACT Pulp & Paper Methodology and accompanying tools
- to provide recommendations to refine the Methodology
- to ensure the ACT Pulp & Paper Methodology is relevant and robust for the sector
- to engage companies and other stakeholders in the low-carbon transition

The road test for the ACT Pulp & Paper Methodology was carried out by Deloitte and I Care & Consult.

ASSESSED COMPANIES

In practice, not all companies have activities at all stages of the value chain, and, as a result, the ACT Pulp & Paper Methodology categorises companies in three categories according to the type of activities they engage in (see Figure 1):

- Pulp, paper and board manufacturers
- Paper and board converting companies
- Integrated and semi-integrated companies

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.

As a result, the companies that can be assessed with the ACT Pulp & Paper Methodology are:

- Integrated paper and board companies
- Semi-integrated paper and board companies
- Pulp companies
- Paper and board manufacturers
- Paper and board converters

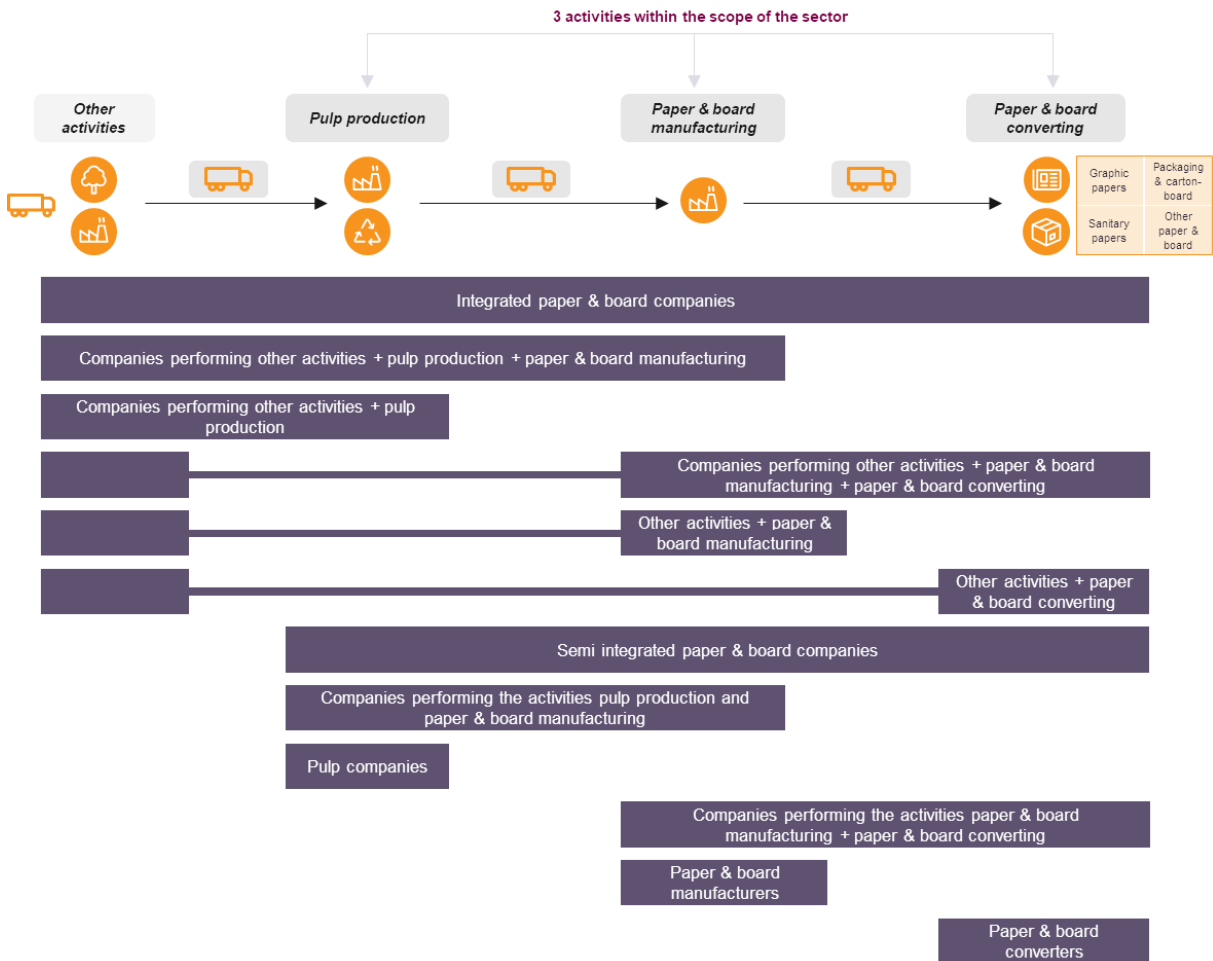


FIGURE 1: A SYNTHESIS OF COMPANIES THAT CAN BE ASSESSED WITH THE ACT PULP & PAPER METHODOLOGY

The ACT Pulp & Paper Methodology defines an *integrated paper and board company* as a company performing the three following activities: pulp production, paper and board manufacturing, and paper and board converting, and, in addition, operating at least one other activity (e.g. forest tending and harvesting, transportation, etc.) within the pulp and paper value chain.

Figure 2 gives a clear overview of which companies can be assessed by the ACT Pulp & Paper Methodology and illustrate what is included under the category *integrated paper & board companies* or *semi-integrated paper board companies*. For example *semi-integrated paper and board company* is defined as a company performing the three following activities: pulp production, paper and board manufacturing, paper and board converting. Companies that are not included in the scope of the methodology are waste sorting plants, sawmills or transport companies.

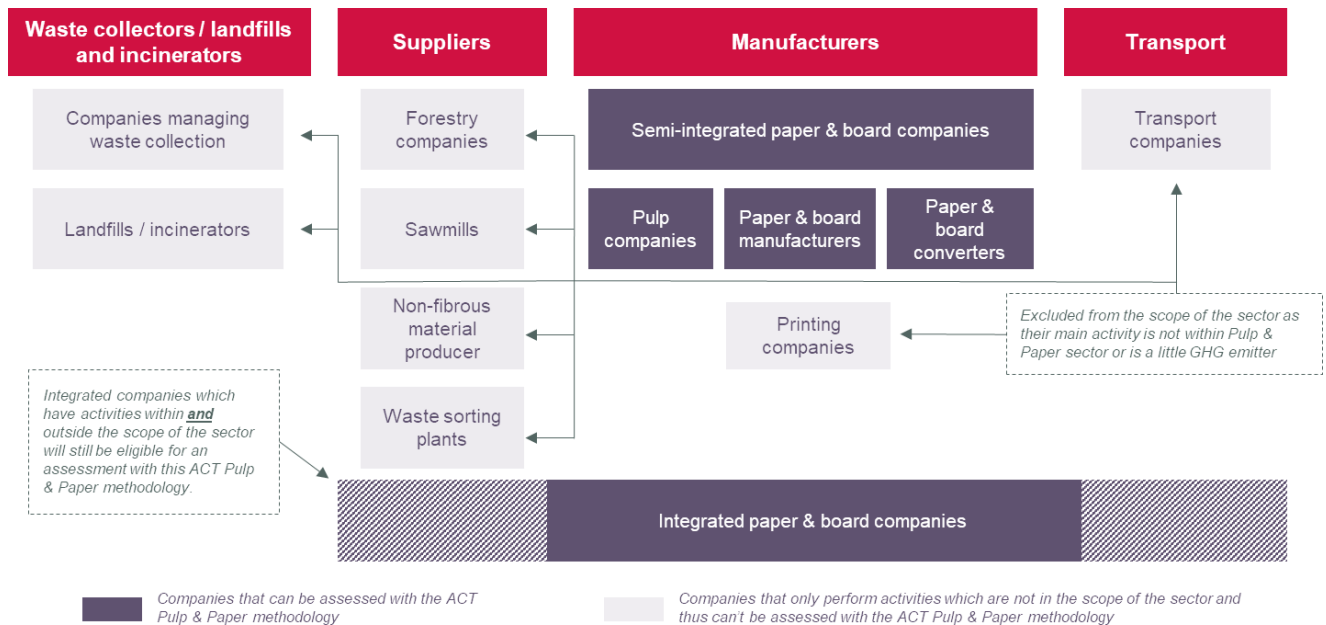


FIGURE 2 - COMPANIES THAT CAN BE ASSESSED WITH THE ACT PULP & PAPER METHODOLOGY

The companies that participated in the road test were carefully considered to ensure that different regions and steps in the value chain were represented. 15 companies were evaluated:

- Five companies were evaluated based on private data,
- Two companies were evaluated based on a hybrid format
- Eight companies were evaluated based on public data.

An ACT assessment performed under a 'hybrid format' refers to a modality where 1) the analyst fills out the company's questionnaire with public data only, and then 2) the company validates and improves the company's questionnaire based on additional inputs. This modality was proposed to two companies who had limited human resources.

Five of the companies assessed using gave permission to be named in the road test. They are referred to in Figure 3, which shows the break-down of the participants.



FIGURE 3 - COMPANIES SELECTED FOR THE ROAD TEST

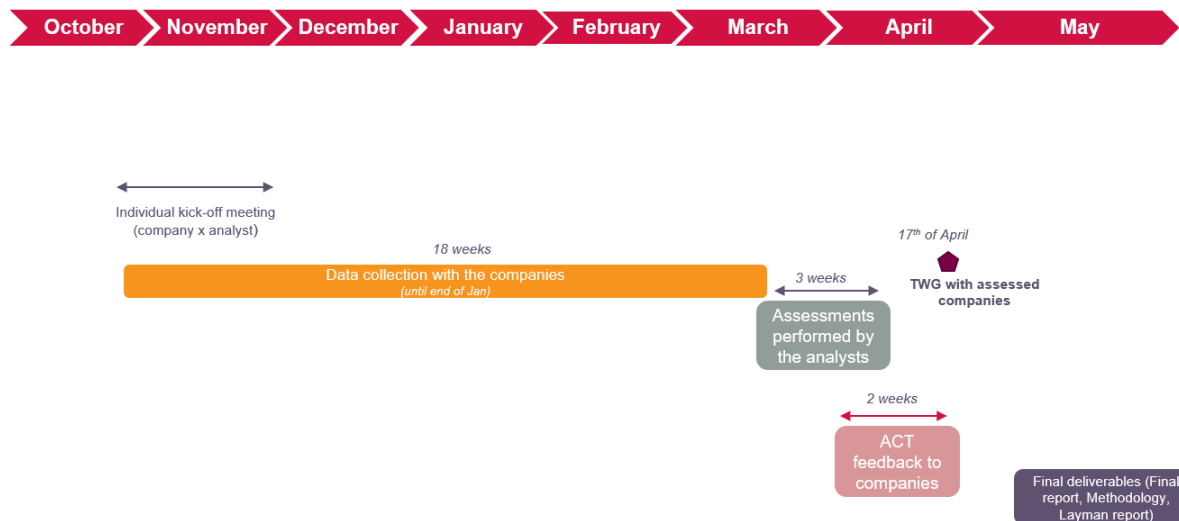


FIGURE 4 - PULP & PAPER ASSESSMENT PROCESS

Deloitte and I Care & Consult planned and conducted the assessment, which involved direct engagement with companies and leading monthly meetings with ACT's Pulp & Paper Steering Committee. Engagement with companies was conducted by analysts from Deloitte and I Care & Consult and followed the steps described in Figure 4 - PULP & PAPER ASSESSMENT PROCESS.

The main inputs for undertaking the assessment were provided to analysts from Deloitte and I Care & Consult through 3 complementary files:

- **The ACT Pulp & Paper Methodology (Road test version, November 2021).** This document contains the scoring criteria for each of the indicators and explains how the scores are calculated and weighted. The Methodology also provides all relevant context and rationale for each of the indicators and an overview of the main goals of each set of indicators (Modules).
- **The company's questionnaire.** Companies were asked to directly fill out their response to the ACT questionnaire in Excel format, with the assistance of the analyst. Once completed, the analysts reviewed the responses and reported them into an online tool which calculates the score according

to the Methodology. If required, comments were added on the scoring of some indicators in the online tool.

- **The trend scoring tool.** This is an Excel-based tool which includes assessment guidance based on the scoring of some indicators of the ACT questionnaire.

In addition, Deloitte provided a template for the kick-off meeting organized by the analysts with the company. Analysts also had access to the ACT Framework and Analyst Guide to ensure consistency with other ACT methodologies.

Specifically, for the assessment that was based on public data, two additional files were provided to assessors:

- **An Excel file to centralize the data and assumptions that were used.** This file aims to ensure clear traceability of assumptions and data used by the analyst and avoid a 'black box' situation.
- **An Excel file summarizing the additional data and assumptions.** In this file, the average disaggregation for CO2 emissions intensity per activity (pulp production, paper and board manufacture, paper and board converting) was made available to analysts, but also converting ratios specific to the sector (m³/tonnes of air-dry weight pulp; tonnes of paper and board/ tonnes of air-dry weight pulp). The objective was to frame as much as possible the assessments performed with publicly available data.

The road test started with a webinar to introduce the tools and the key methodological aspects of the ACT Pulp & Paper Methodology. This webinar provided initial guidance and explanation to the participating companies.

Then, the Methodology was further introduced by the analysts to companies with an initial one-hour call. During this call, the companies' teams were also given a brief explanation of the ACT initiative, the expected timeframes and deadlines, a general description of the relevant inputs, and an overview of the Excel tool.

The participating companies subsequently received the Excel data gathering tool and the Methodology documents and were encouraged to send questions via e-mail or through follow-up calls. The questions received by companies were collected in a spreadsheet accessible to all analysts to ensure shared learnings, and consistency in the responses.

Checkpoint meetings were organised on a regular basis to track the progress of the data collection process. These meetings allowed the companies to share their feedback and challenges on the data collection, the tool and certain methodological aspects.

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. Indeed, once companies submitted the completed Excel data collection tool with their inputs, analysts reviewed the responses and began the scoring process. The analysts listed their scoring questions and additional questions sent by companies in an Excel 'Logbook', such as:

- Clarifications on the data required
- Clarifications on the methodological approach adopted for quantitative indicators
- Clarifications regarding indicators with a taxonomy or the company's business models
- Interpretation of the scoring criteria given the response provided by the company

These spreadsheets were reviewed by Deloitte and I Care & Consult "Technical" teams and ultimately shared during monthly Steering Committee meetings with ADEME and CDP, with customised solutions to improve

the Methodology. Additionally main methodological changes were discussed during the final Technical Working Group.

During the whole duration of the road test, an independent third party (Eco2 Initiative and ClimateCheck – the MHQA team) conducted a methodology harmonisation and quality assurance process.

1.2. THE ACT PULP & PAPER METHODOLOGY

GENERAL APPROACH

While ACT methodologies are sector-specific, they are all based on the ACT Framework 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 questions to determine company performance:

1. **Commitment:** What is the company planning to do?
2. **Transition plan:** How is the company planning to get there?
3. **Present:** What is the company doing at present?
4. **Legacy:** What has the company done in the recent past?
5. **Consistency:** How do all these plans and actions fit together?

These guiding questions are assessed through a series of Modules composed of key performance indicators and sub-indicators, most of which are specifically designed for each sector. For the pulp and paper sector, there are a total of 28 indicators categorised into nine Modules. Table 1: PULP & PAPER METHODOLOGY INDICATORS, MODULES AND TIME HORIZON ASSESSED

shows how these indicators assess company performance at different points in time.

		PAST	PRESENT	FUTURE	
CORE BUSINESS PERFORMANCE	INVESTMENT	1. TARGETS	PP 1.3 Achievement of past and current targets		
			PP 1.1 Alignment of the scope 1 and 2 emission reduction target		
			PP 1.2 Time horizon of targets		
	2. MATERIAL INVESTMENTS	PP 2.1 Past performance			
				PP 2.2 Trend in future emission intensity	
				PP 2.3 Share of low-carbon CAPEX	
		PP 2.4 Locked-in direct emissions			
				PP 2.5 Transition towards low-carbon energy	
	3. INTANGIBLE INVESTMENTS	PP 3.1 R&D spending in low-carbon technologies and low-carbon products			
	4. SOLD PRODUCT PERFORMANCE	PP 4.1 Trend in past products specific performance			
				PP 4.2 Share of certified recovered fibres and virgin fibres certified from sustainably managed forests in the sold material	
		PP 4.3 Action on deforestation and sustainable wood procurement			

		PAST	PRESENT	FUTURE	
INFLUENCE	5. MANAGEMENT		PP 4.4 Inbound and outbound transportation carbon performance		
			PP 5.1 Oversight of climate change issues		
			PP 5.2 Climate change oversight capability		
			PP 5.3 Low-carbon transition plan		
			PP 5.4 Climate change management incentives		
		PP 5.5 Climate change scenario testing			
	6. SUPPLIER ENGAGEMENT	PP 6.1 Strategy to influence suppliers to reduce their GHG emissions	PP 6.2 Strategy to influence suppliers to reduce their GHG emissions		
	7. CLIENT ENGAGEMENT	PP 7.2 Activities to influence client behaviour to reduce their GHG emissions	PP 7.1 Strategy to influence client behaviour to reduce their GHG emissions		
	8. POLICY ENGAGEMENT		PP 8.1 Company policy on engagement with trade associations		
			PP 8.2 Supported trade associations do not have climate-negative positions		
		PP 8.3 Position on significant climate policies			
		PP 8.4 Collaboration with local public authorities			
9. BUSINESS MODEL		PP 9.1 Business models and new business activities supporting low-carbon processes			
		PP 9.2 Business models and new business activities supporting the development of new innovative low-carbon products			

TABLE 1: PULP & PAPER METHODOLOGY INDICATORS, MODULES AND TIME HORIZON ASSESSED

The assessment is carried out based on the information provided for each of these indicators by the company. The Pulp & Paper Methodology uses a combination of quantitative and qualitative indicators. Purely quantitative indicators are scored according to a formula and based on the data provided by the company. In these cases, the analysts must ensure the calculation is correct and the information provided by the company is consistent and, to the extent possible, verifiable. However, given the granularity of quantitative data required and the confidentiality of this information, it wasn't always possible to verify the data provided. Qualitative indicators are evaluated by the scorer using the company responses and indicator-level maturity matrices with up to five scoring levels: Basic (0 points), Standard (0.25 points), Advanced (0.5 points), Next Practice (0.75 points), and Low-Carbon Transition Aligned (1 point). Maturity matrices provide scoring criteria per indicator for each of these levels.

ACT PULP & PAPER METHODOLOGY ASSESSMENT

Like all ACT assessments, the Pulp & Paper Methodology generates a three-part rating that allows companies to understand how they scored based on the key performance indicators, how their overall strategy is rated with reference to a low-carbon (below 2°C) transition scenario, and if their strategy is effective in aligning with a low-carbon pathway. The final score is described below:

1. **The performance score** ranges from 0 to 20 and is the result of the sum of all points achieved and weighted according to the company's classification (pulp, paper and board manufacturers, integrated

and semi-integrated companies, converting companies). The ACT Pulp & Paper Methodology includes 3 different weighting profiles, one for each company classification.

2. **The narrative score** is the result of the scorer's evaluation of the overall response, complemented by an external data review for the company in question, and graded from E (lowest score) to A (highest score). The narrative score is assessed using a maturity matrix developed by the ACT initiative and composed of 4 dimensions (Business Model and Strategy; Consistency and Credibility; Reputation; and Risk).

During the Pulp & Paper road test the performance and narrative scores were computed by an online tool.

3. **The trend score** evaluates whether a company is increasingly aligning itself with or distancing itself from a low-carbon transition pathway. The trend score is indicated by a "+" sign (best score, reflecting increasing alignment), a "-" sign (worst score, reflecting reducing alignment), and an "=" sign (indicating no projected change in its alignment). A specific tool was developed by ADEME for the trend score. This tool was used by the analyst as a guide, but the outcome could also be influenced by the analyst's final judgment. The inputs for this tool were taken directly from the Pulp & Paper Methodology using a simple grading scale from -1 to 1 that analysts assigned based on the results of the following indicators:

- PP 1.1 Alignment of emission reduction target
- PP 1.2 Time horizon of targets
- PP 2.2 Trend in future emission intensity
- PP 2.5 Transition towards low-carbon energy
- PP 3.1 R&D spending in low-carbon technologies and low-carbon products
- PP 4.2 Share of certified recovered fibres and virgin fibres from sustainably managed forests in the sold material
- PP 4.3 Action on deforestation and sustainable wood procurement
- PP 5.3 Low-carbon transition plan
- PP 5.5 Climate change scenario testing
- PP 6.1 Strategy to influence suppliers to reduce their GHG emissions
- PP 7.1 Strategy to influence customer behaviour to reduce their GHG emissions
- PP 8.4 Collaboration with local public authorities
- PP 9.1 Business models and new business activities supporting low-carbon processes
- PP 9.2 Business models and new business activities supporting the development of new innovative low-carbon products

The results shown by the tool implied positive scores (>0) were more likely to be aligning with a low-carbon pathway, while negative scores (<0) were more likely to be diverging from a low-carbon pathway. Indicative trend scores were: Strong negative, strong positive, potential negative, potential positive.

In cases where the result of the grading scale was "*potential negative*" or "*potential positive*", the analyst must provide additional information regarding:

- Expected change in future emissions
- Expected change in business model and strategy
- Cause of change

Finally, an additional maturity matrix was provided with 6 dimensions: ambition of the company; overall business strategy; financial and human resources dedicated to the company’s low-carbon transition; governance; the coverage of the company’s low-carbon strategy; and expected changes. For these dimensions, the analyst could select “Negative trend”, “Unclear trend” and “Positive trend”.

On completion of the assessment, companies received two main files:

1. The company’s questionnaire Excel file with company’s response. This remains confidential between I Care & Consult, Deloitte, ADEME, MHQA Team and the reporting company.
2. An ACT company feedback report (PowerPoint) summarising the results and providing a brief overview of the challenges and opportunities the company may be facing. This presentation is shared only with the company involved and is based on a template generated by the ACT initiative.

FOCUS ON THE ACT PULP & PAPER SCORE

The questionnaire associated with the ACT Pulp & Paper Methodology is structured according to nine Modules presented in the table below:

Modules
1. Targets
2. Material investments
3. Intangible investments
4. Sold product performance
5. Management
6. Supplier engagement
7. Client engagement
8. Policy engagement
9. Business model

TABLE 2 : LIST OF MODULES IN THE ACT PULP & PAPER ASSESSMENT

Modules 1 to 4 contain mostly quantitative indicators that are evaluated by the scorer based on the results of a quantitative calculation. Weightings for **Module 1. Targets**, **Module 5. Management** and **Module 9. Business model** have a fixed weighting across all company classifications within the sector.

In this section we highlight the different weightings per indicator based on the company classification, as shown in Table 3:

MODULE	WEIGHTING for integrated and semi-integrated companies	WEIGHTING for pulp & paper manufacturers	WEIGHTING for paper and board converters
TARGETS	15%		
MATERIAL INVESTMENTS	27%	22%	12%
INTANGIBLE INVESTMENTS	10%	8%	5%
SOLD PRODUCT PERFORMANCE	15%	18%	26%
MANAGEMENT	10 %		
SUPPLIER ENGAGEMENT	4%	6%	8%
CLIENT ENGAGEMENT	5%	6%	9%
POLICY ENGAGEMENT	6%	5%	5%
BUSINESS MODEL	10 %		

TABLE 3 : PULP & PAPER SCORE WEIGHTINGS

- **Integrated companies and semi-integrated companies** (*companies performing 2 or 3 activities within the scope of the sector*)
 - **Module 2. Material investments.** Integrated companies and semi-integrated companies are considered to have a higher financial capacity of investment in decarbonization technologies for their scope 1+2 emissions. As an example, the weighting of the indicator “*Transition towards low-carbon energy*” is higher for integrated companies (5%) compared to pulp and paper manufacturers (4%) and paper and board converters (2%).
 - **Module 3. Intangible investments.** Overall, integrated companies have a larger financial capacity for R&D, thus have a weighting of 10%.
 - **Module 4. Sold product performance.** Indicator “*Action on deforestation and sustainable procurement of wood*” is key to ensure sustainable forest practices and justifies the weighting of 6%-7% for integrated companies and pulp and paper manufacturers
 - **Module 8 Policy engagement.** Integrated and semi-integrated companies are considered to have more human resources than other companies from the sector and thus the indicator “*Company policy on engagement with trade associations*” received a higher weighting with 2% (vs 1% for other type of companies).

- **Pulp companies / Paper & board manufacturer**
 - **Module 2. Material investments.** Weightings for indicators from this module add up to 22% for manufacturers (vs 27% for integrated and semi-integrated companies and 12% for converting companies) reflecting the importance for this category of companies to reduce their scope 1+2 emissions but acknowledging the fact that they might have less leverage to do so than integrated companies.
 - **Module 4. Sold product performance.** Weightings for indicators such as “*Trend in past products specific performance*”, “*Action on deforestation and sustainable material procurement*”, and “*Inbound and outbound transportation carbon performance*” are the

highest for pulp companies and paper & board manufacturers with respectively 5%, 6% and 2%.

- **Paper & board converters**
 - **Module 2. Material investments.** Weightings for indicators from this module add up to only 12%, due to the fact that converting companies represent on average only 5% of scope 1+2 emissions from the pulp and paper industry
 - **Module 4. Sold product performance.** This module is considered material for converting companies, which explains the weighting of 26% for this module (vs 13% and 18% for integrated/semi-integrated and pulp/paper & board manufacturers). Indicators “*Trend in past products specific performance*” and “*Share of certified recovered fibres and virgin fibres from sustainably managed forests in the sold material*” have a weighting of respectively 11% and 10%. Key action levers for converting companies are the certification of materials used in the sold products and the global environmental performance of their products.

1.3. RESULTS OF THE COMPANY ASSESSMENTS

INTRODUCTION

This section presents the results of the ACT Pulp & Paper Methodology road test. It includes an overall comparison of results per Module and a brief overview of indicator-level results per company.

OVERALL RESULTS

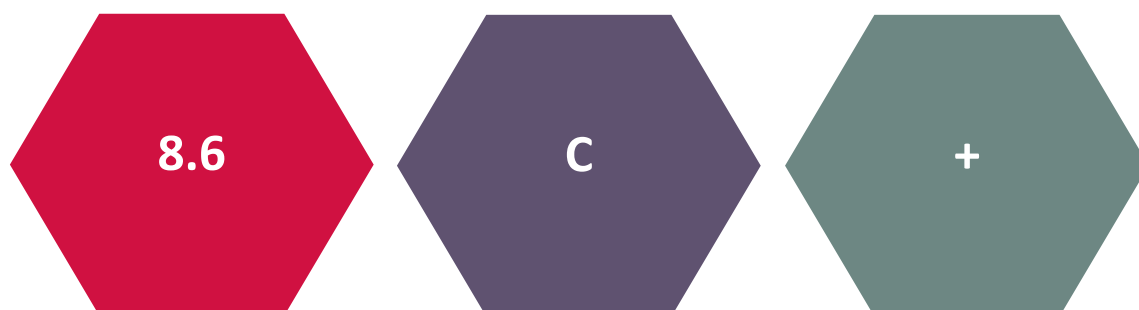


FIGURE 5 : OVERALL RESULTS

The average final score for each score dimension is 8.6 C +. The lowest score obtained is 2.2 C – and the highest is 13.3 A +.

The average performance score was 8.6 where 13.3 was the highest and 2.2 the lowest. The lowest score can be explained by insufficient information provided by one of the companies participating in the road test. The top performer’s score is driven by its effective and ambitious transition towards decarbonization shown by the development of low-carbon business models, financial investments and the renewal of its production units. Companies from the pulp and paper industry already rely on biofuels for a significant part on biofuels, however there is a need to invest in boilers with low-carbon aligned technologies which will contribute to the increase of energy efficiency (e.g through Combined Heat and Power installations) and to the decarbonisation of energy carriers for electricity, heat and steam. Moreover, mobilized biomass must be of sustainable origin to avoid emissions related to land-use such as forest degradation or deforestation.

The company which obtained the best score excelled in the Material Investment and Intangible Investment Modules as it provided detailed information on its investments in terms of its physical assets but especially on its CAPEX plan, which most of the other companies did not provide.

The average narrative score was C, indicating an overall medium alignment with a low-carbon scenario. The narrative score for companies ranges from 2.5 to 4 (D to A). In general, companies have a better “reputation” score because the half that encountered environmental controversies managed to address them effectively. Moreover, these controversies were mostly minor. The lowest score obtained is for the “risk” criterion. Almost all companies have a risk analysis in place, but only a few take them into account substantially in their strategy and implement adaptation measures. Regarding the dimensions “business model and strategy” and “consistency and credibility”, the companies scored relatively well compared to other sectors. Consistent actions can be observed between the emissions reduction targets enacted at the company level and an operational implementation of these objectives at the level of the production sites. In addition, almost all companies are engaged in business models promoting the development of low-carbon products or technologies. However, business models involving low-carbon production processes are often not mature enough and the investments in low-carbon energy and technologies need to increase.

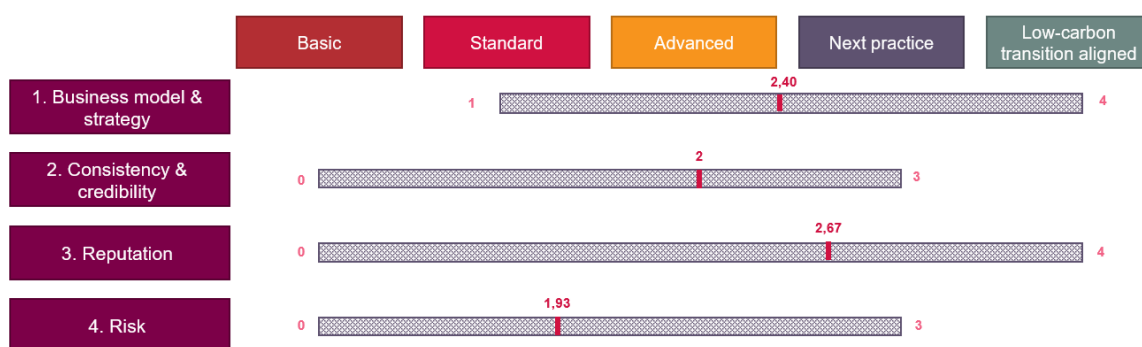


FIGURE 6 : NARRATIVE SCORE RESULTS

The average trend score was rated plus (+) for the pulp & paper sector. Nine companies had “+”, four companies had “-”, one company had “=” and one company had “?”.

The majority of companies are on a positive trend and demonstrate that efforts are being made to establish the conditions for a successful transition towards a low-carbon economy. For instance, they have scope 1+2 targets aligned with a below 2°C scenario and a corporate governance where climate change is integrated at the highest level, which are key prerequisites to develop a sustainable business. They are also increasingly intervening within their supply chain, notably towards their suppliers, which suggests their willingness to accelerate the transition of the sector. Nonetheless, more efforts need to be made, notably in terms of CAPEX investment to transform their production system and reach their ambitious targets.

OVERALL PROFILE OF THE 5 ACT GUIDING QUESTIONS

Like all ACT road tests, the Pulp & Paper road test provides a snapshot of overall performance of the companies in the road test in each of the 5 ACT guiding questions (Figure 7). This figure provides a vision of what a low-carbon aligned company would look like. It shows the “aligned state” for the sector, which all companies should strive towards. The paragraphs following Figure 7 summarise sample-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 company performance. This is a high-level analysis of common trends identified throughout the road test. Company-specific insights are given in the confidential company feedback reports.



FIGURE 7 – ACT ASSESSMENT FRAMEWORK

Commitment

Companies in the pulp and paper sector have for the most part set science-based emissions reductions targets for their scope 1 & 2. Very few companies have set emissions reductions targets for their scope 3 emissions, which would allow to take into considerations their upstream and downstream emissions .

Thus, companies from pulp and paper must set long-term target to reduce their scope 3 emissions.

Transition plan

Companies in the sector have reported exploring low-carbon business activities (increase share of recycled fibres in sanitary products, transitioning towards low-carbon energy, selling surplus of electricity, developing biomass-based products for other industries etc.). However, the level of maturity varies considerably between companies. Participants rarely disclosed information on profitability, limiting the analysts' ability to understand progress in the implementation of transition plans. However, some gaps have been identified between targets

set by companies and the ambition of transition plans in aligning with a low-carbon economy. Almost no companies disclose targets in the near future to increase the share of recycled fibres in sold products.

Present

Most companies have developed sustainability strategies and report current targets to tackle their climate impacts, but current levels of data availability are still below ACT's standard. The majority of companies present a high share of certified virgin fibres and commitment to zero deforestations but robustness and granularity of the traceability systems varies widely from one company to another.

Legacy

Past performance varies between companies. While some companies are developing 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.

Consistency

Overall, assessments have shown that climate strategies were consistent and fairly reflected the level of maturity of the company. However, some gaps have been identified between companies' commitments and their transition plans. This has been reflected in the narrative score. Companies should also be aware of the importance of having a coherent approach between the emission reduction target implemented at corporate level and the decarbonisation plans at production site level. The material investments that reduce emissions from production must be commensurate with the corporate objective if companies are to see impactful results and move towards a low-carbon economy.

AVERAGE RATINGS PER MODULE FOR THE PERFORMANCE SCORE

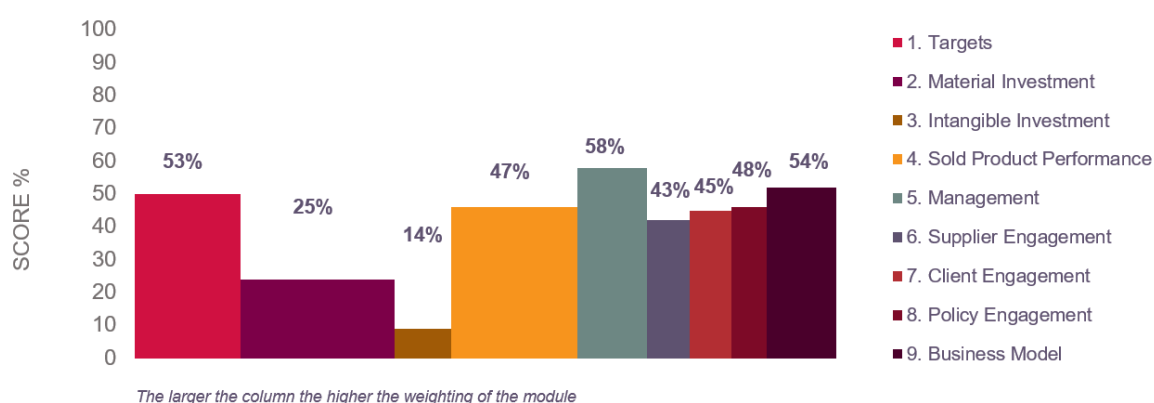


FIGURE 8 – AVERAGE SCORES PER MODULE – PULP & PAPER SECTOR

Overall, the Pulp & Paper sector road test showed a low performance in the ACT assessment with 6 modules out of 9 scoring below 50%.

The industry's strengths seem to be the sold product performance and management of climate change within the company (Modules 4 and 5). Indeed, most companies have a deforestation commitment, rely on third-party certifications and have reviewed their governance, taking into account climate change issues in their strategy. They are also exploring new low-carbon product and technology business models, which explain the second highest score for the business model module. In addition, the average score for the supplier engagement (43%) module is relatively higher compared to other sectors. It reflects the fact that Pulp & Paper companies all have developed supplier strategy but not robust enough for the sector to be aligned with the Paris agreement.

The vast majority of companies have science based aligned emission reduction targets for scope 1 and 2 which explains that module 1 is the highest average score for the methodology. However, we could highlight that there is a lack of emission reduction targets on scope 3 on downstream and upstream emissions.

There is also a lack of projection in the future for the production & carbon intensity due to low (visibility on the) investments in the decarbonization of the production system. For the module 2, the best score obtained by one of the company assessed is 49% which is considerably lower compared to other modules where the best scores vary between 72 and 95%.

The average score for module 3 is also very low, either companies have low investments in R&D for low-carbon mitigation technologies and development of innovative low-carbon products, or they don't disclose their data regarding these expenses.

MODULE 1. TARGETS (WEIGHTING 15%)



Module description for ACT Pulp & Paper: The targets module evaluates the alignment of emission reduction targets and the difference between the CO2 emission reduction targets reported by companies and the value of their emission reductions in previous and current years.

Materiality for pulp & paper sector: This Module is fundamental in the definition of a climate strategy with a weighting of 15%.

Main feedback / conclusions: Most companies have established targets for their scope 1 & 2 but still too few have included the reduction of their scope 3 emissions in their strategy. This is a crucial point as upstream and downstream activities represent the majority of emissions from the sector, in particular for companies performing only one or two activities.

Intermediate and short-term targets are also not systematically implemented in the companies' strategies, even though they are fundamental to effective target-setting and increase the likelihood of companies achieving their emissions reductions.

MODULE 2. MATERIAL INVESTMENT (WEIGHTING 12-25%)



Module description for ACT Pulp & Paper: The module evaluates the emission trends and the decarbonisation of the industrial apparatus. This module also assesses the share of low-carbon CAPEX and locked-in emissions.

Materiality for pulp & paper sector: This Module assesses the compliance between the company's investment plan and its benchmark. The Module has a weighting ranging from 12 to 25%.

Main feedback / conclusions: Some companies disclose their emissions by site and are investing largely in the decarbonization of their sites. However, this is not the majority and, in general, material investments made by the evaluated companies are not sufficient and need to be better considered by the latter.

The share of CAPEX investment in low-carbon mitigation technologies is low or not disclosed for almost all the companies evaluated. This is therefore a point of attention for all road test participants.

The indicator Locked-in emissions has an average score of 53%, showing that companies are making investments to reduce the emissions of their production sites but also that they could be higher and implemented in more production centers in order to be more effective and enable the companies to reach their targets.

The indicator Contribution to low-carbon energy scores at 34%, revealing a lack of investment in renewable energies highlighting the dependency to fossils energies. For some companies, the low score can also be explained by a lack of data consolidated at the corporate level or the lack of investment plan to decarbonize electricity self-generated.

MODULE 3. INTANGIBLE INVESTMENT (WEIGHTING 5-10%)



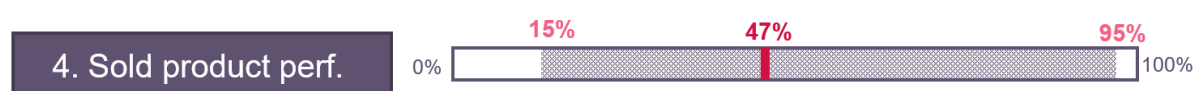
Module description for ACT Pulp & Paper: This module assesses companies' investment in R&D and low carbon technologies.

Materiality for pulp & paper sector: This Module has a weighting ranging from 5% to 10%.

Main feedback / conclusions: This module has the lowest average score in the evaluation. Most of the assessed firms have a 0% score regarding their low-carbon R&D. Intangible investments are insufficient or not disclosed for most of the companies evaluated. This shows not only a lack of disclosure but also a lack of consolidation of this data by the sustainability teams.

These companies, and the sector in general, need to significantly increase the proportion of their investments in research and development in low-carbon products and technologies.

MODULE 4. SOLD PRODUCT PERFORMANCE (WEIGHTING 15-26%)



Module description for ACT Pulp & Paper: This module evaluates the share of certified recovered fibres and virgins fibers sustainably sourced that are used by companies. It also evaluates the transportation carbon performance.

Materiality for pulp & paper sector: This Module is material for the sector with a weighting ranging from 15% to 26%.

Main feedback / conclusions: The average score for this module is almost 50%. Almost all the companies assessed had a zero deforestation commitment translated into a specific target. The indicator Action on deforestation and sustainable wood procurement had an average score of 55%. To increase it, companies must communicate on the concrete actions they are implementing to halt deforestation and ensure a sustainable material procurement. The share of certified fibers used is also very high among the companies evaluated, the vast majority of which have also set up a traceability system of fibers. The indicator Share of certified recovered fibres and virgin fibres from sustainably managed forests in the sold material scored 60%.

Finally, the indicator Inbound and outbound transportation carbon performance received an average score of 23%, which is very low and shows that companies must increase their efforts in this area.

Thus, companies should increase the share of recycled fibers in final products, and the actions they take in their transport fleet or with their stakeholders. A lack of objectives can also be highlighted in the near term regarding an increase use of recycled fibers in sold products material and a lack of use of certification schemes particularly fo recovered fibres.

MODULE 5. MANAGEMENT (WEIGHTING 10%)



Module description for ACT Pulp & Paper: This module evaluate how much climate issues are integrated in the gouvernance and management processes of the companies.

Materiality for pulp & paper sector: This Module assesses companies’ ability to carry out their transition plan and meet ambitious science-based targets based on the effectiveness of its governance and management with relation to climate change. It is therefore material with a weighting of 10%.

Main feedback / conclusions: Almost all companies have a low-carbon transition plan in place with more or less detailed roadmaps.

Most companies also use scenario analysis, which makes it possible to detect a certain amount of preparation for climate change on the part of companies. However, it needs to be more quantitative and include the financial impacts for some enterprises. Some companies of the sector should develop more training sessions dedicated to climate change.

MODULE 6. SUPPLIER ENGAGEMENT (WEIGHTING 4-8%)



Module description for ACT Pulp & Paper: This Module scores companies’ strategies and actions for influencing their suppliers to improve their sustainability performance and decrease GHG emissions.

Materiality for pulp & paper sector: The weighting ranges from 4% to 8%.

Main feedback / conclusions: Companies are generally well engaged with their suppliers, notably through the implementation of codes of conduct. However, they do not encourage them enough to reduce their emissions. They should set more quantitative targets with reporting obligations and results and should make their choice of suppliers based on their GHG emissions.

MODULE 7. CLIENT ENGAGEMENT (WEIGHTING 5-9%)



Module description for ACT Pulp & Paper: This Module scores companies’ strategies and actions for influencing their clients to improve their sustainability performance and decrease GHG emissions.

Materiality for pulp & paper sector: This Module represents a relatively less significant aspect of the sector transition, and the materiality is therefore medium with a weighting from 5% to 9%.

Main feedback / conclusions: Companies are all engaged with their customers to varying degrees. For the vast majority, prevention campaigns are implemented, or low-carbon products are offered.

The companies evaluated can still go further in supporting their customers, firstly by increasing the number of customers engaged and then by setting up long-term partnerships to encourage them to limit their CO₂ emissions.

MODULE 8. POLICY ENGAGEMENT (WEIGHTING 5-6%)



Module description for ACT Pulp & Paper: This module evaluates the companies policies on climate policies and with trade associations or authorities.

Materiality for pulp & paper sector: The policy engagement indicators provide a narrative about the company's stance on climate change and how the company expresses it in their engagement with policymakers and trade associations. The materiality of this module is therefore medium with a weighting from 5% to 6%.

Main feedback / conclusions: None of the companies have relationships with associations that may have a negative position on the climate. Most of them are involved in initiatives on environmental issues such as TCFD, GHG protocol and WBCSD.

However, they generally do not have any action plan regarding engagement with associations and do not work with public authorities to take cooperative actions on climate.

MODULE 9. BUSINESS MODEL (WEIGHTING 10%)



Module description for ACT Pulp & Paper: This module aims to identify both relevant current low carbon business activities and those still at a burgeoning stage.

Materiality for pulp & paper sector: This Module is future-oriented since it asks companies about their narrative on specific changes to business models that the sector can/must make to transition. As this is an important aspect of long-term future planning, it is material for the sector with a weighting of 10%.

Main feedback / conclusions: Companies are all developing business models based on low-carbon products or technologies, even if most are not yet mature. Business models such as biorefineries, lighter / plastic-free packaging materials, dissolving wood pulp, microfibrillated cellulose, eco-conception business models should be encouraged by the sector to make a real transformation towards a low-carbon economy.

The range for this module is very extended. This is due to one company that obtained 0 on this module. Other than that, 11 companies out of 15 have obtained more than 40%.

AVERAGE ASSESSMENT RATING BY CRITERIA FOR THE NARRATIVE SCORE

The narrative score assesses the overall response of the company on four dimensions: Business Model and Strategy, Consistency and Credibility, Reputation, and Risk. Once a company's response was reviewed and scored, analysts completed the narrative score in the tool provided by ACT. This includes the scoring criteria

for each dimension using the same maturity levels as other maturity matrices, from Basic (0 points) to Low-Carbon Transition Aligned (4 points), as shown in Figure 9.

		Basic	Standard	Advanced	Next practice	Low-carbon transition aligned
1	Business model and strategy	The company does not seem to be able to be profitable in a low-carbon economy and there is no sign of internal efforts.	The company has begun to seek profitable activities in a low-carbon economy.	The company has identified profitable activities in a low-carbon economy, and climate issues have been integrated into its business model and strategy.	The company is in transition toward profitable activities in a low-carbon economy and there is evidence that mechanisms are being put in place for this purpose.	The company's activities seem to be profitable and its short-term strategy and targets are compatible with the low-carbon transition.
2	Consistency and credibility	The past and present actions, and transition plan if there is one, do not demonstrate overall coherence and the company does not seem to be able to achieve its climate objectives. Important efforts are needed for the implementation of a low-carbon transition plan.	The past and present actions are not in line with the company's potential climate objectives. However, there is some evidence that the company already begun to consider mechanisms to implement a low-carbon transition plan.	The past and present actions demonstrate that the company has a climate ambition, but additional efforts may still be needed to achieve climate targets. The company has started to establish an action plan to improve its climate performance.	The past and present actions are coherent with the company's transition plan. Additional efforts are needed but the company has always demonstrated the will to implement the needed mechanisms to stay aligned with its climate goals.	The past and present actions are coherent and already in line or beyond with a low-carbon transition.
3	Reputation	Existence of serious or several environmental controversies harming the company's climate commitments. There is no evidence that the company is addressing or taking the controversies seriously.	Existence of minor environmental controversies. There is no evidence that the company is working to avoid this kind of controversy.	Existence of minor environmental controversies. The company has made reliable commitments to address these types of controversies.	Existence of negligible environmental controversies that do not hamper the company's climate commitments. The company has always resolved environmental controversies with due importance.	No environmental controversies.
4	Risk	There are serious risks that could undermine the company's profitability and its ability to successfully implement a low-carbon transition plan. The company does not consider climate issues related to its activities and remains passive in the face of climate risks.	There are minor risks that could undermine the company's profitability and its ability to successfully implement a low-carbon transition plan. The company has begun to consider climate issues related to its activities.	There are minor potential risks that could undermine the company's profitability and its ability to successfully implement a low-carbon transition plan. However, there is evidence that the company is directing efforts to reduce these risks.	Risks that could undermine the company's profitability and its ability to implement a low-carbon transition plan are very limited. In addition, the company has always addressed and considered climate risks in its strategy.	No potential risk to the future profitability of the company or its ability to implement its transition to a low-carbon economic model.

FIGURE 9: NARRATIVE SCORING MATURITY MATRIX

The final average narrative score for the sector is C, suggesting companies display an overall medium performance and still need efforts to be aligned with a low-carbon pathway. This score is calculated by assessing each scoring dimension with a maximum score of 5 points. Reputation was the highest-scoring dimension with an average score of 3.67, Business model was rated 3.40, the dimensions Consistency and Credibility and Risk obtained the lowest average scores, with 3 and 2.87 respectively.

Business Model and Strategy

The average score for this module is 3.4 out of 5. Almost all companies have included climate change and its challenges in their strategy and governance. This shows their willingness to reduce the impact and CO₂ emissions of their activities. The vast majority are developing business models based on low-carbon technologies or products. However, these are often not mature or developed enough to generate significant turnover within the companies. Some companies are diversifying their activities, but these are still at an early stage of development and not mature enough to have a positive impact already.

Companies need to increase their investment in research and development and the share of renewable energy in their energy mix. They need to consolidate their strategies and business models in order to move forward in a more concrete and efficient way.

Consistency and Credibility

The average score obtained for this module is 3 out of 5. All companies have implemented targets for reducing their CO₂ emissions that are more or less ambitious. While only a few companies have not met their past targets, more companies have not implemented enough actions to meet their future targets. Roadmaps are often unclear and lacking in detail. This is an important point of attention for these companies. The lack of consistency in the roadmaps impacts their credibility. Only two companies stand out, with past targets

completed, future targets almost completed because of their roadmaps fuelled by effective action and collaboration with their stakeholders.

Reputation

The average score in this module is 3.67 out of 5 which is the highest score obtained. About half of the companies are facing or have faced environmental controversies to varying degrees, mainly about waste or habitat destruction and deforestation. While most of these have been considered as minor or have been resolved by the companies, they can still tarnish their reputation.

Risk

The average score obtained in this module is the lowest: 2.87 out of 5. Although almost all companies have carried out a risk assessment and identified the risks that could have the greatest impact on their business, very few have taken these risks into account and undertaken a strategy to adapt and mitigate these, such as diversifying their raw materials. The vast majority of companies do not place climate risks at the centre of the strategy, which explains the low score for this module.

Final narrative scores

The average narrative score obtained was 12.94/20, which is equivalent to a C letter score. This suggests that companies are aware of the challenges they face to make a transition, but that there is still work to be done, particularly in the alignment of their targets and actions or in their risks and adaptation strategy.

TREND SCORE

The average trend score is +. This highlights the willingness of the assessed companies to make a transition to a sustainable low-carbon economy.

Indeed, only 4 companies out of the 15 obtained "-" score. Their fragile low-carbon business models, lack of transparency and weak supplier engagement have put them at disadvantage and in a poor position to drastically reduce their emissions and meet their future targets. One company received "-", another one company received "=" and all other companies scored "+" for the trend score. This suggests that they are conducting an ambitious transition towards decarbonization driven by the renewal of their production units, the development of low-carbon pathways and products, the review of their energy mix or the strong influence they have on their customers and suppliers.

Their willingness is therefore noted by the analysts, but it is not enough if it is not accompanied by a roadmap with robust actions in terms of investment in research and development for instance. The companies still have a long way to go, and points of attention remain. Targets to reduce their scope 3 emissions must be implemented systematically, targets and corresponding actions must be consistent and circular, and low-carbon technologies, products and business models must be encouraged.

FEEDBACK FROM PARTICIPATING COMPANIES

At the end of the assessment, analysts shared a form with participating companies to collect insights and feedback. The answers have been gathered to identify key findings. Several topics have been addressed through this form:

Key topics	Feedback from companies
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Data collection process	<ul style="list-style-type: none"> • Compiling the data for such large companies is a challenge. It requires as much effort as the annual integrated reporting we publish every year and is very time consuming. Moreover, the level of precision of the questions was a real challenge. • The data collection process is more complex when it concerns CAPEX or production projections data because they are sensitive data and cannot be disclosed easily. • When the data was owned by the sustainability team it was easy to find and share them. When the data was sourced in another department it was either non-existent or difficult to share even though an NDA was signed. • The understanding of the boundaries or the manufacturing process for some integrated companies was unclear. • Data on sales are complicated to obtain at the global level. The structure of some companies and the fact that they have several subsidiaries have made it difficult to retrieve the requested data. • The companies appreciate the interaction they've had with the analysts, particularly through the weekly follow-up meetings. • For them, the support of the analysts is essential because it allows them to provide answers in case of doubts or hesitations. The analysts must also have a technical background (business expert). • For some companies, the tool was clear enough. However, it would always be easier to navigate an online survey or tool which would display the score and scoring methodology as companies progress. In addition, it was not always suitable for SMEs.
ACT Assessment	<ul style="list-style-type: none"> • ACT guidance was clear for the sustainability manager but somewhat daunting to non-sustainability experts which didn't expect the level of detailed investigation and expected transparency. • For most companies, results were clear and consistent with expectations. <p><u>Qualitative score:</u></p> <ul style="list-style-type: none"> • Some indicators might not be completely adapted to the pulp and paper sector (awareness of low-carbon products for clients or public engagement). • The modules and indicators seemed generally relevant, but not always adapted to the size of the company (e.g. on the R&D budget). • Some companies were particularly happy to be able to consolidate their decarbonization roadmap with an ACT assessment and one company suggested to use the KPI from the assessment to monitor and manage their progress internally.
ACT Methodology	<ul style="list-style-type: none"> • The presentation of the Methodology should be done in several sessions because of its complexity. The companies found it difficult to understand the issues at once.

	<ul style="list-style-type: none"> • ACT Pulp & Paper methodology provides insightful guidelines to develop and improve a climate strategy and make companies ask themselves relevant questions. • The benchmarks are useful to understand what the expectations of the sector are. • There is a positive impression of the Methodology in terms of precision requested. This Methodology allows relatively minimal time spent but precise focus areas of improvement. • For a company, the Methodology focuses more on the future plan than the past achievements, this should be reviewed. • For a company, ACT will contribute to improve its climate governance to achieve better results. • The wide scope of the Methodology was really appreciated, which allowed the identification of strong points and weaknesses. • Companies are satisfied with the Methodology and the tool, especially for the quantitative evaluation. They can do simulations of new scores to orientate their strategy.
ACT Framework	<ul style="list-style-type: none"> • ACT Pulp & Paper is a good reporting tool but is time-consuming to complete. Companies face many other responsibilities related to climate reporting. • ACT could be a part of the climate reporting landscape if more players take assessments and become a reference. • ACT Pulp & Paper is an efficient tool to help the sector to transition to a low-carbon economy and to establish KPIs for internal roadshows. • ACT is more interesting for larger companies. Difficult for an SME to embrace this framework.

FEEDBACK FROM ANALYSTS

Key topics	Feedback from analysts
Data collection process	<ul style="list-style-type: none"> • The absence of maturity matrix in the company questionnaire made it more arduous for companies to understand required for some indicators of the ACT Pulp & Paper Methodology. In some cases it led to more iteration between the analyst and the company to gather adequate data and made the whole process more time-consuming. • The fact that assessments were carried out during several months (the road test started in October and ended beginning of April) made it difficult to evaluate the time spend for each assessment. • Problems related to the online tool also contributed to having to ‘re-do’ the assessment several times and meant the time allocated for each assessment had to be extended. • The data collection phase was extended due to holidays and NDA issues for some companies. The analysis was performed rapidly once all the data was gathered.

	<ul style="list-style-type: none"> • The assessment under a hybrid format took around 8-9 days and assessment under a private data format and a public format took 5-6 days • Additional guidance from the ACT Pulp & Paper company's questionnaire have been helpful during the road test and helped the company to understand each indicator. • Planning to have several sessions to introduce the Methodology to the company is key and would enhance the company's understanding of the Methodology. • Time allocated to each ACT assessment can vary, depending on the company's involvement and curiosity about the Methodology.
ACT Assessment	<ul style="list-style-type: none"> • Availability of data is heavily correlated with whether the company responds to the CDP questionnaire. For small and medium companies (SME), data required can be disproportionate considering the resources they have. • Companies need to improve their disclosure on their climate strategy and climate action. Indicator Locked in emissions is often left empty when the assessment is performed on public data, except for one company who publicly discloses the carbon emissions of each of their production facilities. <p><u>ACT qualitative modules:</u></p> <ul style="list-style-type: none"> • Policy engagement seems to be weighted too highly compared to other modules, and it is too difficult for small companies to obtain a good score. <p><u>Adaptation module:</u></p> <ul style="list-style-type: none"> • The Methodology was introduced to the analysts one year ago without any adaptation training. • Analysts had to get acquainted with adaptation subjects, so that they could perform the analysis (like vulnerability, and exposure): more guidance on questions would have been appreciated. • The mix of different subjects in the same question in 6.4 is not appropriate. It mixes biodiversity, health & pollution. These subjects are very important to the pulp and paper industry, so it would have been better to split the questions by subject or go deeper in each topic. <p><u>Online tool:</u></p> <ul style="list-style-type: none"> • The overall structure of the tool is quite easy to understand. • The introduction of the online tool opens the door to better disseminating the Methodology, avoiding errors when calculating scores and will facilitate the work of the analyst in the short term. The online tool has a strong potential to spread the ACT Pulp & Paper Methodology in the wider climate community. • The first version of the tool was available very late in the road test which contributed to a "bottle neck" effect: at the end of the road test, less time was available to review and harmonize ACT assessments
ACT Methodology / road test	<ul style="list-style-type: none"> • The Methodology was adapted to the issues of the sector. It was quite straightforward and easy to understand. • Information on the certifications was difficult to understand for new analysts. • The logbook is very useful and must be kept.

- The presentation at the very beginning should have been recorded (for new analysts coming along the road test especially).
- The road test was longer than expected.
- It has been particularly difficult to engage with companies from the pulp and paper sector.

2. Conclusion and Outlook

SUCCESSSES OF THE ROAD TEST

- 15 assessments performed leading to methodological improvements by now better reflecting how companies report their data
- Confirms the need to have quantitative decarbonization scenarios per activity (disaggregation of the sector IEA scenario performed during the methodology development) in order to provide a tailored benchmark
- Good representation of the sector both in terms of players (integrated companies, converters, pulp, paper and board manufacturers) and geographies
- The ACT Pulp & Paper Methodology has shown to be a robust tool to evaluate companies' readiness for their transition towards a low-carbon economy by accurately reflecting strengths and weaknesses in companies' current strategies and actions

LIMITATIONS OF THE ROAD TEST

- Limited engagement from companies of the sector to be part of the road test due to their participation in other initiatives (SBTi Flag, GHG Protocol, WBCSD sustainability forest, etc.).
- Limited public availability of required data for public assessments and difficulties sometimes to obtain data from companies (private assessments). Hence it is complex to know whether it is due to a lack of data or a lack of maturity of the company in its low-carbon transition.
- Decarbonization pathways (SBTi FLAG), including GHG emissions related to land management, land-use and carbon removal were not available yet. This prevented both a quantitative assessment on these key topics for the sector and might have affected the attractiveness of the Methodology.

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

Deloitte and I Care & Consult have already implemented methodological enhancements as well as improvements to the questionnaire. In this section we summarize recommendations gathered during the road test collected from companies or analysts:

1) Recommendations on the company's questionnaire and data collection phase:

- **Add the maturity matrices along with the blank cells in the company questionnaire** to improve the understanding of each indicator by the company. Also it allow companies to identify at which level they are. It leads to constructive discussions and awareness on how companies can go further in their transition.
- **Take necessary time to introduce the tab “Quantitative data” and related indicators. The addition of this tab in the company questionnaire** allows the centralisation of the data needed for quantitative indicators. It provides a clear overview to the company and help the analyst in grasping potential inconsistencies. However, it can be a barrier to understanding the ACT Pulp & Paper Methodology: it requires analysts to be clear and informative on the relationship between the data requested and the rationale of several indicators. Nonetheless one of the advantages is to avoid discrepancy between quantitative indicators and help the analysts to assess the robustness of data disclosed by the company.
- **Planning to have several sessions** to introduce the Methodology to the company is key and would enhance the company's understanding of the Methodology.
- The quality of ACT assessment depends on the involvement of the company in gathering data. **One option to ease the data collection process would be to rely on the analyst to collect data for modules such as suppliers, client, and policy engagement.** Indeed, the analyst is often more familiar with the Methodology and might know precisely the data needed for the assessment – and this would avoid this being a challenging phase for the company. However, in this case, it should be acknowledged that additional time would be spent by the analyst.

2) Recommendations on the trend tool:

- The **additional guidance sheet to set a trend score for the company is considered relevant** by the analysts who used it. However, the guidance that accompanies the maturity matrix is not sufficiently clear and developed. A short live explanation of how it should be used (10-15 min) could have improved the use rate.
- **Consider the ‘maturity matrix’ as principal guidance, as it allows the analyst to better take into consideration intangible elements that are not considered in the performance score.** In this case, the aggregation of the trend score from the performance score could be considered as additional guidance.
- **Levels such as “Strong positive” and “Strong negative” is useful guidance for analysts who are not familiar with ACT Framework.** It gives clear guidance on how the trend score should be set for companies who are clearly over or above the average score for most indicators. However, most of the time, assessing the trend of a company still relies on the analyst's judgement. In this sense, additional guidance is a positive improvement to guide the analyst on how to assess the company's trend.

- The indicators selected for the trend score were in overall considered as relevant, except for indicator 5.5 “Climate change scenario testing”, and indicator 8.4 “Collaboration with local public authorities”. **In general, indicators from module 8 seem to not be relevant when it comes to assess how the company will evolve in the future.** In addition, indicator 2.4 “Locked in emissions” could be added because it computes the carbon budget in the next 15 years and has a strong component related to the future.

3) Suggestions to make the online tool more user friendly:

During the road test, an online evaluation tool was developed by ADEME in cooperation with the analysts. This tool encountered many bugs during its launch, which were resolved as the road test progressed. Even if the tool is now operational, improvements can still be implemented to make it more user-friendly for analysts:

- Rather than navigating between pages to see how gradings changed with a modification on data, **add the module grading down the page where data are entered.**
- **Enable the possibility to modify one word** rather than deleting whole sentences
- Add **thousands of separators for numbers (e.g., 1,000,000 rather than 1000000)**
- During the road test the “black box” effect strongly delayed the identification of bugs and errors. **A session from the MHQA/Methodology developed to test the tool with extreme cases** could have saved time and contributed to ensuring that the tool is aligned with the Methodology.

4) Methodological changes implemented in the final version of the Methodology:

- **A consolidated benchmark for the sector:** It has been noted during the road test that companies do not always have their CO₂ emissions already disaggregated per activity. A new consolidated benchmark will be created (in tCO₂/t of material) to replace the previous benchmark per activity. Companies will still need to provide the volume of production per activity (and volume of consumption of paper/board for the converting activity) in order to compute a relevant and tailored benchmark.
- **An additional indicator PP 1.2 dedicated to scope 3 targets:** As a result of the road test, it was noticed that there are still too few companies from the sector that have developed a scope 3 emissions reduction target. To better reflect this fact in the performance score, a dedicated indicator will be created to reward companies who do have an emissions reduction target on their scope 3 emissions.
- **A reshaped indicator PP 4.3 assessing companies’ actions on deforestation and material procurement:** This indicator appeared irrelevant for players at the end of the value chain (converters). The (almost) only lever is the use of certified raw materials. Therefore, this indicator has been adapted for converters and the whole indicator has been reshaped through two dimensions. Firstly, assessing the robustness of commitment on no-deforestation / sustainable procurement and the implementation of a supply chain traceability system and, secondly, focusing on a company’s target in the future regarding the use of recycled fibres, sustainable fibres or the reduction of fibres used per product. Also, the sub-dimension regarding the sustainability of woody biomass has been integrated into indicator 2.5 Transition towards low-carbon energy.
- **Further criteria on the dimension on assessing the use of heat and steam:** A novel approach was introduced in the ACT Pulp & Paper Methodology to recognise the efforts implemented by companies investing in technologies enabling a transition towards low-carbon heat and steam. However, it was highlighted during the road test that there is a need to identify efficient technologies

(e.g., for biomass boilers) or at least to define a minimum threshold on the carbon content of energy used in combination with those technologies.

- **An improved low-carbon electricity dimension:** The dimension assessing low-carbon electricity has been improved to more accurately answer the question “is the company contributing to the development of new low-carbon electricity capacity?”. The updated version of the indicator PP 2.5 will give more details on the mechanisms used by companies to consume low-carbon electricity and value mechanisms that correspond to a commitment to the addition of new low-carbon electricity generation capacity.
- **Provide more guidance on qualitative modules 5 (management), 6 (suppliers), 7 (clients), and 8 (public engagement).** The analysts and companies frequently reported unclear questions and lack of precision and guidance for these modules, making it difficult to find the right level in the maturity matrices. CDP and ADEME are working on re-wording these indicators and changing the scoring process.
- **Change some indicators selected for the trend score:** The indicators selected were in overall considered as relevant, except for indicator 5.5 “Climate change scenario testing”, and indicator 8.4 “Collaboration with local public authorities”. **In general, indicators from module 8 seem to not be relevant when it comes to assessing how the company will evolve in the future.** In addition, indicator 2.4 “Locked in emissions” could be added because it computes the carbon budget in the next 15 years and has a strong component related to the future.

5) Modifications related to the ACT framework:

- **Review and improve the narrative score:** Data quality has not been integrated so far, whereas it is an important topic. There is only a dedicated paragraph in the feedback report for companies. CDP and ADEME are also working on improving the narrative score. A 5th criterion in narrative scoring will be added: “Data Quality”, alongside Business Model and Strategy, Consistency and Credibility, Reputation, and Risk. Guidance will also be added, and the maturity matrix will be improved to consider more elements already listed in the Framework.

6. Other technical points have been addressed:

- Additional guidance will be added to indicator 4.2 regarding certification schemes that can be used to justify the use in sold products of recovered fibres and virgin fibres from sustainably managed forests
- Additional levers have been added to the module “Supplier engagement”
- The list of business models eligible under the indicator 9.1 ‘Business models and new business activities supporting low-carbon processes’ has been further clarified

CONTRIBUTION OF ACT TO ENGAGING COMPANIES IN THE LOW-CARBON TRANSITION

This report concludes by highlighting the strong willingness of companies in the sector to become involved in the low-carbon transition. Indeed, almost all of them have included greenhouse gas reduction targets and have tried to implement actions of varying degrees of impact to achieve these targets. They all have also included climate change mitigation in their strategy and have adapted their governance accordingly.

A large majority of companies have started to develop policies and business models for low-carbon products and technologies. Companies are also interacting with their suppliers and customers and starting to integrate them into their sustainability strategy.

But the transformation of the pulp & paper sector will take time and will be more effective if companies push their efforts by developing their scope 3 targets and engage more with their supply chain, especially their suppliers and transporters, for instance.

They also need to improve their transparency and consistency. It is not enough to set targets and communicate on them, it is also necessary to develop impactful actions to reach them, invest even more in new business models and sustainable energy mixes and increase the share of recycled fibres used. Not all companies that participated in the road test were diligent in the exercise, but for those that were, the ACT Pulp & Paper Methodology was demonstrated as a useful tool that will help companies in their ongoing decarbonisation and in the establishment of relevant KPIs for the pursuit of sustainability within their business.

3. References

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