

Assessing low-Carbon Transition

Electricity



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1 Introduction

The 2015 United Nations Climate Change Conference (COP21) in Paris reinforced the global commitment to act on climate change with the political agreement to limit warming to well-below 2°C and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. The 'Assessing low-Carbon Transition' (ACT) Initiative measures a company's alignment with a future low-carbon world. The goal is to drive action by companies and encourage businesses to move to a 1.5°C compatible pathway in terms of their climate strategy, business model, investments, operations and GHG emissions management. The general approach of ACT is based on the Sectoral Decarbonization Approach (SDA) developed by the Science-Based Targets initiative (SBTi) in order to compare a company's alignment with a 1.5°C world, the application of which is described in the ACT Framework (1).

Currently, the generation of electricity is one of the major contributors to global greenhouse gas (GHG) emissions, representing about 25% of global total emissions (14 GtCO2e in 2020) (2). The key to all decarbonization scenarios is the rapid deployment of low-carbon electricity generation technologies. A low-carbon world is impossible without a transformative change in the electricity sector, which is why it has been included in the ACT Initiative. In terms of assessment, the electricity sector has a well-defined primary activity with accessible physical intensity data. This makes the sector suitable for analysis via the SDA and allows the ACT assessment to focus on quantitative indicators, accompanied by narrative and qualitative indicators to provide a deeper understanding of the company's impact. The methodology takes into account current scenarios that predict increased demand for electricity, improved efficiency and growth of renewables.

For electric utilities, a particular emphasis is placed on their electricity production capacity and their existing and planned power production technologies. The SDA was mainly developed for centralized electricity generation, which is the main electricity source. However, with the rise of distributed renewable generation technologies (e.g., solar PV, wind, etc.), decentralized electricity generation has to be taken into account. In addition, this update of the methodology covers the inclusion of electricity retail companies, identified as having meaningful decarbonisation levers with electricity generators and end consumers.

The methodology considers factors such as: current production assets, locked-in emissions from these assets, production technology changes (deployment of renewables and/or carbon capture and storage (CCS) technologies), and future investments and partnerships in low-carbon technologies. Such data feed simplified assessment models that aim to quantify the implications of, for example, technology choices for future emissions. Qualitative topics also considered to be relevant include new business models, supplier, customer, and policy engagement, past decarbonisation performance, and the overall decarbonisation strategy.

2 Principles

The selection of principles to be used for the methodology development and implementation is explained in the general Framework. Table 1 recaps the adopted principles that were adhered to when developing the methodology.

TABLE 1: PRINCIPLES FOR IMPLEMENTATION

Relevance - Select the most relevant information (core business and stakeholders) to assess low-carbon transition.

Verifiability - The data required for the assessment shall be verified or verifiable.

Conservativeness - Whenever the use of assumptions is required, the assumption shall err on the side of achieving well-below 2°C maximum global warming and pursuing efforts to limit the temperature increase to 1.5°C (compared to pre-industrial levels).

Consistency - Whenever time series data is used, it should be comparable over time.

Long-term orientation - Enables the evaluation of the long-term performance of a company while simultaneously providing insights into short- and medium-term outcomes in alignment with the long-term.

3 Scope

3.1 SCOPE OF THE DOCUMENT

This document presents the ACT assessment methodology for the electricity sector. It includes descriptions of indicators alongside their calculation methods and rationale for the sector-specific aspects of performance, narrative and trend scorings. It was developed in compliance with the ACT guidelines for the development of sector methodologies (3) which describe the governance and process of ACT methodology development, as well as the required content for such methodologies. It is intended to be used in conjunction with the ACT Framework (1) which describes the overarching philosophy of the ACT initiative and elements of the ACT approach that are not sector specific.

3.2 SCOPE OF THE SECTOR

The electricity sector corresponds to *Power generation* (1.10) and *Electricity Networks* (1.6.2.1) in the CDP Activity Classification System (CDP-ACS). The sector's activities are classified under the code and description "3510 – Electric power generation, transmission and distribution" in the ISICS classification and under the code and description "35.1 – Electric power generation, transmission and distribution" in the NACE classification. An overview of the sector is provided in Figure 1.

It is divided into 4 activity segments: generation, transmission, distribution, and retail/trade. Companies in the sector can operate within one or more of these segments, although pure transmission & distribution (T&D) companies are not within the scope of this methodology.

Companies can be assessed by the ACT Electricity methodology if:

- They generate electricity (35.11 NACE classification), whatever their role in transmission & distribution activities (35.12 and 35.13 NACE classification)
- They trade electricity (35.14 NACE classification)
- They generate and trade electricity (35.11 and 35.14 NACE classification), whatever their role in T&D activities (35.12 and 35.13 NACE classification)



FIGURE 1: ELECTRICITY SECTOR VALUE CHAIN

For the purposes of assessment, companies in the sector have been grouped into three company profiles, depending on the specific activities they carry out. This is because the levers of action to reduce GHG emissions will differ depending on the company's activities. The company profile has implications for the specific modules and indicators that apply to the company, and the weightings of these modules/indicators (see section 6.3). The company profiles are listed below:

- 1. **Pure generation** companies, which generate electricity to sell and do not purchase any additional electricity from other sources
 - >95% of the electricity sold by the company is generated from company-owned assets
- 2. **Pure retail** companies, which purchase electricity to sell and do not generate any electricity from company-owned assets
 - >95% of the electricity sold by the company is purchased from other sources (e.g., other generators, wholesale markets)
- 3. **Mixed profile** companies, which generate electricity to sell as well as purchasing electricity from other sources
 - Some (≤95%) of the electricity sold by the company is generated from company-owned assets, while some (≤95%) is purchased from other sources (e.g., other generators, wholesale markets)

See the Glossary for definitions of term: "Electricity retailer".

→ Examples of company profiles

Pure generation: Company A

Company A is a publicly listed company headquartered in the United States of America. In 2022, its revenue was USD 24 billion and installed capacity was 50 GW.

In 2022, 96% of Company A's sold electricity was generated by assets owned by the company. Only 4% came from purchased renewables.

As such, Company A can be considered a "pure generation" company and scored using the weighting scheme for this company profile.

Pure retail: Company B

Company B is a major energy supplier based in the United Kingdom. In 2022, its revenue was GBP 5 billion. It supplies electricity and gas to domestic properties throughout the UK. Electricity supplied by Company B comes from various sources including solar farms, wind farms, and the burning of landfill gas.

Company B does not own any of its own generation assets, but rather purchases its electricity directly from generators using PPAs and from the grid using REGOs.

As such, Company B can be considered a "pure retail" company and scored using the weighting scheme for this company profile.

Mixed profile: Company C

Company C is a majority state-owned company headquartered in a major oilproducing country in the Middle East. In 2020, its revenue was USD 20 billion and installed capacity was 55 GW.

In 2022, 52% of Company C's sold electricity was generated by assets owned by the company. 48% was purchased from other sources. This includes electricity purchased from independent power producers (IPP/IWPPs). As such, since the shares of generated and purchased power are both significant, Company C can be considered a "mixed profile" company and scored using the weighting scheme for this company profile.

The activities of gas distribution and retail, mining of fossil fuel resources and maintenance of other utility networks (telecoms, water, etc.) are outside the scope of the sector, although some companies in the sector also operate in these segments.

4 Boundaries

4.1 REPORTING BOUNDARIES

The ACT Electricity methodology is focused on the power generation and retail segments, e.g. the production of electricity from primary energy sources and its retailing to end-use customers.

The focus of the analysis will be on the emissions resulting from power generation and retailing activities, which are accounted for and reported as scope 1 (direct) emissions for electricity generators, and scope 3 upstream (indirect) emissions in the case of electricity retailers. Figure 2 illustrates the distribution of emissions among the different company profiles considered in this methodology regarding their scope 1, 2 and 3 emissions. The size of the circles is proportional to the most significant emissions resulting from their activities (illustrative) and is based on recommendations from the GHG Protocol (4).



FIGURE 2: DISTRIBUTION OF EMISSIONS AMONG COMPANY PROFILES

Electricity generation and retailing are strongly influenced by regulation, market structure and network infrastructure, and these factors shall thus also be taken into account. Generation companies have an important role in influencing and unlocking any constraints posed by these factors, while electricity retailers have the potential to influence the power production mode of generators, as driven by demand.

The ACT Electricity methodology considers all relevant sources of emissions from companies' activities, but the quantitative assessments using low-carbon pathways as the sectoral benchmark only refer to emissions linked to electricity generation processes (either for own generation or retail). For example, electricity generated from renewable sources is considered as having zero emissions as no combustion of fossil fuels is involved in the process. Table 2 provides an overview of the boundaries considered in this methodology regarding the emissions from the electricity value chain, as well as the categories that can be assessed and compared to a quantitative low-carbon pathway. Avoided emissions and carbon offset are not taken into account for ACT assessment of quantitative performance indicators (5).

	Emissions source	
Electricity generation	Electricity generation process (combustion)	Included (1)
Electricity transmission	Emissions from T&D losses and other GHG (SF6)	Included (2)
Electricity distribution	Emissions from T&D losses and other GHG (SF6)	Included (2)
Electricity retail	Electricity generation process (combustion)	Included (1)

TABLE 2: INCLUSION/EXCLUSION OF EMISSIONS CONSIDERED IN THE ACT ELECTRICITY METHODOLOGY

(1) These emissions are assessed and compared with a quantitative emissions reduction pathway.

(2) These emissions may be considered in non-quantitative performance indicators (e.g., supplier and client engagement), but are not to be compared to a quantitative emissions reduction pathway.

FOR EXAMPLE

- Electric utilities with a high share of variable renewable (e.g. solar, wind) assets should take action to reduce emissions from the manufacturing of components (e.g. PV modules, inverters, wind turbines etc.) as these represent most of the life-cycle impact of variable renewable electricity production. Examples of actions are setting up R&D programs, influencing suppliers to obtain lower impact materials and components, etc.
- Electric utilities relying on biomass for their low-carbon transition should be taking action to ensure that this biomass contributes to GHG savings and complies with land-use change sustainability criteria (European Commission - Directive 2009/28/EC).

 Electricity retailers operating in competitive wholesale markets and having direct contact with end consumers can engage with both suppliers and clients. For example, they can influence power generators to produce cleaner electricity, or influence customers with the implementation of energy demand management programs.

4.2 RATIONALE

The focus is on generation and retailing emissions for a number of reasons: generation activities usually represent more than 90% of scope 1+2 emissions of an electricity generation company and represent a homogeneous activity indicator that can accurately measure a company's low carbon transition. As demand-side management becomes essential in a net zero scenario, electricity retailing companies have the potential to influence end-users by offering energy saving opportunities, and many of them could provide a readily-available consumer base for deploying energy efficiency programmes.

We exclude companies exclusively involved in transmission and distribution activities (T&D) as these represent less than 10% of total emissions from the electricity sector. The IEA estimates that in 2018 losses in grids resulted in around 1 gigatonne of carbon dioxide (Gt CO₂) emissions attributable to the T&D segment (6). Nevertheless, it is important to mention that the T&D segment is also a source for emissions from sulphur hexafluoride (SF₆, a synthetic gas with a global warming potential about 23,500 times higher than CO₂), which is projected to grow as more electrical equipment is installed in the upcoming years, and for this reason solutions or investments towards the grid can still be taken into account for this methodology However, within the lifecycle of electric power, the majority of emissions come from the burning of fossil fuels in power plants.

Companies might have secondary activities that could drive significant emissions under any of the GHG accounting scopes. Examples include gas exploration (significant scope 1 emissions), transmission and distribution (significant scope 2 emissions), or retail of gas (significant scope 3: use of sold products emissions). These will be considered, but only to the extent that they reinforce or undermine the transition strategy of the company (e.g., by carbon lock-in). The transition strategy for the electricity generation is the focus, but the final rating will be impacted if the company also has significant presence in other aspects of the fossil fuel value chain and does not demonstrate a clear intention to divest from those activities.

5 Construction of the data infrastructure

5.1 DATA SOURCES

In order to carry out a company level assessment, many data points need to be gathered from various sources. Principally, ACT relies on the voluntary provision of data by the participating companies. External data sources are also consulted where this would streamline the process, ensure fairness, and provide additional value for checking, validation and preparation of the assessment narrative.

The ACT assessment uses the data sources listed in Table 3.

TABLE 3: ACT ASSESSMENT DATA SOURCES

DATA SOURCE	MAIN USE
Company data request	Primary data source for most indicators.
Contextual and financial information database sources (e.g. online and press news, RepRisk)	Contextual and financial information on the company and events related to the company that could impact the ACT assessment
Asset activity database (e.g. EnerData, GlobalData)	Additional information used to fill gaps in company reporting (7) (8)
EnerData statistics	Default modelling parameters (8)
IPCC (2006)	Fuel emission factors and related figures (9)
IPCC Working Group III Assessment (2022)	Technology level data (10)

Where indicators refer to third-party data sources as the default option, reporting companies may provide their own data if they can provide a justification for doing so along with information about its verification status, any assumptions used and the calculation methodology.

5.2 COMPANY DATA REQUEST

The data request is presented in a comprehensive data collection format in Table 4. This description is highlevel, for further details please refer to section 6.4. The following data will be requested:

TABLE 4: DATA REQUESTED FOR AN ACT ELECTRICITY ASSESSMENT

Data requested to the company

GHG emission intensities (on scopes defined in modules 1, 2 & 4 in quantitative indicators) linked to electricity production:

- Scope 1+2 emissions for own production
 - Scope 3 emissions (upstream) for retail activities

Activity data (electricity that is either generated or purchased)

Assets/plants data (asset name, geography, step of the value chain, total capacity per year, ownership stake, production rate to get nominal production, scope 1+2 emissions factor, year of commissioning, expected lifetime in years, comment)

Emissions reduction targets for the relevant scopes of emissions (emissions intensity), as well as milestones and past targets

CAPEX investments in low-carbon technologies

R&D investments in low-carbon technologies

Low-carbon patenting activity

Mechanisms used to source low-carbon electricity

Revenues generated by energy efficiency services

Interventions linked to low-carbon assets

Environmental policy and details regarding governance

Low-carbon transition plan

Management incentives and fossil fuel-related incentives

Scenario testing

List of environmental/CSR contract clauses in purchasing & suppliers' selection process

Data requested to the company

Supplier engagement strategy and activities

Client engagement strategy and activities

Company policy on engagement with associations, alliances, coalitions or thinktanks, regulators, legislators, and local public authorities

Position of the company on significant climate policies (public statements, etc.)

List and turnover or invested capital (or other financial KPI) of activities in new businesses related to low-carbon business models

Current status and action plan of the company towards its low-carbon business models

5.3 PERFORMANCE INDICATORS

The performance indicators have been conceived following the main principles described in Table 5.

TABLE 5: PERFORMANCE INDICATORS, INCLUDING TIME HORIZON OF INDICATOR

ELECTRICITY				
MODULE	PAST PRESENT		FUTURE	
			EU 1.1. Alignment of scope 1+2 emissions reduction targets	
1. TARGETS		EU 1.4. Achievement of past and current targets	EU 1.2. Alignment of scope 3 upstream emissions reduction targets	
			EU 1.3. Time horizons of targets	
			EU 2.2. Locked-in emissions	
2. MATERIAL INVESTMENT	EU 2.1	. Trend in past emissions intensity for generated electricity	EU 2.3. Trend in future emissions intensity for generated electricity	
		EU 2.4. Share of low-carbon Ca	APEX investments	
3. INTANGIBLE		ansition		
INVESTMENT	EU 3.2. Company low-carbon patenting activity			
4. SOLD PRODUCT		EU 4.1. Past performance for retailed electricity	EU 4.2. Future performance for retailed	
PERFORMANCE		EU 4.3. Contribution to low-carbon electricity generation	electricity	

		EU 4.4. Energy	efficiency services share		
		EU 4.5. Interventions to reduce life-cycle emissions of low-carbon assets			
	EU 5.1. Oversight of climate change issues		EU 5.3 Low-carbon transition plan		
		EU 5.2. Climate	change oversight capability		
5. MANAGEMENT		EU 5.4. Climate ch	ange management incentives		
		EU 5.5. Foss	sil fuel power incentives	EU 5.6. Climate change scenario testing	
6. SUPPLIER ENGAGEMENT	EU 6.2. Activities to influence suppliers to reduce their GHG EU 6.1. Strategy to influence emissions		EU 6.1. Strategy to influence	e suppliers to reduce their GHG emissions	
7. CLIENT ENGAGEMENT	EU 7.2 clients	EU 7.2. Activities to influence clients to reduce their GHG emissions EU 7.1. Strategy to influence		ce clients to reduce their GHG emissions	
		EU 8.1. Company po a	olicy on engagement with trade		
8. POLICY ENGAGEMENT	8. POLICY NGAGEMENT				
		EU 8.3. Position of	on significant climate policies		
		EU 8.4. Collaboration	n with regulators and legislators		
9. BUSINESS MODEL	EU	EU 9.1. Revenue from low-carbon products and/or services			
			EU 9.2 Changes to business r	nodels	

ACT methodologies use maturity matrices which are scaled on five levels, from "Basic" (lowest level) to "Low-carbon aligned" (highest level). Each level is associated with a score, as highlighted in Table 6 below. Some performance indicators are based on maturity matrices with a single question (or "subdimension"), whereas other indicators are based on multi-subdimension matrices. In the latter case, each subdimension is associated with a weighting which is taken into account to calculate the overall indicator score. Most matrices in the methodology make use of the full five-level matrix structure, although some may only use 2, 3 or 4 of the available maturity levels.

TABLE 6: ACT MATURITY LEVELS

Evaluation level	Basic	Standard	Advanced	Next practice	Low-carbon aligned
Score	0	0.25	0.5	0.75	1

MODULE 1: TARGETS

Module 1, "Targets", assesses the company's commitments to reduce emissions, as these are the north star for navigating the low-carbon transition. Targets provide a goal with which the company can align its strategy, business decisions, capital expenditure (CAPEX) and research and development (R&D) to deliver emissions reductions. Targets should be science-based, include both long-term and near-term targets, and cover all relevant scopes of emissions. This module focuses on emissions arising from the production of electricity (generated and/or retailed by the company).

Note: As mentioned in section 4.1, carbon offsets are not allowed for quantitative assessment within ACT methodologies. In practice, this means that a target (especially a "net-zero" one) cannot be assessed if it is unclear how the company relies on offsets. See ACT website (<u>FAQ section</u>) for more information (5).

• EU 1.1 ALIGNMENT OF SCOPE 1+2 EMISSIONS REDUCTION TARGETS **DESCRIPTION & EU 1.1 ALIGNMENT OF SCOPE 1+2 EMISSIONS REDUCTION TARGETS** REQUIREMENTS SHORT A measure of the alignment of the company's near- and long-term scope 1+2 emissions intensity (emissions related to the company's own generation **DESCRIPTION OF** of electricity) reduction targets with its decarbonization pathway. The indicator will compare the trend of the company's target pathway to the trend of INDICATOR the company's benchmark pathway and thus identify the gap between both pathways at the target year. This is expressed as the company's commitment gap. This indicator only applies to pure generation and mixed profile companies. DATA The relevant data for this indicator are: REQUIREMENTS ٠ Targets information for scope 1+2 emissions related to the own generation of electricity (target year, emission reduction between reporting year and target year, coverage) (Optional) – Base year, emissions at base year CDP Questionnaire 2023 mapping to this indicator:

- ◆ C4.1
- ♦ C4.1b

External sources of data used for the analysis of this indicator are:

- Low-carbon pathways (1.5°C aligned) See section 6.1 for a detailed explanation about sources and low-carbon scenarios that have been identified.
- SDA specific benchmark pathway definition (11)

The benchmark indicators involved are the following:

The analysis has two dimensions.

Target type	Parameter	Intensity metric	Methodological sources
Electricity generation emissions	EI_B	gCO₂e/kWh	See section 6.1

HOW THE

ASSESSMENT WILL

BE DONE

- Dimension 1 assesses the alignment of the company's near-term targets. Any target where the target year ≤ reporting year + 10 can be included in this dimension.
- Dimension 2 assesses the alignment of a company's long-term targets. Any target for which the target year > reporting year + 10 can be included in this dimension.
- The scoring rationale and calculation are the same for both dimensions.

The analysis is based on a trend ratio between the company's scope 1+2 emissions target and the company benchmark. Trends are computed between reporting year and the longest time horizon of the target.

The company's target pathway is the decarbonization over time, defined by the company's scope 1+2 emissions reduction target. To compute it, a straight line is drawn between the starting point of the analysis and the company's target endpoint.

The company benchmark pathway is the company specific scope 1+2 emissions low-carbon benchmark pathway. See section 6.1.2 for details on the computation of this pathway.

The company achieves the maximum score if the company's target pathway and the company benchmark pathway are aligned (commitment gap = 0) and if the targets are covering most of the company's scope 1+2 emissions at reporting year.

CALCULATION OF SCORE:

1) Trend ratio

The score is calculated by dividing the company's emissions intensity reduction trend by the specific benchmark emissions intensity reduction trend between the reporting year and the target year through the trend ratio:

 $Trend \ ratio = \frac{Company's \ target \ trend}{Benchmark \ pathway \ trend} = \frac{EI_C(TY) - EI_C(RY)}{EI_B(TY) - EI_C(RY)}$

Where:

- El_c(TY) is the company scope 1+2 emissions intensity at target year
- El_c(RY) is the company scope 1+2 emissions intensity at reporting year
- ElB(TY) is the company's benchmark scope 1+2 emissions intensity at target year

The commitment gap of the company is equal to (1- trend ratio). Thus, when the company's target pathway is aligned on the company's benchmark, the trend ratio is equal to 1 and the commitment gap is 0 (see Figure 3).



2) Final Score

The final score assigned to the indicator is calculated as follows (see Appendix 11.3 for a graphic illustration of the different cases):

Conditions	Score
<i>Company's target trend ></i> 0 Increase in company emissions intensity	0%
$Company's target trend \le 0$	
$0 \leq trend \ ratio \leq 1$	Trend ratio $ imes$ 100%
Decrease in company emissions intensity but company's commitment does not go beyond the company's benchmark ambition	
<i>Company's target trend</i> < 0 and $EI_C(RY) \ge EI_B(2050)$	

trend ratio > 1	100%
Decrease in company emissions intensity and company's commitment equals or exceeds the company's benchmark ambition	
Company's target trend ≤ 0 and $EI_C(RY) \leq EI_B(2050)$	
No increase in company emissions intensity and company's emissions intensity is already below the company's benchmark ambition for 2050	100%

Targets that do not cover > 95% of direct emissions are not preferred in the calculations. If only such targets are available, then the score will be adjusted downwards in proportion with % coverage. If the target coverage of total company emissions at reporting year (C_{RY}) represents less than 95%, the final score is equal to:

Final Score = Score x Target coverage of total company emissions (C_{RY}))

If the company has set several targets, the consolidation of the scores assigned to each target will be based on the share of emissions covered by the targets.

The final score for each dimension is given as the average score for all targets assessed within the timescale for each dimension.

AGGREGATE SCORE: DIMENSION 1: 50%, DIMENSION 2: 50%

RATIONALE EU 1.1 ALIGNMENT OF SCOPE 1+2 EMISSIONS REDUCTION TARGETS

RATIONALE OF THE RELEVANCE OF THE INDICATOR:

INDICATOR

Direct emissions reduction targets are included in this ACT methodology for the following reasons:

- Targets are an indicator of corporate commitment to reduce emissions, and are a meaningful metric of the company's internal planning towards the transition.
- Targets are one of the few metrics that can predict a company's long-term plan beyond that which can be projected in the short-term, satisfying ACT's need for indicators that can provide information on the long-term future of a company.
- For pure generation and mixed profile companies, direct emissions represent a high source of emissions.

SCORING RATIONALE:

Targets are quantitatively interpreted and directly compared to a low-carbon benchmark built from the company's current level of emissions at reporting year and converging toward the 2050 value of the sectoral benchmark relevant for this source. Comparing the trends gives a direct measure of the commitment gap of the company. It was chosen for its relative simplicity in interpretation and powerful message.

The indicator is split into two dimensions to account for the importance of a company having targets which are aligned not just in the long-term but also in the near-term. The Science Based Targets initiative's Net Zero Standard requires companies to set both near-term and long-term science-based targets which are in line with 1.5-degree pathways. The justification for having both near- and long-term targets is explained in the Net Zero Standard: "Near-term targets galvanize the action required for significant emissions reductions to be achieved by around 2030. Near-term emissions reductions are critical to not exceeding the global emissions budget and are not interchangeable with long-term targets. [...] Long-term targets drive economy-wide alignment and long-term business planning to reach the level of global emissions reductions needed to meet climate goals based on science." (12) The recent report by the United Nations Secretary-General's High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities (HLEG) also recommends setting both near-term and long-term targets (13).

Note: In previous ACT methodologies, the calculation was based on the difference between the company's target and the company benchmark 5 years after the reporting year. The analysis is now based on the difference between the company's target and the company benchmark at the target year. The previous version assumed that the emissions reduction would be linear between reporting year and reporting year + 5, which could affect the result as the low-carbon pathway is not linear, the new version avoids this assumption by using data at target year.

• EU 1.2 ALIGNMENT OF UPSTREAM SCOPE 3 EMISSIONS REDUCTION TARGETS

DESCRIPTION & REQUIREMENTS	EU 1.2 ALIGNMENT OF UPSTREAM SCOPE 3 EMISSIONS REDUCTION TARGETS
SHORT	
DESCRIPTION OF	A measure of the alignment of the company's near- and long-term upstream scope 3 emissions intensity (emissions related to the generation of retailed
	electricity) reduction targets with its decarbonization pathway. The indicator will compare the trend of company's targeted pathway to the trend of
INDICATOR	company's benchmark and thus identify the gap between both pathways at the target year, which is expressed as the company's commitment gap.
	This indicator only applies to pure retail and mixed profile companies.

DATA The relevant data for this indicator are:

REQUIREMENTS

- Targets information for scope 3 upstream emissions related to the generation of retailed electricity (target year, emission reduction between reporting year and target year, coverage)
- (Optional) Base year, emissions at base year

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C4.1
- ♦ C4.1b

External sources of data used for the analysis of this indicator are:

- Low-carbon pathways (1.5°C aligned) See section 6.1 for a detailed explanation about sources and low-carbon scenarios that have been identified
- SDA specific benchmark pathway definition (11)

The benchmark indicators involved are:

Target type	Parameter	Intensity metric	Methodological sources
Electricity generation emissions (for retailed electricity)	EI _B	gCO₂e/kWh	See section 6.1

HOW THE

Same calculation as indicator 1.1 Alignment of scope 1+2 emissions reduction targets.

ASSESSMENT WILL

BE DONE

RATIONALE EU 1.2 ALIGNMENT OF UPSTREAM SCOPE 3 EMISSIONS REDUCTION TARGETS

RATIONALE OF RELEVANCE OF THE INDICATOR:

THE INDICATOR

Upstream scope 3 emissions reduction targets are included in this ACT methodology for the following reasons:

- Targets are an indicator of corporate commitment to reduce emissions, and are a meaningful metric of the company's internal planning towards the transition.
- Targets are one of the few metrics that can predict a company's long-term plan beyond that which can be projected in the short-term, satisfying ACT's need for indicators that can provide information on the long-term future of a company.
- For electricity retailers and mixed profile companies, upstream scope 3 emissions from purchased electricity represents a high source of emissions. A GHG emissions reduction target should be assigned to them.

SCORING RATIONALE:

As per indicator 1.1 Alignment of scope 1+2 emissions reduction targets.

• EU 1.3 TIME HORIZON OF TARGETS

DESCRIPTION &	EU 1.3 TIME HORIZON OF TARGETS
REQUIREMENTS	

SHORT

DESCRIPTION A measure of the time horizons of company targets. The ideal set of targets is forward looking enough to include a long time horizon that includes the majority of a company's asset lifetimes, but also includes short-term targets that incentivize action in the present.

DATA The relevant data for this indicator are:

REQUIREMENTS

• Per target: Target year, and scopes or emissions sources covered by the target. Please include all company targets (target with the longest time horizon **and** all intermediate targets).

CDP Questionnaire 2023 mapping to this indicator:

- C4.1a (absolute targets)
- C4.1b (intensity targets)

The benchmark indicator involved is the following:

Target type	Parameter	Intensity metric	Methodological sources
Average plant lifetime	Qw.1st, Mw, Qw.3rd	years	Quantiles of statistic average lifetime of the company assets weighted by yearly emissions from assets

How THE The analysis has two dimensions:

- ASSESSMENT A comparison of: (a) the longest time horizon of the company's targets, and (b) the long-term point fixed by ACT assessment methodology.

DIMENSION 1 - TARGET ENDPOINT: The company's target endpoint (T_e) is compared to the company's 1st quantile ($Q_{w.1st}$), median (M_w) and 3rd quantile ($Q_{w.3rd}$) of ranked asset lifetimes, weighted by yearly emissions from assets at reporting year.

The company's target endpoint (T_e) is equal to the longest time horizon among the company's targets, minus the reporting year:

 $T_e = Longest target time horizon - reporting year$

The quartiles ($Q_{w.1st}$, $Q_{w.3rd}$) and median (M_w) are calculated by ranking the company's generation assets by estimated lifetime, while also weighting this ranking with information on yearly emissions from assets. This means that at the median lifetime, 50% of the company's yearly emissions from assets will have been decommissioned. At the quartiles this is 25% and 75% respectively. Figure 4 provides a visual representation on how the weighted median and quartiles are derived.

The assessment will compare Te to Qw.1st, Mw, and Qw.3rd. This assessment measures the horizon gap:

Horizon
$$gap = LT - T_e - \{Q_{w.1st}, M_w, Q_{w.3rd}\}$$

The company's target endpoint is scored according to the following scoring table:

HORIZON GAP	SCORE
$T_e > Q_{w.3rd}$	50%
$T_e > M_w$	35%
$T_e > Q_{w.1st}$	20%



Weighted Lifetime Emissions curve

FIGURE 4: THE DEFINITION AND DERIVATION OF WEIGHTED LIFETIME BENCHMARKS BY RANKING A SET OF 19 ILLUSTRATIVE GENERATION ASSETS BY LIFETIME AND YEARLY CO2 EMISSIONS.

In this example: $Q_{w.1st} = 6$ years (not visualised), $M_w = 20$ years and $Q_{w.3rd} = 36$ years. Target endpoints would be benchmarked towards these horizons.

DIMENSION 2 - INTERMEDIATE HORIZONS: All company targets and their endpoints are calculated and plotted. The ideal scoring company does not have intervals between target endpoints larger than 5 years from the reporting year.

Measurements are done in five-year intervals between the reporting year and the longest time horizon of the company.

The company's targets are compared according to the following scoring table:

Intermediate target gap length	Score
All the gaps during $T_{\rm e}$ are equal to or less than 5 years	50%
All the gaps until 80% of $T_{\rm e}$ are equal to or less than 5 years	40%
All the gaps until 60% of $T_{\rm e}$ are equal to or less than 5 years	30%
All the gaps until 40% of $T_{\rm e}$ are equal to or less than 5 years	20%
All the gaps until 20% of $T_{\rm e}$ are equal to or less than 5 years	10%
All the gaps of 5 years or less do not reach 20% of T_e or there is no such gaps disclosed by the company	0%

An example is illustrated in Figure 5.



FIGURE 5: EXAMPLES OF HORIZONS OF INTERMEDIATE TARGETS SET BY THE COMPANY AND CORRESPONDING SCORES ON DIMENSION 2 OF THE INDICATOR 1.4

AGGREGATE SCORE: DIMENSION 1: 50%, DIMENSION 2: 50%

FOR ALL CALCULATIONS:

Targets that do not cover > 95% of direct emissions are not preferred in the calculations. If only such targets are available, then the score will be adjusted downwards in proportion with % coverage. If the target coverage of total company emissions at reporting year (C_{RY}) represents less than 95%, the final score is equal to:

Final Score = Score x Target coverage of total company emissions (C_{RY})

If the company has set several targets, the consolidation of the scores assigned to each target will be based on the share of emissions covered by the targets.

RATIONALE EU 1.3 TIME HORIZON OF TARGETS

RATIONALE OF

THE INDICATOR RELEVANCE OF THE INDICATOR:

The time horizon of targets is included in this ACT methodology for the following reasons:

- The target endpoint is an indicator of how forward-looking the company's transition strategy is.
- Aside from communicating long-term commitments, short-term action needs to be incentivized. This is why short time intervals between targets are needed. A 5-year interval is seen as a suitable interval to ensure company is taking enough action, holding itself accountable by measuring progress every 5 years.

• EU 1.4 ACHIEVEMENT OF PAST AND CURRENT TARGETS

DESCRIPTION & EU 1.4 ACHIEVEMENT OF PAST AND CURRENT TARGETS

REQUIREMENTS

SHORT

DESCRIPTION OF

A measure of the company's historic target achievements and current progress towards active emissions reduction targets. All the scopes of the company are considered. The ambition of the target is qualitatively assessed and is not included in the performance indicators.

INDICATOR

DATA The relevant data for this indicator are:

REQUIREMENTS For each target set in the past 10 years:

- Base year
- Start year
- Target year
- Percentage of reduction target from base year in absolute emissions
- Percentage of absolute emissions reduction target achieved
- Percentage of reduction target from base year in emissions intensity
- Percentage of emissions intensity reduction target achieved
- Percentage of scope 1+2, or scope 1+2+3 emissions covered by the targets, depending on the company profile

CDP Questionnaire 2023 mapping to this indicator:

- C4.1a (absolute targets)
- C4.1b (intensity targets)

How THE For the performance score, this indicator is assessed on two dimensions, whereby companies achieve the maximum score if:

ASSESSMENT DIMENSION 1 – PAST TARGETS: The company has achieved all previous emissions reduction targets with a target year in the past 10 years. If all past targets are indeed achieved, the highest score is obtained. If not, the achievement ratio *a* is computed as follows:

$$a = \frac{E(t_{ref}) - E(t_{horizon})}{E(t_{ref}) - T(t_{horizon})} \ge 0.5$$

Where:

- $E(t_{ref})$ is the level of emissions of the company in the base year
- $T(t_{horizon})$ is the target the company set (a given level of emissions at a given horizon year, now past)
- $E(t_{horizon})$ is the effective level of emissions reached by the company in the target year

A threshold is set for scoring at 0.5: if the company achieved less than 50% of the historic target, it will receive a zero score.

If the company has several past targets over the last 10 years, the ratio *a* shall be computed for each target, and the average of all *a* ratio shall be used for scoring.

Achievement ratio		Score
$a \ge 1$	100%	Score
0.5 < <i>a</i> < 1	100%*(2*a-1)	100%
<i>a</i> ≤ 0.5	0%	0% 0.5 1 a

DIMENSION 2 – RUNNING TARGETS:

Assesses whether the company is currently on track to meet a current emissions reduction target. The assessment is based on the progress ratio *p*:

$$p = \frac{a}{\% \ time}$$

a being defined in dimension 1 and the past time ratio %*time* defined as follows:

$$\% time = \frac{t_{reporting} - t_{ref}}{t_{horizon} - t_{ref}}$$

Where

- t_{ref} is the year during which the target was set
- $t_{reporting}$ is the reporting year
- $t_{horizon}$ is the year of horizon of the target

The highest score is attained if $p \ge 1$. A percentage score is assigned for any value between 0 and 1.

Progress ratio	Score
$p \ge 1$	100%
<i>p</i> < 1	p (%)

For this second dimension, target year must be at least one year after reporting year, and target start year must be at least one year before reporting year.

AGGREGATE SCORE - DIMENSION 1: 25%, DIMENSION 2: 75%



FOR ALL CALCULATIONS:

- Companies which do not have targets with target years in the past but only with target years in the future are not assessed on dimension 1, but only on dimension 2. Their score for this indicator is based on Dimension 2.
- Targets should cover >95% of the company's GHG emissions scope. However, if it is not the case, no penalty is applied since indicators assessing ambition of targets already penalize partial coverage of emissions..

 If the company has multiple targets in different scopes that can be assessed according to the above criteria, then the score is an average score based on the progress ratios of all targets assessed.

The performance score does not assess the ambition level of previous targets, and therefore dimension 1 has a low weight in the final performance score. This information is also qualitatively assessed in the narrative analysis, which will consider the following dimensions:

- Achievement level: To what degree has the company achieved its previously set emissions reduction targets.
- Progress level: To what degree is the company on track to meet its currently active emissions reduction targets.
- Ambition level: What level of ambition do the previously achieved emissions reduction targets represent.

Rationale EU 1.4 ACHIEVEMENT OF PAST AND CURRENT TARGETS

RATIONALE OF RELEVANCE OF THE INDICATOR:

THE INDICATOR

The historic target ambition and company performance is included in this ACT methodology for the following reasons:

- The ACT assessment looks only to the past to the extent where it can inform the future. This indicator is future-relevant because it provides information on the organizational capability to set and meet emissions reduction targets. Dimension 1 of this indicator gives credibility to any company commitments to a science-based reduction pathway when the company shows it has succeeded in achieving its past targets.
- Dimension 2 of this indicator adds additional value to the assessment by showing if the company is on track to achieve current targets.

SCORING RATIONALE:

Previous target achievement is not straightforward to interpret quantitatively. Therefore, the performance score doesn't take into account past target ambition and leaves it to the narrative assessment for a meaningful judgement on the ambition level of past targets.

- Dimension 1 of the performance score will penalize companies who have not met past targets in the past 10 years, as this means the company has lower credibility when setting ambitious science-based targets.
- Dimension 2 uses a simple ratio, which reflects how well or not the company is currently on track to reach its existing emissions reduction target. The maximum score is obtained when the percentage of the targeted reduction achieved is equal to or higher than the time elapsed since the target base year. This results in a progress ratio of 1 or above. No score is awarded if the percentage of reduction achieved is less than half the percentage of time elapsed. Consequently, staying on track with the original target throughout its timeline is rewarded.
MODULE 2: MATERIAL INVESTMENT

Module 2, "Material investment", assesses actions to reduce scope 1 and 2 emissions from the company's assets and operations. Comparing the company's trend in past and projected scope 1 and 2 emissions intensity with its 1.5°C pathway provides a good measure of its transition progress. Comparing capital expenditure (CAPEX) allocated to low-carbon technologies against the total CAPEX provides an indication of future emissions reductions, while locked-in emissions from the company's assets show the amount by which the company is likely to exceed its carbon budget. This module focuses on emissions arising from the production of electricity (generated by the company).

• EU 2.1 TREND IN PAST EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

DESCRIPTION & EU 2.1 TREND IN PAST EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

REQUIREMENTS

REQUIREMENTS

SHORT

A measure of the alignment of the past trend of the company's generated electricity emissions intensity (emissions related to the company's own generation of electricity) with the low-carbon benchmark pathway. The indicator will compare the gradient of this trend over a 5-year period to the reporting year (reporting year minus 5 years) with the low-carbon benchmark pathway trend over a 5-year period after the reporting year.

This indicator only applies to pure generation and mixed profile companies.

DATA The relevant data for this indicator are:

- Generated electricity emissions intensity and activity at reporting year (RY) and reporting year minus five years (RY-5)
 OR
 - Total emissions from generated electricity and activity at RY and RY-5.

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C6.1
- C6.3
- ◆ C6.10

How THEThe analysis is based on the comparison between the company's recent (RY-5) emissions intensity trend gradient (CR'_{S12}) and the company'sASSESSMENTdecarbonization pathway trend gradient (CB'_{S12}) in the short-term (RY+5). The emissions intensity of the company at the reporting year (CEI_{RY}) and the
sectoral benchmark value of emissions intensity in 2050 (SB₂₀₅₀) are also taken into consideration to calculate the company's score.

CR'_{S12} is the gradient of the linear trend-line of the company's recent scope 1+2 emissions intensity (gCO₂/kWh) over time (CR_{S12}).

CB's₁₂ is the gradient of the linear trend-line of the company benchmark pathway for emissions intensity (gCO₂/kWh) (*CB*_{S12}). See section 6.1.2 for details on the computation of the company specific decarbonization pathway.

The difference between CR'_{s12} and CB'_{s12} will be measured by their ratio (r_{s12}). This is the scope 1+2 emissions Transition ratio, which is calculated by the following equation, with the apostrophe symbol (') used to denote gradients:

$$R_{S12} = \frac{CR'_{S12}}{CB'_{S12}}$$

Four different cases are to be taken into consideration, as illustrated in Table 7:

- Case #1: CR'_{SC1+2} is positive \rightarrow Score = 0 (whatever the r_{SC1+2} and CEI_{RY} values)
- Case #2: CR'_{SC1+2} is negative and $0 < r_{SC1+2} < 1$ and CEI_{RY} is higher than $SB_{2050} \rightarrow Score = r_{SC1+2}$ (expressed as a percentage)
- Case #3: CR'_{SC1+2} is negative and $r_{SC1+2} \ge 1$ and CEI_{RY} is higher than $SB_{2050} \rightarrow Score = 100 \%$
- Case #4: CR'_{SC1+2} is negative and CEI_{RY} is lower than SB₂₀₅₀ \rightarrow Score = 100 % (whatever the r_{SC1+2} value)

TABLE 7: ILLUSTRATIVE GRAPHS FOR TREND IN PAST EMISSIONS INTENSITY SCORING





RATIONALE EU 2.1 TREND IN PAST EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

RATIONALE OF

THE INDICATOR RELEVANCE OF THE INDICATOR:

Trend in past emissions intensity indicator is included in this ACT methodology for the following reasons:

- Trend in past emissions intensity shows the speed at which the company has been reducing its emissions intensity over the recent past.
 Comparing this to the decarbonization pathway gives an indication of the speed of the change that needs to be made within the company to bring it onto a low-carbon pathway.
- While ACT aims to be as future-oriented as possible, it does not want to rely solely on projections, in a way that would make the analysis too vulnerable to the uncertainty of those projections. Therefore, this measure, along with projected emissions intensity and absolute emissions, forms part of a holistic view of company emissions performance in the past, present, and future.
- This indicator is future-relevant by providing information on the organizational capability to deliver emissions reductions that are aligned with the benchmark.

• EU 2.2 LOCKED-IN EMISSIONS

DESCRIPTION EU 2.2 LOCKED-IN EMISSIONS

&

REQUIREMENTS

SHORT

DESCRIPTION Measure of the company's cumulative GHG emissions implied by the company's installed and planned assets over a 15-year period from the reporting year. These locked-in emissions (related to the company's own generation of electricity) are compared to the carbon budget allocated to the company according to the benchmark. A secured activity ratio, considering both secured and projected activities, completes the scoring to ensure there is consistency between companies' concrete plans and long-term projections.

This indicator only applies to pure generation and mixed profile companies.

DATA CDP Questionnaire 2023 mapping to this indicator: ♦ C7.3b

REQUIREMENTS

HOW THE

The analysis is based on the ratio between the company's installed and planned emissions for the 15 years after the reporting year $[LE_F(t)]$, and the **ANALYSIS WILL** emissions budget entailed by the company's carbon budget [(t)] over the same period of time. **BE DONE**

> $LE_F(t)$ is calculated as the total cumulative emissions implied by the lifetimes of currently active and assets which are planned and confirmed. If unknown, the commissioning year of projects is estimated from the project status (e.g. bidding process, construction, etc.) and data on typical project periods by plant type.

> LE_F(t) is calculated as the company's locked-in carbon emissions, from reporting year (RY) to reporting year plus fifteen years (RY+15), which is derived by taking the area under the company's future locked-in emissions curve. This curve in turn is derived from the company's intensity pathway CA, multiplied by secured activity A_s :

$$LE_F(t) = \int_{RY}^{RY+15} A_S * CA$$

Figure 7 illustrates locked-in emissions of one facility and of the whole company.



B(RY + 15) is calculated as the company's carbon budget up to RY+15, which is derived by taking the area under the absolute emissions reduction curve. This curve is derived from the company benchmark pathway ($CB_{scopes12}$) by multiplying it by the projected activity A_P for the company:

$$B(t) = \int_{RY}^{RY+15} A_P * CB_{Scope12}$$

The company's benchmark is computed from the company's current emissions at reporting year and the level of carbon intensity defined by the sectoral benchmark presented in section 6.1. The carbon budget is illustrated in Figure 8 below.



FIGURE 8: CARBON BUDGET DERIVED FROM THE COMPANY'S BENCHMARK

Depending on the data availability, the computation of these areas may not be as straightforward as the equations shown and will be estimated, but the principles will hold.

The locked-in ratio (r_{LB}) is illustrated in Figure 9, and calculated as follows:

$$r_{LB}(t) = \frac{LE_F(t)}{B(t)}$$



FIGURE 9: ILLUSTRATION OF THE LOCKED-IN RATIO

To calculate a score regarding the amount of carbon budget consumed, the level of activity from existing and planned assets needs to be taken into account. Therefore, in a similar way to locked-in emissions, the level of activity that the company is able to perform thanks to its existing and planned assets up to RY+15 is calculated. This is called the secured activity and is illustrated in Figure 10.



FIGURE 10: SECURED ACTIVITY BY THE COMPANY

The secured activity is compared to the level of activity projected by the company up to RY+15. If the company does not have any projections or no projections up to RY+15, it will be assumed that its market share will remain constant and its activity will evolve at the same rate as the sector (see section 6.1). The company's projected activity is illustrated in Figure 11.



FIGURE 11: PROJECTED ACTIVITY

The secured activity ratio $r_{SA}(RY + 15)$ compares the secured activity up to (RY + 15) with the projected activity up to (RY + 15). It is illustrated in Figure 12.

$$r_{SA}(RY+15) = \int_{RY}^{RY+15} \frac{A_S(RY+15)}{A_P(RY+15)}$$





CALCULATION OF THE SCORE:

The case $r_{SA} > 1$ is unlikely to happen as the company is unlikely to have existing or planned assets able to meet or exceed the projection of activity until (RY + 15). r_{SA} will thus be lower than 1, meaning that the company will need more investments / assets to be able to meet the projection of activity. The lower r_{SA} , the more the company will need new assets, which can be either low- or high-carbon.

Assessing only the locked-in ratio r_{LB} implies that new assets are considered as low-carbon. r_{SA} is thus used as a threshold value for the scoring. If the locked-in ratio r_{LB} does not exceed the secured activity ratio r_{SA} , the company stands within its carbon budget and gets a 100% score. When the locked-in ratio exceeds the secured activity ratio, that means that the company exceeds its carbon budget and the score decreases. If the locked-in ratio r_{LB} is more than 1.5, that means that the company exceeds by more than 50% and receives a 0% score.



RATIONALE EU 2.2 LOCKED-IN EMISSIONS

RATIONALE OF RELEVANCE OF THE INDICATOR:

THE INDICATOR

Locked-in emissions are included in this ACT methodology for the following reasons:

- Absolute GHG emissions over time are the definitive measure of a company's contribution to global warming.
- Analysing a company's locked-in emissions alongside science-based budgets also gives a means to scrutinise the potential cost of inaction, including the possibility of stranded assets.
- Examining absolute emissions, along with recent and short-term emissions intensity trends, forms part of a holistic view of a company's emissions performance in the past, present, and future.
- The approach using the secured-activity ratio is a coherence check between the company's emissions reduction ambition, and its investments (and the inevitable emissions associated). It shows the discretion the company has over future investments.

• EU 2.3 TREND IN FUTURE EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

DESCRIPTION & EU 2.3 TREND IN FUTURE EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

REQUIREMENTS

SHORT DESCRIPTION

OF INDICATOR A measure of the alignment of the future trend of the company's generated electricity emissions intensity (emissions related to company's own generation of electricity) with the low-carbon benchmark pathway. The indicator will compare the gradient of this trend with the low-carbon benchmark pathway trend over a 5-year period after the reporting year.

This indicator only applies to pure generation and mixed profile companies.

DATA REQUIREMENTS The relevant data for this indicator are:

- Generated electricity emissions intensity and activity at reporting year (RY) and reporting year plus five years (RY+5)
 OR
- Total emissions from generated electricity and activity at RY and RY+5

Future emissions intensity should be estimated from company assets and their expected production activity. If future emissions intensity cannot be estimated from company assets, expected trend in future emissions intensity should be estimated by extrapolating the trend from the last 5 years prior to the reporting year.

CDP Questionnaire 2023 mapping to this indicator:

◆ C4.1c

How THE ASSESSMENT The analysis is based on the Future Action ratio (A_{future}) which represents the ratio between the trend gradient of company's future (RY+5) WILL BE DONE emissions intensity from material investment and the trend gradient of the company's future benchmark (RY+5) emissions intensity, as shown in Figure 13.



FIGURE 13: COMPARISON OF TREND IN FUTURE EMISSIONS AND TREND IN COMPANY'S BENCHMARK

CALCULATION OF SCORE:

Future Action ratio (A_{future}) is calculated by dividing the trend of the company's future emissions intensity from material investment (between RY and RY+5) and the future benchmark emissions intensity (also between RY and RY+5):

$$A_{future} = \frac{EI_c(RY) - EI_c(RY+5)}{EI_c(RY) - EI_B(RY+5)}$$

Where:

- $EI_c(RY)$ is the company emissions intensity at RY
- $EI_c(RY + 5)$ is the company emissions intensity at RY+5
- $EI_B(RY + 5)$ is the benchmark emissions intensity at RY+5

The action gap of the company is equal to $(1 - A_{future})$. Thus, when the company's future emissions pathway is aligned with the company's benchmark, the Future Action ratio is equal to 1 and the action gap is 0 (see Figure 13).

The final score assigned to the indicator is calculated as follows (see appendix 11.3 for a graphical illustration of the different cases):

Conditions	Score
Company's future trend > 0	0%
Increase in company emissions intensity	
<i>Company's future trend</i> ≤ 0 and $EI_c(RY) > EI_B(2050)$	
$0 \le A_{future} \le 1$	$A_{future} \times 100\%$
Decrease in company emissions intensity but company's pathway does not go beyond the company's benchmark ambition	
Company's future trend < 0	
$A_{future} > 1$	100%
Decrease in company emissions intensity and company's pathway equals or exceeds the company's benchmark ambition	
Company's future trend ≤ 0 and $EI_C(RY + 5) \leq EI_B(2050)$	
No increase in company emissions intensity and company's emissions intensity is already below the company's benchmark ambition for 2050	100%

RATIONALE EU 2.3 TREND IN FUTURE EMISSIONS INTENSITY FOR GENERATED ELECTRICITY

RATIONALE OF THE

INDICATOR RELEVANCE OF THE INDICATOR:

Trends in future emissions intensity from material investment are included in this ACT methodology for the following reasons:

- The trend shows the speed at which the company needs to reduce its emissions intensity for the coming years. Comparing this to the low-carbon benchmark pathway gives an indication of the scale of the change that needs to be made within the company to bring it onto a low-carbon pathway.
- ACT aims to be future-oriented. Therefore, this particular indicator, with projected emissions intensity, forms part of a holistic view of company emissions performance in the past, present, and future.

SCORING RATIONALE

Comparing the trends gives a direct measure of the future action gap of the company. It was chosen for its relative simplicity in interpretation; it is aligned with most of the other forward-looking indicators. The indicator looks at a fixed point in the future and assesses the impact of planned assets deployment in reducing emissions..

• EU 2.4 SHARE OF LOW-CARBON CAPEX

DESCRIPTION

&	EU 2.4 SHARE OF LOW-CARBON CAPEX
REQUIREMENTS	
SHORT	A measure of the alignment of the company's planned CADEX in low earboy technologies for the payt 2 years with its low earboy according to the vertex.
DESCRIPTION	indicator scores the gap between the company's planned low-carbon CAPEX share and its decarbonization pathway.
OF INDICATOR	
	This indicator only applies to pure generation and mixed profile companies.
D ATA	The relevant data for this indicator are:
REQUIREMENTS	 Share of CAPEX in low-carbon technologies (M\$/M\$) planned for the next 3 years

CDP Questionnaire 2023 mapping to this indicator:

- ◆ C-EU9.5a
- ◆ C-EU9.5b

External sources of data used for the analysis of this indicator are (see section 6.2 for more details):

• IEA – NZE Scenario by 2050: global annual energy investments for the electricity sector

The benchmark indicators involved are:

TARGET TYPE	PARAMETER	INTENSITY METRIC	BENCHMARK
Low-carbon technologies	CBuct	M\$/M\$	IEA – NZE Scenario by 2050
investment CAPEX share	CDLU		,

How THE The assessment is based on the ratio between the company's planned CAPEX share in Low carbon and mitigation technologies (S_{LCT}) and the company benchmark (CB_{LCT}).

WILL BE DONE

$$CAPEX \ Ratio = \frac{S_{LCT}}{CB_{LCT}}$$

The score for this indicator is taken as the average of scores for each year between reporting year and reporting year +3. For each year, the score is equal to:

- The CAPEX ratio if the ratio is lower than 1
- 1 if the CAPEX ratio is higher than 1 (the company share of low-carbon CAPEX is higher than the benchmark).

DEFINITION OF LOW-CARBON TECHNOLOGIES:

The list of low-carbon technologies for the electricity sector includes (but is not limited to) the following (14) (15) (16).

If the technology described by the company is not listed below, then the analyst must check further external sources to determine whether it is a relevant low-carbon technology. A low-carbon technology must be widely considered to contribute substantially to climate change mitigation.

Low-carbon technologies (technology avenues compatible with a 1.5°C scenario):

- Power generation
 - Hydro
 - Biomass*
 - o Solar
 - Onshore Wind
 - o Offshore Wind
 - o Geothermal
 - Ocean (tidal, wave)
 - o Nuclear
- Storage
 - Battery energy storage
 - Mechanical storage
 - Pumped hydro
 - Thermal energy storage
- Grid Infrastructure
 - Electricity network
 - Integration
 - Virtual inertia fast frequency response
 - Smart inverter
 - Transmission**
 - Ultra-high voltage
 - HVDC power transmission
 - Flexible Alternating Current Transmission Systems
 - Dynamic Line Rating
- Demand management/energy efficiency
 - o Buildings
 - Smart meter
 - Open automated demand response
 - Virtual net metering
 - o Energy efficiency of power generation processes
- Electrification
 - Charging infrastructure for electric vehicles
 - Heat pumps
- Innovation
 - Hydrogen electrolysers and infrastructure
- Carbon removals: carbon capture use and storage (CCUS)***, bioenergy with carbon capture and storage (BECCS), direct air capture and carbon storage (DACCS)

* Note – sustainable biomass

It is essential to ensure the sustainability of biomass to avoid deforestation and to promote best practices in forest management and biomass use. Biofuels are considered sustainable by the ACT Electricity Methodology if they meet one or more of the following criteria:

- Biofuels that enable biomass-based energy production systems to demonstrate at least 80% of emissions savings compared to fossil fuel alternatives (based on the criteria defined in the EU taxonomy for sustainable activities (16)) following the methodology outlined in the directive 2018/2001 (also called 'RED II') (17). The following list is made up of biofuels for biomass-based energy production systems from Annex VI in RED II meeting this criterion:
 - a. Wood chips from sustainable forest residues (as defined in 3.) or from industry residues with a transport distance to the company's site of below 2,500 km;
 - b. Woodchips from short rotation coppice (poplar fertilised or not fertilized) with a transport distance to the company's site of below 500 km if used to produce electricity or below 2,500 km if used to produce heat;
 - c. Wood briquette and pellet categories below which have been manufactured using electricity and heat from a combined heat and power (CHP) plant fed with pre-dried woodchips:
 - Wood briquettes or pellets from sustainable forest residues (as defined in 3.);
 - Wood briquettes or pellets from wood industry residues;
 - Wood briquettes or pellets from short rotation coppice (eucalyptus) with a transport distance to the company's site of below 10,000 km (only if used to produce heat); Wood briquettes or pellets from short rotation coppice (poplar fertilised) with a transport distance to the company's site of below 500 km if used to produce electricity or below 10,000 km if used to produce heat;
- 2. Biofuels derived from wood industry waste. This includes sawdust, cutter shavings black liquor, brown liquor, fibre sludge, lignin waste and tall oil (17).
- 3. Biofuels derived from sustainable forestry residues. This includes treetops, branches, pre-commercial thinning, leaves and needles, except coarse wood debris (which include snags, standing dead trees and high stumps) and low stumps. The latter two are not accepted as sustainable based on the latest study from the JRC (18).
- 4. Biofuels certified under a scheme that ensures their sustainability. Ideally, certification schemes should be members of the International Social and Environmental Accreditation and Labelling (<u>ISEAL</u>), as these standards undergo rigorous checks including multistakeholder engagement, and as such tend to be the strongest (19). Some examples of such certification schemes are: REDcert Sustainable Biomass Program (SBP)

and International Sustainability and Carbon Certification (ISCC). Other examples, including those that are not ISEAL members, can be found on pp. 12-13 of the CDP Technical Note: Biofuels (19).

** Note – Transmission

As highlighted in the International Energy Agency's latest Net Zero Roadmap (2023), the expansion of electricity transmission and distribution grids is of utmost importance, as they need to expand by "around 2 million kilometres each year to 2030 to meet the needs of the NZE Scenario". Therefore, all investments in transmission activities are considered as low-carbon technologies.

*** Note – Carbon capture and storage (CCS)

As mentioned by UNECE, "it is important to note that certain carbon application options, such as the use of CO_2 in some chemicals processes, fire suppression products, etc. are not equal to permanent sequestration" (20). Solutions resulting in short term release of CO_2 in the atmosphere shall not be rewarded here.

RATIONALE EU 2.4 SHARE OF LOW-CARBON CAPEX

RATIONALE OF

THE INDICATOR

Planned investments in low-carbon capex are included in this ACT methodology for the following reasons:

- Planned low-carbon CAPEX is an indicator of corporate commitment to a low-carbon transition, and is a meaningful metric of the company's internal planning towards the transition.
- Low-carbon technologies CAPEX share is an early indicator of the switch of electricity generation companies from high-carbon activities to low-carbon activities.

MODULE 3: INTANGIBLE INVESTMENT

It is not enough for the company to only invest in its tangible or material assets. Module 3, "Intangible investment", assesses the company's investments in intangible assets such as research and development (R&D) into low-carbon and mitigation technologies, climate training and low-carbon patent development. Companies in many sectors state that the development of new technologies is essential for them to transition, and these indicators give an indication of the level of commitment to new technologies and work practices.

• EU 3.1 R&D SPENDING ON LOW-CARBON TECHNOLOGIES

DESCRIPTION & REQUIREMENTS	EU 3.1 R&D SPENDING ON LOW-CARBON TECHNOLOGIES
SHORT DESCRIPTION OF INDICATOR	A measure of the ratio of R&D costs/investments in low-carbon technologies. The indicator scores the ratio between the company's R&D investment in low-carbon technologies and total R&D investment.
DATA REQUIREMENTS	 Relevant and external sources of data used for the assessment of this indicator: R&D costs/investment in low-carbon technologies of the company. Total R&D costs/investment of the company CDP Questionnaire 2023 mapping to this indicator: C-EU9.6a

How THE R&D INVESTMENT SHARE

ASSESSMENT The assessment is based on the ratio of the company's 'R&D expenditure on low-carbon technologies over the last 3 years' to the company's 'total expenditure in R&D over the last 3 years'.

DEFINING 'LOW-CARBON TECHNOLOGIES':

Low-carbon technologies (technology avenues compatible with a 1.5°C scenario):

As per indicator EU 2.4 Share of low-carbon CAPEX.

Different technology types are more or less relevant to different company profiles. For example, power generation technologies are relevant to pure generation and mixed profile companies since these companies own their own generation assets and so should invest R&D into improving these technologies. On the other hand, demand management/energy efficiency technologies such as smart grids and smart meters may be relevant to all company profiles, including pure retail companies.

If the technology described by the company is not included in the list under indicator 2.4, then the analyst must check further external sources to determine whether it is a low-carbon technology. A low-carbon technology must be widely considered to contribute substantially to climate change mitigation.

DEFINING "NON-MATURE R&D"

The Technology Readiness Level (TRL) should be used to assess the maturity of a technology. Higher scoring levels for this indicator exclude research in technologies that are already considered mature in terms of market penetration. This is to incentivise a focus on those less mature technologies that have a higher need for R&D investment, in order to break through technical barriers and reduce the levelized costs of deploying these technologies.

Technologies are considered "non-mature" if the TRL ≤ 8 (see Table 8 below).

TABLE 8: CATEGORIZATION OF MATURE AND NON-MATURE TECHNOLOGIES

Technology Readiness Level (TRL) from IEA	IEA explaining acronyms	Technologies maturity
1	Initial idea: basic principles have been defined	
2	Application formulated: concept and application of solution have been formulated	
3	Concept needs validation: solution needs to be prototyped and applied	
4	Early prototype: prototype proven in test conditions	Non mature technologies
5	Large prototype: components proven in conditions to be deployed	
6	Full prototype at scale: prototype proven at scale in conditions to be deployed	
7	Pre-commercial demonstration: solution working in expected conditions	
8	First-of-a-kind commercial: commercial demonstration, full-scale deployment in final form	
9	Commercial operation in relevant environment: solution is commercially available, needs volutionary improvement to stay competitive	Mature technologies
10	Integration at scale: solution is commercial but needs further integration efforts	
11	Proof of stability: predictable growth	

FINAL SCORE

The ratio will be compared to the maturity matrix developed to guide the scoring and a greater number of points will be allocated for companies indicating a higher level of maturity, which means a higher share in R&D costs/investments in these technologies.

Question	Basic	Standard	Advanced	Next practice	Low-carbon Aligned	0
Associated score	0%	25%	50%	75%	100%	Subscore
What is the share of R&D costs/investments in low-carbon technologies compared to the total R&D costs/investments?	The share of low- carbon R&D is below 20% of total R&D investments	The share of low- carbon R&D is between 21% and 40% of total R&D investments	The share of low- carbon R&D is between 41% and 60% of total R&D investments	The share of low- carbon R&D is between 61% and 80% of total R&D investments	The share of low-carbon R&D is above 80% of total R&D investments.	50%

What is the share of R&D costs in non- mature technologies within the total R&D in low-carbon technologies?	Below 20%	Between 21% and 35%	Between 36 % and 50%	Between 51% and 65%	Above 65%	50%
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RATIONALE EU 3.1 R&D SPENDING ON LOW-CARBON TECHNOLOGIES

RELEVANCE OF THE INDICATOR:

RATIONALE OF

THE INDICATOR

R&D in low-carbon technologies is included in this ACT methodology for the following reasons:

- This sector is heavily reliant on the development of low-carbon solutions to replace its currently high emitting systems. All of the key technologies which are now scaling have progressed through research and development in the lab and in the real world.
- R&D is a key proactive action to develop these technologies and demonstrates commitment by companies.
- R&D is also one of the main tools to reduce the costs of a technology in order to increase its market penetration.
- Aside from technology, companies can also invest R&D on operational practices to optimize the carbon reductions where they have direct responsibility.
- Lastly, the R&D investment of a company into non-mature technologies and practices allows for direct insight in the company's commitment to alternative technologies that may not currently be part of its main business model.

Expenditure over the 3 last years is used for the indicator to account for the fact that expenditure for major R&D projects may not be linear over time and between years.

Although this indicator may be based on a specific external benchmark in other ACT methodologies, no benchmark is available for this sector. Therefore, thresholds have been used instead.

• EU 3.2 COMPANY LOW-CARBON PATENTING ACTIVITY

DESCRIPTION & REQUIREMENTS

EU 3.2 COMPANY LOW-CARBON PATENTING ACTIVITY

SHORT

OF INDICATOR	and compares this against a maturity matrix.
DESCRIPTION	activity dedicated to climate change mitigation technologies over the last 5 years, and the company's total patenting activity over the same span of time,
DECODIDEION	A measure of the company patenting activity related to low-carbon technologies. The indicator identifies the ratio between the company's patenting

DATA

Relevant and external sources of data used for the assessment of this indicator:

REQUIREMENTS

- Patenting activity in low-carbon technologies of the company over the last 5 years.
- Total patenting activity of the company over the last 5 years

CDP Questionnaire 2023 mapping to this indicator:

None

HOW THE PAST LOW-CARBON PATENTS ACTIVITY RATIO

ASSESSMENT

WILL BE DONE The assessment is based on the ratio of the company's patenting activity dedicated to low-carbon technologies over the last 5 years to the company's total patenting activity over the same span of time.

If the company is developing open-source patents or makes them publicly available, this should be positively reflected in the narrative score.

DEFINING 'LOW-CARBON TECHNOLOGIES':

The indicator focuses on patents that mitigate climate change. The European Patent Office (EPO) and the US Patent and Trademark Office (USPTO) have developed a dedicated patent classification scheme (Cooperative Patent Classification - CPC) which details patents for climate change mitigation technologies (CCMTs) (21). The patent categories which are relevant to the electricity sector are:

- Y02B CCMTs related to buildings (includes technologies related to demand management, advanced metering, etc.)
- Y02C CCMTs related to capture, storage, sequestration or disposal of greenhouse gases

- Y02E CCMTs related to reduction of greenhouse gas emissions, related to energy generation, transmission or distribution
- Y02T CCMTs related to transportation
- Y04S Systems integrating technologies related to power network operation, communication or information technologies for improving the electrical power generation, transmission, distribution, management or usage, i.e. smart grids

In general, patents identified should fall into one of the above categories. However, if in doubt, the analyst may refer to the general list of low-carbon technologies for the electricity sector identified by the ACT initiative shown below (14) (15) (16). Some technology types are more relevant to different company profiles. For example, power generation technologies are relevant to pure generation and mixed profile companies, since these companies own their own generation assets, so should invest R&D into improving these technologies. On the other hand, demand management/energy efficiency technologies such as smart grids and smart meters may be relevant to all company profiles, including pure retail companies.

If the technology described by the company is not listed below, then the analyst must check further external sources to determine whether it is a relevant low-carbon technology. A low-carbon technology must be widely considered to contribute substantially to climate change mitigation.

Low-carbon technologies (technology avenues compatible with a 1.5°C scenario):

As per indicator EU 2.4 Share of low-carbon CAPEX.

FINAL SCORE

The ratio will be compared to the maturity matrix developed to guide the scoring and a greater number of points will be allocated for companies indicating a higher level of maturity, which means a higher share of low-carbon patenting activity.

Question	Basic	Standard	Advanced	Next practice	Low-carbon aligned	Subscore
Associated score	0%	25%	50%	75%	100%	
What is the share of patents in low-carbon technologies compared to the total patent activity over the last 5 years?	The share of low- carbon patents is below 20% of total patents	The share of low- carbon patents is between 21% and 40% of total patents	The share of low- carbon patents is between 41% and 60% of total patents	The share of low- carbon patents is between 61% and 80% of total patents	The share of low- carbon patents is above 80% of total patents	100%

RATIONALE EU 3.2 COMPANY LOW-CARBON PATENTING ACTIVITY

RATIONALE OF

THE INDICATOR RELEVANCE OF THE INDICATOR:

The indicator on patenting activity is complementary to indicator 3.1, R&D spending on low-carbon technologies, as it encourages R&D spending and subsequent technological advances or breakthroughs.

It is included in this ACT methodology for the following reasons:

- Low-carbon patenting activity is an important indicator of an electricity company's ability to transition and develop new low-carbon business models in an era of electrification and decarbonisation (22).
- Patent data are commensurable because patents are based on an objective standard (OECD 2015)
- Patent data measure the intermediate outputs of an inventive process, where R&D data expenditures measure the input (OECD 2015)
- Patent data can be disaggregated into specific technological fields (OECD 2015)

RELEVANCE OF THE INDICATOR'S 5-YEAR TIME HORIZON

Patents applications are typically disclosed 18 months after their filing date (OECD 2015). To avoid the effects of this "publication lag" and smooth the ratio used for the assessment, the indicator monitors the last 5 years of the company's patenting activity.

MODULE 4: SOLD PRODUCT PERFORMANCE

Module 4, "Sold product performance", assesses action to reduce emissions from the company's value chain, contributing to the overall decarbonisation of its products and/or services. Mirroring module 2, past and future emissions intensity trends are analysed, focusing on emissions arising from the production of electricity (retailed by the company). Key sectoral topics such as securing low-carbon electricity assets and the importance given to reducing demand via energy efficiency are addressed. Finally, upstream emissions (not included in quantitative assessments using low-carbon pathways) linked to low-carbon electricity assets are also considered thanks to specific interventions of the company.

• EU 4.1 TREND IN PAST EMISSIONS INTENSITY FOR RETAILED ELECTRICITY

DESCRIPTION

EU 4.1 TREND IN PAST EMISSIONS INTENSITY FOR RETAILED ELECTRICITY

REQUIREMENTS

SHORT

&

A measure of the alignment of the past trend of the company's purchased electricity emissions intensity (emissions related to the generation of retailed electricity) with the low-carbon benchmark pathway. The indicator will compare the gradient of this trend over a 5-year period to the reporting year (reporting year minus 5 years) with the low-carbon benchmark pathway trend over a 5-year period after the reporting year.

This indicator only applies to pure retail and mixed profile companies.

DATA The relevant data for this indicator are:

- **REQUIREMENTS** Purchased electricity emissions intensity and activity at reporting year (RY) and reporting year minus five years (RY-5) OR
 - Total direct emissions from purchased electricity and activity at RY and RY-5.

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C6.5
- ♦ C6.5a

HOW THE

ASSESSMENT The analysis is based on the comparison between the company's purchased electricity recent (RY-5) life-cycle emissions intensity trend gradient and the company's purchased electricity decarbonization pathway trend gradient in the short-term (RY+5).

WILL BE DONE

This indicator uses the same computation as indicator 2.1 - Trend in past emissions intensity for generated electricity.

RATIONALE EU 4.1 TREND IN PAST EMISSIONS INTENSITY FOR RETAILED ELECTRICITY

RATIONALE OF RELEVANCE OF THE INDICATOR:

THE INDICATOR

Trend in past emissions intensity is included in this ACT methodology for the following reasons:

- The trend shows the speed at which the company has been reducing its emissions intensity over the recent past. Comparing this to the future low-carbon transition pathway gives an indication of the scale of the change that needs to be made within the company to bring it onto a low-carbon pathway.
- While ACT aims to be future-oriented, it nevertheless does not want to rely solely on projections of the future, in a way that would make the
 analysis too vulnerable to the uncertainty of those projections. Therefore, this measure, along with projected emissions intensity and absolute
 emissions, forms part of a holistic view of company emissions performance in the past, present, and future.

SCORING RATIONALE:

While 'gap' type scoring is preferred where possible for any indicator, this indicator only looks at past emissions and would therefore require a different baseline in order to generate a gap analysis. Thus, instead of a gap analysis, a trend analysis is conducted to compare current data of the company to the past data and improvements that have been made since the past data. An advantage of this trend analysis is that trends can be compared directly and a score can be directly correlated to the resulting ratio.

• EU 4.2 TREND IN FUTURE EMISSIONS INTENSITY FOR RETAILED ELECTRICITY

DESCRIPTION

EU 4.2 Trend INF FUTURE EMISSIONS INTENSITY FOR RETAILED ELECTRICITY

REQUIREMENTS

SHORT

&

 DESCRIPTION
 A measure of the alignment of the future trend of the company's purchased electricity emissions intensity (emissions related to the generation of retailed electricity) with the low-carbon benchmark pathway. The indicator will compare the gradient of this trend with the low-carbon benchmark pathway trend over a 5-year period after the reporting year.

This indicator only applies to pure retail and mixed profile companies.

DATA The relevant data for this indicator are:

- **REQUIREMENTS** Purchased electricity emissions intensity and activity at reporting year (RY) and reporting year plus five years (RY+5) OR
 - Total direct emissions from purchased electricity and activity at RY and RY+5.

Future emissions intensity should be estimated from forecast predictions of purchased electricity. If future emissions intensity cannot be estimated from company future activity, the expected trend in future emissions intensity should be estimated by extrapolating the trend from the last 5 years before the reporting year.

CDP Questionnaire 2023 mapping to this indicator:

◆ C4.1c

How THE The analysis is based on the Future Action ratio (A_{future}) which represents the ratio between the company's future (RY+5) purchased electricity emissions intensity trend gradient and the company's future benchmark (RY+5) product emissions intensity trend gradient.

ASSESSMENT

WILL BE DONE This indicator uses the same computation as indicator 2.3 - Trend in future emissions for generated electricity

Rationale EU 4.2 FUTURE PERFORMANCE FOR RETAILED ELECTRICITY

RELEVANCE OF THE INDICATOR:

RATIONALE OF

THE INDICATOR

Trends in future products specific performance are included in this ACT methodology for the following reasons:

- The trend shows the speed at which the company needs to reduce its emissions intensity for the coming years. Comparing this to the low-carbon benchmark pathway gives an indication of the scale of the change that needs to be made within the company to bring it onto a low-carbon pathway.
- ACT aims to be future-oriented. Therefore, this particular indicator, with projected emissions intensity, forms part of a holistic view of company's emissions performance in the past, present, and future.

SCORING RATIONALE

Comparing the trends gives a direct measure of the future action gap of the company. It was chosen for its relative simplicity in interpretation; it is aligned with most of the other forward-looking indicators. Indeed, the indicator looks at a fixed point in the future and assesses the capacity of the company to deploy a range of low-carbon products in the short term.

• EU 4.3 CONTRIBUTION TO LOW-CARBON ELECTRICITY GENERATION

DESCRIPTION & REQUIREMENTS	EU 4.3 CONTRIBUTION TO LOW-CARBON ELECTRICITY GENERATION
	This indicator aims to assess the company's contribution to the development of low-carbon electricity generation capacity.
OF INDICATOR	This indicator only applies to pure retail and mixed profile companies.

DATA The relevant data for this indicator are:

REQUIREMENTS

• % of purchased electricity per source, at corporate level, for reporting year

CDP Questionnaire 2023 mapping to this indicator:

• C8.2a (only provides breakdown of renewable/non-renewable purchased electricity)

How THEThe sources of electricity have been classified according to the company's level of commitment. The company shall disclose, at corporate level, the
share (in %) of retailed electricity coming from these different sources.

WILL BE DONE

Energy attribute certificate is a generic name for mechanisms that electronically document and track the production, trade, distribution and consumption of renewable energy. For example:

- North American REC Tracking Systems
- European Energy Certificate System Guarantee of Origin (EECS-GO)
- Renewable Energy Guarantees of Origin (REGOs) in the UK
- The International REC Standard (I-REC Standard)
- Tradable Instruments for Global Renewables (TIGRs)

Only the electricity that fulfils the following criterion is accepted for the reported share of electricity certified with EAC and originating from CPPAs: the average carbon intensity of electricity shall not exceed 100 g $CO_{2e/k}Wh$ on a life-cycle basis ((23), (24)).

Level of commitment	What are the mechanisms used by the retailer to source low-carbon electricity?	% of electricity sourced from each source at corporate level	Associated weighting
1 (no commitment)	Electricity with no certification (wholesale market)	% to be disclosed by the company	0%
2 (moderate commitment)	Electricity certified with EAC (Energy Attribute Certificate)	% to be disclosed by the company	50%
3 (strong commitment)	Electricity originating from Corporate Power Purchase Agreements (CPPA)	% to be disclosed by the company	100%

CALCULATION OF SCORE

The score is obtained by doing a Sum Product of the share (in %) of the consumed electricity for each source multiplied by the associated weighting for this source.

For example, if a company sources 30% of its electricity through a CPPA and the rest has no certification, the final score will be calculated in the following manner:

 $(70\% \times 0\%) + (0\% \times 50\%) + (30\% \times 100\%) = 30\%.$

Rationale EU 4.3 Contribution to Low-Carbon Electricity generation

RELEVANCE OF THE INDICATOR

RATIONALE OF

THE INDICATOR Electricity purchased is the main CO₂e emissions source of pure retail and some mixed profile companies. As a consequence, these companies should be rewarded when:

- Purchasing electricity with guarantee of origin (GO) or Renewable Energy Certificates (REC);
- Purchasing low-carbon electricity through a CPPA.

Additional low-carbon electricity generation assets will be needed in every country, even in countries with an already low-carbon electricity mix. As major electricity purchasers, pure retail and mixed profile companies should contribute to enabling more low-carbon electricity generation assets being connected to the grid, by direct or indirect investment.

The criterion to define low-carbon electricity was chosen because it is now widely used in ambitious climate frameworks, such as the EU taxonomy (23) and Climate Bond taxonomy (24). This criterion may evolve in further updates of the methodology.

SCORING RATIONALE

The rationale for awarding electricity originating from CPPAs higher than electricity certified with EACs is that CPPAs are directly linked to a new renewable energy project, whereas many assets generating EACs would have been built even without the EAC market.

• EU 4.4 ENERGY EFFICIENCY SERVICES SHARE

DESCRIPTION & REQUIREMENTS	EU 4.4 ENERGY EFFICIENCY SERVICES SHARE
SHORT	
DESCRIPTION OF	A measure of the company's growth in sales of energy efficiency services.
INDICATOR	
D ATA	
REQUIREMENTS	The relevant data for this indicator are:
	 Revenue share of energy efficiency services planned for RY+5 and additional relevant information regarding the offer
	CDP Questionnaire 2023 mapping to this indicator:
	◆ C3.5b
	External sources of data may also be used for the analysis of this indicator.
How the Assessment	The analyst will assign a maturity score based on the company's strategy and planned revenues for the energy efficiency services offer, expressed in a maturity matrix.
WILL BE DONE	A company that is placed in the 'aligned' category will receive the maximum score. Companies who are at lower levels will receive a partial score, with 0 points awarded for having no energy efficiency services.
	This maturity matrix is indicative but does not show all possible options that can result in a particular score. Company responses will be scrutinized by the analyst and then placed on the level in the matrix where the analyst deems it most appropriate.
	Definition of Energy Efficiency Services The Energy Efficiency Services include the following elements:
	 Energy efficiency audits Energy Performance Contracting (EPC) Energy efficiency actions

• Energy saving products

All the elements listed above are defined in the Glossary part.

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low carbon aligned	Subscore
		0%	25%	50%	75%	100%	
Does the company offer energy efficiency services to its clients?	Energy efficiency services	No offer	The company does offer energy efficiency services but no promotion strategy developed.	The company does offer energy efficiency services and a promotion strategy has been developed (advertising, revenues planning,)	Energy efficiency services are one of the main strategic focal points of the company. A promotion strategy has been developed (advertising, revenues planning,) Revenue share is expected to grow strongly (+25% within the next 5 years). OR The revenues already account for a significant part of the company's turnover (> 5%).	Energy efficiency services are one of the main strategic focal points of the company. A promotion strategy has been developed (advertising, revenues planning,) Revenue share is expected to grow strongly (+50% within the next 5 years). OR The revenues already account for a significant part of the company's turnover (> 10%).	100%

RATIONALE EU 4.4 ENERGY EFFICIENCY SERVICES SHARE

RATIONALE OF

THE INDICATOR RELEVANCE OF THE INDICATOR:

Energy efficiency services share is included in this ACT methodology for the following reasons:

- Energy efficiency is expected to play a significant role in lowering global energy demand. The IEA NZE scenario (25) considers that energy efficiency (considering all energy types) will contribute more than 15% to emissions reductions from 2020 to 2030.
- The sales are the direct 'output measure' that indicates how this change is incorporated in the business model.

SCORING RATIONALE

Because of data availability and complexity, a direct measure of the outcome of such engagement is not very feasible at this time. It is often challenging to quantify the emissions reduction potential and outcome of collaborative activities with the supply chain. Therefore, using a maturity matrix allows the analyst to consider multiple dimensions of companies' engagement and assess them together to calculate a single score for all the activities related to client engagement.

DEFINITION RATIONALE

The taxonomy has been defined based on the discussions of the ACT Oil and Gas methodology Technical Working group. Some of the elements are aligned with the requirements of the EU green taxonomy and are detailed in the Glossary.

• EU 4.5 INTERVENTIONS TO REDUCE LIFE-CYCLE EMISSIONS OF LOW-CARBON ASSETS

DESCRIPTION & REQUIREMENTS	EU 4.5 INTERVENTIONS TO REDUCE LIFE-CYCLE EMISSIONS OF LOW-CARBON ASSETS				
SHORT DESCRIPTION OF	An analysis of the company's reporting of mature interventions to reduce lifecycle GHG emissions of low-carbon assets.				
INDICATOR Data	This indicator only applies to pure generation and mixed profile companies. The relevant data for this indicator are:				
REQUIREMENTS	 Electricity production per type of low-carbon technology at reporting year List and description of interventions, reported by type of low-carbon technology CDP Questionnaire 2023 mapping to this indicator: C12.1 				
How THE
 As low-carbon assets will make up an increasing share of companies' electricity generation portfolios, companies need to plan and carry out

 ASSESSMENT
 "interventions" within the life-cycle of their low-carbon assets, in order to reduce GHG emissions coming from other life-cycle phases than the use phase

 WILL BE DONE
 (e.g., materials production, construction, decommissioning, etc.).

The company shall disclose:

- the type of low-carbon assets it has installed within the last 5 years (RY-5) and the associated generation capacity
- the interventions that it has carried out within the last 5 years (RY-5), to reduce life-cycle GHG emissions of low-carbon assets

Several subdimensions are combined to assign a score to the intervention. These measures are:

Extent or size of the intervention

Whether the intervention is large or small in scale affects its overall level of impact on GHG emissions. Large-scale interventions receive more points (e.g. significant interventions covering a high percentage of a low-carbon asset type).

Level of ambition

The company shall report on the level of ambition of the intervention. The first level is an incremental improvement (e.g. low-carbon material purchases). The second level is a complete product/service redesign, which consists of a new development (e.g. new material for solar panels that increases their lifetime). The third level is a breakthrough innovation (e.g. a new wind generator design to drastically increase efficiency).

Intervention maturity

This subdimension assesses elements that can ensure the intervention's success, such as clear goals and measures of success, use of supporting technology, use of certification and verification.

Relationship between the life-cycle phase the intervention targets and the highest GHG impact life-cycle phase of the low-carbon technology

To effectively reduce GHG emissions, interventions should target the life-cycle phases or processes of the low-carbon assets with the highest portion of GHG emissions attributed to them, so this is awarded more points.

The analyst shall focus on the most impactful intervention per low-carbon technology (if the company carries out several interventions). To avoid greenwashing, the analyst shall take into consideration interventions that have measurable impacts on GHG emissions or at least a clear rationale for emissions reduction connected to the intervention.

Subdimension	Basic	Advanced	Low-carbon aligned	Weighting
Associated score	0%	50%	100%	
Size of the intervention	Intervention covers less than 40% of the total generation capacity of the particular technology, which has started operation within the last 5 years (RY-5)	Intervention covers between 40 and 80% of the total generation capacity of the particular technology, which has started operation within the last 5 years (RY-5)	Intervention covers more than 80% of the total generation capacity of the particular technology, which has started operation within the last 5 years (RY-5)	25%
Level of ambition	Incremental improvement	Redesign	Breakthrough innovation	25%
Intervention maturity	Intervention is not backed with any success factors such as planning, adequate resources, clear goals, performance tracking and measures of success.	Intervention is backed with at least one success factor such as planning, adequate resources, clear goals, performance tracking, and measures of success.	Intervention is backed with all relevant success factors such as planning, adequate resources, clear goals, performance tracking and measures of success.	25%
Relationship between the life- cycle phase the intervention targets and the highest GHG impact life-cycle phase of the low- carbon technology (*)	Intervention does not impact any of the most relevant life-cycle phase(s) or processes of the low-carbon technology in terms of GHG emissions.	Intervention impacts at least one relevant life-cycle phase or process of the low-carbon technology in terms of GHG emissions, i.e. at least one "highly relevant" or "relevant" life-cycle phase as defined in appendix 11.4	Intervention clearly targets and impacts the most relevant life-cycle phase(s) or processes of the low- carbon technology in terms of GHG emissions, i.e. all the "highly relevant" life-cycle phases as defined in appendix 11.4 (or all "relevant" if no "highly relevant" defined)	25%

(*) Appendix 11.4 1.1 gives guidance to help assessors identify life-cycle hotspots for the main low-carbon power production technologies ((26), (27)). Other sources may be used by the assessor, especially for non-listed technologies (e.g. marine energy).

CALCULATION OF SCORE:

The scores for all the low-carbon technologies started by the company in the last 5 years (RY-5) are then aggregated into a numerical value (weighted average of scores for each technology using the proportion of the specific low-carbon technology's generation capacity to the company's total low-carbon generation capacity at RY).

 $score = \frac{\sum specific low carbon technology score \times specific low carbon technology generation capacity (RY)}{Total low carbon generation capacity (RY)}$

Specific / total generation capacity refers to the company's low-carbon generation capacity in the reporting year.

RATIONALE EU 4.5 INTERVENTIONS TO REDUCE LIFE-CYCLE EMISSIONS OF LOW-CARBON ASSETS

 RATIONALE OF
 As low-carbon assets will become more and more mainstream, the ACT Electricity methodology needs to consider the increasing share of GHG emissions

 THE INDICATOR
 coming from other life-cycle phases than the use phase. For example, UNECE (26) shows that the carbon burden of electricity from PV ranges from 7 to 83 gCO₂e/kWh (LCA approach) depending on the technology and region; the range is 7.8 to 23 gCO₂e/kWh for wind power.

The aim of the indicator is to measure the company's "interventions" in its low-carbon assets, in order to reduce the GHG emissions in all phases of their life-cycle, which include the asset material production, the construction phase, the decommissioning phase and the use phase when specific emissions are not taken into account in the production emissions (e.g. methane from flooded biomass when using dams).

This indicator is only applicable to the pure generation and mixed profile company profiles, which can directly intervene to reduce embedded emissions. Pure retail companies are not assessed against this indicator since they do not own the low-carbon assets producing the electricity they are retailing. However, for these companies, module 6 Supplier engagement is more heavily weighted than for "pure generation" profile, to acknowledge the impact they can have on suppliers they are buying electricity from.

MODULE 5: MANAGEMENT

Module 5, "Management", assesses whether the company has the expertise, strategy, incentives (both linked to climate change management and objectives linked to fossil fuels use) and plans in place to manage its low-carbon transition. It assesses the quality of the transition plan and the scenario analysis used to develop it.

• EU 5.1 OVERSIGHT OF CLIMATE CHANGE ISSUES

DESCRIPTION	EU 5.1 OVERSIGHT OF CLIMATE CHANGE ISSUES
& Requirements	
SHORT DESCRIPTION OF INDICATOR	The company discloses that responsibility for climate change mitigation within the company lies at the highest level of decision-making within the company structure.
DATA REQUIREMENTS	 The relevant data for this indicator are: Environmental policy and details regarding governance The reporter shall provide details on where is the highest level of direct responsibility for climate change within the organization CDP Questionnaire 2023 mapping to this indicator: C1.1 C1.1a C1.2 External sources of data may also be used for the analysis of this indicator.
HOW THE ASSESSMENT WILL BE DONE	The benchmark case is that climate change is managed within the highest decision-making structure within the company. The position at which climate change is managed within the company structure is determined from the company data submission and accompanying evidence. For small companies, or for cases in which the corporate structure does not match the structure of the maturity matrix, the analyst should assign a score based on the company's specific hierarchy (i.e., if responsibility for climate change mitigation lies at the highest level of decision-making

within the organization, award "Low-carbon aligned". If responsibility lies one level below the highest level, award "Next practice", etc.). The maturity matrix used for the assessment is the following:

Question	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	weighting
What is the position of the employee/ committee with highest responsibility for climate change mitigation issues?	No one in charge of climate change issues	Level 4 (see guidance)*	Level 3 (see guidance)*	Level 2 (see guidance)*	Level 1 (see guidance)*	100%

- * Further guidance for each level of seniority is given below:
 - o Level 1
 - Highest level of accountability or decision-making within the organization, with responsibility for overall organizational or corporate strategic direction.
 - Examples: Board, sub-set of the Board, Chief Executive Officer (CEO)
 - o Level 2
 - Person/committee that is one step down the corporate structure from the highest level of decision-making (i.e. reports to
 or is accountable to Level 1). Inputs into organizational strategy but does not make decisions on it. May have
 responsibility and accountability for business unit strategy formation and implementation of one or more business units.
 - Examples: Vice President, Director, other C-Suite officer (e.g., Chief Financial Officer (CFO), Chief Procurement Officer (CPO), Chief Risk Officer (CRO), Chief Operating Officer (COO), Chief Sustainability Officer (CSO), etc.), other committee appointed by the Board
 - o Level 3
 - Person/committee that is two steps down the corporate structure from the highest level of decision-making. May have
 responsibility and accountability for business unit strategy formation and implementation for one business unit.
 - Examples: Manager, Senior Manager
 - o Level 4
 - Person/committee that is three or more steps down the corporate structure from the highest level of decision-making. No
 responsibility or accountability for business unit strategy development.
 - Examples: Officer, Senior Officer

RATIONALE EU 5.1 OVERSIGHT OF CLIMATE CHANGE ISSUES

RATIONALE OF

THE INDICATOR Successful change within companies, such as the transition to a low-carbon economy, requires strategic oversight and buy-in from the highest levels of decision-making within the company. Evidence of how climate change is addressed within the top decision-making structures is a proxy for how seriously the company takes climate change, and how well integrated it is at a strategic level. High-level ownership also increases the likelihood of effective action to address low-carbon transition.

Changes in strategic direction are necessarily future-oriented, which fits with this principle of the ACT initiative.

Managing oversight of climate change is considered as a good practice.

• EU 5.2 CLIMATE CHANGE OVERSIGHT CAPABILITY

DESCRIPTION & EU 5.2 CLIMATE CHANGE OVERSIGHT CAPABILITY REQUIREMENTS SHORT DESCRIPTION OF INDICATOR Company board or executive management has expertise on the science and economics of climate change, including an understanding of policy, technology and consumption drivers that can disrupt current business. This expertise is used by the individual or committee to inform high-level decision-making within the company. DATA The relevant data for this indicator are: REQUIREMENTS Environmental policy and details regarding governance The reporter shall identify the position of the individual or name of the committee with this responsibility and outline their expertise

• The reporter shall identify the position of the individual or name of the committee with this responsibility and outline their expertise regarding climate change and the low-carbon transition

CDP Questionnaire 2023 mapping to this indicator:

◆ C1.1

- ◆ C1.1a
- ◆ C1.1d
- ♦ C1.2

External sources of data may also be used for the analysis of this indicator.

How THEThe presence of expertise on topics relevant to climate change and the low-carbon transition at the level of the individual or committee with overallASSESSMENTresponsibility for it within the company is assessed. The presence of expertise is the condition that must be fulfilled for points to be awarded inWILL BE DONEthe scoring.

The analyst determines if the company has expertise as evidenced through a named expert biography outlining capabilities. A cross check is performed against 5.1 on the highest responsibility for climate change, the expertise should exist at the level identified. To be awarded Low-carbon aligned, the company must provide examples of how the individual or committee's expertise has informed strategic investment planning and/or decision-making processes.

The maturity matrix used for the assessment is the following:

Question	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	weighting
Does the individual or committee with oversight of climate change issues (as reported in indicator 5.1) have relevant climate change- and low-carbon transition- related expertise*?	The employee/commit tee does not meet any of the characteristics of climate change- and low-carbon transition-related expertise*.	The employee/commit tee meets 1 of the characteristics of climate change- and low-carbon transition-related expertise*.	The employee/commit tee meets 2 of the characteristics of climate change- and low-carbon transition-related expertise*.	The employee/commit tee meets 3 or more of the characteristics of climate change- and low-carbon transition-related expertise*.	The employee/committee meets 3 or more of the characteristics of climate change- and low-carbon transition-related expertise*. Expertise systematically informs strategic investment planning/decision- making processes.	100%

- * "Characteristics of climate change- and low-carbon transition-related expertise" include:
 - Academic/professional qualification related to climate change and the low-carbon transition, including an understanding of the impacts and risks, and the solutions to implement (e.g., Bachelors, Masters, Doctorate, professional certification, diploma, etc.)
 - A purely energy-related background with no relationship to climate change and the low-carbon transition is not enough to qualify as expertise.
 - Recent (i.e., within last 10 years) professional experience related to climate change and the low-carbon transition (e.g., previous employment in climate change/low-carbon transition-related role, or with a climate change/low-carbon transition-related organisation, etc.)
 - Recent (i.e., within last 10 years)/active membership of organisation(s) driving corporate knowledge and action on climate change and the low-carbon transition (e.g., World Business Council For Sustainable Development, Solar Energy Industry Association, etc.)
 - Technical knowledge related to climate change and the low-carbon transition, evidenced through recently (i.e., within last 10 years) published outputs written by the individual/committee (e.g., statements, reports, etc.)

RATIONALE EU 5.2 CLIMATE CHANGE OVERSIGHT CAPABILITY

RATIONALE OF Effective management of the low-carbon transition requires specific expertise related to climate change and its impacts, and their likely direct and indirect effects on the business. Presence of this capability within or closely related to the decision-making bodies that will implement low-carbon transition both indicates company commitment to that transition and increases the chances of success.

Even if companies are managing climate change at the Board level or equivalent level, a lack of expertise could be a barrier to successful management of low-carbon transition.

• EU 5.3 LOW-CARBON TRANSITION PLAN

DESCRIPTION & REQUIREMENTS	EU 5.3 LOW-CARBON TRANSITION PLAN
SHORT	The company has a plan on how to transition the company to a business model compatible with a low-carbon economy.
DESCRIPTION	
OF INDICATOR	
DATA	The relevant data for this indicator are:
REQUIREMENTS	Environmental policy and details regarding governance
	 The reporter should provide the following description of the transition plan including the following details:
	 Whether the transition plan exists in a documented form and whether that document is public
	 How the results of scenario testing influenced the transition plan
	Timescale for implementation of the transition plan
	 Who has responsibility for its implementation (at the strategic, not operational, level)
	 How successful implementation of the plan will be measured and monitored. (Should include details of any linked targets, emissions reduction or energy efficiency targets, or KPIs.)
	CDP Questionnaire 2023 mapping to this indicator:
	◆ C3.1
	◆ C3.3
	• C3.4
How THE	From the 2021 CDP Transition Plans discussion paper: "A climate transition plan is a time-bound action plan that clearly outlines how an organization will
ASSESSMENT	achieve its strategy to pivot its existing assets, operations, and entire business model towards a trajectory that aligns with the latest and most ambitious
WILL BE DONE	climate science recommendations, i.e., halving greenhouse gas (GHG) emissions by 2030 and reaching net-zero by 2050 at the latest, thereby limiting global warming to 1.5°C." (28). Other initiatives have also developed their own similar definitions (IFRS - International Financial Reporting Standards,

TCFD - Task Force on Climate-Related Financial Disclosures, EFRAG - European Financial Reporting Advisory Group, TPT – UK Transition Plan Task Force, GFANZ – Glasgow Financial Alliance for Net Zero). The analyst evaluates the description and evidence of the low-carbon transition plan for the presence of best practice elements and consistency with the other reported management indicators. The company description and evidence are compared to the maturity matrix developed to guide the scoring and a greater number of points are allocated for elements indicating a higher level of maturity.

Among the best practice elements identified to date are:

- The plan includes financial projections
- The plan should include cost estimates or other assessments of financial viability as part of its preparation
- The description of the major changes to the business is comprehensive, consistent, aligned with other indicators
- Quantitative estimates of how the business will change in the future are included
- Costs associated with the plan (e.g. write-downs, site remediation, contract penalties, regulatory costs) are included
- Potential "shocks" or stressors (sudden adverse changes) have been taken into consideration
- Relevant region-specific considerations are included
- The plan's measure of success is SMART contains targets or commitments with timescales to implement them, is time-constrained or the actions anticipated are time-constrained
- The plan's measure of success is quantitative
- The description of relevant testing/analysis that influenced the transition plan is included
- The plan is consistent with reporting against other ACT indicators
- The scope should cover entire business, and is specific to that business
- The plan should cover the short, medium and long terms. From now or the near future <5 years, until at least 2035 and preferably beyond (2050)
- The plan contains details of actions the company realistically expects to implement (and these actions are relevant and realistic)
- The plan is approved at the strategic level within the organisation
- Discussions about the potential impacts of a low-carbon transition on the current business have been included
- The company has a publicly-acknowledged well-below 2°C (or beyond) science-based target (SBT)
- The company has been carrying out a diagnosis of climate change impacts and identified related physical risks

The maturity matrix used for the assessment is the following:

Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	weighting
Measure of success	No measure of success		At least one measure of success which is fully SMART* and contains both qualitative and quantitative elements.		More than one measure of success. All measures of success are fully SMART*, contain both qualitative and quantitative elements, and are aligned with a low-carbon scenario.	10%
Financial content in plan	No financial content	Financial projections, cost estimates or other estimates of financial viability are described but not quantified.	Financial projections, cost estimates or other estimates of financial viability are quantified in some detail.	Quantitative estimations of how the business will change in the future are included. Costs associated with the plan (e.g., write- downs, site remediation, contract penalties, regulatory costs) are included.	Description of the major financial changes to the business over all timescales is comprehensive and aligned with other indicators. The transition plan is integrated into the overall business strategy of the organization and linked to the profit and loss statement.	10%

Short-term actions (recent past up to reporting year + 5 years)	Contains no discussion of short-term actions.		Contains examples of short-term actions the company expects to implement.		Contains detailed descriptions of relevant and achievable short- term actions the company expects to implement to make the transition a reality.	10%
Long-term actions and vision (from reporting year + 5 years onwards)	Contains no discussion of long-term actions or vision.		Contains descriptions of long-term actions the company expects to implement to make the transition a reality.		Contains descriptions of long-term actions the company expects to implement to make the transition a reality. Contains a vision of what the far- future company could look like in terms of physical assets and business model.	10%
Scope	Scope of transition plan is not defined.	Transition plan applies only to specific business units/operations (representing less than 50% of company's GHG emissions).	Transition plan applies only to specific business units/operations (representing more than 50% of company's GHG emissions).	Transition plan applies to all business units/operations.	Transition plan applies to all business units/operations and the rest of the value chain (upstream and downstream). Any exclusions from the plan must not be material to the organization in	10%

					terms of GHG emissions.	
Implementation of results of scenario testing	The results of the company's scenario testing (as assessed in Indicator 5.5 – Scenario testing) have not informed the development of the company's transition plan.				The results of the company's scenario testing (as assessed in Indicator 5.5 – Scenario testing) have informed the development of the company's transition plan.	10%
Transition plan timescale [†]	Covers only short term, from reporting year until (RY + 3 years)	Covers only short and medium term, from reporting year until (RY + 4 to 10 years)	Covers short, medium and long term, from reporting year until (RY + 11 to 20 years)	Covers short, medium and long term, from reporting year until (RY + 21 years to 2049)	Covers short, medium and long term, from reporting year until 2050 or beyond	10%
Review and update process	No transition plan review and update process is in place.	Commitment to review and update transition plan, but no defined timescale or process.	Commitment to review and update transition plan, with either a defined timescale or process.	Commitment to review and update transition plan less often than every 5 years, with a defined process.	Commitment to review and update transition plan at least every 5 years for continuous relevancy and efficacy, with a defined process.	10%
Progress reporting process	No transition plan progress reporting process is in place.	Commitment to report progress against the transition plan and any material changes, but no defined timescale or stakeholder	Commitment to report progress against the transition plan and any material changes, with either a defined timescale or	Commitment to report progress against the transition plan and any material changes less often than annually, with a	Commitment to report progress against the transition plan and any material changes annually, with a defined	10%

		feedback process (e.g., shareholders and AGMs).	stakeholder feedback process (e.g., shareholders and AGMs).	defined stakeholder feedback process (e.g., shareholders and AGMs).	stakeholder feedback process (e.g., shareholders and AGMs).	
The role of a carbon price in the plan	No carbon price is considered.	Internal studies have been conducted regarding a carbon price, but this has not been used to guide decisions.	A carbon price is used only qualitatively by the company.	A carbon price is embedded in cost calculations as a financial indicator.	The carbon price value is aligned with a low-carbon scenario [‡] and is integrated into the financial scenario used for making key business decisions.	10%

* A measure of success is considered "fully SMART" if it meets each of the following SMART elements (29):

- 1. Specific: the measure of success is explicit, with no room for misinterpretation.
- 2. Measurable: the measure of success is measurable, and it will be clear when it has been achieved.
- 3. Achievable: the measure of success is stretching and ambitious, but not so much that it is unachievable.
- 4. Relevant: the measure of success contributes to the organisation's overall objectives, and complements other measures of success.
- 5. Time-bound: the measure of success has a set deadline.
- + Companies aiming to achieve their low-carbon transition (e.g., reach net-zero emissions) any year before 2050 and maintain or improve this low-carbon state beyond this specified year, should score Low-carbon aligned.
- ‡ Refer for instance to International Energy Agency (IEA), World Energy Outlook 2019, Annex B, p 758 (30). CO₂ prices are displayed by world regions, predicted values in 2030 and 2050.

RATIONALE EU 5.3 LOW-CARBON TRANSITION PLAN

RATIONALE OF

THE INDICATOR All the sectors will require substantial changes to their business to align to a low-carbon economy, over the short, medium and long term, whether it is voluntarily following a strategy to do so or is forced to change by regulations and structural changes to the market. It is better for the success of its business and of its transition that these changes occur in a planned and controlled manner.

• EU 5.4 CLIMATE CHANGE MANAGEMENT INCENTIVES

DESCRIPTION & REQUIREMENTS	EU 5.4 CLIMATE CHANGE MANAGEMENT INCENTIVES
SHORT	
DESCRIPTION OF INDICATOR	The Board's compensation committee has included metrics for the reduction of GHG emissions in the annual and/or long-term compensation plans of senior executives. The company provides financial incentives for the management of climate change issues as defined by a series of relevant indicators.
D ATA	The relevant data for this indicator are:
REQUIREMENTS	 Management incentives The reporter shall report whether the company provides incentives for the management of climate change issues, including the attainment of targets The reporter shall provide details on the incentives provided for the management of climate change issues The reporter shall provide details on the activities that are usually rewarded by incentives in the company CDP Questionnaire 2023 mapping to this indicator: C1.3 C1.3a

HOW THE

ASSESSMENT

WILL BE DONE

The analyst verifies if the company has compensation incentives set for senior executive compensation and/or bonuses, that directly and routinely reward specific, measurable reductions of tons of carbon emitted by the company in the preceding year and/or the future attainment of emissions reduction targets, or other metrics related to the company's low-carbon transition plan. For small companies, or for cases in which the corporate structure does not match the structure of the maturity matrix, the analyst should assign a score based on the company's specific hierarchy (i.e., if climate change management incentives are awarded to the highest level of decision-making within the organization, award "Low-carbon aligned". If incentives are available one level below the highest level, award "Next practice", etc.).

Note: the wording of the "What is the type of incentive" is based on the Executive Compensation Guidebook for Climate Transition developed by Willis Towers Watson, in partnership with the Climate Governance Initiative, a project in collaboration with the World Economic Forum (31).

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score		0%	25%	50%	75%	100%	Weighting
Who is entitled to benefit?	Who is entitled to benefit?	Any other answer	Level 4 (see guidance)*	Level 3 (see guidance)*	Level 2 (see guidance)*	Level 1 (see guidance)*	50%
What is the type of incentive?	Type of incentive	No incentives	The company has introduced climate metrics (key performance indicators (KPIs)), including metrics related to GHG emissions reductions, within annual bonuses (or		The company has introduced climate metrics (key performance indicators (KPIs)), including metrics related to GHG emissions reductions, within its long- term incentive	The company has introduced climate metrics, (key performance indicators (KPIs)), including metrics related to GHG emissions reductions, within its long- term incentive	50%

	other short-	plan (likely to	plan (likely to	
	term incentive	include equity	include equity	
	plans).	in the	in the	
		company).	company). This	
			plan aligns with	
			the timescale	
			and content of	
			the company's	
			transition plan	
			and emissions	
			reduction	
			targets.	

- * Further guidance for each level of seniority is given below:
 - o Level 1
 - Highest level of accountability or decision-making within the organization, with responsibility for overall organizational or corporate strategic direction.
 - Examples: Board, sub-set of the Board, Chief Executive Officer (CEO)
 - o Level 2
 - Person/committee that is one step in the corporate structure from the highest level of decision-making of the
 organization (i.e. reports to or is accountable to Level 1). Inputs into organizational strategy but does not make decisions
 on it. May have responsibility and accountability for business unit strategy formation and implementation of one or more
 business units.
 - Examples: Vice President, Director, other C-Suite officer (e.g., Chief Financial Officer (CFO), Chief Procurement Officer (CPO), Chief Risk Officer (CRO), Chief Operating Officer (COO), Chief Sustainability Officer (CSO), etc.), other committee appointed by the Board
 - Level 3
 - Person/committee that is two steps in the corporate structure from the highest level of decision-making of the
 organization. May have responsibility and accountability for business unit strategy formation and implementation for one
 business unit.
 - Examples: Manager, Senior Manager
 - o Level 4
 - Person/committee that is three or more steps in the corporate structure from the highest level of decision-making of the
 organization. No responsibility or accountability for business unit strategy development.
 - Examples: Officer, Senior Officer

RATIONALE EU 5.4 CLIMATE CHANGE MANAGEMENT INCENTIVES

RATIONALE OF Executive compensation should be aligned with overall business strategy and priorities. As well as commitments to action the company should ensure

THE INDICATOR that incentives, especially at the executive level, are in place to reward progress towards low-carbon transition. This will improve the likelihood of successful low-carbon transition.

Monetary incentives at the executive level are an indication of commitment to successful implementation of a strategy for low-carbon transition.

• EU 5.5 FOSSIL FUEL POWER INCENTIVES

DESCRIPTION & Requirements	EU 5.5 FOSSIL FUEL POWER INCENTIVES
SHORT DESCRIPTION OF INDICATOR	The company has eliminated any and/or all components in annual and/or long-term compensation plans that incentivise links between fossil fuel power generation capacity growth and executive compensation.
DATA REQUIREMENTS	 The relevant data for this indicator are: The reporter shall provide the details and supporting documents on the organization's fossil fuel power incentives.
HOW THE ANALYSIS	 CDP Questionnaire 2023 mapping to this indicator: C1.3 C1.3a The analyst checks that incentives linked to growth in fossil fuel-based power generation capacity no longer exist, according to the data disclosed.
WILL BE DONE	

Question	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	Weighting
Does the company have fossil fuel power incentives?	The company still has fossil fuel- related incentives in place or it is not clear from the answer whether they do.	-	-	-	The company does not have any fossil fuel-related incentives.	100%

RATIONALE EU 5.5 FOSSIL FUEL POWER INCENTIVES

RATIONALE OF Executive and equivalent incentives and compensation should be aligned with the low-carbon transition plan in the short and long term, to increase the

THE INDICATOR chances of success of the plan. Electric utilities growth targets could provide incentives to increase emissions if steps are not taken to guard against this possibility.

• EU 5.6 CLIMATE CHANGE SCENARIO TESTING

DESCRIPTION & REQUIREMENTS	EU 5.6 CLIMATE CHANGE SCENARIO TESTING
SHORT	Testing or analysis relevant to determining the impact of transition to a low earbon economy on the surrent and projected business model and/or business
DESCRIPTION	strategy has been completed, with the results reported to the board or c-suite, the business strategy revised where necessary, and the results publicly
OF INDICATOR	reported.

DATA The relevant data for this indicator are:

REQUIREMENTS

• The reporter shall provide the details and supporting documents on the organization's climate change scenario testing CDP Questionnaire 2023 mapping to this indicator:

- ♦ C2.3a
- ♦ C3.2
- ♦ C3.2a
- ♦ C3.2b

HOW THE

ASSESSMENT

WILL BE DONE

The analyst evaluates the description and evidence of the low-carbon economy scenario testing for the presence of best-practice elements and consistency with the other reported management indicators. The company description and evidence are compared to the maturity matrix developed to guide the scoring and a greater number of points is allocated for elements indicating a higher level of maturity.

Best-practice elements to be identified in the test/analysis include:

- full coverage of the company's boundaries
- timescale from present to long-term (2035-2050)
- results are expressed in value-at-risk or other financial terms
- multivariate: a range of different changes in conditions are considered together
- changes in conditions are specific to a low-carbon climate scenario
- climate change conditions are combined with other likely future changes in operating conditions over the timescale chosen

Question	Question Subdimension Basic Sta		Standard	Advanced	Next practice	Low carbon aligned	Weighting
Associa	ted score	0%	25%	50%	75%	100%	Weighting
What is the scope of the scenario testing?	Scope	Scope of scenario testing is not defined.	Scenario testing applies only to specific business units / operations (representing	Scenario testing applies only to specific business units / operations (representing	Scenario testing applies to all business units / operations,	Scenario testing applies to all business units / operations and the rest of the	25%

			less than 50% of company's GHG emissions).	more than 50% of company's GHG emissions).		value chain (upstream and downstream). Any exclusions from the plan must not be material to the organization in terms of GHG emissions.	
What is the timescale of the scenario testing?	Timescale	Covers only short term, from reporting year until (RY + 3 years).	Covers only short and medium term, from reporting year until (RY + 4 to 10 years).	Covers short, medium and long term, from reporting year until (RY + 11 to 20 years).	Covers short, medium and long term, from reporting year until (RY + 21 years to 2049).	Covers short, medium and long term, from reporting year until 2050 or beyond.	20%
Does the company assess the materiality of climate- related risks/opportu nities*?	Climate-related risks/opportuniti es*	The materiality of climate- related risks/opportuni ties* is not assessed.	The materiality of 1 category of climate- related risks/opportunit ies* is assessed.	The materiality of 2 categories of climate- related risks/opportunit ies* is assessed.	The materiality of 3 categories of climate- related risks/opportunit ies* is assessed.	The materiality of 4 categories of climate- related risks/opportuniti es* is assessed.	10%
How many scenarios are considered?	Scenarios	No scenarios are considered.	Considers 1 scenario.	Considers 2 scenarios.		Considers 3 or more scenarios, including a low- carbon economy scenario.	10%
What parameters/as sumptions are considered?	Parameters/ass umptions considered	Considers 1-2 different parameters/as sumptions.		Considers 3-4 parameters/as sumptions together (multivariate)		Considers 5 or more parameters/ass umptions together, related to changing climate conditions in combination	15%

						with changes in operating conditions .	
Are the results† expressed in qualitative/ quantitative/ financial terms?	Results [†]	No results available	Expressed only in qualitative terms	Expressed in qualitative and quantitative terms	Expressed in qualitative, quantitative and financial terms	Expressed in qualitative, quantitative and financial terms and results are translated into value-at-risk	10%
ls a carbon price considered?	Carbon price	No carbon price is considered.		A carbon price is used as one of the main parameters/as sumptions		The carbon price used is aligned with the parameters/ass umptions of a low-carbon economy scenario [‡]	10%

- * Climate-related risk categories (32):
 - 1. Market and Technology shifts
 - 2. Reputation
 - 3. Policy and Legal
 - 4. Physical Risks
- + Results of scenario analysis should be presented as business impacts which can include (32):
 - Earnings what conclusions does the organization draw about impact on earnings and how does it express that impact (e.g., as EBITDA (earnings before interest, taxes, depreciation and amortization), EBITDA margins, EBITDA contribution, dividends)?
 - Costs what conclusions does the organization draw about the implications for its operating/production costs and their development over time?
 - Revenues what conclusions does the organization draw about the implications for the revenues from its key commodities/ products/ services and their development over time?
 - o Assets what are the implications for asset values of various scenarios?
 - Capital Allocation/ investments what are the implications for capex and other investments?

- Timing what conclusions does the organization draw about development of costs, revenues and 0 earnings across time (e.g., 5/10/20 year)?
- ŧ Refer for instance to International Energy Agency (IEA), World Energy Outlook 2019, Annex B, p 758 (30). CO₂ prices are displayed by world regions, predicted values in 2030 and 2050.

RATIONALE **EU 5.6 CLIMATE CHANGE SCENARIO TESTING**

RATIONALE OF

There are a variety of ways of analysing the potential impacts of climate-related changes on the business, whether these are slow and gradual developments or one-off "shocks". Investors are increasingly calling for techniques such as use of an internal price on carbon, scenario analysis and stress THE INDICATOR testing to be implemented to enable companies to calculate the value-at-risk that such changes could pose to the business. As this practice is emergent at this time there is currently no comprehensive survey or guidance on specific techniques or tools recommended for the sector. The ACT methodology thus provides a broad definition of types of testing and analysis which can be relevant to this information requirement, to identify both current and best practices and consider them in the analysis.

> Scenario stress testing is an important management tool for preparing for low-carbon transition. For businesses likely to be strongly affected by climate change impacts (both direct and indirect), it has even greater importance.

MODULE 6: SUPPLIER ENGAGEMENT

Module 6, "Supplier engagement", assesses the company's efforts to decarbonise its supply chain. This module assesses the company's strategy to engage with its suppliers to reduce emissions. It then assesses existing activities, initiatives and partnerships, launched by the company to influence and support suppliers to reduce emissions.

Note: two indicators in module 4 of the ACT Electricity methodology (4.3 – Contribution to low-carbon electricity generation, and 4.5 – Interventions to reduce life-cycle emissions of low-carbon assets) already relate to engagement with suppliers. Modules 4 and 6 consider complementary information, as explained below:

- A company with a "pure generation" profile will be scored against indicator 4.5 Interventions to reduce life-cycle emissions of low-carbon assets (see section 6.3).
 When the company is scored against module 6, the analyst should identify *other* ways in which the company engages with its suppliers beyond the interventions to reduce life-cycle emissions of low-carbon assets. For example, engaging with suppliers to encourage them to report their emissions, set their own science-based targets, reduce their own emissions, etc.
- A company with a "pure retail" profile will be scored against indicator 4.3 Contribution to low-carbon electricity generation (see section 6.3). This relates to its purchasing of low-carbon electricity. When the company is scored against module 6, the analyst should identify *other* ways in which the company engages with its suppliers beyond just purchasing low-carbon electricity. For example, engaging with suppliers to encourage them to report their emissions, set their own science-based targets, reduce their own emissions, etc.
- A company with a "mixed profile" will be scored against both indicators 4.3 and 4.5. Similarly, to the "pure generation" and "pure retail" examples above, the data used to score the company on indicators 6.1 and 6.2 should not overlap with the data used to score the company on indicators 4.3 and 4.5.

• EU 6.1 STRATEGY TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS

DESCRIPTION & REQUIREMENTS	EU 6.1 STRATEGY TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS
SHORT DESCRIPTION OF INDICATOR	This indicator assesses the strategic policy and the process which are formalized and implemented into business decision making-processes to influence, enable or otherwise shift suppliers' choices and behaviours in order to reduce its GHG emissions.
DATA REQUIREMENTS	 The relevant data for this indicator are: Methods of supplier engagement, strategy for prioritizing supplier engagement and measures of success

- Proportion of total procurement spend and/or supplier-related scope 3 emissions covered by the strategy
- Data on suppliers' GHG emissions and climate change strategies
- Key procurement templates (e.g., New supplier contracts, Supplier Code of Conduct, RFI/RFPs (request for information / proposal), Supplier self-assessments, Performance cards

CDP Questionnaire 2023 mapping to this indicator:

- ◆ C12.1a
- ♦ C12.2
- ◆ C12.2a
- How THEThe assessment will assign a maturity score based on the company's formalized, written strategy regarding its engagement with its suppliers, expressedASSESSMENTin a maturity matrix.
- **WILL BE DONE** A company that is placed in the 'Low-carbon aligned' category will receive the maximum score. A company which is at a lower level will receive a partial score, with 0 points awarded for having no engagement at all.

Question	Subdimension	Basic	Standard Advanced		Next practice	Low-carbon aligned	Weighting
Associated score		0% 25%		50%	75%	100%	weighting
What is the scope of the supplier engagement strategy?	Scope	No strategy applied to any suppliers.	Strategy applied to up to 30% of total procurement spend OR up to 30% of supplier-related scope 3 emissions.	Strategy applied to 31- 60% of total procurement spend OR 31- 60% of supplier-related scope 3 emissions.	Strategy applied to 61- 90% of total procurement spend OR 61- 90% of supplier-related scope 3 emissions.	Strategy applied to over 90% of total procurement spend OR over 90% of supplier-related scope 3 emissions.	30%
To what extent are GHG emissions reduction requirements integrated in engagement	Emissions reduction requirements	No emissions reduction requirement included in key procurement templates.*	Unquantified emissions reduction requirement included in key procurement templates.*	Quantified emissions reduction requirement included in key procurement templates* but	Quantified emissions reduction target included in key procurement templates* and the supplier is	Quantified, science-based emissions reduction target (that is aligned with the sector/industry	20%

with suppliers?			the supplier is not required to report progress to the company.	required to report progress to the company.	pathway) included in key procurement templates* and the supplier is required to report progress to the company.	
To what extent are other low- carbon transition- related requirements/r ecommendati ons [†] integrated in engagement with suppliers?	Other low- carbon transition- related requirements/re commendations	No other low- carbon transition- related requirements/re commendations [†] included in key procurement templates.*			1 or more other low-carbon transition- related requirements/re commendations † included in key procurement templates.*	5%
To what extent are suppliers required to publicly report on their GHG emissions and other low- carbon transition- related requirements/r ecommendati ons?	Reporting	No requirement included in key procurement templates* for suppliers to publicly report on their GHG emissions or other low- carbon transition- related requirements/re commendations	Requirement included in key procurement templates* for suppliers to publicly report on their GHG emissions but not any other low-carbon transition- related requirements/re commendations		Requirement included in key procurement templates* for suppliers to publicly report on their GHG emissions and other low- carbon transition- related requirements/re commendations	5%

Are GHG emissions reduction/repo rting requirements included in selection of new suppliers, renewal of contract with existing suppliers, neither or both?	New suppliers/existi ng suppliers	Requirements included in NEITHER the selection of new suppliers NOR renewal of contracts with existing suppliers.		Requirements included in EITHER the selection of new suppliers OR renewal of contracts with existing suppliers.		Requirements included in BOTH the selection of new suppliers AND renewal of contracts with existing suppliers.	5%
How does the company respond to supplier non- compliance with GHG emissions reduction requirements?	Non- compliance	No response to supplier non- compliance.		Company retains/suspend s/sanctions and engages non- compliant suppliers, but does not exclude those that fail to show significant improvement after the period of engagement.		Company retains/suspend s/sanctions and engages non- compliant suppliers, and permanently excludes those that fail to show significant improvement after the period of engagement.	5%
What action levers [‡] are embedded in the company's strategy to engage suppliers?	Action levers‡ embedded in strategy	No action levers [‡] embedded in strategy.	Strategy includes action lever(s) from one of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used. [‡]	Strategy includes action levers from two of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used. [‡]	Strategy includes action levers from all of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used. [‡]	Strategy includes action levers from all of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used. [‡] Strategy includes regular	30%

			audits of the	
			supplier by the	
			company or a	
			representative.	

- * "Key procurement templates" include but are not limited to (33):
 - o New supplier contracts
 - o Supplier Code of Conduct
 - o RFI/RFPs
 - Supplier self-assessments
 - Performance cards
- * "Other low-carbon transition-related requirements/recommendations" refers to key aspects of a supplier's low-carbon transition, beyond emissions reductions and targets, that companies can engage them on. These may not be specific requirements, but can be general/highlevel recommendations. These aspects can include performance indicators from any ACT performance modules, such as:
 - o Intangible investment
 - For example, the company recommends that its suppliers increase their R&D spend in low-carbon technologies.
 - o Management
 - For example, the company requires its suppliers to conduct climate change scenario testing.
 - Policy engagement
 - For example, the company only selects suppliers not opposed to relevant climate policies.
 - o Business model
 - For example, the company engages with its suppliers to develop new, low-carbon business models.
 - Any other relevant low-carbon transition-related requirement/recommendation (e.g., ACT assessment, setting a Science Based Target, etc)
- Action levers must be embedded in a strategy document, and not be presented as examples of past/present actions/initiatives (such examples should be scored in indicator 6.2). "Action levers" include, but are not limited to, the following examples, which are grouped into three engagement types (sources: 2023 CDP climate change questionnaire C12.1a (34) (35)):
 - 1. Information collection (understanding supplier behaviour)

- Collect GHG emissions data at least annually from suppliers
- Collect targets information at least annually from suppliers
- Collect climate-related risk and opportunity information at least annually from suppliers
- Collect climate transition plan information at least annually from suppliers
- Collect other climate-related information at least annually from suppliers
- 2. Engagement & incentivization (changing supplier behaviour)
 - Run an engagement campaign to educate suppliers about climate change
 - Provide training, support, and best practices on how to make credible renewable energy usage claims
 - Provide training, support, and best practices on how to set science-based targets
 - Directly work with suppliers on climate-related topics, such as defining common GHG emissions reduction plans (i.e., both companies commit to reduce X tCO2e together)
 - Climate change performance is featured in supplier awards scheme
 - Offer financial incentives for suppliers who contribute to reducing the company's operational emissions (Scopes 1 & 2)
 - Offer financial incentives for suppliers who contribute to reducing the company's downstream emissions (Scope 3)
 - Offer financial incentives for suppliers who contribute to reducing the company's upstream emissions (Scope 3)
 - Offer financial incentives for suppliers who increase the share of renewable energy in their total energy mix
 - Offer financial incentives for suppliers who develop/adopt a climate transition plan
 - Facilitate adoption of a unified climate transition approach with suppliers
- 3. Innovation & collaboration (changing markets)
 - Run a campaign to encourage innovation to reduce climate impacts on products and services
 - Collaborate with suppliers on innovative business models to source renewable energy
 - Invest jointly with suppliers in R&D of relevant low-carbon technologies

RATIONALE EU 6.1 STRATEGY TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS

RATIONALE OF RELEVANCE OF THE INDICATOR:

- **THE INDICATOR** Supplier engagement is included in this ACT methodology for the following reasons:
 - It might have a significant impact in terms of GHG emissions. Achieving decarbonization of the whole supply chain is key to achieving climate goals in most of companies
 - Engaging suppliers through contract clauses and sales incentives is necessary to bring them on board.

SCORING THE INDICATOR:

Because of data availability and complexity, a direct measure of the outcome of such engagement is not feasible at this time. It is often challenging to quantify the emissions reduction potential and outcome of collaborative activities with the supply chain. Therefore, the approach of a maturity matrix allows the analyst to consider multiple dimensions of supplier engagement and assess them together to calculate a single score for Supplier Engagement.

• EU 6.2 ACTIVITIES TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS

DESCRIPTION & EU 6.2 ACTIVITIES TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS

REQUIREMENTS

SHORT

DESCRIPTIONThis indicator assesses the extent to which the company implements activities and initiatives that help, influence or otherwise enable suppliers to reduce their GHG emissions. The indicator aims to be a holistic measure of these activities and initiatives, with evidence of implementation and outcomes in the value chain across all products/services.

DATA The relevant data for this indicator are:

REQUIREMENTS • List of initiatives implemented to influence suppliers to reduce their GHG emissions, green purchase policy or track record, supplier code of conduct

CDP Questionnaire 2023 mapping to this indicator:

- ◆ C12.1a
- C12.2
- ♦ C12.2a

- **How THE** The assessment will assign a maturity score based on the company's demonstration of recent and current activities and initiatives with its suppliers, expressed in a maturity matrix.
- **WILL BE DONE** A company that is placed in the 'Low-carbon aligned' category will receive the maximum score. A company which is at a lower level will receive a partial score, with 0 points awarded for having no engagement at all.

This maturity matrix is indicative but does not show all possible options that can result in a particular score. The company's responses will be scrutinized by the analyst and then placed on the level in the matrix where the analyst deems it most appropriate.

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	Weighting
Associated score		0%	25%	50%	75%	100%	Weighting
What action levers* does the company use in practice to engage suppliers?	Action levers* used in practice	No evidence of action levers* used in practice.	Evidence of company using action lever(s) from ONE of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used.*	Evidence of company using action levers from TWO of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used.*	Evidence of company using action levers from ALL of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used.*	Evidence of company using action levers from ALL of the three engagement types (Information collection, Engagement & Incentivisation, Innovation & collaboration) used.* Regular audits of the supplier by the company or a representative.	30%

What is the scope of the recent and current activities in supplier engagement?	Scope	No suppliers engaged.	Suppliers engaged represent up to 30% of total procurement spend OR up to 30% of supplier- related scope 3 emissions.	Suppliers engaged represent 31- 60% of total procurement spend OR 31- 60% of supplier- related scope 3 emissions.	Suppliers engaged represent 61- 90% of total procurement spend OR 61- 90% of supplier- related scope 3 emissions.	Suppliers engaged represent over 90% of total procurement spend OR over 90% of supplier- related scope 3 emissions.	40%
How impactful has the company's supplier engagement been?	Impact of engagement [†]	No evidence of impact [†] of action levers used.	Some action levers used have qualitative evidence of impact [†] .	Almost all action levers used have qualitative evidence of impact [†] .	Some action levers used have quantitative evidence of impact [†] .	Almost all action levers used have qualitative and quantitative evidence of impact [†] .	30%

- * Action levers: as per indicator 6.1 Strategy to influence suppliers to reduce their GHG emissions
- + The metric used to measure impact depends on the action lever the metric refers to. Examples of "evidence of impact" might include, but are not limited to:
 - Qualitative example: Feedback from suppliers saying that they appreciate and will use this new knowledge to start their journey on the low-carbon transition
 - Quantitative example: Engaged suppliers have reduced their annual GHG emissions by X%
 - Quantitative example: The percentage of engaged suppliers setting science-based targets has increased annually by X%
 - Quantitative example: The percentage of engaged suppliers conducting scenario testing has increased annually by X%

RATIONALE EU 6.2 ACTIVITIES TO INFLUENCE SUPPLIERS TO REDUCE THEIR GHG EMISSIONS

RATIONALE OF RELEVANCE OF THE INDICATOR:

THE INDICATOR

Activities to influence suppliers are included in this ACT methodology for the following reasons:

- It might have a significant impact in terms of GHG emissions. Achieving decarbonization of the whole supply chain is key to achieving climate goals in most of companies
- Engaging suppliers through contract clauses and sales incentives is necessary to bring them on board.

SCORING THE INDICATOR:

Because of data availability and complexity, a direct measure of the outcome of such engagement is not feasible at this time. It is often challenging to quantify the emissions reduction potential and outcome of collaborative activities with the supply chain. Therefore, the approach of a maturity matrix allows the analyst to consider multiple dimensions of supplier engagement and assess them together towards a single score for all the activities related to Supplier Engagement.

MODULE 7: CLIENT ENGAGEMENT

Module 7, "Client engagement", assesses the company's engagement efforts to influence client behaviour to reduce its greenhouse gas emissions. This module assesses the company's strategy to engage with its clients or customers to reduce emissions. It then assesses existing activities, initiatives and partnerships, launched by the company to influence clients to reduce emissions.

Note: one indicator in module 4 of the ACT Electricity methodology (4.4 – Energy efficiency services share) already relates to engagement with clients. To avoid doublecounting, the data used to score the company on indicators 7.1 and 7.2 should not overlap with the data used to score the company on indicator 4.4. Module 7 assesses engagement with clients which is not conducted in exchange for a fee, while 4.4 assesses the company's sales from paid services.

• EU 7.1 STRATEGY TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS

DESCRIPTION & EU 7.1 STRATEGY TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS

REQUIREMENTS

SHORT The company has a strategy, ideally governed by policy and integrated into business decision making, to influence, enable, or otherwise shift client choices and behaviour in order to reduce their GHG emissions.

INDICATOR

DATA The relevant	nt data for this indicator are:
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- **REQUIREMENTS** Strategy to influence clients GHG emissions
 - % of clients covered by the strategy
 - Data on clients' choices and preferences towards reducing GHG emissions

CDP Questionnaire 2023 mapping to this indicator:

- ◆ C12.1b
- **How THE** The assessment will assign a maturity score based on the company's formalized, written strategy regarding its engagement with its customers, expressed in a maturity matrix.

WILL BE DONE

A company that is placed in the 'Low-carbon aligned' category will receive the maximum score. A company which is at a lower level will receive a partial score, with 0 points awarded for having no engagement at all.

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score		0%	25%	50%	75%	100%	weighting
What is the scope of the client engagement strategy?	Scope	No strategy applied to any clients.	Strategy applied to up to 30% of revenues OR up to 30% of client- related scope 3 emissions.	Strategy applied to 31-60% of revenues OR 31- 60% of client- related scope 3 emissions.	Strategy applied to 61- 90% of revenues OR 61-90% of client-related scope 3 emissions.	Strategy applied to over 90% of revenues OR over 90% of client- related scope 3 emissions.	30%
To what extent are GHG emissions reduction/ener gy efficiency targets integrated in client engagement strategy?	Emissions reduction/ energy efficiency targets	GHG emissions reduction/ energy efficiency targets not included in client engagement strategy.		Unquantified GHG emissions reduction/ energy efficiency target(s) included in client engagement strategy.		Quantified GHG emissions reduction/ energy efficiency target(s) included in client engagement strategy.	30%
To what extent are other low- carbon transition- related recommendati ons* integrated in client engagement strategy?	Other low- carbon transition- related recommendatio ns*	No other low- carbon transition- related recommendatio ns* included in client engagement strategy.				1 or more other low-carbon transition-related recommendations* included in client engagement strategy.	10%
What action levers [†] are embedded in the company's strategy to	Action levers† embedded in strategy	No action levers [†] embedded in strategy.	Strategy includes action lever(s) from one of the four engagement	Strategy includes action lever(s) from two of the four engagement types (Education/informa	Strategy includes action lever(s) from three of the	Strategy includes action lever(s) from all four of the four engagement types (Education/informat	30%

encourage		types	tion sharing;	four	ion sharing;	
clients to		(Education/infor	Collaboration &	engagement	Collaboration &	
reduce their		mation sharing;	innovation;	types	innovation;	
emissions?		Collaboration &	Compensation,	(Education/inf	Compensation,	
		innovation;	Customer	ormation	Customer	
		Compensation;	motivation via	sharing;	motivation via	
		Customer	marketing and	Collaboration	marketing and	
		motivation via	choice	& innovation;	choice	
		marketing and	architecture) [†] .	Compensatio	architecture) [†] .	
		choice		n, Customer		
		architecture) [†]		motivation via		
				marketing		
				and choice		
				architecture) [†]		

- * "Other low-carbon transition-related recommendations" refers to key aspects of a client's low-carbon transition, beyond emissions reductions and targets, that companies can engage them on. These aspects can include performance indicators from any ACT performance modules, such as:
 - o Intangible investment
 - For example, the company recommends that its clients increase their R&D spend in low-carbon technologies.
 - o Management
 - For example, the company encourages its clients to conduct climate change scenario testing.
 - Policy engagement
 - For example, the company encourages its clients to support relevant climate policies.
 - o Business model
 - For example, the company engages with its clients to develop new, low-carbon business models.
- Action levers must be embedded in a strategy document, and not be presented as examples of past/present actions/initiatives (such examples should be scored in indicator 7.2). "Action levers" include but are not limited to the following individual action levers, which are grouped into four engagement types (sources: 2022 CDP climate change questionnaire C12.1a (34), (36):
 - o Education/information sharing
 - Run an engagement campaign to educate customers about the quantified climate change impacts of (using) your products, goods, and/or services
 - E.g., highlight that the low-carbon product answers to the purchasing rules of the client
- E.g., promote the low-carbon product highlighting that their client could use it to answer the purchasing rules of their own clients (e.g., low-carbon aluminium to produce a car door).
- Share environmental information (e.g., quantified GHG emissions) about your products and relevant certification schemes (i.e., Energy STAR)
- Provide documents and tools
- Collaboration & innovation
 - Run a campaign to encourage innovation to reduce climate change impacts
 - Organize multi-party working group with meetings taking place at least annually
- Compensation/demand-side response
 - Provide rebates for environmentally friendly actions
 - Deliver energy efficiency programs offering customers incentives to increase efficiency and decrease overall electricity demand
- Customer motivation via marketing and choice architecture ("nudging")
 - Design marketing campaigns/choice architecture aiming to indirectly encourage customers to reduce their emissions

RATIONALE EU 7.1 STRATEGY TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS

RELEVANCE OF THE INDICATOR:

RATIONALE OF THE INDICATOR Strategies to influence clients are included in this ACT methodology for the following reasons:

- Companies usually have some ability to influence the actions and performance of clients regarding climate thanks to their products or services.
- The downstream value chain can represent the largest source of emissions for some companies and clients should be engaged through a proper, ambitious strategy.

SCORING THE INDICATOR:

Because of data availability and complexity, a direct measure of the outcome of such engagement is not very feasible at this time. It is often challenging to quantify the emissions reduction potential and outcome of collaborative activities with the supply chain. Therefore, the approach of a maturity matrix allows the analyst to consider multiple dimensions of supplier engagement and assess them together towards a single score for a strategy related to Client Engagement.

• EU 7.2 ACTIVITIES TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS

DESCRIPTION & EU 7.2 ACTIVITIES TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS REQUIREMENT S SHORT This indicator assesses the extent to which the company implements activities and initiatives that help, influence or otherwise enable clients to reduce DESCRIPTION their GHG emissions. The indicator aims to be a holistic measure of these activities and initiatives, with evidence of implementation and outcomes in the value chain across all products/services. **OF INDICATOR** DATA The relevant data for this indicator are: REQUIREMENTS Activities to influence clients GHG emissions % of clients covered by the activities ٠ Data on clients' choices and preferences towards reducing GHG emissions ٠ CDP Questionnaire 2023 mapping to this indicator: ♦ C12.1b HOW THE The assessment will assign a maturity score based on the company's demonstration of recent and current activities and initiatives with its clients, expressed in a maturity matrix. ASSESSMENT

WILL BE DONE A company that is placed in the 'Low-carbon aligned' category will receive the maximum score. A company which is at a lower level will receive a partial score, with 0 points awarded for having no engagement at all.

This maturity matrix is indicative but does not show all possible options that can result in a particular score. The company's responses will be scrutinized by the analyst and then placed on the level in the matrix where the analyst deems it most appropriate.

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associa	ted score	0%	25%	50%	75%	100%	Weighting
What action levers* does the company use in practice to encourage clients to reduce their emissions?	Action levers* used in practice	No evidence of action levers* used in practice.	Evidence of company responding only to customer demand for more low- carbon products without attempting to change the existing customer demand towards low- carbon alternatives.	Evidence of company using action lever(s) from ONE of the four engagement types (Education/information sharing; Collaboration & innovation; Compensation; Customer motivation via marketing and choice architecture).*	Evidence of company using action lever(s) from TWO of the four engagement types (Education/information sharing; Collaboration & innovation; Compensation; Customer motivation via marketing and choice architecture).*	Evidence of company using action lever(s) from AT LEAST THREE of the four engagement types (Education/information sharing; Collaboration & innovation; Compensation; Customer motivation via marketing and choice architecture).*	30%
What is the scope of the recent and current activities in client engagement?	Scope	No clients engaged.	Clients engaged represent up to 30% of revenues OR up to 30% of client-related scope 3 emissions.	Clients engaged represent 31-60% of revenues OR 31-60% of client-related scope 3 emissions.	Clients engaged represent 61-90% of revenues OR 61-90% of client-related scope 3 emissions.	Clients engaged represent over 90% of revenues OR over 90% of client-related scope 3 emissions.	40%
How impactful has the company's client engagement been?	Impact of engagement [†]	No evidence of impact [†] of action levers used.	Some action levers used have qualitative evidence of impact [†] .	Almost all action levers used have qualitative evidence of impact [†] .	Some action levers used have quantitative evidence of impact [†] .	Almost all action levers used have qualitative and quantitative evidence of impact [†] .	30%

- * Action levers must be presented as examples of past/present actions/initiatives, and not be theoretical/embedded in a strategy document (such examples should be scored in indicator 7.1). "Action levers" include but are not limited to: as per indicator 7.1 *Strategy to influence clients to reduce their GHG emissions.*
- + The metric used to measure impact depends on the action lever the metric refers to. Examples of "evidence of impact" might include, but are not limited to:
 - Qualitative example: Feedback from clients saying that they appreciate and will use this new knowledge to start their journey on the low-carbon transition
 - o Quantitative example: Evidence that engaged clients have reduced their use-phase GHG emissions by X%

Rationale EU 7.2 ACTIVITIES TO INFLUENCE CLIENTS TO REDUCE THEIR GHG EMISSIONS

Rationale of **Relevance of THE INDICATOR:**

the indicator

Activities to influence clients are included in this ACT methodology for the following reasons:

- Companies usually have the ability to influence the actions and performance of clients regarding climate thanks to their products or services.
- The downstream can represent the largest source of emissions for some companies throughout the value chain and clients should be engaged through low-carbon solutions.

SCORING THE INDICATOR:

Because of data availability and complexity, a direct measure of the outcome of such engagement is not very feasible at this time. It is often challenging to quantify the emissions reduction potential and outcome of collaborative activities with the supply chain. Therefore, the approach of a maturity matrix allows the analyst to consider multiple dimensions of supplier engagement and assess them together towards a single score for all the activities related to Client Engagement.

MODULE 8: POLICY ENGAGEMENT

Module 8, "Policy engagement", assesses how the company indirectly influences the policy agenda, whether through membership of trade associations and lobbying organisations, support for/obstruction of climate policies, and direct engagement with legislators, regulators and local authorities.

• EU 8.1 COMPANY POLICY ON ENGAGEMENT WITH ASSOCIATIONS, ALLIANCES, COALITIONS OR THINKTANKS

DESCRIPTION & REQUIREMENTS	EU 8.1 COMPANY POLICY ON ENGAGEMENT WITH ASSOCIATIONS, ALLIANCES, COALITIONS OR THINKTANKS
SHORT	
DESCRIPTION	The company has a policy on what action to take when associations, alliances, coalitions or thinktanks of which it is a member or to which it
OF INDICATOR	provides support are found to be opposing "climate-friendly" policies.
DATA	The relevant data for this indicator are:
REQUIREMENTS	 Public climate change policy positions Description of this policy (scope & boundaries, responsibilities, process to monitor and review) Associations, alliances, coalitions or thinktanks that are likely to take a position on climate change legislation External sources of data shall also be used for the analysis of this indicator (e.g. RepRisk database, InfluenceMap, press news, actions in standard development) CDP Questionnaire 2023 mapping to this indicator: C12.3b
How THE ASSESSMENT WILL BE DONE	The analyst will evaluate the description and evidence of the policy on associations, alliances, coalitions or thinktanks of which the company is a member or to which it provides support, for the presence of best practice elements and consistency with the other reported management indicators. The company description and evidence will be compared to the maturity matrix developed to guide the scoring and a greater number of points will be allocated for elements indicating a higher level of maturity.

Best practice elements to be identified in the test/analysis include:

- A publicly available policy is in place
- The scope of the policy covers the entire company and its activities, and all associations, alliances, coalitions or thinktanks of which it is a member or to which it provides support. (Consideration should be given as to whether these associations, alliances, coalitions and thinktanks in turn are members of or otherwise support other such organisations that have climate-negative activities or positions).
- The policy sets out what action is to be taken in the case of inconsistencies
- Action includes option to terminate membership of the associations, alliances, coalitions or thinktanks
- Action includes option of publicly opposing or actively countering the association, alliance, coalition or thinktank's position
- Responsibility for oversight of the policy lies at top level of the organization, and implementation lies at senior management level
- There is a process to monitor and review association, alliance, coalition and thinktank positions

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score		0%	25%	50%	75%	100%	weightings
What is the scope covered by the engagement policy? Is the policy publicly available?	Transparency and scope	Does not cover the entire company (including all of its subsidiaries and business areas, and all operational jurisdictions, i.e., entities within its reporting boundary) or all associations, alliances and coalitions of which it is a member. Is not publicly available.		Covers the entire company (including all of its subsidiaries and business areas, and all operational jurisdictions, i.e., entities within its reporting boundary), and all associations, alliances and coalitions of which it is a member. Is not publicly available.		Covers the entire company (including all of its subsidiaries and business areas, and all operational jurisdictions, i.e., entities within its reporting boundary), and all associations, alliances and coalitions of which it is a member. Is publicly available.	40%
Does the company have a review process of associations,	Review process	No process to monitor and review association, alliance,	A process to monitor and review association, alliance,	A process to monitor and review association, alliance,	A process to monitor and review association, alliance,	A process to monitor and review association, alliance, coalition and thinktank	40%

alliances, coalitions or thinktanks of which it is a member or to which it provides support?		coalition and thinktank climate policy positions exists.	coalition and thinktank climate policy positions exists. The process is not necessarily implemented.	coalition and thinktank climate policy positions exists. The process is implemented, but responsibility for oversight of the process lies below Level 1*, and implementation of the process lies below Level 3*.	coalition and thinktank climate policy positions exists. Either responsibility for oversight of the process lies at Level 1*, or implementation of the process lies at Level 3 or above*.	climate policy positions exists. Responsibility for oversight of the process lies at Level 1*, and implementation of the process lies at Level 3 or above*.	
Does the company have an action plan addressing what action to take when associations, alliances, coalitions or thinktanks of which it is a member or to which it provides support are found to be opposing "climate- friendly" policies? [†]	Action plan	No action plan exists.	Action plan sets out which actions are to be taken when associations, alliances, coalitions or thinktanks are found to be opposing "climate-friendly" policies. Action plan does not include any of the actions listed [†] .	Action plan includes making public statements challenging associations, alliances, coalitions and thinktanks*. Does not include either of the other actions listed [†] .	Action plan includes engaging with associations, alliances, coalitions or thinktanks to change their position [†] . May include making public statements, but does not include withdrawing funding for/suspending or ending membership [†] .	Action plan includes withdrawing funding for/suspending or ending membership of the association, alliance, coalition or thinktank*. May include both other actions listed [†] .	20%

- * Further guidance for each level of seniority is given below:
 - o Level 1
 - Highest level of accountability or decision-making within the organization, with responsibility for overall
 organizational or corporate strategic direction.
 - Examples: Board, sub-set of the Board, Chief Executive Officer (CEO)
 - o Level 2
 - Person/committee that is one step in the corporate structure from the highest level of decision-making of the
 organization (i.e. reports to or is accountable to Level 1). Inputs into organizational strategy but does not make
 decisions on it. May have responsibility and accountability for business unit strategy formation and
 implementation of one or more business units.
 - Examples: Vice President, Director, other C-Suite officer (e.g., Chief Financial Officer (CFO), Chief Procurement Officer (CPO), Chief Risk Officer (CRO), Chief Operating Officer (COO), Chief Sustainability Officer (CSO), etc.), other committee appointed by the Board
 - o Level 3
 - Person/committee that is two steps in the corporate structure from the highest level of decision-making of the organization. May have responsibility and accountability for business unit strategy formation and implementation for one business unit.
 - Examples: Manager, Senior Manager
 - o Level 4
 - Person/committee that is three or more steps in the corporate structure from the highest level of decisionmaking of the organization. No responsibility or accountability for business unit strategy development.
 - Examples: Officer, Senior Officer
- + Actions a company can take when associations, alliances, coalitions or thinktanks of which it is a member or to which it provides support are found to be opposing "climate-friendly" policies follow a hierarchy of severity, as follows (source: (37), (38)):
 - 1. Making public statements challenging associations, alliances, coalitions and thinktanks
 - For example, the company speaks out, publicly distancing itself from statements or lobbying against climate policy by associations, alliances, coalitions or thinktanks of which it is a member or to which it provides support. The company explains how these statements or lobbying are inconsistent with its own emissions reduction goals and with its support for climate policy.
 - 2. Engaging with associations, alliances, coalitions or thinktanks to change their position.

- For example, the company works to end lobbying against climate policy through transparent and time-bound engagement with those organizations.
- 3. Withdrawing funding for/suspending or ending membership of the association, alliance, coalition or thinktank.
 - For example, where attempts to change an association's position prove ineffective or insufficient, the company discontinues its membership or withdraws funding from the association.

RATIONALE EU 8.1 COMPANY POLICY ON ENGAGEMENT WITH ASSOCIATIONS, ALLIANCES, COALITIONS OR THINKTANKS

- **RATIONALE OF** Associations, alliances, coalitions and thinktanks are a key instrument by which companies can indirectly influence policy on climate. thus,
- **THE INDICATOR** when associations, alliances, coalitions and thinktanks take positions, which are negative for climate, companies need to take action to ensure that this negative influence is countered or minimized.

This indicator is consistent with the ACT Framework and ACT Guidelines and common to the other sectoral methodologies.

• EU 8.2 Associations, Alliances, Coalitions and Thinktanks supported do not have climate-negative activities or positions

DESCRIPTION & REQUIREMENTS	EU 8.2	EU 8.2 ASSOCIATIONS, ALLIANCES, COALITIONS AND THINKTANKS SUPPORTED DO NOT HAVE CLIMATE-NEGATIVE ACTIVITIES OR POSITIONS							
SHORT									
DESCRIPTION	The co	mpany is not on the Board of, providing funding beyond membership to, or otherwise supporting any associations, alliances, coalitions or thinktanks							
OF INDICATOR	that ha	ve climate-negative activities or positions.							
DATA	The rel	evant data for this indicator are:							
REQUIREMENTS	•	The reporter shall provide details of those associations, alliances, coalitions and thinktanks that are likely to take a position on climate change legislation							
	•	The company should attach supporting documentation, if this exists, giving evidence							

External sources of data shall also be used for the analysis of this indicator:

- RepRisk database,
- Climate Action 100+
- Ellen Macarthur Foundation
- Press news
- EP100 Climate Group (www.theclimategroup.org/project/ep100)
- Low-carbon Technology Partnerships initiative (<u>www.wbcsd.org/Programs/Climate-and-Energy/Climate/Low-Carbon-Technology-Partnerships-initiative</u>)

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C12.3b
- ♦ C12.3c

How THE The list of associations, alliances, coalitions and thinktanks declared in the CDP data and other external sources relating to the company is assessed against a list of associations, alliances, coalitions and thinktanks that have climate-negative activities or positions (InfluenceMap is usually used for this (39)). (Consideration should be given as to whether these associations, alliances, coalitions and thinktanks in turn are members of or otherwise support other such organisations that have climate-negative activities or positions could include lobbying against climate policies and practices. The results will be compared to any policy described in 8.1 ("Company policy on engagement with associations, alliances, coalitions or thinktanks").

Question	Subdimension	Basic	Basic Standard		Next practice	Low-carbon aligned	Woighting
Associated score		0% 25%		50%	75%	100%	weighting
Does the company support associations, alliances, coalitions or thinktanks that have climate negative activities/posit ions?	Membership/fu nding	The company is on the board or provides funding beyond membership to associations, alliances, coalitions and/or thinktanks that have climate – negative activities or positions		The company is not on the board or providing funding beyond membership of any associations, alliances, coalitions or thinktanks that have climate- negative activities or positions. Company may be a member.		The company is not a member of or providing funding for any associations, alliances, coalitions or thinktanks that have climate- negative activities or positions	100%

RATIONALE EU 8.2 Associations, Alliances, COALITIONS AND THINKTANKS SUPPORTED DO NOT HAVE CLIMATE-NEGATIVE ACTIVITIES OR POSITIONS

RATIONALE OF Associations, alliances, coalitions and thinktanks are key instruments by which companies can indirectly influence policy on climate. Thus, participating in associations, alliances, coalitions and thinktanks which actively lobby against climate-positive legislation is a negative indicator and likely to obstruct low-carbon transition.

• EU 8.3 POSITION ON SIGNIFICANT CLIMATE POLICIES

DESCRIPTION EU 8.3 POSITION ON SIGNIFICANT CLIMATE POLICIES

&

REQUIREMENTS

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-		-		-

DESCRIPTION

The company is not opposed to any significant climate relevant policy and/or supports climate-friendly policies.

OF INDICATOR

DATA The relevant data for this indicator are:

REQUIREMENTS

• The company should attach supporting documentation, if this exists, giving evidence on the position of the company on significant climate policies (public statements, etc.).

• The company shall disclose details of the issues on which it has been directly engaging with policy makers and its proposed legislative solution.

CDP Questionnaire 2023 mapping to this indicator:

♦ C12.3a

External sources of data shall also be used for the analysis of this indicator (e.g. RepRisk database, press news, actions in standard development)

How THEThe analyst evaluates the description and evidence on company position on relevant climate policies for the presence of best practice elements, negativeASSESSMENTindicators and consistency with the other reported management indicators. The company description and evidence will be compared to the maturityWILL BE DONEmatrix developed to guide the scoring and a greater number of points will be allocated for elements indicating a higher level of maturity.

Question	Subdimension	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associat	ed score	0%	25%	50%	75%	100%	weighting
What is the position of the company on significant climate policies?	Climate policy support	Direct opposition to climate policies (including where third-party claims are found).	No reported direct opposition to climate policies.	Publicly supports significant climate policies.	Publicly supports significant climate policies. Publicly commits to international low-carbon commitments, such as the Paris Agreement.	Publicly supports significant climate policies. Publicly commits to international low-carbon commitments, such as the Paris Agreement. Actively participates in/leads sectoral/cross-	60%

						sectoral initiatives against climate change*.	
Does the company have a monitoring and review process to ensure that its policy positions are consistent with the goals of the Paris Agreement?	Monitoring and review process	No monitoring and review process to ensure that the company's policy positions are consistent with the goals of the Paris Agreement exists.	A monitoring and review process to ensure that the company's policy positions are consistent with the goals of the Paris Agreement exists. The process is not necessarily implemented.	A monitoring and review process to ensure that the company's policy positions are consistent with the goals of the Paris Agreement exists. The process is implemented, but oversight of the process lies below Level 1 [†] , and implementation of the process lies below Level 3 [†] .	A monitoring and review process to ensure that the company's policy positions are consistent with the goals of the Paris Agreement exists. Either oversight of the process lies at Level 1 [†] , or implementation of the process lies at or above Level 3 [†] .	A monitoring and review process to ensure that the company's policy positions are consistent with the goals of the Paris Agreement exists. Oversight of the process lies at Level 1 [†] , and implementation of the process lies at or above Level 3 [†] .	40%

- * Examples of sectoral/cross-sectoral initiatives against climate change might include, but are not limited to:
 - Science Based Targets initiative (SBTi)
 - Leadership Group for Industry Transition (LeadIT)
 - Mission Possible Partnership (MPP)
- + Further guidance for each level of seniority is given below:
 - Level 1
 - Highest level of accountability or decision-making within the organization, with responsibility for overall organizational or corporate strategic direction.
 - Examples: Board, sub-set of the Board, Chief Executive Officer (CEO)
 - Level 2
 - Person/committee that is one step in the corporate structure from the highest level of decision-making of the
 organization (i.e. reports to or is accountable to Level 1). Inputs into organizational strategy but does not make decisions

on it. May have responsibility and accountability for business unit strategy formation and implementation of one or more business units.

- Examples: Vice President, Director, other C-Suite officer (e.g., Chief Financial Officer (CFO), Chief Procurement Officer (CPO), Chief Risk Officer (CRO), Chief Operating Officer (COO), Chief Sustainability Officer (CSO), etc.), other committee appointed by the Board
- o Level 3
 - Person/committee that is two steps in the corporate structure from the highest level of decision-making of the
 organization. May have responsibility and accountability for business unit strategy formation and implementation for one
 business unit.
 - Examples: Manager, Senior Manager

o Level 4

- Person/committee that is three or more steps in the corporate structure from the highest level of decision-making of the
 organization. No responsibility or accountability for business unit strategy development.
- Examples: Officer, Senior Officer

RATIONALE EU 8.3 POSITION ON SIGNIFICANT CLIMATE POLICIES

RATIONALE OF Policy and regulation that acts to promote transition to a low-carbon economy is key to the success of the transition. Companies should not oppose effective and well-designed regulations in these areas but should support them.

• EU 8.4 COLLABORATION WITH REGULATORS AND LEGISLATORS

DESCRIPTION & EU 8.4 COLLABORATION WITH REGULATORS AND LEGISLATORS

REQUIREMENTS

SHORT This indicator evaluates the extent to which the company collaborates with and influences regulators, legislators and local public authorities to achieve emissions reductions. While indicators 8.1 "Company policy on engagement with trade associations" and 8.2 "Trade associations supported do not have climate-negative activities or positions" relate to indirect influence, this indicator assesses the company's direct engagement with and influence on the actors which shape sectoral legislation, both in terms of climate-related policy engagement and the establishment of climate-related partnerships.
 DATA The relevant data for this indicator are:

- REQUIREMENTS
- Participation in meetings/collaborations with regulators and legislators
- Contracts with regulators and legislators
- Other forms of direct influencing of regulators and legislators

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C12.3
- C12.3a

HOW THE ASSESSMENT

WILL BE DONE

The analyst evaluates the description and evidence of the company's collaboration with and influence of regulators, legislators and local public authorities for the presence of best-practice elements. Collaboration generally falls into two main categories, policy engagement and collective action/partnerships. Policy engagement could range from dialogue between the company and regulators and legislators around the development of new climate-related policies, to participation in local pilot programs to test these policies, to large-scale support for and implementation of these policies. Collective action/partnerships could range from participation in working groups, roundtables, ongoing initiatives, events and/or platforms for local authorities and companies to advance specific issues related to climate change/emissions reduction, to large-scale public-private partnerships (PPPs) with a climate change/emissions reduction focus.

In general, a partnership can only be classed as such if it goes beyond a mere contract between the regulator, legislator or other local, public authority and the company. It must be a collaboration that works to improve the current system/process and displays additionality i.e., the collaboration reduces GHG emissions beyond business as usual, meaning the reductions would not have happened had the collaboration not been implemented.

In each case, the level of maturity will depend on the level of commitment from the company, and whether there is evidence that the collaboration has been successful in achieving emissions reductions.

The company description and evidence are compared to the maturity matrix developed to guide the scoring and a greater number of points are allocated for elements indicating a higher level of maturity.

Question	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	weighting
Does the company collaborate with and support regulators and legislators to achieve emissions reductions?	No evidence that the company is collaborating with and supporting regulators, legislators and other local, public authorities to achieve local emissions reductions, other than respecting its contractual obligations, if any. Or Third-party claims are found showing that the company is not complying with climate policies	The company engages in dialogue with regulators and legislators to design future climate- related policies/partnerships	The company actively participates in small-scale pilot/short-term/one- off programs with regulators, legislators and other local, public authorities to test/implement climate-related policies/partnerships	The company is a significant partner* (alongside regulators, legislators and other local public authorities) in the implementation of long-term, climate- related policies/partnerships The company has measured and disclosed an emissions reduction as a result of the policy/partnership being implemented.	The company is a significant partner* (alongside regulators and legislators and other local public authorities) in the implementation of long-term, climate-related policies/partnerships. The company has measured and disclosed emissions reductions as a result of the policy/partnership being implemented. The company has a policy to increase such collaboration in more of its operational jurisdictions, and is taking concrete steps towards this (e.g., engaging in dialogue, participating in pilot programs, implementing policies/partnerships with regulators and legislators). [†]	100%

- * A company can be classed as a "significant partner" if the policy/partnership would not exist, or be significantly smaller/less successful, without the company's involvement. The company must be one of the few largest or most invested stakeholders in the policy/partnership.
- Analysts should take into account the size of the company assessed. For example, companies operating in a single jurisdiction are not expected to be involved in collaboration with regulators and legislators outside of that jurisdiction, and could still score Low-carbon aligned if

they met each of the other criteria (for example, if they had demonstrated emissions reductions as a result of the policy/partnership being implemented, and had a policy to become involved in more collaboration within their operational jurisdiction).

RATIONALE EU 8.4 COLLABORATION WITH REGULATORS AND LEGISLATORS

 RATIONALE OF
 Electric utilities is one of the most highly regulated of the high emitting sectors. Collaboration with regulators and legislators can be a key

 THE INDICATOR
 instrument by which companies directly influence climate policy in the territories in which they operate. Engaging actively in local dialogue demonstrates leadership in climate action and can significantly help climate policy enforcement.

MODULE 9: BUSINESS MODEL

A company may need to transition and/or replace its existing business model(s) to remain profitable in a low-carbon economy. The company's future business model(s) should enable it to decouple financial results from GHG emissions, in order to meet the constraints of a low-carbon transition while continuing to generate value. This can be done by developing new, low-carbon business models outside the core business of the company, while decarbonizing or terminating existing, high-carbon business models. This should lead to the company's revenue being generated entirely from low-carbon products and services, according to the ACT definition of "low carbon" for a particular sector.

This module aims to identify both:

- the "big picture" view of the company's low-carbon transition, by assessing its overall share of revenue from low-carbon products and services and the trend in share over time (indicator 1);
- the detail of the specific changes it is making to its business: introducing/expanding new, low-carbon business models; and decarbonizing/terminating its existing, high-carbon business models (indicator 2).

It is recognised that transition to a low-carbon economy, with the associated change in business models, will take place over a number of years. The analysis will thus seek to identify and reward projects at an early stage as well as more mature business models.

While each sector methodology contains a list of low-carbon business models and activities that are considered relevant to the assessment, the following definitions provide further guidance to analysts:

DEFINING "LOW-CARBON BUSINESS MODEL"

A business model is a plan for performing activities that transform inputs (labour, capital, equipment, land, buildings, materials, and information) into outputs (products and services) that provide added value to customers and create value for the company. It includes sources of revenue, the intended customer base, and details of financing.

A *low-carbon* business model is one that is based primarily around a set of inputs, activities and/or outputs which are considered to contribute substantially to climate change mitigation.¹ There are two main categories of business model that can be classed as low-carbon:

Aligned/transitional business models. These are either widely recognised as low-carbon solutions (for instance, by recognised taxonomies of sustainable activities), or have GHG emissions that are substantially lower than the sector or industry average, do not hamper the development and deployment of low-carbon alternatives, do not lead to a lock-in of assets incompatible with the objective of climate change mitigation, considering the economic lifetime of those assets, and do no significant harm to the environment.

¹ Definitions are partially based on the EU Taxonomy regulation: <u>https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32020R0852</u>

- E.g., generating electricity from renewable sources
- Enabling/contribution business models. These are business models that enable other activities/companies/sectors to make a substantial contribution to climate change mitigation, provided that the enabling business models do not lead to a lock-in of assets incompatible with the objective of climate change mitigation, considering the economic lifetime of those assets.
 - E.g., producing batteries for renewable energy storage; building transmission & distribution infrastructure to enable the shift to renewable generation; providing sustainability services to the buildings sector, reducing energy demand, etc.

CATEGORIES OF LOW-CARBON BUSINESS MODEL AND LOW-CARBON BUSINESS ACTIVITY

The relevant categories of low-carbon business model and low-carbon business activity for the sector are listed below. The minimum requirement for points to be awarded is that some level of exploration of one or more of these relevant business areas has started. This could include participation in collaborations, pilot projects, or research funding.

• Energy-as-a-service provider:

- o encourage the development of smart meters and smart grids;
- o develop an understanding of customer's needs and use behaviour;
- help customers reduce their energy use through monitoring.

• Local low-carbon energy access provider:

- adoption of micro-grids;
- development of a skilled decentralized workforce;
- adoption of a shared-value approach.

• Large scale low-carbon electricity generator:

- transparency of emissions for consumers;
- development of technology expertise;
- o development of low-carbon electricity portfolio;

• Flexibility optimizer:

- monitoring and forecast capabilities;
- ability to fluctuate generation output;
- o development of storage capabilities or partnerships with storage providers.

• Carbon capture, use and storage operator:

development of carbon storage capacity;

• CO2 as a product (as a resource for other processes).

DEFINING "HIGH-CARBON BUSINESS MODEL"

Indicator 2, dimensions 3 and 4 of module 9 require companies to decarbonise or commit to phasing out their existing, high-carbon business models. A high-carbon business model is one which is not based primarily around a set of inputs, activities and/or outputs which are considered to contribute substantially to climate change mitigation. As such, a high-carbon business model may:

- have GHG emissions that are not substantially lower than the sector or industry average, and may be substantially higher;
- hamper the development and deployment of low-carbon alternatives;
- lead to a lock-in of assets incompatible with the objective of climate change mitigation, considering the economic lifetime of those assets.

DEFINING "LOW-CARBON BUSINESS ACTIVITY"

A business activity is anything a company does in order to carry out its business model, i.e., as part of the process of transforming inputs into outputs.

A low-carbon business activity is one which is considered to contribute substantially to climate change mitigation (following the definition in the section above, "Defining 'low-carbon business model"). A list of relevant low-carbon business activities is listed within each sector methodology.

This is particularly relevant in indicator 2, dimension 2 ("Actions to decarbonise activities within existing business models"), since this dimension assesses the specific actions the company introduces in order to decarbonize the activities that make up its existing business model.

• For example, an electricity generator may generate electricity with GHG emissions that are not substantially lower than the sector or industry average. By introducing low-carbon activities such as installing carbon capture, use and storage (CCU/CCS) technologies on its gas-fired power plants, the company may contribute to reducing the GHG emissions of its business model such that they *are* substantially lower than the sector or industry average.

DEFINING "LOW-CARBON PRODUCTS AND SERVICES"

A low-carbon product or service is the output of a low-carbon business model (following the definition in the section above, "Defining 'low-carbon business model"). Low carbon products / services are provided by an economic activity that contributes substantially to climate change mitigation, as defined in the European taxonomy.

- For example, in the case of the electricity sector, a low-carbon product would be electricity with a carbon intensity of less than 100 gCO2e/kWh, whereas a low-carbon service would comprise efficiency or demand-reduction services, such as those listed under indicator 2.4 Share of low-carbon CAPEX, "technology avenues compatible with a 1.5°C scenario".*
- * Note low-carbon product

The threshold of 100 gCO2e/kWh has been used based on the approach taken in the EU Taxonomy which has been identified as the most ambitious taxonomy currently.

CALCULATION OF THE SCORE

- Indicator 1: The analyst uses the maturity matrix to calculate the company score for indicator 1.
- Indicator 2: The analyst identifies all relevant business model changes the company is making and scores them against the maturity matrix in the relevant dimension.
 - For example, if the company has introduced multiple new, low-carbon business models within the last 5 years, these should all be scored individually in dimension 1. If the company is also expanding another low-carbon business model, which it started more than 5 years ago, this should also be scored in dimension 1. If the company is taking action to decarbonise several of the main activities that form its existing, high-carbon business model, these should all be scored individually in dimension 2. Finally, if the company has committed to phasing out its existing, high-carbon business model(s), this should be scored in dimension 3.
 - The final score for indicator 2 is calculated based on the highest scoring example from each dimension.
 - For example, if the analyst identifies three examples of business models for dimension 1, two examples of decarbonisation actions for dimension 2, and one commitment to phase out a high-carbon business model for dimension 3, then the highest-scoring examples from each of these dimensions should be taken and contribute towards the final score for the indicator.
 - The weightings for the indicator 2 dimensions are as follows:
 - Dimension 1: 50%
 - Dimension 2: 10%
 - Dimension 3: 40%
- There are two routes to calculating the indicator weightings:
 - 1. The company scores 80% or above in indicator 1.
 - In this case, the indicator weightings are as follows:
 - Indicator 1: 70%
 - Indicator 2: 30%
 - 2. The company scores below 80% in indicator 1.
 - In this case, the indicator weightings are as follows:
 - Indicator 1: 50%
 - Indicator 2: 50%

SCORING RATIONALE

• The rationale for adjusting the weighting of indicator 1 and indicator 2 based on the company's score in indicator 1, is that companies which already have a high share of low-carbon products and services (i.e., which score 80% or above in indicator 1) have less need to be developing new, low-carbon business models and

decarbonising or phasing out existing ones, than companies with a low share of low-carbon products and services. As such, indicator 1 is weighted highly for companies with a high share of low-carbon products and services, while both indicators are weighted equally for companies with a lower share of low-carbon products and services.

The rationale for the indicator 2 dimensions weightings is that the module is designed to assess the company's transition into new, low-carbon business models outside of its core business model, in order to diversify its activities and stay profitable in a low-carbon economy. For this reason, dimension 1, "Creation/expansion of low-carbon business models", has the highest weighting between the indicator 2 dimensions (50%). It is also recognised that companies must not only branch out into new, low-carbon business models, but must also take action to decarbonise their existing, core activities, hence the inclusion of dimension 2, "Actions to decarbonise activities within existing business models". However, since company progress on decarbonisation is already partially taken into account in various other ACT performance indicators (such as trend in past and future emissions intensity, low-carbon investment, etc.), this dimension is given a low weighting (10%). Finally, the necessary shift towards low-carbon business models must in many cases be accompanied by a commitment to terminate or phase out a company's existing, high-carbon business models that may not easily be decarbonised. For this reason, dimension 3 has a relatively high weighting (40%).

• EU 9.1 REVENUE FROM LOW-CARBON PRODUCTS AND/OR SERVICES

DESCRIPTION &	EU 9.1 REVENUE FROM LOW-CARBON PRODUCTS AND/OR SERVICES							
REQUIREMENTS								
SHORT								
DESCRIPTION	This indicator assesses the company's overall share of revenue from low-carbon products and services, as well as whether this							
OF INDICATOR	share is increasing over time.							
DATA	The questions comprising the information request that are relevant to this indicator are (from RY-3 to RY):							
REQUIREMENTS	 Revenue from low-carbon products and services, and total revenues, for each year 							
	 Description of the types of products and services the company considers to be low-carbon 							

CDP Questionnaire 2023 mapping to this indicator:

- ♦ C4.5
- ♦ C4.5a

The analyst should check that the company's definition of low-carbon products and services is aligned with the ACT definition for the particular sector. If it does not align, then the analyst must decide how to adjust the figure.

Public sources of data used for the analysis of this indicator include, but are not limited to:

HOW THE

Company financial statements showing breakdown of revenue by business segment.

The analyst should identify the share of the company's total revenue from low-carbon products and/or services in the reporting year (see the section "Defining 'low-carbon products and services"). They should then identify the share three years before the reporting year (RY-3) in order to calculate the ASSESSMENT annual average change in share during this time period. WILL BE DONE

> The sources of information used to identify the share of low-carbon revenue in RY and RY-3 should be directly comparable (e.g., all CDP data or all financial statement data).

> For the second subdimension "Trend over time", if no actual figures are identified by the analyst, but there is clear evidence that the company is increasing its share of low-carbon products and/or services (e.g., if the company states this qualitatively), then "Advanced" should be awarded.

	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	Weighting
Share of revenue from low-carbon products and/or services* in reporting year	≤ 25% of the company's revenue is from low-carbon products and/or services	26 to 50% of the company's revenue is from low-carbon products and/or services	51 to 75% of the company's revenue is from low-carbon products and/or services	76 to 95% of the company's revenue is from low-carbon products and/or services	> 95% of the company's revenue is from low- carbon products and/or services	70%
Trend over time (RY-3 to RY)	Share of the company's revenue from low-carbon products and services is decreasing by at least 1% on average annually (RY-3 to RY)	-	Share of the company's revenue from low-carbon products and services is not changing significantly (increasing or decreasing by less than 1% on average annually) (RY-3 to RY)	-	Share of the company's revenue from low-carbon products and services is increasing by at least 1% on average annually (RY- 3 to RY)	30%

See the section "Definition of low-carbon products and services" in the module 9 introduction.

RATIONALE EU 9.1 REVENUE FROM LOW-CARBON PRODUCTS AND/OR SERVICES

RATIONALE OF See module 9 introduction.

• EU 9.2 CHANGES TO BUSINESS MODELS

DESCRIPTION & EU 9.2 CHANGES TO BUSINESS MODELS REQUIREMENTS

SHORT	This in	This indicator assesses the specific changes the company is making to its business in order to achieve its low-carbon transition. These changes include						
DESCRIPTION	introducing and expanding new, low-carbon business models, and decarbonizing or terminating existing, high-carbon business models.							
OF INDICATOR								
D ATA	The qu	estions comprising the information request that are relevant to this indicator are:						
REQUIREMENTS	•	For each business model: description, size (as a percentage of total FTE, revenue, or relevant activity-based metric of size), and growth potential and timelines						
	•	For each decarbonisation action: description, growth potential and timelines, life cycle phases impacted						
	•	For high-carbon business models: commitments to terminate/phase out existing, termination/phase-out date, percentage of existing model to be terminated/phased out						
	CDP C	uestionnaire 2023 mapping to this indicator:						
	•	C2.4						

- ♦ C2.4a
- ♦ C4.3

- ♦ C4.3a
- ◆ C4.3b

Public sources of data used for the analysis of this indicator include, but are not limited to:

- Company financial/sustainability reports
- Company low-carbon transition plan
- External sources to determine the importance of each business model for the global low-carbon transition. For example:
 - ETP Clean Energy Technology Guide Data Tools IEA;
 - Protecting People and Planet | Systems Change Lab;
 - Sector decarbonisation reports identifying the key action levers for a sector to decarbonise.

How THEThe assessment is based on three dimensions. The analyst scores each of the company's decarbonisation initiatives (including creation/expansion ofASSESSMENTIow-carbon business models, actions to decarbonise activities within existing business models, and termination/phase-out of existing high-carbon businessWILL BE DONEmodels) against the relevant dimension. The section "Calculation of the score" explains how the final score for the indicator is calculated.

DIMENSION 1 – CREATION/EXPANSION OF LOW-CARBON BUSINESS MODELS (50%)

This dimension assesses the size and scheduled growth of new (started *within* five years before the reporting year) and existing (started *before* five years before the reporting year) low-carbon business models, as well as the business models' relative importance for the global low-carbon transition. The weighting of the subdimensions within the maturity matrix depend on whether the business model in question is new or existing – new business models are scored on the first subdimension ("Size of business model (if started *within* RY-5)") with a 40% weighting, with the second subdimension ("Size of business model (if started *within* RY-5)") with a 40% weighting is reversed. The rationale for having distinct subdimensions for new and existing low-carbon business models is that newer business models are not expected to be as large as existing ones, meaning the thresholds differ between the subdimensions.

Since ACT's focus is on company-level decarbonisation, "creation/expansion of low-carbon business models" may include acquiring existing low-carbon assets or business divisions from another entity, as well as organically growing a new, low-carbon business model within the company.

• For example, development of low-carbon electricity portfolio; adoption of micro-grids.

	Basic	Advanced	Low-carbon aligned	
Associated score	0%	50%	100%	Weighting
Size of business model (if started <i>within</i> RY-5)	Business model represents <1% of total FTE, revenue, or relevant activity-based metric of size	Business model represents 1 to 5% of total FTE, revenue, or relevant activity-based metric of size	Business model represents >5% of total FTE, revenue, or relevant activity-based metric of size	40% (if BM was started <i>within</i> RY-5) or 0% (if BM was started <i>before</i> RY-5)
Size of business model (if started <i>before</i> RY-5)	Business model represents 0 to <5% of total FTE, revenue, or relevant activity-based metric of size	Business model represents 5 to 20% of total FTE, revenue, or relevant activity-based metric of size	Business model represents >20% of total FTE, revenue, or relevant activity-based metric of size	0% (if BM was started <i>within</i> RY-5) or 40% (if BM was started <i>before</i> RY-5)
Scheduled growth of business model	Business model not scheduled to grow (based on total FTE, revenue, or relevant activity-based metric of size)	Business model scheduled to grow (based on total FTE, revenue, or relevant activity- based metric of size)	Business model scheduled to at least double in size within RY+5 (based on total FTE, revenue, or relevant activity- based metric of size)	30%
Importance of business model for global low-carbon transition*	The business model is of low importance to the global low- carbon transition	The business model is of medium importance to the global low-carbon transition	The business model is of high importance to the global low- carbon transition	30%

- * How to determine whether a business model is of high, medium, or low importance to the global low-carbon transition:
 - The analyst may base their assessment on various sources, including:
 - <u>ETP Clean Energy Technology Guide Data Tools IEA</u>
 - If the business model is listed as a technology in the IEA ETP Clean Energy Technology Guide with an "Importance for net-zero emissions" score of "Low", it scores "Basic"; "Moderate" scores "Advanced"; "High" or "Very high" scores "Lowcarbon aligned".
 - For other, non-technological business models, such as those aimed at reducing structural barriers to market penetration, or creating synergies with other industries, improving circularity, etc., other sources will need to be consulted to determine relative importance for low-carbon transition. For example:
 - Protecting People and Planet | Systems Change Lab

- If the business model relates to one of the Systems Change Lab "Shifts" (critical changes that can help deliver systemwide transformations), it should generally be considered to have high importance, and score "Lowcarbon aligned".
- Other relevant sources

DIMENSION 2 - ACTIONS TO DECARBONISE ACTIVITIES WITHIN EXISTING BUSINESS MODELS (10%)

This dimension relates to changes (actions) the company is making to decarbonise the activities which make up its existing business model (which may be high- or low-carbon) in order to make the overall business model lower-carbon.

• For example: encourage the development of smart meters and smart grids; development of carbon storage capacity.

	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	Weighting
What percentage of the activity does this decarbonisation action apply to?*	Decarbonisation action applies to ≤ 25% of the activity being considered	Decarbonisation action applies to 26 to 50% of the activity being considered	Decarbonisation action applies to 51 to 75% of the activity being considered	Decarbonisation action applies to 76 to 95% of the activity being considered	Decarbonisation action applies to > 95% of the activity being considered	25%
Scheduled growth of decarbonisation action	Decarbonisation action is not scheduled to grow (based on total FTE, spend, or relevant activity-based metric of size)	-	Decarbonisation action is scheduled to grow (based on total FTE, spend, or relevant activity- based metric of size)	-	Decarbonisation action is scheduled to at least double in size within RY+5 (based on total FTE, spend, or relevant activity-based metric of size)	25%
Relevance of the decarbonisation action [†]	Action does not impact any of the most relevant activities/life-cycle phases of the business model being considered in	-	Action impacts a relevant activity/life- cycle phase of the business model being considered in terms of GHG emissions	-	Action clearly targets and impacts the most relevant activity(ies)/life-cycle phase(s) of the business model being considered in	25%

	terms of GHG emissions				terms of GHG emissions	
Importance of business model decarbonisation for global low-carbon transition [‡]	The business model decarbonisation is of low importance to the global low- carbon transition	-	The business model decarbonisation is of medium importance to the global low- carbon transition	-	The business model decarbonisation is of high importance to the global low- carbon transition	25%

- * Example: what percentage of the company's customers has had smart meters installed?
- + Example: the action to provide 100% of customers with smart meters may score "Advanced" even if the company generates most of its electricity from fossil fuels, if this action contributes significantly to demand reduction. It should not score "Low-carbon aligned" since the company's most relevant activity is its fossil fuel generation, and this is what it should target directly.
- + How to determine whether the change the company is making to its activities is of high, medium, or low importance to the global low-carbon transition: as per dimension 1 of indicator EU 9.2 Changes to business models.

DIMENSION 3 - TERMINATION/PHASE-OUT OF EXISTING HIGH-CARBON BUSINESS MODELS (40%)

This dimension relates to commitments the company has to terminating/phasing out one or several of its existing, high-carbon business models.

Since ACT's focus is on company-level decarbonisation, "termination/phase-out of high-carbon business models" may include selling high-emitting assets or business divisions from a company's portfolio to other entities. However, decommissioning assets and closing down business divisions are preferred forms of divestment since they are more likely to drive emissions reductions in the real world. If a company's commitment to terminate/phase out its existing, high-carbon business model(s) relies exclusively on selling high-emitting assets or business divisions, this should be reflected negatively in the Narrative section of the assessment (Business model and strategy criterion).

• For example, if the company has committed to phasing out fossil fuels from its generation mix (typically by 2040-2050), this is relevant to consider.

	Basic	Standard	Advanced	Next practice	Low-carbon aligned	
Associated score	0%	25%	50%	75%	100%	Weighting
Commitment to terminate/phase	The company has a commitment to	70%				

out existing, high- carbon business model	terminate/phase out ≤ 25% of its existing, high- carbon business model(s) (based on FTE, revenue, or relevant activity- based metric of size) or The company has no commitment	terminate/phase out 26 to 50% of its existing, high- carbon business model(s) (based on FTE, revenue, or relevant activity- based metric of size)	terminate/phase out 51 to 75% of its existing, high- carbon business model(s) (based on FTE, revenue, or relevant activity- based metric of size)	terminate/phase out 76 to 95% of its existing, high- carbon business model(s) (based on FTE, revenue, or relevant activity- based metric of size)	terminate/phase out > 95% of its existing, high- carbon business model(s) (based on FTE, revenue, or relevant activity- based metric of size) or The company has already terminated/phased out the entirety of its existing, high- carbon business model(s)	
Termination/phase- out date	The company's commitment has a phase-out date from RY+21 onwards or The company has no commitment	The company's commitment has a phase-out date between RY+16 and RY+20	The company's commitment has a phase-out date between RY+11 and RY+15	The company's commitment has a phase-out date between RY+6 and RY+10	The company's commitment has a phase-out date between RY and RY+5 or The company has already terminated/phased out the entirety of its existing, high- carbon business model(s)	30%

RATIONALE EU 9.2 CHANGES TO BUSINESS MODELS

RATIONALE OF

See module 9 introduction.

THE INDICATOR

6 Assessment

6.1 SECTOR BENCHMARK

Through a literature review, various sectoral low-carbon pathways have been identified for the electricity sector. As explained in section 4, the ACT Electricity methodology focuses on the emissions that arise from electricity generation. Other sources of emissions, such as those resulting from the manufacture of electricity production assets or methane emissions arising from flooded areas for dams producing hydroelectricity, are not taken into account. As a result, generation of renewable electricity is not responsible for any emissions in the sectoral low-carbon pathways.

Scenarios from which the low-carbon pathways have been identified are listed in section 6.1. The pathways are expressed in grams of either CO_2 or CO_2e / kilowatt per hour.

6.1.1 DESCRIPTION OF THE BENCHMARK

Low-carbon scenarios, aligned with a 1.5°C level of ambition that have been identified (as per September 2023) are listed in Table 9 ACT Electricity methodology v2.0 only considers low-carbon pathways that are 1.5°C aligned for the following reasons:

- There are a number of 1.5°C scenarios available and
- The ACT principle of Conservativeness as well as the precautionary principle it is right that the most ambitious temperature scenarios are used.
- The power sector is key for global decarbonization since electrification is seen as the most viable alternative to fossil fuels for most energy processes and uses.
- Global electricity demand is expected to increase substantially in coming decades, making last point even more important.

Scenario name	Author	Regional breakdown
Net-Zero 2050 (40)	Network for Greening the Financial System (NGFS)	32 geopolitical regions
Net Zero by 2050 Scenario (NZE) (25)	International Energy Agency (IEA)	No
One Earth Climate Model (OECM) (41)	University of Technology Sydney (UTS) - Institute for Sustainable Futures (ISF)	No
SDA – Power sector (42)	Science Based Targets initiative (SBTi)	No

TABLE 9: LIST OF LOW-CARBON SCENARIOS CONSIDERED IN ACT ELECTRICTY V2.0

It is important to mention that these scenarios do not rely on the same assumptions and hypotheses. For example, the importance of carbon capture use and storage (CCUS) technologies, or the share of nuclear in global electricity supply, can vary significantly between scenarios. The assessor's choice of scenario to be used for an assessment should reflect the company's activities, location of productive assets, etc.

For example, the OECM scenario considers that no new nuclear reactors will be constructed, resulting in a diminishing share of nuclear energy in global electricity production (up to a complete phase out in 2050). Therefore, it may not be suitable to assess a company which plans to expand its nuclear electricity production through the acquisition and/or construction of new plants with this scenario.

Results from an assessment using the ACT Electricity methodology shall clearly mention which pathway has been used and the rationale leading to this choice.

Note: some of the scenarios listed above include some negative sectoral emissions intensity values. This is because the sector is expected to develop and deploy carbon dioxide removal (CDR) technologies, such as bioenergy with carbon capture and storage (BECCS) and direct air capture and carbon storage (DACCS). Negative sectoral emissions intensity values would mean that these carbon removal contributions are higher than remaining direct emissions from electricity generation.

Since companies do not generally include negative contributions within their GHG emissions accounting or when they set targets, it has been decided to replace negative emissions intensity values with '0' in the low-carbon pathways used by the ACT Electricity methodology.

6.1.2 MECHANISMS TO COMPUTE THE COMPANY BENCHMARK

The mechanism to derive the company specific pathway, from the sectoral low-carbon pathway, is based on the principles of the Sectoral Decarbonization Approach (SDA) allocation method, developed by the Science Based Targets initiative (11).

The SDA uses a convergence mechanism, which takes the company's emissions intensity in the reporting year (RY) and converges it to the sector's emissions intensity in 2050 at a rate that ensures that the corresponding sectoral carbon budget is not exceeded. Figure 14 illustrates the convergence mechanism and compares the company's target pathway with its benchmark/specific pathway as obtained with the SDA allocation method.



FIGURE 14:CONVERGENCE MECHANISM ILLUSTRATION

Thus, companies starting from a lower intensity will have a shallower decarbonization pathway than companies starting from a higher intensity. In this way, past action or inaction to reduce intensity is taken into consideration.

6.2 OTHER QUANTITATIVE BENCHMARKS USED FOR INDICATORS

Benchmark for the CAPEX low-carbon technologies

Low-carbon technologies are the ones described in indicator 2.4 *Share of low-carbon CAPEX investments*. Data from the IEA – Net Zero Scenario by 2050 (25) has been used to define the sectoral needs for low-carbon CAPEX. Global average annual energy investments have been considered for the electricity sector in the 2021-2030 decade. All categories are considered as contributions to low-carbon technologies (see Table 10 below) except "Fossil fuel without CCUS".

TABLE 10: ANNUAL INVESTMENTS (BILLIONS USD) AND SHARE OF LOW-CARBON CAPEX FOR THE ELECTRICITY SECTOR, [2021; 2030] DECADE

	-
Annual investments (Billions USD)	2021-30 decade
Fossil fuels without CCUS	61
Fossil fuels with CCUS	25
Nuclear	90
Renewables	1,003
Battery storage	52
Total	1,232
Share of low-carbon CAPEX (%)	95%

"Pure generation" companies from the sector are assessed against this sectoral benchmark because all have to contribute at the same level to enable the sector to transition.

→ Benchmark for the share of CAPEX in low-carbon technologies = 95%.

Similar values were obtained using other low-carbon scenarios, such as the 1.5°C Scenario proposed by the International Renewable Energy Agency (IRENA). (43)

Benchmark for the R&D investments in low-carbon technologies

There is no science-based benchmark identified as of 2023 for the share of R&D investments in low-carbon technologies for the electricity sector and so indicator 3.1 *R&D spending on low-carbon technologies* is based on a qualitative assessment which is also used in other ACT sectoral methodologies.

Benchmark for the Company patenting activity in low-carbon & mitigation technologies

The European Patent Office (EPO) and the US Patent and Trademark Office (USPTO) have developed a dedicated patent classification scheme (Cooperative Patent Classification - CPC) which details patents for climate change mitigation or technologies (CCMTs) (EPO, 2017). The patent categories which are relevant to the electricity sector are:

- Y02B CCMTs related to buildings (includes technologies related to demand management, advanced metering, etc.)
- Y02C CCMTs related to capture, storage, sequestration or disposal of greenhouse gases
- Y02E CCMTs related to reduction of greenhouse gas emissions, related to energy generation, transmission or distribution
- Y02T CCMTs related to transportation
- Y04S Systems integrating technologies related to power network operation, communication or information technologies for improving the electrical power generation, transmission, distribution, management or usage, i.e. smart grids

6.3 WEIGHTINGS

The performance weighting scheme is presented below for the three company profiles considered in ACT Electricity (see section 3.2):

- Pure generation profile
- Pure retail profile
- Mixed profile

			PURE GENERATION		PURE	RETAIL	MIXED PROFILE	
MODULE	LU	INDICATOR	MODULE WEIGHT	INDICATOR WEIGHT	MODULE WEIGHT	INDICATOR WEIGHT	MODULE WEIGHT	INDICATOR WEIGHT
	1.1	Alignment of scope 1+2 emissions reduction targets		10%		0%	15%	A*10%
1 TARGETS	1.2	Alignment of scope 3 upstream emissions reduction targets	15%	0%	15%	10%		(1-A)*10%
I. TARGETS	1.3	Time horizons of targets	1376	3%		3%		3%
	1.4	Achievement of past and current targets		2%		2%		2%
	2.1	Trend in past emissions intensity for generated electricity		5%		0%	33-0%	A*5%
2. MATERIAL	2.2	Locked-in emissions	220/	9%	0%	0%		A*9%
INVESTMENT	2.3	Trend in future emissions intensity for generated electricity	5576	9%		0%	(dynamic weighting)	A*9%
	2.4	Share of low-carbon CAPEX investments		10%		0%		A*10%
3. INTANGIBLE	3.1	R&D spending on low-carbon technologies	70/	5%	5%	3%	7-5%	(3+2*A)%
INVESTMENT	3.2	Company low-carbon patenting activity	7%	2%	0,0	2%	(dynamic weighting)	2%
	4.1	Past performance of retailed electricity		0%		5%		(1-A)*5%
	4.2	Future performance of retailed electricity		0%		9%		(1-A)*9%
4. SOLD PRODUCT PERFORMANCE	4.3	Contribution to low-carbon electricity generation	8%	0%	31%	12%	8-31% (dynamic weighting)	(1-A)*12%
	4.4	Energy efficiency services share		5%		5%		5%
	4.5	Interventions to reduce life-cycle emissions of low-carbon assets		3%		0%		A*3%
	5.1	Oversight of climate change issues	12%	2%	12%	2%	12%	2%
	5.2	Climate change oversight capability		1%		1%		1%
5.	5.3	Low carbon transition plan		3%		3%		3%
MANAGEMENT	5.4	Climate change management incentives		1%		1%		1%
	5.5	Fossil fuel power incentives		2%		2%		2%
	5.6	Climate change scenario testing		3%		3%		3%
6 SUPPLIER	6.1	Strategy to influence suppliers to reduce their GHG emissions	4%	2%	10%	5%	4-10%	(5-3*A)%
ENGAGEMENT	6.2	Activities to influence suppliers to reduce their GHG emissions	170	2%	1070	5%	(dynamic weighting)	(5-3*A)%
7. CLIENT	7.1	Strategy to influence clients to reduce their GHG emissions	6%	3%	12%	6%	6-12% (dynamic weighting)	(6-3*A)%
ENGAGEMENT	7.2	Activities to influence clients to reduce their GHG emissions		3%		6%		(6-3*A)%
	8.1	Company policy on engagement with trade associations		1%		1%		1%
8. POLICY	8.2	Trade associations supported do not have climate-negative activities or positions	5%	2%	5%	2%	5%	2%
ENGAGEWIENT	8.3	Position on significant climate policies		1%		1%		1%
	8.4	Collaboration with regulators and legislators		1%		1%		1%
9. BUSINESS	9.1	Revenue from low-carbon products and/or services	10%	5% or 7%	10%	5% or 7%	10%	5% or 7%
MODEL	9.2	Changes to business models		5% or 3%		5% or 3%	1070	5% or 3%
		TOTAL	100%	100%	100%	100%	100%	100%

"A" is the ratio between emissions linked to own generated electricity and total emissions arising from generation of sold electricity (both own generated and retailed).

Dynamic weighting for mixed profile

When companies engage in electricity generation and retail activities, performance indicator weightings are calculated as an average based on the share of emissions between own generated and retailed electricity. If the share of emissions is not available, then activity (MWh) should be used as a proxy.

Example: if a company reports 100 ktCO₂ emissions linked to own electricity generation and 50 ktCO₂ emissions linked to electricity retail, then the performance indicator weightings will be equal to:

 $\frac{100 * weight_{pure \ generation} + 50 * weight_{pure \ retail}}{100 + 50}$

In this particular case, A = 100 / (100 + 50) = 2/3

• **RATIONALE FOR WEIGHTINGS**

The selection of weightings for both the modules and the individual indicators was guided by a set of principles in the ACT framework (1).

Principle	Explanation
Value of information	The value of the information that an indicator gives about the outlook for a company's low-carbon transition is the primary principle for the choice of the weighting.
Impact of variation	A high impact of variation in an indicator means that a poor performance for this indicator has a large impact on the likely success of the company's low- carbon transition, and this makes it more relevant for the assessment.
Future orientation	Indicators that measure the future, or a proxy for the future, are more relevant for the ACT assessment than past & present indicators, which serve only to inform about the likelihood and credibility of the transition.
Data quality sensitivity	Indicators that are highly sensitive to likely data quality variations are not recommended for highly weighted indicators, unless there is no other way to measure a particular dimension of the transition.

The weightings have been designed for each type of company covered by the ACT Electricity methodology in order to reflect the strategic stakes which are different from one company to another.

1. Targets: 15%

The targets module has a medium weighting of 15% for all company types. Most of this (10%) is on the indicators *Alignment of scope 1+2 emissions reduction targets* for pure generation companies, and *Alignment of scope 3 upstream emissions reduction targets* for pure retail companies. This is due to the fact that the majority of generators' GHG emissions are scope 1 direct emissions from electricity generation, while the majority of retailers' emissions are upstream scope 3 emissions from their suppliers' electricity generation. The weighting of these indicators is dynamic for mixed profile companies, based on the share of emissions arising from both own generated and retailed electricity (or related activity levels as a proxy if not available). This indicator contains most of the information about the company's future commitments with respect to GHG emissions reductions. Not having an ambitious target means it is very unlikely that the company is committed to the low-carbon transition, and therefore this indicator has a high impact on the likelihood of a successful transition. Targets are also future oriented and are a valuable proxy for assessing the company's long-term emissions pathway.

The *Time horizon of targets* and *Achievement of past and current targets* indicators have a medium/low weighting of 3% and 2% respectively. The *Time horizon of targets* is encouraging near term and interim targets to ensure companies are not only relying on long term ones. Finally, the *Achievement of past and current targets* indicator measures the company's past performance setting and achieving targets, which provides more contextual information on the company's ability to meet ambitious future targets.

2. Material Investment: Weighting depends on company type (0-33%)

This is the primary module that assesses the development of the company's generation assets, and how these existing assets impact the likelihood of a low-carbon transition. As such, it has a high weighting of 33% for pure generation companies and does not apply at all to pure retail companies, since they do not have generation activities. The weighting of this module is dynamic for mixed profile companies, based on the share of emissions arising from both own generated and retailed electricity (or related activity levels as a proxy if not available).

Indicator weightings for pure generation companies:

Over the short-term, the company's current generation portfolio and confirmed, planned assets are used to generate an estimate of the company's *Trend in future emissions intensity*. As this indicator is a direct measurement of the decarbonization pathway, has a high impact of variation and looks to the future, it receives a high weighting of 9%.

The Locked-in emissions indicator uses the same information, but measures the amount of carbon emissions that the company is committed to from its existing and planned assets. This means it is also future oriented, and also receives a strong weighting of 9%. The CAPEX allocated to low-carbon technologies is an important signal for understanding the future alignment of the company with a low carbon pathway. As such, the indicator *Share of low-carbon CAPEX investments* also has a high weighting of 10%. Finally, the *Trend in past emissions intensity* is an indication of the 'adjustment' that the company will have to make to place itself on a low-carbon pathway. It principally adds information about what magnitude of change the company needs to undergo in order to become low-carbon aligned, and therefore receives a medium weighting of 5%.
3. Intangible Investment: Weighting depends on company type (5-7%)

R&D spending on low-carbon technologies and low-carbon patenting activity are both crucial aspects of the company's low-carbon transition, and thus the module is weighted at either 7% (pure generation companies) or 5% (pure retail companies). To enable the transition, the electricity sector relies heavily on the development of low-carbon solutions to replace its current high emitting approach. R&D and patenting are some of the main proactive actions the company can take to develop these technologies. R&D is also one of the main tools to reduce the costs of a technology in order to increase its market penetration. Aside from technology, the company can also invest into R&D on operational practices to optimize the carbon impact where it has direct responsibility. Patent data measure the intermediate outputs of an inventive process, whereas R&D data expenditures measure the input.

The indicator R&D spending on *low-carbon technologies* has a medium weighting of either 5% (pure generation companies) or 3% (pure retail companies), while *Company low-carbon patenting activity* has a lower weighting of 3%.

4. Sold product performance: Weighting depends on company type (8-31%)

This is the primary module that assesses electricity retailers' upstream scope 3 emissions performance related to their suppliers' electricity generation. For generators, it also assesses interventions to reduce life-cycle emissions of low-carbon assets, such as solar and wind assets. As such, the module has a high weighting of 31% for pure retail companies since the majority of their emissions occur upstream, and a low weighting of 8% for pure generation companies. The weighting of this module is dynamic for mixed profile companies, based on the share of emissions arising from both own generated and retailed electricity (or related activity levels as a proxy if not available).

Indicator weightings for pure retail companies:

The indicators *Past* and *Future performance of electricity purchased* are equivalent to the *Trend in past* and *future emissions intensity* indicators in Module 2. They assess the company's past and projected decarbonisation performance against the company pathway, based on the most significant source of emissions for electricity retailers, the upstream emissions from electricity purchased and then sold. The future-oriented indicator has a high weighting of 9%, while the past-oriented indicator has a medium weighting of 5%.

The indicator *Contribution to low-carbon electricity generation* is key to determining the company's contribution to enabling more low-carbon electricity generation assets to be installed. If the company only sources renewable energy via Energy Attribute Certificates (EACs), it is not directly contributing to new low-carbon generation assets, while engaging in Corporate Power Purchase Agreements (CPPAs) is key to getting new renewable generation projects off the ground. As such, the indicator has a high weighting of 12%. The indicator *Energy efficiency services share* is another important indicator to take into consideration for this module, since reducing/managing energy demand is considered as a key pillar for global decarbonization objectives. Consequently it has been given a medium weighting of 5%.

Indicator weightings for pure generation companies:

The indicator which applies only to pure generation companies in Module 4 is *Interventions to reduce life-cycle emissions of low-carbon assets*. Generation companies' life-cycle emissions from their low-carbon

generation assets is an area of increasing importance as generators increase their renewable portfolios. However, the absolute life-cycle emissions contribution from renewable assets is still far lower than fossil fuel generation assets. As such, the indicator has a low weighting of 3%.

5. Management: 12%

Management is a multi-faceted module. It incorporates many smaller indicators that together create a narrative of the company's management and strategic approach to the low-carbon transition. As such, it has a medium weighting of 12%.

Based on the principle of future orientation, the main elements of the overall 12% weighting are the *Low-carbon transition plan* and *Climate change scenario testing*, which are both given a weighting of 3%. Both indicators provide valuable insights into how the company will manage its transition, given its unique constraints and opportunities.

The indicators *Oversight of climate change issues* and *Climate change management incentives* are both weighted at 1%, and *Fossil fuel power incentives* is weighted at 2%. These indicators provide more information on how the company is managed and whether emissions-related decisions are made at the highest levels of management. They are contextual indicators, the outcome of which can strengthen or undermine the company's ability to carry out the transition plan and meet ambitious science-based targets.

6. Supplier engagement: Weighting depends on company type (4-10%)

Supplier engagement is weighted at 10% for pure retail companies, and 4% for pure generation companies. The weighting of this module is dynamic for mixed profile companies, depending on their share of upstream scope 3 emissions, or their share of purchased electricity. While all company types can and should engage with their suppliers to reduce emissions, one key area of engagement is between retailers and their power suppliers. This is because the bulk of retailers' emissions are from this upstream scope 3, so a key lever for them to decarbonise is through engagement. The two indicators within the Supplier engagement module are equally weighted, since having an engagement strategy and carrying out practical engagement activities are seen as equally important elements to assess.

7. Client engagement: Weighting depends on company type (6-12%)

Client engagement is weighted at 6% for pure retail companies, and 12% for pure generation companies. The weighting of this module is dynamic for mixed profile companies, depending on their share of upstream scope 3 emissions, or their share of purchased electricity. For all company types, client engagement is important in terms of shifting demand away from fossil fuels, improving energy efficiency, etc. Pure retail companies have a higher weighting for this module since they do not have their own generation emissions to reduce, so they should focus more on engagement with clients to reduce demand. The two indicators within the Client engagement module are equally weighted, since having an engagement strategy and carrying out practical engagement activities are seen as equally important elements to assess.

8. Policy engagement: 5%

Policy engagement indicators are contextual aspects which tell a narrative about the company's stance on climate change and how the company expresses it in their engagement with policymakers and trade associations. As such, the module has a low weighting of 5%.

Indicator 8.4, *Collaboration with regulators and legislators,* acknowledges that the power sector is a highly regulated sector with close relationships between power companies and regulators. This differs to some extent from other ACT sectoral methodologies.

9. Business model: 10%

This module has a medium weighting of 10% to reflect its importance as a way to assess the company's likelihood of remaining profitable in a low-carbon economy. The company's future business model(s) should enable it to decouple financial results from GHG emissions, in order to meet the constraints of a low-carbon transition while continuing to generate value. This can be done by developing new, low-carbon business models outside the core business of the company, while decarbonizing or terminating existing, high-carbon business models.

The weighting breakdown between the two indicators is detailed in module 9 - Calculation of the score (see section 5.3).

6.4 DATA REQUEST

Table 11 introduces the list of information that will be requested to companies through a questionnaire, as well as the corresponding indicators.

TABLE 11: DATA REQUEST PER INDICATOR

Module	Indicators	Data request
1 - Targets	1.1 1.2	Base year and base year emissions intensity or absolute emissions Reporting year and reporting year emissions intensity or absolute emissions Target year Targeted emissions reduction Coverage of emissions Scope of emissions For absolute targets, base, reporting and target year activity
	1.3	Targets year (end and intermediate dates) Targets emissions coverage, scope of emissions
		Base year
		Reporting year
	1.4	Target year
		Target reduction percentage from base year in absolute emissions – apply this change of wording to the other cells below
		Percentage of reduction target achieved in absolute emissions

Module	Indicators	Data request
		Percentage of reduction target from base year in emissions intensity
		Percentage of reduction target achieved in absolute emissions intensity
	2.1	Electricity generation emissions intensity and activity at reporting year and Y-5
2 Matorial	2.2	Generating assets and assets under development
investment	2.3	Electricity generation emissions intensity and activity at reporting year and Y+5
	2.4	Average share of CAPEX in low-carbon technologies (out of total CAPEX) for the next 3 years
3 - Intangible	3.1	R&D costs/investments (total and in low-carbon technologies) in of the company over the last 3 years.
investment	3.2	Patenting activity (total and in low-carbon technologies) of the company over the last 5 years
	4.1	Purchased electricity emissions intensity and activity at reporting year and Y-5
4 - Sold Product	4.2	Purchased electricity emissions intensity and activity at reporting year and Y+5
Performance	4.3	Mechanisms/contracts to source electricity for retail
	4.4	Revenue share of energy efficiency services planned for the next 5 years and additional relevant information regarding the offer
	4.5	Interventions to reduce life-cycle emissions of low-carbon assets
	5.1	Fourier contained in the state of the second in the second second
	5.2	Environmental policy and details regarding governance
5- Management	5.3	Transition plan, including: scope and timeline of the plan, financial content, actions planned in near- and long-terms, measure of success, review and update process, progress reporting process, role of scenario testing and carbon price
_	5.4	Management incentives
	5.5	Fossil fuel management incentives
	5.6	Scenario testing: scope, timescale, scenarios used, hypotheses/assumptions that are considered, materiality of climate- related risks/opportunities, outputs and role of a carbon price
	6.1	Methods of supplier engagement, strategy for prioritizing supplier engagements and measures of success Number of suppliers engaged and proportion of total spend (or share of emissions as a proxy)
engagement		Data on suppliers' GHG emissions and climate change strategies
engagement	6.2	List of initiatives and activities implemented to influence suppliers to reduce their GHG emissions, green purchase policy or track record, supplier code of conduct
		Strategy to influence clients GHG emissions
	7.1	% of clients covered by the strategy
7 - Client		Data on clients' choices and preferences for reducing GHG emissions
engagement		Strategy to influence clients GHG emissions
	7.2	% of clients covered by the activities
		Data on clients' choices and preferences for reducing GHG emissions
8- Policy engagement		Public climate change policy positions
	8.1	Description of this policy (scope & boundaries, responsibilities, process to monitor and review)
		Trade associations that are likely to take a position on climate change legislation
	8.2	Company policy on engagement with associations, alliances, coalitions or thinktanks

Module	Indicators	Data request
	8.3	Position of the company on significant climate policies (public statements, etc.).
	8.4	Elements related to engagement with regulators and legislators
9 - Business Model	9.1	Revenue from low-carbon products and services each year from RY-3 to RY, total revenue for the same years, and description of the types of products and services the company considers to be low-carbon For each business model: description, size (as a percentage of total FTE, revenue, or relevant activity-based metric of size), and growth potential and timelines
	9.2	For each decarbonisation action: description, growth potential and timelines, life cycle phases impacted For high-carbon business models: commitments to terminate/phase out existing activities, termination/phase-out date, percentage of existing model to be terminated/phased out

7 Rating

The ACT rating shall comprise:

- → A performance score
- → A narrative score
- → A trend score

These pieces of information shall be represented within the ACT rating as follows:

- a. Performance score as a number from 1 (lowest) to 20 (highest)
- b. Narrative score as a letter from E (lowest) to A (highest)
- c. Trend score as either "+" for improving, "-" for worsening, or "=" for stable.

In some situations, trend scoring may reveal itself to be unfeasible depending on data availability. In this case, it should be replaced with a "?".

The highest rating is thus represented as "20A+" (as shown in Table 12), the lowest as "1E-" and the midpoint as "10C=".

TABLE 12: HIGHEST SCORE FOR EACH ACT SCORE TYPE



Each company assessed using an ACT methodology receives not only an ACT rating but a commentary on its performance across the three aspects of the rating. This gives a nuanced picture of the company's strengths and weaknesses. Detailed information on the ACT rating is available in the ACT Framework document (1).

7.1 PERFORMANCE SCORING

Performance scoring shall be performed in compliance with the ACT Framework (1). The list of performance modules and indicators and their respective weightings (which vary depending on the profile and activities of the assessed company) is provided in section 6.3.

7.2 NARRATIVE SCORING

Narrative scoring shall be performed in accordance with the ACT Framework (1). The ACT Framework provides a detailed methodology and maturity matrix for completing the Narrative scoring process.

Since they include the majority of the sector specific elements, the information collected for Module 2, Module 3, Module 4, and Module 9 shall be considered with particular attention for the narrative analysis and narrative scoring for the ACT Electricity methodology.

The main challenge facing the electricity sector's low-carbon transition is the phase-out of fossil fuel-based electricity generation, which causes a large majority of the sector's emissions. Analysts shall pay attention to the fact that companies must contribute to the switch to low-carbon electricity generation and sales. Growing low-carbon electricity production without also reducing highly emissive assets (where they exist) is insufficient.

Managing electricity demand and its efficient use is also identified in various low-carbon scenarios as a major challenge for the sector. Electrification will be key to decarbonise all end-use sectors. Consequently, electricity demand is expected to significantly increase in the coming decades. Therefore, the company's strategy and actions related to managing electricity demand should be given particular consideration.

With this information, the analyst can take a holistic view on the company's actions to perform deep decarbonization of its processes and assess the consistency of actions taken with respect to all performance modules.

No other sector-specific issues impacting the narrative scoring for this sector have been identified to date.

7.3 TREND SCORING

Scoring shall be performed in compliance with the ACT Framework (1).

To apply the trend scoring methodology presented in the ACT Framework, the analyst should identify the trends based on the data points and/or indicators that indicate the future direction of change within the company.

Table 13 highlights which indicators/data points contain valuable information about future direction.

TABLE 13: RELEVANT PERFORMANCE INDICATORS FOR TRENDS IDENTIFICATION. TOP: PURE GENERATION; BOTTOM: PURE RETAIL

Module	Indicator (pure generation profile)
Targets	EU 1.1 Alignment of scope 1+2 emissions reduction targets
	EU 1.3 Time horizon of targets
Material investments	EU 2.2 Locked-in emissions
	EU 2.3 Trend in future emissions intensity for generated electricity
	EU 2.4 Share of low-carbon CAPEX investments
Intangible	FU 3.1 R&D spending on low-carbon technologies
investments	20 0.1 Hab openaing of low earborn teennelogies
Management	EU 5.3 Low-carbon transition plan
	EU 5.5 Climate change scenario testing
Client engagement	EU 7.1 Strategy to influence clients to reduce their GHG emissions
Business model	EU 9.2 Change to business models

Module	Indicator (pure retail profile)
Targets	EU 1.2 Alignment of scope 3 upstream emission reduction targets
	EU 1.3 Time horizon of targets
Intangible investments	EU 3.1 R&D spending on low-carbon technologies
Sold product	EU 4.2 Future performance of retailed electricity
performance	EU 4.3 Contribution to low-carbon electricity generation
Management	EU 5.3 Low-carbon transition plan
	EU 5.5 Climate change scenario testing
Supplier engagement	EU 6.1 Strategy to influence suppliers to reduce their GHG emissions
Client engagement	EU 7.1 Strategy to influence clients to reduce their GHG emissions
Business model	EU 9.2 Change to business models

8 Aligned state

Figure 15 and Figure 16 below present the response of a low-carbon aligned company of the sector to the 5 questions of ACT, for both pure generation and pure retail company profiles (see section 3.2):

- → What is the company planning to do? [Commitment]
- → How is the company planning to get there? [Transition Plan]
- → What is the company doing at present? [Present]
- → What has the company done in the recent past? [Legacy]
- \rightarrow How do all of these plans and actions fit together? [Consistency]



The company has set science-based emissions reduction targets for electricity generation. These targets are aligned with the Paris Agreement goal time horizon, with intermediate targets.

The company's transition plan lays out the asset investment strategy in multiple 5-year steps to shift the generation portfolio to lowcarbon technologies.

The investment strategy for new generation capacity and R&D places clear focus on low-carbon alternatives. The company's current generation portfolio leaves enough room in the carbon budget for a flexible investment strategy.

The company has demonstrated a trend of decreasing generation emissions intensity over the past five years, in alignment with the speed of emissions reductions required in the short-term and through deliberate investment decisions.

The company's targets, transition plan, present and past actions show a consistent willingness to achieve the goals of the transition.

There are no secondary activities, such as coal mining, that clash with such goals, and no management incentives in place that promote further utilisation of fossil fuels.

FIGURE 15: ALIGNED STATE FOR ELECTRICITY GENERATORS



FIGURE 16: ALIGNED STATE FOR ELECTRICITY RETAILERS

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10 Glossary

ACT	The Assessing low-Carbon Transition (ACT) initiative was jointly developed by ADEME and CDP. ACT assesses how ready an organization is to transition to a low-carbon world using a future-oriented, sector-specific methodology (<u>ACT</u> <u>website</u>).
ACTION GAP	In relation to emissions performance and reduction, the action gap is the difference between what a given company has done in the past plus what it is doing now, and what has to be done. For example, companies with large action gaps have done relatively little in the past, and their current actions point to continuation of past practices.
Αςτινίτη δατα	Activity data is quantitative or numeric data on the activity of the company which results in emissions or removals taking place during a given period of time (UNFCCC definitions).
ADEME	Agence de la Transition Ecologique; The French Agency for Ecological Transition (ADEME webpage).
ALIGNMENT	An ACT assessment generates a rating that is intended to provide a metric of the alignment of a company with its 1.5°C pathway. The wider goal is to provide companies specific feedback on their general alignment with a 1.5°C pathway over the short and long term.
Analyst	Person undertaking and scoring the ACT assessment.
Assess	Under the ACT Initiative, to evaluate and determine the low-carbon alignment of a given company. The ACT assessment and rating are based on a range of indicators. Indicators may be reported directly by companies or collected, calculated, modelled or otherwise derived from different data sources supplied by the company. The ACT Initiative measures 3 gaps (Commitment, Horizon and Action gaps – defined in this glossary) in the GHG emissions performance of companies. This model closely follows the assessment framework. It starts with the future, with the goals companies want to achieve, followed by their plans, current actions and past actions.

Asset	A resource owned by a company which has value because of its ability to generate revenues, cash, profits through time. Tangible assets include 1) fixed assets, such as machinery and buildings, and 2) current assets, such as inventory. Intangible assets are nonphysical such as patents, trademarks, copyrights, goodwill and brand value.
BARRIER	A circumstance or obstacle preventing progress (e.g. lacking information on supplier emissions and hotspots can be a barrier to companies managing and reducing their upstream indirect emissions).
Base year	According to the GHG Protocol and ISO14064-1, a base year is "a historic datum (a specific year or an average over multiple years) against which a company's emissions are tracked over time". Setting a base year is an essential GHG accounting step that a company must take to be able to observe trends in its emissions information (GHG Protocol Corporate Standard).
Benchmark	A standard, pathway or point of reference against which things may be compared. In the case of pathways for sector methodologies, a sector benchmark is a low-carbon pathway for the sector average value for emissions intensity indicator(s) driving the sector performance. A company's benchmark is a company specific pathway that starts at the company performance for the reporting year and converges towards the sector benchmark in 2050 (or other relevant date), based on a principle of convergence or contraction of emissions intensity.
BOARD	Also the "Board of Directors" or "Executive Board"; the group of persons appointed with joint responsibility for directing and overseeing the affairs of a company.
BUSINESS MODEL	A company's core strategy for generating value. It includes sources of revenue, the intended client base, products, and details of financing. Under ACT, evidence of the existing and new business models shall be taken from a range of specific financial and other metrics relevant to the sector and an assessment made on its alignment with the low-carbon transition.
BUSINESS-AS-USUAL	An assumption that activity and emissions remain the same into the future. The business-as-usual pathway assumes constant activity and emissions from the initial year onwards. In general, the initial year – which is the first year of the pathway/series – is the reporting year (targets indicators) or the reporting year minus 5 years (certain performance indicators).

CAPACITY (POWER)	In relation to power generation, nameplate capacity is the potential power output number, usually expressed in megawatts (MW), and registered with authorities for classifying the power output of a power station.
CAPITAL EXPENDITURE	Money spent by a company on acquiring or maintaining fixed assets, such as land, buildings, and equipment.
CARBON CAPTURE AND STORAGE (CCS)	The process of trapping carbon dioxide produced by burning fossil fuels or other chemical or biological processes and storing it in such a way that it cannot contribute to climate warming.
CARBON OFFSETS	Carbon offsets are the purchase by a company of avoided GHG emissions or GHG suppressions , from actors elsewhere in the economy where the marginal cost of decarbonization proves to be lower.
CDP	Formerly the "Carbon Disclosure Project", CDP is an international, not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage and share vital environmental information. CDP works with market forces, including 746 institutional investors with assets of over US\$136 trillion, to motivate companies to disclose their impacts on the environment and natural resources and take action to reduce them. More than 18,700 companies worldwide disclosed environmental information through CDP in 2022. CDP holds the largest collection globally of primary climate change, water and forest risk commodities information and puts these insights at the heart of strategic business, investment and policy decisions (CDP website).
CLIMATE CHANGE	A change in climate, attributed directly or indirectly to human activity, caused by the alteration of the composition of the atmosphere and that is, in addition to natural climate variability, observed over comparable time periods (UNFCCC).
COMMITMENT GAP	In relation to emissions performance, the difference between what a company needs to do and what it says it will do.
COMPANY	A commercial business.
COMPANY TARGET PATHWAY	The emissions intensity performance pathway that the company has committed to follow from an initial year until a future year, for which it has set a performance target.

CONFIDENTIAL INFORMATION	Any non-public information pertaining to a company's business.
CONSERVATIVENESS	A principle of the ACT project; whenever the use of assumptions is required, the assumption shall err on the side of achieving well-below 2°C maximum global warming and pursuing efforts to limit the temperature increase to 1.5°C.
CONSISTENCY	A principle of the ACT project; whenever time series data is used, it should be comparable over time. In addition to internal consistency of the indicators reported by the company, data reported against indicators shall be consistent with other information about the company and its business model and strategy found elsewhere. The analyst shall consider specific, pre-determined data points and check that these give a consistent measure of performance when measured together.
COP21	The 2015 United Nations Climate Change Conference, held in Paris, France from 30 November to 12 December 2015 (COP21 webpage).
DATA	Facts and statistics collected together for reference and analysis (e.g. the data points requested from companies for assessment under the ACT project indicators).
DECARBONIZATION	A complete or near-complete reduction of greenhouse gas emissions over time (e.g. decarbonization in the electric utilities sector through an increased share of low-carbon power generation sources, as well as emissions mitigating technologies like Carbon Capture and Storage (CCS)).
DECARBONIZATION PATHWAY	Benchmark pathway (See 'Benchmark')
ELECTRICITY MARKETS	 <u>Electricity markets</u> enable the exchange of electricity. This involves transactions between buyers and sellers, either directly or through intermediaries. These markets ensure a safe and reliable electricity supply to meet demand. Examples of different types of markets which exist across the electricity system: Wholesale electricity markets. These include the sale and purchase of electricity between suppliers and generators. Retail electricity markets: involve suppliers selling electricity direct to consumers.
ELECTRICITY RETAILER	A company that holds a valid licence or similar authorisation, issued by the relevant electricity regulator, to sell electricity in the region, territory and or market to which its retail licence relates.

	For the purposes of the ACT assessment, <u>electricity retailers</u> are those companies that do not generate their own electricity, but rather purchase the electricity they sell from the wholesale market/other generators.
EMISSIONS	The GHG Protocol defines <i>direct</i> GHG emissions as emissions from sources that are owned or controlled by the reporting entity, and <i>indirect</i> GHG emissions as emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity (GHG Protocol). In this methodology, "emissions" refers to greenhouse gas emissions.
Energy	Power derived from the utilization of physical or chemical resources, especially to provide light and heat or to work machines.
ENERGY EFFICIENCY AUDITS	Audits which provide a clear understanding of energy consumption to better manage it and have a higher energy efficiency.
ENERGY PERFORMANCE CONTRACTING	Energy performance contracting (EPC) is a mechanism for energy efficiency financing. The EPC involves an Energy Service Company (ESCO) which provides various services, such as finances and guaranteed energy savings.
ENERGY SAVING PRODUCTS	Products eligible for White Certificates (also called Energy Savings Certificate (ESC) or Energy Efficiency Credit (EEC)).
FOSSIL FUEL	A fossil based fuel such as coal, oil or gas, formed in the geological past from the remains of living organisms.
GREENHOUSE GAS (GHG)	Carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O) and three groups of fluorinated gases (sulfur hexafluoride (SF ₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) are the major anthropogenic GHGs and are regulated under the Kyoto Protocol. Nitrogen trifluoride (NF ₃) is now considered a potent contributor to climate change and is therefore mandated to be included in national inventories under the United Nations Framework Convention on Climate Change (UNFCCC).
GUIDANCE	Documentation defining standards or expectations that are part of a rule or requirement (e.g. <u>CDP reporting guidance for companies</u>).
HORIZON GAP	In relation to emissions performance, the difference between the average lifetime of electricity production assets (particularly carbon intensive) and the time-horizon of a company's commitments. Companies with small-time

	horizons do not look far enough into the future to properly ensure the transition
	of their assets and business models.
INCENTIVE	Something, for example money, that motivates or encourages an individual or organisation to do something (e.g. a monetary incentive for company board members to set emissions reduction targets).
INDICATOR	An ACT indicator is a quantitative or qualitative piece of information that can provide insight on a company's current and future ability to reduce its carbon intensity.
INTENSITY (EMISSIONS)	The average emissions rate of a given pollutant from a given source relative to the level of activity; for example, tonnes of carbon dioxide released per MWh of energy produced by a power plant.
INTERVENTION	Methods available to companies to influence and manage emissions in their value chain, both upstream and downstream, which are out of their direct control (e.g. a retail company may use consumer education as an intervention to influence consumer product choices in a way that reduces emissions from the use of sold products).
LIFETIME	The duration of something's existence or usefulness (e.g. a physical asset such as a power plant).
LOW-CARBON BENCHMARK PATHWAY	Benchmark pathway (See 'Benchmark')
LOW-CARBON ELECTRICITY	Generated electricity where the average carbon intensity does not exceed 100 gCO2e/kWh on a life-cycle basis.
Low-carbon scenario (or pathway)	A low-carbon scenario (or pathway) is a well-below 2°C or a 1.5°C scenario or a scenario with higher decarbonization ambition.
LOW-CARBON SOLUTION	A way to contribute to the low-carbon transition (e.g. energy, technology, process, product, service, etc.)
LOW-CARBON TRANSITION	The low-carbon transition is the transition of the economy a low-carbon state.

MATURITY MATRIX	A maturity matrix is essentially a "checklist", the purpose of which is to evaluate how well advanced or "mature" a particular process, program or technology is according to specific definitions.
MATURITY PROGRESSION	An analysis tool used in the ACT project that allows both the maturity and development over time to be considered with regards to how effective or advanced a particular intervention is.
MITIGATION (EMISSIONS)	The action of reducing the severity of something (e.g. climate change mitigation through absolute GHG emissions reductions)
MODEL	A program designed to simulate what might or what did happen in a situation (e.g. climate models are systems of differential equations based on the basic laws of physics, fluid motion, and chemistry that are applied through a 3-dimensional grid simulation of the planet Earth).
P ATHWAY (EMISSIONS)	A way of achieving a specified result; a course of action (e.g. an emissions reduction pathway).
Performance	Outcomes and results. ACT methodologies attempt to assess performance using a variety of indicators.
PLAN	A detailed proposal for doing or achieving something.
Ροιντ	A mark or unit of scoring awarded for success or performance.
Power	Energy that is produced by mechanical, electrical, or other means and used to operate a device (e.g. electrical energy supplied to an area, building, etc.).
P OWER GENERATION	The process of generating electric power from other sources of primary energy.
Power Purchase Agreement (PPA)	A Power Purchase Agreement (PPA) or Corporate Power Purchase Agreement (CPPA) is a long-term (in most cases renewable) energy contract between a renewable developer and a consumer for the purchase of energy.
PRIMARY ENERGY	Primary energy is an energy form found in nature that has not been subjected to any conversion or transformation process. It is energy contained in raw fuels,

	and other forms of energy received as input to a system. Primary energy can
	be non-renewable or renewable.
PROGRESS RATIO	An indicator of target progress, calculated by normalizing the target time
	percentage completeness by the target emissions or renewable energy
	percentage completeness.
RELEVANT / RELEVANCE	In relation to information, the most appropriate information (core business and
REEVANI / REEVANJE	stakeholders) to assess low-carbon transition
	Energy from a source that is not depleted when used such as wind or solar
RENEWABLE ENERGY	power
	power.
	Voor under consideration
REPORTING YEAR	Year under consideration.
RESEARCH AND	A general term for activities in connection with innovation; in industry; for
DEVELOPMENT (R&D)	example, this could be considered work directed towards the innovation,
	introduction, and improvement of products and processes.
0	A plausible representation of future climate that has been constructed for
SCENARIO	A plausible representation of ruture climate that has been constructed for
	explicit use in investigating the potential impacts of antiropogenic climate
	of the modelled reasonable of the elimete system to according of greenhouse gree
	or the modelled response of the climate system to scenarios of greenhouse gas
	and aerosol concentrations), by manipulating model outputs and combining
	them with observed climate data. (44)
SCENADIO ANALVEIS	A process of analysing possible future events by considering alternative
SCENARIO ANAL 1915	possible outcomes
SCIENCE-BASED TARGET	To meet the challenges that climate change presents, the world's leading
COLLICE BACED TARGET	climate scientists and governments agree that it is essential to limit the increase
	in the global average temperature at below 2°C and ideally 1.5°C. Companies
	making this commitment, working toward this goal and setting an emissions
	reduction target that is aligned with climate science can have their targets
	verified by the Seience Based Terrete Initiative
	venned by the Science-based Targets Initiative.
SCOPE 1 EMISSIONS	All direct GHG emissions (GHG Protocol Corporate Standard).
	Category 1 from ISO 14064-1:2018: Direct GHG emissions and removals occur
DIRECT GHG EMISSIONS AND	from GHG sources or sinks inside organizational boundaries and that are
	owned or controlled by the [reporting] organization. Those sources can be
	in the rest of the

REMOVALS	stationary (e.g. heaters, electricity generators, industrial process) or mobile					
	(e.g. vehicles).					
SCOPE 2 EMISSIONS	Indirect GHG emissions from consumption of purchased electricity, heat or					
	steam (GHG Protocol Corporate Standard).					
INDIRECT GHG EMISSIONS	Catagory 2 from ISO 14064 4:2019; CLIC amigaiana dua to the fuel combustion					
FROM IMPORTED ENERGY	Category 2 from ISO 14064-1:2018: GHG emissions due to the fuel combustion					
	associated with the production of final energy and utilities, such as electricity,					
	It evolutes all upstream amissions (from and to power plant gate) appealed					
	with fuel omissions due to the construction of the newer plant gate) associated					
	allocated to transport and distribution losses					
SCODE 3 EMISSIONS	Other indirect emissions, such as the extraction and production of purchased					
	materials and fuels, transport-related activities in vehicles not owned or					
INDIRECT GHG EMISSIONS	controlled by the reporting entity, electricity-related activities (e.g. T&D losses)					
	not covered in Scope 2, outsourced activities, waste disposal, etc. (GHG					
	Protocol Corporate Standard). Scope 3 also encompass the emissions					
	related to the use of sold-products.					
	ICO 11001 1:0010: OUO emission that is a concerning of an empirication's					
	operations and activities, but that arises from GHG sources that are not owned					
	or controlled by the [reporting] organization. These emissions occur generally					
	In the upstream and/or downstream chain.					
	Category 3 : indirect GHG emissions from transportation					
	Category 4: Indirect GHG emissions from products used by an organization					
	Category 5: Indirect GHG emissions associated with the use of products from					
	the organization					
	Category 6: Indirect GHG emissions from other sources					
SECTOR	A classification of companies with similar business activities, e.g. automotive					
	manufacturers, power producers, retailers, etc.					
Statabu	To help husinesses set targets compatible with 2-degree climate change					
SECTORAL	scenarios the Sectoral Decarbonization Approach (SDA) was developed					
DECARBONIZATION	The SDA takes a sector-level approach and employs scientific insight to					
APPROACH (SDA)	determine the least-cost pathways of mitigation, and converges all companies					
	in a sector towards a shared emissions target in 2050.					
SHORT-TERM	Occurring in or relating to a relatively short period of time in the future.					

Sold (Power)	The quantity of power sold, under licence (when required).					
Strategy	A plan of action designed to achieve a long-term or overall aim. In business, this is the means by which a company sets out to achieve its desired objectives; long-term business planning.					
STRESS TEST	A test designed to assess how well a system functions when subjected to greater than normal amounts of stress or pressure (e.g. a financial stress test to see if an oil & gas company can withstand a low oil price).					
TARGET	A quantifiable goal (e.g. to reduce GHG emissions).					
	• The following are examples of absolute targets:					
	\rightarrow metric tonnes CO ₂ e or % reduction from base year					
	→ metric tonnes CO ₂ e or % reduction in supply chain relative to base year					
	• The following are examples of intensity targets:					
	→ metric tonnes CO ₂ e or % reduction per kWh of electricity generated by the company, relative to base year					
	→ metric tonnes CO ₂ e or % reduction per kWh of electricity retailed by the company, relative to base year					
TECHNOLOGY	The application of scientific knowledge for practical purposes, especially in industry (e.g. low-carbon power generation technologies such as wind and solar power, in the electric power generation sector).					
TRADE ASSOCIATION	Trade associations (sometimes also referred to as industry associations or industry bodies) are an association of people or companies in a particular business or trade, organized to promote their common interests. Their relevance in this context is that they present an "industry voice" to governments to influence their policy development. The majority of organizations are members of multiple trade associations, many of which take a position on climate change and actively engage with policymakers on the development of policy and legislation on behalf of their members. It is acknowledged that in many cases companies are passive members of trade associations and therefore do not actively take part in their work on climate change (<u>CDP climate change guidance</u>).					

TRANSITION	The process or a period of changing from one state or condition to another (e.g. from an economic system and society largely dependent on fossil fuel-based energy, to one that depends only on low-carbon energy).				
TRANSITION PLAN	Aspect of an undertaking's overall strategy that lays out a set of targets, actions, and accountability mechanisms to align an organization's business activities with a pathway for net zero greenhouse gases emissions that delivers real economy emissions reductions toward limiting climate change to 1.5°C by the end of 21st century.				
TREND	A general direction in which something (e.g., GHG emissions) is developing or changing.				
VERIFIABLE / VERIFIABILITY	To prove the truth of, as by evidence or testimony; confirm; substantiate. Under the ACT project, the data required for the assessment shall be verified or verifiable.				
World Benchmarking Alliance	Founded in 2018, the World Benchmarking Alliance is a non-profit organisation holding 2,000 of the world's most influential companies accountable for their part in achieving the Sustainable Development Goals. It does this by publishing free and publicly available benchmarks on their performance and showing what good corporate practice looks like. The benchmarks provide companies with a clear roadmap of what commitments and changes they must make to put our planet, society and economy on a more sustainable and resilient path. They also equip everyone – from governments and financial institutions to civil society organisations and individuals – with the insights that they need to collectively incentivise leading companies to keep going and pressure the laggards to catch up. For more information, visit <u>www.worldbenchmarkingalliance.org</u>				
WEIGHTING	Relative importance given to each performance modules and indicators, in order to reflect the more important/significant aspects and the decarbonisation potential of different actions.				

11 Appendix

11.1 METHODOLOGY DEVELOPMENT AND UPDATE HISTORY

The ACT Electricity methodology was developed by ADEME and CDP, with inputs and feedback of a Technical Working Group (TWG), which met five times over the course of the development phase in 2018. As described in the ACT Guidelines (3), pilot companies volunteered to 'roadtest' the methodology to ensure it was well designed and ready for use. TWG members and pilot companies are listed in Table 14. The first version of the ACT Electricity methodology (v1.1) was released in March 2019.

TABLE 14: LIST OF COMPANIES INVOLVED AS TWG I	MEMBER AND/OR PILOT DURING ROADTEST

ORGANISATION	INVOLVEMENT			
AGL Energy	Pilot company / TWG member			
Albioma	Pilot company			
Cap Vert Energie	Pilot company			
Compagnie Nationale du Rhône	Pilot company			
E.ON SE	TWG member			
EDF	Pilot company / TWG member			
Endesa	Pilot company / TWG member			
ENEL	Pilot company / TWG member			
Enercoop	Pilot company			
Engie	Pilot company			
Exelon	TWG member			
Light	TWG member			
NRG Energy, Inc.	Pilot company / TWG member			
Origin Energy	Pilot company			
SSE	Pilot company / TWG member			
Uniper	Pilot company			

The ACT Electricity methodology is updated in this 2023 version 2.0. Led by the World Benchmarking Alliance (WBA) with input from ADEME and CDP, the update happened between February and September 2023 and included the following steps:

- Weekly meetings involving ADEME, CDP and WBA;
- Bilateral calls with external stakeholders;
- A two week public consultation in March 2023 (respondents are listed in Table 15).

TABLE 15: LIST OF RESPONDENTS TO PUBLIC CONSULTATION HELD IN MARCH 2023

RESPONDENT	ORGANISATION TYPE		
ADEME	State agency		
CDP	NGO		
Chubu Electric Power Co., Inc.	Company		
Codo Advisory	Consultancies		
E.ON SE	Company		
iCare	Consultancies		
NRG Energy, Inc.	Company		
Ørsted	Company		
PLN	Company		

11.2 UPDATES IN ACT ELECTRICITY METHODOLOGY V2.0

Table 16 lists the main changes to the ACT Electricity methodology arising from the update from v1.1 to v2.0.

TABLE 16: UPDATES TO ACT ELECTRICITY V2.0

Section	SUB-SECTION	CHANGES COMPARED TO ACT ELECTRICITY V1.1					
Introduction	1	Description of updated methodology					
Scope	1	Different company profiles have been designed to consider both electricity generation and retail activities					
Boundaries	1	Update of reporting boundaries and rationale in accordance with extended scope of activities. The focus is still on emissions arising from electricity production					
	Module 1	Two indicators are dedicated to target ambition alignment, either for electricity generation or retail activities. The assessment of target ambition now considers both near and long-term targets					
	Module 2	Addition of an indicator for low-carbon CAPEX share					
	Module 3	Update of indicator 3.1 to align with other ACT sectoral assessment methodologies Addition of indicator 3.2 dedicated to low-carbon patenting activity					
Construction of the data infrastructure	Module 4	Addition of this module for all company profiles, including 5 indicators (already used in other ACT sectoral assessment methodologies and adapted for the purpose of ACT Electricity). Addition of a definition of "low-carbon" electricity					
	Module 5	Inclusion of the updated module as published by the ACT initiative in 2022					
	Module 6	Inclusion of the updated module as published by the ACT initiative in 2022					
	Module 7	Inclusion of the updated module as published by the ACT initiative in 2022					
	Module 8	Inclusion of the updated module as published by the ACT initiative in 2022					
	Module 9	Inclusion of the updated module as published by the ACT initiative in 2023					
	Sector benchmark	Up-to-date and relevant low-carbon scenarios / sectoral pathways have been identified from literature. Only 1.5°C aligned pathways are considered					
Assessment	Other quantitative benchmarks used for indicators	Use of data from IEA - Net Zero by 2050 Report to obtain a sectoral value regarding CAPEX needs					
	Weightings	Update of the performance weighting schemes according to new company profiles and added performance modules and indicators					
	Data request	Updates to account for new and amended performance modules and indicators					
Rating	Narrative scoring	Updates according to new company profiles and added performance modules and indicators					
	Trend scoring	Updates according to new company profiles and added performance modules and indicators					
ACT aligned state	1	Updates according to new company profiles and added performance modules and indicators					
Glossary	1	Addition of useful definitions					

11.3 ILLUSTRATIVE GRAPHS FOR TREND IN FUTURE EMISSIONS INTENSITY INDICATORS (EU 2.3, EU 4.2)

CASE 1



FIGURE 17: TREND RATIO - CASE 1

CASE 2

Conditions	Score
<i>Company's trend</i> ≤ 0 and $EI_C(Y_R) \geq EI_B(2050)$	
$0 \leq trend \ ratio \leq 1$	Trend ratio $ imes$ 100%
Decrease in company emissions intensity but company's pathway does not go beyond the company's benchmark ambition	



FIGURE 18: TREND RATIO - CASE 2

Conditions	Score
Company's trend < 0	
trend ratio > 1	100%
Decrease in company emissions intensity and company's pathway equals or exceeds the company's benchmark ambition	



Company's benchmark trend

FIGURE 19: TREND RATIO - CASE 3

Conditions	Score
Company's target trend ≤ 0 and $EI_C(Y_R) \leq EI_B(2050)$	
No increase in company emissions intensity and company's emissions intensity is already below the company's benchmark	100%
ambition for 2050	



Company's benchmark trend

FIGURE 20: TREND RATIO - CASE 4

11.4 GUIDANCE TO ASSESS INDICATOR EU 4.5

Table 17 is guidance to aid assessors in identifying life-cycle hotspots for the main low-carbon power production technologies ((26), (27)). Other sources may be used by the analyst, especially for non-listed technologies (e.g. marine energy).

Contribution is considered as "highly relevant" if $\geq 25\%$ of the total life-cycle contribution; "relevant" if $\geq 10\%$. Those figures were chosen to highlight the major levers for each low-carbon technology.

TABLE 17: LIST OF ELECTRICITY GENERATION	N TECHNOLOGIES A	AND RELATIVI	E IMPORTANCE	OF CONTRIBU	TIONS TO	THE LIFE-
	CYCLE GHG	EMISSIONS				

Low-carbon technology	Components / activity	Level of concern in life-cycle GHG emissions
Wind offshore	Foundation	Highly relevant
	Tower	Relevant
	Generator	Relevant
	Hub	Not relevant
	Blades	Relevant
	Assembly	Not relevant
	Construction	Highly relevant
	Internal cabling	Not relevant
	Grid connection	Not relevant
	Operation and maintenance	Not relevant
	Electricity production	Not relevant
	Decommissioning	Not relevant
	Foundation	Relevant
	Tower	Highly relevant
	Generator	Relevant
	Hub	Not relevant
Wind onshore	Blades	Relevant
	Assembly	Not relevant
	Construction	Not relevant
	Internal cabling	Not relevant
	Grid connection	Not relevant
	Operation and maintenance	Not relevant
	Electricity production	Not relevant
	Decommissioning	Not relevant
Photovoltaic poly-Si (ground-mounted)	Silicon production	Highly relevant
	Cell manufacturing	Relevant
	Module assembly	Relevant

	Ground system	Not relevant
	Construction	Not relevant
	Inverters	Not relevant
	Grid connection	Not relevant
	Operation and maintenance	Not relevant
	Decommissioning	Not relevant
	Silicon production	Highly relevant
Photovoltaic poly-Si (roof-mounted)	Cell manufacturing	Relevant
	Module assembly	Relevant
	Roof system	Not relevant
	Construction	Not relevant
	Inverters	Relevant
	Grid connection	Not relevant
	Operation and maintenance	Not relevant
	Decommissioning	Not relevant
	Glass production	Relevant
	Laser scribe	Not relevant
	Buffer	Not relevant
	Mechanical scribe	Not relevant
	Deposit TCO	Not relevant
	Laminate	Not relevant
Photovoltaic CIGS (ground-mounted)	Module assembly	Not relevant
	Ground system	Not relevant
	Construction	Highly relevant
	Inverters	Relevant
	Grid connection	Relevant
	Operation and maintenance	Not relevant
	Decommissioning	Not relevant
	Glass production	Relevant
	Laser scribe	Not relevant
	Buffer	Not relevant
	Mechanical scribe	Not relevant
	Deposit TCO	Not relevant
	Laminate	Not relevant
Photovoltaic CIGS (roof-mounted)	Module assembly	Not relevant
	Roof system	Highly relevant
	Construction	Not relevant
	Inverters	Relevant
	Grid connection	Not relevant
	Operation and maintenance	Not relevant
	Decommissioning	Not relevant

Concentrated solar power (parabolic)	Construction	Highly relevant
	Solar field	Relevant
	Power plant	Not relevant
	Heat transfer fluid system	Not relevant
	Thermal storage system	Relevant
	Grid connection	Not relevant
	Operation and maintenance	Relevant
	Decommissioning	Not relevant
	Receiver (tower)	Highly relevant
	Solar field	Not relevant
	Power plant	Relevant
Concentrated solar power (central	Heat transfer fluid system	Not relevant
tower)	Thermal storage system	Relevant
	Grid connection	Not relevant
	Operation and maintenance	Highly relevant
	Decommissioning	Not relevant
	Roadworks	Not relevant
	Transportation	Highly relevant
	Dam	Not relevant
	Construction	Not relevant
Hydropower (360 MW plant model)	Grid connection	Not relevant
	Electricity production	Not relevant
	Decommissioning dam	Highly relevant
	Methane from flooded	Relevant (in tropical regions)
	biomass	(27)
	Mining open pit	Not relevant
	Mining underground	Relevant
	Mining ISL	Relevant
	Milling	Not relevant
	Conversion	Not relevant
	Enrichment	Relevant
Nuclear (conventional)	Fuel fabrication	Not relevant
	Construction	Relevant
	Electricity production	Not relevant
	Decommissioning	Not relevant
	Grid connection	Not relevant
	Transportation	Not relevant
	Spent fuel management	Relevant
Nuclear (SMR)	Mining/milling	Relevant

	Fuel fabrication	Not relevant
	Conversion	Highly relevant
	Enrichment	Not relevant
	Construction	Not relevant
	Operation	Not relevant
	Decommissioning	Not relevant
	Transportation	Not relevant
	Waste management	Not relevant
Natural Gas Combined Cycle (NGCC) with CCS (Carbon Capture and Storage)	Natural gas production	Relevant
	Natural gas transport	Not relevant
	Power plant	Not relevant
	CCS on-site infrastructure	Not relevant
	CCS pipeline	Not relevant
	CCS well	Not relevant
	Grid connection	Not relevant
	Electricity production	Not relevant
	Carbon capture	Highly relevant
	Decommissioning	Not relevant