Net Zero Finance Tracker Methodology

United Kingdom Dashboard (beta)

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CLIMATE POLICY INITIATIVE

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ABOUT CLIMATE POLICY INITIATIVE

CPI is an analysis and advisory organization with deep expertise in finance and policy. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has six offices around the world in Brazil, India, Indonesia, Kenya, the United Kingdom, and the United States.

DESCRIPTORS

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RELATED CPI WORKS

Framework for Sustainable Finance Integrity

Paris Misaligned –An Assessment of Global Power Sector Investment

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1. OVERVIEW

The Net Zero Finance Tracker is an interactive platform that provides a comprehensive assessment of the alignment of public and private finance with Paris Agreement goals. There are two dashboards within the platform, each providing a different perspective on progress:

I. Institutions

II. Real economy

This document outlines the methodological foundations of the platform. It is the result of a the top-down assessment of what Paris alignment and net zero represent, reviewed and refined in light of what currently available data and information allows us to say in terms of trends and progress.

As a first attempt, we consider it a "living" methodology. The idea is to continuously update and improve this methodology—in consultation with data providers and end users of the dashboard—as new data becomes available, and new concepts are developed, along with a better understanding of what Paris alignment means.

2. INSTITUTIONS

2.1 OVERVIEW

Since the establishment of the Paris Agreement in 2015, many initiatives have been launched to galvanize public and private action on Paris Alignment (principles, targets, standards, disclosure, pathway assessments, disclosure, and portfolio temperature assessments). However, there is currently no comprehensive view of progress across the financial system and real economy in relation to alignment with the Paris Agreement. This is essential to make sense of the transitions underway, the outstanding gaps, and to identify who needs to play which role going forward.

Under the perspective of institutions and investors, Paris alignment can be intended as the "***holistic commitment*** *to make investments and overall organizational practices consistent with the achievement of the Paris goals, through the integration of Paris targets across the* ***investment decision chain****, from strategy and sourcing through to due diligence. Institutional engagement must be comprehensive across multiple business areas, able to deliver on a long-term horizon, and ambitious in the scale of action taken. Ultimately action should translate in* ***changes in the real economy*** *– through the realignment of portfolios and investment with temperature trajectories compatible with Paris".*[1] [2]

The institutions and investors' dataset aims at mapping the progress of private companies and financial institutions in their transition towards Paris goals. It does so through a set of indicators that monitor how institutions are moving from intentions to actions and results. The institutions view tracks how targets and strategies are set, how they are translated in incentives, and integrated in due diligence and operations to ultimately drive investment decisions.

[1] I4CE and CPI, 2019. Aligning with the Paris Agreement. https://www.i4ce.org/wp-core/wp-content/uploads/2019/09/I4CE_CPI_ESjoint_Aligning_with_the_Paris_Agreement.pdf
[2] WBA, 2021. Financial System Transformation. World Benchmarking Allicante. Available at: https://assets.worldbenchmarkingalliance.org/app/uploads/2021/01/WBA-Financial-System-Transformation-Scoping-Report-January-2021-WEB.pdf

Three dimensions are hereby proposed to measure and organize this progress:

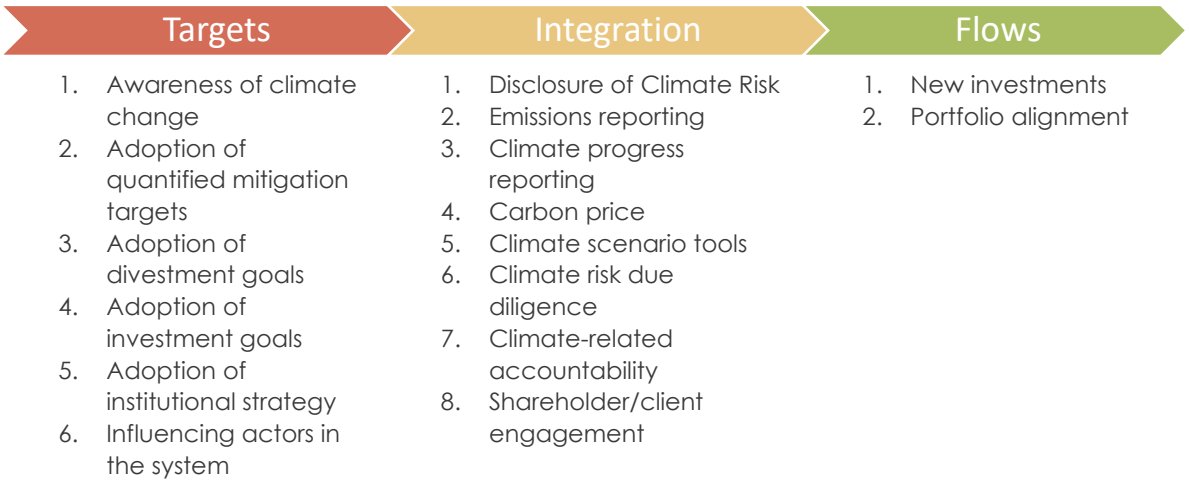
1. **Targets**: signalling **intent to respond**, potentially resulting in future engagement and flows. This dimension tracks indicative qualitative commitment and quantitative targets adopted to address climate change, as well as membership of initiatives that may influence future capital alignment.

2. **Integration**: measuring whether climate considerations are factored into **decision-making processes**, potentially resulting in future flows. This dimension looks at concrete qualitative changes to institution policies, governance, and investment approach that may influence future capital alignment.

3. **Flows**: tracking finance allocated to climate solutions via **investment** into productive assets/activities and capital markets. This dimension would rely on the measurement of quantitative changes in stocks and flows of relevant finance (both low and high emissions).

For each of these three dimensions, a set of attributes, and underlying indicators was identified based on literature review and data available.

Figure 1: The three dimensions of Paris Alignment and underlying attributes/indicators



2.2 DATASETS AND BACKGROUND INFORMATION

Information is collected from a **varied set of publicly and privately available sources** at the level of individual financial entities. Sources consulted so far include over 30 data providers:

Table 1: Sources currently included in the institutions view

- FinanceMap (2dii FM)
- Banking Environment Initiative (BEI)
- Bloomberg New Energy Finance (BNEF)
- Climate Action 100+ (CA 100+)
- Climate Action in Financial Institutions (CAFI)
- Climate Bonds Initiative (CBI),
- Climate Watch (CW)
- Carbon Disclosure Project (CDP)
- Carbon Pricing Leadership Coalition (CPLC)
- CPI's Global Landscape of Climate Finance (CPI GLCF)
- DivestInvest
- Environment Agency (EA)
- Exponential Roadmap Initiative (ERI)
- Fossil Free Divestment (FFD),
- Global Climate Project (GCP)
- Investor Agenda (IA)
- InfluenceMap
- NAZCA Global Climate Action Portal (NAZCA)
- Net-Zero Asset Owner Alliance (NZAOA)
- Partnership for Carbon Accounting Financials (PCAF)
- Portfolio Decarbonisation Coalition (PDC)
- Principles for Responsible Banking (PRB)
- Principles of Responsible Investment (PRI)
- Principles for Sustainable Insurance (PSI)
- Sustainable Accounting Standards Board (SAS)
- Science Based Targets (SBTi)
- ShareAction
- Sustainable Stock Exchanges Initiative (SSEI)
- Transition Pathways Initiative (TPI),
- Task Force on Climate-Related Financial Disclosure (TCFD)
- World Economic Forum / Mission Possible
- We Mean Business Coalition (WMB)
- Green Targets (WRI)

From the above sources, we were able to retrieve around 200 individual datasets, each answering a specific question about the level of strength of engagement on, or response to Paris Alignment for a specific institution. Annex 2.6.2 provides a comprehensive overview of the datasets used.

Efforts will be invested in progressively expanding the range of datasets used within the dashboard. Understanding data gaps is critical to ensure that this is effective.

As the below table displays – by offering a snapshot of the current sources and datasets used, as well as their granularity, and extent of coverage they provide of each attribute/indicator – availability of data changes significantly between different attributes/indicators identified. The table suggests that while information is good on the disclosure of climate risks and on the level of engagement of institutions with governments and their own industries, more efforts need to be invested particularly in tracking institutions' divestment and investment goals.

Table 2: Datasets and extent of coverage of attributes/indicators

Dimension	Indicator / Attribute	Prioritization	Datasets	Providers	Granularity	Coverage	
		Summary score prioritizing development of new data sources based on four aspects examined	Number of datasets available	Number of data providers	Amount of distinct information that can be retrieved from available data	Share of institutions covered within each indicator (nr)	Share of institutions covered within each indicator (assets)
TARGETS	Adoption of divestment goals	5	2	2	1	13.21%	0.22%
TARGETS	Adoption of investment goals	5	7	1	1	0.15%	13.74%
INTEGRATION	Carbon Price	3	9	5	3	7.11%	37.72%
INTEGRATION	Climate Progress Reporting	3	13	8	2	18%	38.90%
INTEGRATION	Climate scenario tools	3	14	2	3	6%	58.85%
INTEGRATION	Climate-related accountability	3	14	3	3	4%	26.37%
INTEGRATION	Emissions reporting	3	21	3	4	4%	42.13%
INTEGRATION	Shareholder activism	2	8	5	2	20%	27.61%
FLOWS	New investments	2	9	5	1	5%	22.80%
INTEGRATION	Climate risk due diligence	2	29	3	4	8%	21.70%
TARGETS	Adoption of institutional strategy	2	6	5	2	4%	48.10%
TARGETS	Adoption of quantified mitigation targets	2	14	7	4	9%	25.39%
FLOWS	Portfolio alignment	1	8	3	1	27%	44.90%
TARGETS	Highlight climate issues	1	5	2	1	42%	71.03%
INTEGRATION	Disclosure of climate risk	1	19	5	3	14%	64.26%
TARGETS	Influencing actors in the system	0	13	10	2	21%	54.09%

2.2.1 DATA TYPES

Data collected covers years from 2015 onwards - the year when the Paris Agreement was adopted.

Information from original data sources used is available in different formats, including web pages, PDF files and reports, and files already downloadable in csv format.

Qualitative datasets, representing the larger share of datasets retrieved, usually consist in 1-0s true/false logical statements around specific questions relevant for climate or Paris alignment. (For instance, did the organization commit to mitigation targets? Did the organization adopt a carbon price? Did the organization disclose its investment goals?). A smaller share of datasets is instead of quantitative nature and expressed in numeric values (e.g. % of emissions reduction targets, actual carbon prices in USD/tCO2, investment in low-carbon climate resilient projects in USDm).

2.2.2 INITIAL DATA PROCESSING

Information collected from the different sources is converted in **standard numeric values, or logical functions** (e.g. when original data is stored in alphanumeric strings, or text script) and stored in source-specific datasets.

Reference tables are in parallel developed where individual institutions or investors entity names are uniquely identified. The purpose of these tables is to make sure that information on the same organization, usually named differently by different datasets, is attributed to a uniquely identified entity. Reference tables also include information on the Assets Under Management and total assets of the mapped entities, which are also used to build some of the scores at the level of institution, and on the country of the organization's headquarters.

2.3 PRIVATE INSTITUTION CATEGORIES

Currently the following categories are included in the dashboard, largely selected based on the magnitude of assets they own or manage: Asset Managers, Banks, Corporates, Endowments, Foundations, Infrastructure funds, Insurance Companies, Pension Funds, Private Equity Funds, Real Estate Investment Trusts (REITs), Venture Capital Funds, and Wealth Management Firms.

However, certain institution categories will be more influential in the transition to a greener financial system than others. For example, despite having huge assets to deploy, a private asset manager investing in public markets and adhering to a client mandate may not be able to affect change in the financial system to the same degree as a quasi-public development finance institution providing risk capital to nascent businesses and might be able to influence policy. Similarly, investment considerations made by different institution categories also play a role. For example, a regulated asset manager for which liquidity and client mandates are very important investment considerations may not be a prime candidate for developing a wind farm. By contrast, a lightly regulated private equity fund with high-risk appetite and less need for liquidity would most likely be interested.

Future research should seek to understand better which institution categories should be prioritized based on the impact they have in shaping investment decisions and thus be enablers of the transition.[3] Further, while efforts have been invested in this work to create scores that could be applied flexibly to different institutions, future research should focus on whether specific exceptions should be taken in consideration for specific institutions and investors categories.

2.4 SCORING THE TARGETS AND INTEGRATION DIMENSIONS

While data regarding the "Flows" dimension are always going to be displayed as such (e.g. USD millions investment in low-carbon climate resilient finance) once attributed to individual institution groups, the "Targets" and "Integration" dimensions require the development of a scoring approach.

[3] E.g. expanding from previous study from Oliver et al. (2018)

The **score** here proposed assesses the degree of response institutions are adopting to meet Paris goals.

More specifically, it measures the degree to which the reporting/tracked entities have integrated climate concerns into their operations. The assessment of such score is a bottom-up process: First, an individual financial entity is evaluated on the basis of each indicator/attribute tracked from primary and secondary data sources. Next, these attribute-specific evaluations are aggregated as a single score for the "Targets" and "Integration" dimensions.

While assessment is always performed for single financial entities (e.g. Barclays, Lloyds), it is eventually presented at the level of financial category (Banks, Asset managers) using number of institutions, or alternatively underlying assets as a means for aggregation.

Notes and caveats

The need of continuously improving the methodology

As mentioned in paragraph 1 (overview), the Net-Zero metrics here proposed for institutions is a first attempt to establish a data-driven approach that assesses Paris progress in its breadth and complexity.

The current methodology identifies three dimension of Paris alignment, and assesses them separately. This allows to identify comparable data and develop coherent metrics within each of the dimensions explored.

However, we reckon that further discussions are needed to make sure priorities are appropriately reflected, aware of the continuing evolution of data approaches to measure and track net zero efforts at corporate level, and the numerous coalitions and initiatives emerging in the space, along with the rapidly changing policy landscape.

Follow up discussions will principally cover the **appropriateness of the current dimensions**, attributes, and underlying scoring approaches. Discussions will focus on understanding whether a single summary metrics of progress should be established. In this case it will also be important to understand whether institutions need to engage equally on all dimensions of Paris alignment, as they are all required pillars for a transitioning financial

system, or whether they should put exclusive emphasis on the "real economy" side of the transition, focusing on how institutions are impacting on investments on the ground, which will require the establishment of science-based benchmarks assessing the level of alignment of new investment and benchmarks that can put in context tracked action (e.g. what share of the country's AUM do reporting entities represent?). CPI contributed to this specific debate with a paper measuring science-based alignment,[4] already tested for the power sector.[5]

Further, alignment of the private sector alone is not sufficient to accelerate progress towards Paris, i.e., it is not enough to shift all investments into tech and renewables stocks and bonds. There is a set of specific technologies and subsectors that need new investment to enable net zero in hard-to-abate industries or the investment need in adaptation technologies, while policy has also a critical role in enabling meeting Paris goals. Technology investment needs and how they are met are partly addressed in the real economy section of the dashboard (focusing on sectors). However public sector is currently not represented and follow up discussions should help **understand whether public efforts should also be tracked in a separate section of the dashboard**, or whether the focus on private sector should be kept for consistency.

As a result, one of the key next steps in the development of the platform will be to further stress-test the methodology, to ensure its continuous improvement at the light of ongoing discussions, the recent Framework for Sustainable Finance Integrity and the ever-increasing body of data available. Particular attention will be provided to benchmarks, specifically.

Aggregation by entities' underlying assets

Currently institutions' underlying asset data collected is the most recent available. Caveats regarding the process concern the degree of reliability and breadth of coverage of information on underlying assets for the mapped entities.

[4] Micale V., C. Wetherbee, R. Macquarie, P. Rosane. 2020. A Proposed Method for Measuring Paris Alignment of New Investment. Available at: https://www.climatepolicyinitiative.org/wp-content/uploads/2020/12/2.-A-Proposed-Method-for-Measuring-Paris-Alignment-of-New-Investment-3.pdf

[5] Micale V., C. Wetherbee, R. Macquarie, P. Rosane, B. Naran. 2020. Paris Misaligned: An Assessment of Global Power Sector Investment. Available at: https://www.climatepolicyinitiative.org/wp-content/uploads/2020/12/3.-Paris-Misaligned-An-Assessment-of-Global-Power-Sector-Investment-4.pdf

Underlying assets tracked for institutions mainly consist in assets under management, or total assets, and revenues in fewer cases. The three figures represent different dimensions; therefore, comparability represents a first limit in the analysis done. Furthermore, while significant coverage of this data was ensured (at this stage of development of the dashboard) for critical entities such as asset managers, insurance companies, and pension funds, for other entities such as corporate actors, foundations, and endowments data gaps are more evident.

For this reason, the use of number of institutions is currently provided as main option to present and aggregate results under this pilot version of the dashboard.[6]

One of the key next steps in the development of the platform will be to harmonize and expand the data gathering process for asset data and financial information.

Interpreting 2015-2020 progress

Most resources used for a first pilot of the dashboard were retrieved in 2020. While we made sure that also previous years would be covered through to 2015 when datasets would allow, a share of data—mainly data from publicly available datasets—was available only for the last year. Further, some datasets, particularly third-party datasets which provide an assessment of the level of response of entities in some dimensions of Paris alignment, partly reflect the extent of the assessment efforts rather than the actual response rate of organizations. Consequently, the observed increase in response rates should be interpreted not only as the result of improved participation, but also partly as the result of improved data, or the result of limited data availability, or coverage, for the previous years.

One of the key next steps in the development of the platform will be to improve data coverage, particularly of previous years.

[6] Nevertheless, given the importance of financial data as a proxy indicator of the importance of a single institution within the category it represents (e.g. two banks are not necessarily the same and the choices of larger banks impact more than the choices of smaller banks), users will still be able examine and aggregate figures using the underlying assets of institutions, but they will be made aware of the level of reliability and completeness of this figure for the specific institution group examined.

The following paragraphs summarize analytical steps needed, and related intermediate output, to generate the score from the attribute/indicator level to a final summary score at the dimension level.

2.4.1 SCORING ATTRIBUTES / INDICATORS

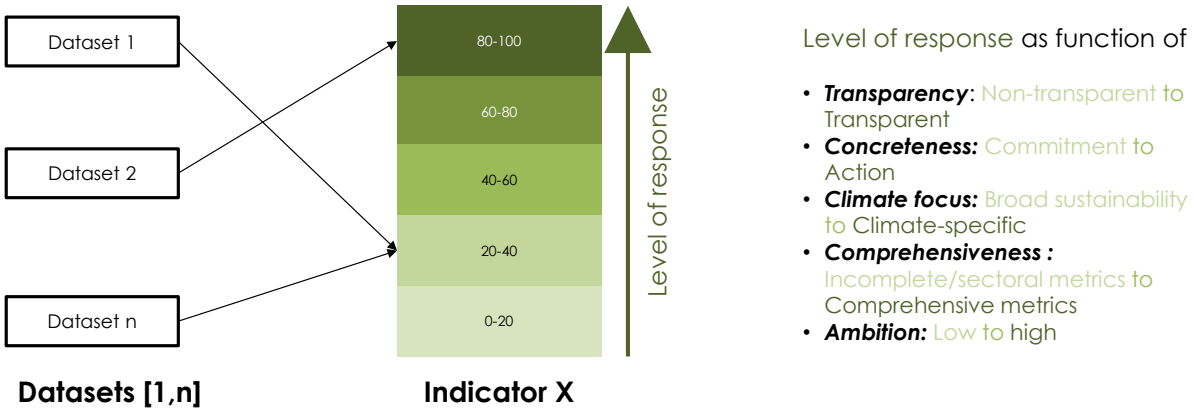
The first step is determining how to use the datasets retrieved for each attribute/indicator to determine different levels of response, or shades of green.[7] We then assess the level of response of each individual institution, and related score.

Step 1 - Categorizing data into levels of response (shades of green within each attribute/indicator: Datasets are standardized merged and ranked around proxy levels of response within the examined indicator/attribute. In order to assign such dataset to a specific level of response a set of **principles** are followed:

- Transparency: from non-transparent to transparent
- Concreteness: from commitment to action
- Climate focus: from broad sustainability to climate-specific efforts
- Comprehensiveness: from incomplete/sectoral/partial metrics to comprehensive metrics.
- Ambition: from low to high.

A score is then assigned to each level of response identified, with values ranging between 0 and 100. The next figure summarizes the step just described.

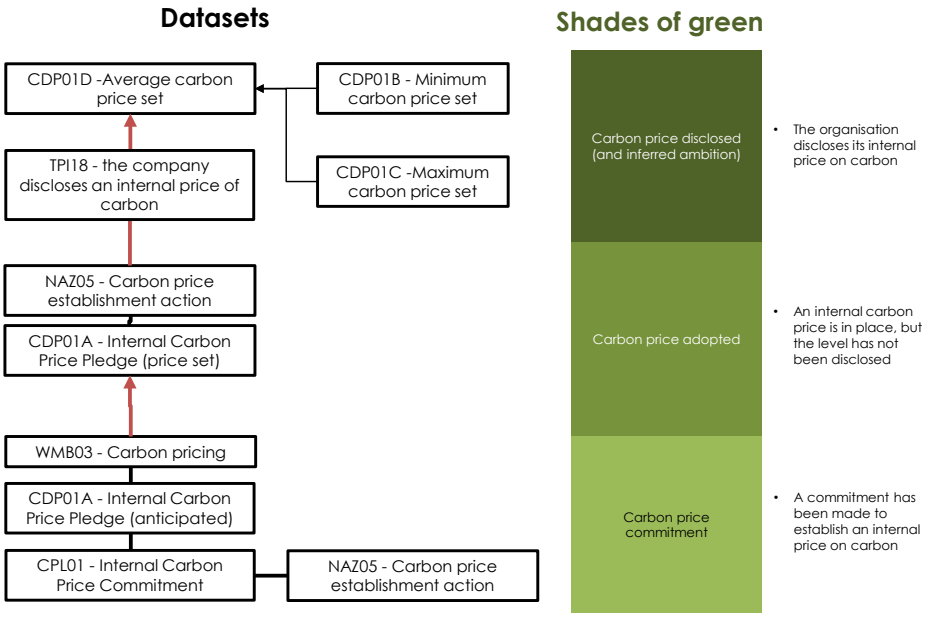
Figure 2: Principles used to define levels of response, and how datasets are used



[7] We freely borrowed the term Shades of Green from Mark Carney's call for a common taxonomy to help financial markets rigorously identify environmental outperformance and direct investment accordingly. CICERO also uses this term to inform investors on green bonds – through second opinion – in terms of how proceeds are allocated to projects and solutions that correspond to a long-term vision of a low carbon and climate resilient future.

While principles followed are the same, the level of response and related scores are obviously different for each indicator, depending on the performance expected, and on what the existing available data can tell us. The figure below summarizes how this approach is applied to score the carbon prices indicator/attribute.

Figure 3: Example of use of datasets and levels of response (or shades of green) for "carbon price"



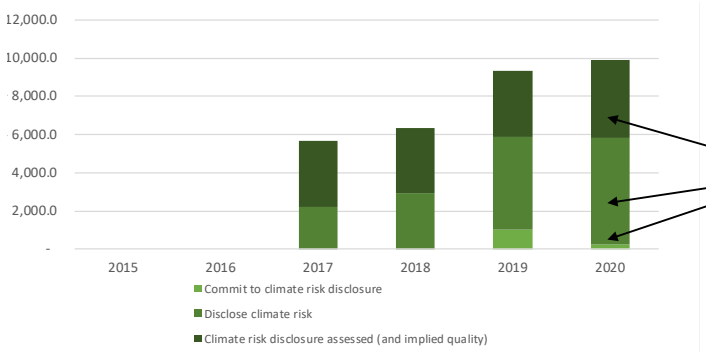
Indicator-specific approaches are explained more in detail in Annex 2.6.1, while Annex 2.6.2 includes details on datasets used.

Step 2 - Assigning level of response and related score to each entity in the examined attribute/indicator: a score is assigned to each individually mapped entity/organization according to the level of response it falls onto, in the context of the specific attribute/indicator of reference.

OUTPUT

The output at this stage is a representation of the distribution of institutions (in nr, or underlying assets) in a specific institution category and specific country / context combination, across the different levels of response and rating bands for the examined attribute/indicator. An example is provided below for climate risk disclosure.

Figure 4: Example of distribution for specific indicator (climate risk disclosure)



Each colour in the **bar chart** represents a different level of integration of climate concerns, expressed descriptively. The bars can show alternatively the number of institutions or volume of assets under management falling within each level.

Note that the graph shows distribution in terms of total assets managed or owned by institutions. Another option offered by the dashboard is to provide the same figure using nr of institutions.

2.4.2 SCORING DIMENSIONS

Once the score is estimated for individual entities and for all attributes/indicators, an aggregated score is then determined for the two Paris-relevant dimensions assessed through this approach: "Targets" and "Integration". This process also follows few steps:

Step 1 - Estimating the score for individual entities for each of the two dimensions: Since all attributes/indicators are considered equally important for each of the dimensions examined, the score at the dimension level is usually estimated as the average of each dimension's underlying indicators.[8] Each score will range from 0-100 and a rating scale is assigned, ranging from "first steps" (0-10), indicating that the organization just started committing towards a single attribute under the assessed dimension, to "leading action" (90-100), indicating that the organization is fully and transparently engaged on all attributes under the assessed dimension. Rating bands are also provided for simplicity to assess de level of development of response within the scale provided (see Table 3).

[8] Or in algebra:

$$S_{DfC} = \frac{\sum_{I=1}^{z} S_{IfC}}{z}$$

Where:

- S_{DfC} = score of a specific dimension of interest (D), in country (C), for a single institution f tracked within a institution category (F)
- I = specific attribute/indicator within the dimension of interest (D), where I ∈ [1, z] ∈ D.
- z = number of attributes/indicators within the dimension of interest (D)

Table 3: Score and rating bands

Score	Rating scale	Rating band
90-100	Leading action	Advanced response
80-90	|	
70-80	|	
60-70	|	
50-60	|	Developed response
40-50	|	
30-40	|	
20-30	|	
10-20	|	Initial response
0-10	First steps	

Step 2 – Estimating score for an institution category for each of the two dimensions: For each institution category in the country of reference, an average score is then calculated as the average score of tracked entities within the institution category, or alternatively as the weighted average assessed based on each specific entity's total assets.[9]

OUTPUT

The output at this stage is a representation of the distribution of institutions (in nr, or underlying assets) in a specific institution category and specific country / context combination, across the different score rating bands for the examined dimension.

An example is provided below.

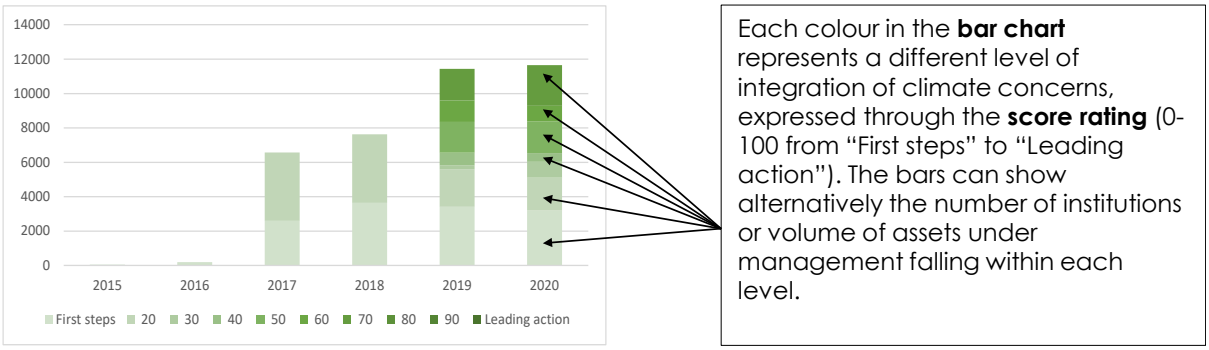
[9] Or in algebra:

$$S_{DFC} = \frac{\sum_{Dfc=1}^{n} S_{Dfc}}{n} \quad \underline{\text{OR}} \; S_{DFC} = \frac{\sum_{Dfc=1}^{n} (S_{Dfc} \times AUM_{Dfc})}{\sum_{Dfc=1}^{n} AUM_{Dfc}}$$

Where:

- S_{DFC} = score in a specific dimension of interest (D), in country (C), for all tracked/reporting entities within a institution category (F).
- S_{Dfc} = score in a specific dimension of interest (D), in country (C), for a single institution f tracked within a institution category F, where f ∈ [1, n] ∈ F.
- AUM_{Dfc} = total assets, or asset under management of single institution f tracked within a institution category (F) in country (C), for which data is available within specific dimension of interest (D)
- n = number of institutions for which data is available within a specific dimension of interest (D), in country (C), and across a institution category (F).

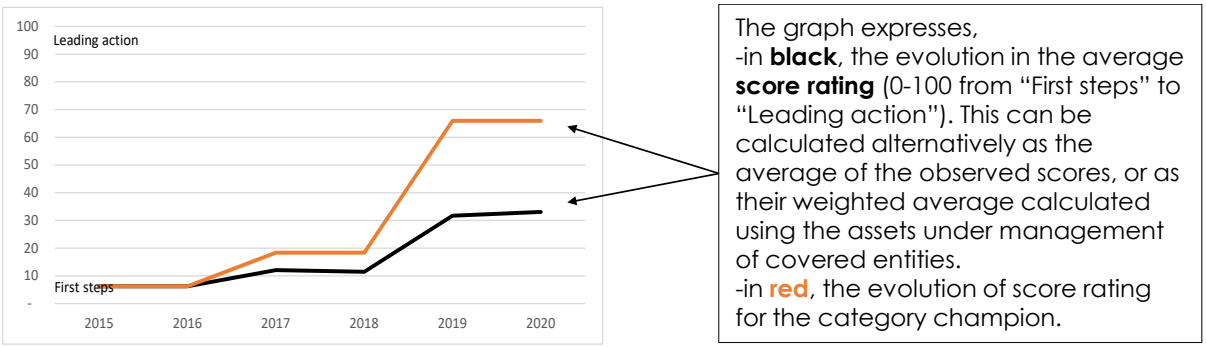
Figure 5: Example of distribution for specific dimension (targets)



Note: the graph shows distribution in terms of total assets managed or owned by institutions. Another option offered by the dashboard is to provide the same figure using nr of institutions.

Another figure will instead provide the evolution of the average score (based on nr of institutions or weighted according to their underlying assets) over time. And the score of the "early leader" within the institution category examined, here defined as individual institution in every category that is scoring higher than its peers on Paris response and can help to set the bar for what is achievable today.

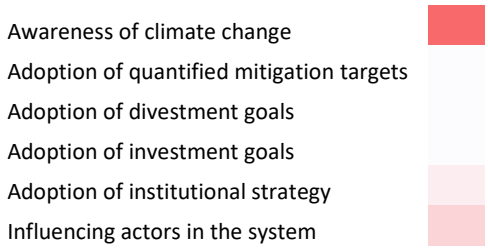
Figure 6: Example of average for the dimension score (targets)



Note: the graph shows average calculated as weighted average based on total assets managed or owned by institutions. Another option offered by the dashboard is to provide a simple average based on the number of institutions.

Finally, a table will summarize which indicators/attributes have been key underlying drivers for the dimension's score. The example below shows that climate change awareness, followed by engagement with actors in the systems and the adoption of institutional strategy, have in this case played a larger role in determining the overall institutions' score as a larger number of entities (or underlying assets) were involved.

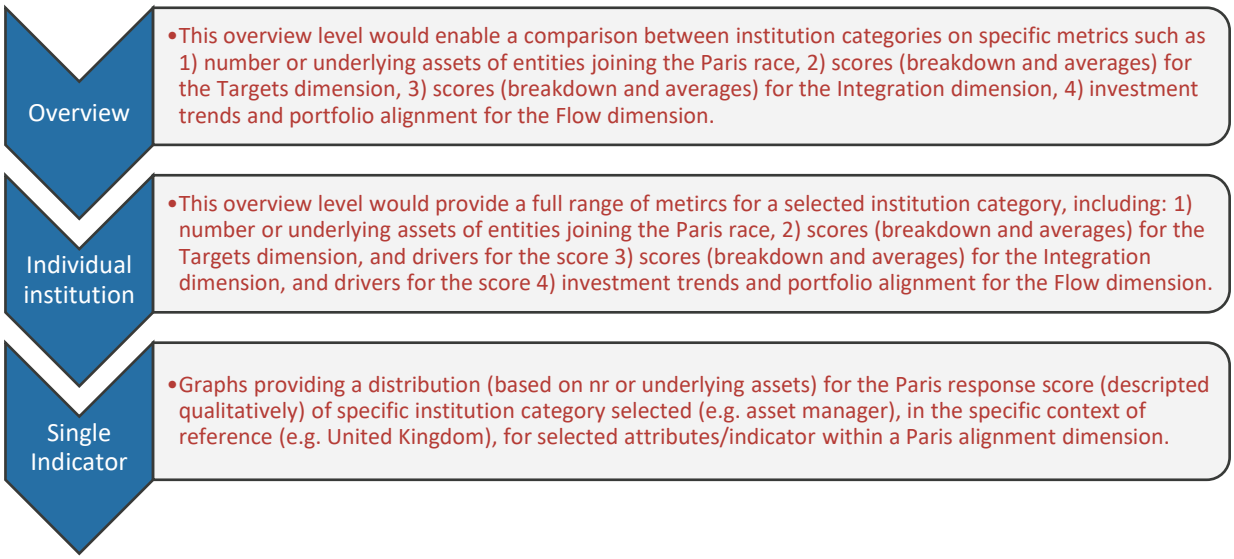
Figure 7: Example of key drivers for the dimension score (targets)



Note: the table shows the relevance of underlying/indicators as drivers for the determination of the score based on nr. Another option offered by the dashboard is to provide the same assessment based on the total assets of institutions.

2.5 FINAL DASHBOARD STRUCTURE

There are 3 levels under which the above information is displayed in the dashboard:



2.6 INSTITUTION ANNEXES

2.6.1 ANNEX: INDIVIDUAL ATTRIBUTES/INDICATORS UNDER EACH OF THE THREE DIMENSIONS OF PARIS ALIGNMENT

This annex introduces the attributes/indicators under each of the three dimensions of Paris alignment, and specific levels of response, or "shades of green", used to score institutions and investors for the "Targets" and "Integration" dimensions. The below graph provides an overview of the attributes covered. Indicators are labelled as T (for Targets), I (for Integration) and F (for Flows).

1. Awareness of climate change
2. Adoption of quantified mitigation targets
3. Adoption of divestment goals
4. Adoption of investment goals
5. Adoption of institutional strategy
6. Influencing actors in the system

1. Disclosure of Climate Risk
2. Emissions reporting
3. Climate progress reporting
4. Carbon price
5. Climate scenario tools
6. Climate risk due diligence
7. Climate related accountability
8. Shareholder/client engagement

1. New investments
2. Portfolio alignment

TARGETS

T-1: Awareness of climate change		
Publicly aware of climate consequences with a broad commitment to respond. The indicator describes whether institutions have announced a clear commitment to addressing climate change through their activities, thereby raising awareness for action on climate risks or goals. Organization is considered aware if it sets targets and is coordinating broader response with other actors in the space.		
Level of response	**Description**	**Data used**
Awareness of climate change -Level of response: only level considered	**The institution acknowledges CC as a threat or risk/opportunity to business**, resulting from a clear, public commitment to climate action, or disclosure of climate risks, or commitment to achieve mitigation, adaptation, or investment goals. Any level of climate-related engagement tracked under these dimensions suggests that awareness exists within the organization, and it is, in principle, ready to respond.	PRI, TPI Activity tracked under indicators: -Adoption of mitigation targets -Adoption of investment and divestment goals -Influencing actors in the system
T-2: Adoption of quantified mitigation targets		
Commitment to and disclosure of quantified mitigation targets, and implied level of ambition. The indicator describes whether institutions have set clear targets for climate action (primarily reducing their emissions), whether those are quantitative targets or general, and whether they are disclosed transparently.		
Level of response	**Description**	**Data used**
Quantified target set and disclosed -Level of response: high level of response	**A quantified target has been adopted and disclosed**, which communicates a level of ambition that can be assessed. Quantification of the target can be expressed, as share of RE goals within the organization, share of emissions reductions vs a baseline, or alignment of the target set with a Paris aligned temperature pathway.	NAZCA, SBTi, WMB
Quantified target set -Level of response: level 3	**There is knowledge of a quantified target being adopted**. Organization responds, or is known, to have set short-term or long-term quantified targets to reduce greenhouse emissions in relative or absolute terms. However, target is not disclosed.	TPI, WMB
General target set (not quantified) -Level of response: level 2	**There is knowledge of a general target being adopted**. Organization responds that they have greenhouse gas emissions reduction target which may be quantified or unquantified, but target is not disclosed.	TPI

Target commitment -Level of response: low level of response	**Commitment to provide emissions mitigation targets**. Organization commits to adopt a mitigation target. Commitment type at this stage may be unspecified, and mainly inferred from the participation of the organization to coalitions underpinning this goal.	ERI, NZAOA, PRB, SBTi, WMB
T-3: Adoption of divestment goals		
Commitment to and disclosure of quantified divestment targets. The indicator describes whether the institution has announced a clear target to divest from fossil fuels, with a clearly defined scope.		
Level of response	**Description**	**Data used**
Target transparently disclosed -Level of response: only level considered	**A binding commitment to divest from fossil fuels has been announced, with clear scope of reduction**. Underlying score within this component depends on the extent of divestment which is the function (in order of importance) of partial divestment (e.g. targeting particular fossil fuel companies, particular fuels), and full divestment (targeting all fossil fuel companies involved in the extraction of coal, oil and gas reserves).	DivestInvest, FFD
T-4: Adoption of investment goals		
Commitment to and disclosure of investment targets and implied ambition. The indicator describes whether institutions have set and disclosed clear, accountable and measurable targets to provide a volume of financial services and investments for climate action.		
Level of response	**Description**	**Data used**
Target transparently disclosed -Level of response: only level considered	**A public pledge (in USDm) has been made to provide a specified quantity of financial services to support climate action**. **The pledge is specific and accountable in terms of the nature of the commitment and how it will be measured**. The underlying score within this component is the function (in order of importance) of the level of quality in the disclosure (e.g. the more dimensions are identified that measure specificity and accountability in the pledge, the higher the score). These include: - criteria used to determine the target are specified - the accounting methodology used is disclosed - a specific timeline is included - plans for reporting on target progress are included NOTE: As more information is retrieved regarding the underlying assets of all reporting entities, degree of ambition will also be incorporated. Indicator will also be reviewed in the context of CECG work on institutions investment goals and commitments.	WRI

T-5: Adoption of institutional strategy		
Commitment to and disclosure of strategy on climate change. The indicator describes whether institutions have set an institution-level strategy to incorporate climate change risks and opportunities, including investment or decarbonization plans.		
Level of response	**Description**	**Data used**
Climate Strategy in place -Level of response: high level of response	**The organization adopted a specific climate strategy or climate change feeds in the strategies of the organization**. The underlying score within this component is the function (in order of importance) of the incorporation of climate change aspects within the organization's investment and product strategies, the development of a specific dedicated strategy that identifies and manages climate-related risks and opportunities, or the adoption of specific plans for decarbonization.	PDC, PRI, TPI
Commit to approve a climate strategy -Level of response: low level of response	**The organization has committed to develop a strategy or business plan which incorporates and aligns with climate goals**. Commitment is inferred from the participation of the organization to coalitions underpinning this goal.	CAF, PRB
T-6: Influencing actors in the system		
Commitment to and intensity of engagement with key actors in the system. The indicator describes the commitment to and intensity of engagement with government and industry on climate change.		
Level of response	**Description**	**Data used**
Demonstrated engagement with government/industry -Level of response: high level of response	**The organization uses its leverage with policymakers or industry representatives to improve climate goals**. The underlying score within this component is the function of the evidence of the organization's consistency between its climate change policy and the positions taken by trade associations of which it is a member, and positive (or negative) lobbying action in relation to climate policy and legislation).	InfluenceMap, TPI
Commit to engage with government/industry -Level of response: low level of response	**The organization has announced a commitment to engage with policymakers and other industry representatives to improve climate engagement and goals**. The underlying score within this component is the function (in order of importance) of whether lobbying is done in the context of broader action on sustainable development (e.g. ESG or SDG), or through more dedicated focus on climate change. Commitment is inferred from the participation of the organization to coalitions underpinning this task.	BEI, IA, PRI, PSI, SAS, NZAOA, TPI, WEF, WMB

INTEGRATION

I-1: Disclosure of Climate Risk		
Commitment to and disclosure of climate risk and opportunities, and quality of disclosure. The indicator describes whether an organization has committed to the disclosure of climate risks and, if so, whether the level of disclosure can be considered sufficient.		
Level of response	**Description**	**Data used**
Comprehensive climate risk disclosure -Level of response: high level of response	**Climate-related financial disclosures score more than sufficiently**. Disclosures from the organization have been examined by an independent entity and were scored as more than sufficient. The underlying score within this component is the function of the quality of disclosure assessed at different levels: -governance (disclosure of governance around climate-related risks and opportunities), -strategy (disclosure of actual and potential impacts of climate-related risks and opportunities on the strategy), -risk management (disclosing how the organization manages and assesses climate-related risks), -metrics and targets (disclosure of metrics and targets used to assess and manage climate-related risks and opportunities)	ShareAction
Disclose climate risk -Level of response: level 2	**The organization makes climate-related financial disclosures**. There is evidence that the organization has published TCFD disclosures or has requested that external managers and/or service providers incorporate TCFD disclosures in their reporting.	ShareAction, PRI, TCFD
Commit to climate risk disclosure -Level of response: low level of response	**The organization has committed to implement and support climate-related financial disclosures**. The dimension covers commitments to implement recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Commitment is inferred from the participation of the organization in coalitions underpinning this goal.	CA 100+, WMB
I-2: Emissions reporting		
Commitment to and disclosure of emissions, breadth, and quality of disclosure. The indicator measures whether the organization is committing to disclose its emissions, and whether there is evidence that emissions are already been tracked by the organization. Emissions that are verified or cover the full range of activities (scope 1, 2, and 3) are here rated higher.		
Level of response	**Description**	**Data used**

Verified emissions disclosure -Level of response: high level of response	**Emissions disclosures are externally verified or validated**. There is evidence, provided by the organization, or third-party initiatives, that the emissions published by the organization have been externally verified or validated. This includes independent verification by a third party, or the use of verified standards for reporting (e.g. PCAF, or communication of the international assurance standard used and the level of assurance).	PCAF, TPI
Disclose emissions -Level of response: level 3	**The organization discloses its emissions**. Organization publishes its emissions and information. The underlying score within this component is the function of the breadth of disclosure which (in order of importance) can be limited to Scope 1 and 2 emissions, or cover the full range of activities, including Scope 3 from the use of product emissions.	TPI
Measure emissions -Level of response: level 2	**The organization measures its emissions, but it does not publish them**. There is evidence that the organization already tracks emissions internally, although those are not published. This can be inferred from confirmation that emissions are tracked internally, or from evidence of metrics adopted by the organization which is based on emissions estimates such as: -carbon intensity -carbon footprint	PRI
Commit to measure emissions -Level of response: low level of response	**A commitment has been made to disclose emissions**. Commitment is inferred from the participation of the organization in coalitions underpinning this goal.	PCAF

I-3: Climate Progress Reporting

Commitment to and disclosure of climate progress reporting. The indicator measures the extent to which the organization is providing regular updates on measures implemented, actions taken, or principles implemented.

Level of response	Description	Data used
Disclose climate progress -Level of response: high level of response	**The organization discloses information about its climate progress**. The underlying score within this component is the function (in order of importance) of whether the organization publishes ESG or sustainability reports, or more specific updates on climate action.	PSI, SSE, WMB
Commit to report on climate progress	**A commitment to report on climate progress has been made**. The underlying score within this component is the function (in order of importance) of whether the organization has committed to sustainability reporting, or to regularly report on climate action. Commitment is inferred mostly from the	CAF, NZAOA, PRB, PRI, PSI, SSE, WRI.

-Level of response: low level of response	participation of the organization in coalitions underpinning this goal.	
I-4: Carbon Price		
Commitment to and disclosure of organization carbon prices and level of ambition. The indicator captures whether the organization is committing to an internal carbon price to inform its decision making, whether a carbon price already exists, and whether it is transparently disclosed to the public.		
Level of response	**Description**	**Data used**
Carbon price disclosed) -Level of response: high level of response	**The organization discloses its internal price on carbon**. The underlying score within this component is the function (in order of importance) of whether there is a record from existing third-party reports, that the organization has disclosed its internal carbon price, and if available the level of ambition of the actual carbon price used by the organization (using $75/tCO2 as a benchmark to define the level of ambition).	CDP, TPI
Carbon price adopted -Level of response: level 2	**An internal carbon price is in place, but its level has not been disclosed**. There is evidence from third-party reports, that a carbon price has been set/established.	CDP, NAZCA
Commit to adopt carbon price - Level of response: low level of response	**A commitment has been made to establish an internal price on carbon**. Commitment is inferred mostly from the participation of the organization in coalitions underpinning this goal, or evidence emerged from reports that the organization is anticipating/planning the adoption of this mechanism.	CDP, CPL, NAZCA, WMB
I-5: Climate scenario tools		
Integration in the use of climate scenario tools to support decision making and depth of scenario assessment. The Indicator measures the extent to which the organization integrates temperature and climate scenario tools to support decision making, and the level of sophistication of the scenario used.		
Level of response	**Description**	**Data used**
Specific use of scenario tools and pathway adopted are known (Component 1 and 2) -Level of response: high level of response	**Information is available on both the type and range of scenario used and their level of integration across the organization**. The underlying score within this component is the function of the level of use of scenario tools and their breadth of coverage.	PRI, TPI

Details on pathways adopted for scenarios are known (component 1) -Level of response: low level of response	**The range of scenario used is known or the organization is transparent about the type of scenario tools used**. The underlying score within this component is function of the number and range of pathways and temperature scenarios considered for the assessment of physical risk and energy transition.	PRI
Use of scenario tools is known (component 2) -Level of response: low level of response	**The organization uses scenario analysis to manage climate-related risks and opportunities in various business components**. The underlying score within this component is function of the rate of utilization of scenarios across different roles in the organization.	PRI, TPI

I-6: Climate Risk due diligence		
Commitment to and disclosure of climate risk due diligence and integration in the organization. Unlike "disclosure of climate risk" (E-1), which focusses on the external communication of risks that the organization is exposed to, this indicator looks into internal climate risk due diligence and related procedures, measuring to what extent the organization commits to them or has already performed them, and the degree at which they are integrated across the operational and strategic levels of the organization.		
Level of response	**Description**	**Data used**
Operation-level climate risk due diligence AND Strategic-level climate risk due diligence -Level of response: high level of response	**The organization has embedded processes for managing climate-related risks at a high operational level, including investment analysis**. Underlying score within this component is the function (in order of importance) of the evidence of the incorporation of climate change risks in investment analysis or management-level processes, and evidence of due diligence being covered across several operational roles in the organization. AND **The organization has embedded processes for managing climate-related risks at a high executive level, including strategy**. Underlying score within this component is the function (in order of importance) of the evidence of the incorporation of climate change risks in organizational and product strategies, and evidence of due diligence being covered across several senior management roles in the organization.	PRI, TPI

Operation-level climate risk due diligence OR Strategic-level climate risk due diligence -Level of response: level 3	**The organization has embedded processes for managing climate-related risks at a senior operational level, including investment analysis**. Underlying score within this component is the function (in order of importance) of the evidence of the incorporation of climate change risks in investment analysis or management-level processes, and evidence of due diligence being covered across several operational roles in the organization. OR **The organization has embedded processes for managing climate-related risks at executive level, including strategy**. Underlying score within this component is the function (in order of importance) of the evidence of the incorporation of climate change risks in organizational and product strategies, and evidence of due diligence being covered across several senior management roles in the organization.	PRI, TPI
Initial climate risk due diligence -Level of response: level 2	**There is evidence that an initial assessment has been made regarding climate risks**. This can include assessment of likelihood and impact of climate risks identified, and/or the use of scenario analysis of an initial climate risk assessment, and/or the modelling of risks and opportunities related to climate change.	PRI
Commit to climate risk due diligence -Level of response: low level of response	**A commitment has been made to assess and manage climate risks**. Commitment is inferred mostly from the participation of the organization in coalitions underpinning this goal.	CAF

I-7: Climate-related accountability

Existence of climate accountability and incentives, and dedicated climate staff. The indicator measures to what extent accountability and incentives exist for chief and operations-level staff, as well as whether dedicated climate change responsible person(s) exist in the organization to coordinate climate action.

Level of response	Description	Data used
Climate Change Responsible (component 1) AND Accountability and Incentives for Staff	**There are staff in the organization with a remit to oversee handling of climate-related issues**. Staff can be a dedicated climate change responsible, or staff in the organization with oversight/accountability responsibilities for climate-related issues. AND **Staff with dedicated oversight of climate-related issues have clear accountability and incentives for performance**. There is evidence provided of system in place that incentivise behavior of staff in the organization. Underlying score within this component is the function of the evidence of incentives	PRI, SSE, TPI (component 1) PRI, TPI (component 2)

(component 2) -Level of response: high level of response	and accountability at senior (from accountability to oversight and remuneration) and operational level (accountability).	
Climate Change Responsible (component 1) -Level of response: low level of response	**There are staff in the organization with a remit to oversee handling of climate-related issues**. Staff can be a dedicated climate change responsible, or staff in the organization with oversight/accountability responsibilities for climate-related issues.	PRI, SSE, TPI
Accountability and Incentives for Staff (component 2) -Level of response: low level of response	**Staff with dedicated oversight of climate-related issues have clear accountability and incentives for performance**. There is evidence provided of system in place that incentivise behaviour of staff in the organization. Underlying score within this component is the function of the evidence of incentives and accountability at senior (from accountability to oversight and remuneration) and operational level (accountability).	PRI, TPI

I-8: Shareholder engagement

Commitment to and disclosure of engagement with clients and controlled companies. The indicator measures whether the organization commits to engaging shareholders or clients on climate action, and whether there is evidence of the organization taking the necessary steps by mandating climate reporting requirements or though active ownership.

Level of response	Description	Data used
Actively engages as shareholder / with client -Level of response: high level of response	**The organization engages with companies on climate change**. There is evidence that measures are being taken that introduce pressure on controlled companies, or clients regarding climate change. Underlying score within this component is the function of (in order of importance) whether progress is being requested more generally on ESG, or specifically on climate change, and evidence of the extent/intensity of such engagement.	FNM, PRI, SSE
Commits to shareholder/client engagement -Level of response: low level of response	**Publicly commits to actively engage with companies and calls for companies to disclose climate-related information**. Commitment is inferred mostly from the participation of the organization in coalitions underpinning this goal. The underlying score within this component is the function of (in order of importance) commitment to shareholder engagement on ESG topics, and on climate change specific action.	Climate Action 100+, PRB, PRI

FLOWS

F-1: New investment trends		
Engagement of the organization in new investment. The indicator measures trends in new low-carbon climate-resilient investment, new green loans and trends in power sector investments.		
Main indicators	**Description**	**Data used**
New Investment	**Financing of low-carbon climate resilient investment in a specific year**. The indicator looks at the issuance of new labelled green bonds, or primary investment in new infrastructure, assets or activities contributing to climate change mitigation and adaptation, or power generation capacity. • For **green bonds** data from CBI is primarily used, where CBI data is unavailable BNEF is used, where BNEF data is unavailable, data from NAZCA is used. • **Low-carbon primary investment** data is sourced from CPI's Global Landscape of Climate Finance.	BNEF, CBI, CPI, NAZCA
F-2: Portfolio alignment		
Alignment of portfolios of assets with Paris aligned pathways. The indicator measures the level of alignment of entities portfolios with specific decarbonization pathways.		
Main indicators	**Description**	**Data used**
Entities with aligned portfolios (<2C)	**The organization's portfolio of assets and holdings exposed to climate-critical activities are, on the whole, consistent with a Paris Aligned decarbonization pathway**. Evidence is provided from third-party analysis that the share of examined organization's portfolios which is exposed to climate-critical activities may be consistent with an economy-wide emissions pathway that limits temperature rises to below 2 degrees C.	FFD, FinanceMap, TPI
Entities with misaligned portfolios (>2C)	**The organization's portfolio assets and holdings are, on the whole, inconsistent with a Paris Aligned decarbonization pathway**. Evidence is provided from third-party analysis that the share of examined organization's portfolios which is exposed to climate-critical activities may not be consistent with an economy-wide emissions pathway that limits temperature rises to below 2 degrees C. A low level of engagement is here assumed from the fact that the organization discloses its portfolio.	FinanceMap, TPI

2.6.2 ANNEX: LIST OF DATASETS USED

ID - dataset	Dataset name	Dataset provider	Information contained	Link
AOD01A	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2018 - Pension funds)	https://aodproject.net/changing-climate/
AOD01B	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2017 - Pension funds)	https://aodproject.net/pension/
AOD02A	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2018 - Insurance Company)	https://aodproject.net/insurance/
AOD03	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2017 - Asset Owner)	https://aodproject.net/asset-owners-2017/
AOD04	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2017 - Asset Manager)	https://aodproject.net/managers/
AOD05	Asset owner disclosure project	ShareAction	Quality of Climate risk disclosure (2020 - Asset Manager)	https://shareaction.org/research-resources/point-of-no-returns/
BEI01	Banking Environment Initiative	Cambridge Institute for Sustainability Leadership	Leads sustainability in industry	https://www.cisl.cam.ac.uk/business-action/sustainable-finance/banking-environment-initiative
BNE01	Sustainable Debt	Bloomberg New Energy Finance	Green Bonds (USDm)	https://about.bnef.com/blog/sustainable-debt-sees-record-issuance-at-465bn-in-2019-up-78-from-2018/
BNE02	Sustainable Debt	Bloomberg New Energy Finance	Green Loans (USDm)	https://about.bnef.com/blog/sustainable-debt-sees-record-issuance-at-465bn-in-2019-up-78-from-2018/
CA+01	Climate Action 100+	Climate Action 100+	Lobby for Corporates CC action	https://climateaction100.wordpress.com
CA+02	Climate Action 100+	Climate Action 100+	Lobby for disclosure on climate risk	https://climateaction100.wordpress.com
CAF01	Climate Action in Financial Institutions	Climate Action in Financial Institutions	Commit to climate strategies	https://www.mainstreamingclimate.org/initiative/
CAF02	Climate Action in Financial Institutions	Climate Action in Financial Institutions	Commit to Assess and Manage Climate Risk	https://www.mainstreamingclimate.org/initiative/
CAF04	Climate Action in Financial Institutions	Climate Action in Financial Institutions	Account for and monitor climate action	https://www.mainstreamingclimate.org/initiative/
CBI01	Climate Bond Initiative Total Issuance Data	Climate Bonds Initiative	Total new issuance of green bonds annually, all purposes (USDm)	Privately owned data
CDP01A	CDP	CDP	Internal Carbon Price Pledge	https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/738/original/Putting-a-price-on-carbon-CDP-Report-2017.pdf?1507739326
CDP01B	CDP	CDP	Minimum carbon price set	https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/738/original/Putting-a-price-on-carbon-CDP-Report-2017.pdf?1507739326

CDP01C	CDP	CDP	Maximum carbon price set	https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/738/original/Putting-a-price-on-carbon-CDP-Report-2017.pdf?1507739326
CDP01D	CDP	CDP	Average carbon price set	https://b8f65cb373b1b7b15feb-c70d8ead6ced550b4d987d7c03fcdd1d.ssl.cf3.rackcdn.com/cms/reports/documents/000/002/738/original/Putting-a-price-on-carbon-CDP-Report-2017.pdf?1507739326
CPL01	Carbon Pricing Leadership Coalition	World Bank	Internal Carbon Price Commitment	https://www.carbonpricingleadership.org/who-we-are
DIV01	DivestInvest	DivestInvest	Commits to Divestment	https://www.divestinvest.org/commitments/
ERI01	Exponential Roadmap Initiative	Exponential Roadmap Initiative	committing to emissions reductions (half by 2030, zero by 2050)	https://exponentialroadmap.org/partners/
FFD01	Fossil Free Divestment	Fossil Free Divestment	Divestment Commitments	https://gofossilfree.org/divestment/commitments/
FFD02	Fossil Free Divestment	Fossil Free Divestment	Fossil free organization	https://gofossilfree.org/divestment/commitments/
FNM01A	Paris Agreement Capital Transition Assessment	FinanceMap	Funds Alignment	https://financemap.org/index.html
FNM01B	Paris Agreement Capital Transition Assessment	FinanceMap	Asset Manager Alignment	https://financemap.org/
FNM02	Paris Agreement Capital Transition Assessment	FinanceMap	Engagement score	https://financemap.org/
GLCF01	Global Landscape of Climate Finance	Climate Policy Initiative	Total climate finance provided - primary investment to all impact sectors with mitigation or adaptation impacts, all destination countries (USDm)	Privately owned data
GLCF02	Global Landscape of Climate Finance	Climate Policy Initiative	Total finance provided for new renewable power generating capacity or activities promoting clean energy, all destination countries (USDm)	Privately owned data
IA01	Investor Agenda	Investor Agenda	Policy Advocacy to achieve Paris goals	https://theinvestoragenda.org/focus-areas/policy-advocacy/
INF01	InfluenceMap	InfluenceMap	Positive Lobbying Performance	https://influencemap.org/filter/List-of-Companies-and-Influencers
INF02	InfluenceMap	InfluenceMap	Influence Intensity	https://influencemap.org/filter/List-of-Companies-and-Influencers
NAZ02	Global Climate Action Portal	United Nations Framework Convention on Climate Change	Emission Target: % reduction	https://climateaction.unfccc.int/views/total-actions.html

NAZ04	Global Climate Action Portal	United Nations Framework Convention on Climate Change	Target validity	https://climateaction.unfccc.int/views/total-actions.html
NAZ05	Global Climate Action Portal	United Nations Framework Convention on Climate Change	Carbon price establishment action	https://climateaction.unfccc.int/views/total-actions.html
NAZ06	Global Climate Action Portal	United Nations Framework Convention on Climate Change	Bond issuance (USDm)	https://climateaction.unfccc.int/views/total-actions.html
NZA01A	Net-Zero Asset Owner Alliance (NZAOA)	UNEP-PRI.	Commits to target to align stocks/portfolios to 1.5 C by 2050	https://www.unepfi.org/net-zero-alliance/
NZA01B	Net-Zero Asset Owner Alliance (NZAOA)	UNEP-PRI.	Commits to regularly report on progress	https://www.unepfi.org/net-zero-alliance/
NZA01C	Net-Zero Asset Owner Alliance (NZAOA)	UNEP-PRI.	Commits to engage with industry and governments	https://www.unepfi.org/net-zero-alliance/
PCA01	Partnership for Carbon Accounting Financials	Partnership for Carbon Accounting Financials	PCAF commitment to disclose emissions	https://carbonaccountingfinancials.com/
PCA02	Partnership for Carbon Accounting Financials	Partnership for Carbon Accounting Financials	PCAF validated emissions disclosed	https://carbonaccountingfinancials.com/
PDC01	Portfolio Decarbonisation Coalition	UNEP-FI, CDP	Plan for decarbonization	2020 - https://unepfi.org/pdc/members/ 2017 - https://unepfi.org/pdc/wp-content/uploads/PDC-Progress-Update-2017.pdf 2016 - https://www.unepfi.org/wordpress/wp-content/uploads/2016/11/PDCreport2016.pdf 2015 - https://www.unepfi.org/fileadmin/documents/FromDisclosureToAction.pdf
PRB01	UNEP FI - Principles for Responsible Banking (PRB)	UNEP FI - Principles for Responsible Banking (PRB)	Commitment to Alignment of business strategy with SDGs and Paris goals	https://www.unepfi.org/banking/bankingprinciples/
PRB02	UNEP FI - Principles for Responsible Banking (PRB)	UNEP FI - Principles for Responsible Banking (PRB)	Assess impact	https://www.unepfi.org/banking/bankingprinciples/
PRB03	UNEP FI - Principles for Responsible Banking (PRB)	UNEP FI - Principles for Responsible Banking (PRB)	Commits to Set Targets	https://www.unepfi.org/banking/bankingprinciples/
PRB04	UNEP FI - Principles for Responsible Banking (PRB)	UNEP FI - Principles for Responsible Banking (PRB)	Influence Clients and Customers	https://www.unepfi.org/banking/bankingprinciples/
PRB06	UNEP FI - Principles for Responsible Banking (PRB)	UNEP FI - Principles for Responsible Banking (PRB)	Report on implementation of principles	https://www.unepfi.org/banking/bankingprinciples/
PRI00b	Principles of Responsible Investment	Principles of Responsible Investment	Commits to be an active owner and to incorporate ESG issues into ownership policies and practices	https://www.unpri.org/signatories/signatory-resources/signatory-directory

PRI00c	Principles of Responsible Investment	Principles of Responsible Investment	Commits to seek appropriate disclosure on ESG issues by the invested entities	https://www.unpri.org/signatories/signatory-resources/signatory-directory
PRI00d	Principles of Responsible Investment	Principles of Responsible Investment	Commits to promote acceptance and implementation of the Principles within the investment industry	https://www.unpri.org/signatories/signatory-resources/signatory-directory
PRI00f	Principles of Responsible Investment	Principles of Responsible Investment	Commits to report on activities and progress towards implementing the Principles	https://www.unpri.org/signatories/signatory-resources/signatory-directory
PRI01	Principles of Responsible Investment	Principles of Responsible Investment	Identified transition and physical climate-related risks and opportunities and factored them into the investment strategies and products, within the organization's investment time horizon	Privately owned data
PRI02	Principles of Responsible Investment	Principles of Responsible Investment	Assessed the likelihood and impact of climate risks identified	Privately owned data
PRI03	Principles of Responsible Investment	Principles of Responsible Investment	Publicly supports the TCFD / climate risk assessment	Privately owned data
PRI04	Principles of Responsible Investment	Principles of Responsible Investment	Has an organization-wide strategy in place to identify and manage material climate-related risks and opportunities.	Privately owned data
PRI05a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Public PRI Climate Transparency Report to publish TCFD disclosures	Privately owned data
PRI05b	Principles of Responsible Investment	Principles of Responsible Investment	Uses Annual financial filings to publish TCFD disclosures	Privately owned data
PRI05c	Principles of Responsible Investment	Principles of Responsible Investment	Uses regular client reporting to publish TCFD disclosures	Privately owned data
PRI05d	Principles of Responsible Investment	Principles of Responsible Investment	Uses Member communications to publish TCFD disclosures	Privately owned data
PRI05e	Principles of Responsible Investment	Principles of Responsible Investment	The organization does NOT publish TCFD disclosures	Privately owned data
PRI06a	Principles of Responsible Investment	Principles of Responsible Investment	Board members or trustees in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06b	Principles of Responsible Investment	Principles of Responsible Investment	Chief Executive Officer (CEO), Chief Investment Officer (CIO), Chief Risk Officer (CRO), Investment Committee in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06c	Principles of Responsible Investment	Principles of Responsible Investment	Other chief-level staff or heads of departments in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data

PRI06d	Principles of Responsible Investment	Principles of Responsible Investment	Portfolio managers in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06e	Principles of Responsible Investment	Principles of Responsible Investment	Investment analysts in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06f	Principles of Responsible Investment	Principles of Responsible Investment	Dedicated responsible investment staff in the organization has oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06g	Principles of Responsible Investment	Principles of Responsible Investment	Investor relations staff in the organization has oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06h	Principles of Responsible Investment	Principles of Responsible Investment	External managers or service providers in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06i	Principles of Responsible Investment	Principles of Responsible Investment	Any other staff in the organization have oversight/accountability responsibilities for climate-related issues	Privately owned data
PRI06k	Principles of Responsible Investment	Principles of Responsible Investment	PRI06k - Board members or trustees in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06l	Principles of Responsible Investment	Principles of Responsible Investment	Chief Executive Officer (CEO), Chief Investment Officer (CIO), Chief Risk Officer (CRO), Investment Committee in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06m	Principles of Responsible Investment	Principles of Responsible Investment	Other chief-level staff or heads of departments in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06n	Principles of Responsible Investment	Principles of Responsible Investment	Portfolio managers in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06o	Principles of Responsible Investment	Principles of Responsible Investment	Investment analyst in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06p	Principles of Responsible Investment	Principles of Responsible Investment	Dedicated responsible investment staff in the organization has Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06q	Principles of Responsible Investment	Principles of Responsible Investment	Investor relations staff in the organization has Assessment and	Privately owned data

			management responsibilities for climate-related issues	
PRI06r	Principles of Responsible Investment	Principles of Responsible Investment	External managers or service providers in the organization have Assessment and management responsibilities for climate-related issues	Privately owned data
PRI06s	Principles of Responsible Investment	Principles of Responsible Investment	Any other staff in the organization has Assessment and management responsibilities for climate-related issues	Privately owned data
PRI07	Principles of Responsible Investment	Principles of Responsible Investment	Provide details on board-level processes for the oversight/accountability and/or implementation responsibilities for climate-related issues	Privately owned data
PRI08	Principles of Responsible Investment	Principles of Responsible Investment	Provide details on management-level processes and structures to assess and manage climate-related issues	Privately owned data
PRI09a	Principles of Responsible Investment	Principles of Responsible Investment	Requests that external managers and/or service providers incorporate TCFD into mainstream financial filings (annual financial reports, other regulatory reporting or similar)	Privately owned data
PRI09b	Principles of Responsible Investment	Principles of Responsible Investment	Requests that external investment managers and/or service providers incorporate TCFD into regular client reporting	Privately owned data
PRI09c	Principles of Responsible Investment	Principles of Responsible Investment	Requests that external investment managers and/or service providers complete PRI climate indicator reporting	Privately owned data
PRI09d	Principles of Responsible Investment	Principles of Responsible Investment	Requests external investment managers and/or service providers to respond to TCFD Fund Manager questions in the PRI Asset Owner Guide	Privately owned data
PRI09e	Principles of Responsible Investment	Principles of Responsible Investment	Does NOT engage with external managers and/or service providers on the TCFD recommendations and their implementation	Privately owned data
PRI10b	Principles of Responsible Investment	Principles of Responsible Investment	Carries out scenario analysis and/or modelling in order to assess future climate-related risks and opportunities	Privately owned data
PRI11a	Principles of Responsible Investment	Principles of Responsible Investment	Is using scenario analysis for initial assessment	Privately owned data
PRI11b	Principles of Responsible Investment	Principles of Responsible Investment	Describe whether your organization is using scenario analysis for incorporation into investment analysis	Privately owned data
PRI11c	Principles of Responsible Investment	Principles of Responsible Investment	Is using scenario analysis to inform active ownership	Privately owned data
PRI12a	Principles of Responsible Investment	Principles of Responsible Investment	Indicates whether Board members, trustees, C-level roles, Investment Committee use the scenario analysis	Privately owned data

PRI12b	Principles of Responsible Investment	Principles of Responsible Investment	Indicates whether Portfolio managers use the scenario analysis	Privately owned data
PRI12c	Principles of Responsible Investment	Principles of Responsible Investment	Indicates whether Dedicated responsible investment staff uses the scenario analysis	Privately owned data
PRI12d	Principles of Responsible Investment	Principles of Responsible Investment	Indicates whether External managers use the scenario analysis	Privately owned data
PRI12e	Principles of Responsible Investment	Principles of Responsible Investment	Indicates whether Investment consultants/actuaries use the scenario analysis	Privately owned data
PRI13	Principles of Responsible Investment	Principles of Responsible Investment	Evaluated the potential impact of climate-related risks, beyond the investment time horizon, on its investment strategy	Privately owned data
PRI14	Principles of Responsible Investment	Principles of Responsible Investment	ndicates what range of climate scenarios is used	Privately owned data
PRI15a	Principles of Responsible Investment	Principles of Responsible Investment	Indicates how many pathways the organization uses for Energy Transition Scenarios	Privately owned data
PRI15b	Principles of Responsible Investment	Principles of Responsible Investment	Indicates how many pathways the organization uses for Physical climate scenarios	Privately owned data
PRI15c	Principles of Responsible Investment	Principles of Responsible Investment	Indicates max temperature increase used for Physical climate scenarios	Privately owned data
PRI15d	Principles of Responsible Investment	Principles of Responsible Investment	Indicates how many other scenarios the organization uses	Privately owned data
PRI16a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Scenario analysis to manage climate-related risks and opportunities.	Privately owned data
PRI19a	Principles of Responsible Investment	Principles of Responsible Investment	Encourages internal and/or external portfolio managers to monitor emissions risks to manage climate-related risks and opportunities.	Privately owned data
PRI19b	Principles of Responsible Investment	Principles of Responsible Investment	Degree of coverage for Encouraging internal and/or external portfolio managers to monitor emissions risks	Privately owned data
PRI19c	Principles of Responsible Investment	Principles of Responsible Investment	Details of key targets for Encouraging internal and/or external portfolio managers to monitor emissions risks	Privately owned data
PRI20a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Emissions-risk monitoring and reporting are formalised into contracts when appointing managers to monitor emissions risks to manage climate-related risks and opportunities.	Privately owned data
PRI20b	Principles of Responsible Investment	Principles of Responsible Investment	Degree of coverage for emissions-risk monitoring and reporting formalised into contracts when appointing managers to monitor emissions risks to assess climate-related risks and opportunities	Privately owned data

PRI20c	Principles of Responsible Investment	Principles of Responsible Investment	Details of key targets for Emissions-risk monitoring and reporting are formalised into contracts when appointing managers to monitor emissions risks	Privately owned data
PRI21a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Weighted average carbon intensity to manage climate-related risks and opportunities	Privately owned data
PRI21b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Weighted average carbon intensity to assess climate-related risks and opportunities	Privately owned data
PRI21c	Principles of Responsible Investment	Principles of Responsible Investment	Details of key targets for Weighted average carbon intensity	Privately owned data
PRI22a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Carbon footprint (scope 1 and 2) to manage climate-related risks and opportunities	Privately owned data
PRI22b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Carbon footprint (scope 1 and 2)	Privately owned data
PRI22c	Principles of Responsible Investment	Principles of Responsible Investment	Details of key targets for Carbon footprint (scope 1 and 2)	Privately owned data
PRI23a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Portfolio carbon footprint to manage climate-related risks and opportunities	Privately owned data
PRI23b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Portfolio carbon footprint	Privately owned data
PRI23c	Principles of Responsible Investment	Principles of Responsible Investment	Details of key targets for Portfolio carbon footprint	Privately owned data
PRI24a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Total carbon emissions to manage climate-related risks and opportunities	Privately owned data
PRI24b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Total carbon emissions	Privately owned data
PRI24c	Principles of Responsible Investment	Principles of Responsible Investment	Detail of key targets for Total carbon emissions	Privately owned data
PRI25a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Carbon intensity to manage climate-related risks and opportunities.	Privately owned data
PRI25b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Carbon intensity	Privately owned data
PRI25c	Principles of Responsible Investment	Principles of Responsible Investment	Detail of key targets for Carbon intensity	Privately owned data
PRI26a	Principles of Responsible Investment	Principles of Responsible Investment	Uses Exposure to carbon-related assets to manage climate-related risks and opportunities	Privately owned data
PRI26b	Principles of Responsible Investment	Principles of Responsible Investment	Indicate the coverage for Exposure to carbon-related assets	Privately owned data

PRI26c	Principles of Responsible Investment	Principles of Responsible Investment	Detail of key targets for Exposure to carbon-related assets	Privately owned data
PSI02	Principles for Sustainable Insurance	UNEP FI - Principles for Sustainable Insurance	Commits to work together with clients and business partners to raise awareness of ESG issues, manage risk and develop solutions	https://www.unepfi.org/psi/signatory-companies/
PSI03	Principles for Sustainable Insurance	UNEP FI - Principles for Sustainable Insurance	Commits to work together with governments, regulators and other key stakeholders to promote widespread action across society on ESG issues	https://www.unepfi.org/psi/signatory-companies/
PSI04	Principles for Sustainable Insurance	UNEP FI - Principles for Sustainable Insurance	Commits to demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles	https://www.unepfi.org/psi/signatory-companies/
PSI05	Principles for Sustainable Insurance	UNEP FI - Principles for Sustainable Insurance	Disclosed results on ESG implementation	https://www.unepfi.org/psi/signatory-companies/
SAS01	Sustainable Accounting Standards Board	Sustainable Accounting Standards Board	Lobby for adoption of accounting industry standards	https://www.sasb.org/alliance-membership/organizational-members/
SBT01	Science Based Targets Initiative	CDP, Navigant, UNGC, WRI, WWF, We Mean Business Coalition commitments	Target Commitment	https://sciencebasedtargets.org/companies-taking-action/
SBT02	Science Based Targets Initiative	CDP, Navigant, UNGC, WRI, WWF, We Mean Business Coalition commitments	Target Pathway	https://sciencebasedtargets.org/companies-taking-action/
SSE01	Sustainable Stock Exchanges Initiative	UN Partnership Program	Nominates representative / responsible	https://sseinitiative.org/exchanges-filter-search/
SSE02	Sustainable Stock Exchanges Initiative	UN Partnership Program	Commits to report on progress	https://sseinitiative.org/exchanges-filter-search/
SSE04	Sustainable Stock Exchanges Initiative	UN Partnership Program	Has annual sustainability report	https://sseinitiative.org/exchanges-filter-search/
SSE05	Sustainable Stock Exchanges Initiative	UN Partnership Program	ESG reporting required	https://sseinitiative.org/exchanges-filter-search/
SSE08	Sustainable Stock Exchanges Initiative	UN Partnership Program	Market covered by sustainability related index	https://sseinitiative.org/exchanges-filter-search/
TCF01	Task Force on Climate-Related Financial Disclosure	Task Force on Climate-Related Financial Disclosure	Financial Disclosures	https://www.fsb-tcfd.org/tcfd-supporters/
TPI01	Transition Pathway Initiative	Transition Pathway Initiative	Acknowledge CC as a threat to business	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI02	Transition Pathway Initiative	Transition Pathway Initiative	Acknowledge CC as a risk/opportunity to business	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI03	Transition Pathway Initiative	Transition Pathway Initiative	Has a policy or commitment to action on climate change	https://www.transitionpathwayinitiative.org/tpi/sectors

TPI04	Transition Pathway Initiative	Transition Pathway Initiative	Has a general GHG mitigation target	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI05	Transition Pathway Initiative	Transition Pathway Initiative	Publishes Scope 1 and 2 GHG emissions	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI06	Transition Pathway Initiative	Transition Pathway Initiative	Has CC responsible	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI07	Transition Pathway Initiative	Transition Pathway Initiative	Has a quantitative GHG mitigation target	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI08	Transition Pathway Initiative	Transition Pathway Initiative	Publishes Scope 3 GHG emissions	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI09	Transition Pathway Initiative	Transition Pathway Initiative	Scope 1 and 2 GHG emissions are verified	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI10	Transition Pathway Initiative	Transition Pathway Initiative	Supports domestic and international efforts to mitigate climate change	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI11	Transition Pathway Initiative	Transition Pathway Initiative	The company discloses its membership and involvement in trade associations engaged in climate issues	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI12	Transition Pathway Initiative	Transition Pathway Initiative	The company has a process to manage climate-related risks	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI13	Transition Pathway Initiative	Transition Pathway Initiative	The company discloses Scope 3 use of product emissions	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI14	Transition Pathway Initiative	Transition Pathway Initiative	The company has long-term quantitative targets for reducing its greenhouse gas emissions	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI15	Transition Pathway Initiative	Transition Pathway Initiative	The company's remuneration for senior executives incorporates climate change performance	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI16	Transition Pathway Initiative	Transition Pathway Initiative	The company incorporates climate change risks and opportunities in their strategy	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI17	Transition Pathway Initiative	Transition Pathway Initiative	The company undertakes climate scenario planning	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI18	Transition Pathway Initiative	Transition Pathway Initiative	The company discloses an internal price of carbon	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI19	Transition Pathway Initiative	Transition Pathway Initiative	The company ensure consistency between its climate change policy and the positions taken by trade associations of which it is a member	https://www.transitionpathwayinitiative.org/tpi/sectors
TPI20	Transition Pathway Initiative	Transition Pathway Initiative	Portfolio alignment	https://www.transitionpathwayinitiative.org/tpi/sectors
WEF01	World Economic Forum / Mission Possible	World Economic Forum / Mission Possible	Lead industry towards net-zero	https://www.weforum.org/mission-possible/about

WMB01	We Mean Business Coalition	We Mean Business Coalition	Quantified RE target	https://www.wemeanbusinesscoalition.org/companies/
WMB02	We Mean Business Coalition	We Mean Business Coalition	Commit to responsible corporate engagement in climate policy	https://www.wemeanbusinesscoalition.org/companies/
WMB03	We Mean Business Coalition	We Mean Business Coalition	Carbon pricing	https://www.wemeanbusinesscoalition.org/companies/
WMB05	We Mean Business Coalition	We Mean Business Coalition	SBTi - Committed quantified mitigation targets	https://www.wemeanbusinesscoalition.org/companies/
WMB06	We Mean Business Coalition	We Mean Business Coalition	SBTI - Approved quantified mitigation targets	https://www.wemeanbusinesscoalition.org/companies/
WMB07	We Mean Business Coalition	We Mean Business Coalition	TCFD Reporting	https://www.wemeanbusinesscoalition.org/companies/
WMB08	We Mean Business Coalition	We Mean Business Coalition	Reporting Climate Action Information	https://www.wemeanbusinesscoalition.org/companies/
WMB09	We Mean Business Coalition	We Mean Business Coalition	Committed science-based agriculture (resilience and mitigation) targets	https://www.wemeanbusinesscoalition.org/companies/
WMB10	We Mean Business Coalition	We Mean Business Coalition	Advocates for policies for net zero transition	https://www.wemeanbusinesscoalition.org/companies/
WRI01	Green Targets	WRI	Sustainable Financial Commitment target: total USDm	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI02	Green Targets	WRI	Sustainable Financial Commitment target: USDm per year	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI05	Green Targets	WRI	Sustainable Financial Commitment target: includes specific timeline	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI06	Green Targets	WRI	Sustainable Financial Commitment target: Discloses accounting methodology	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI07	Green Targets	WRI	Sustainable Financial Commitment target: Includes plans for reporting	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI09	Green Targets	WRI	Sustainable Financial Commitment target: level of ambition (share of AUM)	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019
WRI10	Green Targets	WRI	Sustainable Financial Commitment target: sets quantitative financial commitment goal	https://www.wri.org/resources/data-sets/bank-sustainable-finance-commitments-2019

3. REAL ECONOMY

3.1 REAL ECONOMY OVERVIEW

As well as understanding the role of financial institutions and markets in redirecting capital to finance the low-carbon transition, it is essential to have a perspective on progress in the real economy. All major sectors must achieve certain climate outcomes – must reduce their level of emissions sufficiently and adapt and build resilience to the effects of climate change – for the goals of the Paris Agreement to be met. Action in institutions – to embed climate-related financial risks and opportunities in decision-making – is effective to the extent that it helps achieve these climate outcomes.[10]

The real economy dataset complements the view on institutions by demonstrating this progress. In contrast to the three dimensions of the institutions view, which also focus on targets and integration, only **flows** are considered. The dashboard will dynamically measure flows within the real economy and assess these against benchmarks, based on the best available data, to understand whether sectors are on track to achieve net zero in support of Paris goals. Two types of flows are considered:

1. **Emissions**: in a similar manner as existing science-based approaches to alignment, the focus in real economy sectors is on the carbon budget available to limit temperature rises. Country- or region-specific budgets are derived from the global budget (based on certain assumptions), and in turn provide a measure of the pace and extent of decarbonization necessary in each particular geography to contribute to global mitigation goals. Getting emissions to net zero in as many sectors as possible is now viewed as the prerequisite for achieving Paris goals.[11] Therefore it is important to track historical greenhouse gas emissions (CO2e) and project a Paris-aligned pathway in each sector possible, to understand the rate of change needed in context.

[10] Caldecott, B., 2020. Achieving Alignment in Finance. *UNEP FI*, https://www.unepfi.org/wordpress/wp-content/uploads/2020/08/200915_J932-CKIC-UNEP-ThoughtLeadershipSeries-DrBenCaldecott-11.pdf
[11] IPCC, 2018. Special Report on Global Warming of 1.5°C. https://www.ipcc.ch/sr15/

2. **Investment**: flows of new investments can themselves be consistent with Paris-aligned or Paris-misaligned temperature trajectories. The relevant flows are primary investments into productive assets or activities since these have effects on climate outcomes in the real economy. Historical levels of low-carbon investments are only meaningful when compared to benchmarks, in terms of the level of investment needed in each sector to achieve the emissions reductions required to reach net zero across the whole economy. By the same token, investment must aim to peak emissions as soon as possible and facilitate net-zero in order to align with the Paris Agreement and satisfy Article 2.1c.[12]

   Whereas the institutions dashboard measures financial flows at the primary and secondary level provided by institutions that are based in the UK, the sector dashboard measures financial flows to assets and activities taking place in the UK. The institutions providing capital for the investments captured in the sector dashboard could be based in the UK or abroad. So, where the institutions dashboard focuses on the source of finance, the sector dashboard focuses on their destination. Furthermore, the sector dashboard measures only primary investments which serve particular assets or activities, linked to climate outcomes in the relevant sector. For example, new retail purchases of electric vehicles are made by households (with government support) but affect emissions in the transport sector. Therefore, the same investments might be tracked in both dashboards, and flows data in each should not be considered as additional or commensurate with that of the other.

Note on adaptation: there are no benchmarks for progress adapting to climate change within the real economy view. Some of the primary investments included in the data may also have adaptation benefits as assets and infrastructure are upgraded for a low-carbon, climate-resilient future, and project or transaction information is not granular enough to isolate the mitigation component of spending. For example, investments in wastewater management may reduce waste emissions while making sewage systems more resilient to surges. This corresponds to the approach behind benchmarks in investment needs for net zero, which reflect that investments made over the coming decades must also promote resilience across all sectors. Notwithstanding this feature of the data, adaptation and resilience do not feature in the UK pilot of the dashboard in any systematic manner.

[12] UNFCCC, 2021. *Paris Agreement (English)*. https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

3.2 DATASETS AND BACKGROUND INFORMATION

The geographic scope is important for classifying sectors and for the choice of data because it affects both the structure of the economy and the availability of corresponding information.

Data on **primary investments** is drawn from CPI's *Global Landscape of Climate Finance*.[13] While the coverage of the GLCF is not complete across all real economy sectors, it is the most comprehensive information available about which sources and financial instruments are driving investment and how much climate finance is flowing. Supplementary data sources were considered, but in light of challenges accurately classifying financial flows within economic sectors and avoiding avoid double-counting with data from the Global Landscape within the scope of work for the pilot dashboard, were not included in the final numbers.[14]

Data on **investment needs** and **emissions trends**, and **targets** derive mainly from country-specific analysis to ensure consistency and comparability as far as possible.

3.2.1 UK-SPECIFIC SOURCES

A range of datasets are available to characterize these different facets of progress in economic sectors. Table 4 shows the datasets used in the final sector dashboard for the UK pilot.

[13] CPI, 2020. *Updated view on the Global Landscape of Climate Finance 2019*. https://www.climatepolicyinitiative.org/publication/updated-view-on-the-global-landscape-of-climate-finance-2019/

[14] For example, Climate Bonds use of proceeds data only marks issuances under 'energy'. These flows could therefore be investments in the fuel supply rather than the power network, which amount to substantial additional emissions and investment costs. However, good data on primary investments are only available for power sector investments, so making a comparison with a benchmark of investment needs for the whole energy More importantly, bond issuances are secondary, financial market flows and cannot be compared directly to investment costs (and are not additive with Global Landscape primary investments). CBI data are excluded from the sector dashboard.

Table 4: Data series and types in the dashboard provided by the CCC Sixth Carbon Budget dataset

Dimension	Level	Description	Type	Source
Emissions	Whole economy	Historical (to 2019)	Indicator	Committee on Climate Change
		Net zero pathway (2020-2050)	Benchmark	
		Baseline pathway (emissions to 2050 assuming no further climate action after 2020)	Comparator	
	Individual sectors	Historical (to 2019)	Indicator	
		Pathway (2020-2050)	Benchmark	
Investment	Individual sectors	Low-carbon capital investment required each year from 2020-2050 (difference between baseline and net zero pathways)	Benchmark	
		Historical primary investments 2014-18	Indicator	Global Landscape of Climate Finance

The dashboard draws on bespoke country-level scenarios produced by the UK's Committee on Climate Change. The final dataset is based on the ***Sixth Carbon Budget: The UK's pathway to net zero***[15]. This report provides an extensive background dataset featuring every economic sector in the UK.

[15] CCC, 2020. https://www.theccc.org.uk/publication/sixth-carbon-budget/

Four scenarios are provided with constituent pathways in each sector to reach net zero emissions across the whole economy by 2050 (see Table 5). The data within the NZFT sector dashboard draw on the **Balanced Scenario**. Greater technical detail on metrics in each scenario is available in Annex 3.5.1. CCC reports provided all information on **emissions** (historical indicators and benchmarks/targets) and **investment needs** (benchmarks).

Table 5: Scenarios used in the CCC Sixth Carbon Budget[16]

Scenario	Description of assumptions
Headwinds	• Policies only manage to bring forward societal/behavioural change and innovation at the lesser end of the scale, similar to levels assumed in our 2019 Further Ambition scenario. • People change their behaviour and new technologies develop, but we do not see widespread behavioural shifts or innovations that significantly reduce the cost of green technologies ahead of our current projections. • This scenario is more reliant on the use of large hydrogen and carbon capture and storage (CCS) infrastructure to achieve net zero.
Widespread engagement	• Higher levels of societal and behavioural changes. • People and businesses are willing to make more changes to their behaviour. • This reduces demand for the most high-carbon activities and increases the uptake of some climate mitigation measures. • Assumptions on cost reductions are similar to Headwinds
Widespread innovation	• Greater success in reducing costs of low-carbon technologies. • This allows more widespread electrification, a more resource- and energy-efficient economy, and more cost-effective technologies to remove CO2 from the atmosphere. • Assumed societal/behavioural changes are similar to Headwinds.
Balanced	• Drives progress through the 2020s while creating options in a way that seeks to keep the other scenarios open.

For investment flows, the Global Landscape of Climate Finance provides the best quality data available which can be reconciled with economic sectors in the CCC scenarios. An essential criteria for including data on investment are that they represent only **primary investment** into capital assets or activities, since secondary

[16] Source: CCC, 2020. pp. 45-46

(financial market-level) flows will not necessarily affect real-economy climate outcomes.

While the Global Landscape provides the most comprehensive information available at a global level, gaps in data coverage remain. Coverage of renewable energy investments and EV purchases are good, while gaps surround agriculture, forestry and other land use, energy efficiency investments in buildings and industry, and technologies in non-surface transport (shipping and aviation). However, in many cases a lack of coverage is related to limited consensus on definitions of the technologies and assets which facilitate net-zero in these sectors.

A range of additional sources considered to provide data on emissions and investment flows and benchmarks for the sector dashboard are outlined in Annex 3.5.2. The sources in Annex 3.5.2 were not included in the final dashboard – either because CCC Sixth Carbon Budget data, released in December 2020, provided more reliable information (on emissions and investment needs), or because of barriers to accurately classifying data on investments into economic sectors. Improvements in data coverage and methodology in climate finance tracking will improve the quality of information available for real economy assessments in the sector dashboard. Further work with national-level stakeholders may furnish datasets with detail on public and private sources flowing within each economic sector, which was not within the scope of the sector dashboard to date.

3.3 SECTORAL CLASSIFICATION

The theoretical framework used to define sectors within the dashboard is a two-tiered, economic sector approach. The sectoral breakdown of flows and future trends of carbon emissions and financial investment for countries is intended to cover all mitigation and adaptation activities under broad economic sectors.

- **Level 1 – economic sectors:** includes major economic sectors such as power, transport, real estate, agriculture, forestry. Aware that data sources may have different levels of granularity, we allow for sectors to be presented at more aggregate levels (e.g. Energy, AFOLU).
- **Level 2 – climate solutions:** includes particular technologies, activities and climate solutions, which need not be unique to each sector (e.g. residential, small-scale renewable energy generation is included in the buildings sector rather than energy).

See the table below to see what activities fall under Level 1 and Level 2 and refer to Annex 3.5.3 for more details about how the two levels relate in our classification.

This classification system was chosen because while specific climate finance tracking conventionally distinguishes sectors by the particular climate solution in place to help meet net-zero goals (e.g., renewable energy deployment, energy efficiency), efforts tracking emissions, and investment needs are often measured around economic sectors. Therefore, an approach was needed that can reconcile different classification systems.

Table 6: Two levels for sectoral classification

Level 1: Economic sector	Level 2: Climate solutions	
Energy • Power • Industry • Real Estate (commercial, public, residential) • Waste & Wastewater **AFOLU** • Agriculture • Forestry • Other Land Use **Transport** **Non-sector specific / other**	• Afforestation • Aviation: Climate resilience activities/projects • Aviation: Disaster risk management activities • Aviation: Projects (BAU fleet) • Aviation: Projects (low-carbon fleet) • Avoided Deforestation • Avoided emissions from burning biomass • Avoided emissions from cropland • Avoided emissions from grassland • Buses: Climate resilience activities/projects • Buses: Disaster risk management activities • Buses: Projects (ICE fleet) • Buses: Projects (low-carbon fleet, EV, hybrid, hydrogen) • Climate resilience activities/projects • Deforestation • Disaster risk management activities • Emissions storage (e.g. CCS, fugitives reduction, methane capture) • Energy Efficiency • Energy Storage • Fossil Fuel (FF) Electricity Generation • Fossil Fuel (FF) Heat production • Heat Storage	• Non-motorized transport: Climate resilience activities/projects • Non-motorized transport: Disaster risk management activities • Non-motorized transport: Projects • Nuclear • Nuclear Electricity Generation • Railways: Climate resilience activities/projects • Railways: Disaster risk management activities • Railways: Projects • Reforestation • Renewable Energy (RE) Electricity Generation • Renewable Energy (RE) Heat production • Transmission and distribution • Vehicles: Climate resilience activities/projects • Vehicles: Disaster risk management activities • Vehicles: Projects (ICE fleet) • Vehicles: Projects (low-carbon fleet, EV, hybrid, hydrogen) • Waterways: Climate resilience activities/projects • Waterways: Disaster risk management activities • Waterways: Projects

3.3.1 UK-SPECIFIC SECTORS

Initial scoping research for the sectoral classification to use in the UK pilot of the Net Zero Finance Tracker was based on those used in the CCC's earlier scenarios in the *Fifth Carbon Budget* and *Net Zero – The UK's contribution to stopping global warming*. Those reports provided sectoral data based on very broad economic sectors.

The final sector data used in the UK pilot of the dashboard were drawn from the Sixth Carbon Budget, mapped onto the following sectors:

1. Power
2. Industry
3. Transport
4. Real Estate (residential, public, commercial)
5. AFOLU
6. Waste and Wastewater

These sectors were chosen following review of the earlier CCC sectors against data available on financial flows (within the sector taxonomy used in the Global Landscape of Climate Finance, and that used by Climate Bonds Initiative). The scoping exercise is available in a separate document, 'Sectoral Scope'.

Fitting data on investments, costs, and emissions all into the same sectoral classification means making certain assumptions on the boundaries of those sectors. Annex 3.5.4 has further details of these assumptions and a summary table of the activities and assets included within each sector definition.

3.4 FINAL OUTPUT

Sector-relevant raw datasets, once processed manually, are combined in a single dataset for analysis. The outputs are:

Whole economy

- Historical emissions and a pathway to net zero
    - Annual capital expenditure required in all sectors is the difference between investment trends in a baseline scenario with no climate action from the 2020s onwards, and the balanced net-zero pathway.
    - For example, the baseline assumes no further construction of renewable generating capacity, and continued purchases of ICE vehicles instead of EVs.

- Investment needs in each sector therefore reflect the total cost of all low-carbon activity under a net-zero pathway.

For particular sectors

- Historical emissions are compared with the trajectory for net zero
- Investment between 2014 and 2018 are compared with estimated annual investment needs between 2020 and 2050 to shift the economy to a net-zero pathway

3.5 REAL ECONOMY ANNEXES

3.5.1 ANNEX: KEY METRICS IN DIFFERENT UK CLIMATE CHANGE COMMITTEE SCENARIOS

Table 1.1
Summary of key differences in the economy-wide scenarios

	Balanced Net Zero Pathway	Headwinds	Widespread Engagement	Widespread Innovation	Tailwinds
Diet change	**35% reduction in all meat and dairy by 2050**	20% reduction in all meat and dairy by 2050	50% reduction in all meat and dairy by 2050	50% reduction in all meat and dairy by 2050	50% reduction in all meat and dairy by 2050
Airport terminal passengers	**365m in 2050**	365m in 2050	245m in 2050	438m in 2050	245m in 2050
Tree-planting rates	**50,000 ha/year from 2035**	30,000 ha/year from 2025	70,000 ha/year from 2035	50,000 ha/year from 2030	70,000 ha/year from 2035
Wholesale electricity cost*	**2035: £60/MWh 2050: £50/MWh**	2035: £65/MWh 2050: £60/MWh	2035: 65/MWh 2050: £55/MWh	2035: £55/MWh 2050: £40/MWh	2035: 60/MWh 2050: £35/MWh
Natural gas grid	**Hydrogen grid conversion trials in 2020s.** **Patchwork lar ge-scale conversions start from 2030 near industrial clusters.** **Some buildin gs in those areas switch to hydrogen.** **Conversion continues to 2050.**	Hydrogen grid conversion trials In 2020s. Large-scale conversions start from 2030 around industrial clusters and radiate out at 10 km/yr. 20% of homes on gas grid with hydrogen by 2035.	Gas grid not converted to hydrogen. Full electrification in buildings. Industry hydrogen sourced via private pipelines.	Hydrogen grid conversion trials in 2020s. Large-scale conversions start from 2030 around industrial clusters and radiate out at 10 km/yr. Most buildings within radius convert to hydrogen. After 2035 no further buildings convert – further radial expansion beyond 2035 only applies to parts of grid to supply some industrial users.	

Source: CCC, 2020. The Sixth Carbon Budget: The UK's Path to Net-Zero. p. 48

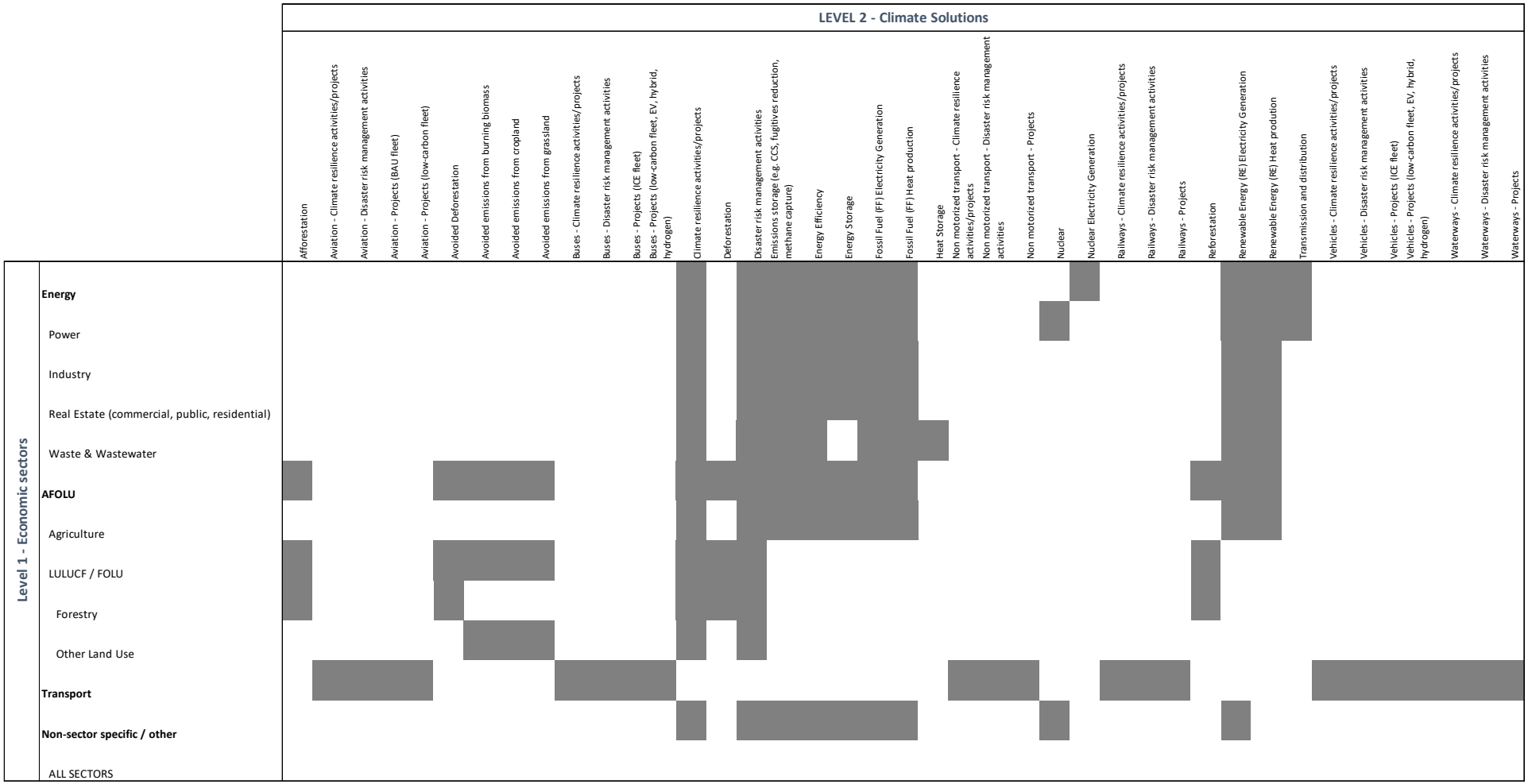
3.5.2 ANNEX: OTHER DATASETS ON UK FLOWS AND BENCHMARKS (EMISSIONS AND INVESTMENT) CONSIDERED BUT EXCLUDED FROM THE FINAL DASHBOARD

Dimension	Source		Description
	Organization	Publication	
Emissions	Department of Business, Energy and Industrial Strategy	Final UK greenhouse gas emissions national statistics 1990-2018	Estimated territorial emissions of carbon dioxide (CO2) by source category, UK 2015-2018 (MtCO2e)
			Total CO2 emissions MtCO2e Reference Scenario
			Total CO2 emissions MtCO2e Low Fossil Fuel Price Scenario
			Total CO2 emissions MtCO2e High Fossil Fuel Price Scenario
			Total CO2 emissions MtCO2e Low Economic Growth Scenario
			Total CO2 emissions MtCO2e High Economic Growth Scenario
			BM- BEIS02f Total CO2 emissions MtCO2e Existing Policies Scenario
	Committee on Climate Change	5th Carbon Budget	Total emissions (MtCO2e)- Baseline Scenario
			Total emissions (MtCO2e)- Central Scenario
		Reaching Net Zero in the UK	Annual Emissions (MtCO2e) Scenario-Cost-effective path to 2050
			Annual Emissions (MtCO2e) Scenario-Legislated carbon budgets
			Annual Emissions (MtCO2e) Scenario-Indicative path to the UK's Net-zero (100%) target
			Annual Emissions (MtCO2e) Scenario-The UK's previous 80% target
			Annual Emissions (MtCO2e) Scenario-Government projections (reference scenario)

Dimension	Source		Description
	Organization	Publication	
	WRI / NDC partnership	Climate Watch	Historical CO2 Emissions (MtCO2)
	IDDRI	IDDRI deep decarbonisation platform	Most Ambitious Scenario- CO2 Emissions (MtCO2)
	World Climate Research Programme.	Global Climate Project	Fossil Fuels Emissions (MtCO2)
Investment	Committee on Climate Change	Reaching Net Zero in the UK	Annual investment in Further Ambition Scenario till 2050 (billion/year)
	Environment Agency (EA)	Long-term investment scenarios (LTIS) 2019	Optimum level of investment (long-term annual average 2014 to 2063) for Climate Change Scenario- medium (baseline) £m
			Optimum level of investment (long-term annual average 2014 to 2063) for Climate Change Scenario- High £m
			Optimum level of investment (long-term annual average 2014 to 2063) for Climate Change Scenario- High ++ £m
	Office of National Statistics (ONS)	Environmental protection expenditure: general government	Expenditure by government on Protection of ambient air and climate- £ millions
	Office of National Statistics (ONS)	Environmental protection expenditure: industry	Expenditure by industry on Protection of ambient air and climate- £ millions
	WRI / NDC partnership	Climate Watch	Historical CO2 Emissions (MtCO2)

Dimension	Source		Description
	Organization	Publication	
	Climate Bonds Initiative	Climate Bond Initiative Total Issuance Data	Total bond issuance with use of proceeds allocated to end sectors, United Kingdom-based actors only

3.5.3 ANNEX: RELATION BETWEEN ECONOMIC SECTORS AND CLIMATE SOLUTIONS



3.5.4 ANNEX: UK-SPECIFIC SECTOR DEFINITIONS, BOUNDARY ASSUMPTIONS AND INCLUSIONS

In defining sectors for the dashboard, it is important that tracked emissions and potential investment flows are limited to the same set of activities. Investment flows are only meaningful if compared to an equivalent (or the closest possible approximation) benchmark on needs. The benchmarks are defined as the investment required to shift a sector's emissions pathway from the baseline to a net zero trajectory.

Some important points to note on adjustments to CCC and CPI data for the purposes of the dashboard include:

- The **power** sector consists of one series in CCC emissions data – electricity generation – and two series in investment costs: electricity generation and networks (a specific share attributed to electricity networks, since 'networks' as a whole also includes carbon capture networks).
    - Importantly, the CCC sector 'fuel supply' is omitted. Emissions reductions in this sector will come from energy efficiency investments in upstream fossil fuel supply, reduced flaring and leakages, CCS, or hydrogen production. However, CPI do not track any investments in these activities.
    - Global Landscape data on renewable energy installations (excluding those on buildings) and transmission and distribution investments *associated with electricity* are labelled as 'power'. Energy-related investments targeting efficiency, or unknown corporate operations by energy sector actors, are excluded.
- Small-scale solar capacity additions, as well as rooftop renewable installations in the larger asset finance dataset, were marked in the **buildings** sector. This is consistent with studies which count end-sector energy use in buildings within the emissions budget of that sector, as 'indirect' emissions. For example, the OECD study on energy efficiency in UK buildings (forthcoming): 'investment totals also include fittings, in particular on-site energy generation installations'; GHG 'estimates include direct GHG emissions (Scope 1), mostly due to fossil-based on-site heating, as well as indirect emissions from electricity' (therefore small-scale diminishes building direct or indirect emissions).

- Electric vehicles, while a **transport** technology, present difficulties in comparing Global Landscape data with capital investment needs.
    - Climate finance tracking records the *full value of EV sales* (price * volume). By contrast, because the CCC benchmark for investment costs only considers *additional* investment above a baseline, it only records the *incremental value of EV sales* compared to a scenario where all sales are ICE vehicles (Δ[price] * Δ[volume]).
    - We received further data from the CCC which allows us to include the full sales price of EVs in a net zero scenario rather than their incremental cost.
    - This means that the transport investment needs benchmark consists of full EV purchases (in the order of USD 5 billion in 2020) and capital investment in HGVs, rail and other public surface transport, shipping, and aviation (all zero in 2020 in terms of both needs and flows).
- **AFOLU** includes agriculture, LULUCF sinks and sources of carbon. Almost all investments recorded in the Global Landscape are capital installations and adopting sustainable practices on farms; there is no coverage of investments in forestry or other land use patterns within UK territory in the Landscape.
- **Waste and water** investment contains some adaptation projects relating to water system management (i.e. river flow management), but the details available in the Global Landscape data are limited and cannot be confirmed whether these have emissions benefits. In addition, there is no 'water' sector in CCC benchmarks, and water activities relate either to wastewater management or land-use change. Since the number of projects concerned is small, the impact of these edge case classifications is limited.

Further details on the specific inclusions within each sector are provided in the following table.

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
Power	Electricity generation using • coal • gas • oil • other fuels	Utility-scale electricity or heat production from: • Biomass and biogas power if a project's GHG emissions reductions are demonstrated compared with technically and economically viable alternatives • Solar including PV, CSP, and solar heating systems (e.g. solar water heaters) • Geothermal • Hydropower if a project's GHG emission reductions are demonstrated compared with technically and economically viable alternatives • Wind, including onshore and offshore • Other technologies such as biofuels (including bioethanol) and ocean renewable energies (e.g., wave, tidal, ocean currents, salt gradient, etc.) Electricity networks: • New electricity transmission systems or new systems (e.g., new information and communication technologies, storage facilities, etc.) to facilitate the integration of renewable energy sources into the grid • Transmission energy efficiency improvements (e.g. retrofit of transmission lines, distribution systems, or substations to substantially reduce energy use or losses)

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
Industry	Manufacturing and construction, including • vehicles • non-ferrous metals • food and drink • iron and steel • glass and other minerals • off-road mobile machinery • cement and lime • paper • chemicals	Industrial resource-efficiency or energy-efficiency improvements through the installation of more efficient equipment, changes in processes or materials, reduction of heat/ hot water losses, and/or increased waste heat recovery

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
Transport	Surface transport, including: • Buses • Cars • Vans • HGVs • Trains as well as shipping and aviation. Options to reduce include demand management, electrification and efficiency improvements, and sustainable fuels.	Transport projects deemed to result in demonstrated GHG emissions reductions compared with a technically and economically viable alternative. Specific project types can include: Urban transport modal change: • Non-motorized transport (bicycles and pedestrian mobility) • Urban mass transit Urban development: • Integration of transport and urban development planning (dense development, mixed-use zoning, walkable communities, transit connectivity, etc.), leading to a reduction in the use of private passenger cars • Transport demand management measures to reduce GHG emissions Inter-urban transport modal change (excluding projects for new or upgraded highway; or new airports even when net GHG emissions reductions can be demonstrated): • Railway transport resulting in a modal shift for freight and/or passengers • Waterways transport resulting in a modal shift for freight and/or passengers • Vehicle energy-efficiency fleet retrofit Additionally, retrofit or replacement of existing vehicles, within the road, rail, boat or airline fleet which achieving a substantial increase in energy efficiency (including the use of lower-carbon fuels, electric or hydrogen technologies, etc.) are included. This means purchases of electric vehicles are included as a point of comparison against comparable ICE vehicles

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
Real Estate	Direct building emissions from • homes • commercial buildings • public buildings primarily from heating using natural gas, petroleum, coal, or biomass. Indirect building emissions from electricity consumption, based on • appliances and lighting in homes • cooling, catering, and ICT equipment in non-residential buildings Non-CO2 gases from fuel combustion processes.	Demand-side energy efficiency in buildings, with substantial demonstrated GHG emissions reductions compared with a technically and economically viable alternative. • Energy-efficiency improvements in lighting, appliances and equipment, including more efficient use of hot water • Substitution of existing heating/cooling systems in buildings with cogeneration plants that generate electricity in addition to providing heating/cooling • District heating systems • Waste heat recovery improvements • Retrofit of existing buildings: architectural or building changes that enable reduced energy consumption • Use of highly efficient architectural designs or building techniques that enable reduced energy consumption for heating and air conditioning, exceeding available standards and complying with high energy efficiency certification or rating schemes Small-scale renewable energy installations (solar PV) built directly on residential or commercial buildings and contributing to reduced energy use from the grid.

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
AFOLU	Agriculture, including • livestock • soils • fossil fuel use for mobile and stationary machinery • waste and manure management Land-use, land-use change and forestry • Peatland • Non-organic croplands • Deforestation and reduction of forest sinks	Agriculture: • Agriculture projects that do not deplete and/or improve existing carbon pools (reduction in fertilizer use, rangeland management, collection and use of bagasse, rice husks, or other agricultural waste, low tillage techniques that increase carbon contents of soil, etc.) • Rehabilitation of degraded lands • Reduction in energy use in traction (e.g., efficient tillage), irrigation, and other agricultural processes • Livestock projects that reduce GHG emissions (e.g., manure management with biodigesters producing biogas for heating or cooking) Afforestation & reforestation (other land-use): • Afforestation on non-forested land • Reforestation on previously forested land • Sustainable forest management and conservation of forests • Enhancement of carbon stocks • Reducing emissions from deforestation and degradation

Sector	Sources of emissions (CCC, 2020)	Activities and assets included in investments (CPI, 2019)
Waste & Wastewater	Waste management, including • landfill • incineration • wastewater • energy-from-waste plants • composting Options include reducing landfill methane generation and methane capture and wastewater process improvements, CCS	Projects with demonstrated GHG emissions reductions compared with a technically and economically viable alternative. • Waste management that reduces methane emissions (e.g., shifting from open dumps and lagoons to municipal / industrial waste (water) treatment, including switching to composting, waste incineration, landfill gas capture and flaring/power production, etc.) • Waste recycling measures with a demonstrated net mitigation benefit • Rehabilitation of water distribution networks and building pipelines to improve water resources management, to address changes in water flows/quality caused by climate change • Changes in design of sanitation and storm-water management systems in response to extreme weather events arising from climate change

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