Methodology Statement

BRODIE Methodology Statement to support The Path to 2040: The Climate Pledge Update

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Introduction

The Climate Pledge (TCP) has developed the following data-based statements which are included in The Path to 2040: The Climate Pledge Update:

- 1. Once The Climate Pledge signatories reach net-zero carbon, BRODIE conservatively estimates that the greenhouse gases avoided would equate to more than 2.5 billion metric tons (2.5 metric gigatons) of carbon dioxide equivalent emissions annually.
- 2. This is roughly equivalent to a third of the carbon absorbed by the world's forests each year.
- 3. Of those analyzed by BRODIE, The Climate Pledge signatory companies are collectively decarbonizing faster than other companies reporting to CDP.
- 4. Collectively, over the last five years, signatories have deployed over 50,000 electric vehicles, with a commitment to scale this to over 300,000 vehicles by 2030.

This document describes the methodology used by sustainability and responsible business consultants BRODIE to inform these statements.

Methodologies for each finding

Statement 1: Once The Climate Pledge signatories reach net-zero carbon, BRODIE conservatively estimates that the greenhouse gases avoided would equate to more than 2.5 billion metric tons (2.5 metric gigatons) of carbon dioxide equivalent emissions annually.

To calculate this number, BRODIE has summed Scope 1, Scope 2 and Scope 3 emissions for TCP signatories in FY22 and assumed that all these emissions will be avoided by the time that these companies achieve net-zero, as the emissions will either have been completely avoided through the use of measures that reduce absolute emissions or offset.

Data collection

- Obtained CDP dataset from FY22 for as many signatories as possible
- Rationale for the above approach:
 - CDP was chosen as the primary data source as the largest database of emissions data that could be accessed.
 - FY22 was chosen as the time frame as it was the most recent year of data available through CDP.
- In addition, manually collected emissions data for companies in the Top 40 signatories by revenue.

Data checking

- Scope 1 and 2 checks
 - Any companies whose FY22 (only) Scope 1 or Scope 2 data was deemed unreliable (through checks outlined below in Statement 3) were excluded.
 - All reported Scope 3 emissions were included in our analysis. Robust data checks on this data was not possible as company reporting on Scope 3 is still improving.



Final set of companies

- The above process left us with 125 companies whose emissions data was collected across Scopes 1, 2 and 3.
- BRODIE recognizes that this is small number of signatories relative to the total number of signatories in TCP. However, we are satisfied with the coverage we have achieved, as we are confident that we have covered the vast majority of emissions within TCP. We say this because:
 - We have assumed that revenue and emissions are likely to be proportional. With this
 in mind, we have ensured that the final set of signatories used for emissions analysis
 cover greater than 90% of publicly-available revenue data.
 - We have framed the claim here around reductions being "greater than" 2.5 billion metric tons (2.5 metric gigatons), in recognition that this number would likely increase if we were to have obtained data for all the other signatories in TCP.

Results: What we found and specificity of language

- If they meet their targets, the companies in our dataset are expected to collectively reduce their yearly <u>reported</u> emissions by more than 2.5 billion metric tons (2.5 metric gigatons) by 2040, based on FY22 data, through a mixture of reductions and offsetting.
- It should be noted that this <u>cannot be claimed as a 2.5 billion metric ton CO₂e reduction in absolute emissions.</u> This is because there is likely to be overlap between some signatories' Scope 1, Scope 2 and Scope 3 emissions, as companies in TCP are likely to supply each other.

Statement 2: This is roughly equivalent to a third of the carbon absorbed by the world's forests each year.

- "Forests around the world are estimated to absorb about 7.6 billion metric tons [carbon dioxide equivalent]"i.
- Note that this statistic looks at net carbon absorption (i.e. it reflects a balance of both gross carbon removals and gross emissions from deforestation and other disturbances).
- The study from which this data was obtained was released in 2021.
- 2.5 billion tonnes CO₂e annual saving projected when The Climate Pledge signatories collectively achieve net-zero / 7.6 billion tonnes CO₂e absorbed annually by global forests = 32.9%

Statement 3: Of those analyzed by BRODIE, The Climate Pledge signatory companies are collectively decarbonizing faster than other companies reporting to CDP.

To analyze the comparative rate of decarbonization, BRODIE compared the percentage reduction in emissions cumulatively achieved by TCP signatories and compared this to the percentage reduction in emissions cumulatively achieved by non-TCP CDP respondents over the same time-period.

Data collection (TCP signatories)

- Obtained CDP data set for FY19-FY22 years inclusive
- Identified signatories included in CDP reporting
- O Rationale for above approach:



- CDP was chosen as the primary data source because it is the largest database of signatories' emissions data that could be accessed.
- FY19-FY22 was chosen as the time frame as it provided the most recent four-year period across which sufficient data could be collected for any form of robust analysis.
- o If CDP data was not available, BRODIE manually collected publicly available emissions data for companies that met the following criteria
 - In the top 40 TCP signatories by revenue, or
 - In high-emitting sectors <u>and</u> whose revenue is greater than 0.1% of the total publiclyavailable revenue data of all TCP signatories.
 - O Note: an exception to this rule has been the inclusion of Atos who were included as they had been formerly included in the top 40 signatories by revenue.
 - Rationale for above approach: ensured that we covered the biggest signatories by revenue and non-insignificant companies in high-emitting sectors.

Data checking (TCP signatories)

BRODIE implemented the following process to maximize accuracy and robustness of the data. This led to some signatories being excluded from our analysis despite having CDP data.

- If a TCP signatory (that fit the criteria outlined in the above Data Collection section) had not provided four years of data to CDP, BRODIE manually filled in emissions data, using publicly available information, where possible.
 - o If this was not possible, the signatory was excluded from analysis.
- Any data that appeared to be unreliable was checked by BRODIE. Where errors were
 detected, typically by comparing data to annual and sustainability reports, BRODIE attempted
 to correct data using publicly available emissions data.
 - o If errors were unable to be corrected, the signatory was excluded from analysis.

Final set of signatories (TCP signatories)

- The above process left us with 101 signatories whose emissions data was analysed
- BRODIE recognizes that this is small number of signatories relative to the total number of signatories in TCP. However, we are satisfied with the robustness of the analysis as we are confident that we have covered the vast majority of emissions within TCP. We say this because:
 - We have assumed that revenue and emissions are likely to be proportional. With this in mind, we have ensured that the final set of signatories used for emissions analysis cover 88% of TCP's publicly-available revenue data.
 - Additionally, we have recognized that companies in high-emitting sectors (such as energy or aviation sector) would undermine this assumption. To address this concern, we have also ensured that we have included all companies in high-emitting sectors whose revenue is above 0.1% of TCP's publicly-available revenue data, reducing the likelihood that we have missed any companies that would materially change our data.

Results: What we found and specificity of language (TCP signatories)

- The TCP signatories in our dataset had collectively reduced their <u>reported</u> Scope 1 and Scope 2 emissions by 11% between FY19 and FY22
- It should be noted that this <u>cannot be claimed as an 11% reduction in absolute emissions.</u> This is because there is likely to be overlap between some signatories' Scope 1 emissions and some signatories' Scope 2 emissions, and vice versa.
 - Specifically, this could happen as there are energy companies within the signatory set.
 Iberdrola could, for example, be supplying Amazon with energy, creating overlaps in Scope 1 and Scope 2 emissions.

Data collection (non-TCP CDP respondents)

Obtained CDP data set for FY19-FY22 years inclusive for as many companies as possible



- Rationale for the above approach:
 - CDP was chosen as the primary data source as the largest database of emissions data that could be accessed
 - FY19-FY22 was chosen as the time frame as it provided the most recent four-year period across which sufficient data could be collected for any form of robust analysis

Data checking (non-TCP CDP respondents)

BRODIE implemented the following process to maximize accuracy and robustness of the data. This led to some companies being excluded from our analysis despite having CDP data.

- If a company was a TCP signatory, it was excluded from analysis.
- If a company had not provided 4 years of data to CDP, it was excluded from analysis.
- Any data that appeared to be unreliable was checked by BRODIE. Where clear errors were detected, companies were excluded from the analysis.
- Data was then further checked using a series of automated alerts that would be triggered if
 data varied over certain thresholds between FY19 and FY22 for each signatory. When alerts
 were triggered, BRODIE manually checked emissions data to ensure that emissions did not
 appear to be materially wrong. If materially erroneous data was deemed to have been
 reported to CDP, the company was excluded from analysis

Final set of companies (non-TCP CDP respondents)

The above process left us with 3,620 companies whose emissions data was analysed and compared to TCP signatory data.

Results: What we found and specificity of language (non-TCP CDP respondents)

- The companies in our dataset had collectively reduced their <u>reported</u> Scope 1 and Scope 2 emissions by 6.5% between FY19 and FY22.
- It should be noted that this cannot be claimed as a 6.5% reduction in absolute emissions. This is because there is likely to be overlap between some signatories' Scope 1 emissions and some signatories' Scope 2 emissions, and vice versa.

Statement 4: Collectively, over the last five years, signatories have deployed over 50,000 electric vehicles, with a commitment to scale this to over 300,000 vehicles by 2030.

 These figures were taken from a mixture of companies' most recent sustainability reports and the EV100 website. It considers: all Top 40 signatories by revenue, those classified as 'transportation services' on The Climate Pledge website and signatories that are members of EV100.

Other points of note - Technical FAQs

Did BRODIE use Scope 2 market-based or location-based emissions data?

For Scope 2 emissions, BRODIE has always deferred to using market-based emissions. Location-based emissions data was only used when market-based emissions data was not available for individual companies.



What Scope 3 emissions have been included?

All Scope 3 emissions that have been reported to CDP in FY22 have been included. This means that if companies have not reported a material source of emissions to CDP, it will not have been included in our calculations.

What timeframe was used?

For historical analysis (i.e. Statement 3), the timeframe used was FY19 to FY22 inclusive.

For forward-looking projections of emissions reductions (i.e. Statement 1), only FY22 data was used to assess how much emissions would be reduced by 2040.

Have Scope 1 and 2 emissions been combined?

Where BRODIE has referred to "Scope 1 and Scope 2 emissions", we always mean an aggregated view across both scopes of emissions (i.e. Scope 1 + Scope 2 emissions)

Please note that where the term "carbon" has been used in throughout this document, it has been used as shorthand for carbon dioxide equivalent (CO₂e).

Original paper: <u>Global maps of twenty-first century forest carbon fluxes | Nature Climate Change</u>



NASA Satellites Help Quantify Forests' Impacts on Global Carbon Budget - NASA