Sustainable1

Net Zero Commitments Dataset

Methodology

S&P Global Sustainable1 – April 2024

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Terms and Definitions

Term	Definition
Net Zero Commitment	A target to completely negate the quantity of greenhouse gases produced by a company over a defined timeframe through reductions in emissions and implementation of technologies or strategies to offset or remove greenhouse gases from the atmosphere
Emissions Reduction Target	A target to reduce the quantity of greenhouse gases produced by a company by a specified amount (in absolute or intensity terms) over a defined time period
Greenhouse Gas	A group of gases that contribute to climate change by absorbing infrared radiation. This includes, but is not limited to, carbon dioxide, methane and chlorofluorocarbon gases. Greenhouse gases are quantified in terms of tonnes of carbon dioxide equivalent (CO_2e)
Gross Profit	Total cost of goods sold subtracted from total revenue
Absolute Emissions	Total quantity of greenhouse gas emissions measured in tonnes CO_2e
Emissions Intensity	Total quantity of greenhouse gas emissions (tonnes CO_2e) per $US million of value added
GICS Subindustry	The Global Industry Classification Standard (GICS) is an industry taxonomy developed for use by the financial community. The GICS structure includes 163 subindustries.
Temperature Scenario	A future greenhouse gas emissions scenario that is designed to align with a specified change in global mean temperature over a specified time period, such as 2 degrees Celsius by 2100.

Introduction and Context

Net zero and carbon neutral commitments are on the rise as companies, financial institutions, and countries pledge to reduce emissions, and offset or remove greenhouse gases from the atmosphere. The private sector is an important contributor to global greenhouse gas emissions and as such, understanding the likely future emissions of companies is essential to the achievement of national and international climate goals, such as the Paris Agreement and the Net Zero by 2050 agenda. Corporate disclosure on emissions reduction commitments is varied, and generally voluntary, with targets associated with different emissions scopes, baselines, and target years, and varying use of offsets and carbon removals to achieve corporate goals. Investors require consistent and standardized data on company emission reduction commitments and future emissions trajectories to inform investment strategies, engagement and reporting activities.

The S&P Global Sustainable1 Net Zero Commitments Dataset offers comprehensive data on the emissions reduction commitments and future emissions trajectories of companies identified as having net zero or equivalent targets and commitments. The current coverage of the dataset is ~2,700 companies and 4,989 unique targets, however this is expected to grow over time as more companies make climate commitments. Key features of the dataset include:

- Emissions Reduction Targets: Comprehensive and standardized data on the emissions reduction commitments of companies with published net zero or equivalent targets, including information on the baseline, target year, scope, emission reduction magnitude, and the intended use of carbon offsets and permanent carbon removal technologies.

- Indicators of Target Comprehensiveness and Target Achievement: Indicators of the degree to which full value chain corporate GHG emissions (Scope 1, 2 and 3) are covered by a given target, and whether a given target is on track to be achieved based on realized medium term historical emissions reduction performance. This analysis is informed by historical data on absolute greenhouse gas emissions and emissions intensity from the past five years of disclosure

sourced from the Trucost Environmental Dataset which is compiled from company reporting and advanced modelling techniques.[1]

- Forecasted Emissions: Projected future greenhouse gas emissions based on (1) identified emissions reduction targets and (2) business-as-usual (GICS sub-industry) trends, from the first year following the latest full year of emissions available through to 2050 for Scopes 1, 2 and 3 greenhouse gas emissions.

- Climate Scenario Comparisons: Comparison of projected future greenhouse gas emissions with established future climate scenarios published by the International Energy Agency (IEA), Science Based Targets Initiative (SBTi) and the International Institute for Applied Systems Analysis (IIASA).

Data Sources and Collection

The Net Zero Commitments Dataset methodology is built upon the following key data sources:

- A database of company greenhouse gas emission reduction targets compiled by S&P Global Sustainable1 from company sources such as annual reports and sustainability reports and company webpages, and from other published sources such as CDP.

- The Trucost Environmental Dataset which offers Scope 1 and 2 and Scope 3 upstream and downstream absolute greenhouse gas emissions based on company reporting and best in class estimation techniques.

- S&P Global Capital IQ company reference data including time series data on company gross profits.

- Temperature aligned climate scenario datasets published by authoritative sources such as the International Energy Agency (IEA), Science Based Targets Initiative (SBTi) and International Institute for Applied Systems Analysis (IIASA) which publishes scenarios for use by the Intergovernmental Panel on Climate Change and Network for Greening the Financial System.

- Information on targets that have received a third-party validation as 'Science Based', sourced from the Science Based Targets Initiative.

Methodology Overview

The S&P Global Sustainable1 Net Zero Commitments Dataset methodology is based on the following key analytical steps:

1. Characterisation of Historical Emissions Performance and Targets: S&P Global Sustainable1 combines published company emissions reduction commitments with reported and estimated historical emissions data to characterize company projected future greenhouse gas emissions pathways, and alignment with climate scenarios including a range of published net zero emissions scenarios. This involves the following steps:

    - Calculate Expected Annualized Reduction: The expected annual rate of emissions reduction is calculated based on each company's published net-zero and interim greenhouse gas emissions targets where identified,

[1] S&P Global Sustainable 1. 2020. Trucost Environmental Data Methodology Guide. [Online]. https://www.support.marketplace.spglobal.com/en/datasets/alternative/trucost_environmental/trucost_environmental_data_methodology_guide.pdf

including the targeted percentage reduction in greenhouse gas emissions and the target timeline (from the latest financial year to the target horizon year).

- Estimate Historical Performance Trend: Actual emissions for each company are evaluated for the past five years of GHG emissions history and a linear regression model is fitted to calculate the historical emissions reduction trend based on all available datapoints.

- Benchmark Historical Performance vs Future Commitments: Company historical emission reduction performance is compared with the required annualized rate of emissions reduction to meet each of a company's identified targets, representing the constant compound annual rate of change required to meet the full targeted reduction between the target baseline year and horizon/end year. In cases where a target baseline year is not disclosed, the required annualized rate of emissions reduction is calculated by assuming the target announcement year is the baseline year, and if baseline and announcement years are both undisclosed, the required annualized rate of emissions reduction uses the latest year of historical GHG in their place. If the historical rate of reduction is at least 90% of the required rate of reduction under a target, then company performance is assessed as 'Likely' to meet that target if recent performance continues. If the historical rate of reduction is less than 90% of the required rate of reduction, the company is assessed as 'Unlikely' to meet that target if recent performance continues.

2. Forecasting of Company Future Emissions: Future company emissions are forecasted based on each company's stated emissions reduction targets and business-as-usual emissions growth assumptions. The process is as follows:

    - Estimate GICS Sub-industry Trends: The historical annual growth rate in greenhouse gas emissions (CO_2e) per $US million of value added and historical annual growth rate in value added are combined to create a business-as-usual forecast for the period from the latest full financial year recorded in the Trucost Environmental database to 2050 and aggregated to averages for each GICS sub-industry. Value added is used as a proxy for company activity growth. This historical emissions intensity is used to project the future emissions trajectory for each company assuming the absence of an emissions reduction commitment, based on GICS sub-industry trends.

    - Forecast Future Emissions: Future emissions are projected for each company for Scopes 1, 2 and 3 based on the historical performance trend, the GICS subindustry trend and the annualised rate of emissions reduction associated with each company's identified greenhouse gas emissions reduction targets (calculated at Step 1) for the period from the last historical year of performance available through to 2050. If a company has set targets with a target year prior to 2050, emissions for the remaining period to 2050 are assumed to follow the GICS sub-industry trend. A business-as-usual emissions trajectory is also estimated based on the GICS sub-industry trend, without adjusting for any greenhouse gas targets. Comparison of future forecast emissions with the business-as-usual scenario aids the quantification of the additionality of emissions reductions achieved or projected under each company's targets through 2050.

    - Temperature Scenario Alignment: Forecasted future emissions for each company can be compared with a user selectable range of temperature aligned scenario options (e.g., 1.5 degrees, 2 degrees) published by the IEA, SBTi and IIASA to determine the alignment of forecasted company emissions pathways with each scenario. Such comparisons are based on an absolute contraction method wherein it is assumed a company should make the same percentage reduction in absolute GHG emissions per year as the user selected scenario over the relevant time period.

Monitoring and Review

S&P Global Sustainable 1 applies a rigorous quality assurance process to the development and ongoing maintenance and enhancement of the Net Zero Commitments Dataset based on input data validation, model unit testing, output data validation and benchmarking against current solutions (Trucost Paris Alignment Dataset), quarter on quarter comparison and delivery channel validation.

Assumptions and Limitations

Key limitations of S&P Global Sustainable1's Net Zero Commitments Dataset include:

- Emissions Imputation: Historically S&P Global Sustainable1 has identified incomplete and missing data points in the disclosed greenhouse gas emissions data used to assess historical company performance. As such, S&P Global Sustainable1 applies the following assumptions to address these cases (i) if a missing datapoint falls between at least two valid data points, a linear interpolation method is applied to estimate the missing datapoints, and (ii)where data is missing for the most recent historical years, emissions for the missing years are assumed to be the same as the latest available year. This approach implicitly assumes no emissions reduction in the absence of evidence.

- Sub-Industry Trends: Future activity levels and greenhouse gas emissions are projected based on historical GICS sub-industry trends using time series data from 2005 to the latest full financial year in the Trucost Environmental Dataset. While this approach offers a robust foundation for future trend projections, historical activity growth may not be a reliable indicator of future growth, particularly in the context of the transition to a lower carbon economy.

- Profit Adjustments: Forecasted company gross profit data, based on GICS sub-industry trends, is used as a proxy for future company growth and activity, and in turn in the estimation of future emissions under a business-as-usual scenario. GICS sub-industry activity growth trends are adjusted based on the historical average US GDP price deflator (World Bank) to account for the impact of macroeconomic factors on company profits and, by extension, their emissions.

- Achievement of Company Targets: S&P Global Sustainable1 calculations of target-adjusted forecasted future emissions pathways are based on the assumption that targets will be met on time and in a smooth annualized decarbonization rate based on a geometric rate of decarbonization between most recent available historical emissions and the horizon year(s) of company disclosed targets. Other patterns of achievement are possible outcomes including (1) non-achievement, (2) faster achievement, (3) slower achievement, and (4) achievement of targets at a non-linear rate. Companies regularly announce new targets and revise their existing emissions reduction targets, which may cause delays in S&P Global Sustainable1 identifying them.

- Coverage of Company Targets: Automated screening of company annual reports, sustainability reports and other reports using automated text searching techniques was used to help inform the prioritisation of companies for data collection. S&P Global Sustainable1 also draws on other information, such as a variety of public databases and industry publications to further refine the prioritization of companies for data collection. While these approaches have proven to be an effective means of identifying companies with relevant disclosed net zero and other emissions reduction targets, the timing of company reporting and S&P Global's data collection may not fully align and therefore it is possible that some relevant targets or commitments may not yet have been captured in the dataset at the time of publication. S&P Global Sustainable1 is continually refining its process and expand the collection of emissions reduction targets, especially as company reporting evolves and new commitments are made.

Updates

The Net Zero Commitments Dataset is updated at least annually.

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