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Breaking Down Corporate Net-Zero Climate Targets

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Contents

Executive Summary

An increasing number of companies are setting “net-zero” climate targets. Broadly, these targets represent a commitment by each company to reduce its greenhouse gas (GHG) emissions to a minimum and to compensate for the remaining unavoidable emissions with carbon removal or offsets.

In this guide, we offer an analytical framework to assess companies’ decarbonization goals, including net-zero targets. The framework is intended to help institutional investors answer questions such as: What percentage of total emissions do the company’s targets aim to reduce? How quickly does the company intend to achieve its emissions reductions? How much confidence can one have that a target will be met, given the target’s key characteristics and what we know about the company’s track record and strategy for meeting climate targets?

Understanding companies’ climate commitments, particularly with regard to net-zero, and being able to compare companies’ sometimes-heterogeneous climate promises on a consistent basis are critical for institutional investors seeking to measure or mitigate climate risks in their portfolios. The guide may also be useful for companies designing their climate commitments in line with peers or with best practices in mind.

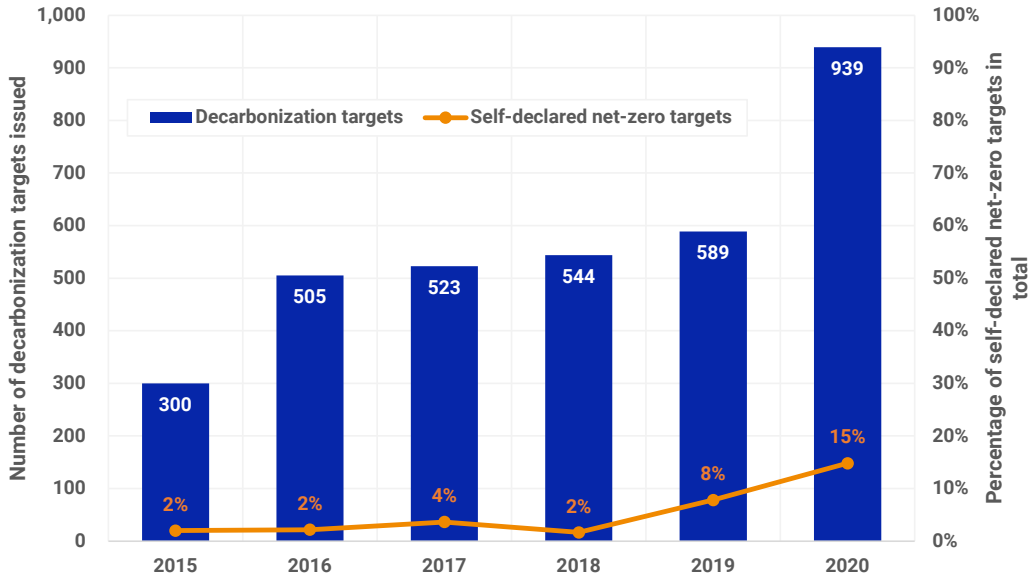
Key Takeaways

- Companies’ decarbonization targets have multiple dimensions. Assessing them requires breaking them down into individual components: the target types and units, boundaries of emissions they cover, targeted reductions and associated timelines.
- It can be difficult to compare decarbonization targets among companies. Even targets that appear to be similar on the surface can turn out to be quite different when looking at them under the hood.
- This heterogeneity calls for a framework to assess targets consistently. This guide offers an analytical framework — the MSCI Target Scorecard — to help evaluate companies’ climate targets across three key dimensions: comprehensiveness, ambition and feasibility. The framework also plots a company’s emissions trajectory, assuming commitments get met, against a net-zero pathway by 2050.

Introduction: Decarbonization Targets and Net-Zero

Decarbonization targets are commitments to reduce GHG emissions. They are a key component of the Task Force on Climate-related Financial Disclosure (TCFD) recommendations, and can provide an indication of a company's intent both to reduce its impact on climate change and to minimize potential risks associated with its emissions.[1] These targets may continue to be a core building block within corporate climate change strategies, with approximately 35% of MSCI ACWI Index constituents having set some type of target to achieve between 2021 and 2100, as of January 2021.

Exhibit 1: Number of Companies that Set or Added Decarbonization Targets



Based on MSCI ACWI Index constituents. Self-declared net-zero targets include those targets aimed at reducing 100% of all emissions (i.e., Scopes 1, 2 and all categories of Scope 3) as well as those aimed at reducing 100% of individual scopes or categories of Scope 3. Source: MSCI ESG Research LLC

We have observed an increase in companies setting "net-zero" emissions targets, rising from six in 2015 to 139 — or about 15% of all new targets (see Exhibit 1 above) — in 2020. Net-zero targets are a particular type of decarbonization target in which a company aims to bring its GHG emissions to zero, on a net basis. The term "net" comes from the fact that, in practice, most companies cannot operate without

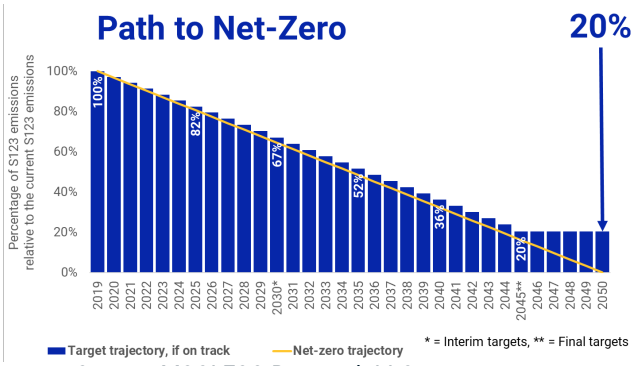
[1] TCFD. 2020. Metrics and Targets, www.fsb-tcfd.org.

emitting at least *some* GHG — hence, there is usually a need to compensate for residual emissions via carbon offsets or carbon removal.

The proliferation of decarbonization targets and net-zero targets is no doubt a positive development — and yet, the devil is in the details. An analysis of such targets reveals sometimes-large differences among targets that might, at first blush, appear to be similar. This heterogeneity in targets can make it difficult to assess the potential that impact targets could have, if achieved, on the environment or on companies' climate-risk profiles.

Decarbonization targets are characterized by some key components. Exhibit 2 displays a snapshot of the analytical framework (the MSCI Climate Target Scorecard) for a hypothetical company (HyCo).

Exhibit 2: MSCI Climate Target Scorecard for Hypothetical Company (HyCo)



HyCo	HyCo Industry
Leaders	
Comprehensiveness	
Type	Absolute + Intensity
Unit	tCO2, Sales
Targeted scopes	123
Targeted scope 3 categories	1 2 3 4 5 6 7 8
Percentage of company footprint covered by target	79.6%
Ambition	
Target year	2045
Remaining emissions reduction	79.60%
Projected reduction per year, normalized	3.5%
Projected emissions @ 2030 versus 2050-net-zero trajectory	-7.4%
Projected emissions @ 2050 versus 2050-net-zero trajectory	20.4%
Feasibility	
Track record of meeting historical targets	Met some targets
Progress towards active targets	Not on track with any targets
Revenues from climate change solutions (% of total)	8.2%
Intention to use carbon offsets	Yes
Strategy	Engage suppliers, EV100, RE100

Source: MSCI ESG Research LLC

This guide provides a framework for assessing decarbonization targets, including net-zero targets. We describe decarbonization targets' key components and highlight where some of the strengths and weaknesses of a target might lie. Specifically, we break down targets by three distinct dimensions:

Exhibit 3: Three Dimensions for Assessing Decarbonization Targets

Analytical Framework	Descriptions	Key Components
Comprehensiveness:	Does the target focus on the majority of a company's emissions?	▪ Type ▪ Unit ▪ Target scopes ▪ Target coverages ▪ Percentage of company footprint covered by targets
Ambition:	How much and how quickly does a target aim to reduce emissions?	▪ Remaining emission reduction ▪ Normalized reduction per year ▪ Target year ▪ Projected target emissions against net-zero trajectory in 2030 ▪ Projected target emissions against net-zero in 2050
Feasibility:	How feasible is a given target, and how much confidence can investors have in its achievement?	▪ Track record of meeting previous targets ▪ Progress on active targets ▪ Intention to use carbon offsets ▪ Revenue from climate-change solutions ▪ Decarbonization strategy by scope and category

Dimension #1: Comprehensiveness

First, we examine whether the target is **comprehensive —** in other words, whether it is focused on all, or at least a large proportion, of the company's total emissions.

For this analysis, one must look at two aspects: the emission scopes that are covered by the target, and the activities and geographies covered by the target.

Below, we analyze these two aspects and suggest a measure of target comprehensiveness: the **Effective Coverage Ratio**. We then focus on what comprehensiveness means specifically for net-zero targets.

Emissions Scopes

Different business activities are associated with the prevalence of different scopes of emissions. For example, the emissions of an electric utility typically will mostly reside within the boundary of its Scope 1 (direct) emissions, while the carbon footprint of an oil and gas producer or automobile manufacturer typically will be dominated by Scope 3 emissions (indirect emissions other than from the generation of purchased electricity).[2] Ideally, a target would cover all scopes of emissions — but where it does not, a target is more meaningful if it covers the scopes of emissions that are predominant for the company.

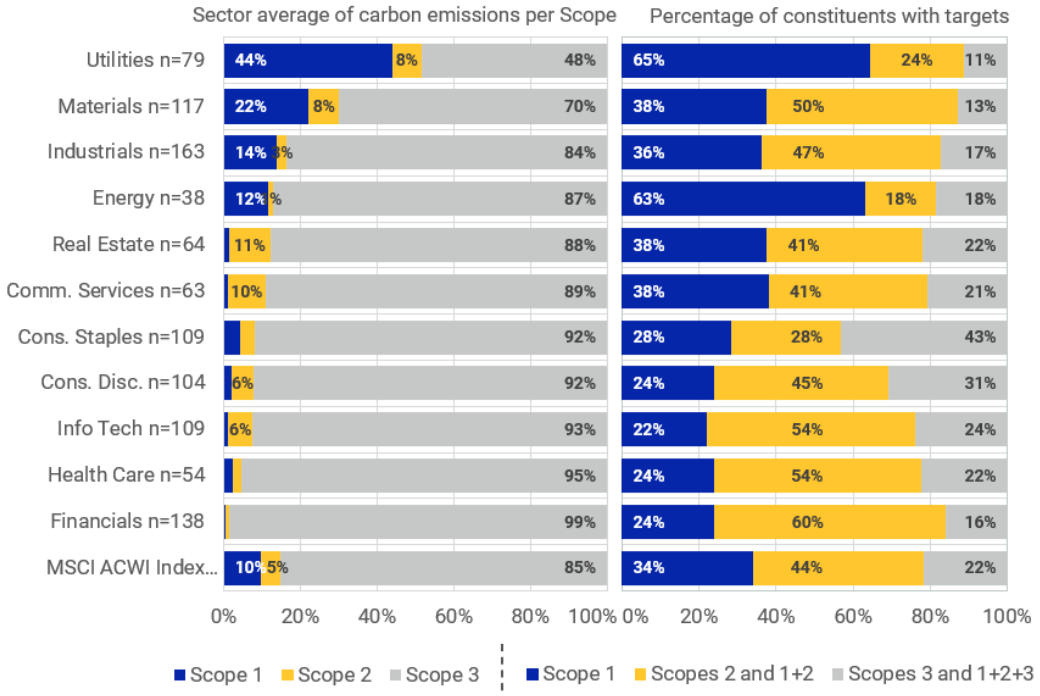
Exhibit 4 shows the distribution of emissions and company targets by scope for the MSCI ACWI Index, broken down by Global Industry Classification Standards (GICS®) sector.[3] In some sectors, targets primarily related to different scopes. For instance, 65% of the targets set by the utilities sector focused on Scope 1 emissions, which was the dominant scope in that sector (44% of emissions). However, in other sectors, there were some misalignments: While 87% of the energy sector's emissions were in Scope 3, only 18% of targets covered Scope 3.[4] The results were even starker for financials, where 99% of emissions came from Scope 3 but only 16% of targets covered this scope.

[2] For details of what scopes of emissions are, see "The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard (Revised Edition)." World Business Council for Sustainable Development and World Resource Institute.

[3] GICS is the global industry classification standard jointly developed by MSCI and Standard & Poor's.

[4] For this analysis, Scope 3 emissions were estimated by the MSCI Scope 3 Carbon Emissions Estimation Methodology, which is aligned with the GHG protocol. For more information, please see: Hadjikyriakou, P., Bokern, D. and Klug, A. 2020. "Scope 3 Carbon Emissions Estimation Methodology." MSCI ESG Research LLC.

Exhibit 4: Scopes of Carbon Emissions (left) and Targets (right) by GICS Sector



This research used two-digit codes to define each GICS sector peer set. Total carbon emissions of each sector comprise Scope 1, 2 and 3 emissions. Scope 1 and 2 emissions were reported by the companies or estimated by the MSCI Climate Change Metrics Methodology. Scope 3 emissions were estimated by the MSCI Scope 3 Carbon Emissions Estimation Methodology, which is aligned with the GHG protocol. Scope 2 targets included energy consumption reduction targets. When multiple targets existed, the scope of final target year was represented in the chart. Source: CDP, MSCI ESG Research, as of Jan. 5, 2021

Coverage Ratio

A target's **Coverage Ratio** refers to the proportion of emissions, *within the target scope(s)*, subject to the target. It is expressed as a percentage.

Ideally, a target would cover all business activities and geographies leading to a company's Scope 1, 2 or 3 emissions. However, sometimes targets specifically exclude some activity or geography leading to Coverage Ratios that are below 100%.

For instance, a European electric utility might have a target to reduce its Scope 1 emissions within Europe, but not have the same target for its operations outside of Europe. This target would cover Scope 1 but would have a Coverage Ratio of less than 100%. Similarly, an automobile manufacturer might have fuel efficiency targets

for the passenger cars it produces but no such target for its commercial trucks; such a Scope 3 target would also have a Coverage Ratio below 100%.

Effective Coverage Ratio

As explained above, a target will be more comprehensive when it focuses on a company's predominant emissions scope(s) and has a high Coverage Ratio. To combine these two aspects, MSCI computes an "Effective Coverage Ratio," which represents how much of a company's *total* emissions (in other words, across all scopes and categories, activities and geographies) a target covers.

The **Effective Coverage Ratio** of a target is the product of: (a) the proportion of the emissions in the target scope(s) in the company's total emissions, and (b) the target's Coverage Ratio, as shown below:

$$Effective\ Coverage\ Ratio = \frac{Emissions\ in\ target\ scope(s)}{Emissions\ across\ all\ scopes}\ x\ Coverage\ Ratio$$

All else being equal, higher Effective Coverage Ratios indicate more comprehensive targets.

Implications for Net-Zero Targets

As we have seen, net-zero targets are not always comprehensive. An analysis of net-zero targets issued by MSCI ACWI Index constituents reveals that only a few targets had 100% effective coverage per Scopes 1, 2 and 3 emissions, as shown in Exhibit 5.

Exhibit 5: Relatively Few Companies Have Set Net-Zero Targets for All Scopes

Source: CDP, MSCI ESG Research, as of Jan. 5, 2021

Comprehensiveness for Hypothetical Company (HyCo)

HyCo has two active targets:

An interim target to reduce the latest Scope 1 and 2 intensity of sales by 75% by 2030

A final target to reduce absolute Scope 1, 2 and 3 upstream emissions by 100% by 2045

Both targets use 2017 as the base year and cover all business activities of HyCo in all its country of operations.

Focusing on the final target, we calculate the following measures of comprehensiveness:

Coverage Ratio: As it covers all activities and geographies of HyCo, the final target's coverage ratio is 100%.

Proportion of scopes covered: The final target covers all emissions of the company *except* Scope 3 downstream (i.e., Categories 9 through 15). MSCI estimates that the Scope 3 downstream emissions of HyCo represent 20.4% of its total emissions, so this target covers only 79.6% of the company's total emissions.

Effective Coverage Ratio: The target's ratio is thus 100.0% x 79.6% = 79.6%.

Dimension #2: Ambition

The next dimension to consider is a target's **ambition**, which is itself a function of two aspects: the amount of the emissions reduction envisioned by the target and the target timeline.

In this section, we analyze those two aspects and suggest some key measures of target ambition, focusing on what the concept of ambition means for net-zero targets.

Emissions Reduction

Targets usually carry a stated reduction amount, conveying how much a company aims to reduce emissions by, expressed in percentage points of what the covered emissions were in a reference year (the "base year"). Because the base year may be different from the most recent year of reporting, it is useful to recalculate how much emission reduction a target entails by referring to the company's latest reported or estimated emissions. Thus, MSCI adjusts reported data, calculating the "Remaining Emissions Reduction" for targets.

The **Remaining Emissions Reduction** is the difference between the latest emissions and the target emissions, expressed in percentage of the latest emissions:

$$Remaining\ Emissions\ Reduction = Effective\ Coverage\ Ratio\ x\ \frac{Latest\ Emissions - Target\ Emissions}{Latest\ Emissions}$$

Where:

- The **latest emissions** are the company's total emissions (across Scopes 1, 2 and 3) in the year that they were most recently reported or estimated.

The **target emissions** are what the covered emissions would be if the target was successfully implemented, calculated as:

$$Target\ Emissions\ = Base\ Year\ Emissions\ x\ (1 - Stated\ Reduction\ Percentage)$$

The **Base Year Emissions** are the covered emissions in the base year.

Timeline

Targets usually state a target year, by when the target is to be achieved. For a given amount of emissions reduction, a shorter timeline denotes a higher level of ambition — although there could be a tension here, as too short a timeline could also be unrealistic (see next section on feasibility).

Implications for Net-Zero Targets: Trajectory to Net-Zero

We can combine the information on emissions reductions and timeline to draw a company-level trajectory of future emissions, assuming the targets are achieved in line with the timeline. Drawing this trajectory, we can immediately see how a company's climate targets compare with a net-zero trajectory by 2050 and how the trajectory may deviate from the target at the key horizons of 2030 and 2050. We illustrate this concept in the example below.

Ambition for HyCo

Using the 2030 and 2045 targets of HyCo, we draw the projected trajectory in Exhibit 7. The blue bars show the yearly emissions, expressed in percentage points of its total emissions across all scopes in 2019 (the latest reporting year). The emissions are reduced as HyCo is assumed to achieve its 2030 and 2045 targets.

We also plot a yellow line, which is a net-zero trajectory that assumes a linear reduction of emissions to zero between 2019 and 2050. We can then compare HyCo's emissions trajectory to the net-zero path in 2030 and 2050:

In 2030, the net-zero linear path would require emissions to decline to 64.5% of 2019 emissions. HyCo's emissions consistent with its targets would be 57.6% of 2019 emissions — 6.9 percentage points ahead of the target — so HyCo is outperforming the net-zero trajectory and shows a deviation of -6.9%.

In 2050, the net-zero linear path would require emissions to be completely eliminated. To be consistent with its targets, HyCo's emissions would be 20.4% of 2019 total emissions, which — as noted above — would happen because the target does not cover Scope 3 downstream emissions. As a result, HyCo's deviation in 2050 is +20.4%, falling short of its net-zero target. Please see Exhibit 2.

Dimension #3: Feasibility

The third dimension to consider is **feasibility —** specifically, how feasible is a company's target and consequently how much confidence can one have that it will be achieved.

While it is obviously impossible to determine with certainty whether a future target will be achieved at a future date, it is possible to use additional data to inform the level of confidence.

Track Record

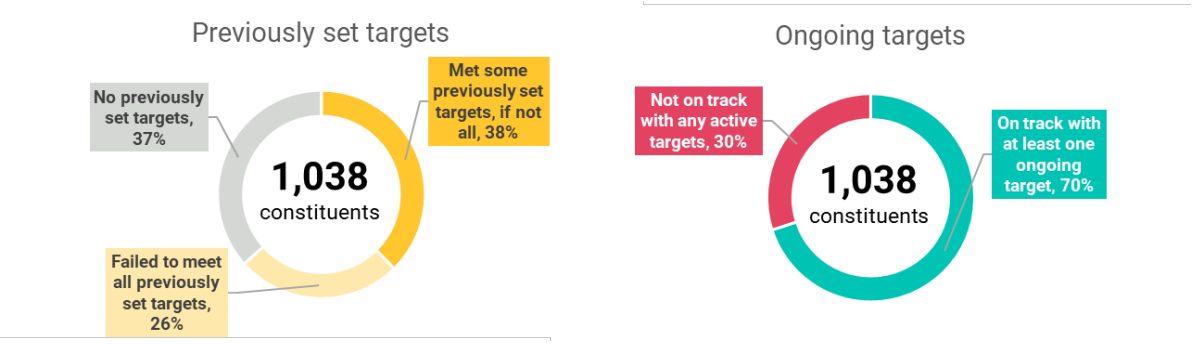
While past performance does not determine future performance, it is useful to examine a company's track record in meeting previous (now expired) targets as well as monitoring its progress in meeting current targets.

MSCI assesses a company's track record by comparing expired targets' original target emissions and the reported emissions in the target year. If the reported emissions are below the original target emissions, then the target was met. Similarly, MSCI assesses the progress made by companies meeting their ongoing targets by benchmarking companies' latest emissions against the target's projected trajectory, which assumes the target is achieved linearly (in other words, the same amount of reductions is achieved each year between the base year and the target year). If the latest emissions were lower than the trajectory, then the company was on track.

Exhibit 6 analyzes the track record of MSCI ACWI Index constituents. Of the 1,038 constituents with carbon targets, 658 (63%) had set at least one previous target. Of those, 393 (38%) had met at least one target. A majority (59.7%) of companies that set targets met at least some of them, and 13.5% of companies met all their previously set, now expired targets.[5] Also encouraging was that 727 (70%) of the 1,038 companies were on track to meet at least one of their ongoing targets. Companies in the utilities and financials sectors were more likely to be on track, while those in energy and health care were less so.

[5] This track-record analysis covered all 1,038 companies in the MSCI ACWI Index that reported targets that are to be achieved between 2021 and 2070 (which we refer to as "ongoing" targets). Because baseline emissions and target coverage information are not consistently reported by the companies, we used either reported or estimated baseline emissions and target coverage for this analysis. For the companies that did not report target coverage information, we assumed 100% target coverage ratio for this analysis.

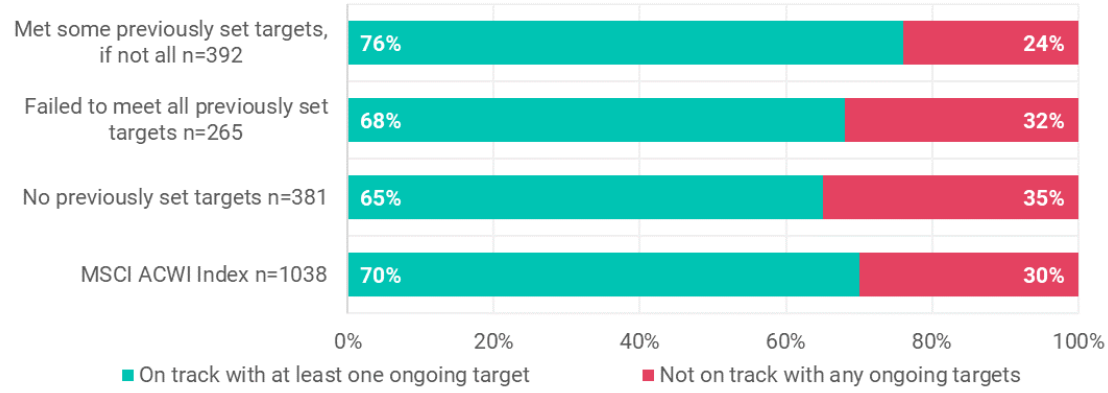
Exhibit 6: Company Track Records on Emission Targets



The track records of previously set targets and percentage of companies that were on track with ongoing targets were assessed using MSCI Climate Change Metrics. Source: MSCI ESG Research, company disclosure, as of Jan. 5, 2021.

We also found that a track record of setting and meeting previously set targets seems to indicate a higher likelihood of current, ongoing targets being met (Exhibit 7). The percentage of companies on track to meet ongoing targets was highest for the group of companies that had met previously set targets that have now expired (76%) and lowest for companies that had never previously set targets (65%). More than two-thirds (68%) of companies who had previously set targets but failed to meet them were on track to meet their ongoing targets, suggesting that merely *setting* targets can still improve the likelihood of meeting ongoing targets.

Exhibit 7: Status of Ongoing Targets by the Track Record of Previously Set Targets



The track records of meeting previously set targets and the percentage of companies on track with ongoing targets were assessed using MSCI Climate Change Metrics. Source: MSCI ESG Research, company disclosure, as of Jan. 5, 2021.

Strategy

Companies can pursue many different strategies to decarbonize operations and products. Depending on a company's largest sources of emissions, some strategies may be more effective than others. A number of different data points are required to form a view on the adequacy of a company's strategy.

For instance, to reduce Scope 1 emissions, a company may have announced a detailed plan to reduce its operational emissions, relying on certain technologies that may or may not already be commercially available, such as carbon capture and sequestration. To reduce Scope 2 emissions, companies can switch their energy use to renewable sources; for this, MSCI quantifies the percentage of energy purchases that are from renewable sources. Finally, to reduce Scope 3 emissions, a company may rely on a several approaches, depending on the Scope 3 category that it aims to reduce. Those approaches may involve, among others, engaging with suppliers to reduce the upstream categories (1 through 8) and transitioning the company's output toward low-carbon goods and services to reduce the downstream categories (9 through 15). For the latter, MSCI calculates the percentage of revenue coming from alternative energy, energy efficiency and green buildings ("climate-change revenue") for all companies.[6]

It can also be informative to explore whether a company engages with external parties as part of its climate-transition strategy. For instance, is the company a supporter of TCFD? Has the company engaged with the Science-Based Targets Initiative (SBTi) to get its target approved? Is the company a member of an industry organization aiming to decarbonize that industry? Or is the company a member of cross-industry organizations aiming to decarbonize specific parts of their footprint, such as committing to switch to 100% renewable energy usage (RE100) or 100% electric vehicle fleets (EV100)?

Implications for Net-Zero Targets

The feasibility of a target is related to its ambition; more ambitious targets are more difficult to achieve. In that sense, feasibility is a key consideration for net-zero targets because these targets are the most ambitious in terms of the amount of emissions they seek to reduce.

Another key variable affecting the feasibility of a net-zero target is its timeline. Specifically, a timeline that is very short may not be feasible — especially if the technology required to achieve such a target is currently unavailable.

[6] For more information on climate-change revenue, see "MSCI Sustainable Impact Metrics Methodology." January 2021.

Feasibility for HyCo

Track Record

For the track-record analysis, we first examined HyCo's previous targets. HyCo had only one target that had expired, which was to reduce its Scope 1 and 2 emissions by 30% between 2012 and 2017. Looking at HyCo's historical Scope 1 and 2 emissions, we calculated that the company had reduced emissions by 22% between 2012 and 217. Thus, HyCo had failed to achieve this target.

Turning to its two active targets (as detailed in the first box on page 13), we look at the progress made by HyCo between the year of the targets' announcement (2017) and the latest reporting year (2019):

- HyCo's interim target is to reduce Scope 1 and 2 emissions intensity of revenue by 75% between 2017 and 2030, which corresponds to an 11.6% reduction between 2017 and 2019. HyCo's Scope 1 and 2 emissions intensity of revenue declined by 14.0% between 2017 and 2019, indicating that HyCo is on track to meet this target.
- HyCo's final target is to reduce absolute Scope 1, 2 and 3 upstream emissions by 100% between 2017 and 2045, implying a reduction of 7.2% between 2017 and 2019. HyCo reduced its absolute Scope 1, 2 and 3 upstream emissions by only 6.5% between 2017 and 2019, so the company is *not* on track to meet this target.

Overall, the company's track record shows that HyCo did not meet previous targets but is on track to meet some active targets.

Strategy

HyCo has a comprehensive decarbonization strategy, outlined as follows:

- To reduce Scope 2 emissions, it projects a very high degree (80.8%) of renewable energy purchases.
- To reduce Scope 3 upstream emissions, it is pursuing an engagement strategy with its suppliers and an investment program for the treatment of its waste generated in operations.
- To reduce Scope 3 downstream emissions, 8.2% of its revenue is from climate-change solutions.
- In addition, HyCo intends to use carbon offsets to compensate for some of its unavoidable Scopes 1, 2 and 3 upstream emissions. HyCo is also a member of both RE100 and EV100.

Aggregating Multiple Targets

It is common for companies to set multiple decarbonization targets, but they are not always comparable. Sometimes, the targets cover the same emissions but have different timelines. In other cases, the targets cover different scopes of emissions or different activities or geographies. In yet other cases, companies use a combination of absolute emissions and emissions intensity targets, which are expressed in different units.

Not all such targets are mutually exclusive for a company, so it can be a challenge to aggregate its multiple targets without encountering double-counting issues. In general, when aggregating multiple targets, we want to select only one for a given future year and for a given type of emissions. But which one should we choose when targets overlap?

We use the following decision rules:

1) **We convert all emission-intensity targets into absolute-emissions targets**. Doing so requires us to make an assumption about the future growth of emissions and sales. For instance, to convert a sales intensity target into an equivalent absolute-emissions target, we must make an assumption of growth in both emissions and sales between today and the target year. For this purpose, we assume a 1%[7] annual growth rate for all intensity-related targets. This assumed positive growth rate has the effect of making intensity targets less effective than absolute-emissions targets, all else being equal, except, of course, for net-zero targets (a net-zero intensity can only be achieved with net-zero absolute emissions).

   We estimate absolute-emissions reduction based on the intensity target under a 1%-per-year economic growth scenario, following the two steps below.

$$Target\ intensity = Base\ Intensity * (1 - Reduction\ \%)$$

$$Absolute\ emissions\ reduction\ based\ on\ an\ intensity\ target\ under\ the\ 1\%\ growth\ scenario = Target\ intensity * (Unit * (100\% + (1\% * (Target\ year - Latest\ year))))$$

2) **We then separate targets covering different types of emissions** (in other words, scope of emissions or emissions from different business lines) **and different target years**. Doing so allows us to identify targets that may overlap.

[7] The 1% growth rate is estimated based on the average growth rate of emissions from the UN Gap Report (UN Environnent Programme, Emissions Gap Report adjusted for GDP based on data from the World Bank.

3) **Next, we aggregate targets** over type of emissions and future years as follows:

    a. When targets overlap both by type of emissions and by target year, we favor absolute-emissions targets over intensity targets, and if targets are of the same type (both absolute or both intensity targets) we pick the target with the higher Remaining Emissions Reduction.

    b. When targets cover the same types of emissions but have different target years, we assume that the targets with earlier target years are met first, then move on to targets with later target years and subtract the progress already made through the targets with the earlier target years.

Conclusion

Climate targets are a fundamental part of companies' strategy to transition to a net-zero economy and one of the few quantitative indicators companies can provide to investors and the public about their decarbonization plans. In recent years, we have witnessed a gradual increase in companies issuing such targets. In recent months, there has been a pickup in corporate ambition — how much and how quickly companies seek to reduce emissions — as well as an increase in the number of companies issuing net-zero targets.

Although this is a positive development, it is also one that can leave investors and other stakeholders perplexed. Looking under the hood of companies' targets, we found a high degree of heterogeneity even when targets first appeared to be comparable. For instance, not all net-zero targets are created equal: While some aim to achieve net-zero emissions across a company's entire carbon footprint, many do not. In fact, some companies are focused on just a minority portion of their carbon footprint.

We assessed company targets along the three key dimensions of comprehensiveness, ambition and feasibility, using the analytical framework in the MSCI Target Scorecard. This tool also quantifies a company's alignment with "total net-zero," in other words, net-zero across a company's entire carbon footprint. This framework allows for easy comparison among companies' climate commitments.

We expect that climate targets will remain a key focus for companies as they continue to transition to a net-zero world. For investors focused on achieving net-zero portfolios, the challenge is to assess company efforts in meeting these targets.

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