Research Institute and IV Sustainability Group

Collaborative Insights

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Firms' climate transition plans: Building a framework to assess credibility

Key takeaways

- Real world decarbonisation requires allocating capital to credible corporate transition leaders. These firms set ambitious emissions reduction targets, proactively transform their businesses, and lead by example.
- Targets can't be taken at face value. But assessing the credibility of transition plans is not straightforward. Third-party frameworks usually have narrow coverage and fail to consider factors outside the firm's control.
- Drawing on contributions from experts across the firm, we have developed a corporate credibility assessment scoring system that significantly improves on the default standards used across the industry.
- Our approach has six key pillars: emissions target design, emissions performance, technology readiness, policy supportiveness, green market penetration and climate governance.
- We have tested the framework on around 400 of the large-cap global stocks most exposed to the energy transition. These firms are also covered within our bespoke climate scenario platform.
- None of the firms we analyse have fully credible transition plans, and the average firm has a large credibility gap, in much the same way that the average country has a large policy credibility gap.
- However, there is significant dispersion in credibility scores, both across and within sectors. When incorporated into our climate scenario framework, this can have a big effect on estimated exposures.
- There is more work to do to improve the coverage of firms, the quality of the data, and the method of incorporating corporate targets into climate scenario platform. These will be addressed in our 2023 work.
- Early next year we will publish a companion paper explaining how our proprietary assessment framework could best be incorporated into our investment processes, company engagement and products and solutions.

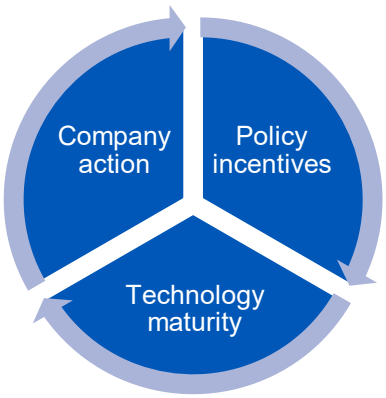
Introduction

One of abrdn's strategic priorities is supporting real world decarbonisation as outlined in our Net Zero Directed Investing strategy. For us that means allocating capital to credible transition leaders and climate solutions, as well as influencing the firms we invest in through active engagement.

Credible transition leaders are firms that set ambitious emissions reduction targets, proactively transform their businesses, and lead by example within their sectors. They are more likely to avoid the risks associated with the energy transition and take advantage of the opportunities. And it can make a big difference to how securities are fairly valued.

But how do we assess whether firms' targets and business plans are credible? The most common approach is to take targets at face value. Some frameworks also factor in concrete actions by the firm, like their short-term capital spending plans. But there are other dependencies outside of companies' direct control, including the policy backdrop and the maturity of zero and low carbon technologies, that also need to be considered.

Figure 1 Credibility assessment components



Source: abrdn, October 2022

Because of the importance of corporate credibility for climate-related investing, and the limitations of existing frameworks, we have developed our own approach. This combines assessments of company action, policy and technology readiness into a single credibility score (see Figure 1).

This rest of the paper sets out our approach, and how it influences our assessment of climate risks and opportunities in more detail.

The industry landscape

As members of the Net Zero Asset Managers (NZAM) Initiative, abrdn is required to demonstrate the credibility of its climate targets and the actions it takes to support credible transition leaders. Two standards have emerged for asset managers that incorporate credibility assessments: the Institutional Investors Group on Climate Change (IIGCC) Net Zero Investment Framework (NZIF) and the Glasgow Financial Alliance on Net Zero (GFANZ) guidelines on portfolio alignment.

With input from abrdn, the **NZIF** was published in March 2021[1]. It sought to establish a best practice framework for investors wanting to align with net zero goals. The credibility and scientific assessment of alignment is central to the framework. Target setting is required at both the portfolio and security level. At portfolio level this involves a CO_2 reduction target and a climate solutions portfolio allocation objective. Both must be set within a 10-year period.

At security level there is a 5-year window for increasing allocation to assets that are: i) achieving net-zero; ii) 'aligned' to a net-zero pathway; or iii) 'aligning' to a net-zero pathway across material sectors (see Figure 2)[2].

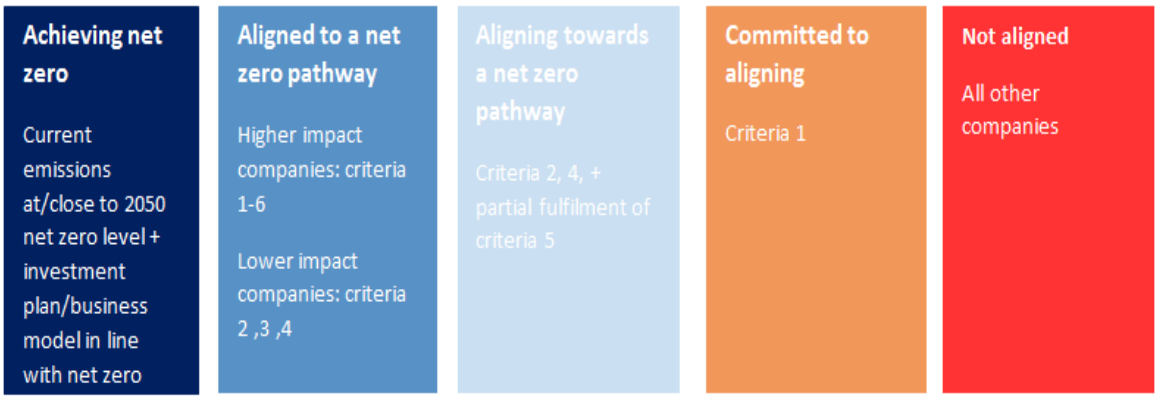
The security-level alignment is based on six criteria:

1. Ambition: A long-term 2050 net-zero goal;
2. Targets: Short & medium term emissions reduction targets;
3. Emissions Performance: Current emissions performance relative to targets;
4. Disclosure: Disclosure of Scope 1, 2 & 3 emissions;
5. Decarbonisation Strategy: A quantified plan setting out the measures that will deliver on GHG targets; and
6. Capital Allocation Alignment: Demonstration that the capital expenditures of the company are consistent with achieving its climate ambition.

Although these criteria try to capture both ambition and credibility, we regard the credibility criteria as insufficient.

In particular, they do not take into account the regulatory and policy environment in which a firm is operating, or the readiness of the technologies that are required for the firm to successfully transition.

Figure 2: NZIF security-level alignment criteria



Source: IIGCC, April 2021

The importance of credibility is also laid out by **GFANZ** in its latest consultation on portfolio alignment measurement. GFANZ sets out an initial framework for assessing credibility, based on two possible approaches, a simple and advanced approach.

A simple application of credibility would qualitatively assess how closely a target aligns to a 'description' of what makes a target credible. A more advanced approach recommends the use of indicators like the third-party validation of targets, historical trends in emissions, executive accountability for meeting targets and the policy backdrop.

Gathering quantitative data in a consistent manner to meet these requirements is a sizable challenge.

Three key external sources for credibility assessments

Meeting the requirements of the above frameworks is reliant on access to data and robust methodologies that can be used to assess ambition and credibility. Three key industry data sources that include such assessments are the:

1. Transition Pathway Initiative (TPI)
2. Climate Action 100+ Net Zero Benchmark
3. Science-based Targets initiative (SBTi)

The **TPI** provides a management quality (MQ) score focused on firms' governance, and a carbon performance (CP) score assessing company carbon targets against sector temperature pathways. This is underpinned by robust research by the London School of Economics (LSE). abrdn are a TPI research funding partner,

1 https://www.iigcc.org/resource/net-zero-investment-framework-implementation-guide/

2 Material sectors are defined as those in NACE codes A-H and J-L

The **Climate Action 100+ Net Zero** benchmark concentrates on ambition and credibility. Its 10 indictors include long-term and intermediate targets, decarbonisation strategies, capital allocation plans, climate policy engagement, governance and TCFD disclosures. This aligns with the recommendations of the NZIF and is based on TPI and FTSE Russell analysis.

The **SBTi** verifies the alignment of companies' targets with four levels of 'real world' climate ambition: net zero, 1.5 degrees, well below 2 degrees and below 2 degrees. It also offers targeted guidance for the firms operating in the highest emitting sectors. At the time of writing, 1,783 companies had SBTi approved carbon targets, and another 1,962 were committed to setting a target.

External assessments insufficient for abrdn's needs

Assessing a company's level of decarbonisation ambition, and the credibility of its strategy is not straight forward. The data comes from an array of non-standardised and often unverified sources. Targets can be based on different metrics, like absolute emissions, emissions intensity or even based on clean-energy product penetration. It is common for targets to have different base years. And the underlying design characteristics of the targets may differ.

External assessments have enough drawbacks to make it inappropriate for abrdn to rely solely on any of them for our own credibility assessments (see Figure 3). We can group these drawbacks under three categories:

1. The lack of robustness of scenario pathways

2. Limitations in the credibility assessments for companies

3. Insufficient timelines and coverage of the data

Robustness. Using third-party data to assess ambition relies on the robustness of their assessment and scenario pathway selection. For example, the almost certain policy-driven regional variation in aggregate and sectoral decarbonisation pathways is rarely taken into account. Some frameworks also implicitly assume that a company that sets a strong target will implement it.

Credibility limitations. Third-party credibility assessment frameworks also tend to be too narrow. Targets are rarely assessed within the context of the policy choices of the governments in the jurisdictions they operate in. Nor is there adequate assessment of the maturity of the technologies that emissions reductions targets are reliant on.

Timeliness and coverage. It can take a year or more for a target disclosed by a company to be reflected in third-party datasets. And monitoring of progress after a target has been set is often limited, though SBTi is aiming to have a process in place by COP28[3]. Meanwhile, only a very small proportion of the universe of investable securities is covered by the assessment frameworks, with climate solutions companies often excluded entirely.

Figure 3: Comparing third-party credibility frameworks

	Strengths	Weaknesses
TPI	• Incorporates corporate governance & target adequacy assessment • Emissions pathways are fully specified	• Modest data coverage • Data time lags • No distinction in regional pathways
CA100+	• A more comprehensive list of transition credibility indicators • Aligns with the NZIF Maturity Scale assessment	• Only covers 160 largest emitters • Data time lags • No assessment of emissions pathway alignment
SBTi	• Third-party corporate target verification • Clear specification of ambition alignment	• Emissions pathway unspecified • Many firms with credible plans not SBTi verified • Contested method for alignment assessment • Have to 'pay to play'

abrdn's credibility framework

The previous section sets out the main external frameworks for assessing the credibility of companies' transition plans. While they provide useful input to credibility assessments, they have drawbacks and should not be solely replied upon. This section outlines how abrdn's proprietary approach addresses the main limitations and forms a stronger base for credibility assessment.

A key principle of our approach is not taking corporate targets at face value. As is the case for government targets, some companies' targets are more credible than others, whether because of their design and integration in company plans, the policy environment in which they operate, or the readiness of the technologies that are required to transition.

Only by measuring and taking these credibility gaps into account can we avoid overestimating the likelihood that targets are achieved, value securities more accurately and hence make better capital allocation decisions.

A six-factor credibility scoring framework

abrdn's credibility assessment framework has six core components (see Figure 4).

1. Emissions Target Design

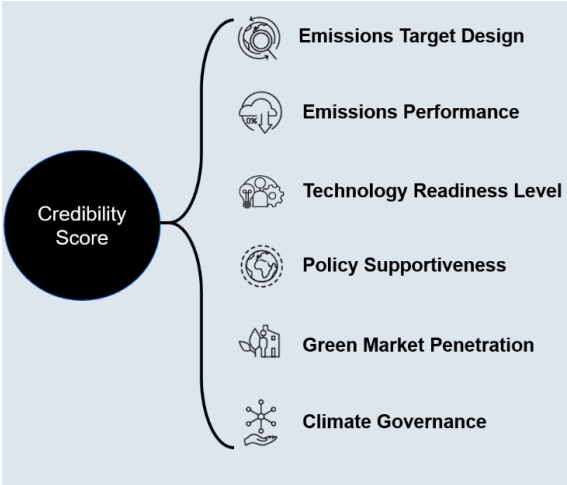
Good target design must take into account the scale, scope, measurement metric and process for evaluating progress against the target.

We assign higher credibility scores to companies setting targets that cover large shares of their emissions, including whether they encompass Scopes 1, 2 & 3. It is also important to set absolute emissions reductions targets in addition to intensity targets because absolute reductions are

3 Measurement, reporting and verification (MRV) - Science Based Targets

ultimately required to meet the goals of the Paris objectives and achieve net zero.

Figure 4: abrdn's credibility score schematic



Source: abrdn, October 2022

2. Emissions Performance

We assess whether companies are on track to meeting the targets they have set for themselves. Though we prefer targets to be expressed in absolute terms, the emissions intensity of a firm's operations must also be considered. Emissions intensity is a better measure of carbon efficiency. It also allows solutions providers with residual emissions to grow, and firms with cheaper abatement options to gain market share, in the early phase of the transition without being unduly penalised. We track the year-on-year changes in intensity and favour greater levels of intensity reduction.

3. Technology Readiness

In many sectors, successful decarbonisation will rely on the use of technologies that are not yet mature and there may be uncertainty whether they will ever be viable. It is crucial to account for this technology readiness in credibility assessments.

We assess this using the IEA's International Technology Readiness Level (IEA TRL) framework. The TRL score ranges from 0 to 11. A score of 11 is set aside for mature technologies with predictable growth. A score of 1 denotes a speculative idea. TRL scores are heterogenous, varying significantly across and within sectors. Companies with high scores relative to industry peers have a first-mover transition advantage. Indeed, we have already seen pockets of a 'green' premium emerge in otherwise hard to abate sectors like steel and cement.

4. Policy Environment

It is easier for companies to achieve decarbonisation targets where they are in harmony with the government policies and regulations of the markets they operate in.

The policy supportiveness component of our credibility framework is derived from the abrdn's Research Institute's Climate Policy Index (CPI). It aims to assess the relative net zero alignment and credibility of countries' decarbonisation targets. The qualitiative components, which we use in the abrdn corporate credibility framework, cover political drivers, the extent of carbon pricing, whether targets are binding, and corporate lobbying activity.

A company's score is adjusted to reflect the geographic segmentation of its revenues. This accounts for the fact that a multinational will be subject to different policies and regulations for different parts of its business.

5. Green Market Penetration

The credibility methodology includes an assessment of a company's ability to penetrate green markets. Companies with higher 'green' revenues have developed technological competencies in the manufacturing and distribution of 'green' products. The higher the proven 'green' market penetration of a company the higher the credibility assigned to a company's credibility. It is also a useful proxy for 'green' capital expenditures. 'Green' market penetration is measured as a percentage of company 'green' revenues.

6. Climate Governance

The last component of the credibility methodology captures the supportiveness of a company's governance policies and frameworks. Companies with strong governance frameworks in place will be more likely to produce robust decarbonisation strategies and maintain board-level accountability to climate commitments, here we utilise the TPI's MQ score.

The above six factors are scored. Corporate credibility scores are then derived as a weighted average of these individual factor scores. The result is a company transition credibility score within a range of 0 (lowest credibility) to 4 (highest credibility).

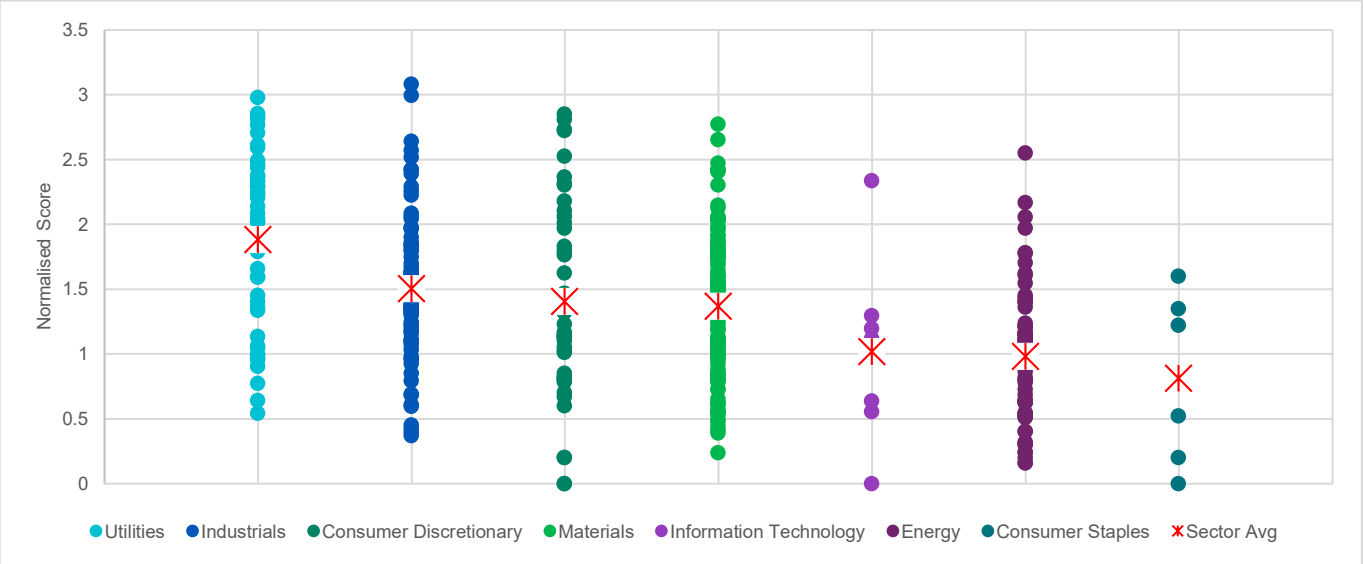
Credibility varies greatly across and within sectors

Figure 5 shows the distribution of credibility scores across the nearly 400 large-cap stocks where data is available. We plan to expand this to more than 2000 stocks in 2023.

A few aspects stand out:

- None of the companies we cover are assigned a score of 4, which would denote full, credible alignment with net zero emissions by 2050.
- The mean score of 1.5 implies that there is a very significant aggregate transition credibility gap across the world's largest and heaviest emitting listed firms.
- The average credibility score is highest in the Utilities sector and lowest in Energy and Consumer Staples. Policy alignment and technology readiness heavily shape this distribution.
- Mirroring the conclusions of our original climate scenario analysis, there is enormous variation in credibility within sectors.
- As such, only considering the sector a company is in tells the analyst very little about the credibility of its transition plans.
- Considering scoring factors, companies tend to do best on their climate governance structures, and most poorly on green market penetration.

Figure 5: The distribution of credibility scores across sectors



Source: abrdn, MSCI, Trucost, IEA, FactSet, FTSE Russell, TPI, October 2022

Figure 6 provides two company-level case studies for the application of the credibility framework- highlighting how the six components translate into a final score. With more ambitious emissions targets (which are already translating into actual reductions) and stronger corporate governance in place to support the transition, Honda have a higher credibility score than Kia.

Figure 6: Credibility assessment of two leading APAC car companies

Category	Weight	Source	Honda		Kia	
			Score	Detail	Score	Detail
Emissions Target Design	20%	MSCI	4	On track with targets; targets cover scope 1, 2 and 3 as well as most of company's total emissions	2.5	On track with targets; targets only cover scope 1 and 2 not the most material scope 3 use of product
Emissions Performance	20%	Trucost	3	Scope 1 and 2 emissions down 8% over the last 2 years	2	Scope 1 and 2 emissions down 2% over the last 2 years
Technology Readiness	20%	IEA TRL	3	Hydrogen fuel cell and battery electric vehicle considered commercially available	3	Hydrogen fuel cell and battery electric vehicle considered commercially available
Policy Supportiveness	20%	abrdn; Factset	1.9	68% of revenue generated in countries in the bottom five of the current CPI	2.1	24% of revenue generated in countries in the bottom five of the current CPI
Green Market Penetration	10%	FTSE Russell	0.3	8% of green revenues, shows a slow penetration into greener products.	0.5	12.4% of green revenues, shows a gradual penetration into greener products.
Climate Governance	10%	TPI	3.2	Strong corporate governance to support a transition in the firms operations	2.4	Improvements can be made on disclosures with trade associations and scenario planning
Final Score			**2.73 (68%)**		**2.22 (55%)**	

Source: abrdn, MSCI, Trucost, IEA, FactSet, FTSE Russell, TPI, October 2022

Climate scenario integration

These company credibility assessments are also being incorporated into our forward looking view of climate risks and opportunities.

abrdn's bespoke climate scenario platform is the key quantitative toolkit through which we analyse how plausible climate transition pathways influence the long-term fair valuation of corporate securities.

In the first phase of our analysis, we built climate scenarios that incorporated a forward looking, probabilistic view on how climate policy and transition technologies were likely to evolve over the next 30 years, and how they vary across countries and sectors.

This was a significant advance on other platforms available in the industry. But it did not take into account how many companies negatively exposed to the energy transition are proactively altering their businesses strategies to mitigate risks and take advantage of transition opportunities.

In the next phase of development we have corrected for this limitation, and explicitly account for companies' dynamic transition strategies, and how their credibility potentially affects their exposures and value.

A method for incorporating company targets

Our **standard approach** models transition risk impacts based on current company emissions and revenue shares. Historic emissions are used to determine individual company exposure to direct carbon costs, derived from our scenario pathways, which in turn feed into the abatement model.

Meanwhile, current company product market revenue shares feed into a model of how demand dynamics are shaped by the energy transition. And both then are incorporated into a model of product market competition. This, for example, determines the extent to which companies can pass on higher carbon costs (see Figure 7).

This approach assumes that companies undertake economically optimal abatement. That is, companies will choose abatement options that are cheaper than the carbon costs associated with their emissions.

The **company target approach** builds on the standard approach by utilising the targets set out in company climate strategies. Here there are two key parameters:

Emissions reduction targets

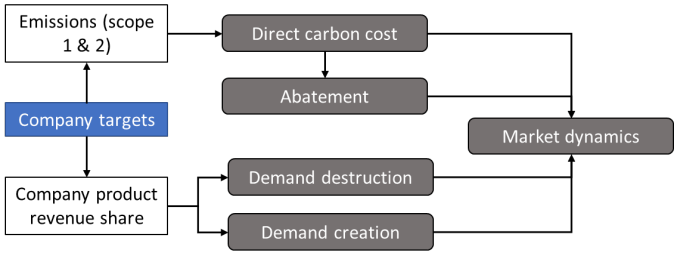
- Intensity targets (tCO2/m$) are turned into a GHG intensity pathway, assuming a linear decline in intensity.
- Absolute targets are interpreted as intensity targets and turned into a linear reduction pathway.

Revenue share targets

- A smaller number of companies are setting targets based on shifting their product mix towards low-carbon products like electric vehicles or renewable electricity generation.
- This allows revenue share shifts to expand beyond the 'organic' growth of the standard modelling approach.

Our 2022 exercise included researched company targets from approximately 390 companies drawing on information compiled from public data sources such as company sustainability reports. For these companies, the modelling process was re-run using the resulting company climate transition parameters. The results from the two approaches can then be compared to identify the potential impact on fair valuation, assuming targets are achieved.

Figure 7: Climate scenario analysis framework



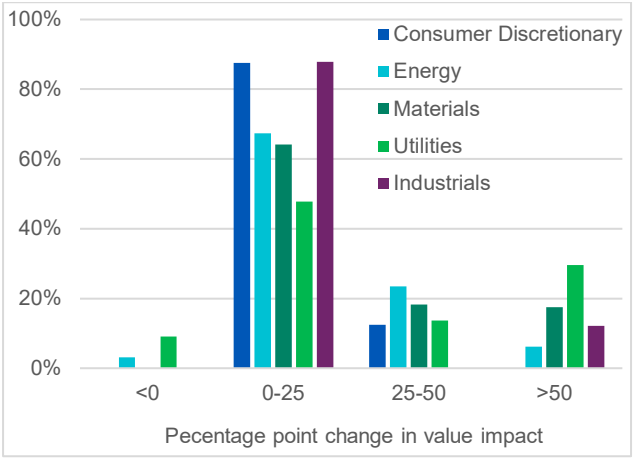
Source: abrdn, October 2022

* Discussion of individual securities in this paper is for informational purposes only and not meant as a buy or sell recommendation nor as an indication of any holdings in our products.

The impact of company targets

As might be expected, estimated fair valuation impacts improve when company targets are included in the analysis (Figure 8). This is largely because most firms' current business models are poorly adapted for the energy transition we expect. Proactivity is therefore rewarded.

Figure 8: Change in impact with vs without targets



Probability weighted mean scenario
Source: abrdn, October 2022

Auto companies provide a useful lens to compare the results under the two methods. Many are signalling a shift away from internal combustion engine (ICE) vehicles to battery electric vehicles (PHEVs and BEVs). Most have announced targets based on the proportion of EVs they plan to sell in the future.

Figure 9 shows the targets set by Honda and Kia*, two APAC auto companies. Honda's emissions target is more ambitious than Kia's in the long-term and revenue targets show greater near-term ambition, though both expect to rapidly expand their EV sales and lower absolute emissions.

Figure 9: A comparison of Honda and Kia's targets

	Emissions reduction targets	**Revenue share targets**
Honda	100% CO_2 absolute emissions reductions for all products and activities by 2050	Electrify two-thirds of global automobile sales by 2030
Kia	17.4% GHG absolute emissions reductions by 2025, and 39.9% by 2040 (compared to 2016)	European sales to be fully electric by 2035; global sales of electric vehicles to be 40% by 2030 and 100% by 2045

Figure 10 shows how these targets affect the companies' valuations ('total impact') within our scenario platform, as well as the influence on the drivers of that valuation impairment. Under the 'mean' scenario in our standard approach both companies are significantly negatively impaired thanks mostly to the destruction of demand for their ICE-based vehicles.

But when their transition plans are taken into account and assumed to be fully credible, in other words stated plans are assumed to be fully implemented, a sharp gap opens up. Honda's negative impairment disappears while Kia's remains large. This is because Honda's target is much more in line with the growth in demand for EVs implied by our modelling, while Kia continues to lag behind.

Figure 10: Corporate transition plans can make a big difference to estimated impairments if assumed to be credible

Firm	Transition plan	Physical impact	Adaptation	Demand destruction	Demand creation	Direct carbon costs	Abatement	Cost pass-through	Total impact
Honda (auto)	No transition plan	-1.4%	0.6%	-29.1%	0.6%	-3.1%	2.8%	0.4%	-29.3%
	Fully credible transition plan	-1.4%	0.6%	-4.9%	9.5%	-0.9%	0.4%	3.5%	6.8%
Kia (auto)	No transition plan	-2.1%	0.8%	-36.4%	0.8%	-2.6%	2.2%	0.9%	-36.4%
	Fully credible transition plan	-2.1%	0.8%	-28.9%	3.3%	-4.1%	2.3%	2.6%	-26.1%
Compagnie de Saint-Gobain SA (materials)	No transition plan	-0.6%	0.2%	0.0%	0.0%	-33.0%	11.1%	13.6%	-8.7%
	Fully credible transition plan	-0.6%	0.2%	0.0%	0.0%	-4.7%	1.4%	18.0%	14.3%
CRH Plc (materials)	No transition plan	-2.3%	0.9%	0.0%	0.0%	-28.7%	5.8%	4.5%	-19.9%
	Fully credible transition plan	-2.3%	0.9%	0.0%	0.0%	-16.1%	4.0%	46.7%	33.1%

Probability weighted mean scenario
Source: abrdn, October 2022

The materials sector is also illustrative. Compagnie de Saint-Gobain (CSG) and CRH* are two European buildings materials firms. CSG has set a more ambitious emission reduction target of 33% by 2030 than CRH (16%), though both have net zero 2050 commitments.

Without consideration of company targets, both firms are significantly impacted by the large direct carbon costs they are likely to face as European regulations become increasingly onerous (see Figure 10). Though both firms face similar carbon costs, CRH is able to pass less of this additional cost on to end users because it has a greater exposure to heavier materials.

However, when their company targets are taken into account, and again assumed to be fully credible, not only are both companies estimated be uplifted, CRH sees the biggest improvement because its less carbon intensive business allows for higher carbon costs to be more than fully passed through.

Impact of the credibility assessment on asset values

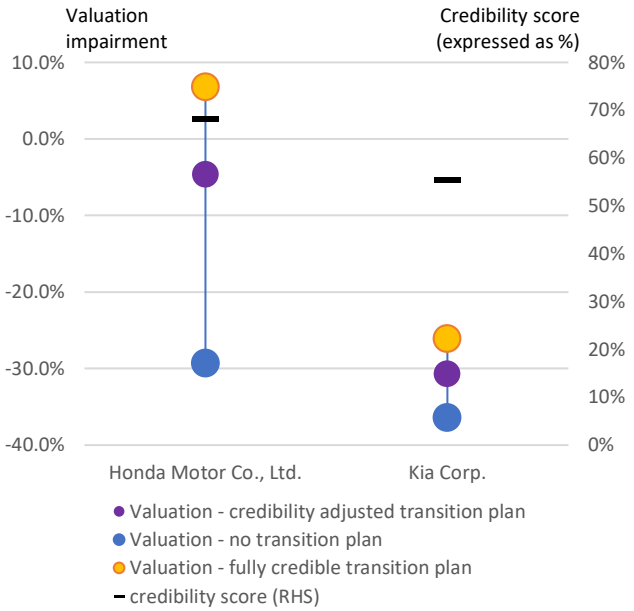
The results in the previous section illustrated how large the difference in exposure can be when one assumes that a company's transition plan is fully credible. We now show how our corporate credibility assessment framework reveals more about the 'true' exposures of firms.

Let's start with Honda and Kia. Not only are Kia's targets less ambitious than Honda's but though our credibility assessment we assign a lower probability to their being achieved (2.22 *vs* 2.73).

* Discussion of individual securities in this paper is for informational purposes only and not meant as a buy or sell recommendation nor as an indication of any holdings in our products.

Honda's credibility is not so high as to reverse the negative impairment estimated in our standard approach (see Figure 11). But the effect is now relatively small. Kia on the other hand is still exposed to a large negative impairment unless its transition strategy becomes more ambitious and more credible.

Figure 11: Honda a more credible transition leader than Kia



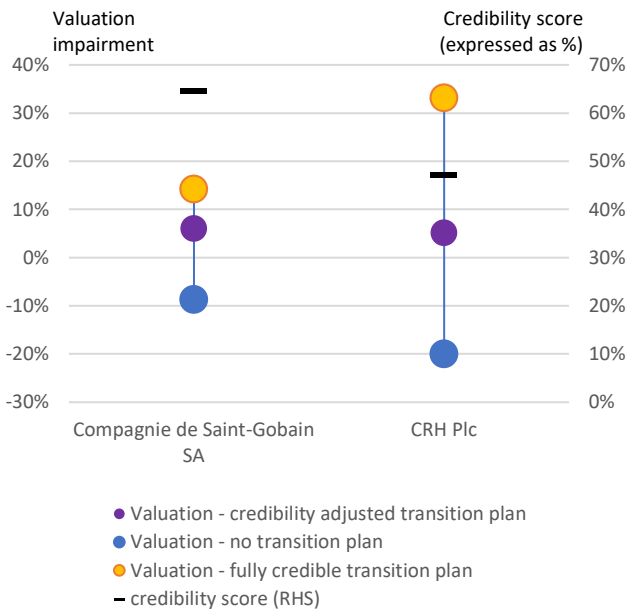
Probability weighted mean scenario.Source: abrdn, October 2022

In the case of CSG and CRH, we consider CSG's transition strategy to be the more credible (2.58 *vs* 1.89). CSG's targets include Scope 3 and they have a better track record

in reducing emissions.CSG also has a higher green revenue share (20%) than CRH (8%). This has the effect of evening out the estimated valuation impacts (see Figure 12).

This illustrates that by including company targets into our climate scenario platform and combining it with our proprietary corporate credibility framework we can better capture the likely impacts of the energy transition on firms.

Figure 12: CSG has a higher credibility score than CRH



Probability weighted mean scenario
Source: abrdn, October 2022

Limitations and next steps

We think that our corporate credibility assessment framework improves on what is available from third-parties like the TPI, Climate Action 100+ NZ benchmark and SBTi. Moreover, the incorporate of our corporate credibility scores into our bespoke climate scenario analysis platform further improves our ability to analyse firms' transition exposures, and differentiate our climate offerings from what is available elsewhere in the market.

Nevertheless, our framework still has its limitations. Data availability remains a challenge. For example, the TPI's MQ score, which is one input into our aggregate credibility score, is only available for 400 companies. There are alternatives we are exploring. And we are planning on expanding the number of companies with targets that can be incorporated into the scenario platform to more than 2000 in 2023. But that will still be a small proportion of the total listed securities in the investable universe.

In addition, we hope to improve our method for accounting for 'green' revenues. At present our data tells us about a company's current revenue share, but not enough about its future share. For that we need better capital expenditure data, which is not widely available. The EU taxonomy is beginning to force more disclosures but it will take time before the data is sufficiently widely available to incorporate into our framework.

There is also scope to better assess technology readiness. We have had to apply a high level mapping approach given current data limitations. In the future, we expect to use bottom-up company analysis to complement the IEA TRL framework, and better capture company-level technology competitive advantages.

Finally, our scenario analysis modelling framework currently assumes that companies can achieve their targets at no additional cost or loss of efficiency. Targets are also analysed in isolation, and thus do not account for the way that one company's transition can affect another, or the effect on overall sector/region emissions profiles. As a consequence, our current approach represents an upper bound on the benefits companies can derive from dynamically transitioning. We will be addressing this limitation in our 2023 analysis.

Implications for investors

This paper has shown the significance of incorporating credibility assessment into a forward-looking view on carbon, and the impacts on climate risks and opportunities.

In 2023, we plan to publish a companion paper that outlines how our transition analysis and credibility assessment framework could best be incorporated into our investment processes alongside active research. This includes identifying credible transition leaders, tracking progress against milestones in company engagement and the development of climate products and solutions.

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