Net-Zero Now: Chapter Four

Linda-Eling Lee

How do we actually apply data to maximize its usefulness? Data is such a crucial building block of investment solutions. And while there are certainly challenges surrounding it such as interpretation, its transparency, its quality, with the right tools, you can really unlock its potential. So, what are these tools?

Kenji Watanabe

In our recent publication, breaking down corporate net-zero climate target, we develop analytical framework called MSCI Target Scorecard. This framework helps us assess the impact of corporate decarbonization target, including their net-zero target. We observed about 1000 companies setting new climate targets in 2020, and 15% of them were already some type of net-zero target. However, the level is in detail. We found heterogeneous nature of corporate decarbonization target. And even slight differences in target distribution can make a huge difference in potential impact target could have on environment to a company's climate destroy, giving the target to achieve. So clearly, framework was needed, and we created one.

Antonios Panagiotopoulos

This framework covers three possible dimensions of a company's target. Firstly, comprehensiveness, secondly, ambition, and finally, the feasibility of a target. So, to start comprehensiveness. This entails being able to assess whether a target is covering all or a part of a company's footprint; including scope one, scope two, and all the categories of scope three emissions. Then is ambition. How much emissions are companies aiming to reduce by, and how quickly they intend to do that. So, we compare these projected emission reduction amounts, and the company's target timeline against a net-zero trajectory to 2050 to measure how far the company's footprint is off that pathway. Last but not least, is the visibility. And while it is hard to determine whether a target really achieved, we can use additional information to inform the level of confidence. Specifically, we will look at historical targets, and how a company has performed against them; together with progress against the current time. Additionally, we look on how the company plans to achieve the target, perhaps through offsets, or zero carbon products and services, or a combination.

So, if we take a look at one of the companies from the sample portfolio, and analyze their decarbonization targets, using the MSCI Targets Scorecard Model, we can show not just short-term impact, but also long-term impact of their decarbonization target on the emission profile. So, let's take a look at Intuit and their decarbonization target. This company targeted to reduce scope123 upstream and downstream emissions by 50% 2012 level by 2025 and 80%, below 2012 level by 2050. If a company achieved their short-term target, its emission level going to go down to 69% Compared to 2019 level. And also have a look at the long-term impact of the company’s decarbonization target. If they achieved the target, the emission profile can go down to 28% compared to 2019 level. So good

news is, the company's mission trends suggest Intuit is on track to meeting all these ongoing targets, indicating high visibility or success in achieving the target.

Linda-Eling Lee

But thinking about the results of climate change, the physical effects are what would typically come to mind for most people. And we're gonna touch on this element of risk shortly. But another major source of disruption is the risk that comes through policy changes and through market changes. What's also known as transition risk.

Marion de Marcillac

Transition risk presents itself in a few different ways. We need to collectively reduce the amount of greenhouse gas emission that we emit. And a lot of this limiting will come through policy regulations, for example, things like a tax on carbon; which would inevitably impact high emitting companies as they need to reduce their emission unless they're willing to accept costs, and they would have to put new processes in place for their operations.

Guarav Trivedi

Aside from policy risk, there's also technological risk. You know, some of the products that were previously widespread are no longer sustainable in long term. So, with a shift in market demand, or new technologies emerging in the shift to a greener world, old technologies will become obsolete.

Marion de Marcillac

And for investors portfolio then there's risk that for particular highly carbon intensive companies or sectors they would become stranded. For an investor the risk is that they're betting on the value of those assets and this value could be reduced to zero. Scenario analysis can help investors understand the possible impact of this transition risk, but also the opportunities associated as we shift to a low carbon economy. So, the idea is to look at various climate scenarios that are not meant to be predictive, but they're more like a series of what if questions. What will be the difference for a company in a world that three degree of warming compared to world with 1.5 degree of warming? If we're in 1.5-degree world, the policy risks become increasingly important, and there will be a higher impact than company's bottom line through higher cost, and the cost of reducing drastically their greenhouse gas emission.

Guarav Trivedi

And this is where climate lab can come into play. The MSCI climate lab has a smart capability, where you can select peers of the companies in your portfolio to evaluate them side by side and see which companies are best positioned for transition scenarios. So, let's take a look at ArcelorMittal, one of the

major companies in steel industry, and compare it with five of its peers. These five peers are based on their financial and ESG characteristics. The charts that you can see on the top pertain to the aggregated company's value at risk. This represents a company's aggregated Climate Value at Risk reflecting the value of a company's issued security and the specific climate change scenario. Here we have presented 1.5, two-degree, three degree; and we can see what are the subcomponents that contribute towards this by hovering over the mouse to a particular company. As we can see over here, around 100% of ArcelorMittal's enterprise value is at risk in the 1.5-degree scenario. As we move towards two degree and three-degree climate scenarios, we can see that while other companies do face reduced risk in terms of their enterprise value, stress against those risk, we can still see Arcelor Mittal having around 100% of its value at two degrees scenario, as well as a -71, which is one of the highest in a three-degree scenario. If we look at the implied temperature rise for companies in this universe, we can see that ArcelorMittal faces somewhere in between as compared to its peers. As you can see that some of the targets that the companies have set, does lead to a reduction in companies such as Severstal, where from 8.7, it does reduce to 8.6. If we are analyzing ArcelorMittal, it does present one of the worst companies. And the company does have to act quickly if it wants to move towards a low carbon transition future, it would face increasing risk on its enterprise value based on some of the model-based data that we have presented over here.

Linda-Eling Lee

So this brings us to the forces of nature that comes with our changing climate. We see it in the increasing frequency and scale of physical risks, from hurricanes to wildfires that threaten company assets, such as our factories, offices, and infrastructure.

Gillian Mollod

And there are really two types of physical climate risks: acute and chronic. Acute risks are sudden onset risks. So, these are your hurricanes and wildfires and floods. And chronic risks, on the other hand, are the ones that will take a while to play out. For an acute risk, let's take the example of flooding. Obviously, there can be a small flood that disrupts business for a short period of time; or a huge disastrous flash flood, meaning that a company's operations have to be shut down for a long period of time, or in some worst-case examples forever. An example we use to illustrate chronic risks is to imagine a ski resort. And as the climate changes, and the average global temperatures rise, less snow would fall over time, and the resort would no longer be able to operate. Climate Lab allows clients to drill down to individual asset locations and identify exposure to various physical hazards related to climate risks. Extreme cold and extreme heat, chronic physical hazards that will take a while to occur. Tropical cyclones which are expected to increase in frequency and intensity, as climate change plays out, and baseline water stress, which is chronic water stress to a water base over a period of time, which can lead to a shortage of available water. So, something that's hugely impactful for any business that relies on water.

For every hazard except baseline water stress, we look at two timestamps: the current year and a 2050 projection. Let's see an example of how to use Climate Lab. I've chosen here Apple from our sample portfolio. The system defaults to extreme heat at the current time step. You can also then select the 2050-time step to get an idea of what things will look like in 2050. And because we're looking at

extreme heat here, what this gives us an idea about, is how much the temperature will increase over time. So, let's focus on some of these offices that are in India. And one of the great things about Climate Lab is it captures all sorts of assets. As you can see, when you hover over the dot, you get the issuer name, the country, the GICS sub-industry, and the asset activity; which helps clients really understand exposure, because an office might be differently exposed than, say, a manufacturing plant, which might rely on water. Let's look at another example. Let's go to baseline water stress. So, in this example, we're gonna look at Merck and see what kind of exposure they have to baseline water stress. If you're an industrial asset, and you can't access water that you're reliant on, you're gonna have some issues. So, in this example, let's, let's focus in here on India. But we're gonna go over to this one right here, which is an industrial complex. And as we can see, if we zoom in, this asset is exposed to extremely high baseline water stress. If we look over here in Ireland, where there's low exposure, we can see that there's a manufacturing plant of Merck over here. And that's probably something that an investor wants to know, because this plant would not be exposed to baseline water stress. Climate Lab will help clients better understand the overall exposure of the constituents within their portfolio, we've talked a lot about how climate change will inevitably mean multiple dimensions of risks, it's important to remember that the steep transition for our economy does actually offer opportunities to the investor as well.

Guido Giese

When you look at all previous industrial revolutions throughout history, they were always driven by two things: new technology, and capital. And today with net-zero, it's no different. We need a technical revolution, and we need a lot of capital to drive it. With this revolution, investors need to be aware that we can expect a lot of creative destruction, to use the words of the famous Austrian economist, Schumpeter. So, this means that some old technology will disappear. And for investors, the challenge is to understand how to identify these risk exposures and how to identify the opportunity exposures. So, we looked at economic literature to begin with, and there is this argument or this causation chain, as economic researchers call it. And basically, it says a lot of companies are investing to build green technology and power rights. And ultimately, early on these investments leads to new green technology, which means they have new green patents. And these patterns are then used to build new products, green products, and these green products are eventually used to create huge earnings, and that should create earnings growth for companies. So, to test this causation chain, we used our green pectin score as an early indicator, because green patents, they will come long before the company might be able to monetize green technology through new products. But then we use also a late indicator, which is the green revenue shares of companies; which is a lead indicator in the causation side.

Now for both of these indicators, we looked at companies that have a lot, versus companies that have very little or none. And what we found is that for green patents, there was a little bit of evidence that companies with more green patents, were able to grow their earnings and have better stock performance than companies that have no green patents. But the statistical confidence was very, very weak, to be honest. But then with the second indicator, green revenue share, we found that companies that have green revenues, basically, they already have green products, and they sell them through earnings on the balance sheet, they have better earnings growth and better stock performance. So, in this chart here, we compared companies with a lot of green revenues and companies with less green revenues in each sector. And you see the difference in their earnings growth and stock performance over the past seven years. And what you can see here very clearly, is that companies with more green revenues, clearly outperformed in terms of both stock performance and earnings growth over the past seven years. And what is really interesting, this outperformance was by far the strongest in three

sectors: utilities, materials and energy. Which is quite funny because these are actually the three most carbon intensive sectors. So, these are the sectors where most of the carbon emissions sit. So, what it tells us is that, over the past seven years, it makes a huge difference whether the company was an early mover into green tech, or whether it was a laggard. And so all these teaches as the lesson is that this new industrial revolution, it's already on its way. It's already showing up in the data.

Linda-Eling Lee

Of course, while we all have the 1.5-degree target, and we need to plan for the future to 2050 and be beyond, we can predict exactly how the next 30, 10 or even five years are actually going to go, and what form this new industrial revolution is going to take. It's a transition that's going to take time, and during that time, carbon offsets will play a crucial role. MSCI has developed the tool to help investors visualize how offsets may affect their portfolio and help move them along the path to net-zero.

Oliver Marchand

So with net-zero being the number one concept in climate change, the question, what is a net zero portfolio is extremely natural. Of course, many investors are asking themselves, what is the announcement that they can make? Can they claim that they will be net-zero in 2050? Can they claim that they will be net-zero before that maybe in 2030? And calculating that is not easy. The net-zero target setting tool that we have developed helps investors to determine in what year their portfolios will be net-zero what the strategy for the decarbonization and the offsetting will need to be. So, let me walk you through an example of how the net-zero target simulation tool can be used to devise a net-zero portfolio strategy. So, I've chosen the MSCI ACWI index, and its climate Paris aligned version the MSCI ACWI Climate Paris Aligned Index. So now I as an investor have chosen as an example to net-zero my scope one and scope two emissions and not to reduce my scope three emissions to net-zero for now, I have defined a decarbonization rate of 12% per year. Which means that each year, I'm going to commit to reducing my carbon emissions by 12%. And I have defined an offsetting strategy where I said I would be willing to pay $100 per ton of C02 offset, and I would offset up to 100 tons of carbon, and I'm applying that to a $30 million portfolio value. And what the tool shows you is the emissions profile of those two portfolios. And you can see in the blue line, with the blue line the MSCI ACWI index with the yellow line, the Paris Aligned Index, and you can see how the Paris Aligned Index starts from a much lower point in terms of the emissions. Of course, in the beginning, both portfolios would start offsetting the full 100 tons, because the total portfolio emissions exceed that 100 times, but you can see what the yellow line that it starts decreasing much earlier than the blue line. Also, the cost is calculated, and the net emissions of the portfolio are calculated. And in the summary statistics, you can see the interesting part, is that the MSCI ACWI index would be net zero in the year 2044. With that strategy, but the MSCI ACWI Paris Aligned Index with this decarbonization strategy would be net zero in the year 2030. So that's an excellent target year. And that's how investors can, you know, see that the cost would be quite limited would be three basis points. Investors can use this tool to evaluate their strategies.

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