Net-Zero Now: Chapter Three

Linda-Eling Lee

There's so much data out there as well as so many problems to solve, and so many opportunities to capture that it can get a bit overwhelming. So, to illustrate this, we have constructed a sample portfolio that uses MSCI World as its benchmark, whose constituents' range across sectors and across regions. And currently, the implied temperature rise of the companies in this portfolio, is about four degrees Celsius by the end of the century. So that's not as bad as many investors' portfolios might look in terms of its temperature, but it's certainly beyond the objectives that have been stated in the Paris Agreement. We will try to reduce the implied temperature rise of this portfolio. And to do that, we're going to need data, lots of data. Data about things that can be really hard to measure data that we can use, because when we talk about net zero, and climate change, we're not just talking about where the mercury sits in your thermometer, we're really talking about balancing inputs and outputs, predicting things like weather patterns, water stress, potential regulatory action, and analyzing how all those things might impact companies now, and in the future. Elements to start their transition journey, they're going to need to know what's useful, and what's not, what to tune out as noise, and what to pay attention to. So basically, to take this overwhelming, huge, massive data, and really only look at what matters.

Lucas Jopa

When I think about data and sustainability, I come like very quickly back to that old adage of data deluge, but an information drought. We're operating at a time when we have access to unprecedented amounts of data. But we are still struggling mightily to be able to pull the relevant information out of those large datasets that can help us to drive better, more informed, more sustainability-oriented business decisions. That is the role of the rise of modern-day machine learning in the broader technologies of artificial intelligence. It's that ability to take a very large data sets confront those data with some of the most powerful algorithms the world has ever seen. And that fundamentally, that is the role of computing. Data and technology will play an absolutely foundational role in every organization, every country and ultimately the world, meeting our net-zero carbon goals. We've seen the power of digital transformation transform sector after sector after sector, we need to see that same type of transformation, that transformation of scope, scale and speed, come to every organization's ability to track monitor and report out on progress towards carbon emissions reduction, the most important part of any net-zero goal, but also carbon removals from the atmosphere. When we think about a massive societal goal, like transitioning our global economy to a net zero carbon economy. What that means, is first and foremost, collaborating on definitions, what we mean by net-zero. The next opportunity really is to help bring technology into the hands of customers and partners to be able to help them scale their work; both scale their work within their four walls, as well as scale their work outside of their four walls, so that they can begin to empower their customers as well.

Jigar Thakkar

We're in a very complex industry, that often needs to share data and technologies across the entire complex, internal workflow systems, and in partnership with other companies. Technology is evolving at an accelerated rate in cloud, NLP, data, technologies and so on. To keep pace, you need an open and agile architecture to take advantage of new breakthroughs and ensure that your clients always benefit from the latest technologies as fast as possible. This also helps our clients integrate our solutions into their role in a way that suits them. So, whether they need our data, research models, APS, or user application, we'll let them pick and choose their approach in their own architecture in a very open architecture manner across our entire product line.

So first, we need to collect data across a vast domain with high levels of precision, relevance and in a very timely fashion. This is very similar challenge to that of a search engine for news, for example. The second challenge is about interpretation of this data. What is the data have we collected by a mix of sophisticated technologies and humans, how do we put into context? The third challenge is about providing transparency. And last, but not the least, is the challenge of maintaining the highest levels of quality across millions of data points that we collect. The entire integrity of a rating depends on these constituents, and our ability to transfer the share of mythologies with our clients. We have partnered with Microsoft on cutting edge, natural language processing, large data lake and warehousing solutions, Power BI and communication approaches across industry and so on. Our common application, as example allows you to compare several companies in an industry, to look at their carbon emissions broken down by scope one and scope two, targets over the years, the transition value and risk for various degrees of temperature change, their strategies for risk management and also provides advanced search natural language search capabilities to answer their questions. It provides a powerful search in US, using Power BI on top of 4000 data points that we collect related to climate NEG for a large number of companies.

Laura Nishikawa

Investors need to look at quite a lot of data to understand where they are today and where they're heading in their net-zero transition; including scenario data, country data company data, industry data. And one of the most important things to look at first are your carbon emissions, your scope one, scope two and scope three emissions.

Bentley Kaplan

Scope one emissions, or greenhouse gas emissions coming straight from your business, their activities and your operations. That's everything you have direct control over.

Laura Nishikawa

Scope two is all the emissions required to keep the lights on all the emissions associated with the electricity that companies consume. And scope three is everything else. And this is where it starts to get a bit tricky.

Bentley Kaplan

Because these are all the emissions coming out of your value chain. And that is incredibly wide ranging. Think of the supply chains you depend on to get all of your raw materials, to transport your goods, and to process your waste. And this is such a tricky proposition because you need to know very specific details, like where your IT equipment is made, and how it gets shipped to you. I mean, think about the offices all important coffee supply. Where does that come from? Where are the beans grown? Where did they get roasted? And then how do they eventually make their way to the office?

Laura Nishikawa

For most companies, those three are the bulk of the emissions they generate, but they're so difficult to measure because of the lack of control the company has over them. So, every number you see in the world for scope three emissions, it's actually just an estimate. And companies have very different ways of estimating.

Bentley Kaplan

And this variation in disclosures is a big challenge for investors. It becomes tricky for them to pull out the most meaningful signals. And especially in emerging markets, ESG and climate disclosure is pretty limited.

Laura Nishikawa

So if you're basing your assessment on just what companies tell you, or if you say it's too hard, and you just ignore scope three altogether, you could be vastly under estimating your emissions. So, what we've done at MSCI has been able to round out the data, fill in the blanks and have a much more comprehensive cradle to grave assessment of carbon emissions. That's everything from using a team of experts to collect the data, having robust processes to verify different sources. We do a lot of cleanup work on the data investigating outliers, or discrepancies, as well as estimating data that doesn't exist today.

Bentley Kaplan

We've worked on building out our alternative datasets. And that's data that doesn't depend on company disclosure. This makes it resilient to variations in data availability across different markets or different industries.

Laura Nishikawa

So then the question becomes how do you best aggregate all this data? What's the best standardized measurement to track your progress? Because companies will all have different levels of disclosure and different kinds of emission reduction targets. So, the metric that we think helps most with this challenge is called the implied temperature rise associated with your investments.

Bentley Kaplan

Basically, you're computing, what are the forecasted emissions of the companies I'm invested in, based on their targets, based on their past track record, and based on where they claim they're heading? And how does that compare to a global carbon budget based on scientific research of how much carbon we can continue to emit before we start to change global temperatures? And standardizing this implied temperature rise is so valuable because it lets stakeholders use a common language and it shows investors how far they still need to go, in order to align with a three, a two or a 1.5-degree world.

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