

Going Net Zero: More Than Meets the Eye

For two weeks beginning Oct. 31, world leaders will gather in Glasgow, Scotland, for the 26th United Nations Climate Change Conference of the Parties (COP26). One of COP26's goals is to drive ever-more ambitious emissions reductions to try to ensure that countries attain net-zero carbon emissions by 2050. Achieving carbon neutrality is gaining momentum, as evinced by the number of governments, corporations and asset managers that have made net zero pledges. It is easy to get wrapped up in the euphoria. Optimists say these groups believe in the benefits of making the planet greener, cleaner and safer; cynics believe these groups are interested only in positive PR. Whatever their motivations, those making the pledge will soon discover they've embarked on a journey that is deceptively challenging. For investors, it is crucial they learn the terrain; a number of new standards and best practices are in the works, and there is an opportunity to contribute to this journey's direction.

At its core, net zero requires three things: measuring one's carbon footprint, enabling emissions reductions programs and offsetting residual emissions. And while there are some standards in place to help firms work through the intricacies, going net zero can be a particularly arduous path for private markets. GPs face the difficult task of measuring emissions for their internal operations as well as their entire portfolios. The LP community must contend with disparate data: The listed portion of their portfolios is further along in its carbon footprinting journey than is the unlisted portion. LPs, rightfully, would like to measure the footprint of their entire portfolio, private and public, on the same basis.

Like most journeys, this one is made more endurable by not going it alone. By exploring the issues facing LPs and GPs, we hope to help build the mutual understanding that so often makes even the most grueling treks bearable.

Greenhouse Gas Basics

Global warming is the result of the so-called greenhouse effect. As sunlight passes through Earth’s atmosphere, it refracts. Because the frequency of the light beam has been altered, it cannot exit.¹ Some of this is by design. Without this trapped warmth, our planet would be unbearably cold. But as the atmospheric concentration of certain gases has risen, so too has the amount of trapped solar energy. The main greenhouse gases (GHGs) are water vapor, carbon dioxide, methane, nitrous oxide and various fluorinated gases, and each one can “live” in the atmosphere for anywhere from several years to millennia (Figure 1).

Because it takes years for certain forcing GHGs to leave the atmosphere, their effect is cumulative. We are still reckoning with past emissions; new emissions compound the warming effect. CO₂ is the most notorious GHG, which is why we tend to translate other GHGs to their CO₂ equivalents (CO₂e).² When people speak about their carbon footprints, they are technically referring to their CO₂e footprint.

Though many still hold a narrow view of climate change, solely equating it with warmer temperatures, the scientific community has found that a greater concentration of GHGs results in more energy in the weather system (Figure 2). More energy implies greater volatility and a higher probability of extreme weather, which ought to be of grave concern to the world’s asset owners. Our world has become riskier, and climate change is perhaps the biggest risk we face. As such, the weight we place on it when pricing assets is only increasing. An asset cannot be valued correctly if its owners have not estimated its exposure to the physical risks that climate change heralds or its emissions profile. And, if they haven’t done either of those things, they cannot commit to going net zero. To achieve these goals, asset owners need to measure their carbon footprints.

GHG Protocol

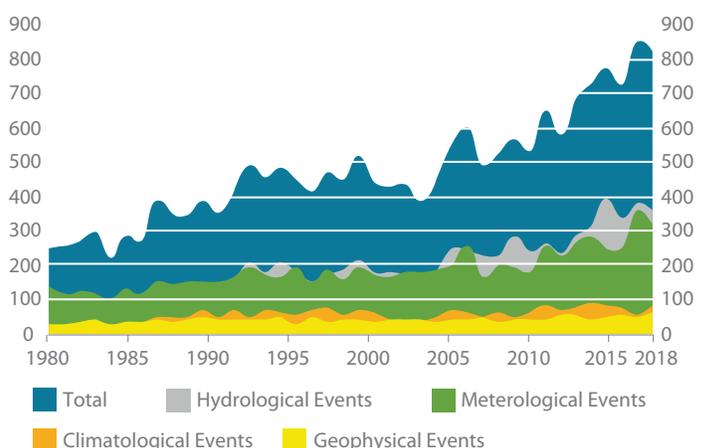
Measuring GHGs in the atmosphere is relatively easy. Owing to a global network of monitoring stations, we know, for instance, the concentration of CO₂ was 412.5 parts per million

FIGURE 1 | GLOBAL WARMING POTENTIAL & ATMOSPHERIC LIFETIME OF SELECT GHGS

GHG	100-Year Global Warming Potential (CO ₂ e)	Lifetime (Years)
Carbon dioxide (CO ₂)	1	Hundreds
Methane (CH ₄)	25	12
Nitrous oxide (N ₂ O)	265	121
Hydrofluorocarbon-23 (HCF ₃)	12,400	222
Sulphur hexafluoride (SF ₆)	23,500	3,200
Nitrogen trifluoride (NF ₃)	16,100	500

Source: Intergovernmental Panel on Climate Change, 2014.

FIGURE 2 | EXTREME WEATHER ON THE RISE



Source: Munich Re, 2021.

¹ Anyone who has parked their car in the sun for hours is quick to realize how much hotter the interior is!

² However, there is a growing trend to disaggregate the GHGs into the component measures and report these separately.

in 2020, according to the National Oceanic and Atmospheric Association. Tracing these emissions to their origin, however, is much more challenging. Luckily, one such group has endeavored to do just that.

The GHG Protocol arose when the World Resources Institute and the World Business Council for Sustainable Development recognized the need for an international standard for corporate GHG accounting and reporting in the late 1990s. Today, GHG Protocol supplies the world's most widely used GHG accounting standards, providing guidelines, tools and training for corporations and governments alike to measure and manage their emissions. Nine out of 10 Fortune 500 companies use GHG Protocol to report their emissions, per the group's website.

Scopes 1 and 2 are defined clearly and are eminently measurable. Free calculation tools, software applications and consultancies reduce the burden placed on investors and asset owners to find the time, money and personnel necessary to measure these emissions. Then there is Scope 3, which covers all indirect emissions (not included in Scope 2) that occur across the value chain, from production to disposal (**Figure 3**).

Measuring Scope 3 emissions is complex. That the data are controlled by another entity presents challenges; intricate supply chains only make things harder. Because one company's Scope 3 emissions are another firm's Scope 1, double counting is inevitable. GHG Protocol offers several guidelines to help curb the issue, but these, too, are complicated—another hill to climb in one's net-zero journey.

Still, understanding Scope 3 is important for LPs and GPs: This is where emissions from portfolio companies are designated. For LPs, including portfolio holdings in their footprint is increasingly well accepted. GPs, on the other hand, have been slower to act. But they are coming along, particularly as guidance becomes clearer on requiring these calculations.

LP Challenges

The challenges inherent in measuring one's carbon footprint can frustrate asset owners that want to establish a portfolio-wide view of carbon emissions so they can understand their exposure to climate-change risk and determine if their path toward net zero is consistent with the Paris Agreement. The

FIGURE 3 | SUMMARY OF GHG PROTOCOL SCOPES

Scope 1	Direct emissions from sources that are owned or controlled by the asset.
Scope 2	Emissions from the energy purchased by the asset.
Scope 3	All of the emissions an asset is responsible for outside of its walls—from the goods it purchases to the disposal of the products it sells.

Source: GHG Protocol, 2021.

Scopes were built in such a way that they make sense for evaluating the emissions of a single company; however, they are not well suited to be aggregating emissions across an entire portfolio. Double counting and difficulties comparing Scope 3 emissions across different types of companies are major hurdles. To address *comparability*, the most common approach at an asset level is to think about total emissions (i.e., Scope 1 + Scope 2 + Scope 3) as a function of revenue (i.e., CO₂e per dollars earned). Despite its obvious shortcomings—a good financial quarter would result in a lower carbon intensity—this approach has gained traction. To address *aggregation*, share of portfolio value or enterprise value is used. By combining these two approaches LPs can identify hot spots within their portfolios. Because different sectors and regions must decarbonize at different rates, LPs may want to actively manage/tilt their portfolios to ensure they meet their climate commitments.

The market is currently tethered to GHG Protocol because it is the most developed and mature. Despite its shortcomings, LPs have gotten used to measuring their carbon footprint in the public portion of their portfolios and expect the same from private markets.

Although footprinting may be more common in public markets, the practice can be more accurate in private markets. Public markets rely heavily on mapping or proxies to sector averages to estimate a company's emissions. Private markets, on the other hand, have greater access to actual asset-level data. These data are, however, relatively scarce.

Doing the Most With the Least

Scope 3 emissions are both the most challenging and most important to measure. Owing to this difficulty, they are the least measured Scope, and many Companies' actual carbon footprints are vastly understated. One analysis, which estimates that Scope 3 emissions are 5.5 times greater than Scopes 1 and 2 combined, is particularly concerning to GPs and LPs alike.³ To circumvent these problems, some companies use proxy or incomplete data.

To help companies think through these issues, various initiatives are offering work-arounds.

- The Transition Pathway Initiative, a collective of asset managers, tells its members to focus their Scope 3 efforts on holdings in the oil and gas, auto manufacturing, and mining sectors.
- The Task Force on Climate-Related Financial Disclosures requires Scope 3 emissions to be measured only if they account for more than 40% of total emissions.
- The EU recommends all sectors move to using Scope 3 over the next four years (heavy emitters should do so even sooner).

Clearly, there is tension between making Scope 3 a universal requirement and limiting it to heavy emitters. Asking for the former may be a mite optimistic, but if we are to reduce emissions as quickly as we need, there cannot be any loopholes.

³ BSR. 2020. "Climate Action in the Value Chain: Reducing Scope 3 Emissions and Achieving Science-Based Targets."

- » Out of the 340 GPs we surveyed, just 12% are footprinting their own operations.
- » Of the 533 funds we examined (managed by 179 GPs), less than 5% have a portfolio-level emissions reduction target; 2% aim to be net zero.
- » Approximately 18% of GPs measure the footprints at the portfolio company/asset level, but only 4% are applying science-based targets.⁴

So, in attempting to measure their footprints, LPs need to contend with data that are both easy to come by yet imprecise and scarce yet accurate.

Measurement Confidence

Like LPs, GPs need to establish an emissions baseline for both their own operations as well as their portfolio holdings. Encouraged by the development of new guidelines and industry-led initiatives, GPs have begun making strides. For

starters, they've begun using actual data rather than proxy data to estimate the emissions of their portfolio companies. Even GPs with fewer assets under management can take part, owing to inexpensive software that makes it easier and less expensive to measure and verify results.

Guidance on how to reshape one's portfolios is also emerging. The Science Based Targets initiative (SBTi) seems to have the most sway.⁵ It is aligned with GHG Protocol and provides clear guidance on how to set mid- and long-term targets that are in line with keeping global warming to below 2°C. Although SBTi allows for the use of sector- or company-relevant intensity metrics, it looks to ensure there is absolute reduction in emissions not just a relative change. Calculations can be misleading when revenue growth outweighs emissions growth, creating the impression of reduced emissions intensity. Divestments, mergers or acquisitions can create similar distortions. Offsets and avoided emissions are appropriately excluded from SBTi decarbonization plans.

FIGURE 4 | CARBON FOOTPRINT FORMULA

Supporting Information	
Description	Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tons CO ₂ e/\$MM invested.
Formula	$\text{Formula} \quad \frac{\sum_n^i \left(\frac{\text{LP's share of asset } x \text{ (scope 1, 2, 3)}}{\text{Overall portfolio value}} * \text{asset Scope 1, 2 and 3 GHG emissions} \right)}{\text{current portfolio value (\$MM)}}$
Methodology	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach. The current portfolio value is used to normalize the data.
Pros & Cons	<ul style="list-style-type: none"> + May be used to compare portfolios to one another and/or to a benchmark. + Using the portfolio market value to normalize data is fairly intuitive to investors. + Allows for portfolio decomposition and attribution analysis. - Does not take into account differences in the size of companies (i.e., does not consider the carbon efficiency of companies). - Changes in underlying companies' market capitalization can be misinterpreted.

Sources: TCFD, StepStone.

⁴ StepStone Group, 2021.

⁵ GP-led groups like Initiative Climat International are releasing their own guidance to help private equity firms apply SBTi to their portfolios.

Emissions Alignment

To reflect that investments fall under Scope 3, last year, CDP, one of the largest environmental disclosure databases, moved to amend its reporting questionnaire to incorporate financed emissions for the financial sector. Including portfolio holdings in a GP's footprint is important because it creates emissions alignment between LPs and GPs. The idea is that if GPs monitor their footprints and position their companies thoughtfully with respect to climate change, they will be rewarded (read: receive carry). And, by requiring GPs to report their portfolios' footprint, the GP-LP asset circle is closed. Hence, emissions alignment. Requiring GPs to report their holdings is precisely what LPs need. Participants should know this practice introduces double counting within the financial service chain; analysis from the listed markets has shown that double counting can account for 20–40% of an LP's carbon footprint.⁶ So there are issues to address, but in order to get better insight into the extent of double counting, footprints must be measured.

The market will determine whether there is enough alignment or if GPs need to disclose more. The Task Force on Climate-related Financial Disclosures (TCFD) has already suggested linking executive pay to climate risk management. Should this become the norm, GPs will have to do so at both the fund and asset levels.

⁶ Gireesh Shrimali. 2021. "Scope 3 Emissions: Measurement and Management." Working Paper.

There is an immense opportunity for GPs to realize additional value from measuring and reducing the footprints of their portfolio holdings. We expect market leaders to emerge and for investors to place a premium on partnering with the GPs that are successful in repositioning their holdings for a net-zero future.

Figuring out who should bear the cost of footprinting is still an open question. In some cases, we've seen fees charged to the fund and borne by the LP directly. This is something that will require greater clarity and consistency, particularly as the practice becomes common.

As GPs enter the world of decarbonization, they are quick to recognize the steep learning curve and costs involved. Organizations like Initiative Climat International, a GP-led group under the auspices of PRI, provide resources and a forum for GPs to share ideas and best practices for measuring emissions and assessing climate risk in their portfolios. Data from these processes will be critical other exercises including reporting to LPs. The industry has not yet determined reporting protocols, but this will be a critical next step to build on expected output from SBTi and to drive reporting that is relevant for private markets.

Conclusion

Measuring one's carbon footprint is the foundation for any climate change strategy. Without it, asset owners cannot commit to becoming carbon neutral or aligning themselves with the Paris Agreement. But as more corporations, governments and asset managers pledge to be carbon neutral by the middle of the century, they are quick to realize the journey is deceptively tricky. Making the pledge is one thing; making good on it is something else entirely.

The process is fraught with jargon and technicalities that need to be mastered. GPs need to develop the competencies to use this information strategically to add value and mitigate risk for their assets. To ensure they are not relying on shallow data, LPs need to be aware of the challenges and shortcomings that these calculations present.

Given the urgency of the climate change crisis, we have no choice but to embark on this journey. As the amount of footprinting data grows, so does our chance of systematically healing our world.

New and Emerging Guidance: Keep Your Eyes Peeled

A preponderance of climate change–related guidance is in the works to help the investment community along its journey.

In February 2021, the International Organization of Securities Commissions identified the lack of comparable metrics and narratives as a priority for improvement. In other words, our vocabulary is very limited for such an important topic.

- In October 2021 the TCFD updated recommendations that supercede those issued in 2017. Among other things, the new guidance places a strong emphasis on disclosing GHG emissions, going so far as to require signatories to provide a full account of their Scope 1 and Scope 2 emissions. The new guidance also strongly encourages firms to evaluate their Scope 3 emissions and provides advice for measuring how well one’s portfolio is aligned with the so-called well below 2°C scenario.
- Initiative Climat International’s “Private Equity Sector Science Based Target Setting Guidance” provides practical instruction for private equity firms to compile a GHG inventory and develop science-based targets.
- The Institutional Investors Group on Climate Change’s “Paris Aligned Investment Initiative” (PAII) offers a number of tools to help investors align their portfolios to the goals of the Paris Agreement. Among other things, the PAII seeks to build consensus around definitions.
- As the EU continues to accelerate its climate change ambition, its Taxonomy will be built out and incorporated into law. Similarly, there will be increased clarity around SFDR application. Reporting requirements for these frameworks will inform other jurisdictions and are important to monitor.

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