VentureESG

The E of ESG for VC

Which environmental considerations are material for venture capital investors and their portfolio?

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VentureESG:

VentureESG is a non-profit organisation working with 500+ VC funds and 100+ LPs and asset owners globally on meaningful ESG integration across the VC value chain. We raise awareness with our curriculum of responsible investing events; research, build and distribute fit-for-purpose tools and resources and provide training to VCs and LPs, with 100+ funds already trained.

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Executive Summary

ESG is increasingly integrated into VC funds' day-to-day activity, from how they operate their funds to how they make investment decisions and provide post-investment support. Similarly, tech companies are more and more seeing the value of implementing ESG practices. However, ESG necessitates a tailored approach, customized to a company's sector, business model, and funding stage, with financial materiality acting as the guiding principle. Environmental ("E") materiality allows VCs and their portfolio to identify and prioritize the most critical environmental issues for their operations.

VCs can mitigate potential risks and uncover opportunities for cost savings and value creation by pinpointing these material environmental factors, such as climate impact, resource utilization, and regulatory compliance. Drawing on insights from 20+ interviews with VC ESG managers, investors and sector specialists, this guide is going to be most useful for VCs starting their environmental journeys rather than the expert-climate investors. We have identified a number of most material environmental aspects ('material E') on two levels:

• Material E for VC funds:

VCs' internal environmental practices are generally less material than their financed emissions, i.e. their portfolio. However, VCs should do their own materiality assessment and carbon accounting and address the most material issues (likely their business travel). We have also created a list of best practices, including how to set an internal carbon price and work with sustainability champions.

• Material E for startups:

For VC portfolio companies, material environmental practices highly depend on their specific operations. Action needs to start with measuring emissions and a materiality assessment; most material leverage points are likely to be found in energy and supply chain operations. Three case studies point towards concrete potential starting points.

Does E(SG) matter to VCs and startups?

Over the past decade, ESG has become standard practice for investors across asset classes and large corporations, mainly spurred by regulatory developments, such as SDR in the UK, SFDR and CSRD in Europe, and the new ESG legislation in California.

As ESG considerations become part of VC investment policies and LP expectations (see PRI / KfW Capital / VentureESG papers), research, such as by the European Corporate Governance Institute (ECGI), demonstrates that robust ESG practices not only respond to societal expectations but also enhance corporate financial performance. This business case is particularly true for environmental KPIs, which already influence B2B transactions and procurement for SMEs and small companies, as Canadian public LP BDC recently argued.

Two aspects of E(SG) Materiality: VC-level and portfolio company

ESG materiality involves identifying and prioritizing the ESG issues that have a significant impact on financial performance and stakeholder value. By concentrating on these, businesses can enhance long-term sustainability and profitability, addressing critical issues that could affect their operations and reputation.[1]

Environmental or 'E' materiality underscores the importance of factors such as climate impact, resource use, and regulatory compliance in shaping investment outcomes. For VCs, addressing these issues not only mitigates risks, like regulatory changes, but also reveals opportunities for cost savings (e.g. around resource scarcity leading to price increases).[2]

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1 VentureESG's previous work on Materiality Assessments and the Materiality-Filtering Tool provides VCs with a framework for identifying and prioritizing the ESG issues most likely to influence and be influenced by a company.

2 Obviously, clean and green tech also provide an increasing investment opportunity for VCs - which is not the focus of this paper, however.

However, there is currently no comprehensive guidance specifically tailored for VC firms on "E" materiality. Existing resources are fragmented across various papers and ideas, often conceptualised for climate-specific funds. Our guidance aims to develop a cohesive synthesis of these materials, especially targeting non-specialised funds only just starting their journey to integrate environmental considerations.

This guide addresses two key areas of focus for VCs regarding environmental management:

- **Material E for VC funds:** What should VCs focus on internally? What should they start with (low-hanging fruits) and what are the most advanced VCs doing already (best practice)?
- **Material E for portfolio companies:** What should the journey of a portfolio company look like? When should companies do what when it comes to their environmental management?

SECTION 0:

The basics of carbon footprint and Greenhouse Gas (GHG) Emissions

The most frequently discussed material E issues for both VCs and their portfolio companies are carbon footprint and GHG emissions. Effective management and reduction of these emissions, across Scopes 1, 2, and 3, are critical due to their significant impact on climate change. There is a growing expectation for VCs to track, report, and establish reduction targets for their carbon footprint, down to their Scope 3 emissions (i.e. portfolio companies), both because of SFDR/SDR/TCFD regulation and LP reporting. These requirements alone make carbon accounting material for fundraising (for both VCs and LPs), and increasingly, it is becoming standard practice. Importantly, measuring emissions sets a starting point for future work on both mitigation and reduction (see a recent MIT study on the importance of measuring). What does standard carbon accounting involve?

Emissions Scope 1, 2, 3 and 4

Scope 1: Includes direct emissions from sources owned or controlled by the company, such as fuel combustion in vehicles or facilities.

Scope 2: Covers indirect emissions from the production of electricity, heating, and cooling that the company purchases and consumes.

Scope 3: Encompasses all other indirect emissions across the company's value chain, including both upstream and downstream activities.

Scope 4: Often referred to as "avoided emissions," Scope 4 includes GHG emissions prevented by a company's products or services that occur outside its value chain.

For more context, carbon accounting platform Plan A 🔗 has published a detailed guide on the different Scopes.

A very quick map of relevant regulation

REGULATORY FRAMEWORK					
SFDR	**CSRD**	**SECR**	**SDR**	**ESOS**	**CSDDD**
EU-based financial market participants with over 500 employees.	EU-based companies meeting two of the following three conditions have to comply: €50+ million revenue, €25+ million in assets and/or 250+ employees.	UK-based Companies meeting two of the following three conditions have to comply: turnover of £36+ million, a balance sheet of £18+ million, >250 employees.	UK-listed companies, asset managers, and owners.	UK-based Companies with >250 employees or an annual turnover in excess of £44 million and an annual balance sheet total in excess of £38 million.	EU companies with 1,000 employees if, during a financial year, they had an annual worldwide net turnover of more than €450 million. Non-EU companies which have more than €450 million net turnover in the EU.
REQUIREMENTS					
Disclosure requirements include a range of ESG metrics at entity and product levels, necessitating standardized sustainability reporting and data collection from clients and portfolio companies	Requires companies to report on the impact of corporate activities on the environment and society and requires the audit (assurance) of reported information.	Requires companies to report on global energy use in addition to GHG emissions in the company's annual Directors' Report.	Requires companies to disclose sustainability-related information, including ESG metrics.	Audits of the energy used by their buildings, industrial processes and transport designed to identify tailored and cost-effective measures to save energy and achieve carbon and cost savings.	Companies must identify, prevent, mitigate, and account for adverse sustainability impacts in their operations and value chains.

Carbon Accounting Platforms - A Long List

Carbon accounting platforms help track carbon footprints, both in terms of gathering precise data and enabling firms to set realistic reduction targets and monitor progress effectively. Many different platforms are available to cater to a variety of different needs.

We have pulled a list of the most widely used platforms by VCs in our community together: VentureESG's Notion

How to get started:

Icebreaker One and the British Business Bank 🔗 have published insights on market trends, costs, and challenges SMEs face in carbon reporting, including research on over 270 solutions and detailed survey results from SMEs and providers.

Offsetting and its alternative

The interviews make clear that carbon reduction should be the focus when working towards net zero. However, it's also acknowledged that some emissions will remain unavoidable. Offsetting enables companies to invest in initiatives that reduce or remove an equivalent amount of greenhouse gases from the atmosphere in an attempt to balance out these unavoidable emissions.

The effectiveness of carbon removal and offsetting is increasingly being questioned, by the Financial Times, among others. Prioritizing auditable carbon data provides a reliable approach to emissions reduction, allowing informed decisions and enhancing credibility. However, stronger verifiability and accountability are needed for frameworks such as the EU's carbon removal certification to drive meaningful progress.

The interviewed VCs that purchase carbon credits to offset emissions highlighted that VCs must prioritize quality, transparency, and long-term impact. Carbon credits should come from verified projects adhering to the Verified Carbon Standard (VCS) or Gold Standard, ensuring the reductions are real, measurable, and additional. VCs should choose projects with transparency: clear disclosure of methods, baselines, and sustainability practices.

As part of this work, we have compiled a list of offset providers that VCs use – and others that are also suitable: VentureESG's Notion

How to get started:

The **FSB** 🔗, **Ecohedge** 🔗, and **Sustain.Life** 🔗 have published guides on carbon credits and carbon offsetting.

Case Study 1:

Atomico's internal carbon price

Atomico is one of the first VCs to implement an internal carbon fee, a strategy that assigns a cost to GHG emissions, guiding investment decisions and promoting internal sustainable decision making. This practice not only encourages reducing carbon output and staying ahead of regulations but also supports climate-focused initiatives.

Atomico is using the Milkywire Methodology to set an internal carbon fee, based on "contribution logic," where companies voluntarily tax their emissions to fund high-quality, verifiable climate initiatives, going beyond traditional carbon offsetting strategies. The methodology is built on several key steps: initially, a carbon fee is set based on parameters such as the social cost of carbon, marginal abatement costs, or the expenses related to carbon removal. The funds generated from this fee are then directed toward climate projects that follow best practices, as recommended by organizations like the SBTi and WWF/BCG. To ensure accountability, transparency is upheld through regular reporting on climate contributions and the allocation of these funds.

Atomico's internal carbon fee is organised into a two-tier structure that differentiates between emissions directly attributable and within a companies control, and indirect emissions shared by many actors: $100 per ton of CO_2 for Scope 1, 2, and 3 emissions, with certain categories like Scope 3.1 (purchased goods and services) and 3.15 (financed emissions) receiving a lower price of $10 per ton of CO_2.

The funds generated from this fee are allocated to climate projects, and in 2023, they were allocated to Milkywire's Climate Transformation Fund. This fund backs high-impact initiatives centred on durable carbon removal, nature restoration, and decarbonization, ensuring that Atomico's contributions result in measurable and lasting climate benefits.

SECTION I:

Material E for VCs

Where do VCs emit: most material sources of emissions

In order to figure out where to focus, a materiality assessment should be the first step, both for VC firms and portfolio companies.

The interviewees noted that for VCs, the main direct sources of emissions (which VCs can control themselves) typically include business travel, energy consumption in office spaces, and digital activities, such as data storage and processing. Examples of VC emissions are shown below.

Breakdown of Molten Ventures Scope 1, 2 and 3 (CY23)

	tCO_2e (CY22)	tCO_2e (CY23)
Natural gas	1.7	2.0
Vehicle fuel	–	–
Total Scope 1	**1.7**	**2.0**
Purchased electricity	6.5	8.1
Total Scope 2	**6.5**	**8.1**
Employee commuting & homeworking	34.7	22.7
Business travel	126.6	165.1
Investments[1]	1,086.3	490.7
Purchased goods & services	753.8	652.8
Capital goods	4.3	0.0
Waste generated	0.3	0.2
Other fuel & energy-related activities	2.6	3.0
Electricity transmission & distribution	–	–
Total Scope 3	**2,008.6**	**1,334.5**
Total Scope 1, 2 and 3	**2,016.8**	**1,344.6**

Breakdown of Molten Ventures 2023 Scope 1, 2, and 3 emissions.

GHG emissions category	Location-based emissions tCO_2	Market-based emissions tCO_2
Scope 1	8.72	8.72
Scope 2	31.06	0.00
Scope 3 (breakdown below)	903.77	903.77
Purchased goods and services	553.60	553.60
Capital goods	98.80	98.80
Fuel-and energy-related activities	12.43	12.43
Waste generated in operations	0.36	0.36
Business travel	218.29	218.29
Employee commuting	20.29	20.29
Total emissions	943.55	912.49

Breakdown of Balderton Capital's 2023 Scope 1, 2, and 3 emissions.

However, VCs we interviewed acknowledged that their own, direct emissions, specifically scopes 1 and 2, represent a small fraction of their total carbon footprint—often less than 5% compared to their total emissions. Scope 3, and particularly 'financed emissions', are hence a key focus.

Before we dive into the side of financed emissions, i.e. what happens at the portfolio company level, let's go through some of the more significant VC-internal material issues, ordered by both impact potential and ease of implementation.

As VCs increasingly offset emissions, internal environmental focus is crucial for prioritizing emission reduction before relying on such offsets, especially with rising carbon prices.

1. Business Travel

The interviews highlighted that business travel, particularly air travel, is a significant source of emissions for VC firms — globally, air travel contributes to 2-3% of GHG emissions. One investor remarked, "The nature of our work means we are often on planes, which contributes heavily to our operational emissions." Shifting away from traditional in-person practices is challenging in an industry reliant on personal relationships. Several VCs however, have adopted sustainability measures in their travel policies (Examples include: HV Capital, Balderton Capital, and Atomico).

Potential Impact: 5/5
Ease of Implementation: 3/5

Concrete starting points

Track:

Measuring flight emissions is a first step — and will form part of your carbon accounting.

Reduce:

Having rules for using **lower-emission economy flights** 🔗 and trains and eliminating non-essential travel (e.g. prioritize virtual meetings for internal communications and routine check-ins) are the first steps.

Further Guidance:

American Express Global Business Travel 🔗 and **Inspired** 🔗 have both recently published strategies aimed at helping companies develop business travel policies that incorporate sustainability.

2. Sustainable Offices

Energy consumption in buildings contributes to approximately 17% of the UK's total GHG emissions. The interviews highlighted that considerable internal VC emissions are linked to office operations, particularly within the larger VCs. Energy use from HVAC systems, lighting, and electronic equipment are all indirect emissions sources, primarily from purchased electricity. Energy costs can still be significant even for non-energy-intensive businesses such as VCs. Implementing sustainable office and energy efficiency measures will enhance sustainability and reduce operational costs. There is a recognition that some VCs typically use shared office spaces and lack direct control over building-related emissions, which fall under Scope 3 for purchased services. For those VCs, this should be factored in during the procurement process.

Potential Impact: 4/5
Ease of Implementation: 3/5

Concrete starting points

Renewable Energy Use:

Transition to **green energy** tariffs, those supported by mechanisms such as the **Renewable Energy Guarantees of Origin (REGO)** for transparency within the UK or **Guarantees of Origin (GoOs)** within the EU to ensure transparency.

Implement Energy-efficient Systems:

Install **energy-efficient LED lighting** HVAC systems, and smart controls to optimize energy use and reduce the office's environmental footprint.

Use Sustainable Materials:

In the office, prioritize eco-friendly and sustainable procured office materials.

Further Guidance:

K2 and **Oktra's** provide guides on sustainable office design. **Greenly** has published several guides on **green practices for the office** and **strategies to create more sustainable office spaces**. **UK GBC** has published guidance on renewable energy procurement.

3. Procurement

Procurement of goods and services, along with business travel, are often VCs' primary emissions sources. Interviewees highlighted that procurement-related emissions primarily stem from legal, tax accounting, and consulting services.

The interviewees noted that procurement-related emissions are more complex than direct emissions due to managing and mitigating emissions across the supply chain. A sustainable procurement policy was highlighted as necessary by the leading VCs, which should include vendor evaluation criteria and encourage partnerships with suppliers who actively manage their emissions, helping to reduce indirect emissions and simplify Scope 3 accounting.

Potential Impact: 5/5
Ease of Implementation: 2/5

Concrete starting points

Establish Sustainable Procurement Guidelines:

Define the objectives, methods, and KPIs for implementing a sustainable procurement approach.

Supplier Selection & Management:

Compile a list of vendors aligned with **sustainability goals**, prioritizing those with environmental certifications. Actively engage suppliers and monitor sustainability performance. Particularly for lawyers, consultants, and accountants, as these services contribute significantly to procurement emissions.

Sustainability Reporting:

Track progress through data, reporting sustainability outcomes, and ensuring transparency with procurement guidelines in the medium term.

Further Guidance

Sievo has published a playbook and action plan on Sustainable Procurement 101, and **The Chartered Institute of Procurement & Supply** has outlined hints and tips for developing a Sustainable Procurement Policy.

4. Commuting

Employee commuting is likely a small contributor to VC emissions and, hence, not the most material focus point. The categorization and reporting of employee commuting emissions are included under Scope 3 emissions in the GHG Protocol, which covers all indirect emissions not accounted for in Scope 2; doing your carbon accounting should bring any specific 'big emitters' up!

Potential Impact: 2/5
Ease of Implementation: 4/5

Further Guidance:

The SME Climate Hub 🔗 and **thinkstep** 🔗 explain and guide on reducing commuting emissions. **Zeelo** 🔗 has a guide on sustainable commuting for businesses.

5. Waste

Waste management in the UK contributed approximately 4% of the country's GHG emissions in 2021. Although waste emissions are low in VCs, effective waste strategies send the right message to portfolio companies, reduce landfill impact, and can be straightforward and cost-effective to implement. VCs' waste sources primarily include paper, food waste, single-use plastics, electronic waste, and packaging materials. An ESG manager at a leading VC advocated for the waste hierarchy, promoting prevention, reuse, and recycling as the primary strategies, with disposal reserved as the last option. Similar to commuting, the overall impact on emissions is low, but addressing does send the right message.

Potential Impact: 2/5
Ease of Implementation: 4/5

Further Guidance:

The Institute for Entrepreneurship Development's 🔗 circular economy guidance and **Business Climate Hub's** 🔗 waste reduction strategies offer guidance on waste management. **NI Business Info** 🔗 and **Greenbank** 🔗 have published frameworks to formulate an office waste policy.

Case Study 2:

What Molten Ventures do internally

Molten Ventures is working to enhance sustainability within its operations. The firm is committed to aligning its internal practices with broader goals of resource efficiency and carbon reduction. These efforts reduce Molten's environmental impact whilst fostering a culture of sustainability across the company, its supply chain, and its portfolio companies, setting a strong example for others.

Molten Ventures has taken significant steps to reduce its carbon footprint through a comprehensive set of internal initiatives targeting Scope 1, 2, and 3 emissions. Central in these efforts is the transition of its London office to 100% renewable electricity, which has led to a marked reduction in Scope 2 emissions. Additionally, the firm is now recycling 52% of office waste thanks to a strategic partnership with an environmentally focused waste management provider. Molten has also introduced a cycle-to-work scheme, decreasing transportation-related emissions.

The implementation of policies to reduce emissions has been an important step for Molten Ventures, including a Travel & Expenses Policy to minimize the carbon footprint of business travel and a Group Sustainable Procurement Policy, emphasizing responsible sourcing and disposal of capital goods and IT equipment.

Additionally, for carbon emissions that cannot be reduced, Molten Ventures invests in carbon credits to offset emissions from Scope 1, 2, and select Scope 3 categories within its control.

Best Practice

From our interactions with VCs, we have identified three best practices that are currently being adopted across our VC community internally to address the most material environmental issues and to support their portfolio companies in reducing carbon emissions.

1. Materiality Assessment

Conducting materiality assessments is an important starting point for identifying and addressing environmental factors for both internal operations and portfolio companies. An assessment identifies priorities for time and resources, ensures coordination among managers, investors, and founders, and provides a clear roadmap for sustainable growth.

While many environmental issues are material across the VC landscape, some firms have unique challenges that a materiality assessment can illuminate. For larger VCs, this may be addressing the management of multiple offices and higher travel demands. In comparison, smaller VCs can use materiality assessments to optimize energy efficiency, commuting policies, and sustainable procurement.

Materiality assessments are also critical for VCs to understand the environmental impact of their portfolio companies. Environmental factors must be customized to align with a start-up's specific sector, business model, and stage of development — assessments in the VC ecosystem must be tailored to address the uncertainties of disruptive technologies.

How to get started:

VentureESG has published several guides on **Materiality Assessments** 🔗 and a **Materiality-Filtering Tool** 🔗 for VCs. KPMG has published **'The Essentials of Materiality Assessment'** 🔗. **SASB's Materiality Map** 🔗 identifies likely material sustainability issues on an industry-by-industry basis

2. Environmental Policy

VCs noted that environmental policies signal a commitment to reducing environmental impact and advancing sustainability. Often part of ESG policies, these policies should set clear goals, assign responsibilities, and identify areas for improvement. Advanced policies lay out how environmental factors are integrated into investment decisions and ensure portfolio companies adopt sustainable practices.

How to get started:

Worldflavor 🔗 has published an environmental policy template for businesses. **The British Assessment Bureau** 🔗 has published guidance on environmental policy development, too. On guidance on ESG policy in general, Anna Ott of HV Capital, in collaboration with VentureESG, wrote a **practical guide on how to write an ESG policy for a VC Fund** 🔗.

Examples:

Antler 🔗 and **Speedinvest** 🔗 have ESG policies with a section focusing on sustainability.

3. Training and education

The interviewed VCs, particularly those further along the sustainability spectrum, emphasized the role of engagement and education in driving environmental improvements both internally and for portfolio companies. Sustainability training should cover an overview of sustainability principles, specific company goals, and practical actions to reduce environmental impact. Training can lead to alignment with the VC's sustainability goals and foster ownership.

Some VCs have introduced tailored educational workshops for their portfolio companies, offering consulting services to assess climate maturity and enhance ESG practices. These workshops outline the importance of risk management and highlight the potential for growth through climate-related innovations. Some of the ESG managers observed that since VCs often hold minority stakes in startups, they can not enforce changes directly. Instead, education is seen as an effective tool to promote sustainability.

How to get started:

The **UK Climate Business Hub** 🔗 has a number of resources for sustainability training for businesses. The **SME Climate Hub** 🔗 provides a free online training course to help SMEs reduce their carbon emission. **Altruistiq** 🔗 has published a podcast on how to set up an internal sustainability training program.

4. Internal Sustainability Champions

A designated ESG lead or team can help VCs achieve sustainability goals by ensuring that environmental considerations are integrated and considered in business operations.

An ESG lead should first secure senior management support to ensure the allocation of necessary resources, such as budget and staff time, and to integrate sustainability into the firm's long-term strategic goals. They must establish clear, measurable sustainability objectives tailored to the VC's operations and based on materiality assessment. Regular communication with staff, partners, and investors is crucial to ensure alignment and engagement in the firm's sustainability efforts. Additionally, the lead should monitor progress through key metrics, celebrating achievements while identifying areas for improvement to ensure continuous progress.

ESG leads can provide guidance to portfolio companies to assist them in adopting more sustainable practices. This includes sharing best practices, offering insights on emissions reductions, and helping them align with broader environmental goals.

How to get started:

PlanetMark 🔗 has created extensive guides on how sustainability can be driven in a businesses. **LfCA** 🔗 have published guidance on setting up an ESG team. **Plan A** 🔗 has published guidance on starting an ESG team in your company.

SECTION II:

Material E

No matter what VCs do internally, their financed emissions — i.e. what their portfolio companies do in terms of environmental footprint and practices — will always have a significantly higher impact. While internal environmental management for VCs (Section I) is crucial to set the right tone and understand environmental management's complexities, the focus needs to be on the portfolio.

As with all ESG practices, interviewers noted that an 'E' materiality assessment is crucial for startups. Different sectors and stages have distinct materiality needs. For instance, the environmental materiality of B2B SaaS companies — driven by emissions from energy usage in servers and data centres — differs from industry 2.0 and cleantech startups, where emissions might sit in supply chains, raw materials, and disposal of components.

A tailored approach is needed to appropriately address each sector's unique environmental challenges. As highlighted before, VentureESG has published several guides on assessing materiality issues and materiality for VCs and portfolio companies. The topics discussed below reflect the most common environmental challenges and best practices.

Case Study 3:

What Oxford Science Enterprises are doing with their portfolio

Engaging with portfolio companies on environmental sustainability, especially early-stage companies with limited resources, requires tailoring environmental expectations and guidance to each company's stage and sector. Oxford Science Enterprises (OSE) adapts its engagement efforts, including ESG & Impact workshops, to the specific stage and sector of each company to ensure environmental efforts are both relevant and feasible, to ultimately maximize their impact and sustainability.

OSE believes that sustainability efforts should evolve as companies scale — from initially identifying material risks and opportunities to inform their overarching strategy, to implementing programmes to monitor and report, such as emissions measurement, to setting and achieving specific environmental targets. ESG & Impact workshops serve as a starting point to help portfolio companies identify and prioritise sustainability topics. For instance, discussions with life sciences companies may focus on water and energy use or plastic waste in laboratories, whereas the key topics for deep tech companies may include raw material sourcing and energy consumption in manufacturing.

The primary goal of these sessions is to identify areas where the company may need support, guiding companies to a position of proactive environmental responsibility, without overwhelming them. This may include advising on policies, connecting the team with specialised providers or consultants – such as emissions measurement or LCA providers – or sharing industry-specific initiatives and guidance. Looking ahead, collecting examples of best practices across the portfolio and enabling peer-to-peer connections are growing areas of support to further ensure guidance is tailored to sector and stage.

OSE emphasises a flexible, phased approach to sustainability while being on hand to offer support to help companies refine and enhance their strategies as they grow.

1. Start with measuring your GHG Emissions

As discussed in Section 0, GHG emissions are the most significant environmental factor for portfolio companies. Emissions directly impact startups' sustainability, regulatory compliance, and market reputation, and early action is recognized as essential to enhancing operational efficiency and competitive positioning in an increasingly green-focused economy.

Regulations, such as SFDR, CSRD the EU's new Digital Product Passport (DPP) and future policies for market demand-led innovation, will require transparency in the carbon footprints of products sold, affecting market access and consumer trust.

Many VCs support their portfolio companies by offering resources such as subscriptions to carbon accounting platforms and best practice guides. Starting early with carbon accounting (e.g. for 15 FTEs up) ensures consistent data once regulatory compliance kicks in. There are also several free tools to calculate scope 1, 2 and 3 emissions such as those by the Carbon Trust, SME Climate Hub and the GHG Protocol Calculator.

Case Study 4:

Balderton Capital's Active Collaboration with Portfolio Companies

Balderton Capital actively collaborates with its portfolio companies to encourage them to start measuring and tracking their carbon emissions. Balderton's motivation is twofold: (1) to get start-ups started on their climate journey early to save them time, cost and complexity further down the line, and (2) to better understand and quantify its financed emissions. In 2023, 37% of Balderton's portfolio companies (representing 62% of AUM) were measuring their emissions, up from 24% in 2022.

This improvement was largely driven by the rollout of a portfolio-wide carbon footprinting campaign. Balderton offers all companies in the portfolio to calculate their carbon footprint for free using Sweep. After an introductory webinar on carbon accounting and an overview of the Sweep platform's functionalities, portfolio companies receive a dynamic carbon survey that enables the automatic calculation and integration of their emissions data with Balderton's system. The survey guides users through activity and monetary data collection, while selecting appropriate emissions factors at the backend. As part of its 2024 campaign, Balderton also added a 1-to-1 "debrief and act" clinic to give each company the opportunity to discuss their results with a carbon expert and agree on action they could take.

Balderton Capital's Annual Report on Sustainable Future Goals exemplifies best practices by delineating sustainable benchmarks across its portfolio. It details the percentage of portfolio companies engaging in sustainable activities both at the company level and across its value chain.

2. Energy: low-hanging fruits?

An environmental concern for all startups is energy usage, which can stem from multiple sources, such as transportation, data centres, and manufacturing or production processes. In particular, some of the interviewed VCs expressed concern about a significant rise in emissions from server use, particularly due to the energy demands of AI-driven technologies. For example, AI development caused a 48% surge in Google's emissions over the past five years.

The interviews highlighted that reducing emissions from energy usage in startup operations is particularly challenging due to the demands of rapid growth and the energy-intensive nature of emerging technologies. However, startups can overcome these challenges by integrating energy-efficient practices early, leveraging renewable energy sources, adopting low-carbon heating and cooling, optimizing space, and adopting sustainable business models aligned with long-term growth. Focusing on sustainability from the outset allows startups to balance growth with environmental responsibility.

Two best practice examples on this front are GoCardless, an online payment processing solution which has set a goal of 100% self-generation of electricity by 2027, and Celonis, a data processing company that has reduced carbon intensity from server sources and is increasingly powered by renewables.

How to get started:

The **Energy Efficiency Movement** 🔗 is a collaborative effort between leading organizations on energy efficiency and their **Energy Efficiency Playbook** 🔗 is an important read for start-ups. The Exponential Roadmap **Initiative** 🔗 has published a vital **1.5°C Business Playbook** 🔗 for start-ups.

3. Supply chain emissions: big leverage is possible but it is complicated

The VCs interviewed recognized that startup supply chains are a significant environmental concern. As reported by Accenture, supply chains account for 60% of global carbon emissions.

Managing supply chains across diverse sectors within their portfolios is challenging for VCs. Each industry has unique complexities, and the lack of transparency and varying control over global suppliers often complicates efforts to monitor and reduce emissions.

VCs further along the spectrum recommend that later-stage startups begin by mapping their supply chains to identify critical areas of carbon emissions. Best practices then include collaboration with suppliers with strong sustainability practices, encouraging renewable energy use, and implementing robust tracking systems to monitor emissions. Forest, a bike-sharing start-up in London, has managed to reduce CO2 emissions by 14% per bike through reviewing their supply chain and procurement processes. Local sourcing, where possible, is another option to reduce transportation emissions, though this can be challenging for startups dealing with complex technologies. Nothing Phone, committed to sustainability by implementing supplier policies that reduce water use, achieve zero waste to landfill, and ensure responsible mineral sourcing, with regular conflict minerals reports and smelter/refiner lists.

How to get started:

Plan A 🔗 and **Sweep** 🔗 have comprehensive guides on supply chain decarbonization.

4. Waste and water: increasingly regulated but less material

The interviews also highlighted the increasing regulation of waste[3] and water for portfolio companies. Startups most affected by operational waste emissions are in manufacturing, healthcare, construction, retail, and food and beverage. Water plays an especially big role for manufacturing companies (especially due to its scarcity, affecting two-thirds of business going forward, as McKinsey estimates).

The interviews highlighted that as companies scale, sustainable waste practices become essential for meeting regulatory standards (EPR, WEEE, Packaging Waste) and attracting eco-conscious stakeholders. Obtaining accurate waste data is challenging due to the lack of standardization, complex supply chains, and fragmented data across departments. Start-ups should begin by categorizing the types of waste they generate—such as solid, liquid, hazardous, and non-hazardous—to better understand their waste management needs. Following this, it is crucial to quantify each waste type, as these measurements are essential for accurately calculating associated emissions. For example, Voi and Li-Cycle, have implemented measures to actively minimize, reuse, and recycle waste in their operations.

How to get started:

Plan A 🔗 and **thinkstep** 🔗 have provided guidance on waste in operations.

Like energy management, reducing water usage can be a challenge for startups due to limited resources and the high costs associated with implementing water-efficient technologies. A number of startups rely on water-intensive processes, such as cooling systems in data centres or manufacturing operations (including cleantech factories). Companies can effectively reduce water usage by implementing water measurement practices and integrating water use into their KPIs. Additionally, suppliers can be encouraged to focus on similar water management practices. As an illustrative example, Microsoft has committed to being water-positive by 2030, committing to replenishing more water in stressed basins than consumed globally.

How to get started:

McKinsey's 🔗 guidance on water highlights the business case for water conservation in businesses. **Hydrowater** 🔗 has published an industrial water playbook. **Nuwater** 🔗 has published guidance on optimizing water efficiency in industrial operations.

3 The GHG Protocol Category 5 categorizes emissions from the disposal and treatment of waste generated by an organization's operations during the reporting year at external facilities not owned or controlled by the organization.

5. Beyond GHG and carbon: Nature and Biodiversity

The VCs interviewed recognized the increasing material importance of biodiversity[4] and its potential impact on their portfolio companies. Businesses can affect biodiversity through habitat destruction, resource overexploitation, pollution, the introduction of invasive species, and contributions to climate change. These actions disrupt ecosystems and pose significant threats to species.

Early-stage startups need to recognize biodiversity's significance alongside climate change, with an eye toward future environmental disclosure requirements, such as CSDDD, EUDR and EU's Biodiversity strategy for 2030. As startups scale, initiatives such as biodiversity impact assessments are becoming best practice.

Later-stage companies should incorporate nature-positive initiatives into their operations. These include selecting offsets with nature co-benefits, evaluating their environmental impact (including on nature), and carefully considering how material sourcing and resource use affect biodiversity, especially for companies producing physical goods. For example, SumUp, in partnership with Wilderness International, has protected 100,000m² of forest in Peru, preserving valuable habitats and biodiversity while offsetting 6,000 tonnes of CO2. Another notable example is BlaBlaCar's switch to biodiesel for a small part of their bus fleet, helping to reduce carbon emissions by utilizing biofuel made from rapeseed waste, which repurposes existing organic matter without diverting land from food production. Northvolt, a Swedish battery developer and manufacturer, has committed to actively monitoring biodiversity, conducting required Environmental Impact Assessments (EIAs) to assess environmental impacts, including on ecosystems, and implementing compensation measures when necessary.

How to get started:

The Cambridge Institute for Sustainability Leadership has published frameworks on **measuring business impacts** 🔗 on nature and developing a **corporate biodiversity strategy** 🔗. **Bain & Company** 🔗 has published a playbook on nature and biodiversity for business.

4 Nature and biodiversity are fundamental to sustaining ecosystems that deliver essential services such as clean air, water, and food, which are crucial for human survival and economic stability.

SECTION III:

Assessing Impact

Impact assessment was noted as necessary for startups to evaluate their innovations' social, environmental, and economic effects. This is particularly true for climate-focused startups, where impact is central to their mission of driving meaningful change and growing sustainably. Some interviewees noted that balancing positive and negative impacts remains a significant challenge, particularly within the SFDR framework. As discussions continue, especially with the discussions around SFDR II, funds may need to establish clear limits on what constitutes 'Do No Significant Harm,' which could significantly influence how they assess and report on sustainability performance.

Understanding early impact is essential for ventures to help optimize processes, identify opportunities, and benchmark sustainability which is increasingly important for investors, talent, and customers. However, impact assessment can be challenging for early-stage ventures, as outlined by the PRIME Coalition. Impact assessment tools often focus on established companies, overlooking the future potential of early-stage ventures to reduce GHG emissions, and requiring extensive data that may not be available for startups. Life Cycle Assessments (LCAs) offer a science-based method for quantifying environmental impact across a product's lifecycle, enabling data-driven investment decisions. Additionally, the Theory of Change framework helps startups strategically plan and evaluate their impact, ensuring alignment with sustainability goals and allowing for adaptation based on feedback, ultimately driving meaningful and sustainable growth.

Ultimately, VCs and startups play a significant role in driving environmental impact through the funding and scaling of innovative solutions that address sustainability challenges and promote a greener future.

How to get started:

ImpactVC 🔗 is an initiative that exists to unlock VCs' ability to drive impact. **Project Frame** 🔗 has published a guide on pre-investment considerations diving deeper into assessing future GHG impact. **Planet A** 🔗 has provided guidance on Impact Assessments for climate hardware. **ClimatePoint** 🔗 has published an LCA-based tool. **CRANE** 🔗 has developed an open-source tool that calculates Emissions Reduction Potential. **Sopact** 🔗 has published an authoritative guide on the Theory of Change.

Conclusion

Integrating ESG considerations for investors has increasingly evolved into a standard practice that aligns with investor expectations across various asset classes. The shift towards sustainable practices is increasingly becoming a norm in the VC industry, spurred by the rise of ESG ratings and regulatory developments. The heightened focus on material 'E' factors, especially carbon footprint and GHG emissions, has become an important consideration for VCs and their portfolio companies. Effective management of these emissions is crucial due to the substantial impact on climate change, with a growing expectation for VCs to establish explicit tracking, reporting, and reduction targets, where reporting increasingly becomes integral to fundraising and LP expectations. As VCs increasingly offset emissions, internal environmental focus is crucial for prioritizing emission reductions before relying on offsets, especially with rising carbon prices.

This guide has been developed from conversations with VC ESG managers, investors and sector specialists and focuses on a granular level on the most material "E" factors for VCs to their internal efforts, including business travel, office operations, procurement, and waste management—each offering distinct challenges and opportunities for reducing emissions. For portfolio companies, materiality varies significantly per sector, but the importance of early and tailored interventions in environmental management is stressed. This includes prioritizing energy efficiency, reducing supply chain emissions, and integrating waste and water management practices from the outset. The strategic focus on these areas prepares startups for compliance with current and future regulations and positions them for competitive advantage in a market that increasingly values sustainability. Adopting these practices demonstrates a proactive approach to integrating ESG principles that can drive long-term value creation for VCs and their investments.

APPENDICES

Appendix 1:

Frameworks

The interviewees emphasized the critical role of climate frameworks for investors, noting that frameworks can aid VCs in navigating regulatory landscapes and incorporating climate considerations into their investment strategies to ensure compliance.

Nonetheless, the interviews made it clear that VCs often need help with the number of confusing frameworks and how to align them with their specific objective.

In particular, the VCs interviewed point to decarbonization frameworks, such as the Science-Based Targets Initiative (SBTs), the Private Markets Decarbonisation Roadmap (PMDR), and the Net Zero Investment Framework (NZIF) for Private Equity, as well as the newer VCA framework. These frameworks often fall short of meeting the challenges and circumstances faced by early-stage start-ups (with limited resources and a lack of established processes), making it difficult for VCs to apply comprehensive frameworks.

Watershed has a comprehensive guide on climate frameworks, in particular for SBTi. Revaia will launch a comprehensive climate guide for VCs and an overview of existing frameworks.

Appendix 2:

Environmental communities and networks

Outside of VentureESG, there are several networks that are focused on sharing ESG and impact best practices, examples include:

- Climate50 is an annual list that aims to recognize the most impactful global climate investors, allocating capital to entrepreneurs building cutting-edge technology, moving us closer to a net-zero planet.
- Impact VC, a community-led initiative dedicated to sharing knowledge, tools, and resources to advance the impact potential within the venture landscape.
- Leaders for Climate Action is a global community of business leaders dedicated to combating climate change by promoting sustainable practices and reducing carbon emissions.
- Project FRAME is a non-profit program convened by Prime Coalition, purpose-built to organize investors around forward-looking emissions impact methodology and reporting best practices.
- Venture Climate Alliance made up of a growing group of leading VCs committed to achieving a rapid, global transition to net zero or negative GHG emissions by 2050 or earlier.

Appendix 3:

Sustainablity, ESG and environmental guides for Start-ups

Here are essential guides that VCs can circulate internally and to their portfolio companies (ordered alphabetically):

- 2150's Sustainability 101s – Climate and Biodiversity
- Antler - Sustainability Priorities by Industry
- Atomico - Conscious Scaling Roadmap
- Balderton Capital's – Start-up Guide to ESG generally
- ESG_VC – Environmental Resources
- Exponential Roadmap Initiative - 1.5°C Business Playbook
- Planet A - Building and Scaling Climate Hardware: A Playbook
- Project Drawdown - Table of Solutions
- Project Frame - Resources & Publications
- Rho Impact - Insights & Blog
- Sustainability Playbooks – Venture Capital
- Sweep - Regulation Insights
- Tech Zero - Toolkit
- The Climate Brick - 7 Bricks to Fast-Track Climate Tech
- WRI - Working 9 to 5 on Climate Change: An Office Guide

Appendix 4:

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This report was developed over the past few months through interviews with VCs and LPs to identify the most material environmental factors impacting their work in the ecosystem. Thank you to all the respondents (some of whom wanted to remain anonymous), including:

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VentureESG