Photo: Unsplash-alex-wong

Impact Investing Report:
Recommendations for COP28

IB1 Icebreaker One

2023-11-30

CONTENTS

Executive summary

Key recommendations:
1. Organisations <u>must</u> produce **discoverable** and **usable** digital environmental ESG reports of their transition to net zero.
2. Organisations <u>must</u> **publish the data** behind environmental ESG reports in **machine-readable** formats.
3. Organisations <u>must</u> include **more detailed** environmental data in ESG reports
4. Organisations <u>must</u> demand **data-backed, standardised** environmental reporting from their **supply chains**.
5. Regulators and reporting bodies <u>must</u> mandate and support the sustainable financing of a **trusted data-sharing ecosystem**. This should be implemented by 2025.

Project aim
Demonstrate at COP28 how the discovery, access and use of data relating to energy, finance and water is relevant for reporting, strategic planning and acting upon net zero decisions.

This project[1] explored how to set the foundations for users (in this case, impact investors) to easily search for, discover and access net-zero data. Using the Icebreaker One Trust Framework to verify sources and connections and provide standardised access control for non-public data.

The development and improvement of data infrastructure and practices for the sharing of impact investment data[2] was the starting point. From there, the project explored the challenges of the environmental component of Environmental, Social and Governance (ESG) reporting. Due to the breadth and complexity of ESG, our research initially focuses on the UK and Europe with the potential to cover more territories in the future, depending on further funding.

Goals and objectives:
1. Identify clear **use cases** and the **data value chain** required to deliver these.
2. Understand opportunities and challenges of **implementation** and recommend ways to overcome these.
3. Improve the **data infrastructure** for impact and net-zero data sharing to make **demonstrable** net zero outcomes possible.
4. Improve the performance of impact investment by enabling robust ESG standards to be implemented and adopted **at scale**. Enable impact standards alignment and harmonisation to unlock innovation.

---

[1] This project was kindly supported by a grant from the [Tipping Point Fund](#).
[2] The programme is using Global Impact Investing Network's definition of impact investing: "Impact investments are investments made with the intention to generate positive, measurable, social and environmental impact alongside a financial return".

5. Convene a forum for industry experts and stakeholders across ESG to co-design a solution that meets user needs, based on open standards, and that can iterate based on evolving needs.

Open Net Zero (ONZ) aimed to build on Icebreaker One's tried-and-tested data-sharing Trust Framework and take a use-case driven approach to:

1. Open up data value chains between the 'real economy' and the 'financial economy'. For example, measuring and sharing the embodied carbon in construction materials so that it may be used by carbon accounting, ESG ratings, financial instruments, regulators and NGOs.
2. Invert the reporting model to one of verified publishing to enable an open market for data sharing. This will enable different market actors to create their own portals, data lakes and analytics while ensuring that there is fair access to data by anyone.
3. Establish the underlying data infrastructure for trusted data sharing.

Project deliverables:
1. A long list of potential use cases.
2. Two prioritised, clear, demonstrable and documented use cases.
3. Stakeholder mapping of the [data value chain.](#)
4. ONZ demonstrator, including user testing for market feedback.
5. Advisory Groups for sector engagement.
6. Open publishing of the project and its updates, including an open call for input.
7. A summary of the findings, and recommendations for future development and sustained funding.

Results achieved:
The Impact Investing ecosystem is large and complex, with various sources demonstrating this: https://icebreakerone.org/ecosystem/ and the [ESG Ecosystem Map](#).
We convened stakeholders across the ecosystem and;
- conducted extensive research and identified a problem statement.
- carried out 13 research interviews.
- created an Impact Investing Advisory Group of 40 members.
- ran two webinars and 4 Advisory Group meetings (in a webinar format).
- conducted a user needs focus group for user testing of ONZ and identifying improvements.
- identified, analysed and scored a long list of 16 use cases, of which 2 were prioritised.
- Published 8 blogs and 2 use cases

Problem statement:
Firstly identifying the problem statement below involved framing our efforts around the ways leveraging environmental company data can aid organisations' transition to net zero. From this, the Impact Investing Advisory Group prioritised two use cases, both focused on the Built Environment, to support the following problem statement:

How can improving the data sharing infrastructure of a company's energy and water use impact data (scopes 1-3) increase trust and data validation, including by ratings agencies.

<table>
<tr><td>

Use case 1
'Increased transparency and comparability of the Environmental data in ESG disclosures is needed in supply chains to better enable impact investment decisions in the commercial built environment.'

</td></tr>
</table>

<table>
<tr><td>

Use case 2
'Improve access to reliable, standardised long-term risk data for the built environment globally.'

</td></tr>
</table>

Key findings:

Lack of access, integrity and trust
There is a lack of access to, quality, traceable, comparable environmental company data as well as to global long-term risk data, which brings into question the integrity & trust in using this data to make impact investment decisions. ESG data set formats are not standardised or machine-readable and are often classed as 'impact' reports. It's difficult to find datasets in logical bundles with data sets often being siloed. In addition, licences are unclear and open ESG data sets are sparsely available.

Disconnect between regulators and users
There is a fundamental disconnect between the increasing demands of regulators and investors for more detailed asset-level data when it comes to ESG reporting and the data that is available to satisfy these demands. When our Impact Investing Advisory Group members were asked about their confidence in the quality of data in their own organisations' environmental ESG reporting, 39% of them answered 'low'.

Risk of unintentional greenwashing
There is a lack of cohesion and structured processes for ESG reporting which is creating delays in action. Some organisations are choosing a 'wait and see' approach with regard to their sustainability strategy, whilst others who promote their environmental data risk are being accused of greenwashing.

Lack of data granularity leads to the use of educated guesses
In the built environment sector, at the very early stages of a build, it is common that very few decisions have been made about specific build materials and assumptions tend to be made about the carbon intensity of different materials. One of our research contributors put it as "highly disruptive, general rules-of-thumb are used. Steel is in general on the lower end of emissions and timber is generally on the higher end of the carbon scale." Weighted averages are used to report as accurate carbon ratings as possible. This point emphasises the need for more accurate, open data to be available to mitigate estimates. Our contributor went on to say "The more information we have, the more accurate our reporting. Any more granularity on the sources of materials for

the construction of buildings in the UK would only serve to make our calculations more accurate."

ESG reporting is a challenge for SMEs
While regulatory frameworks do exist with the likes of the Task Force on Climate-related Financial Disclosures (TCFD) and the EU Taxonomy, these are isolated to larger organisations and not SMEs who play a central role in the Scope 3 emissions of larger organisations. Mandatory disclosures could foster transparency, and enable impact investors to make more informed investment decisions while ultimately pushing sectors toward net-zero emissions. One of our interviewees told us that, in regards to the built environment, it's the smaller building contractors who are not disclosing ESG data. This is because they do not necessarily have the expertise or data infrastructure to do so.

5 recommendations for COP28: Building trust in environmental ESG data to deliver net-zero

1. **Organisations <u>must</u> produce discoverable and usable digital environmental ESG reports of their transition to net zero**

ESG reporting is currently largely voluntary. To coordinate a transition to net zero and attract impact investment, organisations, SMEs in particular, must digitally report and share their environmental ESG disclosure methods and results. This includes adopting a standard digital (non-pdf) reporting and methodology framework as well as the necessary operational infrastructure required to generate detailed, accurate, trustworthy ESG reports.

One of our initial challenges was finding company environmental ESG reports. A contributor to this research told us "when we talk about investments and the built environment, it's more about what's the asset that exists? the data around that is patchy, e.g what is your asset made of? how much concrete? how does it interface with the rest of the world and the energy it consumes?".

2. **Organisations must publish the data behind environmental ESG reports in machine-readable formats**

All organisations that publish environmental ESG reports should publish the datasets and models used to generate these reports. The level of detail provided needs to be sufficient enough to enable stakeholders to analyse and act on ESG data confidently. Publication in machine-readable, standard formats for data reporting will accelerate data uptake. Similarly, adopting standards for metadata (structured information describing the data) makes the data itself easier to find, assess and act upon. Metadata is also key to understanding data provenance, which is covered in our fourth recommendation.

3. **Organisations must include more detailed environmental data in ESG reports**

Our research has shown a lack of data granularity and therefore comparability in environmental ESG reporting. Access to more granular data means investors can more accurately assess the performance and energy consumption of their assets. It would also enable better attribution and coordination throughout supply chains. This could save investors money while ensuring they're aligned with ESG reporting standards. The

more granular the data, the more likely the organisation is to gain trust and attract impact investment.

Organisations at the top of the supply chain should take responsibility for defining the level of granularity in environmental data, a point emphasised by one of our research interviewees: "In the built environment, we're not defining what data we're asking for as an industry when things are built and when things are operated. We're not setting out very clearly what our various information requirements are at the start of the project. The procurement team hasn't got a clue about what to do."

4. **Organisations must demand data-backed standardised environmental reporting from their supply chains**

Many organisations are heavily reliant on their supply chains, both for decarbonising and for reporting on their scope 3 emissions. Whilst currently not a mandatory TCFD reporting requirement, the demand to demystify supply chain emissions data will only grow to meet the higher expectations from consumers, investors and employees who require assurance that the emissions from the entire supply chain are accounted for. To achieve this at scale, there is an urgent need to agree on rules and standards for representing ESG data provenance so that it can flow alongside the data from company to company up the supply chain. A fundamental requirement for provenance is for reporting organisations to be identified within a trusted data ecosystem. We expand on this in recommendation 5.

The building sector is heavily reliant on its supply chain to decarbonise. It is critically important for companies in the supply chain to engage with each other and with their suppliers, customers and other external actors. Standardised reporting is increasingly needed. Even in cases where carbon assessments are mandatory, as is the case with the London Plan Policy SI 2, which sets out a requirement for development proposals to calculate and reduce whole-life carbon (WLC) emissions as part of a WLC assessment, we were told that the biggest firms invest a lot on producing WLC analysis for their applications, but these are formed of pages of pdfs and there is no standardised methodology, making the reports incomparable.

5. **Regulators and reporting bodies must mandate and finance a trusted data-sharing ecosystem. This should be implemented by 2025**

For impact investment decisions, environmental ESG data is invaluable but not always accessible. Removing barriers to access climate risk data, for instance, would create a more even playing field for firms bidding for construction contracts. We discovered through our research that risk data is often not available until after a contract has been won. A lot of the building pre-design data is government-owned, is not public and can only be accessed once an organisation has won a building contract. A Trust Framework - a governance and technical ecosystem that controls what data may be used by which types of organisations for what purposes - would enable data to be published more confidently and mobilised more freely in order to unlock impact investment. Sectorial support and collaboration is required to design and implement a trust framework that addresses the needs of impact investors.

Impact of recommendations

The global impact investing market is valued at $1.16 trillion, according to the [GIIN 2022](#) "Sizing the Impact Investment Market report". The investment market in the UK is worth £58 billion, ($73.4 billion) with a further £53 billion ($67 billion) of impact-aligned investments (3.3% to 8% of the total global market), according to the [Impact Investing Institute](#). Despite these market valuations, The Impact Investing Institute goes on to state that for the UK, Impact investing makes up less than 1% of total investment activity.

Looking at the built environment, the [Green Finance Institute](#), states that the EU has the largest climate investment gap of any sector. It is responsible for 40% of energy consumption, more than any other sector and accounts for 36% of the EU's energy-related emissions. 97% of Europe's buildings will require some renovation before 2050. 3.5 trillion Euros of total investment this decade alone will be needed to decarbonise Europe's buildings through renovation.

So, how would our recommendations above make an impact and help to reduce the investment gap required to meet decarbonisation targets? As stated by Fran Seegull, Executive Director of the TPF and President of the U.S. Impact Investing Alliance, "as impact investing continues to grow in scope and scale, so too must the tools and frameworks used to assess impacts across a range of environmental, social, and economic factors."

We believe the Icebreaker One Open Net Zero (ONZ) demonstrator will provide the framework and tools for the built environment sector investors to better access, compare and ultimately invest in more sustainable supplier building materials, reducing embodied carbon emissions from buildings for decades to come. We will survey key players and stakeholders in the built environment on their increased use of the ONZ platform in their procurement and investment decisions and the impact that this has had in impact investment decision-making. We will monitor and measure the increased number of users of ONZ environmental data as well as the number of specific datasets added. It is our belief that, by putting a trust framework in place, we can contribute to reducing the EU and the UK's built environment climate investment gap.

Use case and open engagement processes

Use cases process

Icebreaker One first approaches a project by exploring the actual problem that needs fixing, through better access to data. Identifying a problem statement provides clarity on the problem that is trying to be solved. The problem statement identified within the ESG Impact Investing field is as follows:

How can improving the data sharing infrastructure of a company's energy and water use impact data (scopes 1-3) increase trust and data validation, including by ratings agencies?

From this, the Impact Investing Advisory Group, prioritised two use cases mentioned above, scoring against assessment criteria that support the initial problem statement. Icebreaker One defines a use case as outlining the tools (such as data) that a specific stakeholder (the primary actor) will need to achieve a specific, focused goal, and what needs to happen for the primary actor to achieve their goal.

Both use cases:

- serve as the basis/the starter for subsequent ESG use cases from different sectors within the UK, EU and USA.
- Enable Icebreaker One to leverage existing stakeholder networks from previous IB1 projects which are centred around water and energy.
- determine the initial requirements for an online Icebreaker One - Open Net Zero demonstrator.
- enable improved impact investment decisions through the use of trusted and comparable ESG data.
- are of relevance for all Impact Investment Advisory Group members and the sectors they work in.
- ensure scope 1-3 environmental data is intrinsic.

Use case prioritisation:
Combining the input from the Impact Investment Advisory Group members as well as from in-depth research interviews, a longlist of 16 use cases was identified. The central theme relevant to all of these was the need to increase the transparency of company ESG data to improve impact investment decision-making. Using the six-point assessment criteria below, the two use cases with the highest scores were chosen.

Impact on accelerating the transition to net-zero.	Satisfies the problem statement.	Could be part of a demonstrator for COP28.	Will data availability solve this problem?	What data is available today? (What is not?)	Data quality.	Score

Six point assessment criteria

Open engagement process
Our open engagement process involved direct contact and communication with 40 advisory group members spanning fields of ESG reporting, Real estate, insurance, climate regulation and engineering. We also have indirect contact with over 1,500 individuals through our social media channels and bi-weekly newsletter.

Advisory members were recruited via email outreach followed by a short interview to determine the best fit, while allowing us to provide a brief introduction to the project. The interviews also helped us to develop important relationships with members and allow for follow-up interviews when collecting research for our use cases. This helps us ensure that our use cases accurately address the most present needs of the industry.

We hosted 4 advisory group meetings as well as one smaller focus group session. The meetings provided an environment for collaboration, helping to connect previously siloed industry experts and allowing them to share common problems. The meetings alongside additional interviews helped us identify our two refined use cases. We published the key takeaways of each of these meetings in blog format, publishing on social media and through our newsletter to allow for further feedback or to spark interest in joining the advisory group. A landing page for the project was also set up, allowing us to direct those interested in the project to any resources or materials they might need, as well as register their interest in joining our AG.

Blog resources:
- Impact Investing Advisory Group one – key takeaways

Use case documentation:

ESG in Open Net Zero

Open Net Zero (ONZ - https://opennetzero.org) is a search engine created by IB1 to help people find datasets from data publishers around the world that are relevant to the transition to net zero. We wanted to assess the extent to which ONZ can assist investors in accessing relevant data for mobilising impact investments related to the built environment.

To give us insight into the current strengths and weaknesses of ONZ for this purpose, we created a demonstrator of the platform and asked Advisory Group members to use it to search for and assess the relevance of datasets that could be used in support of the use cases. They made notes of their experience and then regrouped to discuss how it had gone for them.

The need for better filtering options (in support of the use case) was expressed by many participants, so we arranged a follow-on focus group session specifically to gain more understanding of the categories and values that would be most useful.

Overall, we found the feedback fell into three categories:
- **Metadata** to help narrow or inform searches
- **Help and guidance** to locate datasets that could be used in combination for an aspect of an impact investment assessment
- **Trust and quality** concerns about the source, reliability and timeliness of data

We'll explore each in turn in the next sections.

Metadata
- Spatial information
  - Knowing the area a dataset applies to is key for many considerations in the built environment as it affects elements such as regulatory frameworks and supply chains
- Temporal information
  - The pace of change in regulations and decarbonisation makes the timeframe the data was collected or published a consideration in whether or not it is relevant

- More relevant (to the use case) categorisation for filtering
  - ESG reporting framework: ESRS, CSRD, EPBD, TCFD, IFRS
  - Emissions reporting methodology: GHG Protocol, ISO, GRI, ISSB, EFRAG, SBTi
  - Other standard methodologies: e.g. RICS Whole Life Carbon Assessment (WLCA), EU Levels
  - Industry sectors covered by the dataset: label using existing standards such as ISIC, NACE and TICCS
  - Building use classifications covered by the dataset: UK Non-domestic National Energy Efficiency Data Framework (ND-NEED), UK Planning Use Classes
  - Building type classifications covered by the dataset: an ontology for this may need to be developed
  - Emission sources covered: Gas, Electricity, Methane, Coal, Refrigerant
  - Building lifecycle roles: ISO 21930/EN15978
  - Applicability to engineering sector activity: Technical analysis and consulting, planning, research, governance, contracting & procurement, economic analysis…
- Clearer licensing
  - Many of the datasets found by our AG had no clear licence, leaving users unsure whether they were permitted to use the data in their analyses
- Involving ONZ users in categorising datasets
  - Provide features on the platform to crowdsource tags and categories so that discoverability improves through use

Help and guidance
- Curate dataset collections with narrative on how they can be used together for a specific use case. For example combining weather, building efficiency, and solar yield datasets to assess a PV retrofit investment
- Assist with writing more effective search queries. For example, auto-completion and "People searching for X also searched for Y"
- Display metadata, especially tags/categories, more clearly in individual dataset pages

Trust and Quality
- Assurance that the dataset and its publisher can be relied upon
- Provenance information about the origins of the data used to generate the datasets
- Provenance information about the methodologies used to generate the datasets
- Link to the data publisher's webpage describing the dataset
- Data field definitions for the dataset
- Sample data from the dataset to quickly assess whether it addresses the user's needs
- ONZ user feedback mechanism to rate the quality of datasets

Dataset progress of Open Net Zero

The number of datasets indexed on Open Net Zero increased by 651% between April and September 2023, rising from 4,223 to 32,116. During the same period, the count of organisations with datasets indexed also went up by 376%, from 69 to 388.

Datasets discovered

We have compiled a schedule of datasets, portals, tools, and catalogues that have been discovered and analysed to support the use cases. These data encompass various categories, including sustainability reports and data sheets from multiple companies, emission calculation tools, energy and risk databases, and environmental maps, among others.

Lessons Learned

Complexity

The Impact Investment ecosystem is vast and complex, even the definition of 'Impact Investment' can be subjective. We used the Global Impact Investing Network's definition: "Impact investments are investments made to generate positive, measurable, social and environmental impact alongside a financial return." We identified ESG data as being the key data used by investors for impact investment decision-making. Due to the inconsistent nature of ESG data, our focus narrowed further to the environmental data of ESG data.

Focus on EU and UK

It quickly became apparent that, despite numerous frameworks, guidelines and policies, from governments and regulatory bodies, environmental ESG data is not consistent, comparable or easy to access, resulting in a lack of trust in it. Furthermore, access to the data varies between organisations, territories and regions. Due to this complexity, we focussed our research on the EU and the UK.

Look beyond the challenges to make change happen

Due to the nascent nature of ESG reporting, initial research interviews revealed sector-wide challenges with and criticisms of ESG reporting. To progress and effectuate change, we acknowledged the many challenges but recognised we needed to move beyond them to explore how the sector can attract more investment while pushing for a more sustainable future, satisfying both the environmental impact and financial return strands of impact investing.

Narrow the use cases to the built environment

The Impact Investing sector is so broad that to progress it was necessary to focus on one sector. In our first use case we looked at how increased transparency and comparability of the environmental data in ESG disclosures is needed in supply chains to better enable impact investment decisions in the commercial built environment. The second use case looked at how improved access to more reliable, standardised long-term risk data for the built environment, globally, could attract investment in the sector while simultaneously addressing GHG emissions.

Build ONZ on the needs of the built environment, then extend to other sectors

This use-case-driven approach allows us to develop our Open Net Zero online demonstrator in a purpose-led way that accurately addresses the needs of those in the built environment sector. This will enable architects and investors, for example, to accurately access and analyse the environmental data of assets (and their subsequent supply chains) to pave the way for a built environment sector that is more sustainable and ultimately contributes less than its current 36% of the EU's GHG emissions.

Trust Framework

Throughout the open engagement, concerns have been raised about the roles and organisations involved, the gathering and validation of data, the methodologies used in preparing datasets, and whether they are updated throughout the investment's lifetime. Put simply: can investors trust the data that they are using?

Trust can be reached through the interplay of standards, policies, and technologies that come together within a Trust Framework. Trust frameworks provide confidence in data sharing by defining and implementing requirements for:

- Governance
  - Identity verification for organisations within the framework
  - Licensing terms and liabilities for data use
  - Audit and accountability
  - Redress
- Security and privacy
  - Data security processes and certification
  - Access control mechanisms
  - Consent records (where relevant)
- Data and metadata
  - Data format and quality
  - Models and standards
  - Tagging, categorization and other metadata
  - Provenance
  - Interoperability within and outside the framework

Informed by its experience with Open Banking and data sharing initiatives in the energy and water industries, Icebreaker One has a standard approach to developing Trust Frameworks that is sector-agnostic. It consists of three elements:

1. Co-design of the rules for data sharing (both technical and non-technical). This is achieved by convening advisory groups that cover:
   - User needs, materiality and impact
   - Technical infrastructure
   - Data licensing and legal
   - Engagement and communication
   - Policy
2. Implementation of the rules in a machine-compatible and enforceable manner
3. Market access via verified, consent-based trust to enable data to be shared directly between organisations.
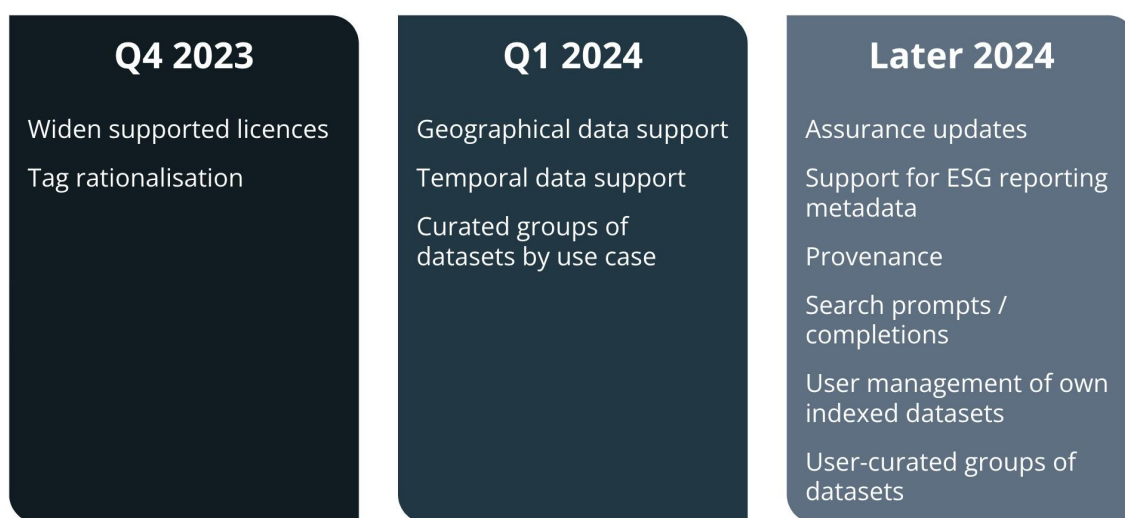
Investment in the design and development of a trust framework to govern ESG environmental data sharing must be a high priority to accelerate capital deployment and reduce risk in impact investing. Without it, the sector will remain burdened by uncertainty and open to misdirection.

Trust Framework Development

As recommendation 5 sets out, there is a clear need for stakeholders, especially regulators and reporting bodies, to establish a Trust Framework to accelerate and de-risk impact investment in the built environment. In collaboration with its members, Icebreaker One has experience developing Trust Frameworks in sectors including energy, water and finance, enabling easier, more secure and more trusted data sharing to help deliver our net zero future.

Icebreaker One's Icebreaking process is a proven approach to co-designing and implementing market-wide solutions that address specific user needs and incorporate both technical (data standards, APIs, etc.) and non-technical (legal, policy, communication) requirements. The process includes a steering group and up to five advisory groups working openly to define and refine the Trust Framework model.

2024 Roadmap for Open Net Zero

Q4 2023	Q1 2024	Later 2024
Widen supported licences

Tag rationalisation | Geographical data support

Temporal data support

Curated groups of datasets by use case | Assurance updates

Support for ESG reporting metadata

Provenance

Search prompts / completions

User management of own indexed datasets

User-curated groups of datasets |

Next steps

- The immediate next step is to present the recommendations from this project at COP28.
- Pending funding, we will promote via our Impact Investing Advisory Group and various media and social channels the ONZ demonstrator tool for the built environment.
- Subject to further funding, in three months (February 2024), we will conduct a built environment sector-wide survey to gain feedback on the ONZ demonstrator and explore the impact it has had in the supplier and build material selection process for impact investing.
- This research has primarily explored the needs of the *users* of environmental ESG company data, a large proportion of the Impact Investment Advisory Group members are users of this data and it performs a core function of their businesses. Extending the Advisory Group members to include data *providers* and examining their specific needs to produce and publish more accurate, transparent and trustworthy environmental ESG data would be the next step. This would enable us to further explore finding and classifying environmental company ESG data.
- Both use cases focus on the built environment as a foundation for developing the ONZ demonstrator for environmental company ESG data. Future iterations will extend to other sectors.