ESG REPORTING FOR PUBLIC AND THIRD SECTOR ASSET OWNERS

"… STANDARDISATION ACROSS EVERYTHING PLEASE …"

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The report is part of the Building Passport Alignment Project

INTRODUCTION

The increasing demands for transparency from the finance sector and built environment investors are creating an **increased information burden at the building level.** These challenges are worsened by the **proliferation of unaligned reporting standards** focused on real estate, at both national and international levels.

The demand for and supply of building and product information is highly fragmented. Yet, limited data availability and the absence of a common digital structure are driving up costs and creating inefficiencies in designing, constructing, operating, and financing buildings. In the private sector, we see the emergence of people, processes and technology put in place to address their reporting challenges.

To better understand the challenges around getting assured information to private sector stakeholders across the value chain, the **Building Passport Alignment Project** has held a series of workshops over the last 18 months. These workshops, funded by the Circular Building Coalition, have helped us to shape our research and practical response to ESG reporting in the built environment.

Madaster a material passport platform for buildings and infrastructure, has supported the Building Passport Alignment project from our inception, providing insight, access, and support. In discussions, we realised that the while project had placed its focus on the private sector, there were many, many other organisations whose requirements we hadn't explored, and who might have different challenges: public and third sector asset owners.

To address this gap together, we designed a workshop to explore the needs of this often-ignored class of asset owners, to establish whether they faced the same challenges as the private sector, and whether the same solutions would apply. UCL Knowledge Exchange provided us with the funding to hold the session.

This short report presents the outputs from that workshop, held in March 2025. It begins by exploring the issues we are trying to address, before summarising the outcomes from our recent private sector workshops. We highlight how the conversations with public and third sector asset owners differed, before providing some reflections for our work, and recommendations for change.

THE BUILDING PASSPORT ALIGNMENT PROJECT

The Building Passport Alignment Project (bpalign.com) is based at the UCL Centre for Sustainable Governance and Law in the Built Environment, in the Bartlett School of Sustainable Construction.

The project is working to address the fragmentation of ESG information in the built environment value chain. Our work is based on the premise that even though there are many regulations and standards that assess whether a building is sustainable, they are all, broadly trying to define the same thing. As such, they are likely to be asking for the same data.

By i) identifying and ii) aligning the data points needed to meet these reporting requirements, we believe that we can define and structure a comprehensive set of data points that will meet most reporting requirements around the globe.

The role of building passports

The digital capture, storage and transfer of building and product information offers a potential solution to this data collection, management and reporting challenge.

Indeed, digital building passports, or logbooks, are designed to capture a range of building data and information for stakeholders. However, building and product passports are typically proprietary and are created bottom-up for specific purposes and often specific jurisdictions, which means there is no certainty that the information needs of all stakeholders in the real-estate value chain will be met.

By developing a comprehensive data dictionary, we can provide digital building passport developers with a set of data points around which they can develop interoperable solutions, easing the reporting burden. At the same time, we can lay the foundations for seamless, integrated, on-demand ESG reporting across the value chain.

You can read more about the thinking behind the project in our White Paper, our progress, or our report 'A Vision for Data in the Built Environment'.

About Madaster

Madaster is the online platform that facilitates a circular built environment, drastically reducing the amount of waste produced and reducing CO2 emissions.

The platform enables the registration, documentation, and exchange of material data related to buildings and infrastructure and collates this information to create material passports. Materials, components, and products are provided with an identity, transforming them into a valuable resource that enables reuse and promotes the sustainable management of our built environment.

In addition, by leveraging the large amounts of data connected to each building or infrastructure object Madaster can produce a wide range of environmental and financial insights including circularity, detachability, whole life carbon, and residual value.

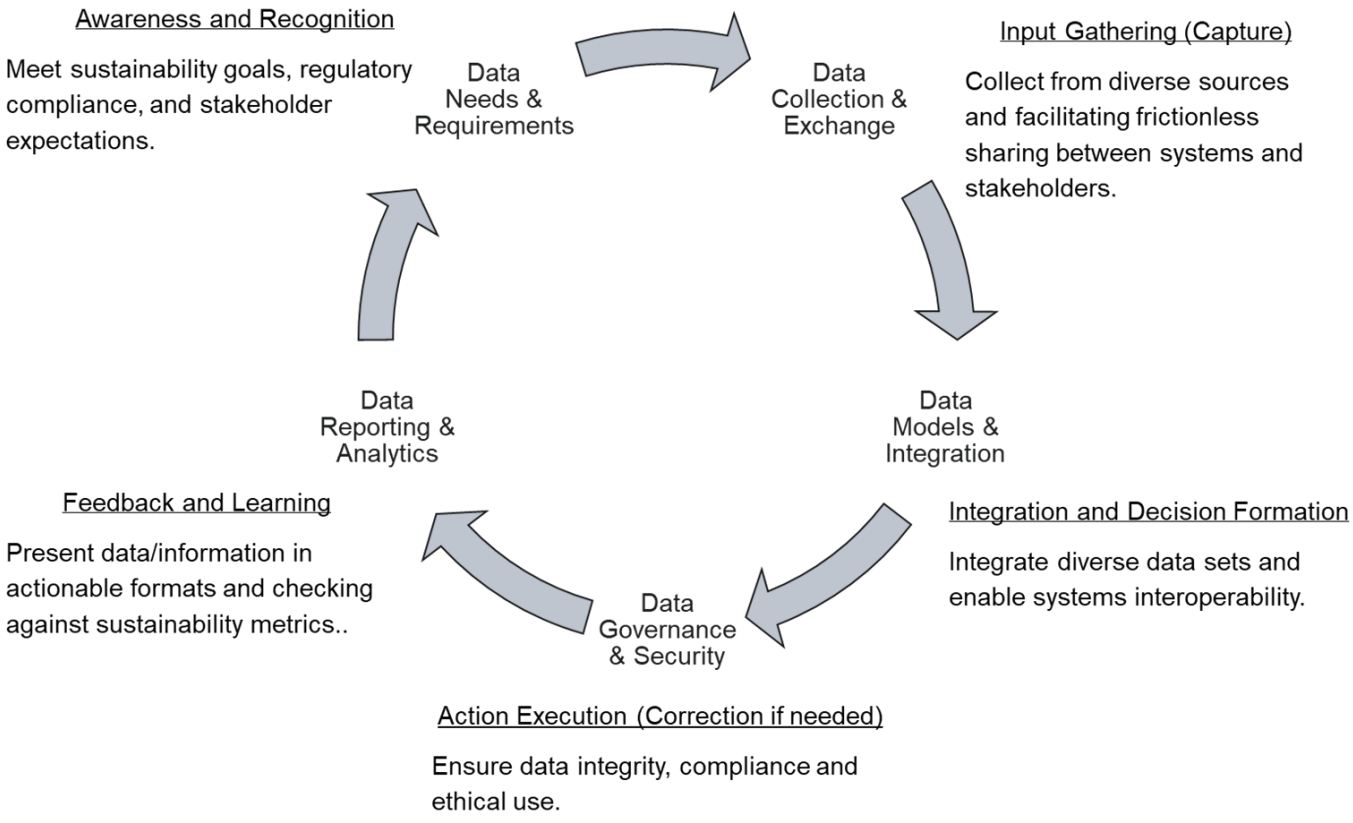
Manufacturers, design and construction teams, developers and asset owners can all make more informed decisions using Madaster as a centralised, easily accessible and trusted source of information.

PROBLEM FRAMING – THE DATA LIFECYCLE

In looking at the challenges in the private sector, we explored the following five stages of the data lifecycle.

1. **Data Needs and Requirements**: Identifying the data necessary to meet reporting goals, regulatory compliance, and stakeholder expectations.
2. **Data Collection and Exchange**: Collecting data from diverse sources and facilitating frictionless sharing between systems and stakeholders.
3. **Data Models and Integration:** Designing and implementing structured frameworks for integrating diverse data sets, enabling systems interoperability.
4. **Data Governance and Security:** Establishing oversight, policies, and protections to ensure data integrity, compliance, and ethical use.
5. **Data Reporting and Analytics:** Analysing and presenting data in actionable formats and checking against key performance metrics.

In our previous work exploring this model for the private sector, we saw how different stakeholders in the process had differing views as to the relative importance of the stages in the lifecycle, and different priorities when it came to addressing challenges. You can read more about their views in our workshop report.



OUR VISION FOR DATA IN THE BUILT ENVIRONMENT

The themes resulting from our private sector workshop are summarised below. To deliver visions for data in the built environment our participants felt the need to:

- Foster an environment where **security** and **accessibility** drive continuous improvement and **trustworthy** data management.
- Establish a culture of **precision** and sustainability in data management, enhancing decision-making and strategic effectiveness.
- Develop a framework that supports **precise**, **reliable**, and **actionable** data usage **across organisational levels**.
- Establish a globally interconnected infrastructure that optimises data utilisation and fosters innovation across borders.

Together, these imply some characteristics for data. Data must be:

- **Clear, consistent and unambiguous**. Information providers at all levels should know what is expected of them.
- **Transparent** – data should be captured once, at its most granular level. There should be a clear line of sight and audit trail from the point of reporting to the data's appropriate home.
- **Interoperable** – capable of consolidation and seamless transfer between users, tools and reporting systems.
- **Aligned** – standardised information asks, assumptions, naming conventions and data structures support interoperability and transparency.
- **Trustworthy** – data capture and delivery systems should support automated data validation and certification.
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We developed these thoughts into the proposition for a federated system of systems, with information being held by the appropriate owner in the value, with information being pulled, securely and on-demand, to wherever it is needed.

THIRD SECTOR WORKSHOP

Since public spending accounts for a significant proportion of construction activity in the UK[1], we wanted to see whether the issues and challenges in the private sector were reflected elsewhere in the built environment. This would help us to understand whether the alignment project work was equally applicable to this user group.

The workshop, held in March 2025, brought together representatives from across the public and third sector including academic institutions, local authorities and government asset managers. We wanted to hear from the people dealing with reporting challenges on the ground, to really drill down to understand where we can help and add value.

As with our private sector sessions, we asked our attendees what their current reporting environment looked like, and what the world could look like if all their data problems were addressed? These visions were explored, and actions identified to deliver on that vision.

The organisers would like to thank all the workshop attendees for their input to this exercise.

[1] Construction statistics, Great Britain - Office for National Statistics

THE DEMAND SIDE OF DATA

Compared to their private sector colleagues, our workshop attendees had **significantly more and varied reporting requirements and challenges** in the space of data needs and requirements.

Multiple high-level objectives

As public facing organisations there is an expectation that they will sign-up to and report against market leading standards. They are also required to respond to the reporting needs of their funders and other key stakeholders, whose reporting needs are not always clearly articulated and were rarely consistent.

As a result, our workshop attendees end up reporting against multiple mandatory and voluntary reporting schemes, with an average of just under 7 reporting schemes per participant. Each of these schemes will have differing requirements and assumptions.

Inconsistency of strategic focus

It emerged in the discussions that public and third sector organisations are much more influenced by the relatively short-term political context, or direct public expectations than their private counterparts. For example, recently, global environmental concerns have slipped down the political agenda, with nature taking much more of a central focus – this has caused public-funded organisations to question and even change their strategic approach. The lack of consistency of focus can make internal messaging and reporting challenging.

Challenges operationalising strategic objectives

While leadership teams may consider the strategic announcements as ‘job done’, these high-level aspirations also need to be broken down into detailed and granular requirements at the project level. Indeed, many of the attendees’ host organisations have announced strategic net-zero targets with little understanding of what that entailed or would mean for the organisation and reporting.

As a result of the organisational uncertainty over targets, project briefs are often poorly defined, and many public and third sector organisations lack the capability to develop the necessary granular requirements. Consultants are then brought in to define project-level information deliverables, responding to the organisation’s abstracted strategic objectives. This can result in a poor line of sight between the strategic objective and on-the-ground delivery. Further, as consultants change across projects, there can be a lack of consistency of core project KPIs in some organisations between projects.

Together, these multiple and inconsistent information requirements within and between projects and assets results in a high level of uncertainty over what needs to be reported, and how. This one-to-many reporting introduces significant inefficiencies and re-work into the reporting process.

THE SUPPLY SIDE OF DATA

While the demand for data was characterised by inconsistency, the discussions around the supply of data centred on organisational capabilities and resources. We heard how different organisations are at different levels of sophistication in their data and reporting capabilities. Typically, larger more mature organisations would be better positioned to address the challenges identified.

Data collection and exchange

A recurring theme in the workshop was the mismatch between (changing) data needs and the **availability** of that data. Sometimes the data needed simply didn't exist or is inaccessible. Where people don't have the data and the time they need, rather than seeking data out, reporting fields are often left blank, requiring **estimates** be made. There seem to be little, if any, consequence for not providing information, with the sustainability team making up any shortfall. Other times, some data is available, but it doesn't meet the needs of the reporting team.

Reporting **quality** is inconsistent. It needs (self-professed) "nerdy individuals" to make sure that this reporting happens consistently. Many organisations lack the capacity or capability to report adequately, information providers (and sometimes receivers) don't always understand what information is needed and why. As a result, the sector relies heavily on consultancies to get the data they need.

Because of this capability deficit, data gathering and validation takes an awful lot of time (and cost). Ensuring that data is current is yet another resourcing challenge.

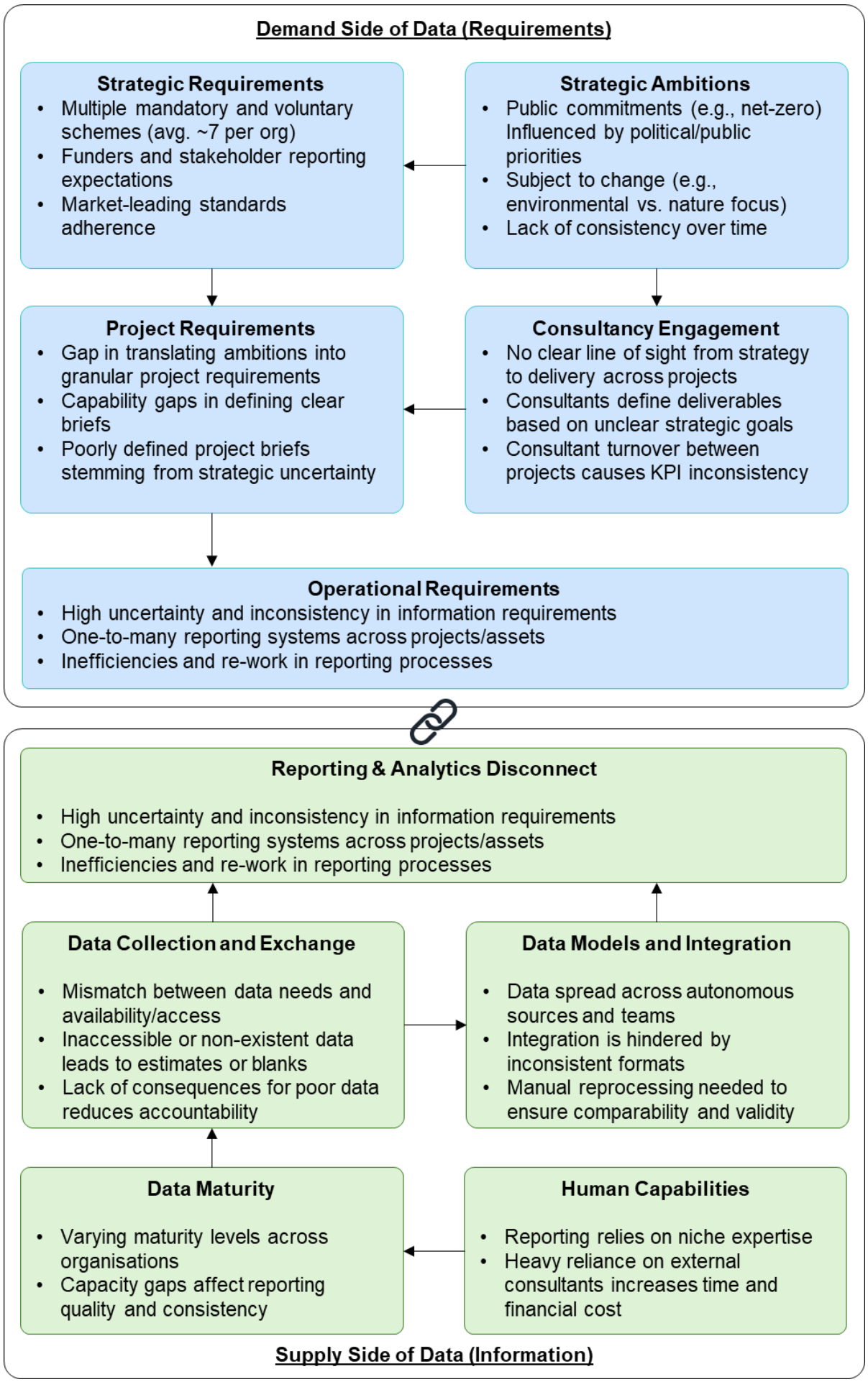
Data models and integration

Gathering data from multiple dispersed and autonomous sources and teams means that there are frequent data gaps, undermining the validity of the reported data, and significant challenges of integrating data. The assumptions underpinning the reported data aren't always consistent, the data isn't always stored in a compatible structure or format.

The means that recipients of the data need to do a lot of manual processing and work to ensure that the reported data is comparable, and suitable for integration.

Data reporting and analytics

The multiple sources of information, coupled with the multiple destinations for reporting mean that ESG reporting is often a resource and cost intensive process. And while those undertaking the reporting typically understand the importance of the work they are doing; they can become frustrated with the disconnect between their efforts and the influence on decision-making within organisations. For example, a lot of effort has gone in to developing embodied carbon emissions reporting processes. However, the outputs from these processes are often not used to guide project decisions. Instead, the reports 'just sit on the shelf', the reporting box having been checked.


Demand Side of Data (Requirements)
Strategic Requirements
• Multiple mandatory and voluntary schemes (avg. ~7 per org)
• Funders and stakeholder reporting expectations
• Market-leading standards adherence
Strategic Ambitions
• Public commitments (e.g., net-zero) Influenced by political/public priorities
• Subject to change (e.g., environmental vs. nature focus)
• Lack of consistency over time
Project Requirements
• Gap in translating ambitions into granular project requirements
• Capability gaps in defining clear briefs
• Poorly defined project briefs stemming from strategic uncertainty
Consultancy Engagement
• No clear line of sight from strategy to delivery across projects
• Consultants define deliverables based on unclear strategic goals
• Consultant turnover between projects causes KPI inconsistency
Operational Requirements
• High uncertainty and inconsistency in information requirements
• One-to-many reporting systems across projects/assets
• Inefficiencies and re-work in reporting processes
Reporting & Analytics Disconnect
• High uncertainty and inconsistency in information requirements
• One-to-many reporting systems across projects/assets
• Inefficiencies and re-work in reporting processes
Data Collection and Exchange
• Mismatch between data needs and availability/access
• Inaccessible or non-existent data leads to estimates or blanks
• Lack of consequences for poor data reduces accountability
Data Models and Integration
• Data spread across autonomous sources and teams
• Integration is hindered by inconsistent formats
• Manual reprocessing needed to ensure comparability and validity
Data Maturity
• Varying maturity levels across organisations
• Capacity gaps affect reporting quality and consistency
Human Capabilities
• Reporting relies on niche expertise
• Heavy reliance on external consultants increases time and financial cost
Supply Side of Data (Information)

OPPORTUNITIES FOR ACTION

We invited our workshop participants to share with us how their reporting challenges might be addressed. We explored interventions in four categories.

Regulatory enablers

Unsurprisingly, given the challenges identified, there were strong calls for increased consistency & alignment of:

- sustainability targets and direction
- reporting requirements
- data requirements
- the legal frameworks influencing different aspects of the reporting challenge.

There was a feeling that in the UK context, Building Regulation updates could begin to address data issues, ensuring better data capture at construction and major refurbishment.

Building level actions

Again, the key driver here was consistency and clarity in data requirements setting at the front-end in employer requirements. However, in this section a need for harmonisation and commonality in data points, data formats, data collection, and metrics for reporting began to emerge, alongside the need for more granular data gathering across asset lifecycles. The benefits of better-defined data sharing clauses in contracts, coupled with written guidance on data requirements was also discussed.

Here our participants also began to articulate the importance of data governance and assurance. This would include introducing consequences for failing to deliver (assured, standardised, quality) data. Together, assured and standardised data can support confidence in the data being provided, and support decision-making in the reporting organisation.

Digital solutions and initiatives

Given the cost and resource implications of ESG reporting, our participants were keen to leverage solutions that could reduce these impacts and provide a pathway toward a process that supported reporting against multiple requirements, through multiple lenses.

There was a strong sense from our attendees that digital interventions would be beneficial, including the application of data lakes, data hubs and specific tools. Together with adoption of already existing standards (e.g., BIM / IFC) these solutions could begin to address the siloed nature of data in the built environment. But they only work if the data is available and supportive of interoperability between systems; to enable automatic and efficient reporting there needs to be a focus on addressing data availability and standardising structure first.

Participants also spoke about **de-sensitising data to enable sharing of data and reporting,** and making data open source. While this may be desirable, the need for data security is an overriding concern.

Standardisation actions

As the key challenges faced by this sector revolve around inconsistency, it was unsurprising there was an appetite for standardisation of

- Reporting requirements
- Data formats, storage structures, collection and sharing
- Data points that need to be captured: reporting changes quickly; data outputs don't always keep up.

DISCUSSION AND IMPLICATIONS

We exist in a world in which there is an oversupply of sustainability reporting schemes. This diversity and fragmentation of information demand is felt very keenly by private, public and third sector organisations. Private sector organisations, however, seem to be better equipped and resourced to address some of these challenges.

Public and third sector owners operate within a wider, dynamic set of reporting requirements, and are faced with an unstructured and incomplete data environment. These multiple sources of information, coupled with the multiple destinations for reporting mean that ESG reporting is often a resource and cost intensive process**.** Their reporting burden is exacerbated by issues with both data demand and supply. In the face of these challenges, their interest in standardisation, harmonisation and automation is easy to understand.

The Building Passport Alignment Project was founded to address many of these challenges, to deliver the infrastructure that enables the very data interoperability our participants are seeking.

The key idea behind the project was that each of these reporting schemes is trying to define what it means for a building to be sustainable. As such, at a sufficiently granular level, they were likely to be asking for similar data. By defining this set of common data points, we can identify and capture the data needed to meet any reporting requirements. The (re)processing of data points and the setting of thresholds then sits with the standard setters, opening the door to bespoke sustainability rating schemes.

This approach supports the standardisation of data gathering from within organisations and across supply chains. It also enables interoperability between digital tools, allowing for the secure and seamless transmission of data to those authorised to receive it across the real estate information value chain. The UK's Open Banking and Open Energy initiatives show that secure data sharing in this way is possible.

While we can't directly address the data gaps issue through our project, we hope that by standardising the data ask across the value chain, the data structure and format can be socialised widely. By creating a common language for ESG reporting, information providers will no longer need to re-orient their reporting lenses to accommodate each new organisational request from above. We move from a one-to-many reporting context to one-to-one, reducing costs and the learning burden.

RECOMMENDATIONS

While we work to develop and deploy this common data dictionary, we believe that there are opportunities to make life easier for public and third sector asset owners.

- First, we encourage funders to and stakeholders of these organisations to consider the extent to which their different reporting frames can be met from within existing reporting.
- Second, we invite them to join our conversation to understand how standardisation can make their internal processes more efficient.
- Finally, despite not being an historical core activity, the internalisation of what were previously externalities for real estate is a critical activity. Funders and leaders need to ensure that adequate time and resources are available to make sure that everyone involved understands what is required of them, and importantly, why.

CONCLUSION

Fragmentation of the construction and real estate sectors mean that ESG reporting can be a challenge for everyone. We could argue that ESG reporting is just one more thing that asset owners need to get to grips with.

However, the variety of internal and external stakeholders that third sector and public asset owners face, coupled with the changing nature of their information demands mean that they can struggle to develop robust, assured, sustainable, sustainability reporting processes.

Their challenges are exacerbated by their relative lack of reporting capabilities across the organisation, data gaps, and tightening financial conditions. They are being asked to do more, with less.

While interoperable data, as proposed by the Building Passport Alignment Project, and software solutions, such as Madaster, can support them in addressing these hurdles, technology can only go so far. The political and social challenges they face in the demand for information also need to be addressed.

Creating certainty and consistency around the data to be captured at the building level would be a significant benefit to these organisations, providing opportunities to develop consistent understandings within and between projects and organisations.

In turn, this will help to reduce the costs of compliance and maximise the opportunity for insight from the data.

About the Authors

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