THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Mind the (Green) Gap! - A Platform-Based Solution for Connecting Communities, Green Projects, and Investors

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Background

Green Finance

Environmental threats such as air pollution, resource scarcity, and land degradation not only pose ecological risks but also threaten economic growth, productivity, and public health (UNEP, 2017). To address these issues, the financial sector is increasingly prioritising green finance to fund initiatives that advance environmental protection, climate change mitigation, and sustainable resource use (ICMA, 2020). GF includes investment in clean energy, green transportation, and eco-friendly infrastructure (EIB & GFC, 2017).

Green Finance Gap in the UK

The UK faces a substantial green finance gap (GFG) - the difference between required and actual funding for green initiatives, as it strives to meet its legally binding emissions reduction targets (Hafner et al., 2020). Despite committing to a minimum of 80% emissions reduction between 1990 and 2050 (UK Government, 2008), current forecasts indicate that the UK is unlikely to meet its climate goals without urgent policy reforms and economic restructuring (Committee on Climate Change, 2016). The Committee on Climate Change (CCC) estimates that achieving Net Zero will require £50 billion in annual low-carbon investment (CCC, 2020), with total investment in the electricity sector alone expected to reach £300 billion by 2030 (CCC, 2019).

The scale of investment required significantly exceeds the funding possibilities of conventional funding sources (e.g. electricity developers) and the UK government. To illustrate, the government supports the transition to a green economy through the National Wealth Fund (NWF), formerly UK Infrastructure Bank (UKIB), which by the end of this parliamentary term will contain £27.8 billion. Yet, this is not sufficient to fill the investment gap in climate infrastructure. Likewise, traditional funding mechanisms, such as project finance, also continue to fall short in covering the financial demands of low-carbon infrastructure (Hafner et al., 2020). Consequently, alternative capital sources, including institutional investors (e.g., pension funds and insurance companies) and private investors (e.g., mainstream investors and high-net-worth individuals), have the potential to play an important role in reducing the GFG (OECD, 2016). Institutional investors, in particular, hold vast amounts of long-term capital, making them well-suited to finance initiatives that require sustained investment over extended periods.

However, institutional investments are currently low due to various barriers, including policy instability, technology risks, high upfront costs, expensive commercialization, and lack of

standardized data (Hafner et al., 2021). These investment challenges are slowing the transition toward decarbonization and reinforcing the GFG (Hafner et al., 2020) by inhibiting funding for pro-environmental initiatives. Further action is needed to accelerate the transition toward decarbonization.

Besides, to effectively close the GFG and achieve net-zero emissions, investment mechanisms must go beyond large-scale infrastructure projects. While significant resources are directed towards national and urban initiatives, smaller, locally-based environmental projects, particularly in rural areas, struggle to secure funding. Yet, these local projects are crucial for advancing decarbonization in sectors like buildings and transport, which lag behind despite progress in clean electricity generation (Innovate UK, 2023). Many of the key actions required to achieve this for example electrification, smart energy management, and retrofitting for energy efficiency, must happen at the local level. Research suggests that place-based strategies can reduce investment costs while delivering substantial energy savings and broader social benefits. However, these projects often struggle to secure funding due to perceived investment risks, limited investment guidance, and regulatory barriers (Innovate UK, 2023).

An additional obstacle in connecting investors to investment-seekers arises from the often-inaccurate classification of what a "green" initiative composes. It is crucial to allocate financial resources not just to initiatives that claim to be environmentally friendly, but to those that demonstrate genuine sustainability through measurable impact and transparency. Currently, several organizations exploit the environmental, social and governmental (ESG) reports through greenwashing, communicating positively about their sustainability efforts while still exhibiting poor environmental performance (Delmas & Burbano, 2011). Unlike traditional financial reporting, ESG disclosures often lack reliability, comparability, and standardisation, leading to fragmented and unclear reporting practices that increase the risk of greenwashing (De Silva Lokuwaduge & De Silva, 2022). This makes it challenging for investors to accurately evaluate risky investments projects accurately as sustainability is an important aspect (Amel-Zadeh & Serafeim, 2018; Bohn et al., 2021). As a result, identifying truly sustainable initiatives has become difficult, potentially enabling organisations with harmful environmental impacts to secure funding despite their negative environmental effects. To address this gap, there is a pressing need for a mechanism that ensures transparency, accountability, and effective capital allocation toward genuinely impactful green initiatives—one that forms the basis of the solution proposed in this paper.

1. Introduction

This paper proposes a solution which seeks to reduce the GFG by connecting *local community-endorsed pro-environmental projects* with *institutional investors***,** ensuring that capital flows to initiatives that have potential to drive the transition to net zero.

Institutional investors are increasingly interested in sustainable investments but often face barriers due to market inefficiencies such as short-term profit motives, the undervaluation of natural resources, and the reliance on unenforced voluntary commitments which discourage long-term green investments (Clark et al., 2018). To overcome these obstacles key stakeholders, including investors, project developers, governments, and local communities, are connected in one network on a digital platform, that will provide the necessary resources, assurances, and transparency needed to make green investments in local projects attractive, financially viable, scalable, and impactful.

A localised approach to green investment can enhance public engagement, accelerate adoption, and reduce costs (Innovate UK, 2023). While locally-based renewable energy initiatives play a crucial role in the transition to net zero, policy volatility and financial constraints have hindered their expansion. For instance, policy changes, particularly the reduction of Feed-in Tariff (FIT) support and the removal of pre-accreditation mechanisms, have undermined the financial viability of community renewable energy projects. As a result, many initiatives have been forced to either abandon their plans or shift focus to managing existing assets (Mirzania et al., 2019). Moreover, according to Mirzania et al. (2019) the centralized nature of the UK's financial and energy sectors creates additional barriers, making it difficult for decentralized local projects to secure financing through traditional investment channels. Particularly high-potential initiatives in rural areas are often overlooked (Federal Reserve Bank of Richmond, 2024), as they are too small for direct government intervention and lack exposure to institutional or private investors. Therefore, unlocking financial resources for small and medium-scale green initiatives will be critical to scaling up decarbonisation efforts and ensuring the UK's net-zero transition is both inclusive and effective.

Green projects (GP) are pro-environmental, locally-based initiatives designed to advance sustainability across sectors such as energy, buildings, transport, and waste management, while also aligning with local priorities and opportunities. Example projects are community solar farms, wind turbines, and reforestation projects etc. (see Table 1). Beyond reducing greenhouse gas emissions, these projects aim to deliver broader environmental, social, and economic benefits, including reducing energy costs, generating local employment, enhancing ecological resilience, and improving public health and overall well-being (Innovate UK, 2023).

Table 1

Example Green Projects

Project	Description	Challenges addressed
Community solar farm	Local communities develop small-scale solar farms on unused land or rooftops to generate renewable energy, reduce reliance on fossil fuels, and provide affordable electricity. Battery storage can enhance grid stability and security (Bedi et al., 2024).	Fossil fuel dependence, air pollution
Wind turbine(s)	Installing a small to medium-scale wind turbine to provide renewable energy for the local community, reduces reliance on fossil fuels. It also promotes energy independence and resilience against power outages (Taghikhah et al., 2024). Can be partly community-owned, where residents benefit from lower electricity costs, or operated as a cooperative with shared financial returns.	Fossil fuel dependence, air pollution
Locally-based reforestation project	Tree-planting projects initiated by local communities combat deforestation, improve air quality, and restore ecosystems (Santini & Miquelajauregui, 2022). Agroforestry initiatives support sustainable agriculture and carbon sequestration (Ramachandran et al., 2009).	Deforestation, biodiversity loss, air pollution, soil degradation

2. Stakeholder Analysis

The following stakeholder analysis offers a detailed examination of key stakeholders highlighting opportunities to enhance collaboration and strengthen project implementation. Figures 1 and 2 illustrate the stakeholders involved in locally based green investment, categorized by their roles, influence, and interest in project investment and implementation. Primary stakeholders, including green project initiators (hereon GPIs), institutional investors, local communities, and government authorities, exhibit high influence and interest, making them central to the viability and strategic success of the GPs. Meanwhile, secondary stakeholders, such as NGOs, financial regulators, and environmental certifiers, provide complementary support with varying degrees of engagement.

Figure 1

Stakeholder Map

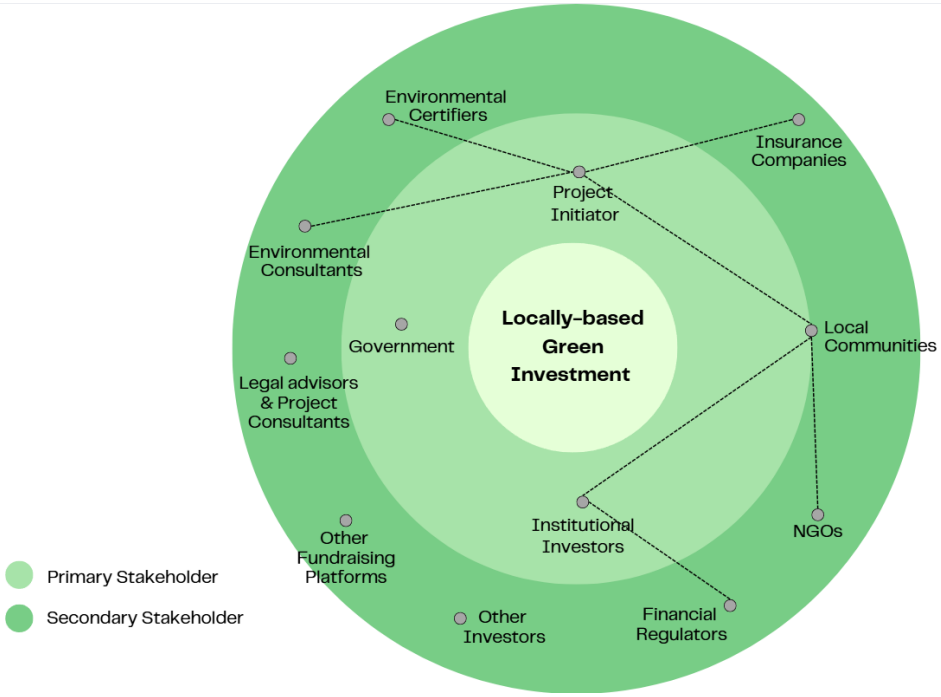
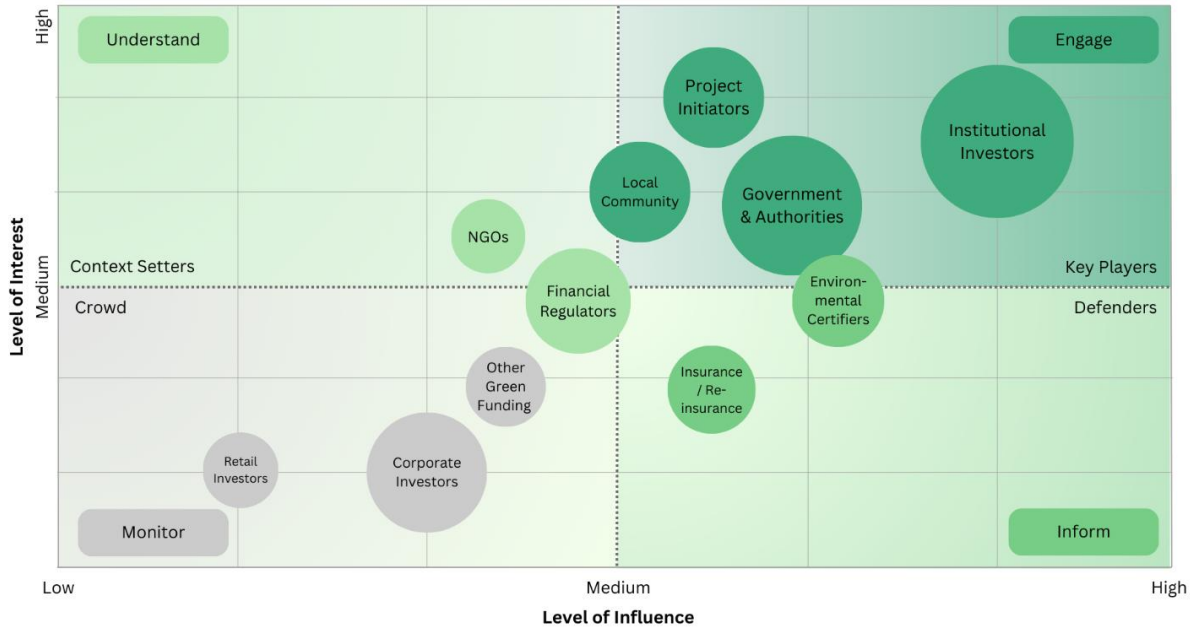


Figure 2

Stakeholder Categorization



Among primary stakeholders, GPIs and institutional investors are particularly significant as key drivers for investment into local sustainable projects.

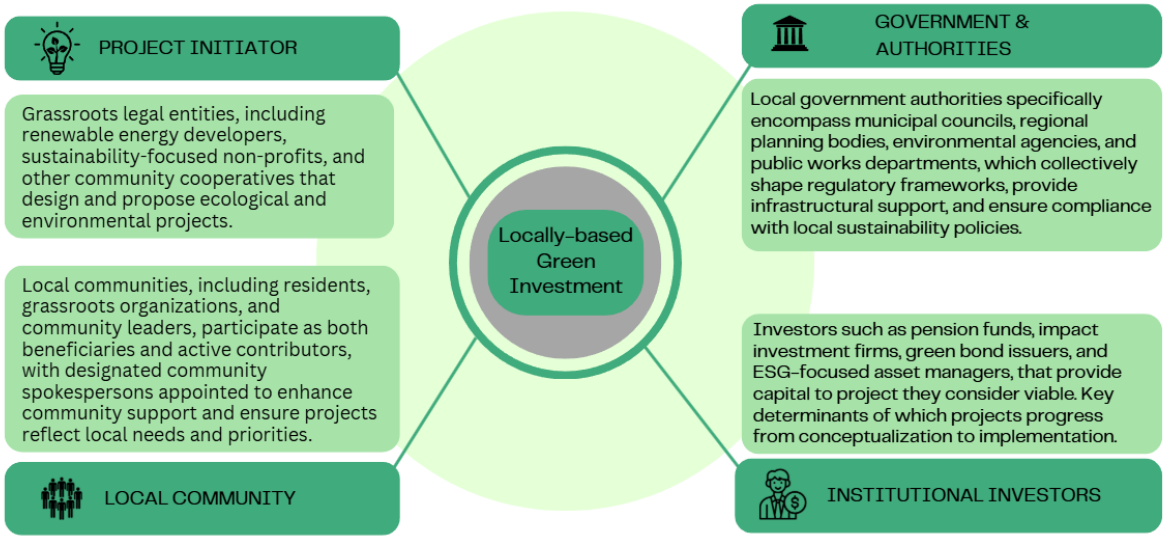
GPIs are typically grassroots pro-environmental entities such as renewable energy developers, entrepreneurs, sustainability-focused organisations, and other community cooperatives that design and implement environmentally oriented initiatives (Gutterman, 2024). They seek to implement pro-environmental projects such as solar energy installations, urban green spaces, and regenerative agriculture programs, which can deliver ecological benefits (e.g., carbon reduction, biodiversity preservation) (Vignieri, 2023) and socio-economic value (e.g., employment opportunities, community resilience) (González-Azcárate et al., 2023) for local development.

Institutional investors, including pension funds with ESG mandates, impact investment firms, green bond issuers, and green venture capitalists (Rau & Yu, 2024), drive an initiative's financial feasibility with capital necessary for implementation and scalability. While traditional investment approaches prioritize risk-adjusted returns and portfolio diversification based on Modern Portfolio Theory (Markowitz, 1952), Agency Theory (Eisenhardt, 1985) highlights how growing stakeholder pressure and regulatory requirements have shifted institutional investors toward ESG integration, which reduces agency conflicts by balancing financial and ethical incentives (Jansson & Biel, 2011). Sustainable investments now incorporate both financial and non-financial motives, with investors considering long-term value creation, regulatory compliance, and ESG factors (Christensen, et al., 2022). Furthermore, as Harji and Jackson (2018) note, investors seek both financial returns and measurable environmental and social impacts, making transparent reporting mechanisms and standardized impact metrics essential for informed decision-making.

Beyond GPIs and investors, local communities and government authorities are also essential. Local communities, comprising residents and grassroots organizations, are directly impacted by the implementation of GPs. By voicing their opinions and concerns, they can either be instrumental to the implementation of certain projects by endorsing projects and offering support, or can hinder progress through opposition, such as protests and appeals (Esteves, 2008). Local government authorities, encompassing local politicians, municipal councils, regional planning bodies, and public works departments, establish regulatory frameworks, offer incentives, and provide infrastructural support, to green investments (Wilson, & Game, 2011).

Figure 3

Overview of Primary Stakeholders



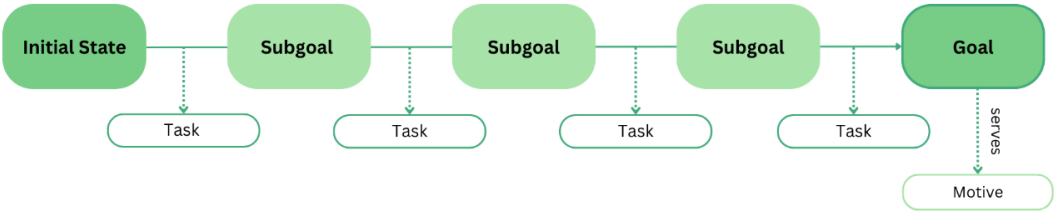
Secondary stakeholders, including NGOs, financial regulators, other fundraising platforms etc. play a supportive role in facilitating the green investment process. For instance, NGOs connect local initiatives to broader sustainability movements, while financial regulators, increasingly aware of climate-related financial risks, are developing frameworks that encourage capital flows toward sustainable investments (Campiglio et al., 2018), thereby fostering favourable conditions for locally-based green finance. Together, these stakeholders contribute transdisciplinary knowledge, facilitating collaboration between external expertise and community practitioners to support sustainability transitions (Brundiers & Wiek, 2017).

3. Activity Analysis

We apply Activity Theory (Lahlou, 2017) to understand key stakeholders' activities, goals, and motives, while identifying problems and possible points of intervention in their respective trajectories. Central to this framework is the deconstruction of activities into subgoals and respective tasks, as subjects move from their initial state toward a desired end-goal that satisfies an underlying motive (Figure 4). These motives are dynamic and context-dependent, allowing subjects to adapt actions based on situational factors. By analysing action steps, tasks and motivational drivers, Activity Theory helps locate stakeholders' pain points in locally-based green investments, revealing potential intervention opportunities.

Figure 4

Illustration of Activity Theory



Green Project Initiators

GPIs' primary goal is to make a positive social and environmental impact by successfully implementing their projects. Their underlying motive is achieving sustainable community development, which entails social responsibility and mitigating negative environmental effects. However, they require funding to launch and sustain their projects. Since initiators primarily sit in more rural areas of the UK, where traditional investment networks are less established (McCann, 2019), they are faced with *(1) limited exposure and access to institutional investors and fragmentation of capital markets* (Mirzania et al., 2019) hindering them from acquiring funding.

To circumvent this first obstacle, GPIs must transform their green vision into a compelling business case and engage local entrepreneurs, banks and other investors. However, drafting project proposals can be challenging as GPIs may *(2) lack sufficient investment knowledge*. Navigating unfamiliar, technical landscapes expands to *(2a) due diligence requirements* including financial modelling, impact quantification, risk assessment and mitigation strategies, and negotiating financing terms (Lehner, 2013). Further challenges arise in *(2b) Setting compliance standards*, refining the project plan, and *(2c) deal structuring and negotiating terms*, which can lead to adverse investment agreements. This process' complexities are likely to exceed the GPI's often project-specific expertise (DeCristofaro et al., 2023)

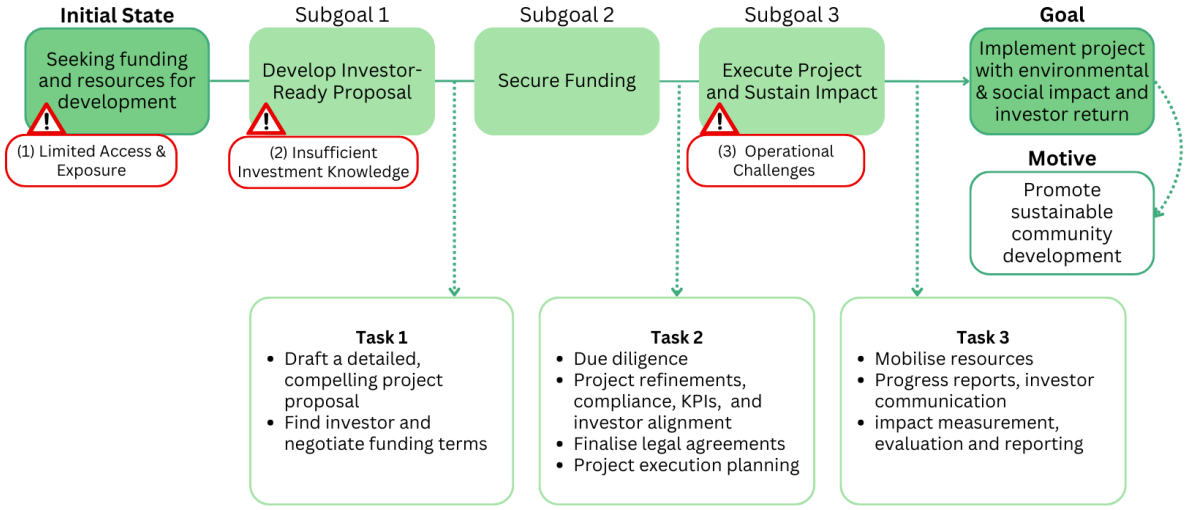
As implementation progresses, these structural difficulties can not only deter investor confidence but may manifest as cash flow pressures forcing project managers to chase metrics over pursuing genuine impacts (Bocken, 2015). Lastly, legal complexity in finalizing agreements like term sheets and responsibility descriptions can further delay or derail promising projects (Owen et al., 2018). These bureaucratic hurdles may disproportionately affect pro-environmental initiatives compared to corporate counterparts (Walker & Devine-Wright, 2008), thus exacerbating the resource imbalance for local sustainable development.

Once all terms are finalised and funding is secured, GPIs move to the implementation process of their project where they must manage the intricacies of project execution (e.g., securing permits, contractor coordination, performance tracking) (Brest & Born, 2013) while adhering to established timelines, budgets and impact targets. At this stage, projects can encounter *(3) operational challenges*, such as regulatory shifts that alter compliance requirements or market conditions, supply chain disruptions, and community resistance (Dinnie & Holstead, 2018). These externalities are particularly threatening to small-scale green projects with limited capital buffers and capacity constraints for constant adaptation (Seyfang & Smith, 2007).

Once the project is successfully executed and its long-term social, environmental, and financial impact is ensured, the GPI reaches their desired state and satisfies their motive.

Figure 5

Activity Analysis of Project Initiators



Institutional Investors

Institutional investors' goal in the green investment trajectory is to integrate sustainable, financially effective projects into their portfolios (see Figure 6). This goal is driven by the motive to contribute to a greener future while creating a profitable, resilient and diversified portfolio for clients and shareholders (Barber et al., 2021; Edmans et al., 2024; Statman, 1987).

The investment trajectory begins with an initial state of investment-seeking, identifying local green opportunities that align with both financial and environmental objectives (Thomas et al., 2007). This involves market research, policy evaluation, and engagement with stakeholders such as government bodies and environmental consultants. Once suitable opportunities are

identified, investors conduct screening and due diligence, assessing financial viability, regulatory compliance, ESG alignment, and sustainability impact. Investors incorporate ESG factors into investment analysis due to their influence on the risk profile, long-term value, and financial returns (Amel-Zadeh & Serafeim, 2018; Bohn et al., 2021). Beyond financial motives, ESG integration is also driven by client demand, strategic positioning, and ethical considerations (Amel-Zadeh & Serafeim, 2018). At this stage *(4) profitability challenges* may arise. Green projects, especially early-stage initiatives, often require significant upfront capital and may offer uncertain or delayed returns. Unlike traditional investments with well-established profitability metrics, green investments depend on evolving technologies, government incentives, and carbon pricing, making ROI projections less predictable. The lack of mature markets and historical performance data increases uncertainty, deterring institutional capital (Inderst & Stewart, 2014). Fiduciary obligations further intensify this hesitation, as investors are bound to act in the best financial interest of their clients (Edmans, 2023).

Next, investors move to risk assessment and investment structuring, evaluating financial exposure, regulatory uncertainty, project-specific risks, and public sentiment (Alexander, 2005). Appropriate capital accumulation mechanisms are selected, such as equity, green bonds, public-private partnerships, or venture capital. However, a range of *(5) risk management challenges* may arise. Green investments are particularly vulnerable to shifting financial, regulatory, and environmental contexts (Agoraki et al., 2022; Wen, 2023). First, *(5a) Policy uncertainty*, driven by global geopolitical changes, creates unpredictable investment conditions that affect returns and market volatility (Agoraki et al., 2022). Investors must actively monitor political and regulatory shifts to anticipate their impact. Second, physical *(5b) climate risks* such as extreme weather events can impact infrastructure-based green projects, complicating project operations management and long-term financial planning (Wen, 2023). Third, *(5c) community acceptance* is also critical, yet difficult to gauge. Opposition, driven by environmental, social, or cultural concerns, can delay or derail projects (e.g., wind farms facing opposition due to aesthetic concerns). Sovacool and Dworkin (2015) argue that such resistance is frequently underestimated, posing reputational and operational risks.

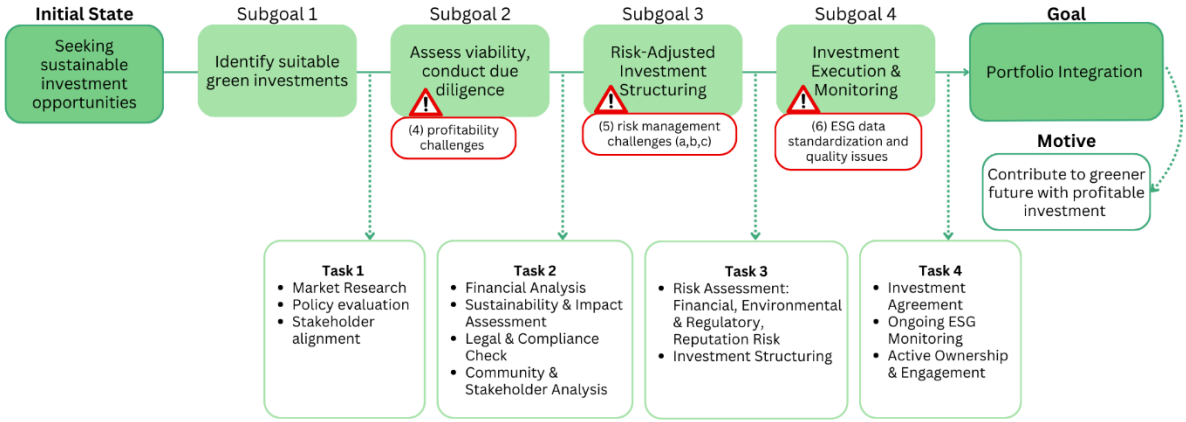
Once capital is deployed, sustainability commitments are formalised, and ESG monitoring is used to track environmental targets and financial performance. But, *(6) ESG data quality and standardisation* remain challenging throughout the lifecycle, particularly during portfolio integration and impact reporting. Despite growing ESG adoption, investors struggle with inconsistent, incomparable, and unreliable data (Amel-Zadeh & Serafeim, 2018). This hampers accurate assessments of environmental performance and investment risk (Bohn et al., 2021). Further complications arise from divergence across ESG rating providers, which adds

uncertainty to decision-making and limits integration into investment strategies (Berg et al., 2022).

Finally, if investors overcome these hurdles, the chosen investment is integrated into the institutional portfolio, with ESG metrics reported to stakeholders and reinvestment strategies developed to enhance long-term sustainability impact.

Figure 6

Activity Analysis of Institutional Investors



Other Stakeholders

Communities and government authorities are also highly influential to sustainable investment. For instance, communities support green investments for social and ecological benefits (e.g., accessible green energy) (Wolsink, 2007) and economic development that creates jobs and strengthens local industries (Okkonen & Lehtonen, 2016). However, they may resist due to credibility concerns about smaller-scale projects, aesthetic landscape disruption (Pasqualetti, 2011), and systematic exclusion from decision-making process in sustainable initiatives (Wüstenhagen et al., 2007). Government authorities promote green investment to drive economic growth and attract fundings aligned with national sustainability goals, while they also face regulatory instability (Bolton & Foxon, 2015) and inconsistent ESG reporting standards that hinder transparency and investment comparability.

4. Solution Proposal

The application of Activity Theory (Lahlou, 2017) has revealed key pain points faced by GPIs and investors. GPIs struggle with funding accessibility, insufficient investment knowledge, and operational challenges, while investors face profitability and risk management challenges, and issues regarding ESG data and impact metric standardisation. These barriers create friction in the investment process, preventing a smooth flow through the investment trajectory.

Table 2

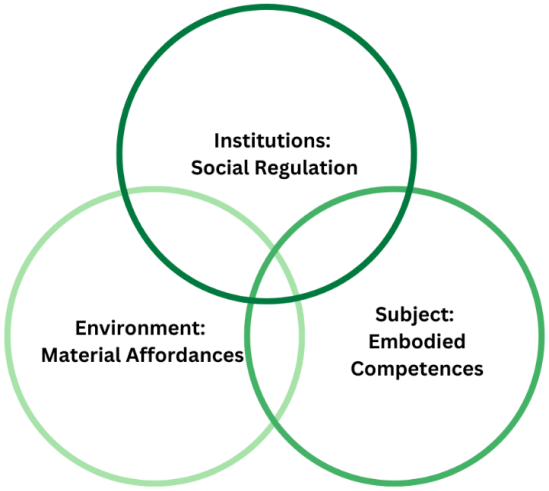
Pain Points & Solutions

Stakeholder	Pain Points	Solution
Project Initiators	(1) Limited exposure to institutional investors	A) Platform as connecting infrastructure B) Centralized network with match-making features
	(2) Insufficient investment knowledge o (2a) Due Dilligence o (2b) Compliance & Bureaucratic requirements o (2c) Business Negotiations	C) Tailored interfaces to needs and adjusted to routine work. D) Support structures (e.g. guidelines, templates) E) External team of consultants & ESG and Financial advisors provide guidance F) Knowledge base
	(3) Operational challenges	G) Contingency plans (e.g. fund, insurance etc) H) Communication feature on platform
Institutional Investors	(4) Profitability challenges	I) Alternative reward system J) NGO and environmental certification K) Advisory services from environmental consultants on assessing profits L) Data-driven impact assessments for transparent profit estimation
	(5) Risk management challenges o (5a) Policy uncertainty o (5b) Climate risks o (5c) Community acceptance	Transparent risk management through platform M) Community engagement & participation N) Government (NWF) affiliation and accreditation O) Co-funding mechanism with other investors/ government/ re-insurance companies P) Transparent communication (through external consultants & advisors) Q) Contingency fund
	(6) ESG data standardization and quality	R) Standardized evaluation frameworks across projects (GRI)

To address these challenges, we turn to Installation Theory (IT) as a guiding framework for designing our solution (see Figure 7). IT, developed by Lahlou (2017) provides a constructivist framework for analysing the mechanisms that influence behaviour within given contexts. Installations channel human actions through a system that reinforces certain behaviours over time. This occurs through three interrelated layers - physical affordances, embodied competences, and social regulation which construct a channelled path for behaviour. By analysing and modifying layers, interventions can be designed to create behavioural change.

Figure 7

Visualisation of Installation Theory



To design an effective solution that addresses the outlined pain points, it is essential to identify the most strategic point of intervention. Since challenges for both investors and GPIs arise at multiple stages of the green investment process, our solution is introduced early, enabling a holistic approach that addresses these issues throughout the entire investment lifecycle.

The solution consists of a community-supported green funding platform (see Figure 8), that connects GPIs with institutional investors and their local community. With a mission to reduce the GFG, we foster local environmental projects in rural or overlooked areas across the UK with insufficient funding and development support. The platform creates a dedicated space for GPIs with concrete plans for green projects to refine their proposals, mobilise and engage the local community for support, connect with investors to gain funding, and ultimately implement and sustain their initiatives.

Figure 8

Greenie Homepage

To enhance *(1) project exposure***,** the platform affords the *(A) necessary infrastructure* that connects stakeholders to projects into one network, lowers entry barriers, and encourages ongoing engagement with projects and other stakeholders. The *(C) platform interfaces are tailored* to each user type (investors, GPIs, community), reflecting their distinct competencies, habitual behaviours, and ways of interpretation. Specialised features (see Figures 9, 10) intuitively guide each stakeholder through their respective processes. For instance, project listings and impact reports are framed as compelling community narratives for local users, and as quantifiable data within financial dashboards for investors (Shi, 2017). This differentiation leverages users' embodied competencies and reduces cognitive load by structuring inputs in ways aligned with how each group processes information (Paas et al., 2003).

Figure 9

Tailored Interfaces

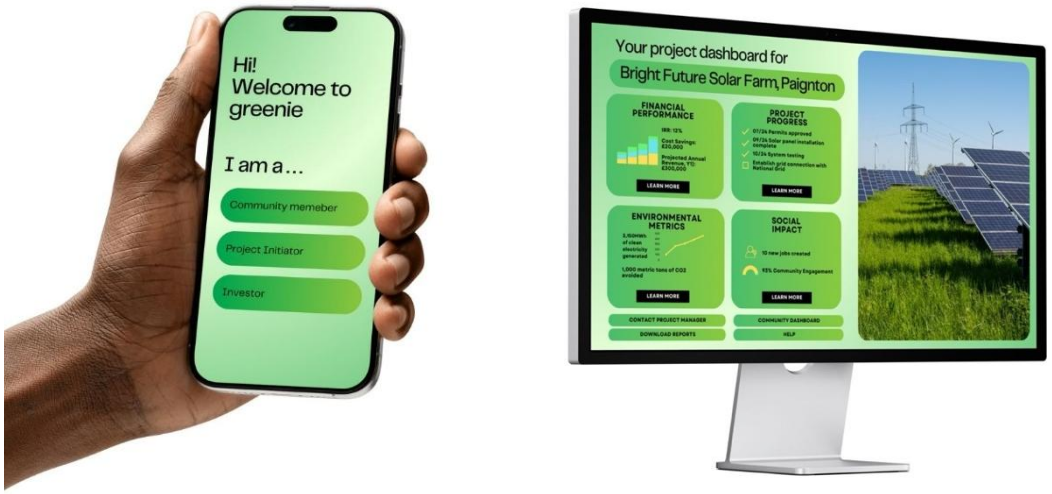


Figure 10

Different Platform Features by User

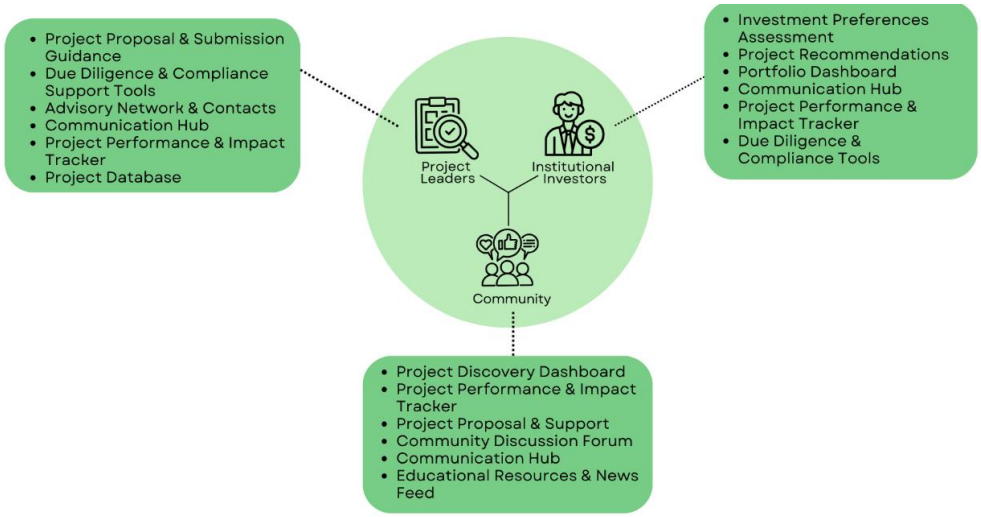
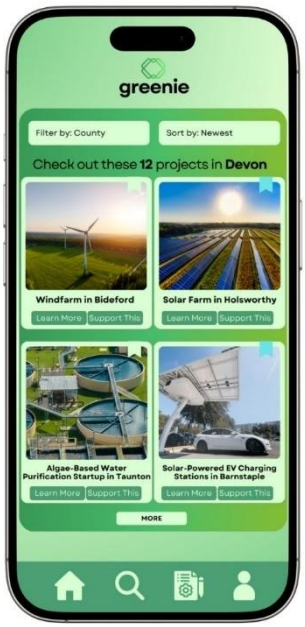


Figure 11

Community Page



A key distinguishing feature of the platform is its emphasis on *(M) community engagement*. Unlike conventional investment platforms that operate on financial and risk-based metrics alone (Brandstetter & Lehner, 2014), this platform incorporates social validation mechanisms, ensuring projects gain public approval before receiving funding. This signals that the projects serve the collective interest of those impacted, which increases the relevance and acceptance of projects (Esteves, 2008). This *(5) mitigates risks* related to *(5c) local opposition*, strengthens the relationship between investors and communities, enhances social license to operate, and leads to more sustainable, long-term outcomes (Esteves, 2008). An essential component of this engagement process is the "Community First" rule, which requires that projects secure a minimum level of local support before being added to the pool of investment-seeking projects. The community dashboard encourages locals to express support, feedback, and concerns regarding project proposals through a discussion forum, "support this" button, and a real-time tracker. Esteves (2008) suggests that assessing community alignment is essential for balancing short-term profit with long-term objectives. The platform will also leverage social norms by displaying community support as the prevailing behaviour and emphasizing collective progress toward shared sustainability goals (Sparkman et al., 2020). Push notifications will be triggered when support thresholds are met, harnessing dynamic social norms and people's tendency to

follow emerging social trends. To further facilitate *(M) community participation*, local spokespeople (e.g., county sustainability officers) will promote local projects and moderate discussions, if a project does not manage to secure the required support. This approach draws on local knowledge of needs and environmental challenges and ensures inclusive decision-making around sustainable development. Liu et al. (2020) show that involving the public in these decision-making processes enhances perceived procedural fairness, which in turn increases public acceptance of sustainable projects.

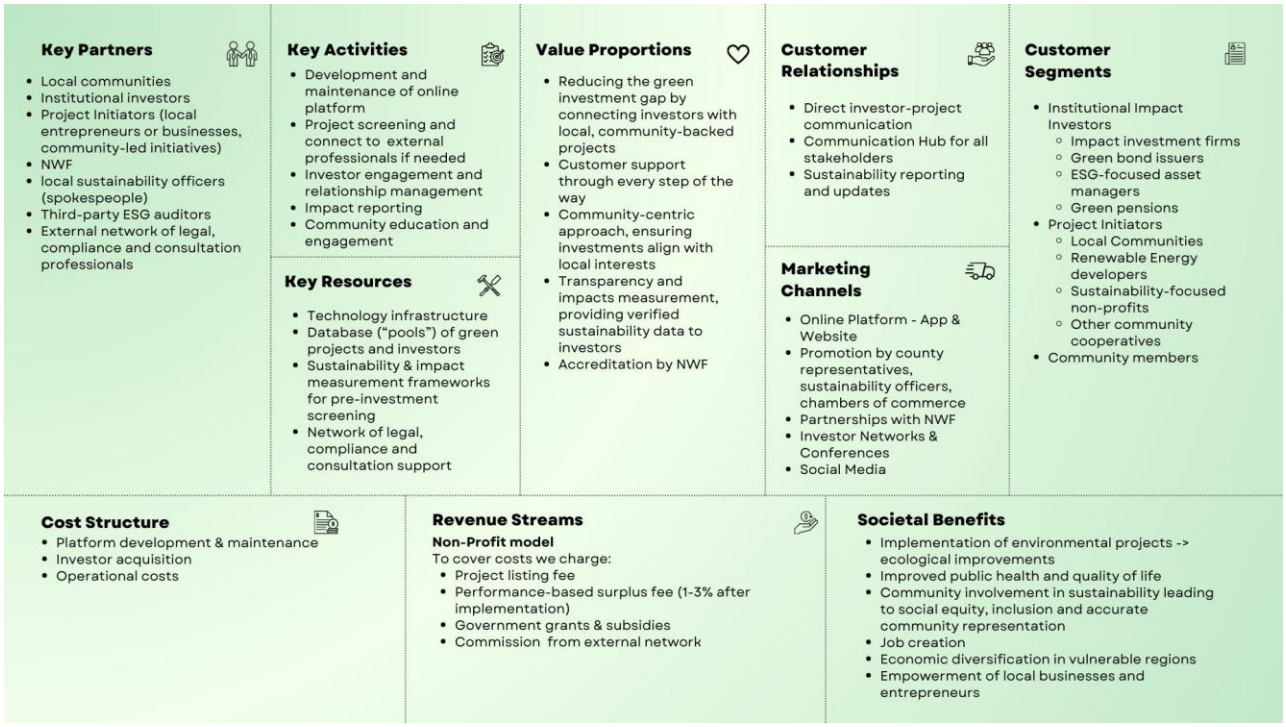
To *(5) manage risk* perception and attract investors, the platform must establish strong credibility. Thus, we will pursue a *(N) partnership and accreditation with the NWF*, signalling adherence to high standards of governance, financial integrity, and environmental impact to stakeholders. As our platform's mission aligns with the NWF's national sustainability objectives (NWF, 2023 the partnership aims to enhance collective impact by expanding the reach and addressing regional disparities in green investment, making it mutually beneficial. The remainder of this proposal assumes the establishment of this partnership. Projects and investors engaging through the platform would receive an NWF-accredited certificate, serving as a signal of their credibility and commitment to high standards of governance and sustainability. Furthermore, compliance with the NWF funding guidelines and engagement with associated policymakers mitigates risks related to *(5a) policy uncertainty and misalignment* and ensure alignment with the UK's broader national strategy.

Business Model

The business model provides a comprehensive overview of the platform's operations, partnerships, financial viability and value-creation objectives.

Figure 12

Business Model



The promotion of our platform will be driven through local spokespeople (e.g. sustainability officers), word-of-mouth, and social and traditional media to raise community awareness. GPIs will be informed about our platform and its value proposition by their local chamber of commerce. For investors, we will leverage investor networks and the NWF to promote the platform. The motive for these stakeholders to promote our platform lies in the shared goal of achieving net-zero emissions and promoting sustainable development.

Figure 13

Promotion Posters

To attract investors, the platform offers *(I) alternative rewards* that go beyond traditional *(4) financial returns*, creating pull factors for investor engagement. First, investing in local projects helps investors expand their regional visibility, enhancing their reputation as supporters of sustainable development and local communities. According to Signalling Theory (Spence, 1973), such visible commitments signal investors' values and long-term orientation, strengthening their social and professional standing. Second, investments are recognized and *(J) certified by NGOs and sustainability certifiers* adding credibility and demonstrating a genuine commitment to environmental and social responsibility. Third, since all projects undergo *(K) rigorous auditing* through an external auditing agency, the platform ensures transparency and mitigates greenwashing concerns. Lastly, the emphasis on *(L) data-driven impact assessments* allow investors to quantify their impact, integrate ESG performance into their corporate strategy, and enhance long-term regulatory compliance. Beyond reputational and regulatory advantages, investors may benefit from cost savings, such as reduced energy expenses from local solar farm investments. Lastly**,** diversifying investment portfolios with green, community-supported initiatives provides a risk-buffer, adding resilience against market volatility.

Pre-investment Stage

The process begins with the submission of an initial project proposal, where project owners outline their business model, ESG reports based on Global Reporting Initiative (GRI) standards, and financial viability. To ensure *(6) data quality*, the platform incorporates *(R) standardised evaluation criteria***,** such as GRI standards, other regulatory policies, and sector-specific

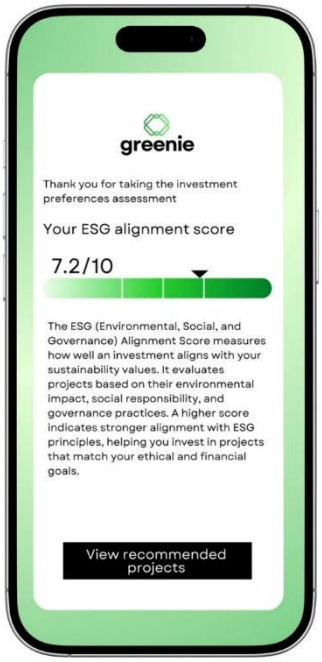
compliance, enabling investors to access all necessary project information for investment assessment. Consequently, *(D) comprehensive guidelines,* templates, checklists, customer support, and online workshops support GPIs during this stage and throughout the process. This process is designed to be clear, concise and accessible, reducing bureaucracy and lowering entry barriers for GPI's who possess *(2) limited investment knowledge*, specifically regarding *(2a) due diligence* and *(2b) compliance and bureaucratic requirements*. While GPIs often hold strong local and technical knowledge (Seyfang & Smith, 2007), they may lack financial literacy or the ability to frame projects in terms that appeal to institutional investors, such as scalable returns and risk mitigation (Fligstein, 2001; Clark & Urwin, 2008). Next, proposals undergo a screening procedure in the platform, evaluating financial feasibility, ESG compliance, and investment alignment. Projects that fall short are returned for revision. Eligible proposals proceed to the expert review stage, where *(E) external advisors***,** including industry professionals, ESG analysts, and financial experts, provide guidance on (financial, market and ecological) risk, sustainability impact, and financial structuring. Following revisions, a second screening ensures the proposal meets rigorous financial and ESG standards.

Projects then enter the community support phase, where a simplified business plan with environmental and social KPIs is published on the community dashboard for feedback, leveraging members' social conformity (Asch, 1956). Projects meeting the minimum support thresholds advance to the investor-seeking phase, while those that don't receive mediation from local spokespersons to address concerns. Finally, an algorithm-driven *(B) matching system* (Roth, 2018) proposes suitable projects to investors based on sustainability goals and investment preferences. This centralized network helps GPIs **(***1) overcome their limited exposure to investors and capital markets* and mimics accelerator programmes that connect startups with capital (Dalle et al., 2023).

Upon registration, investors complete a preference profile including risk appetite, industry preference, ESG alignment, and investment horizon. By making impact visible and measurable in the present, the platform helps investors link long-term sustainable value with immediate investment decisions, counteracting present bias in prioritizing short-term returns over long-

Figure 14

Preference Test



term benefits (Døskeland & Pedersen, 2016; O'Donoghue & Rabin, 2015). The platform generates a shortlist of aligned project proposals. Considering data disclosure and protection investors can review their shortlisted projects in further detail including financial models, ESG reports, and disclosure-controlled data to evaluate its alignment with their goals. Ensuring transparency and informed decision-making helps them to more *(4) accurately estimate impact and profits,* while maintaining information disclosure control for the GPIs. To reduce uncertainty and *(6) improve project evaluation*, the platform uses a *(R) standardised sustainability reporting framework aligned* with GRI. This includes long-term environmental impact assessments, policy stability factors, and ESG standards (Christensen et al., 2022) ensuring a structured framework that provides consistent, comparable, and reliable ESG reporting (De Silva Lokuwaduge & De Silva, 2022), and investors' portfolios accurately reflect their sustainability objectives and to prevent instances of greenwashing (Bohn et al., 2021; Woods, 2003).

To *(5b) mitigate climate risk*, the platform facilitates *(O) co-funding opportunities*, allowing multiple investors (e.g., public funds, impact investors, reinsurers) to *(5) share financial risk* and commitment. Kaminker and Stewart (2012) note that such complex risk dimensions often require tailored financial instruments and public-private partnerships to make projects viable for institutional investors. The platform may also provide access to government-backed guarantees, insurance through e.g. re-insurance firms, or blended finance mechanisms to de-risk projects with high upfront costs and long-term environmental returns.

Investment Stage

This stage begins with business plan refinements to align investment proposals with investor expectations regarding risk, return, and ESG impact. The platform offers *(E) external advisory services*, helping GPIs demonstrate project viability through standardized financial forecasting, risk mitigation, and regulatory compliance. Simultaneously, investors conduct due diligence to assess technology, policy, financial, and sustainability risks (KPMG, 2024).

The platform then facilitates *(P) transparent discussions and negotiations* between investors and project leaders to further align implementation plans, KPIs, financial arrangements, and

governance frameworks. External legal teams prepare contracts compliant with UK Green Taxonomy regulations. As an *(5) additional risk mitigation mechanism* and to address *(3) operational challenges* in later stages, the platform includes a *(G) contingency fund* (8-12% of total investment value) with defined deployment triggers (Carè & Weber, 2023), complemented by risk-hedging through diversified income streams (Weber & Alfen, 2010). The platform thus creates a structured placement with accessible financial tools and signal guidelines that help GPIs manage risks even without (2) specialized financial knowledge. The system addresses both exogenous shocks (e.g., regulatory changes, extreme weather) and endogenous challenges (e.g., community disengagement, technology failures) through scenario-based response protocols. Such mechanism distributes the cognitive load of risk management across multiple parties, building functional resilience even when individual competencies may be lacking (Lahlou, 2017). Through guided practice, GPIs could internalize proper response procedures in routinized behaviours, enhancing their self-efficacy (Bandura, 1997) in risk management.

Once terms are finalized, the platform orchestrates secure capital transfers and implements tailored monitoring systems, enabling investors to track KPIs, such as carbon reduction metrics, financial performance, and regulatory compliance. This transparency reassures investors and increases accountability for GPIs. By the end of the investment stage, funds are successfully deployed to local green projects, GPIs have the necessary capital to begin implementation, and investors have secured a structured and risk-mitigated investment in sustainability.

Post-Investment Stage

This final stage includes the project implementation, subsequent impact measurement, evaluation, and reporting, dispute resolution and feedback.

Throughout the implementation, maintenance, and evaluation stages of the projects, impact verification ensures *(3) accountability* by collecting and validating project outcomes using standardized metrics (Table 2). Third party auditors then assess these outcomes through GDPR-compliant data-sharing protocols embedded in contracts (Innovate UK, 2023). Most metrics, such as energy gains and community engagement, are published on real-time data feeds visible to all stakeholders, while sensitive metrics (e.g., carbon offset, provisional returns) are restricted to investors and project leaders. Traceability is ensured via a secure, auditable data trail that logs each step of metric collection and reporting, with confidential data encrypted to prevent breaches (European Union, 2016).

Table 3

Performance Metrics

Impact Verification	These metrics will be collected systematically through the platform's real-time data feeds (e.g., IoT sensors for energy output) and periodic reporting (e.g., quarterly audits). Verification involves cross-checking data against independent benchmarks (e.g., UK Green Taxonomy) and engaging third-party auditors for credibility. GDPR compliance ensures that community and investor data (e.g., personal identifiers in training logs) are anonymized or securely stored, balancing transparency with privacy.		
Category	Environmental Metrics	Social Impact Metrics	Financial Metrics
Content	Tonnes of CO2e Reduced	Jobs Created	Internal Rate of Return
	Energy Efficiency Gains	Community Engagement Rating	Revenue from Flexibility Services
	Wastage Reduced	Health Benefits	Cost Savings

To address potential disputes which may arise from *(3) operational setbacks*, or collaboration issues, the platform implements *(G) regular stakeholder communication* in the form of meetings, check-ins, update sessions, and monthly newsletters. These interactions are strategically anchored at points of heightened attention readiness (Höchstädter & Scheck, 2015), such as post-funding milestones or quarterly reviews. By establishing these "compulsory control points" (Lahlou, 2017, p.163), the platform enhances resilient operational structures, mitigates misalignment, and ensures full engagement of all stakeholders.

The platform utilizes feedback loops from successfully implemented projects to build a (F) knowledge base for future initiatives and investments. This includes a digital archive of frequent issues and best practices on topics such as impact assessment and project management. These digital knowledge bases thus facilitate distributed learning and competences across actors, allowing future stakeholders to gain embodied skills through exposure to previous initiatives, reducing reliance on external aid of experts. With these integrated strategies, the platform creates a transformative ecosystem where completed projects continue to generate insights, fostering trust and scalability in community-supported sustainable investments.

5. Discussion & Limitations

This paper aims to offer a solution to reduce GFG by providing a platform that connects investors with smaller-scale and local green development projects in the UK. By analysing primary stakeholders' motivations, pain points and activities with AT, we developed a green investment online platform informed by IT, that enhances accessibility to green funding opportunities. However, there are limitations to our proposed solution.

Since the platform involves different types of investors, accurately capturing each of their goals, motives, and investment processes is challenging as these can vary significantly across investor types (Barber et al., 2021; Bocken, 2015). Furthermore, investment strategies, stakeholder relationships, and expectations regarding financial returns and sustainability outcomes are complex. Thus, a key limitation of our solution is that we cannot be certain that it is based on an exhaustive activity analysis of investors, which means it may overlook certain factors needed to ensure that the platform aligns with their investment priorities.

Additionally, investors who prioritize high profits, liquidity, and quick returns may find our model less appealing, especially during economic uncertainty, when long-term benefits are less convincing (Barber & Odean, 2013). Unlike publicly traded stocks, green projects often lack clear exit mechanisms or secondary markets, requiring long-term commitment and limiting flexibility for investors.

Next, the legal intricacies of liabilities, contractual frameworks between the platform, the project and the investors, and investment protection laws, particularly in relation to our position as a financial intermediary, are out of the scope of this paper. Additional legal work would be required to ensure legal protection for all parties involved, especially when considering cases where projects might fail to deliver their expected sustainability or financial goals, or unexpected challenges occur.

Another limitation to consider is that adaptation of our platform might be slow due to competition within the green investment sector, lack of awareness, or potential resistance or scepticism towards new platforms with novel approaches. We have proposed a multi-channel promotion strategy to address this, however, its effectiveness is reliant on certain external players such as local spokespeople or sustainability officers, and the chambers of commerce, and the NWF whose active promotion, education and endorsement of our platform is crucial for its rate of adaptation.

Finally, there is potential for misalignment with local politicians and government entities setting local policy priorities and funding allocations in ways that may not be conducive to our

platform's objective and could add bureaucratic hurdles, delay or even reject project approvals. We partially address this issue by aligning closely with national strategy, however, developing a more local political alignment strategy is out of scope of this project.

In conclusion, despite these limitations, our proposed solution provides a valuable approach to reducing the UK's green investment gap by improving accessibility and efficiency in green funding opportunities.

References

Alexander, C. (2005). The Present and Future of Financial Risk Management. *Journal of Financial Econometrics*, *3*(1), 3–25. https://doi.org/10.1093/jjfinec/nbi003

Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological Monographs: General and Applied, 70*(9), 1–70. https://doi.org/10.1037/h0093718

Agoraki, M.-E. K., Kouretas, G. P., & Laopodis, N. T. (2022). Geopolitical risks, uncertainty, and stock market performance. *Economic and Political Studies*, *10*(3), 253–265. https://doi.org/10.1080/20954816.2022.2095749

Amel-Zadeh, A., & Serafeim, G. (2018). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal, 74*(3), 87-103. https://dx.doi.org/10.2139/ssrn.2925310

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W H Freeman/Times Books/ Henry Holt & Co.

Barber, B. M., Morse, A., & Yasuda, A. (2021). Impact investing. *Journal of Financial Economics*, *139*(1), 162–185. https://doi.org/10.1016/j.jfineco.2020.07.008

Barber, B. M., & Odean, T. (2013). The behavior of individual investors. In *Handbook of the Economics of Finance* (Vol. 2, pp. 1533-1570). Elsevier. https://doi.org/10.1016/B978-0-44-459406-8.00022-6

Bedi, A., Zhang, X., Korol, J., & Vassallo, A. (2024). Neighbourhood and community battery projects: A comprehensive review of the literature. Sustainable Energy, Grids and Networks, 37, 101344. https://doi.org/10.1016/j.est.2024.112525

Berg, F., Kölbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance, 26*(6), 1315-1344. https://doi.org/10.1093/rof/rfac033

Bocken, N. M. P. (2015). Sustainable venture capital – catalyst for sustainable start-up success? *Journal of Cleaner Production*, *108*, 647–658. https://doi.org/10.1016/j.jclepro.2015.05.079

Bohn, J., Goldberg, L., & Ulucam, S. (2021). Transparency and best practices are essential for ESG investing. *CDAR Working Paper*, 1-22.

Bolton, R., & Foxon, T. J. (2015). A socio-technical perspective on low carbon investment challenges–Insights for UK energy policy. *Environmental Innovation and Societal Transitions, 14*, 165-181. https://doi.org/10.1016/j.eist.2014.07.005

Brandstetter, L., & Lehner, O. M. (2014). Impact investment portfolios: Including social risks and returns. *Brandstetter, L., & Lehner, OM (2015). Opening the Market for Impact Investments: The Need for Adapted Portfolio Tools. Entrepreneurship Research Journal*, *5*(2), 87-107.

Brest, P., & Born, K. (2013). When can impact investing create real impact. *Stanford Social Innovation Review*, *11*(4), 22-31.

Brundiers, K., & Wiek, A. (2017). Beyond interpersonal competence: Teaching and learning professional skills in sustainability. *Education Sciences, 7*(1), 39. http://dx.doi.org/10.3390/educsci7010039

Campiglio, E., Dafermos, Y., Monnin, P., Ryan-Collins, J., Schotten, G., & Tanaka, M. (2018). Climate change challenges for central banks and financial regulators. *Nature Climate Change, 8*(6), 462-468. https://doi.org/10.1038/s41558-018-0175-0

Carè, R., Weber, O. (2023). Sustainable Finance: Banks, Sustainability, and Corporate Financial Performance. In: Dion, M. (eds) Sustainable Finance and Financial Crime. Sustainable Finance. Springer, Cham. https://doi.org/10.1007/978-3-031-28752-7_3

Christensen, P. H., Robinson, S., & Simons, R. (2022). Institutional investor motivation, processes, and expectations for sustainable building investment. *Building Research and Information: The International Journal of Research, Development and Demonstration*, *50*(3), 276–290. https://doi.org/10.1080/09613218.2021.1908878

Clark, G. L., & Urwin, R. (2016). Best-Practice Pension Fund Governance. In *Asset Management: Portfolio Construction, Performance and Returns* (pp. 295-322). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-30794-7_13

Clark, R., Reed, J., & Sunderland, T. (2018). Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance. *Land Use Policy*, *71*, 335–346. https://doi.org/10.1016/j.landusepol.2017.12.013

Committee on Climate Change (CCC). (2016, June). *Meeting Carbon Budgets – 2016 Progress Report to Parliament.* Retrieved from https://www.theccc.org.uk/wp-content/uploads/2016/06/2016-CCC-Progress-Report.pdf

Committee on Climate Change. (2019, May). *Net Zero The UK's contribution to stopping global warming.* Retrieved from https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf

Committee on Climate Change. (2020, December). *The Sixth Carbon Budget - The UK's path to Net Zero.* Retrieved from https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf

Dalle, J. M., den Besten, M., & Morfin, J. (2023). Accelerator-mediated access to investors among early-stage start-ups. *Annals of Operations Research*, 1-28. https://doi.org/10.1007/s10479-023-05583-0

De Silva Lokuwaduge, C. S., & De Silva, K. M. (2022). ESG risk disclosure and the risk of green washing. *Australasian Accounting, Business and Finance Journal*, *16*(1), 146-159. doi:10.14453/aabfj.v16i1.10

DeCristofaro, E. R., Thibodeau, M. R., Okoli, F. C., Silhavy, J. T., Giacchino, E. S., Loeding, A. W., & Coologeorgen, A. E. (2023, June). Key Areas of Due Diligence for Solar PV Project Financing. In *2023 IEEE 50th Photovoltaic Specialists Conference (PVSC)* (pp. 1-1). IEEE.

Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California management review*, *54*(1), 64-87. https://doi.org/10.1525/cmr.2011.54.1.64

Dinnie, E., & Holstead, K. L. (2018). The influence of public funding on community-based sustainability projects in Scotland. *Environmental innovation and societal transitions*, *29*, 25-33. https://doi.org/10.1016/j.eist.2017.08.003

Døskeland, T., & Pedersen, L. J. T. (2016). Investing with brain or heart? A field experiment on responsible investment. *Management Science, 62*(6), 1632–1644. https://doi.org/10.1287/mnsc.2015.2208

earth.org. (2025, January 5). 15 Biggest Environmental Problems of 2025. Retrieved from earth.org: https://earth.org/the-biggest-environmental-problems-of-our-lifetime/

Edmans, A. (2023). The end of ESG. *Financial Management*, *52*(1), 3-17. https://doi.org/10.1111/fima.12413

EIB and GFC. (2017). *Joint white paper by China green finance committee and EIB set to strengthen international green bond market.* European Investment Bank.

Eisenhardt, K. M. (1985). Control: Organizational and Economic Approaches. Management Science, 31(2), 134–149. https://doi.org/10.1287/mnsc.31.2.134

Esteves, A. M. (2008). Mining and social development: Refocusing community investment using multi-criteria decision analysis. *Resources policy*, *33*(1), 39-47. https://doi.org/10.1016/j.resourpol.2008.01.002

European Union. (2016). *General Data Protection Regulation (GDPR)*. Regulation (EU) 2016/679. https://eur-lex.europa.eu/eli/reg/2016/679/oj

Federal Reserve Bank of Richmond. (2024, December). Barriers to Rural Investment. Retrieved March 2025, from https://www.richmondfed.org/region_communities/regional_data_analysis/regional_matters/2024/rm_12_05_24_barriers_rural_investment

Fligstein, N. (2001). *The Architecture of Markets: An Economic Sociology of Twenty-First-Century Capitalist Societies*. Princeton University Press.

Global Reporting Initiative. (2021). GRI Standards. [https://www.globalreporting.org/standards/]

González-Azcárate, M., Silva, V. L., Cruz-Maceín, J. L., López-García, D., & Bardají, I. (2023). Community Supported Agriculture (CSA) as resilient socio-economic structures: the role of collaboration and public policies in Brazil and Spain. *Agroecology and Sustainable Food Systems*, *47*(8), 1237-1268.

Gutterman, A. S. (2024). Launching and Managing an Impact Investment Venture Capital Fund: A Guide for Fund Managers and Sustainable Entrepreneurs.

Hafner, S., Jones, A., Anger-Kraavi, A., & Monasterolo, I. (2021). Modelling the macroeconomics of a 'closing the green finance gap' scenario for an energy transition. *Environmental Innovation and Societal Transitions*, *40*, 536–568. https://doi.org/10.1016/j.eist.2021.10.006

Hafner, S., Jones, A., Anger-Kraavi, A., & Pohl, J. (2020). Closing the green finance gap – A systems perspective. *Environmental Innovation and Societal Transitions*, *34*, 26–60. https://doi.org/10.1016/j.eist.2019.11.007

Harji, K., & Jackson, E. T. (2018). Facing Challenges, Building the Field: Improving the Measurement of the Social Impact of Market-Based Approaches. *American Journal of Evaluation, 39*(3), 396-401. https://doi.org/10.1177/1098214018778817

Höchstädter, A. K., & Scheck, B. (2015). What's in a name: An analysis of impact investing understandings by academics and practitioners. *Journal of Business Ethics, 132*(2), 449-475. https://doi.org/10.1007/s10551-014-2327-0

ICMA. (2020). *Sustainable Finance High-level definitions.* Zurich: ICMA.

Inderst, G., & Stewart, F. (2014). *Institutional investment in infrastructure in developing countries*. Public-Private Infrastructure Advisory Facility (PPIAF). https://documents1.worldbank.org/curated/en/238121468325297049/pdf/WPS6780.pdf

Innovate UK. (2023). *Financing Local Net Zero Projects: A Guide for Local Authorities*. Retrieved from https://iuk-business-connect.org.uk/wp-content/uploads/2023/12/Financing-Local-Net-Zero-Projects-A-Guide-for-Local-Authorities.pdf

Jansson, M., & Biel, A. (2011). Motives to engage in sustainable investment: a comparison between institutional and private investors. *Sustainable Development (Bradford, West Yorkshire, England)*, *19*(2), 135–142. https://doi.org/10.1002/sd.512

Kahneman, D. (2011). *Thinking, fast and slow.* Farrar, Straus and Giroux.

Kaminker, C., & Stewart, F. (2012). The Role of Institutional Investors in Financing Clean Energy. In The Role of Institutional Investors in Financing Clean Energy. OECD Publishing.

KPMG. (2024). GlobalESG due diligence+ study 2024. Retrieved March 2025, from https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2024/06/esg-due-diligence-study-2024.pdf

Lahlou, S. (2017). *Installation theory: The societal construction and regulation of behaviour.* Cambridge University Press.

Lehner, O. M. (2013). Crowdfunding social ventures: a model and research agenda. *Venture Capital*, *15*(4), 289–311. https://doi.org/10.1080/13691066.2013.782624

Liu, L., Bouman, T., Perlaviciute, G., & Steg, L. (2020). Public participation in decision making, perceived procedural fairness and public acceptability of renewable energy projects. *Energy and Climate Change*, *1*, 100013. https://doi.org/10.1016/j.egycc.2020.100013

Louche, C., Busch, T., Crifo, P., & Marcus, A. (2019). Financial markets and the transition to a low-carbon economy: Challenging the dominant logics. *Organization & Environment, 32*(1), 3-17. https://doi.org/10.1177/1086026619831516

Markowitz, H. (1952). Portfolio selection. The Journal of Finance, 7(1), 77-91. https://doi.org/10.2307/2975974

McCann, P. (2019). Perceptions of regional inequality and the geography of discontent: insights from the UK. *Regional Studies*, *54*(2), 256–267. https://doi.org/10.1080/00343404.2019.1619928

Mirzania, P., Ford, A., Andrews, D., Ofori, G., & Maidment, G. (2019). The impact of policy changes: The opportunities of Community Renewable Energy projects in the UK and the barriers they face. *Energy Policy*, *129*, 1282-1296. https://doi.org/10.1016/j.enpol.2019.02.066

National Wealth Fund. (2023). *NWF ESRG Framework 2023.* https://static-files.nationalwealthfund.org.uk/s3fs-public/download/NWF%20ESRG%20Framework%202023.pdf?VersionId=X5F9hnXmLL.6gUf1eeL2Z_75sO1F_k5j

O'Donoghue, T., & Rabin, M. (2015). Present Bias: Lessons Learned and to Be Learned. *American Economic Review* 105 (5), 273–79. DOI: 10.1257/aer.p20151085

OECD. (2016). Fragmentation in clean energy investment and financing. In *OECD Business and Finance Outlook 2016* (pp. 141–175). OECD Publishing. https://doi.org/10.1787/9789264257573-10-en

Okkonen, L., & Lehtonen, O. (2016). Socio-economic impacts of community wind power projects in Northern Scotland. *Renewable Energy, 85*, 826-833. https://doi.org/10.1016/j.renene.2015.07.047

Owen, R., Brennan, G., & Lyon, F. (2018). Enabling investment for the transition to a low carbon economy: government policy to finance early stage green innovation. *Current Opinion in Environmental Sustainability, 31*, 137-145. https://doi.org/10.1016/j.cosust.2018.03.004

Paas, F., Renkl, A., & Sweller, J. (2003). Cognitive load theory and instructional design: Recent developments. *Educational Psychologist, 38*(1), 1-4. https://psycnet.apa.org/doi/10.1207/S15326985EP3801_1

Ramachandran Nair, P. K., Mohan Kumar, B., & Nair, V. D. (2009). Agroforestry as a strategy for carbon sequestration. Journal of Plant Nutrition and Soil Science, 172(1), 10–23. https://doi.org/10.1002/jpln.200800030

Rau, P. R., & Yu, T. (2024). A survey on ESG: investors, institutions and firms. *China Finance Review International*, *14*(1), 3-33. https://doi.org/10.1108/CFRI-12-2022-0260

Roth, A. E. (2018). Marketplaces, markets, and market design. *American Economic Review*, *108*(7), 1609-1658. DOI: 10.1257/aer.108.7.1609

Santini, N. S., & Miquelajauregui, Y. (2022). The Restoration of Degraded Lands by Local Communities and Indigenous Peoples. Frontiers in Conservation Science, 3. https://doi.org/10.3389/fcosc.2022.873659

Seyfang, G., & Smith, A. (2007). Grassroots innovations for sustainable development: Towards a new research and policy agenda. *Environmental Politics, 16*(4), 584-603. https://doi.org/10.1080/09644010701419121

Shi, X., Zhang, P., & Khan, S. U. (2017). Quantitative data analysis in finance. In *Handbook of big data technologies* (pp. 719-753). Cham: Springer International Publishing.

Sovacool, B. K., & Dworkin, M. H. (2015). Energy justice: Conceptual insights and practical applications. Applied Energy, 142, 435–444. https://doi.org/10.1016/j.apenergy.2015.01.002

Sparkman, G., Howe, L., & Walton, G. (2020). How social norms are often a barrier to addressing climate change but can be part of the solution. *Behavioural Public Policy*, *5*(4), 1–28. https://doi.org/10.1017/bpp.2020.42

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, *87*(3), 355–374. https://doi.org/10.2307/1882010

Statman, M. (1987). How Many Stocks Make a Diversified Portfolio? *The Journal of Financial and Quantitative Analysis*, *22*(3), 353. https://doi.org/10.2307/2330969

Taghikhah, F. R., Taghikhah, M., Marshall, J. P., & Voinov, A. (2024). Navigating the community renewable energy landscape: An analytics perspective. *Applied Energy*. https://doi.org/10.1016/j.apenergy.2024.123007

Thomas, S., Repetto, R., & Dias, D. (2007). Integrated Environmental and Financial Performance Metrics for Investment Analysis and Portfolio Management. *Corporate Governance: An International Review*, *15*(3), 421–426. https://doi.org/10.1111/j.1467-8683.2007.00575.x

UK Government. (2008). *Climate Change Act 2008.* Retrieved March 2025, from https://www.legislation.gov.uk/ukpga/2008/27/contents

UK Government. (2024, October). *National Wealth Fund: Mobilising Private Investment*. Retrieved March 2025, from https://www.gov.uk/government/publications/national-wealth-fund-mobilising-private-investment

UK in a Changing Europe. (2023, October 26). *The UK's green investment gap*. Retrieved from UK in a Changing Europe: https://ukandeu.ac.uk/the-uks-green-investment-gap/#:~:text=The%20UK%20has%20a%20green,this%20an%20even%20greater%20challenge.

UNEP. (2017). *Green Finance Opportunities in ASEAN*. UNEP.

Vignieri, V. (2023). Active community for climate change: a Dynamic Performance Governance analysis of a biodiversity preservation program. *Sustainability Accounting, Management and Policy Journal*, *14*(6), 1150-1182. https://doi.org/10.1108/SAMPJ-04-2022-0167

Walker, G., & Devine-Wright, P. (2008). Community renewable energy: What should it mean? *Energy Policy, 36*(2), 497-500. https://doi.org/10.1016/j.enpol.2007.10.019

Weber, B., & Alfen, H. W. (2010). *Infrastructure as an Asset Class: Investment Strategies, Project Finance and PPP*. Wiley.

Wen, J., Zhang, S., Chang, C.-P., Anugrah, D. F., & Affandi, Y. (2023). Does climate vulnerability promote green investment under energy supply restriction? *Energy Economics*, *124*, 106790. https://doi.org/10.1016/j.eneco.2023.106790

Wilson-Grau, R. (2018). *Outcome harvesting: Principles, steps, and evaluation applications*. Information Age Publishing.

Wilson, D., & Game, C. (2011). *Local government in the United Kingdom*. Bloomsbury Publishing.

Wolsink, M. (2007). Wind power implementation: The nature of public attitudes: Equity and fairness instead of 'backyard motives'. *Renewable and Sustainable Energy Reviews, 11*(6), 1188-1207. https://doi.org/10.1016/j.rser.2005.10.005

Woods, M. (2003). The global reporting initiative. *The CPA journal*, *73*(6), 60.

Wüstenhagen, R., Wolsink, M., & Bürer, M. J. (2007). Social acceptance of renewable energy innovation: An introduction to the concept. *Energy Policy, 35*(5), 2683-2691. https://doi.org/10.1016/j.enpol.2006.12.001

Appendix

Appendix A: Detailed Activity Analysis for Stakeholders

Figure A1

Project Initiator's Simplified Pre-Investment Trajectory

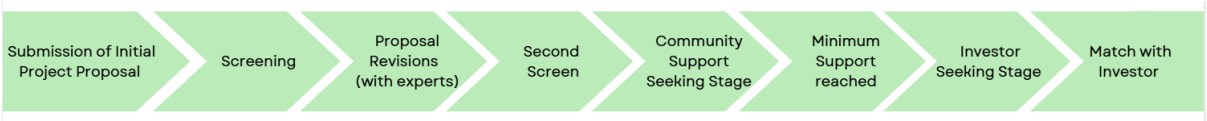


Figure A2

Project Initiator's Activity Analysis and Pain Points

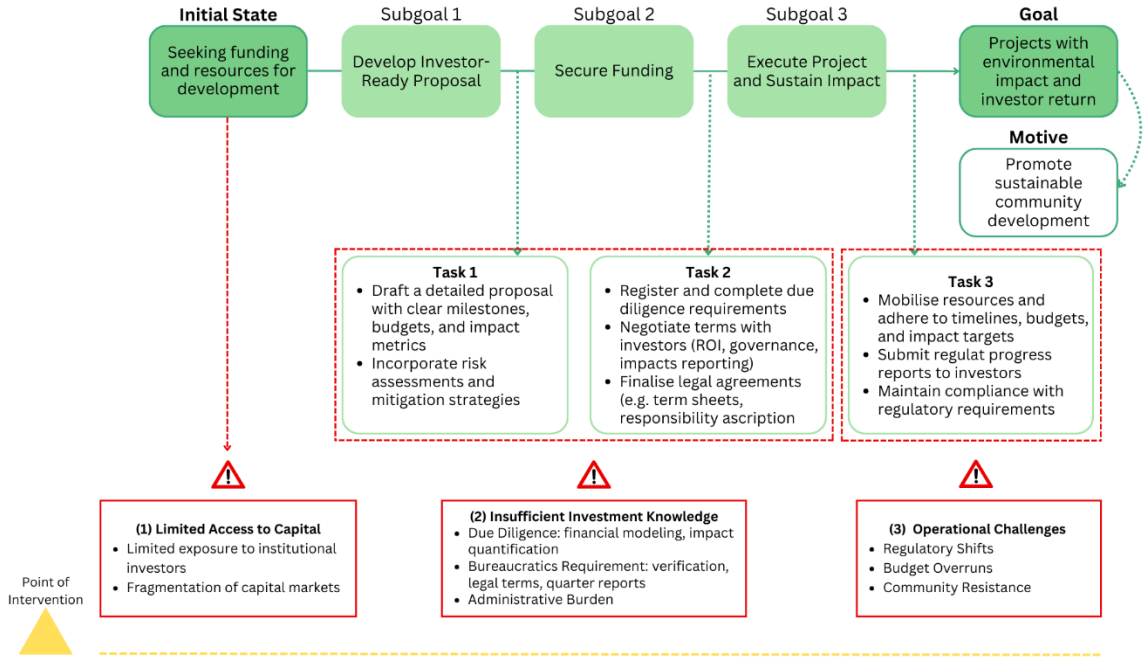


Figure A3

Institutional Investor's Simplified Pre-Investment Trajectory

Figure A4

Institutional Investors' Activity Analysis and Pain Points

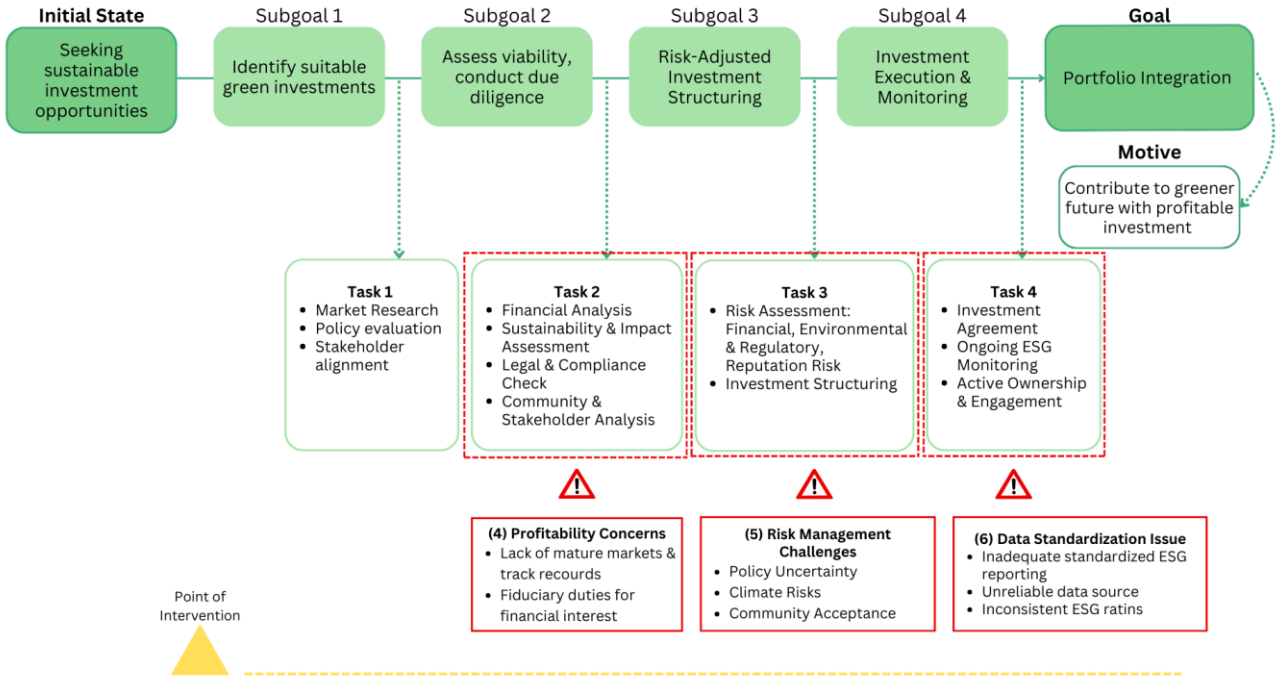


Figure A5

Motive Analysis for Primary Stakeholders