Beyond the Tick-Box:
Barriers and Solutions to Inclusive Infrastructure Planning

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Summary

Energy and transport infrastructures are central to development trajectories in low- and middle-income countries (LMICs), yet the ways in which they are planned, financed, and delivered often reproduce or deepen existing inequalities for historically marginalised and vulnerable groups. Gender Equality, Disability, and Social Inclusion (GEDSI – also known as GESI) frameworks seek to address these disparities, but in practice are frequently treated as an add-on rather than a core principle of infrastructure planning.

To interrogate why GEDSI integration in energy and transport decision-making remains limited, and to identify pragmatic entry points for change, Climate Compatible Growth (CCG) convened a one-day multi-stakeholder workshop at the University of Oxford in March 2025. Thirty participants from research, policy, finance, and development organisations across the UK, US, Denmark, and Kenya worked through a series of breakout sessions to identify and prioritise barriers to GEDSI integration and explore opportunities for coordinated, cross-sector action.

Key Messages

- Workshop participants identified 18 barriers to meaningful GEDSI integration in energy and transport infrastructure planning, grouped into five themes: policy and governance, financial and economic, research and expertise, institutional and organisational, and social and cultural.
- Across these themes, lack of accountability, a weak business case for GEDSI, limited data and expertise, unjust decision-making processes, and exclusionary cultural norms emerged as the most critical barriers.
- These barriers are systemic and mutually reinforcing, meaning that interventions focused on a singular entry point – such as policy reform, data collection, or training – are unlikely to be sufficient on their own.
- Participants highlighted three broad opportunities for collaborative action: building a stronger case study evidence base of successful GEDSI implementation, improving knowledge-sharing through accessible platforms, and aligning existing GEDSI frameworks and metrics to reduce duplication and increase collective impact.

A rural woman trained as a "Solar Mama" technician by the Indian NGO Barefoot College.

Introduction

Energy and transport infrastructures underpin socio-economic development, shaping access to services, livelihoods, and resilience [1, 2]. For LMICs, where foundational infrastructure and energy demand is expanding, decisions about these systems are central to development trajectories and delivering sustainable, low-carbon transitions [3, 4]. However, the ways in which the benefits and burdens of infrastructure development are distributed can reproduce or intensify exclusion of historically marginalised and vulnerable groups[1] [6, 7].

GEDSI understands exclusion as a systemic problem rather than an isolated outcome, manifesting in infrastructure via the processes that shape energy and transport planning, finance, and governance [8, 9]. Currently, GEDSI is infrequently considered in planning processes, and remains fragmented, inconsistent, or tokenistic when reflected in practice [10, 11]. To explore these systemic shortcomings and identify entry points for action, Climate Compatible Growth (CCG) convened a one-day multi-stakeholder workshop at the University of Oxford in March 2025.

The Workshop

Recognising that transformative change requires input from across sectors, the workshop brought together 30 researchers, policymakers, financiers, and practitioners working at the intersection of GEDSI and sustainable development in LMICs. Participants included 10 from research, 6 from policy, 5 from finance, and 9 from development organisations, with representation from the United Kingdom, United States, Denmark, and Kenya.

The workshop was structured around three breakout sessions. In **Breakout Session 1**, sectoral groups identified factors that prevent the development of equitable energy and transport infrastructure, which were synthesised into 18 consolidated barriers. In **Breakout Session 2**, participants, now in mixed groups, used a simple voting exercise to prioritise these barriers and began discussing how the most critical ones might be addressed in practice. **Breakout Session 3** focused on intersectoral collaboration, with new mixed groups exploring how sectors can work together for effective GEDSI implementation in energy and transport planning.

Results and Discussion

The workshop identified 18 distinct barriers to meaningful GEDSI integration in energy and transport infrastructure, which were grouped into five overarching themes during synthesis: policy and governance, financial and economic, research and expertise, institutional and organisational, and social and cultural. While listed separately for clarity, these barriers are interdependent and mutually reinforcing. The discussion that follows situates each theme briefly in existing academic and policy literature before turning to the barriers prioritised by workshop participants;

[1] Marginalised and vulnerable groups include but are not limited to: children and youth; ethnic and racial minorities; Indigenous populations; LGBTQIA+ individuals; migrants and refugees; older adults; people with disabilities; people living in informal settlements; people living in poverty; religious minorities; rural communities; and women and girls [5].

references are included to contextualise and support these insights. The most highlighted factor within each theme is bolded and colour coded in red in **Table 1**.

***Table 1:** Barriers to meaningful GEDSI integration in energy and transport development. Each factor is categorised into five broad themes and listed in descending rank order of significance within each theme. The top factors are bolded and colour coded.*

Theme	Factor
Policy and governance	**Lack of accountability**
	Limited political will
	Misalignment of policy and implementation timelines
	Wider systemic barriers
Financial and economic	**Weak business case**
	Low funding prioritisation
	Absent or misaligned impact measurement
Research and expertise	**Lack of GEDSI data**
	Inappropriate communication
	Incapacity
	Technical tool limitations
Institutional and organisational	**Lack of just decision-making processes**
	Superficial engagement
	Siloed work sectors
	Misunderstanding of GEDSI
Social and cultural	**Cultural norms and traditions**
	Insufficient outreach and engagement
	Social justice fatigue

Policy and governance: Weak enabling environments

Effective GEDSI implementation in infrastructure development depends on a strong enabling environment, including reliable governance structures, cross-sector coordination, and clear policy mandates [12]. Across many settings – both LMICs and high-income countries (HICs) – such foundations remain underdeveloped or inconsistent [13]. Even where GEDSI frameworks exist, they are often disconnected from implementation realities, particularly where responsibilities are fragmented across ministries and levels of government, mandates are not matched with dedicated budgets, and implementing agencies lack the data, expertise, or capacity to apply GEDSI consistently [14].

Such frameworks and their implementation are also vulnerable to shifting political priorities, contributing to the side-lining or dilution of GEDSI-related commitments [15, 16]. Moreover, prevailing social and cultural norms can shape which inclusion priorities are seen as politically salient in the first place [17]. Participants noted that some dimensions of inclusion (eg women and girls) may be easier to advance than those perceived as more sensitive or contentious (eg LGBTQIA+ rights).

Within this broader policy context, **lack of accountability** was identified as the most critical barrier. Participants described how, in the absence of formal requirements, standardised metrics, and clear enforcement mechanisms, there is little incentive for institutions to meaningfully engage with GEDSI. Existing standards often remain symbolic and contribute to a superficial, box-ticking approach – a pattern widely observed in inclusive infrastructure governance [18, 19]. Participants further emphasised that accountability must be operationalised through measurable indicators and reporting systems that translate high-level GEDSI commitments into consistent practice across legislative cycles.

Financial and economic: Inadequate economic valuation

Financial decision-makers are critical gatekeepers to infrastructure development, determining which projects are prioritised, resourced, and realised [20, 21]. In many institutions resource constraints, risk aversion, and short-term timelines contribute to

GEDSI being framed as a cost rather than an investment [22, 23]. Traditional financing models rarely include instruments that explicitly support or reward deeper GEDSI alignment, such as conditional loans, outcome-based funding, or incentive-linked products [24, 25].

Against this financial backdrop, the key barrier identified was a **weak business case** for GEDSI. Participants emphasised how, when institutions do not inherently value inclusion and external accountability is limited, the burden falls on advocates to justify GEDSI primarily in economic terms. They stressed that social inclusion benefits are often diffuse, long-term, and difficult to quantify, especially where they intersect complex value chains – a challenge that mirrors wider patterns in impact valuation [26, 27].

At the same time, participants pointed to a growing body of evidence linking inclusion to broader economic gains; for example, analysis by the International Monetary Fund suggests that closing labour force gender gaps could uplift GDP in emerging markets and developing economies by around 23% [28]. This suggests that the ultimate obstacle lies in how value is recognised and measured [29]. The group determined that normalising GEDSI in financial decision-making will require both stronger economic storytelling and a restructuring of incentive systems, so that inclusion is no longer exceptional but expected.

Research and expertise: Lack of comprehensive evidence and GEDSI capacity

Effective GEDSI representation requires a nuanced understanding of the social, cultural, economic, and political contexts in which energy and transport systems operate [30]. However, when GEDSI is not prioritised in policy or institutions, it is consequently deprioritised in research agendas and hiring practices, contributing to gaps in the practical understanding of who is affected, how exclusion operates, and what works in context – alongside persistent shortages of in-house expertise across sectors [31, 32]. This creates a self-reinforcing cycle: inadequate knowledge and capacity constrain efforts to adapt policy, appraisal, and financing approaches for meaningful GEDSI integration, which, in turn, limits incentives and resources for research needed to close those gaps [8].

The **lack of high-quality disaggregated GEDSI data** was identified as the top barrier within the research context. Without robust data, participants noted that institutions struggle to adapt when interventions fall short, and evaluators lack the tools to measure progress or impact. They highlighted how inconsistent definitions, such as those relating to 'energy access', can produce widely varying coverage estimates and render marginalised and vulnerable populations effectively invisible in planning processes, an issue which is well-documented in the literature [33–35]. Participants further stressed that even where relevant research exists, it is often inaccessible due to paywalls, technical language, or misalignment with decision-making timelines; this concern is widely recognised across academia and underscores the need for open, interoperable platforms and more practitioner-oriented communication [36, 37].

Institutional and organisational: Superficial engagement

Public, private, and philanthropic organisations are the actors that ultimately plan, procure, and deliver energy and transport infrastructure [38]. Yet where governance does not set clear GEDSI mandates or enforce accountability, organisational responses can default to superficial engagement: visible activities that signal intent, but rarely reshape priorities, agendas, or budgets [14]. Internal efforts often

default to one-off consultations, generic equity statements, or isolated training sessions. For instance, the Green Climate Fund's independent evaluation detailed how their Gender Action Plans were repeated verbatim in consecutive annual reports, without evidence of implementation [39]. Participants suggested this shortfall is due both to resource constraints and the tendency for GEDSI to be institutionally siloed away from the teams that shape core project decisions.

Building on these organisational challenges, the most salient barrier in this theme was **unjust decision-making processes**. By 'unjust' participants referred to planning processes that systematically privilege the priorities of financiers, technical intermediaries, and political elites over those of affected communities – especially marginalised and vulnerable groups. Participants urged that genuine inclusion requires more than surface-level representation; it demands shifts in who sets agendas, allocates resources, and holds power in decision-making. Leadership bodies remain homogenous across many dimensions (eg ability, gender, and age) with decisions about energy and transport development in LMICs frequently made in HICs, reinforcing power asymmetries and undermining local autonomy [40, 41].

However, participants cautioned that increased representation alone is not sufficient. For example, it is well-documented in literature that the presence of more women in leadership positions does not automatically translate into gender-sensitive or intersectional outcomes [42, 43]. As such, participants pointed to the need for more meaningful engagement with community organisations and civil society actors who represent GEDSI populations [44].

Social and cultural: Limited awareness and receptivity

Finally, societal attitudes and cultural norms can shape whether GEDSI principles are understood, accepted, or resisted [45]. Deeply rooted beliefs and traditions – whether around gender roles, disability, or sexuality – can limit receptivity to inclusion efforts, particularly where GEDSI is perceived as externally imposed or politically contentious [46, 47]. These dynamics influence community engagement, institutional uptake, political will, and funding priorities, making social and cultural barriers among the most pervasive and difficult to shift [48].

The top barrier in this theme was the persistence of antagonistic **cultural norms and traditions** within the communities where infrastructure is planned and implemented. Participants discussed examples such as the exclusion of women from opportunities in renewable energy value chains or restrictions on their mobility in public spaces, which can limit both their access to services and their participation in emerging economic opportunities. The literature confirms that targeted communication strategies and community engagement can help shift attitudes, clarify misconceptions, and surface shared values [49, 50]. However, participants stressed that prejudiced norms are not confined to LMICs: biases embedded in HIC institutions can similarly undermine efforts to reflect GEDSI throughout the infrastructure planning process [51].

Recommendations: Cross-sector opportunities for action

The barriers identified are deeply interconnected and cannot be addressed by any single actor, sector, or instrument. Discussions in the final breakout session (Breakout Session 3) underscored the need for coordinated cross-sector approaches that link governance, financing, research, institutional practice, and community engagement. Focusing on only one dimension risks failure or inadvertently reinforcing GEDSI barriers in others. The transition towards more inclusive infrastructure must be understood, and approached, as a multidimensional systems challenge requiring proactive and intentional commitment. Three broad opportunities for collaborative action emerged from the workshop, which will be the focus of the second workshop planned for March 2026:

1. Building a case study evidence base

Participants emphasised the utility of compendiums of real-world case studies that demonstrate the impact of GEDSI-integrated infrastructure projects, particularly to engage investors and decision-makers. These should document how inclusive energy and transport projects have been designed, financed, and implemented in different contexts, and highlight both successes and challenges, so that lessons are transferable rather than anecdotal. By systematically documenting and communicating this evidence, such compendiums can directly strengthen the weak business case for GEDSI, normalising inclusion within financial decision-making. They can also help to challenge exclusionary cultural norms by showing how GEDSI-responsive approaches work in practice and deliver benefits for communities. For instance, well-documented examples of women's high-quality participation in the operation of renewable energy infrastructure can help illustrate links between inclusive practices and improved service reliability.

2. Improving knowledge-sharing

Participants also discussed the importance of communicating existing research through accessible platforms. They noted that a great deal of evidence on GEDSI and infrastructure already exists but is fragmented across institutional siloes and often difficult to access or interpret. Interoperable platforms – potentially leveraging established networks in emerging markets – could make existing academic evidence more usable for policymakers, financiers, and practitioners. Over time, shared platforms can create common reference points across sectors and organisations, supporting more coherent policy and organisational responses to GEDSI. For example, such platforms could host shared GEDSI indicators, short practitioner-facing synthesis briefs, or decision-support dashboards designed to align with policy and investment timelines.

3. Aligning methodologies and metrics

Finally, with many parallel GEDSI frameworks already in circulation, participants expressed strong interest in aligning methodologies and developing common metrics to reduce duplication and increase collective impact. Greater methodological coherence would make it easier for governments, funders, and implementers to navigate GEDSI requirements, track progress, and understand where efforts are complementary or overlapping. Aligning frameworks and metrics can reinforce accountability by clarifying what good GEDSI performance looks like and how it will be measured, addressing concerns about symbolic or box-ticking approaches. It also enables funders and governments to compare outcomes across programmes and contexts, helping to reorient incentives towards approaches that demonstrably reduce exclusion. For example, this could include greater consistency in how indicators such as access, affordability, safety, participation in decision-making, or distributional impacts are defined and measured across projects and programmes.

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