

The Invisible Engine: Mobilizing SMEs, Integrity, and Nexus Solutions for a Just Fossil Fuel Transition

Submission to the COP30 Presidency Roadmap on Transitioning Away from Fossil Fuels in a Just, Orderly, and Equitable Manner (TAFF)

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Executive Summary

The COP28 UAE Consensus (Paragraph 28.d) called for transitioning away from fossil fuels in energy systems in a just, orderly, and equitable manner. As the international community converges on COP30 in Belém, the Presidency Roadmap must move beyond sovereign-level macroeconomics to address the granular realities of implementation. This submission by Green Transformation and Sustainability Network (GXS), representing the voice of Small and Medium Enterprises (SMEs) and climate integrity advocates in the Global South, argues that a successful Transition Away from Fossil Fuels (TAFF) is impossible without activating the "invisible engine" of the global economy: SMEs, robust information integrity systems, and resource nexus solutions.

Responding to Question (b) on **Levers**, we propose three critical accelerators: (1) A **SME Transition Proofing Facility** to address the liquidity gap preventing smaller entities from decarbonizing; (2) An **Information Integrity Framework** to prevent greenwashing and ensure market signals are trustworthy; and (3) A **Water-Energy Nexus Approach** that recognizes wastewater and resource management as critical energy demand sectors requiring transition support.

Responding to Question (d) on **Differentiated Pathways**, we argue that differentiation must not stop at the national level. We propose **Micro-Level Differentiation**, recognizing that within a single developing nation, a multinational conglomerate and a local SME face vastly different capacities. We advocate for a **Tiered Support Architecture** that aligns international finance with sub-national institutional capacity and vulnerability, ensuring

that the "Just" in Just Transition protects the informal workforce and vulnerable supply chains often overlooked in sovereign-level planning.

This paper draws on GXS's experience as a collaborator with the Climate High-Level Champions, our selection for the Brazil Presidency's Global Initiative for Information Integrity, and our work with the UNEP Global Wastewater Initiative. We offer these insights to ensure the COP30 Roadmap is not merely a document of ambition, but a blueprint for actionable, inclusive, and verified reality.

I. Introduction: The Missing Links in the Transition Architecture

The mandate emerging from COP28 was historic: a global consensus to transition away from fossil fuels. However, consensus is not implementation. As we approach COP30 under the leadership of the Brazil Presidency, the challenge shifts from *what* we must do to *how* we will do it without leaving the most vulnerable behind. The COP30 Presidency Roadmap aims to translate global consensus into implementation, recognizing that no single pathway applies to all countries. Yet, current discourse risks overlooking the critical intermediaries of change.

Most transition roadmaps focus on two poles: sovereign states (setting NDCs) and large multinational corporations (setting net-zero targets). Missing from this binary is the vast ecosystem of Small and Medium Enterprises (SMEs), which constitute over 90% of businesses and 50% of employment worldwide, particularly in developing economies like Vietnam. Furthermore, the transition is plagued by an crisis of trust; without information integrity, finance cannot flow efficiently, and "orderly" transitions become chaotic markets of greenwashing. Finally, the energy transition is inextricably linked to other resource systems, particularly water. Ignoring the energy intensity of water infrastructure (such as wastewater treatment) creates blind spots in demand-side management.

GXS Network, operating at the intersection of these gaps, submits this paper to inject three unique perspectives into the Roadmap:

1. **The SME Lens:** Transitioning away from fossil fuels requires supply chain transformation. SMEs are the supply chain. If they cannot afford to transition, the macro-economy cannot transition.
2. **The Integrity Lens:** Building on the Brazil Presidency's Global Initiative for Information Integrity, we argue that data reliability is a lever for transition.
3. **The Nexus Lens:** Drawing from our work with the UNEP Global Wastewater Initiative, we highlight the water-energy nexus as a critical frontier for fossil fuel reduction.

This submission addresses Question (b) by identifying specific financial and policy levers tailored to these gaps, and Question (d) by proposing a differentiated pathway framework that accounts for sub-national and sectoral realities, ensuring the transition is truly just, orderly, and equitable.

II. Economic Levers – The SME Liquidity Gap and the Proofing Mechanism

Addressing Question (b): Economic and Financial Systemic Risks

The most significant barrier to an orderly transition in the Global South is not a lack of technology, but a lack of accessible capital for the entities that drive local economies. SMEs face a "transition liquidity trap." They are too small to access green bond markets, too risky for traditional bank loans without collateral, and often lack the technical capacity to navigate complex climate finance instruments. Yet, they are heavily exposed to fossil fuel price volatility and future carbon pricing mechanisms.

1. The SME Transition Proofing Facility

Current financial levers focus on large-scale infrastructure (grid modernization, utility-scale renewables). We propose the creation of a **SME Transition Proofing Facility (STPF)**, hosted within the Green Climate Fund (GCF) or a dedicated window of the World Bank.

- **Mechanism:** The STPF would provide "transition vouchers" to SMEs in fossil-fuel-dependent sectors (e.g., logistics, light manufacturing, agriculture processing). These vouchers would subsidize the cost of energy audits, renewable energy procurement (such as rooftop solar PPAs), and electrification of machinery.
- **Risk Mitigation:** To address lender risk aversion, the facility would offer first-loss capital guarantees to local banks that lend to SMEs for verified transition activities. This lowers the cost of capital, which is currently 2-3 times higher in developing economies than in advanced economies.
- **GXS Perspective:** Through our *Climate Proofing SMEs* campaign with the High-Level Champions, we have observed that SMEs want to transition but lack "bankable projects." The STPF would fund the *preparation* of these projects, not just the implementation. This bridges the gap between ambition and bankability.

2. Supply Chain Carbon Incentives

Multinational corporations (MNCs) operating in developing countries often have Scope 3 emission targets that rely on SME suppliers decarbonizing. However, MNCs rarely provide the capital to enable this.

- **Lever:** We recommend a **Supply Chain Transition Credit** mechanism. If an MNC provides concessional finance or technology transfer to an SME supplier to transition away from fossil fuels, the MNC receives enhanced recognition under Article 6 of the Paris Agreement or specific tax incentives in their home jurisdiction.
- **Equity:** This ensures that the cost of transition is not borne solely by the vulnerable SME but is shared along the value chain, reflecting the principle of Common But Differentiated Responsibilities (CBDR) at a corporate level.

3. Managing Stranded Asset Risks for SMEs

While sovereign states worry about stranded oil reserves, SMEs worry about stranded assets in the form of fossil-fuel-dependent machinery (e.g., diesel generators, combustion engine fleets).

- **Lever:** A **Managed Retirement Fund** should be established to compensate SMEs for the early retirement of high-emission assets, conditional on reinvestment in clean alternatives. This prevents economic shock and ensures the "orderly" nature of the transition. In Vietnam, for example, thousands of SMEs rely on diesel generators due to grid instability. A transition lever must address grid reliability *alongside* fuel switching, or the transition will fail.

III. Policy & Integrity – Combating Greenwashing to Ensure Orderly Markets

Addressing Question (b): Policy Instruments and Market Mechanisms

An "orderly" transition requires trustworthy markets. Currently, the proliferation of unsubstantiated climate claims (greenwashing) distorts investment flows and undermines public trust. As a collaborator selected by the President Office of Brazil for the **Global Initiative for Information Integrity on Climate Change**, GXS posits that information integrity is not just a communications issue—it is a fundamental economic lever for TAFF.

1. Verified Transition Data Protocols

Investors hesitate to fund transition projects in the Global South due to perceived data risks.

- **Lever:** We propose the adoption of **Verified Transition Data Protocols (VTDP)** as a standard for accessing international climate finance. These protocols would

utilize digital monitoring, reporting, and verification (dMRV) systems to track fossil fuel reduction in real-time.

- **Implementation:** Leveraging blockchain or secure ledger technology, SMEs and sub-national entities could record energy usage and emission reductions. This data, verified by independent third parties (accredited under the COP framework), would unlock automatic disbursement of transition funds.
- **Impact:** This reduces transaction costs and builds investor confidence. It ensures that funds designated for "transitioning away from fossil fuels" are actually used for that purpose, preventing leakage and corruption.

2. Anti-Greenwashing Regulatory Harmonization

Disparate regulations on climate claims create barriers for exporters in developing countries.

- **Lever:** The COP30 Roadmap should recommend a **Global Baseline for Climate Claims**. This would prevent developed countries from imposing unilateral standards that act as non-tariff barriers to trade for developing nations.
- **GXS Perspective:** As members of Activation Group 28, we advocate for capacity building to help Global South regulators enforce these standards. Integrity must be a two-way street: developed nations must stop greenwashing their finance (e.g., labeling fossil gas as "sustainable"), and developing nations must be supported in building robust domestic verification systems.

3. Transparency in Fossil Fuel Subsidy Reform

Subsidy reform is a critical lever, but it must be transparent to be equitable.

- **Lever:** Establish a **Public Subsidy Registry** under the UNFCCC. Countries committing to phase out inefficient fossil fuel subsidies would log their progress publicly.
- **Conditionality:** International support for subsidy removal (to protect vulnerable populations) should be linked to entries in this registry. This creates a system of mutual accountability. It ensures that savings from subsidy removal are visibly redirected to social protection and renewable energy investment, maintaining public support for the transition.

IV. The Resource Nexus – Wastewater and Energy as Co-Transition Pillars

Addressing Question (b): Technological Solutions and Innovation Pathways

The transition away from fossil fuels is often siloed within the energy sector. However, energy demand is driven by other sectors, particularly water. As a member of the **Global Wastewater Initiative (led by UNEP)**, GXS highlights the critical nexus between water management and fossil fuel dependence. Wastewater treatment is energy-intensive, and in many developing countries, this energy is supplied by diesel generators or coal-heavy grids.

1. Energy-Positive Water Infrastructure

- **Lever:** Promote **Energy-Positive Wastewater Treatment Plants (WWTPs)** as a priority technology in the Roadmap. Modern technologies allow WWTPs to generate biogas from sludge, potentially producing more energy than they consume.
- **Implementation:** International climate finance should specifically target the retrofitting of existing wastewater infrastructure in fossil-fuel-dependent countries. This reduces the load on the national grid and displaces fossil fuel consumption directly.
- **Equity:** Improved wastewater management also has huge co-benefits for public health and gender equity (reducing the burden on women who often manage household water). This aligns the fossil fuel transition with the Sustainable Development Goals (SDGs), making it more politically palatable and socially just.

2. The Water-Energy Food (WEF) Nexus in Agriculture

In countries like Vietnam, agriculture is a major economic pillar and a significant user of both water and energy (for pumping and processing).

- **Lever:** Integrated **Nexus Transition Plans**. Instead of separate energy and agriculture ministries planning in silos, the Roadmap should encourage joint planning units.
- **Example:** Solar-powered irrigation systems reduce diesel dependence. However, without water governance, this can lead to groundwater over-extraction. A nexus approach ensures that fossil fuel transition in agriculture does not compromise water security.

- **Recommendation:** The COP30 Roadmap should include a specific workstream on **Nexus Decarbonization**, inviting expertise from UNEP, FAO, and IRENA to co-design solutions that address resource interdependencies.

3. Circular Economy as a Transition Strategy

Reducing material demand reduces energy demand.

- **Lever:** Incentivize **Circular Industrial Zones**. By clustering industries where waste from one becomes fuel or feedstock for another, overall energy demand drops.
- **Policy:** Offer tax holidays or expedited permitting for industrial zones that demonstrate a verified reduction in fossil fuel intensity through circular practices. This is particularly relevant for rapidly industrializing nations seeking to lock in low-carbon pathways before heavy fossil infrastructure becomes entrenched.

V. Differentiated Pathways – Beyond Sovereigns to Sub-National Realities

Addressing Question (d): Just Transition and Differentiated Pathways

The COP28 text recognizes that pathways must be nationally determined. However, GXS argues that "national determination" is too coarse a filter. Within a single country, the capacity to transition varies wildly between a capital city and a rural province, or between a state-owned enterprise and a family-owned shop. A truly equitable transition requires **Micro-Level Differentiation**.

1. Typology of Sub-National Vulnerability

We propose that the Roadmap encourage countries to develop **Sub-National Transition Vulnerability Maps**.

- **Category A: High-Capacity Hubs.** (e.g., Ho Chi Minh City, São Paulo). These areas can access private finance and should lead on rapid phase-out and innovation.
- **Category B: Fossil-Dependent Regions.** (e.g., coal mining provinces, oil-producing deltas). These require targeted Just Transition funds, worker retraining, and economic diversification support.
- **Category C: Vulnerable Peripheries.** (e.g., remote islands, rural agricultural zones). These areas may lack grid access entirely. The pathway here is not

"transitioning away" from a grid connection they don't have, but "leapfrogging" directly to decentralized renewables.

- **Recommendation:** International finance should be allocated based on this sub-national typology, not just GDP per capita. A middle-income country may have Category C regions that deserve Least Developed Country (LDC) levels of support.

2. The Informal Economy and Just Transition

In many developing economies, a significant portion of the workforce reliant on fossil fuels (e.g., motorcycle taxi drivers, informal waste pickers, small-scale fishermen using diesel boats) operates in the informal sector.

- **Challenge:** Standard Just Transition mechanisms (unemployment benefits, formal retraining) often bypass informal workers.
- **Pathway:** We propose **Informal Sector Transition Compacts**. These would provide direct asset swaps (e.g., exchanging old diesel boats for electric ones with charging infrastructure) and cash transfers during the transition period.
- **GXS Insight:** Our work with SMEs shows that formalization is a barrier. Transition policies should not force formalization as a precondition for support. Support must meet workers where they are.

3. Differentiated Timelines Based on Capacity, Not Just Wealth

The Roadmap should reject a one-size-fits-all phase-out date.

- **Mechanism: Capacity-Linked Phase-Out Trajectories.** Countries (or sectors within countries) submit transition plans where the speed of phase-out is linked to the receipt of verified international support.
- **Example:** A developing nation may commit to a 2040 phase-out *if* specific technology transfer and finance milestones are met by 2030. If support fails to materialize, the timeline adjusts. This creates a contractual obligation for developed nations to fulfill their finance promises, making the transition "orderly" rather than forced and disruptive.

4. Gender-Responsive Differentiation

Women are disproportionately affected by energy poverty and climate change but are underrepresented in the energy sector.

- **Pathway:** All transition funding should carry a **Gender Equity Marker**. Projects must demonstrate how they will increase women's access to clean energy jobs and leadership roles.

- **Rationale:** A transition that reinforces existing gender inequalities is not "just." In wastewater and energy projects, specific quotas for women's employment and training should be mandated.

VI. Governance – Participatory Frameworks and Activation Groups

Addressing Question (d): Institutional and Governance Frameworks

For the transition to be legitimate, it must be participatory. Top-down mandates often fail due to local resistance. GXS's experience in Activation Group 28 demonstrates the value of multi-stakeholder engagement.

1. National Just Transition Commissions with SME Seats

Many countries are establishing Just Transition bodies. We recommend that these commissions mandate **SME and Civil Society Representation**.

- **Structure:** Seats should be reserved for small business associations, labor unions, and indigenous groups.
- **Function:** These bodies should have veto power over transition policies that lack social safeguards. This ensures that the "Equitable" promise is enforceable, not just rhetorical.

2. Leveraging Activation Groups for Implementation

The High-Level Champions' Activation Groups (like AG28) serve as models for agile governance.

- **Recommendation:** The COP30 Roadmap should formally recognize **Non-State Actor Implementation Networks** as partners in monitoring progress.
- **Mechanism:** Create a **Roadmap Implementation Forum** where groups like GXS can report on ground-level barriers annually. This creates a feedback loop between the UNFCCC process and real-world implementation, allowing for course correction.

3. Transparency and Grievance Mechanisms

As part of the Information Integrity Initiative, we emphasize the need for accountability.

- **Lever:** Establish a **Transition Grievance Mechanism**. Communities or workers who feel harmed by transition policies (e.g., job losses without compensation, energy price hikes) should have a channel to seek redress.

- **Integration:** This mechanism could be linked to the funding bodies (e.g., GCF). If a funded project violates just transition principles, funding can be paused. This protects the integrity of the climate finance system.

4. South-South Knowledge Exchange

Developing countries face similar challenges.

- **Lever:** Fund **Peer-to-Peer Learning Networks**. Vietnam can learn from Brazil on biofuels; Indonesia can learn from Nigeria on grid decentralization.
- **Platform:** The Roadmap should establish a digital knowledge hub, curated by organizations like GXS, where best practices on SME transition, wastewater energy recovery, and integrity frameworks are shared in open access.

Conclusion: A Call for a Granular Just Transition

The COP30 Presidency Roadmap stands at a pivotal juncture. The global consensus to transition away from fossil fuels is clear; the path to achieve it without exacerbating inequality is not. This submission from the Green Transformation and Sustainability Network argues that the difference between success and failure lies in the details—the "granularity" of the transition.

We cannot rely solely on sovereign pledges. We must empower the SMEs that form the backbone of our economies. We cannot rely on self-reported data; we must build systems of information integrity that restore trust to climate markets. We cannot treat energy in isolation; we must embrace the water-energy nexus to maximize efficiency and co-benefits.

Our recommendations for a **SME Transition Proofing Facility**, **Verified Transition Data Protocols**, and **Micro-Level Differentiation** are not merely technical adjustments. They are fundamental prerequisites for a transition that is truly Just, Orderly, and Equitable.

Vietnam, like many nations in the Global South, is ready to transition. We are witnessing the rise of renewable energy, the innovation of our youth, and the resilience of our communities. But we cannot do it alone. We need a Roadmap that recognizes our vulnerabilities, values our contributions, and provides the financial and technical levers to turn ambition into action.

GXS Network stands ready to collaborate with COP30 Presidency, High-Level Champions, and all Parties to ensure that this Roadmap becomes a living document of progress. We invite the Presidency to integrate these perspectives into the final text, ensuring that no enterprise is too small, no data point too minor, and no community too remote to be left behind in the transition away from fossil fuels.

The engine of the future is being built today. Let us ensure it runs on integrity, equity, and shared prosperity.

About Green Transformation and Sustainability Network (GXS):

GXS is a Vietnam-based network dedicated to accelerating sustainable development through policy advocacy, SME capacity building, and cross-sectoral collaboration. As a collaborator of Climate High-Level Champions' Climate Proofing SMEs campaign and a member of Activation Group 28, GXS bridges the gap between global climate policy and local implementation. Selected by the COP30 President Office for the Global Initiative for Information Integrity on Climate Change and active in the UNEP Global Wastewater Initiative, GXS brings a unique, multi-dimensional perspective to the climate transition discourse.

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