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GLOBAL FINANCE & TECHNOLOGY NETWORK

Navigating an energy transition towards Net Zero

March 2025

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About

The Global Finance & Technology Network (GFTN) (formerly known as Elevandi) is a not-for-profit organisation established by the Monetary Authority of Singapore (MAS) in 2024 to harness technology and foster innovation for more efficient, resilient, and inclusive financial ecosystems through global partnerships. GFTN organises convening forums, offers advisory services on innovation ecosystems, provides access to transformative digital platforms, and invests in technology startups with the potential for growth and positive social impact through its venture fund.

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Committed to leveraging its members' expertise, the association fosters meaningful dialogue and impactful initiatives aimed at addressing global challenges. IIM Alumni Singapore hosts the prestigious IIMPACT series – an inclusive, global networking platform reaching beyond Singapore. More recently, in partnership with GFTN, IIM Alumni Singapore has curated the INSpire Forum – a distinctive initiative under the umbrella Singapore Fintech Festival. Through the collective efforts of its members, the association continues to drive positive change across various sectors, including sustainable development, policy innovation, and business leadership.

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Executive Summary

The Global South stands at a pivotal juncture in its journey towards achieving net-zero emissions, navigating a complex energy transition fraught with challenges yet ripe with opportunities. The diverse energy landscapes and economic realities across the Global South necessitate region-specific approaches. Simultaneously, the region faces the dual challenge of meeting the energy demands of rapidly growing populations while reducing reliance on carbon-intensive energy sources. With fossil fuels contributing significantly to the energy mix in regions like Asia Pacific, transitioning to renewable energy requires overcoming systemic constraints in infrastructure, finance, and institutional capacity.

In November 2024, a roundtable of policymakers, investors, and industry leaders was convened at the Singapore Fintech Festival to explore pathways for countries in the Global South to achieve a just energy transition. The discussion centred on balancing economic development, and energy security while advancing clean energy adoption.

This white paper examines these multifaceted dimensions, focusing on the unique socio-economic realities of the Global South and the tailored strategies required to ensure a just and sustainable shift towards clean energy.

1. **Financial Gap:** An estimated $1.1 trillion in annual investment is needed for Asia's emerging markets to meet climate and energy goals, yet current funding falls significantly short. Employing diverse financing tools, including blended finance and mobilising domestic capital, is crucial to attract investment and address this significant funding gap.

2. **Sustainability Reporting:** Transparent and accountable reporting is vital to mobilize funding and align stakeholders. Tailored frameworks, like India's Business Responsibility and Sustainability Reporting (BRSR), exemplify how global standards can be adapted to local contexts. Implementing contextualized sustainability reporting ensures transparency and alignment with global benchmarks while addressing local socio-economic realities.

3. **Policy Coherence:** Aligning policies across energy, finance, and social welfare ministries is vital for a successful transition. Recalibrating subsidies away from fossil fuels to renewable energy, integrating private sector finance, and fostering inclusive financial models are critical steps to create a predictable and supportive regulatory environment.

4. **Just Transition:** Social equity is paramount. While renewable energy could generate 40 million jobs globally by 2050, transitioning away from carbon-intensive industries poses significant risks for vulnerable communities. Strategies must integrate green job creation, reskilling initiatives, and financial support for affected workers to ensure an inclusive transition.

5. **Global Partnerships:** Collaboration among multilateral institutions, governments, and the private sector is essential. These partnerships can provide the financing, technical expertise, and capacity building needed to navigate the energy transition effectively. Strengthening public-private collaborations can help share risks and pool resources for large-scale projects.

This white paper underscores that the energy transition in the Global South is not merely a challenge but an opportunity to redefine development paradigms. By embracing innovative financing, fostering global-local collaborations, and prioritizing social equity, the Global South can pave the way for a sustainable, inclusive, and resilient net-zero future.

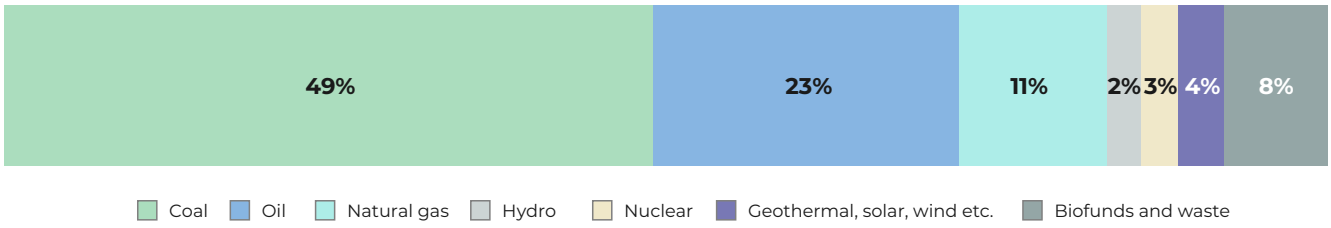
Introduction

The global energy transition, aimed at shifting from fossil fuels to cleaner, renewable energy sources, is a critical step in addressing climate change. For the Global South, however, this transition is complex, presenting both unique challenges and opportunities. Home to some of the world's fastest-growing populations and economies, these regions bear a disproportionate burden of climate change impacts, including extreme weather events, rising sea levels, and food insecurity. Nearly 70% of Asia-Pacific's population resides in areas highly susceptible to increasing sea levels and the region has experienced 6 natural disasters a year on average, over the last 30 years, underscoring the region's climate vulnerability (United Nations Development Programme, 2023).

systemic constraints in infrastructure, financial resources, and institutional capacity.

The financial challenge is particularly pressing. Asia's emerging markets and developing economies will require an estimated $1.1 trillion in annual investment to achieve its climate and energy goals, but current funding levels fall far short of this target, at just $333 billion (Basu & Lim, 2024). Bridging this gap demands innovative financing models that mobilize both public and private capital. Sustainability reporting standards are equally critical in guiding and measuring progress towards these goals. They enable transparency, comparability, and accountability, aligning stakeholders and ensuring the integrity of transition efforts. However, these standards must be adapted to local contexts to address the unique challenges and opportunities of the Global South.

Figure 1: Energy Supply by Source, Asia Pacific, 2022

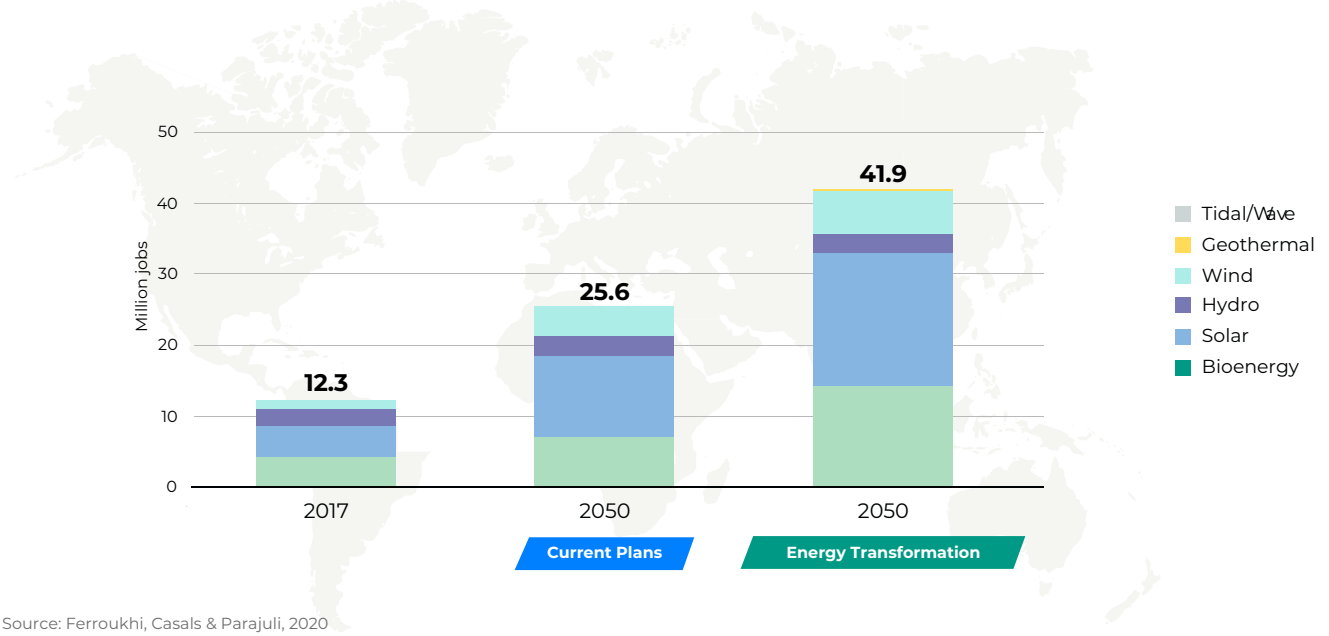


Source: IEA, n.d.

At the same time, the Global South faces a dual imperative: meeting the energy demands of its growing populations and fueling economic growth while reducing reliance on carbon-intensive energy sources. In the Asia Pacific region, for instance, coal, oil and natural gas account for over 80% of the energy mix (International Energy Agency, n.d.), reflecting the scale of the challenge. Yet as global climate goals become more urgent, countries in the Global South are increasingly called upon to accelerate their energy transitions, despite

The social impacts of the energy transition are also profound, with the concept of a just transition emerging as a guiding principle. Beyond environmental objectives, a just transition prioritizes social equity, ensuring that the shift to a low-carbon future does not exacerbate inequality or marginalize vulnerable communities. While renewable energy sectors could generate an estimated 40 million jobs globally by 2050 (Ferroukhi et al., 2020), millions of workers in carbon-intensive industries, such as coal mining and fossil fuel-based

Figure 2: Global jobs in renewable energy (2017 and 2050)



Source: Ferroukhi, Casals & Parajuli, 2020

manufacturing, are at risk of losing their livelihoods. Green job creation, skills development, and adaptation measures must therefore be integral components of energy transition strategies to protect vulnerable communities.

Global partnerships are essential to realizing this journey. Multilateral institutions, private sector actors, and national governments must work together to provide financing, technical expertise, and capacity building. By combining local insights with international support, the Global South can establish a roadmap that balances decarbonization with sustainable development.

Against this backdrop, the Global South could redefine the energy transition paradigm. The traditional linear model, where fossil fuels serve as the foundation for economic growth, can give way to innovative pathways that leverage technological advancements and foster a symbiotic relationship between energy systems and economic priorities. Tailored strategies for a just transition in this context not only address environmental sustainability but also ensure inclusive growth and resilience for all segments of society.

What makes the Global South unique?

The energy transition in the Global South is distinct, driven by a unique set of challenges and opportunities that demand nuanced, region-specific solutions. The term "Global South" encompasses a diverse range of countries with varying economic structures, energy needs, and resource endowments. Consequently, the path to a sustainable energy future is not one-size-fits-all but requires careful consideration of local contexts.

Diverse Energy Landscapes

The Global South is not a monolithic entity, and its energy transition will not follow a uniform trajectory. Different regions face different challenges and opportunities based on their energy resource endowments & existing infrastructure.

China, the world's largest emitter, is confronted with balancing the intermittency of renewable energy through the continued operation of coal plants in remote areas (Thibault, 2024). This highlights the complexities of transitioning from a fossil fuel-based system to a cleaner one while maintaining grid stability. In contrast, India's approach illustrates a different model altogether. With much of the rural population lacking access to reliable electricity, off-grid renewable energy solutions have emerged as a cost-effective means of addressing energy poverty (O'Loughlin, 2022), providing much-needed power to underserved areas where traditional transmission networks remain underdeveloped.

These examples underscore the need for region-specific planning that addresses the diverse energy needs of the Global South. A "one-size-fits-all" model will fail to consider local economic conditions, technological capabilities, and social requirements.

Diverse Economic Realities

In archipelagic nations, such as the Philippines or Indonesia, the energy transition presents unique challenges due to geographic fragmentation—extending grid infrastructure to remote islands is both financially and logistically daunting. In these contexts, financing solutions must prioritize decentralized, off-grid renewable energy systems that can ensure energy access in remote areas while also reducing the dependency on fossil fuels. On the other hand, countries like Pakistan face different challenges—the cost of electricity is not aligned with market pricing due to long-standing subsidies, which now poses high-costs to consumers if removed (Hussain, 2023). This distorts the energy market and hinders investments in clean energy infrastructure. In such situations, financing solutions must go beyond traditional project funding to include efforts aimed at reforming the pricing structure & addressing the root causes of circular debt.

A Fairer Approach to Carbon Emissions

Many developing countries in the Global South bear the brunt of climate impacts, yet their historical contribution to global emissions remains relatively low. This discrepancy highlights the need for a shift in the way carbon emissions are measured. Traditionally, emissions have been accounted for at the point of production, but this method fails to consider the consumption-driven emissions from wealthier nations, many of which have outsourced manufacturing to the Global South. Developed nations must not shirk their responsibility for these outsourced emissions, as their demand for goods from developing countries contributes significantly to global emissions.

Additionally, measuring emissions on a per capita basis provides a clearer view of the disparities in energy usage and emissions across nations. Wealthier countries, with their higher consumption rates, must lead by example in reducing their carbon footprints. At the same time, this focus on equity does not excuse unchecked emissions growth in developing countries. Instead, it should emphasize the importance of establishing fair and equitable baselines that allow for sustainable growth while addressing climate goals.

Bankability of Large-Scale Investments

Across the board, emerging markets have demonstrated leadership in financing renewable energy, often using innovative mechanisms like blended finance to subsidize early transitions despite higher upfront costs. The cost of renewable energy has plummeted, making it increasingly viable as a long-term business investment. To accelerate the transition, however, the financing narrative must shift from one focused solely on "climate responsibility" to one of "common-sense business." Projects with clear, measurable economic returns—whether in terms of job creation, energy access, or cost savings—are essential for attracting capital.

Furthermore, addressing perceived risks through robust data, transparent governance, and targeted de-risking mechanisms can unlock significant investment potential. While emerging markets present risks such as political instability or fluctuating currencies, these challenges can be mitigated with proper planning and financial instruments. By focusing on pragmatic, bankable projects that local financial institutions can support, the Global South can play a pivotal role in the global energy transition.

Financing the Transition

Developing countries face a significant financial shortfall in their energy transitions, requiring $2 trillion annually by 2030-five times current investment levels (Ananthakrishnan, et al., 2023). While public funds remain critical, private capital must contribute the majority, accounting for 80% of climate investment in emerging markets and up to 90% when China is excluded (Ananthakrishnan, et al., 2023).

Mobilizing private capital is not without hurdles. Political instability, weak governance, and insufficient regulatory frameworks often deter international investors, who perceive developing economies as high-risk. Challenges such as bureaucratic red tape, unclear repatriation processes, & low credit ratings exacerbate these concerns, further restricting the flow of investment into large-scale energy projects.

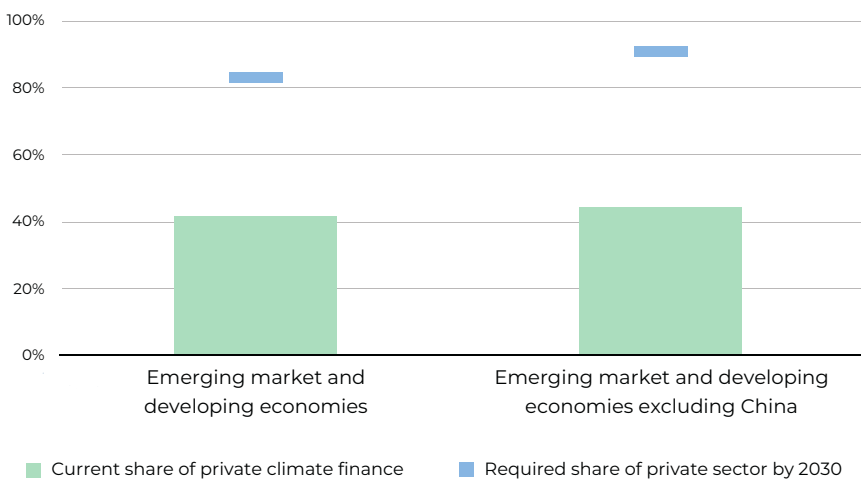
Innovative Financing Models

Blended finance is emerging as a key tool to bridge this gap. By sharing risks between public and private sectors, investments are enabled that would otherwise be deemed too risky. For example, the Climate Investment Funds (CIF) have successfully mobilized private capital for renewable energy projects in countries like Vietnam and Indonesia, leveraging multilateral development bank (MDB) financing, technical expertise and guarantees to unlock private investment (Climate Investment Funds, n.d.; Rakhmadi & Sudirman, n.d.). Another example is the Asian Development Bank's (ADB), ASEAN Catalytic Green Finance Facility (ACGF) Green Finance Catalyzing Facility, which has been instrumental in de-risking investments for solar and wind projects in Southeast Asia, allocating approximately 50% of the initially pledged $1.9 billion to eligible projects by end-2023 (Asian Development Bank, 2024a).

Policy and Governance Reforms

Clear and predictable policy frameworks are essential for attracting investment. Countries like India have demonstrated the value of coherent policies, where initiatives such as solar auctions and tax incentives have driven renewable energy costs down to $0.02 per kilowatt-hour (Pyper, 2021). This is supported by domestic manufacturing incentives for solar modules (Pyper, 2021). Carbon shadow pricing frameworks and carbon tax policies can also guide investment decisions. For instance, Singapore has introduced a carbon tax to incentivize businesses to adopt cleaner technologies, with

Figure 3: Current and estimated share of private climate finance is total climate investments needed to reach net zero emissions by 2050



Source: Ananthakrishnan, et al., 2023

the revenue to be used to cushion the impact on households and businesses (National Climate Change Secretariat Singapore, n.d.).

In addition to regulatory clarity, strengthening governance and deepening capital markets can reduce borrowing costs. Indonesia, for example, has issued green sukuk (Islamic bonds) to fund energy infrastructure, raising over $5 billion since 2018 (Winosa, 2022; Ministry of Finance Republic of Indonesia, 2022) while showcasing how innovative financial instruments can attract domestic and international investors.

Leveraging Domestic Capital

Mobilizing local capital is critical for creating a sustainable funding ecosystem. Domestic savings, often overlooked, hold vast potential for financing energy projects. Households and individuals contribute, on average, only 30% of private climate finance (Pathak, 2024).

In India, the State Bank of India's (SBI) green bond program has raised significant funds to support renewable energy projects, demonstrating how local financial institutions can play a pivotal role. In 2018, SBI issued its inaugural green bond, raising $650 million (Climate Bonds Initiative, 2018), and subsequently issued $250 million in senior, unsecured, green floating rate notes in 2023 (Construction World, 2024).

Aggregating smaller projects into scalable portfolios can also attract institutional investors. In the Philippines, solar energy companies have bundled rooftop solar projects to secure funding through portfolio financing for off-takers (Asian Development Bank, 2024b), showcasing how project aggregation can lower investment risks and unlock funding.

Disincentivizing Fossil Fuels

Transitioning to clean energy also requires phasing out fossil fuels responsibly. Yet, mechanisms to achieve this remain underdeveloped. The ADB's Energy Transition Mechanism is addressing this gap, with initial successes seen in Indonesia and Philippines to incentivize early retirement and repurposing of coal power plants (Lawder, 2022; Climate Investment Funds, 2024). Transparency measures, such as mandatory climate risk disclosures, will also facilitate this process, by preventing "brown financing" from being disguised as green financing and ensuring accountability in financial flows.

The Role of Multilateral Development Banks

MDBs are uniquely positioned to close the financing gap. Their ability to blend public funds with private investment allows them to support large-scale projects that align with long-term sustainability goals. For example, the South Asia Subregional Economic Cooperation (SASEC) Power System Expansion Project in Nepal, funded by the ADB (South Asia Subregional Economic Cooperation, n.d.), will improve cross-border energy trade while expanding renewable energy access domestically. By de-risking investments and facilitating cross-sector partnerships, MDBs ensure that financial flows align with the urgency of climate action.

The Path Forward

Ultimately, financing the energy transition will require a coordinated approach that combines innovative financing mechanisms, strategic policy reforms, and strengthened governance. By leveraging tools such as blended finance, domestic capital mobilization, and clear carbon pricing policies, the Global South can attract the investment needed to meet its energy goals. Collaboration among multilateral institutions, national governments, and private investors will be essential to overcoming systemic barriers, ensuring financial flows support sustainable development and inclusive growth.

Figure 4: Sources of Private Climate Finance (USD bn) - 2021/2022 Annual Average

Source: Pathak, 2024

Accelerating Private Sector Participation

The private sector is a cornerstone of the net-zero transition, with its ability to drive innovation, investment, and large-scale implementation of sustainable practices. In emerging economies, where micro, small, and medium enterprises (MSMEs) and the informal economy account for a significant portion of economic activity, engaging private enterprises, both large and small is essential to achieving climate goals. However, realizing this potential requires moving beyond pledges to actionable, accountable strategies and creating a supportive ecosystem that encourages participation.

Integrating Net-Zero Goals into Business Strategies

For private sector actors to meaningfully contribute to the net-zero transition, setting science-based targets is paramount. These targets, aligned with global climate benchmarks, must be embedded within operational and investment strategies. Companies need to transition from long-term pledges to short-term, accountable plans with interim goals that are measurable and enforceable. For example, the Science Based Targets initiative (SBTi) has gained traction across Asia, with over 1200 businesses aligning with the Paris Agreement through sector-specific decarbonisation pathways by end-2023 (Science Based Targets Initiative, 2024).

In addition, challenges persist in terms of financing capacity and goal alignments for company leaderships, especially in those cases that will require significant time to drive net-zero trajectories. Glasgow Financial Alliance for Net Zero (GFANZ) recommends the use of forward-looking assessments by financial institutions to evaluate the potential of companies to decarbonize (Glasgow Financial Alliance for Net Zero, 2024). These assessments allow for financing mechanisms that prioritize investments in companies demonstrating a clear commitment to sustainable practices, even if their current emissions profiles are high.

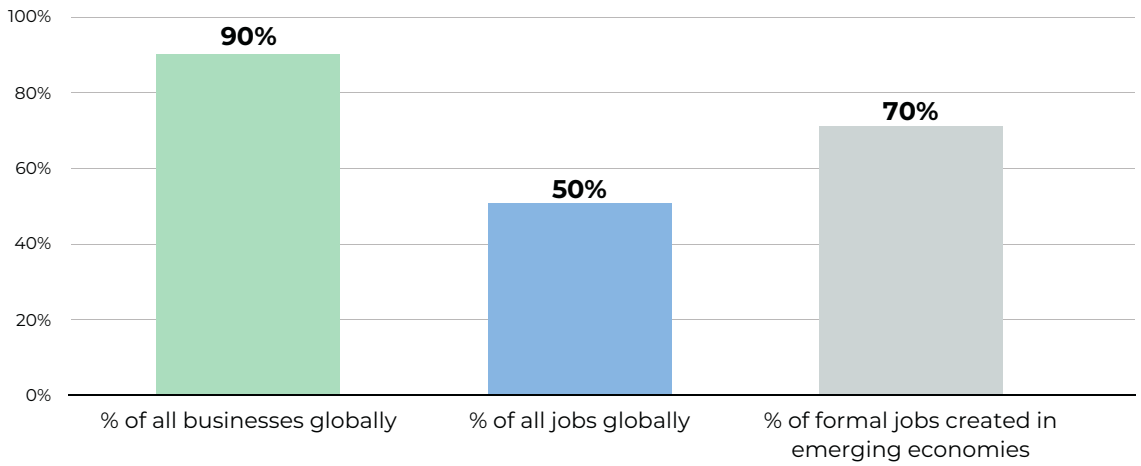
Engaging MSMEs in the Transition

MSMEs represent the backbone of the Global South's economy, particularly in Asia, where they contribute 69% to the national labour force and 41% on average, to each country's GDP (UN Economic and Social Commission for Asia and the Pacific, n.d.). Their inclusion in the net-zero transition is not only a necessity but also an opportunity for developing countries to leapfrog their developed counterparts by fostering innovation at the grassroots level.

Ant International provides a compelling example of how digital platforms can enable MSME participation. Ant International has created the MSME Sustainability Impact Scorecard, which automatically collects key data from business processes and digital wallets to validate MSME environmental, sustainability and governance (ESG) credentials (Asian Banking and Finance, 2024). This allows MSMEs to enhance their credibility and gain access to impact-focused investors. This approach incentivizes smaller businesses to adopt green practices, ensuring their contributions to the energy transition are measurable and impactful.

Furthermore, targeted capacity-building initiatives and access to affordable financing are essential to overcoming the barriers MSMEs face, such as limited resources and technical expertise. Programs like India's MSME GIFT Scheme, which provides institutional financing at concessional rates to MSMEs transitioning to renewable energy, showcase the potential for scaling these efforts

Figure 5: SMEs Contribution to Economic Activity



Source: World Bank, 2019

across the region (Small Industries Development Bank of India, n.d.).

Creating a Supportive Ecosystem

The private sector cannot act in isolation. Governments and financial institutions must create an enabling environment by fostering public-private partnerships, incentivising innovation, and reducing barriers to entry for sustainable investments. For instance, Vietnam's National Energy Efficiency Program (VNEEP) has engaged both large corporations and MSMEs, offering a comprehensive approach to energy conservation, encompassing technical support, technology transfer, and training to enhance energy efficiency and conservation efforts (Department of Energy Efficiency Sustainable Development, 2018).

Risks arising due to regulatory uncertainty, currency fluctuations, and political instability can be mitigated via partnerships with state-backed entities and large local conglomerates. These collaborations help investors ensure alignment with public policy and access to incentives, by leveraging local expertise, regulatory influence and market access. For example, global investment firm Actis invested $600 million in the Terra Solar Project via a strategic partnership with the Manila Electric Company (Actis, 2024). By combining Actis' financial and operational expertise with local stakeholders' on-ground knowledge and government backing, the project will add 3500 megawatts of photovoltaic capacity (Reuters, 2024).

Multilateral institutions and regional development banks also play a key role in accelerating private sector participation. Through initiatives like the ADB's Clean Technology Fund (CTF), financial support is provided to private sector-led projects that advance low-carbon technologies, ensuring scalability and sustainability. Specifically, one of the key mechanisms is the Dedicated Private Sector Programs (DPSP), which focuses on financing high-impact, large-scale private sector projects in clean technology (Climate Funds Update, n.d.).

The Path Forward

To accelerate private sector participation, stakeholders must focus on integrating measurable climate goals into corporate strategies, scaling up support for MSMEs, and creating policy frameworks that reward sustainable practices. The private sector's ability to innovate, adapt, and invest at scale positions it as a critical driver of the Global South's journey to net zero. By fostering private-public collaboration and leveraging digital tools, developing countries can unlock the full potential of their private enterprises, ensuring a transition that is inclusive of all economic players.

Sustainability Reporting as an Enabler

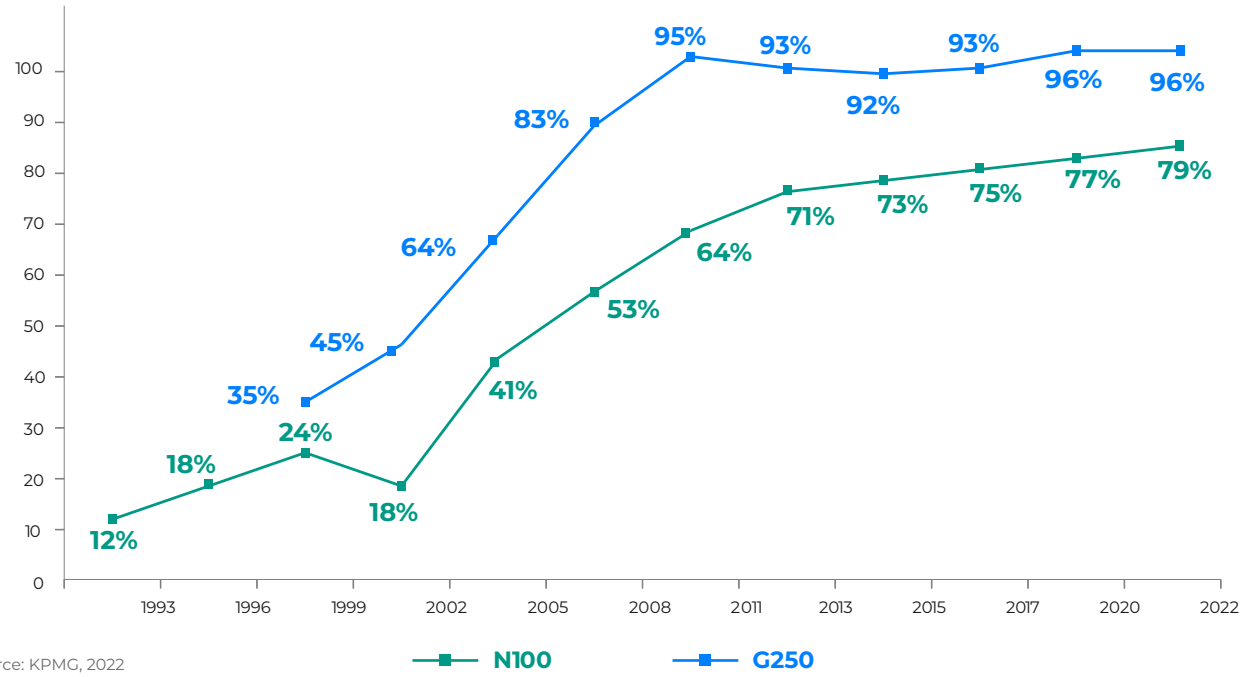
Sustainability reporting is vital for the energy transition, offering the transparency and accountability needed to mobilize funding and align stakeholders. By adhering to reporting standards, companies can disclose climate-related risks and opportunities in a reliable and comparable manner, fostering investor confidence and enabling better decision-making (Council on Energy, Environment and Water, 2024). However, whilst KPMG's 2022 survey indicates that 96% of the largest 250 companies globally reported some sustainability information, technical assistance will be required for extending this to SMEs, particularly in developing countries (UN Trade and Development, n.d.). The International Sustainability Standards Board (ISSB) provides a global baseline for reporting, but the Global South faces unique challenges in adoption due to limited resources and the need for frameworks tailored to local socio-economic realities.

Challenges in Adopting Global Standards

For the Global South, the challenge is not just adoption of clean energy but adaptation to climate risks. Global frameworks often fail to reflect the unique socio-economic realities of developing countries. Inadequate recognition of the just transition dilemma, balancing decarbonisation with equitable economic development further complicates adoption.

India provides a leading example of how sustainability reporting can be adapted to local contexts. The Securities and Exchange Board of India (SEBI) introduced the Business Responsibility and Sustainability Reporting (BRSR) framework, mandating that the top 1,000 listed companies disclose their environmental, social, and governance (ESG) impacts (Council on Energy, Environment and Water, 2024). The BRSR emphasizes metrics that align with global standards while addressing National Guidelines on Responsible Business Conduct. However, even though companies in India have made significant strides in ESG reporting, inconsistencies in data quality persist, which limits comparability (Sharma, 2024).

Figure 6: Global sustainability reporting rates (1993–2022)



Source: KPMG, 2022

Transition Taxonomies for Targeted Investment

Transition taxonomies offer a structured approach to guide investments by setting clear criteria for emission reductions. These frameworks are particularly useful in hard-to-abate sectors such as steel, chemicals, and cement, which are significant contributors to emissions in the Global South. China's Green Industry Catalogue serves as an example, defining eligible green projects and activities, which enables financial institutions and investors to channel funding towards transparent, credible and effective initiatives (Interesse, 2024).

But, for such taxonomies to benefit the broader Global South, they must integrate region-specific challenges and opportunities, ensuring that hard-to-abate sectors can access the capital needed to transition without jeopardizing economic development.

Improving Climate-Related Data

Access to reliable climate data is critical for informed investment decisions. Current gaps in data availability and quality hinder the flow of capital to energy transition projects. Digital tools and platforms are emerging as effective solutions, such as Ant International's MSME Sustainability Impact Scorecard, which enables SMEs, to measure their sustainability performance, facilitating access to preferential financing and market opportunities (Asian Banking and Finance, 2024).

Investing in regional and national climate data infrastructure can amplify these efforts. Governments and MDBs can collaborate to ensure that climate-related data is accessible, accurate, and actionable, providing a foundation for investment and policy decisions.

The Path Forward

To unlock the potential of sustainability reporting as an enabler of the net-zero transition, stakeholders in the Global South must prioritize mandating contextualized reporting standards that integrate global frameworks like the ISSB while tailoring them to local economic and social realities. Additionally, transition taxonomies must be developed to guide investments in critical sectors, ensuring they address the constraints faced by developing economies while enabling targeted decarbonization efforts. Finally, public and private actors must invest in climate data infrastructure to enhance the availability and quality of information, enabling better decision-making and more effective resource allocation across the energy transition.

Policy Coherence and the Just Transition

Achieving a just transition in the Global South requires a holistic approach that aligns environmental goals with economic and social priorities. However, incoherent policies often create conflicting signals, impeding progress. Ministries responsible for energy, environment, and finance frequently operate in silos, pursuing fragmented goals that simultaneously support coal while promoting renewables. Resolving these conflicts and fostering policy coherence is essential to unlocking the full potential of the energy transition.

Aligning Policy Goals

Subsidy structures in many developing countries remain misaligned, disproportionately favoring fossil fuels over renewable energy. For example, Indonesia has spent up to $12 billion annually on fuel subsidies (Riyadi, 2024), while its investments in renewable energy fall short, attracting just $1.5 billion renewable energy investment in 2023 (Yustika, 2024). Addressing this imbalance requires a recalibration of subsidies to incentivize clean energy adoption.

Integrating private sector into national energy transition plans is another critical step. Governments must create clear and predictable policy environments that attract private capital while reducing risks. Vietnam's National Energy Efficiency Program (VNEEP) provides a successful example, combining technical assistance, training programs and technology transfer, to align private investment with national energy goals (Department of Energy Efficiency Sustainable Development, 2018).

The Political Economy of Transition

Transitioning from coal presents significant social and political challenges, particularly in coal-dependent regions. Job losses in the coal sector can trigger widespread economic and social disruption, making it vital to prioritize reskilling programs for affected workers. In Indonesia, the Just Energy Transition Partnership (JETP) mobilized $20 billion in funding from a coalition of public and private sources to phase out coal and invest in renewable energy infrastructure (Chipman Koty, 2023). The plan also emphasizes supporting the affected communities to adapt to these changes by investing in developing local technological capacity.

Inclusive financial models are equally important. MSMEs, which form the backbone of many economies in Asia, must be integrated into the energy transition through affordable financing and capacity-building initiatives. India's MSME GIFT Scheme offers a template for providing targeted support to MSMEs, enabling them to adopt greener practices without compromising their financial viability (Small Industries Development Bank of India, n.d.).

Realising the Co-Benefits of Green Technologies

The transition to renewable energy offers significant co-benefits that extend beyond emissions reduction. Green technologies can improve public health, enhance productivity, and build resilience against climate risks. For instance, solar-powered water pumps in Bangladesh have not only reduced reliance on diesel but also increased agricultural productivity by providing a reliable irrigation source, contributing to food security and income stability (Bhaduri, 2024).

Reskilling initiatives and inclusive policies are essential to ensure that vulnerable populations, including coal-dependent workers and MSMEs, benefit from these advancements. Programs like the Philippines' Green Jobs Act, which offers tax incentives for businesses providing green skills training, underscore the importance of linking workforce development with the broader goals of the energy transition (“PHILIPPINE GREEN JOBS ACT OF 2016 (REPUBLIC ACT 10771),” n.d.).

The Path Forward

Policy coherence is the foundation for a successful and just energy transition. Governments must adopt a whole-of-government approach, ensuring that policies across ministries are aligned and mutually reinforcing. Recalibrating subsidies, integrating private sector finance, and fostering inclusive financial models are critical to bridging the gap between ambition and action. Equally important is the recognition of the socio-economic dimensions of the transition. Reskilling programs and targeted financial support are necessary to mitigate the impacts on vulnerable communities while realizing the co-benefits of green technologies.

Recommendations

To successfully finance the energy transition in the Global South, a coordinated and multifaceted approach is essential. This approach should combine innovative financing mechanisms, strategic policy reforms, and strengthened governance to overcome the barriers to sustainable development and inclusive growth.

1. **Innovative Financing Mechanisms**:

   The Global South must leverage a diverse range of financing tools to attract investment for the energy transition. Blended finance, which combines concessional finance with private sector capital, can be crucial in subsidizing early-stage projects and mitigating risks for investors. Mobilizing domestic capital is equally important, as it reduces reliance on foreign funding and helps insulate countries from currency risks. Governments and MDBs should focus on incentivizing local banks to support climate-focused projects by providing risk mitigation tools and financing options tailored to the region's unique economic realities.

2. **Strengthening Private Sector Participation**:

   The private sector is a critical enabler of the energy transition. To accelerate private sector involvement, stakeholders must integrate measurable climate goals into corporate strategies, ensuring that businesses are held accountable for their contributions to the net-zero transition. Support for MSMEs is also essential, as is facilitating partnerships with established local conglomerates and state-backed enterprises. Governments should establish policy frameworks that reward sustainable business practices, and foster partnerships between the public and private sectors to share risks and pool resources for large-scale infrastructure projects.

3. **Leveraging Digital Tools and Climate Data**:

   To maximize the efficiency and impact of investments, governments and private sector stakeholders must invest in digital tools and climate data infrastructure. Transition taxonomies must be developed for the Global South context, to guide investment in key sectors, providing clarity on how different projects align with decarbonization goals and ensuring they are feasible within the constraints of developing economies.

4. **Policy Coherence and a Just Transition**:

   A successful and equitable energy transition requires policy coherence across governments. Ministries must collaborate to ensure that policies in energy, finance, and social welfare are aligned and mutually reinforcing. Governments should recalibrate fossil fuel subsidies to reflect true energy costs, integrating private sector finance to bridge the gap between ambition & execution. At the same time, governments must focus on social equity, providing targeted financial support and reskilling programs to vulnerable communities that may be affected by the transition. A just transition must balance economic growth, social equity, and environmental sustainability.

5. **The Global-Local Nexus**:

   To maximize the impact of international funds, resources must be directed to high-impact projects in underfinanced regions, ensuring that investments reach the communities and sectors that need them the most. Public-private partnerships must be strengthened to share risks and incentivize sustainable investments that have long-term benefits. In this context, international frameworks must be recalibrated to address inconsistencies that limit access to equitable financing for developing countries.

The energy transition in the Global South presents both challenges and opportunities. By aligning international and local efforts, focusing on inclusive financing models, and ensuring policy coherence, the Global South can mobilize the investment necessary for a just and sustainable transition. Governments, the private sector, and multilateral institutions must work together, leveraging innovative financial solutions and strategic collaborations to create a pathway to a net-zero future that benefits all.

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References

Actis. (2024, September 6). Actis invests in world's largest integrated renewables and energy storage project in the Philippines* - Actis. Retrieved January 6, 2025, from https://www.act.is/2024/09/06/actis-invests-in-worlds-largest-integrated-renewables-and-energy-storage-project-in-the-philippines/

Ananthakrishnan, P., Ehlers, T., Gardes-Landolfini, C., & Natalucci, F. (2023, October 2). Emerging economies need much more private financing for climate transition. IMF. Retrieved January 1, 2025, from https://www.imf.org/en/Blogs/Articles/2023/10/02/emerging-economies-need-much-more-private-financing-for-climate-transition

Asian Banking and Finance. (2024, December). Ant Int'l launches digital sustainability scorecard for MSMEs. Asian Banking & Finance. Retrieved January 5, 2025, from https://asianbankingandfinance.net/information-technology/news/ant-intl-launches-digital-sustainability-scorecard-msmes

Asian Development Bank. (2024a). ASEAN Catalytic Green Finance Facility 2023 Expanding Support to Build Green Pipelines. In ADB. Retrieved January 1, 2025, from https://www.adb.org/sites/default/files/institutional-document/950121/asean-catalytic-green-finance-facility-2023.pdf

Asian Development Bank. (2024b, April 23). ADB, Buskowitz sign $12 million deal for commercial and industrial rooftop solar in the Philippines. ADB. Retrieved January 1, 2025, from https://www.adb.org/news/adb-buskowitz-sign-12-million-deal-commercial-and-industrial-rooftop-solar-philippines

Basu, R., & Lim, C. H. (2024, January 29). EXPLAINER: How Asia can unlock $800 billion of climate financing. IMF. Retrieved January 1, 2025, from https://www.imf.org/en/Blogs/Articles/2024/01/29/explainer-how-asia-can-unlock-800-billion-of-climate-financing

Bhaduri, T. (2024, December 24). Solar-powered irrigation: Empowering Bangladesh's women farmers? Eco-Business. Retrieved January 5, 2025, from https://www.eco-business.com/news/solar-powered-irrigation-empowering-bangladeshs-women-farmers/

Chipman Koty, A. (2023, January 2). Indonesia's just energy transition partnership. ASEAN Briefing. Retrieved January 5, 2025, from https://www.aseanbriefing.com/news/indonesias-just-energy-transition-partnership/

Climate Bonds Initiative. (2018, October 5). SBI makes USD650million Certified splash in green bond pool: inaugural green issuance cements State Bank of India's commitment to sustainability. Retrieved January 1, 2025, from https://www.climatebonds.net/2018/10/sbi-makes-usd650million-certified-splash-green-bond-pool-inaugural-green-issuance-cements

Climate Funds Update. (n.d.). Clean Technology Fund. Retrieved January 5, 2025, from https://climatefundsupdate.org/the-funds/clean-technology-fund/

Climate Investment Funds. (n.d.). Vietnam. CIF. Retrieved January 1, 2025, from https://www.cif.org/country/vietnam

Climate Investment Funds. (2024, June 4). Climate Investment Funds endorses $500m Philippines' coal transition plan. CIF. Retrieved January 1, 2025, from https://www.cif.org/news/climate-investment-funds-endorses-500m-philippines-coal-transition-plan

Construction World. (2024, January 18). SBI successfully issues $250 mn green bonds for sustainable projects. Retrieved January 1, 2025, from https://www.constructionworld.in/policy-updates-and-economic-news/sbi-successfully-issues-250-mn-green-bonds-for-sustainable-projects/49651

Council on Energy, Environment and Water. (2024, March 28). Business Responsibility and Sustainability Reporting (BRSR). CEEW. Retrieved January 5, 2025, from https://www.ceew.in/cef/quick-reads/explains/brsr

Department of Energy Efficiency Sustainable Development. (2018). VIETNAM - NATIONAL ENERGY EFFICIENCY PROGRAM 2019 – 2030. In World Bank. Retrieved January 5, 2025, from https://documents1.worldbank.org/curated/ru/598851561961183317/pdf/Vietnam-National-Energy-Efficiency-Program-2019-2030.pdf

Ferroukhi, R., Garcia Casals, X., & Parajuli, B. (2020). Measuring the socio-economics of Transition: Focus on jobs. In IRENA(ISBN 978-92-9260-240-6). International Renewable Energy Agency. Retrieved January 1, 2025, from https://www.irena.org/-/media/Irena/Files/Technical-papers/IRENA_Measuring_Socio-economic_Jobs_2020.pdf

Glasgow Financial Alliance for Net Zero. (2024). Case studies on transition finance and decarbonization contribution Methodologies. In BloombergNEF. Retrieved January 5, 2025, from https://assets.bbhub.io/company/sites/63/2024/09/Case-Studies-on-Transition-Finance-and-Decarbonization-Contribution-Methodologies-Sep-2024.pdf

references contd...

Hussain, A. (2023, August 31). Pakistan gov't says no relief in power bills as protests escalate. Al Jazeera. Retrieved January 12, 2025, from https://www.aljazeera.com/news/2023/8/31/pakistan-govt-says-no-relief-in-power-bills-as-protests-escalate

Interesse, G. (2024, March 27). Decoding China's 2024 Green Industry Catalogue: Key Takeaways. China Briefing. Retrieved January 5, 2025, from https://www.china-briefing.com/news/decoding-china-2024-green-industry-catalogue-key-takeaways/

International Energy Agency. (n.d.). Asia Pacific: Energy system of Asia Pacific. IEA. Retrieved January 1, 2025, from https://www.iea.org/regions/asia-pacific

KPMG. (2022). Big shifts, small steps: Survey of Sustainability Reporting 2022. In KPMG. Retrieved January 12, 2025, from https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf

Lawder, D. (2022, November 14). Indonesia, ADB launch first coal power plant retirement deal. Reuters. Retrieved January 1, 2025, from https://www.reuters.com/business/cop/exclusive-indonesia-adb-launch-first-coal-power-plant-retirement-deal-2022-11-14/

Ministry of Finance Republic of Indonesia. (2022, May 24). Republic of Indonesia priced a US$ 3.25 billion Global Sukuk, the largest Global Sukuk transaction ever issued by the Republic [Press release]. Retrieved January 1, 2025, from https://www.bi.go.id/en/iru/highlight-news/Documents/Press%20Released%20Global%20Sukuk%20Transaction%2024%20May%202022.pdf

National Climate Change Secretariat Singapore. (n.d.). Carbon Tax. NCCS. Retrieved January 1, 2025, from https://www.nccs.gov.sg/singapores-climate-action/mitigation-efforts/carbontax

O'Loughlin, I. (2022, June 8). How India took the lead in decentralising electricity through rural off-grid solar panels. The Kingfisher. Retrieved January 12, 2025, from https://www.the-kingfisher.org/sustainable_leaders/asia/indian_solar.html

Pathak, V. (2024). Climate Challenge: Connecting domestic savings to climate. In Elevandi. Elevandi. Retrieved January 12, 2025, from https://www.elevandi.io/hubfs/Climate%20Challenge%20-%20Connecting%20Domestic%20Savings%20to%20Climate%20-%20Vivek%20Pathak%20-%20June%202024.pdf

PHILIPPINE GREEN JOBS ACT OF 2016 (REPUBLIC ACT 10771). (n.d.). In UNFCCC. 2023 Forum of the Standing Committee on Finance. https://unfccc.int/sites/default/files/resource/SCFForum_S5_Lapiz_CCC.pdf

Pyper, J. (2021, January 6). How India's renewable energy sector survived and thrived in a turbulent 2020. Greentech Media. Retrieved January 1, 2025, from https://www.greentechmedia.com/articles/read/india-solar-energy-transition-pandemic-2020

Rakhmadi, R., & Sudirman, M. (n.d.). Developing a guarantee instrument to catalyze renewable energy investments in Indonesia[Slide show]. Climate Policy Initiative. https://climatepolicyinitiative.org/wp-content/uploads/2019/05/Developing-a-Guarantee-Instrument-to-Catalyze-Renewable-Energy-Investments-in-Indonesia.pdf

Reuters. (2024, September 6). Manila Electric to sell $600 mln stake in solar subsidiary to Actis. Reuters. Retrieved January 6, 2025, from https://www.reuters.com/world/asia-pacific/manila-electric-sell-600-mln-stake-solar-subsidiary-actis-2024-09-06/

Riyadi, R. (2024, May 6). Unpacking Indonesia's fossil fuel subsidy dilemma: Environmental Governance Post Election. Fulcrum. Retrieved January 5, 2025, from https://fulcrum.sg/unpacking-indonesias-fossil-fuel-subsidy-dilemma-environmental-governance-post-election/

Science Based Targets Initiative. (2024). SBTI Monitoring Report 2023: Looking back at 2023 and moving forward to 2024 and beyond. In SBTI. Retrieved January 5, 2025, from https://sciencebasedtargets.org/resources/files/SBTiMonitoringReport2023.pdf

Sharma, P. (2024, October 24). The current state of BRSR at Corporate India. CFA Institute. Retrieved January 5, 2025, from https://rpc.cfainstitute.org/research/reports/2024/the-current-state-of-brsr-at-corporate-india

Small Industries Development Bank of India. (n.d.). FAQs under GIFT. In SIDBI. Retrieved January 5, 2025, from https://www.sidbi.in/assets/front/pdf/FAQ-GIFT.pdf

South Asia Subregional Economic Cooperation. (n.d.). Nepal: SASEC Power System Expansion Project-Additional Financing. SASEC. Retrieved January 1, 2025, from https://www.sasec.asia/index.php?page=project&pid=142&url=nep-sasec-power-system-expansion-project-af

Thibault, H. (2024, October 11). China's paradox: The world's biggest polluter and a leader in the environmental transition. Le Monde. Retrieved January 12, 2025, from https://www.lemonde.fr/en/china/article/2024/10/11/the-world-s-biggest-polluter-and-a-leader-in-the-environmental-transition-the-china-paradox_6729110_162.html

references contd...

UN Economic and Social Commission for Asia and the Pacific. (n.d.). Overview of MSMEs in Asia-Pacific regions. UNESCAP. Retrieved January 12, 2025, from https://msmepolicy.unescap.org/overview-msmes-asia-pacific-regions

UN Trade and Development. (n.d.). Decreasing carbon intensity and increasing sustainability reporting positive signs for sustainable economy. UNCTAD. Retrieved January 5, 2025, from https://sdgpulse.unctad.org/sustainable-economy/

United Nations Development Programme. (2023, December 7). For Asia-Pacific, climate change poses an 'existential threat' of extreme weather, worsening poverty and risks to public health, says UNDP report. UNDP. Retrieved January 12, 2025, from https://www.undp.org/asia-pacific/news/asia-pacific-climate-change-poses-existential-threat-extreme-weather-worsening-poverty-and-risks-public-health-says-undp-report

Winosa, Y. (2022, March 3). Indonesia's sukuk outlook 2022. Salaam Gateway. Retrieved January 1, 2025, from https://salaamgateway.com/story/indonesias-sukuk-outlook-2022

World Bank Group. (2019, October 16). Small and Medium Enterprises (SMEs) Finance: Improving SMEs' access to finance and finding innovative solutions to unlock sources of capital. World Bank. Retrieved January 12, 2025, from https://www.worldbank.org/en/topic/smefinance

Yustika, M. (2024, July 23). Addressing regulatory barriers will boost renewable energy investment in Indonesia. IEEFA. Retrieved January 5, 2025, from https://ieefa.org/articles/addressing-regulatory-barriers-will-boost-renewable-energy-investment-indonesia-1

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