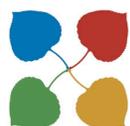


2019



Climate and Environmental Action in the SGB Sector

ANDE Issue Brief



Aspen Network of
Development Entrepreneurs



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About **ANDE's Issue Briefs**

This issue brief, part of a series published by ANDE in 2019, is designed to create a common knowledge base from which the Small and Growing Business (SGB) sector can work in the hopes of advancing towards selected development goals. Each brief highlights how SGBs can play a critical role in this progress. This series is meant to act as a starting point to drive the conversation forward and shape ANDE's strategy regarding each of these key issue areas, with the acknowledgement that this is not an exhaustive collection of the research/literature on these topics.

OVERVIEW

As communities around the world face new challenges due to unpredictable and extreme weather, rapidly depleting natural resources, and degradation of the land, water and air, scalable environmental solutions are needed to create more resilient economies. Small and Growing Businesses¹ (SGBs) will inevitably have to confront climate and environmental changes that affect their customers, operations, and supply chains. The SGB sector must therefore play a proactive role in promoting environmental activism. This issue brief lays out the major environmental action topics and strategies for the SGB sector.

Within the UN's Sustainable Development Goals (SDG) framework, Small and Growing Businesses addressing climate and environmental action directly target the following SDGs:

- SDG 6: Clean water and sanitation
- SDG 7: Affordable and clean energy
- SDG 13: Climate action

Indirectly, SGBs working to address these climate-related SDGs can have additional effects on other SDGs, including:

- SDG 2: Zero hunger
- SDG 3: Good health and well-being
- SDG 12: Responsible consumption and production
- SDG 14: Life below water
- SDG 15: Life on land

The SGB sector has an important role to play in taking positive climate and environmental action. The potential impact of the SGB sector on these goals can broadly be separated out into three categories:

- 1 Supporting and scaling “cleantech” and conservation-focused SGBs that help mitigate climate change and environmental degradation.** This includes SGBs that provide goods and services in a wide variety of “green” areas, including increased access to renewable energy, improved energy efficiency, improved use of water (including wastewater treatment), reduction and reuse of waste and pollution, increased sustainability of food and agricultural practices, conservation of biodiversity and ecosystems, and increased sustainability of industrial processes.
- 2 Supporting and scaling SGBs that help communities adapt to climate change.** This includes SGBs that develop and provide technology, products, and services that help vulnerable populations remain resilient in the face of climate pressures, such as climate-resilient agriculture, climate-aware data systems, flood and disaster planning, and other adaptation mechanisms
- 3 Helping SGBs and SGB intermediaries increase the environmental sustainability of their own operations.** This includes mitigating climate change and environmental degradation through the adoption of sustainable practices by all SGBs (rather than just SGBs with an explicit environment or climate focus), as well as SGB intermediary organizations.

¹ Small and Growing Businesses (SGBs) are defined by ANDE as commercially viable businesses with five to 250 employees that have significant potential, and ambition, for growth. Typically, SGBs seek growth capital from \$20,000 to \$2 million.

KEY TAKEAWAYS

- A significant portion of SGBs are already working in cleantech and conservation, which puts these firms in a strong position to access the growing market opportunity that exists in these areas. Additionally, SGBs in emerging markets have a comparative advantage in understanding the local market context for these sectors as well as the ability to access base of the pyramid consumers directly.
- SGBs' ability to implement sustainable business practices and operations is hindered by their ability to afford the upfront investment required. SGB support organizations can help drive more sustainable practices among SGBs by engaging corporates to incentivize sustainability in their value chains through environmental standards systems and working with policymakers to advocate for programs that offset up-front costs.
- Climate change adaptation should be an increased priority for the SGB sector in emerging markets, as these markets are often the most vulnerable to the impending impacts of climate change. Without adaptation measures, SGBs and communities will be adversely affected by extreme weather and environmental degradation. Conversely, when SGBs become more resilient to climate change, there is a positive spillover effect to the surrounding community.

The following sections provide more detail on the current evidence base for each of these categories of actions, followed by specific strategies that sector organizations can take to drive change.

IMPORTANT DEFINITIONS

Circular economy: According to the Ellen MacArthur Foundation, “underpinned by a transition to renewable energy sources, the circular [economy] model builds economic, natural, and social capital. It is based on three principles: Design out waste and pollution, keep products and materials in use, regenerate natural systems.”⁷ The World Economic Forum adds that the circular economy is “an industrial system that is restorative or regenerative by intention and design”¹⁰ that prioritizes the use of biodegradable material and, when this is not possible, the implementation of modular design such that those non-biodegradable resources can easily be reused at the end of the product’s useful life.⁹

Cleantech: The Cleantech Group defines this as “new technology and related business models offering competitive returns for investors and customers while providing solutions to global challenges...[and that] greatly reduce or eliminate negative ecological impact, and improve the productive and responsible use of natural resources.”¹²

Climate change adaptation: Climate change adaptation refers to “anticipating the adverse effects of climate change and taking appropriate action to prevent or minimize the damage they can cause, or taking advantage of opportunities that may arise.”²

Climate change mitigation: The United Nations Environmental Programme defines this as “efforts to reduce or prevent emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior. It can be as complex as a plan for a new city, or as simple as improvements to a cook stove design.”⁵

Green finance: According to Climate Mundial, “green finance refers to any financial instrument or investment—including equity, debt, grant, purchase & sale or risk management tool (for example: investment guarantee, insurance product or commodity, credit or interest rate derivative, etc.)—issued under contract to a firm, facility, person, project or agency, public or private, in exchange for the delivery of positive environmental externalities that are real, verified and additional to business as usual, whereby such positive externalities result in the creation of transferrable property rights recognized within international, regional, national and sub-national legal frameworks.”²¹

Climate finance is a “form of green finance available for projects in developing countries that help reduce emissions or adapt to climate change.”²¹

CURRENT EVIDENCE BASE

Supporting and scaling cleantech and conservation-focused SGBs

Cleantech offers a significant market opportunity for SGBs in emerging markets. In 2014, InfoDev estimated a \$1.6 trillion investment opportunity over the next decade for SMEs focused on cleantech in developing countries.¹³ The study identified China, Latin America, and sub-Saharan Africa as the top emerging markets in the cleantech sector, with expected market sizes of \$415 billion, \$349 billion, and \$235 billion, respectively.¹¹ The specific sub-sectors in which these opportunities are likely to grow include wastewater treatment, onshore wind, solar panels, electric vehicles, bioenergy, and small-scale hydro-electric power.¹¹ Investment in cleantech in Africa in particular represents one part of a potential “alternative path to industrialization” that is focused more on services and IT and less on traditional manufacturing. African countries are already seeing growth driven by “smokestack-less service sectors” that organically benefit from improvements in technology and economies of scale.¹⁵

The Cleantech Group,

which originally coined the term, [identifies 11 segments](#) within cleantech that cut across sectors:

1. Energy generation
2. Energy storage
3. Energy infrastructure
4. Energy efficiency
5. Transportation
6. Water & waste water
7. Air & environment
8. Materials
9. Manufacturing
10. Agriculture
11. Recycling & waste

An assessment by the Institute for Transformative Technologies (ITT) on how to solve some of the most urgent SDGs through a technologically innovative lens, called the 50 Breakthroughs, shows that many of these solutions center on the ability to deploy cleantech in emerging markets—something SGBs are uniquely positioned to deliver. While much of the research and development around the actual technology being deployed through cleantech start-ups is carried out in North America and Europe, emerging market SGBs are particularly well-positioned in terms of business model innovations to distribute cleantech to Base of the Pyramid (BoP)¹⁹ communities, primarily due to both their proximity and access to local markets that are difficult or undesirable for large, global multinationals to penetrate.¹³ These connections allows SGBs to more effectively “identify appropriate business models, products, and services for these markets,”¹³ ultimately giving them an advantage over larger foreign firms.

SGBs and Renewable Energy

The total investment opportunity in emerging markets for renewable energy sources (including wind, solar, biomass, small hydro, and geothermal) was estimated at \$1.77 trillion in 2016.²⁴ Despite this opportunity, one of the most significant challenges for smaller ventures working in renewable energy is attracting private investment.²⁸ Difficult financing conditions in emerging economies can lead to “higher borrowing costs, shorter loan terms and higher equity requirements”³⁰ which are not conducive to small businesses. Other key challenges include weak strategies for collecting payment from customers, domestic energy policies that favor larger businesses,³⁰ and difficulty in hiring and retaining expert talent.²⁸ Nevertheless, there are a number of examples of SGBs that have achieved considerable scale in renewable energy in emerging markets, with the East African market alone served by major players such as M-KOPA, Fenix, BBOX, and Off Grid Electric.

SGBs and the Circular Economy

The circular economy provides a range of opportunities in emerging markets, particularly in environmentally-friendly waste management. Accenture research finds that “a circular economy could deliver \$4.5 trillion in revenue to a range of companies by 2030.”³¹ SGBs in emerging markets are particularly well-positioned to access this as many small and often informal enterprises already engage in “circular activities”⁸ around recycling, largely in tech sectors including areas such as electronic waste and phone repairs.⁸ While emerging markets continue to be both global production hubs and the setting for significant industrial growth, circular economy principles will play a key role in resource management, supporting economies’ ability to meet the needs of a growing consumer base, and act as a critical component to any national mitigation strategy.⁸

SGBs and Conservation

While conservation efforts have historically been dominated by state and non-profit actors,¹⁷ “biodiversity and ecosystem services (BES)” offer a major market opportunity for SGBs.¹⁶ In particular, ecotourism and sustainable forestry have proven to be viable business models for entrepreneurial engagement in conservation. The business case for biodiversity and conservation is clear, as “preventing the degradation and loss of an ecosystem is more cost-effective than restoring it,” leading to an estimated \$US 39 billion in private financial flows already directed towards biodiversity efforts (including offsets, impact investments, and private philanthropy).¹⁸

Supporting and scaling SGBs that help communities adapt to climate change

The role of SGBs in climate adaptation is especially relevant for communities in emerging markets, as they are often the most vulnerable to the effects of climate change, including the increasing severity of natural disasters, deteriorating agricultural land, and depleting water supply. The World Resources Institute notes that small businesses have a major role to play in adaptation, as these businesses “constitute the bedrock of economies where the most vulnerable communities exist.”¹

Agriculture is a particularly important sector in which SGBs can contribute to climate change adaptation. Climate-resistant agricultural inputs represent a critical market for innovations that will help rural communities maintain resilience with changing weather patterns. For instance, groups like the [Alliance for Resilient Coffee](#) are developing platforms to allow the private sector to better understand and contribute to climate change adaptation in the coffee sector. Agricultural information systems, part of the emerging “agtech” space, play an important role in allowing farmers to adjust to more variable growing and market conditions. As GSMA, the trade group representing mobile operators, points out, mobile technology allows farmers to “quickly find information ranging from seed prices to weather patterns, and have immediate access to the funds they need to complete transactions.”⁴ For example, one start-up in Niger is integrating mobile technology with solar water pumps to allow farmers to more precisely control their irrigation systems remotely, conserving water and energy while increasing effectiveness.³

Climate change adaptation is also an important business strategy for SGBs to increase their own resiliency; addressing climate risks limits the potential negative impacts of climate change on an SGB’s physical assets

and anticipated profits.³ However, businesses must overcome a number of barriers to get to this point; according to the World Resources Institute,¹ the most prevalent challenges for smaller firms in emerging markets to contribute to climate change adaptation include:

- 1 Lack of awareness and knowledge of climate risks;
- 2 Limited availability or knowledge of adaptation options;
- 3 Lack of technical capacity to implement;
- 4 Lack of financial capacity to implement;
- 5 Policy and regulation that hinder adaptation; and
- 6 Social attitudes towards adaptation

If these barriers are addressed and SGBs can adequately adapt to climate risks, there is a potential spillover effect benefitting the community through increased stability of income and improved livelihoods of the individual employees.¹

Helping SGBs and intermediaries increase the environmental sustainability of their own operations

In addition to actively contributing to finding solutions to climate change mitigation and adaptation, it is also important for SGBs and their intermediaries to consider reducing their own direct negative environmental impacts. While it is difficult to derive an exact measure, it is estimated that SMEs may be responsible for up to 70% of global pollution,³⁷ and as these SMEs grow their environmental footprint grows as well.

Cost is the primary barrier to SGBs engaging in more environmentally sustainable business practices: “a study of 16 emerging countriesⁱⁱ estimated that compliance with [environmental] standards cost about US\$425,000 per firm, largely due to increased spending on labour and capital”³⁶ though it should be noted that the study does not specify the size of the firm, and so this cost may be more typical for larger businesses. While investments in environmentally-friendly technologies can reduce expenses in the medium- and long-term, the up-front costs of installing and ongoing costs of maintaining these technologies can be difficult for smaller businesses to bear.³⁶ Similarly, many organizations supporting SGBs operate on tight non-profit budgets, leaving little room for the investments required to “green” their services.

Despite the costs associated with environmentally sustainable practices for SGBs, there are increasing opportunities to demonstrate a clear business case for these practices. A study of over 200 academic sources found that sustainable business practices lower the cost of capital for companies.³³ Additionally, SGBs in emerging markets can take advantage of corporate awareness of sustainability through involvement in multinational corporation (MNC) value chains, as many MNCs require a minimum standard or certification for their suppliers. Making the up-front investments to meet these multinationals’ environmental standards can pay off in the long run: one study found that “produce exporters in sub-Saharan Africa earned €2.6 million more than they would have if they did not meet standards.”³³ Additional benefits of adopting environmentally sustainable business practices include better access to markets, reduced operational risk, improved work environment for employees, and decreased work-related illness (specifically relating to use of dangerous chemicals/pesticides).³³

ⁱⁱThese include Poland, the Czech Republic, and Bulgaria (East Europe); Argentina, Chile, Panama, and Honduras (Latin America); Jordan and Iran (Middle East); India and Pakistan (South Asia); and South Africa, Nigeria, Uganda, Mozambique, Kenya, and Senegal (Sub-Saharan Africa). ([The Cost of Compliance with Product Standards for Firms in Developing Countries: An Econometric Study](#). World Bank).

STRATEGIES

Capacity development

Accelerator programs can play an important role in ensuring that all types of SGBs understand the potential market opportunities in environmental action. According to the World Bank's InfoDev program, strategies that accelerators can implement to address gaps in the SGB ecosystem regarding climate include:¹³

- 1** Educating entrepreneurs about opportunities and ways to get involved in cleantech.
- 2** Connecting entrepreneurs to the necessary resources to develop cleantech solutions, including research grants, competitions that focus on cleantech, facilitation of technology cooperation between public and/or private organizations, and introductions for those in the field to share best practices and develop research networks.
- 3** Engaging women in climate- and environment-focused entrepreneurship, including targeted outreach to engage more women in entrepreneurship, encouraging entrepreneurs to involve women in the design process of their cleantech solutions, and connecting startups to women who can fill leadership positions in their businesses.
- 4** Engaging corporate entities that can potentially open market opportunities for entrepreneurs. Accelerators can act as the liaison between corporate entities and SGBs, including helping them meet eligibility requirements to participate in the value chain through training or access to certifications.

These strategies are specific to accelerators and incubators but are not only relevant for these groups. Other ecosystem actors including donors, investors, and corporate entities that engage with accelerators programs can support similar strategies.

Finance

Ernst & Young noted in a 2016 report on the investment perspective on climate change that "climate-related risks are too far-reaching for financial institutions to avoid entirely."²³ However, traditional green financing is typically not conducive to SGB financing—the smaller ticket size required to be SGB-inclusiveⁱⁱⁱ often "makes financing unattractive for lenders."²⁵

New strategies are therefore needed to create green financing mechanisms that are appropriate for SGBs in emerging markets. Innovation in the sustainable finance sector is already on the rise, for example:

- The Asian mobile fintech platform Ant Financial has partnered with dozens of green funds providing finance to entrepreneurs in emerging markets through green industry "theme funds."²⁸
- India's green bond market has structured mechanisms to lower transaction costs in green finance. For example, the Solar Investment Trust pools small-scale rooftop solar projects into a special purpose vehicle, providing a way for small projects to access affordable financing.²⁶
- The European Investment Bank (EIB) launched the Eco-Enterprises II biodiversity fund in 2014 to target niche growth-stage ventures addressing biodiversity challenges through means such as organic/sustainable agriculture, non-timber forest products, sustainable forestry, and ecotourism. The fund uses quasi-equity, structured royalty streams and warrants, convertible notes, and long-term debt financing to facilitate access for SGBs.²²

ⁱⁱⁱANDE sets this range between \$25,000 and \$2 million.

A key takeaway from the EIB's biodiversity fund is that in addition to creative financing mechanisms and products, climate funds and organizations making investments in green finance may find greater success by having a clearly defined strategy and a targeted goal for the funds. Choosing a specific climate or environmental issue to address through the investments made can facilitate better matches with applicants and improve incentive structures. For example, investors focusing on SGBs aiming to green their business models and implement more sustainable business practices can do so by "using sustainability performance to assess credit eligibility."³⁶

It is important to note that most cleantech-related research and development (R&D) is happening in developed countries; thus, SGBs and investors in emerging markets should consider the role of emerging market-based SGBs in the ecosystem. This may mean more of a focus on business model innovations to adapt the technology to local markets rather than development of new technology itself, as well as potential partnerships with developing country-based research institutions to improve local R&D.

Policy advocacy

Engagement with policymakers on environmental action is critical, as policies are important for "operationalizing reporting requirements, creating incentives and providing support"³⁵ to SGB efforts to improve environmental practices. SGB support organizations that engage in advocacy on behalf of SGBs can focus on easing identified barriers for SGBs that are working towards climate and environmental goals. Key policy changes that would benefit SGBs working in or entering cleantech include "sector-specific tax incentives, emission reduction credits, taxation on pollution or natural resource use, import tax reductions or waivers and incentives to attract skilled labor."³⁵

For multilaterals and bilaterals, support might involve removing policy barriers, transferring risk, and/or compensating for risks using a variety of financial instruments. Donor institutions can also act as knowledge banks and facilitate the transfer of information about successful business practices, initiatives, and pilots.¹ At the national level, advocacy to national and global governing bodies on behalf of SGBs might include holding large corporations accountable for value chain transparency regarding whether suppliers meet certain standards, ensuring coherence across reporting standards/requirements, enabling SGB-empowering funding opportunities, and leading by example.¹

Corporate engagement

Large businesses and MNCs can play a significant role in market development and creation of opportunities for SGBs focused on environmental action. By incorporating SGBs into corporate value chains and offering incentives such as better terms and bigger orders in exchange for upgrading sustainability practices,³⁶ corporates can help generate demand for cleantech and sustainable business practices which in turn creates a ripple effect in the ecosystem. More directly, there is existing evidence that firms can improve profitability and productivity through improved sustainability,³⁶ meaning that incentivizing sustainable practices within a company's own value chain can help make operations leaner and create a mutually benefitting relationship.

RELEVANT METRICS

In order to track and demonstrate progress in environmental action, the SGB sector will need a common set of indicators. The UN defines specific targets and indicators to measure progress towards each SDG. Since the goals were originally designed as national targets for countries to work towards, many of the indicators are not tailored for private sector organizations. However, organizations like the Global Impact Investing Network (GIIN) have designed metrics systems that align with the SDGs. While the metrics below are from the SDGs, other relevant metrics can be found through the GIIN's IRIS+ catalogue of metrics.^{iv}

Relevant SDG targets and indicators for SGBs in cleantech

- 1** Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services
 - a. 7.1.1 Proportion of population with access to electricity
 - b. 7.1.2 Proportion of population with primary reliance on clean fuels and technology
- 2** Target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix
 - a. 7.2.1 Renewable energy share in the total final energy consumption
- 3** Target 7.3: By 2030, double the global rate of improvement in energy efficiency
- 4** Target 7.B: By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries
 - a. 7.B.1 Investments in energy efficiency as a percentage of GDP and the amount of foreign direct investment in financial transfer for infrastructure and technology to sustainable development services

Relevant SDG Targets and Indicators for SGBs working in adaptation

- 1** Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
- 2** Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

Relevant SDG targets and indicators for SGBs implementing sustainable business practices

- 1** Target 12.5: Substantially reduce waste generation through prevention, reduction, recycling, and reuse
- 2** Target 14.1: prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution

^{iv} See [the IRIS+ catalogue of metrics](#) for more.

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