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Unlocking the Green Economy: Why go green and how to start?

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1. Unlocking the Green Economy: Guide Objective and Executive Summary

A Green Economy is an economic system that generates profits while reducing environmental risks. It involves rethinking traditional business practices to incorporate environmental considerations, ensuring that economic growth and ecological sustainability go hand in hand. According to the United Nations Environment Programme (UNEP), a green economy is defined as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (UNEP, 2011). This guide addresses Green SMEs that are offering green solutions as well as traditional SMEs with an interest in greening their operations.

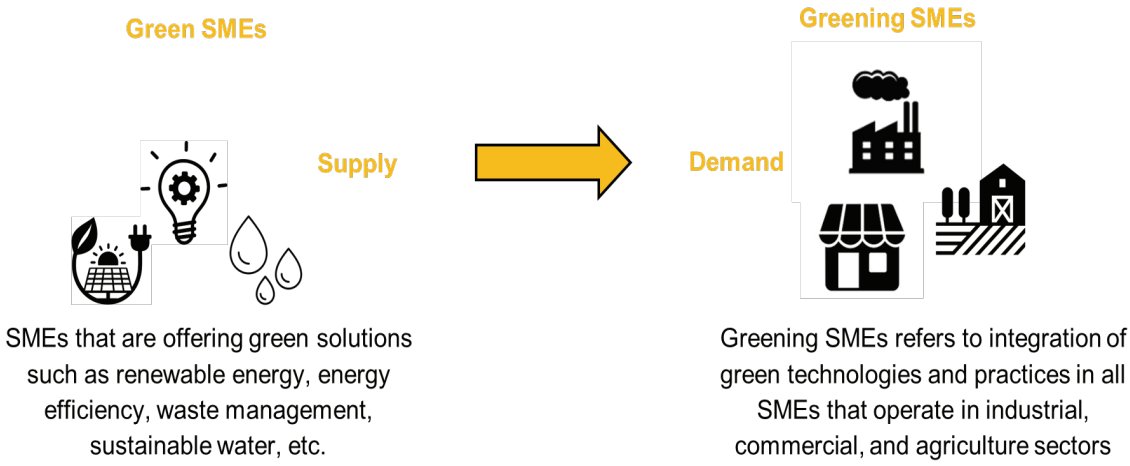

Figure 1: Integration between SMEs providing green solutions and SMEs moving towards green transformation

But what does this have to do with your business? Is it only relevant to those whose models are directly tied to the environment? The short answer is, no. Every individual and business impact the environment through their daily choices and operations. Embracing green practices can open up numerous opportunities that benefit businesses and the environment simultaneously.

This guide is designed to support SMEs in navigating these essential questions. It highlights the various business and environmental advantages of greening your operations. Additionally, it showcases best practices to enhance an SME's environmental footprint while reducing operational costs. As a supplementary resource, a diagnostic tool has been developed to support SMEs in evaluating their operations, supply chain, and product impact from a green economy perspective. This tool is tailored to serve SMEs in Egypt and the broader MENA region.

This guidebook builds on the knowledge and partnership between the European Bank for Reconstruction and Development (EBRD) Advice for small businesses in Egypt, Supported by the Netherlands through the High Impact Partnership on Climate Action (Austria, Canada, Finland, South Korea, Spain, Switzerland, the Taiwan ICDF (International Cooperation and Development Fund), the United Kingdom, and the USA), The United Nations for Industrial Development (UNIDO)'s Inclusive Green Growth Project (IGGE), and the Ministry of Environment's Climate and Environment Investment Unit (CLIEU).

2. Why go green?

2.1 What opportunities lie ahead?

A. Market sizes and opportunities across sub-sectors

Green investment opportunities capture a market opportunity of at least USD 38 billion between 2020 and 2030[1].

Low-carbon municipal waste and water management, energy-efficient retrofits of buildings, and green urban transport alone represent a minimum of US$38 billion in investment opportunity for the private sector in Egypt between 2020 and 2030, including green and resilient infrastructure and supporting decarbonization of diverse sectors. The bio-based economy, on the other hand, captures an annual market opportunity of 20 billion USD according to recent estimates by UNIDO.

B. Value-added production

Increases value-added production to the Egyptian economy and the return on limited resources.

Green investments enhance value-added production by promoting sustainable practices that optimize resource use, reduce waste, and improve efficiency. These investments drive innovation that leads to the development of higher-value products and services which can result in increased competitiveness in domestic and global markets. On an SME level, for example, an agricultural business investing in bio-based fertilizers and sustainable farming practices can lead to higher-quality produce that commands premium prices in local and international markets, and at the same time, help restore degraded soils. A small manufacturing firm could implement energy-efficient technologies and waste-reduction/valorisation processes, lowering operating costs and creating eco-friendly products that appeal to environmentally conscious consumers while reducing their carbon footprint. Additionally, adopting renewable energy sources can reduce utility expenses and improve energy security, enhancing the overall profitability and sustainability of the SME.

C. Creates green jobs across various value chains

Green investments create green jobs across various value chains by fostering industries focused on sustainability. For example, An SME installing renewable energy would need to hire and train more qualified technicians to install and maintain solar panels. In agriculture, the adoption of organic farming practices creates demand for agronomists and workers skilled in sustainable farming techniques. Waste management generates jobs in the collection, transportation, processing, and innovation of new products from recycled materials. These jobs not only contribute to economic growth but also promote environmental stewardship, creating a more sustainable economy.

D. Increasing climate resilience

The devastating effects of global warming are expected to hit some of the world's most vulnerable regions the hardest, including the Middle East and North Africa. Green investments increase climate resilience by promoting practices and technologies that reduce vulnerability to climate change impacts. As an example, investing in drip irrigation and drought-resistant crops helps farmers maintain yields in arid regions, mitigating the effects of water scarcity in desert areas.

2.1 Reduce your costs

Greening operations can lead to significant cost savings while enhancing competitiveness and market appeal. This section of the guide sheds light on different strategies that can lead to cost reduction along an SME's supply chain which would lead to enhanced margins and profitability. Strategies would vary from one company to another; therefore, it is important to choose relevant interventions that best serve your business model.

A. Resource Efficiency and the case of the Food and Beverage manufacturing sector

The food and beverage industry are considered one of the higher waste-generating industries. Based on a study conducted by Chemonics Egypt covering 100 food and beverage factories in various industrial zones in Egypt, the average annual amount of solid waste generated is about 950 tonnes/factory/year, yielding about 5.4 million tonnes of waste generated annually from the 5,700 or so food and beverage facilities in Egypt. These amounts include all types of solid waste, including organic and non-organic. Other sources, focus mainly on the organic wastes generated from the Egyptian agro-industrial sector (including the production of milk, cheese, dairy products, beverages, processed vegetable and fruit products, and meat and fish products), estimate the amounts of these types of wastes to be 0.5 million tonnes per year, where %53 and %22 are generated from Greater Cairo (Cairo, Giza, Qalyubiya) and Alexandria regions, respectively[2]. In addition, the sugar

1 The World Bank Group. Egypt Country Climate and Development report (2022). Available at: https://documents1.worldbank.org/curated/en/099510011012235419/pdf/P17729200725ff0170ba05031a8d4ac26d7.pdf

2 Analysis of food waste estimates is based on a study conducted by Chemonics Egypt and in-house publications,
audits of 100+ food and beverage facilities, as well as based on the following sources:
• GIZ, sub-sector analyses of two economic and prospective recycling streams, 2018
• AFDB, Green Growth: Industrial Waste Management and SME Entrepreneurship Hub in Egypt, 2016
• CAPMAS 2018

industry generates about 2.2 million tonnes of sugarcane bagasse and 0.2 million tonnes of sugar mud. This adds up to about 2.9 million tonnes of agro-industrial waste (mainly agricultural and organic) that can be used to produce bio-based products and energy.

The United Nations Industrial Development Organization (UNIDO), through the UNIDO's Inclusive Green Growth in Egypt (IGGE) project, in cooperation with the Chamber of Food Industries (CFI) of Egypt, developed a guide for Egyptian SMEs in the food and beverage industry which provides comprehensive strategies for reducing costs by enhancing resource efficiency, particularly through greening their operations.

The main benefits of implementing resource efficiency practices are:

- Cost reduction for both energy and raw materials
- Improved operational reliability and control
- Ability to increase production without requiring additional resources
- Avoid additional capital and operational expenditures through greater and better utilization of existing equipment assets.
- Improved product quality, through better process control.
- Environmental improvements to comply with buyers' requirements in domestic and export markets, as well as greater acceptance by markets, community, and government of the company's practices and operating procedures.
- Improved workers' health and safety

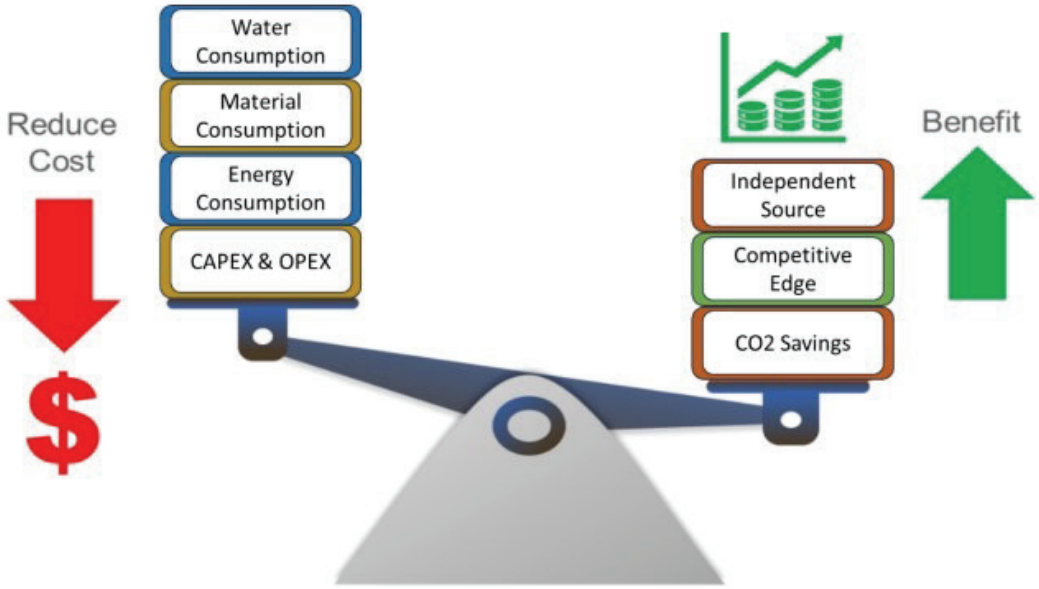

Figure 2: Cost Reduction and Benefits of Resource Efficiency

Key takeaways:

- Self-auditing and benchmarking: The key steps of self-auditing, benchmarking, and identifying saving opportunities within an industrial facility. would start with the facility's technical team (operational and/or maintenance team). The identified saving opportunities can be summarized and reported to the high-level management for their decision on implementation or used as the basis for requesting the services of a specialized company/ supplier of this opportunity. The key steps and workflow of the team are discussed below and presented below in a workflow:

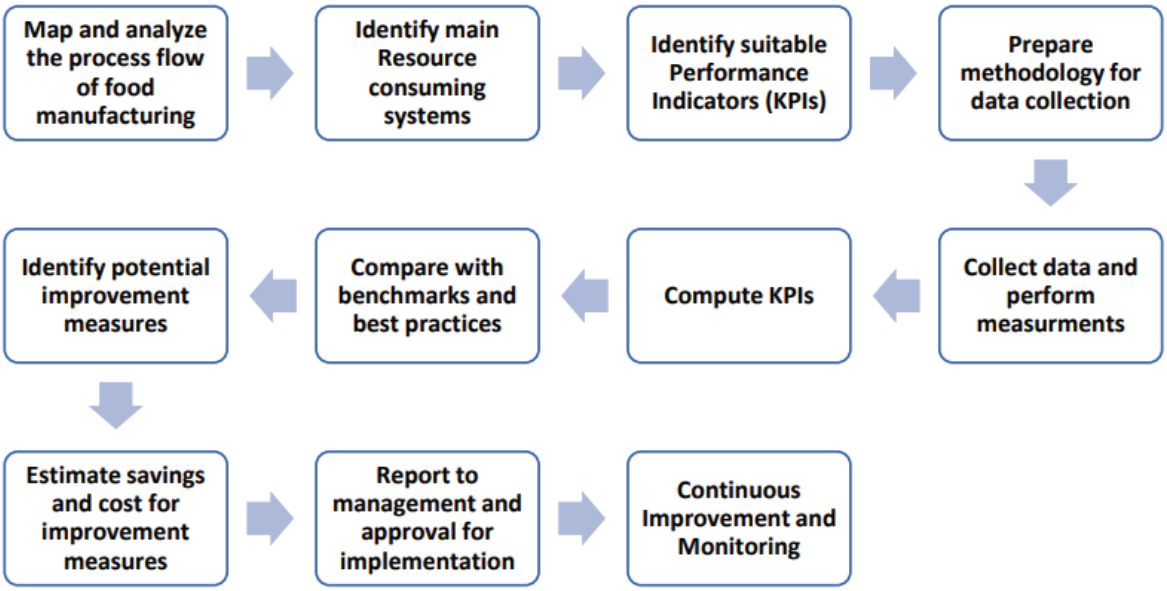

Figure 3: Self-auditing and benchmarking Workflow

• Energy Efficiency: The guide identifies several opportunities for energy savings in the sector, including optimizing motor systems, pumps, and compressed air systems. This involves upgrading to high-efficiency equipment, improving maintenance practices, and using technologies like Variable Speed Drives (VSDs) to match energy use with demand.

• Water Conservation: recommended strategies can include upgrades to water-efficient equipment, optimizing water use in various processes, and implementing wastewater treatment and reuse strategies.

• Solid Waste Management: Waste not only poses environmental hazards but also significantly impacts resource efficiency and operational costs, as any food and solid waste that is generated also means that the energy and water used to process the materials before they become waste, along with other resources such as labour, have also been wasted. However, by adopting waste-saving and valorisation measures, businesses can optimize resource utilization, enhance operational efficiency, and reduce costs while promoting environmental sustainability. The guide suggests strategies for minimizing waste generation, improving recycling efforts, and transforming waste into valuable by-products, which can significantly reduce disposal costs and replace resource-consuming and carbon-intensive alternatives.

B. The Bio-Based economy and Resource efficiency

Resource utilization includes all resources, such as raw materials, water, and chemicals as inputs, and waste and pollution as nonproduct outputs. Resource utilization is critical for companies striving to enhance their profitability while reducing their environmental footprint. It involves the efficient use of all available natural resources—ranging from raw materials to energy and water—across various stages of production. By optimizing resource use, companies can lower operational costs and minimize waste, thus contributing to environmental sustainability. This approach is particularly significant in the Egyptian market, where diverse resources such as municipal waste, biomass, and agricultural by-products can be transformed into valuable products. Given that resources are increasingly costly and scarce, optimizing the use of these materials not only contributes to economic growth but also addresses the pressing challenge of resource depletion, ensuring a more sustainable and resilient supply chain for the future.

The bio-based economy offers promising opportunities for SMEs looking to enhance resource efficiency while tapping into high-growth investment sectors. By turning agricultural and industrial waste into valuable products, businesses can reduce environmental impact and unlock significant revenue streams. For example, transforming fruit waste into fruit concentrates for the food and feed industries not only reduces organic waste but also provides an affordable, sustainable ingredient source. SMEs investing in this area can address both environmental challenges and market demand. Similarly, recycled paper from agricultural waste presents a cost-effective, eco-friendly alternative to conventional paper, supporting both the consumer market and sustainable practices.

Other bio-based ventures also present high investment potential. Pulp derived from sugarcane bagasse offers a

renewable feedstock for the paper industry, which can lead to reduced reliance on forest resources. Moreover, producing ethanol from sugarcane molasses for the pharmaceutical industry enables SMEs to contribute to a greener pharmaceutical supply chain. Agricultural waste can also be repurposed into medium-density fibreboard (MDF) for the wood industry, enhancing the circular economy by minimizing raw material consumption. Additionally, agro-industrial waste can be converted into specialized biochemicals, offering new opportunities for SMEs in niche markets with high-value-added products. For SMEs interested in these opportunities, the Climate and Environmental Investment Unit (CLEIU) of the Ministry of Environment in Egypt offers various investment opportunities mapping in the green sectors. These include a factsheet for each investment opportunity, potential markets, technologies needed, estimated capital, and guidance on how to get started. For further information, SMEs are encouraged to explore CLEIU's website for more information specifically navigating the investment opportunities page.

2.3 Open new markets

Greening SME operations and increasing sustainable practices can significantly open new market opportunities for SMEs across Business-to-Consumer (B2C), Business-to-Business (B2B), and Business-to-Government (B2G) business models.

In B2C models, companies that offer eco-friendly consumer goods, such as organic food products or biodegradable packaging, have seen increased demand as sustainability becomes a priority for individual buyers. By incorporating traceability into their supply chains, these businesses provide transparency about the environmental impact of their products, appealing to conscious consumers who prioritize eco-friendly purchases. Export markets have also embraced such B2C models, particularly for products that meet international sustainability standards.

In B2B markets, businesses have flourished by providing green solutions to other companies. For instance, a supplier offering recycled raw materials or sustainable packaging solutions helps other firms reduce their environmental footprint, meeting their own sustainability goals. Extended producer responsibility (EPR) plays a critical role here, as companies are increasingly expected to manage the lifecycle impact of their products. By offering services that facilitate compliance with EPR regulations—such as waste recovery, recycling, or product take-back programs—B2B companies find themselves well-positioned to grow both domestically and internationally.

B2G models have gained traction as governments prioritize sustainability in procurement. Businesses offering green infrastructure, renewable energy systems, or environmentally friendly construction materials can benefit from government contracts that emphasize environmental impact. These companies not only meet the green criteria set by public sector tenders but also contribute to long-term sustainability goals. By leveraging traceability and EPR concepts, B2G models ensure that their green solutions are both accountable and aligned with the regulatory frameworks that governments enforce, opening doors to larger projects both locally and in export markets.

3. How to green your operations: Key strategies and support available for greening SME operations

This section aims to focus on the means to starting a green business or to green an existing SME's operations. The sub-sections include data that is valid as of October 2024. If your organization would like to be listed in the directories or if you have updated the website's information, please email cleiu@moenv.gov.eg.

3.1 An Overview of Enabling Policies and Incentives

This section aims to support SMEs in navigating enabling policies and incentives including opportunities for:

- Networking and Access to different markets, including tendering platforms, marketplaces, export support, and matchmaking events.
- Access to finance, including tax exemptions, feed-in tariffs, carbon credits, and green financing facilities.
- Access to Knowledge and Technical Assistance, including Green SME support programs, BDS services, and market data.
- Access to land, streamlined establishment processes, and reduced establishment investment costs.
- Research services, including private and public sector providers.
- Licensing and standards setting, across the green sectors.
- Other supporting measures.

The mapping is designed to give SMEs an executive summary of available support from the public and private sectors to enhance an SME's journey to green their operations or venture into a green business opportunity. For the mapping, please refer to the CLIEU website, section titled ''Investment support services" and find access to the policy mapping in the sub-section titled ''Policies and incentives for green SMEs" by following this link: http://www.clei-moe.com/investment-support-services/policies-and-incentives-for-green-smes/

3.2 Access green finance and investments

Green financing facilities specifically support businesses that aim to grow while greening their operations. This section of the guide will help SMEs explore various green financing options ranging from debt financing, equity financing, grants, and other development financing programs.

It is critical to note that identifying the relevant financing mechanism is highly linked to the business's strategic plan, the type of investment support that comes with the various financing mechanisms, and the need for financing. It is worth exploring expert support in assessing financing offerings. The Green SME stakeholder mapping section of the guide includes various support entities that may offer relevant support. The listing includes:

- Mapping public information on debt-lending Non-Governmental Institutions (NGOs), Micro Financing Institutions (MFIs), Financial Technology Firms (Fintech), and banking institutions with dedicated green finance products or products serving the green sectors at large (Agriculture, food manufacturing, waste, energy, and the bio-based economy). The Mapping includes:
  - Finance product
  - Description
  - Use of funds (OPEX, CAPEX)
  - Clients/Types of Projects
  - Conditions
  - Interest rate
  - Link to the product on the institution's website.

- Mapping public information on equity-lending entities including angel investor groups, venture capital funds, and early private equity funds with a history or an interest in investing in green sectors. Listing includes:
  - Institution's name.
  - Green Sectors they have invested in.
  - Link to the institution's website.

- Listing publicly available grants for the green sectors with eligibility for the Egyptian Market.

- For the mapping, please refer to the CLIEU website, section titled ''Green Finance" by following this link: http://www.clei-moe.com/green-finance/

- Call for Participation: The Mapping leveraged publicly and digitally available information on various green financing products and funds, presenting data that is valid as of October 2024, further support can be available by reaching out to the Climate and Environmental Investment Unit (CLIEU) at the Ministry of Environment through the following email cleiu@moenv.gov.eg

3.3 Networking

A. Partnership Development Approach

Increasing your environmental impact and greening your business operations can be significantly enhanced

by collaborating with the right partners along your value chain. These partners can provide the resources, expertise, and support needed to implement sustainable practices effectively. This section of the guide will support you to identify and engage with various partners and refer you to an accompanying Green SME Stakeholder Directory for further assistance.

The following partnership development approach is built upon the successful outcomes of the UNIDO Inclusive Green Growth (IGGE) project, which leveraged business linkages as a core strategy for the growth of green start-ups and SMEs. By incorporating this tested methodology, the guide strongly advocates for the consistent and systematic use of partnerships to enhance your company›s value proposition, strengthen its competitive advantage, and positively impact its environmental footprint.

Figure 4: UNIDO IGGE Partnerships Development Approach

1. See the full picture first: Map Your Value Chain

Key takeaway: Aim to see the full picture of your industry, and what roles are played by the different entities to find synergies that align with the different roles and incentives.

• Create a comprehensive flowchart: Develop a comprehensive flowchart outlining your entire value chain, from raw material sourcing through production, distribution, consumption, and disposal.

• Identify key stakeholders and processes: Highlight critical processes and potential stakeholders at each stage. This step would add insights as to who can support you as a partner to optimize operations, introduce innovations, support reaching out to customers, or enhance sustainability.

• Clarify stakeholder roles and incentives: Define what you expect from each potential partner, and what is in it for them according to a partner needs analysis.

2. Prioritize: Identify areas for strategic intervention

Key takeaway: Everything you say yes to, automatically says no to something else due to limited time and resources, therefore, pick wisely.

• Align with business objectives: any successful partnership needs to align with your business goals and marketing objectives. Build partnership proposals that contribute the most to your growth plan.

• Pinpoint high-impact areas: Determine which stages in your value chain offer the greatest opportunity to add value to customers and strengthen your value proposition.

3. Research Potential Partners

Key takeaway: Building on existing market knowledge enables you to save resources and tap into effective partnerships.

• Identify well-positioned partners: Look for partners who excel in the key areas you've identified and can help you achieve your objectives effectively.

• Utilize networks and directories: Use published stakeholder directories, industry networks, and professional associations to find potential collaborators.

• Design a mutual-value creation: Consider how the partnership would benefit both parties, ensuring potential partners also see clear advantages in collaborating with you.

4. Evaluate partner credentials

Key takeaway: understanding your prospective partner well, enables you to mitigate risks and brainstorm further potential value-addition from a partnership.

• Conduct basic due diligence: Assess the credibility, track record, capabilities, and alignment of potential partners with your sustainability and business goals. Examine their certifications, past projects, client testimonials, and industry standing.

• Ensure value alignment: Assess that their corporate values and practices align with yours, particularly regarding sustainability and ethics.

5. Engage and Collaborate

Key takeaway: Networking is a skill that will add value to your business at every stage, keep it a habit, engage strategically, align initiatives, and build lasting relations.

• Network regularly: networking opens doors to various partnerships, it can take place digitally by being active on professional networking platforms such as LinkedIn or participating in key events of your industry, memberships in key organizations such as export councils, chambers, and other professional affiliations, and through personal and professional referrals.

• Initiate contact: Reach out to potential partners through referrals when possible; otherwise, reach out through professional digital channels such as their website, LinkedIn page, or social media channels.

• Establish clear communication: Clearly define collaboration objectives, roles, responsibilities, and mutual expectations from the outset.

• Formalize agreements: through contracts or Memorandums of Understanding (MOUs).

6. Monitor and scale up or down accordingly

Key takeaway: A new partnership can be very optimistic at first. It is important to be grounded in operations, therefore, observe and slowly scale the partnership up or down according to performance.

• Define specific Key Performance Indicators (KPIs) to measure the partnership's effectiveness—such as cost reduction, environmental impact, customer satisfaction, and innovation milestones.

• Start small and gradually scale up: Begin with pilot projects to test partnership dynamics and expand progressively as trust and synergy develop.

• Consistent Communication: Set up consistent check-ins and reporting mechanisms to maintain alignment and promptly address issues.

• Regularly assess the partnership's performance against established KPIs and make necessary adjustments.

• Seek Continuous Improvement: Look for opportunities to enhance the partnership, explore new areas of collaboration, and adapt to changing market conditions.

• Engage wider stakeholders: Include calls to action encouraging customers, suppliers, and other stakeholders to engage with the partnership's objectives.

B. Green SME Support Directory

This section of the guide provides an overview of Egypt's green SME stakeholders. Companies can navigate this section according to their business needs and required partnerships. The abovementioned partnership development approach can be utilized in assessing and reaching out to the entities in the directory. The mapping includes entities that have the following services:

• Awareness Raising and Advocacy
• Incubation and Acceleration
• Research Centres
• Networking
• Technical assistance and Market development programs
• Governmental Support for Green SMEs
• Export Support service providers (public and private sectors)
• Agriculture supply chain service providers
• Sustainable Energy Service Providers
• Waste Management Service Providers
• Water Treatment Service Providers
• Sustainable Building Service providers
• Others

Disclaimer: This directory is a result of secondary research of entities with an established track record and active digital presence which has been validated by industry experts. It is critical to note that this list does not represent the full ecosystem of green SME support, nor does it endorse the listed companies. This is only a sample of active entities within the green SME support field during the time of publishing this guide. If your organization would like to be listed in the directory, please email cleiu@moenv.gov.eg

The selection criteria for companies that will be included in the directory include legal registration, an established operational track record, positive customer feedback, a strong market reputation, and compliance with environmental practices and standards.
For the mapping, please refer to the CLIEU website, the section titled ''Investment support services" and find access to the stakeholder's directory in the sub-section titled ''Green SMEs Stakeholders directory" by following this link http://www.clei-moe/investment-support-services/green-smes-stakeholders-directory/

4. Conclusion

In conclusion, this guidebook provides SMEs with the tools needed to navigate the green economy and capitalize on the growing opportunities it presents. By understanding the benefits of going green—such as cost reduction, new market access, access to green financing, and accessing technical assistance in parallel to contributing to increased climate resilience—businesses can position themselves for sustainable growth. The guide outlines practical steps to green your operations, from leveraging enabling policies and incentives to access green finance and building strategic partnerships. By following this roadmap, SMEs can not only improve their environmental impact but also enhance their competitiveness in local and global markets.

This guidebook presents data that is valid as of October 2024, further support can be available by reaching out to the Climate and Environmental Investment Unit (CLIEU) at the Ministry of Environment through the following email cleiu@moenv.gov.eg