







# Driving Sustainable Growth: Policy Pathways for Green Entrepreneurship in Lebanon and Syria [1]

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This policy brief examines the challenges posed by fragile ecosystems that obstruct entrepreneurial initiatives in the green transition sector. It specifically aims to highlight policy deficiencies in Southern Mediterranean countries, with a focus on Lebanon and Syria. Both nations face critical barriers, including minimal government intervention, political instability (particularly due to the conflict in Syria), outdated or insufficient regulatory and legislative frameworks, inadequate infrastructure, weak ecosystems, limited access to sustainable financing, and low public awareness. These challenges significantly hinder progress toward a green transition in the region. The policy brief underscores the vital role of entrepreneurship as a catalyst for transformative change, particularly when supported by long-term investments and strategic guidance.

In this context, the policy brief highlights key stakeholders that are essential for proposed recommendations. implementing the These include international nongovernmental organizations, academic institutions, innovation centers, and financial institutions. It emphasizes the importance of sustainable funding mechanisms, advocating for the development of blended financial models to effectively address financing barriers. It also underscores the critical role of universities and innovation centers in fostering entrepreneurship through awareness initiatives and the integration of relevant curricula. Furthermore, it calls for the establishment of robust regulatory frameworks to strengthen entrepreneurial ecosystems in the region. Ultimately, the policy brief stresses the need for comprehensive, targeted policies to tackle the complex challenges hindering the green transition in Southern Mediterranean countries.

# 2. Introduction

The Mediterranean region faces severe challenges from climate change, exacerbated by land use changes, pollution, and declining biodiversity, which threaten water, ecosystems, food, health, and security (Cramer et al., 2018). These issues jeopardize the region's population, economy, and stability, potentially leading to violent conflicts (Scheffran & Brauch, 2014). In this context, green energy emerges as a crucial solution, reducing reliance on fossil fuels and lowering greenhouse gas emissions while creating entrepreneurial opportunities (TWI, 2023; Johnston, 2023). However, Southern Mediterranean countries, particularly Lebanon and Syria, face significant obstacles, including weak legal frameworks and ongoing instability, hindering green transition efforts. This policy brief explores the potential of green energy sector in both Lebanon and Syria, examines challenges in the entrepreneurial sector, and offers recommendations to involve stakeholders in fostering a sustainable energy transition.







# 3. Mediterranean Context

## 3.1. Entrepreneurial Challenges in the Green Energy Sector

South Mediterranean entrepreneurs are well-positioned to drive the transition toward a green economy powered by renewable energy sources, offering a pathway to sustainable economic growth. In Lebanon and Syria, this potential is particularly urgent given the lack of comprehensive public sustainability plans and the weak or absent governmental institutions needed to implement them effectively. However, realizing this potential requires addressing significant policy challenges that impede the growth and competitiveness of the entrepreneurial sector. These challenges fall into three critical domains: regulatory frameworks, capacity building, and financial support.

#### 3.2. Policies, Laws, and Administrative Concerns

The lack of a robust regulatory framework in Lebanon and Syria severely limits entrepreneurial efforts to adopt and expand green energy initiatives. Uncertainty caused by frequent political upheaval and shifting rules discourages long-term planning and investment on the part of entrepreneurs (Bashi et al., 2023; Schwanitz et al., 2023). In Lebanon, fragmented governance and political instability have impeded the development of coherent environmental policies (Hamdan et al., 2022).

In rural areas, renewable energy is predominantly used for traditional biomass heating and outdated, inefficient hydroelectric power plants (IRENA, 2020). Moreover, the lack of a robust public power network and inadequate infrastructure has driven most new renewable energy installations to rely on distributed solar rooftop photovoltaic (PV) systems. However, these systems face significant challenges, such as considerable energy losses when batteries reach full capacity, limiting their efficiency and overall impact (Tsagas, 2023). Despite these challenges, Lebanon's green sector holds promising potential. Before the economic crisis of late 2019, multiple studies highlighted opportunities for growth in renewable energy and sustainable development (El Chaarani & Raimi, 2022). In response to the crisis, Lebanon sought partnerships with international organizations such as the European Union (EU), the United Nations Development Programme (UNDP), and the World Bank to drive advancements in the energy sector. These collaborations focus on initiatives like promoting decentralized renewable energy solutions, modernizing hydroelectric facilities, and implementing energy efficiency measures. They also aim to improve grid resilience and support the transition toward a sustainable and equitable energy future (Elmustapha & Hoppe, 2020).

In Syria, the protracted conflict has left its institutional infrastructure in disarray, making it difficult to implement or enforce any regulatory support for green entrepreneurship (Hinnebusch, 2020). At the same time, State-owned Enterprises (SOEs) have historically dominated the Syrian economy, leaving limited space for private businesses, consequently many start-ups and small enterprises operate informally as they are challenged by to administrative hurdles and funding constraints. This limits their access to formal markets and resources. In addition, the government's tight control over energy access, including rationing supplies and price increases, which led both individuals and businesses into daily struggles.

The absence of clear policies regarding renewable energy, coupled with bureaucratic inefficiencies, creates an unpredictable environment for entrepreneurs, discouraging investment and innovation in the sector.

Lebanon and Syria continue to struggle with their energy infrastructure, which allows for the incorporation of renewable energy sources into the current energy mix. Perhaps the new regimes in both countries could open the door for reach changes in the coming years.

#### 3.3. Skill Gaps in the Green Energy Sector

Investment in green and innovative sectors is less likely than investment in conventional sectors due to a shortage of skilled labour skills and weak ecosystems (Vizoso, 2021). Despite some progress, developing and implementing viable green policies and projects are still challenging for south Med countries due to lack or limited technical capacity.. Specialization in project management, engineering, and the development of new technologies are just a few examples that are essential to a smooth green transition (Goldthau & Hughes, 2020). Both Lebanon and Syria suffer from a lack of professionals with the necessary expertise in the energy and green industry. While Lebanon's educational system is showing great potentials in expanding access to renewable energy courses (several universities has launched graduate programs in this field), a significant skills gap still exists, further hampering the growth of green entrepreneurship. The lure of higher wages abroad, especially in the Gulf countries, attracts many highly skilled engineers, leading to a talent drain (Elguindy, 2020; Ersoy et al., 2021).

The prolonged conflict in Syria has caused a massive exodus of the country's educated and experienced professionals. Unfortunately, renewable energy projects are often poorly implemented and managed due to a lack of skilled labour and knowledge in the energy and green industries (Tozan, 2023).

In brief, education systems in both countries have struggled to adapt to the demands of the green economy, failing to provide the technical and managerial skills necessary for renewable energy and sustainable business ventures (Dagher & Ruble, 2011). While some initiatives aim to promote technical training and innovation, they are often insufficient in scale and scope to address the broader needs of the entrepreneurial sector. This lack of capacity-building initiatives stifles creativity and innovation, critical components of a thriving green economy. Additionally, both Lebanon and Syria suffer from a lack of research and development resources and funding for the energy and green economy.

#### 3.4. Lack of Sustainable Funding Sources

Many countries in the Southern Mediterranean have trouble securing funding for renewable energy initiatives. Since renewable energy technology and infrastructure are typically more expensive than conventional energy sources, this hampers their ability to invest in them. The southern Mediterranean still faces a serious investment gap to meet the 2030 renewable energy targets: USD 16 billion per year, or roughly 30% more than an investment that was going into the region prior to the Covid-19 crisis (Zhongming et al., 2020).

Access to finance remains one of the most pressing challenges for entrepreneurs in Lebanon and Syria. In Lebanon, the ongoing economic crisis has caused a collapse in the banking sector, severely limiting entrepreneurs' ability to secure loans or investments for green projects (World Bank, 2023). Syria, on the other hand, faces compounded difficulties due to international sanctions and war-related destruction, which have all but eliminated opportunities for financial support (De Châtel, 2014). Without sufficient funding mechanisms, entrepreneurs struggle to scale their operations or invest in the advanced technologies required for renewable energy projects.

Entrepreneurs in Lebanon's energy transition sector face a huge funding deficit. It is difficult to obtain low-interest, long-term financing due to limited collateral, poor credit, and high-interest rates. This issue is being addressed by the Lebanon Energy Efficiency & Renewable Energy Financing Facility (LEEREFF), which is funded by the Banque du Liban (LEEREFF, 2019) and provides competitive loans to renewable energy projects. Since the beginning of the economic, financial, and social crisis in the fall of 2019 (WorldBank, 2021) these efforts have been severely constrained.

In war-torn Syria, the ongoing conflict and political instability severely limit investment opportunities for entrepreneurship initiatives in the energy transition sector. While specific initiatives focused on sustainable funding sources are scarce, international organizations and donor countries occasionally provide grants to support renewable energy projects, aiming to foster sustainable development (Ankir, 2022; de Lange et al., 2021; Kachkar, 2019; Soliman et al., 2023).

The international community is providing funding for the entrepreneurial activities of Syrian refugees in Lebanon and other hosting countries, while reports on funding in Syria are non-existent (de Lange et al., 2021; Kachkar, 2019).

# 4. Approach & Results

This policy brief employs a theory-based approach, utilizing mixed-methods data from both primary and secondary sources, to assess the green energy landscape in Lebanon and Syria. The analysis incorporates insights from Key Informant Interviews (KIIs), focus group discussions with sector experts, and benchmarking against successful European Union (EU) policies. The panel of experts represent diverse and complementary backgrounds to provide a rich, well-rounded perspective on the challenges and opportunities at hand. The resulting insights aim to shape actionable strategies for advancing green energy policies in these countries.

Marc Ayoub, a Project Coordinator and Energy Policy researcher at the AUB Issam Fares Institute, highlights the pivotal role of renewable energy in Lebanon's energy transition. The recent economic crisis has underscored the urgency of adopting sustainable alternatives, with solar energy emerging as a viable solution amidst the unaffordability of public electricity substitutes. However, the transition faces systemic challenges, including:

- **Regulatory Gaps:** The lack of comprehensive regulations, particularly delays in passing the Distributed Renewable Energy Law, hinders sector growth.
- **Technical and Financial Barriers:** Issues such as low-quality equipment, battery inefficiencies, and limited financing options impede progress.
- **Institutional Reforms:** Reforms in entities like Electricity de Liban (EDL), along with robust land-use policies and regulatory structures, are essential to stabilize the sector.

Marc advocates for collaboration with academic institutions and innovation centers to foster renewable energy start-ups, develop monitoring systems for equipment, and implement grassroots efforts to enhance community engagement. These measures, coupled with macroeconomic stability, are critical to achieving Lebanon's energy transition.

Samer Aswad, co-founder of Afkar Plus and a consultant with FAO and UNDP, draws parallels between Syria and Lebanon, emphasizing how renewable energy, particularly solar power, has become a critical alternative amidst energy shortages caused by conflict. Key challenges in Syria include:

- Policy and Regulation Deficiencies: The absence of enabling legislation and delays in implementing solar energy projects hinder systematic development.
- **Economic and Political Pressures:** Currency restrictions, investment hesitancy, and reliance on private funds limit scalability.
- Infrastructure and Awareness Gaps: Despite widespread adoption of solar panels for private use, disorganized implementation and low public awareness pose barriers.

Samer highlights the role of international organizations (INGOs) in installing solar panels in conflict-affected villages and fostering start-ups focused on recycling and renewable energy. However, macroeconomic stability, greater public awareness, and a shift in perception towards solar energy as a primary electricity source are vital for meaningful progress.

This policy brief also draws extensively on the insights gained from a focus group discussion featuring experts in green energy and entrepreneurship from Lebanon and Syria. The experts are Nancy Saliba, Director of the ACHER Center at Holy Spirit University of Kaslik, Linda Achkouty Moawad, an internationally certified business coach and partner at Action COACH, Ghaith Yaseen, Sanad's Entrepreneurship Specialist for Damascus and Aleppo, and Mohammad Nour Al Adlbi, Project Coordinator at Afkar Plus.

The focus group highlighted systemic challenges and opportunities within the green energy sector in Lebanon and Syria:

The experts emphasized the absence of robust regulatory frameworks as a critical bottleneck for energy transition initiatives.

- **Lebanon's Regulatory Needs:** For Lebanon, this included the need for dedicated regulatory authorities and better alignment of international donor efforts with national policies.
- Syria's Policy Gaps: In Syria, the lack of clear policies and enabling legislation hindered entrepreneurial efforts, while chaotic regulatory landscapes further complicated project implementation.
- Skills Development as a Key Concern: Skills development emerged as a pivotal area of concern. The panel underscored the importance of aligning academic curricula with the practical needs of the green energy sector, coupled with mentorship and technical training for start-ups.
- **Public Awareness Barriers:** Both countries also face barriers in public awareness, where more substantial efforts are needed to educate communities on the economic and environmental benefits of renewable energy technologies.

Financial access remains a pressing challenge. The experts advocated for introducing blended financial instruments and leveraging international collaborations to provide sustainable funding mechanisms tailored to start-ups and SMEs. The focus group called for macroeconomic stability and policy reforms to enhance investor confidence and reduce bureaucratic barriers. The discussions informed actionable recommendations, including the establishment of clear regulatory frameworks, enhanced collaboration among stakeholders, and the development of targeted capacity-building programs to drive green energy entrepreneurship in Lebanon and Syria.

# 5. Conclusion

## **Regulatory and Skills Development Challenges**

The focus group highlighted systemic challenges and opportunities within the green energy sector in Lebanon and Syria. The experts emphasized the absence of robust regulatory frameworks as a critical bottleneck for energy transition initiatives. For Lebanon, this included the need for dedicated regulatory authorities and better alignment of international donor efforts with national policies. In Syria, the lack of clear policies and enabling legislation hindered entrepreneurial efforts, while chaotic regulatory landscapes further complicated project implementation.

Skills development emerged as a pivotal area of concern. The panel underscored the importance of aligning academic curricula with the practical needs of the green energy sector, coupled with mentorship and technical training for start-ups. Both countries also face barriers in public awareness, where more substantial efforts are needed to educate communities on the economic and environmental benefits of renewable energy technologies.

## **Financial and Policy Reforms for Green Energy Growth**

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# 6. Policy Implications & Recommendations:

While both countries have indicated that they strive to be in the forefront of the green energy transition, they are still far behind other South Med countries (e.g. Egypt and Morocco).

In contrast, other developed regions such as the European Union has established several plans and policies that aim to provide citizens and businesses with energy that is secure, sustainable, and affordable. For example, the EU's revised Energy Efficiency Directive aims to reduce primary energy consumption within the EU by 32.5% by 2030 compared to a reference scenario(Energy, 2023). The EU's energy policy rests on three pillars: the Internal Market, climate change mitigation, and supply security. The European Union plans to have a greenhouse gas neutral economy by 2050. The European Green Deal and the Paris Agreement both support this goal.

Knowing that for a smooth and concrete transition, the macroeconomic and political situation in both countries should stabilize to enable the grounds for the green energy transition, yet this necessitates substantial changes in the public sector, including restructuring the economy, combating corruption, and developing and enacting appropriate plans.

However, the policy brief's focus is on what other stakeholders including INGOs, donors, private sector, innovation centres, universities, and others, can do to facilitate the transition. Thus, the recommendations presented below are made accordingly

## **Strengthening Academic and Community Engagement**

Spreading the word about the vitality of the green energy sector requires
the participation of all innovation hubs and educational institutions. Course
development, curriculum revision, joint competition launches between
academic institutions, and most crucially, invitations to academic institutions
to work with non-governmental organizations (NGOs) on financed projects
are all ways to achieve this goal.

• It is strongly encouraged that academic institutions provide annual reports tracking the growth of green energy start-ups and small and medium-sized enterprises (SMEs). This aids in sector comprehension and can provide a refreshed foundation from which to better comprehend wants and craft investment prospects. Also, to increase awareness of the green energy sector in the community and inspire business owners to implement its principles, it is recommended to compile a compendium of best practices. Donor-funded research programs are recommended in this field while encouraging universities to lead on them.

#### **Blended Finance and Sustainable Investment Models**

• Donors are advised to design blended financial vehicles which guarantee the financial sustainability of the projects. Blended finance is a new strategy that assists in using private capital to address challenges including the environment, gender equality, and eradicating poverty and hunger in and developing economies. other words, In sustainable growing development initiatives, which typically begin with public or philanthropic funding, are combined with private investment funding, which seeks both financial returns and the satisfaction of helping to find solutions for the world's problems. Blended finance is the strategic use of development finance for the mobilization of additional finance towards sustainable development in developing countries (OECD, 2023). This strategy allows a better design of the funds/financial resources to ensure their sustainability, it supports moving from the traditional ways of financing SMEs and start-ups towards a better approach where the funds can be used in multiple rounds. For example, instead of providing the blended funds to SMEs and start-ups as grants, they can be issued as loans with zero interest and once the businesses generate revenues, the loans should be repaid to be used again in supporting more SMEs and start-ups. This requires that the fund is provided by donors and private investors where private investors can be equity holders with the start-ups and supported SMEs. In the case of default, the private investors may acquire the equipment bought and thus mitigate the risk of using their private funds.

• Start-up funding is crucial because it encourages entrepreneurs to invest money into the market and generate new jobs. Entrepreneurs who invest with the intention of making a positive social impact and resolving some of society's most pressing challenges are lauded as crucial to society. Donors and project planners should stimulate the development of social enterprises that not only create jobs but also benefit society and the environment.

## **Regulatory Compliance and Collaborative Governance**

- Collaborations among different entities like start-ups and existing SMEs, NGOs and universities, or with the public sector are sought necessary as it creates a better learning environment and allows better access to resources especially in the green energy field. Donors are encouraged to design collaborative models to be funded instead of funding separate entities.
- To guarantee that the transition from traditional energy sources toward green energy sources is successful, compliance with standards is required. Donors and private sector players should put effort into overseeing financed projects to make sure the technologies being implemented are effective and do not exacerbate the underlying issue. Thus, local committees with experts can be formed to monitor and evaluate any funded projects.
- Supportive legislative framework is required to help start-ups and SMEs register their businesses and receive tax discounts and other forms of support when investing in the green energy sector. To build the ecosystem and provide support for the enterprises, policy advocates and INGOs should provide regulatory ideas and communicate with policymakers in the country. This may occur while documenting the results of funded and supported projects and presenting proof of the significance of these enterprises in making changes to the economy.

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## **About FEMISE**

FEMISE, the Forum Euroméditerranéen des Instituts de Sciences Économiques, is a Euro-Mediterranean network of over 100 economic and social research institutes from both shores of the Mediterranean. Established in Marseille, France, in 2005 as an NGO, FEMISE promotes dialogue on economic and social policies to foster cooperation and mutual benefit between Europe and its Mediterranean partners. Coordinated by the Economic Research Forum (ERF) in Egypt, FEMISE focuses on strengthening research capacity, fostering public-private dialogue, disseminating research findings, and building partnerships to support regional collaboration and sustainable development.

## **About IEMed**

The European Institute of the Mediterranean (IEMed), founded in 1989, is a think-and-do tank focused on Euro-Mediterranean relations. Guided by the Euro-Mediterranean Partnership (EMP), European Neighbourhood Policy (ENP), and Union for the Mediterranean (UfM), it promotes cooperation, mutual understanding, and intercultural dialogue to build a shared space of peace, stability, and prosperity. IEMed is a consortium of the Catalan Government, the Spanish Ministry of Foreign Affairs, the EU, and the Barcelona City Council, with contributions from civil society through its Board of Trustees and Advisory Council.

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The Economic Research Forum (ERF), established in 1993, is a regional network promoting high-quality economic research for sustainable development in Arab countries, Iran, and Turkey. Based in Cairo, Egypt, with a branch in Dubai, UAE, ERF builds research capacity, supports independent studies, and disseminates findings through publications, seminars, and the ERF Policy Portal. As a non-profit organization, ERF is supported by regional and international donors and guided by a distinguished Board of Trustees and a network of researchers.

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