SwitchMed is an initiative that supports and connects stakeholders to scale up eco and social innovations.

We are SwitchMed
SwitchMed is an initiative that supports and scale-ups eco and social innovations

The SwitchMed Programme was launched in 2013 by the European Union to speed up the shift to sustainable consumption and production patterns in the Southern Mediterranean, notably through the promotion of circular economy approaches. The Programme aims at achieving productive, circular and sharing economies in the Mediterranean by changing the way goods and services are consumed and produced so that human development is decoupled from environmental degradation.

Its activities benefit 8 countries in the Southern Mediterranean: Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine and Tunisia. Through policy development, demonstration activities and networking opportunities, SwitchMed supports and connects stakeholders to scale-up eco-social and ecoinnovations. The Programme supports policy-makers, eco-innovative small and medium-sized enterprises, industries, start-ups and entrepreneurs in the Southern Mediterranean countries, which have identified job creation and natural resource protection as priority issues that also contribute to their economic stability.

SwitchMed, which works with a wide range of stakeholders, is committed to catalyse the market of sustainable products and services in the Mediterranean via:

- Capacity building in industry service providers targeting small and medium-sized enterprises for resource efficiency improvements;
- Trainings for start-ups and entrepreneurs to build skills in design, business plan, marketing and financing of sustainable products and services;
- Engagement with policy-makers to establish a regulatory and policy framework that will boost the market for sustainable products and services;
- Empowerment of citizens and civil society organisations to lead socially innovative solutions addressing environmental challenges;
- An Action Network of stakeholders to link with similar initiatives and networks, exchange information and to scale-up current activities.

SwitchMed is implemented by the United Nations Industrial Development Organization (UNIDO), the United Nations Environment Programme Mediterranean Action Plan (UN Environment/MAP), the Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC) and the UN Environment’s Economy Division. Each of the implementing organisations brings its specialised experience and tools to partner with the eight countries on activities that span policy development; capacity building; business support services; demonstration activities and networking.

The United Nations Industrial Development Organisation (UNIDO) supports the development of green industry and sustainable production in the southern Mediterranean. It does so through a comprehensive approach that presents the business case of resource efficiency to industries and helps service providers increase their capacity to deliver sustainable production services matching the industry needs. In addition, UNIDO is cooperating with a number of national institutions addressing policies on sustainable production.

At the start of the project, the UNIDO designed TEST methodology is delivered to the service providers and local professionals. In collaboration with the UNIDO TEST expert team, the service providers identify and select companies to take part in the TEST project, based on the companies’ potential for improvements and top management commitment. Crucially, the company staff also receive the TEST training, enabling them to implement the technical measures and management solutions identified by the service provider. Their active participation in the training and in the implementation of the project ensures the sustainability of all identified actions at company level.

The TEST implementation approach has to date successfully demonstrated the profitability and effectiveness of introducing best practices and integrated management systems in terms of cost reduction, productivity increase and environmental performance, extending the experience gained by other industries in the region. UNIDO, together with local partners, also promotes business partnerships between local businesses and EU Eco-Innovative companies, creating an area of shared prosperity on the principles of a sustainable and inclusive socio-economical development.

United Nations Environment Programme Mediterranean Action Plan (UN Environment/MAP) is a Regional Seas Programme under UNEPs umbrella that brings together the 21 Mediterranean neighbouring countries. MAP provides support to those countries in the implementation of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, the so-called Barcelona Convention.

The Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC) is one of the centres belonging to UN/MAP. It is appointed with the mandate of the Contracting Parties of the Convention to promote Sustainable Consumption and Production in the Mediterranean region. In order to accomplish that mission, the centre provides knowledge, training, advice and networking opportunities to businesses, entrepreneurs, financial agents, civil society organisations and governments that work to provide Mediterranean’s society with innovative services and products that are good for the people and for the planet.

The center provides technical assistance to the Contracting Parties to the Barcelona Convention to adopt SCP as integrated approach to decouple development from pollution and environmental and implements pilot projects in four countries: Algeria, Lebanon, Morocco and Tunisia. Likewise SCP/RAC supports green entrepreneurs and change makers driving eco-social innovations in the Mediterranean by providing training, technical and financial advice, jointly with a network of strategic local partners and local trainers. Moreover, SCP/RAC works closely with financial agents to establish mechanisms that enable entrepreneurs and small companies that provide SCP solutions access to funding. SCP/RAC also hosts the Networking Facility that contributes to the visibility, effectiveness and scaling up of the SwitchMed activities.

UN Environment’s Economy Division supports the development of SCP National Action Plans and provides advisory services and follows up closely the implementation of the demonstration pilot projects of four countries: Egypt, Israel, Jordan and Palestine.

UN Environment’s Economy Division works closely with the National Focal Points (NFP), who are key actors in the SwitchMed and play a specific role in implementing the policy activities at national and disseminating the results in their respective countries. Focal points have been appointed by the national governments. In most countries a duo of Focal points – one from Ministry of Environment and one from Ministry of Industry.

SwitchMed Programme is funded by the European Union.

SwitchMed beneficiaries in Lebanon

- 1 Pilot projects from policy-makers
- 8 Industries from the food sector
- 1 Civil Society Organisation

Lebanon’s facts and numbers

Population
- Capital and largest city: Beirut.
- Population: 4.6 million.
- Average life expectancy: 79.5 years.
- Population growth: 2.6% annual.
- Official languages: Arabic, French.

Geography & Economy
- Territorial and marine protected areas: 1% of total territorial area.
- Urban population: growth 2.6% annual.
- CO2 emissions: 4.30 m tons per capita.

Geography & Economy

- Land boundaries: Syria, Palestine.
- Coastline: Mediterranean Sea, 225 km.
- Area: 10,452 km² (8th world’s most populated country).
- Tourism growth: 60% since 2008.
- 1.5 million of Syrian Refugees.

# Table of Contents

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support to policy-makers</td>
<td>Enabling a green growth for industries</td>
<td>Green Entrepreneurship</td>
<td>Civil Society Organisations empowerment</td>
<td>Enabling access to finance</td>
<td>Business Networks &amp; Intermediaries</td>
<td>Networking Facility</td>
</tr>
</tbody>
</table>
Engagement with policy makers to establish a regulatory and policy framework to boost the market for sustainable products and services.
Implementing circular economy measures in the Mediterranean

The Mediterranean policy-makers developed within the SwitchMed programme a Regional Sustainable Consumption and Production Action Plan, including a Roadmap towards circular economy for its implementation in the Mediterranean as well as eight Sustainable Consumption and Production National Action Plans (SCP-NAPs).

The SCP Regional Action Plan was adopted in February 2016 by the 22 Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (known as Barcelona Convention), during their 19th Ordinary Meeting of the Contracting Parties. The SCP Regional Action Plan is a substantive contribution to the implementation of the 2030 Agenda for Sustainable Development. It is a strategic document that gives clear guidelines on the actions that should be developed in the region to shift towards sustainable consumption and production patterns, long-term sustainability, circular economy and new paradigms in the use of resources. It is also responding constructively to the climate change challenges. The document is structured around 4 key areas which are essential for the socio-economic development to meet the evolutions of the national needs and the international orientations.

Moreover, there are national demonstration pilot projects implemented on the ground to promote implementation of policies and actions, which effectively change patterns of consumption and production and implement circular economy measures in the priority sectors previously selected by the target countries. In total, 20 pilot projects were implemented by the end of 2018: 2 in Algeria, 2 in Egypt, 3 in Israel, 2 in Jordan, 1 in Lebanon, 3 in Morocco, 2 in Palestine and 4 in Tunisia.

Meet our focal points in Lebanon

The National Focal Points (NFP) are key actors in SwitchMed and play a specific role in implementing policy activities and disseminating results at national level in their respective countries. A national coordination mechanism has been established in each country, coordinated and guided by the focal points appointed by their respective national governments. In most of the participating countries, two focal points—one from the Ministry of the Environment and one from the Ministry of Industry—work in tandem to lead the implementation of SwitchMed at national level.

Meet our focal points in Lebanon

Ministry of Industry (MoI)

It has the mission of elaborating, with all the actors, a policy to assure the industrial sector development. The Ministry is responsible for:

- Creating the industrial legislative bases and frames.
- Searching and supporting the creation opportunities and the industrial production development to respond to the evolutions of the national needs and the international orientations.
- Searching opportunities allowing the industrial production development to meet the evolutions of the national needs and the international orientations.
- Assuring Lebanon as an industrial country at the national and international level.
- Promoting the small and medium enterprises and small and medium industries (SMEs, SMIs).
- Collecting, analyzing and publishing industrial statistics in order to provide the different industrial stakeholders by studies and indicators, aiming to help them to make decisions.
- Creating a database of the industrial factories serving as reference for the exporters.
The Ministry of Environment in Lebanon was entrusted with the development of the Sustainable Consumption and Production National Action Plan in close collaboration with the Ministry of Industry and other key partners. Both Ministries agreed to form the start that the plan would focus on the industrial sector that comprises the vast majority of the Green Economy in Lebanon. The plan seeks to implement a number of SCP initiatives in various sectors of the economy for the benefit of the environment, society and the economy.

The Industrial Sector in Lebanon is the Heart of the Sustainable Consumption and Production Action Plan

The industrial sector shows limited diversification and most of the manufacturing activities are concentrated around few industrics and which is taken into account in the context of the SCP action plan. The scoping review also described the main environmental pressures of the sector and the role of the industrial sector in the Green Economy in Lebanon. The scoping review also focused on identifying the key stakeholders involved in SCP in the industrial sector.

The Industrial Sector in Lebanon among concerned national stakeholders. The industrial sector shows limited diversification and most of the manufacturing activities are concentrated around few industrial sectors and which is taken into account in the context of the SCP action plan. The scoping review also described the main environmental pressures of the sector and the role of the industrial sector in the Green Economy in Lebanon.

Building upon the above achievements, the Presidency of the Council of Ministers in cooperation with the Ministry of Environment, launched in March 2015 the “Roadmap towards the National Sustainable Development Strategy (NSDS) of Lebanon”. The NSDS provide Lebanon with a comprehensive National Strategy including an exhaustive economic vision as well as a strategic outlook to be used as a platform for policies and industry. The NSDS has taken needed action to ensure that Sustainable Consumption and Production is integrated in all governmental strategies and adopted in the development plan in order to adopt Sustainable Consumption and Production principles as an integral part of its national planning process. The SCP Action Plan for the Industrial Sector builds upon the NSDS and the Green Economy in Lebanon. The integrated Vision of the Industrial Sector in Lebanon as Lebanon’s strategy for the industrial sector which was adopted in June 2015.

This scoping review further provided a detailed analysis of Sustainable Consumption and Production policy instruments which are important in promoting sustainable development policies in the industrial sector in Lebanon.

Operational objectives of the Sustainable Consumption and Production Action Plan

The Sustainable Consumption and Production Action Plan was endorsed by the National Council for the Environment in November 2015. The Action Plan is organized into two main sections: Operational Objectives and Progress Monitoring. The operational objectives of the SCP Action Plan are:

1. Adopt Best Available Techniques to promote Sustainable Consumption and Production in the industrial sector
2. Introduce Sustainable Consumption and Production policy instruments related to the industrial sector in the policy and institutional frameworks;
3. Educate and raise awareness of consumers on Sustainable Consumption and Production in the industrial sector.
4. Develop priority regulations for industry in line with the national and international regulations specifically the Environment Law 444/2002 and the IPPC (EC/2000).
5. Harmonize and promote certification schemes and eco-labels for the providers and consumers of industrial sector in line with Sustainable Consumption and Production approaches.
7. Create additional industrial zones and improve management of existing ones as per the National Land Use Master Plan (NLUMP).

Objective 1 “Adopt Best Available Techniques to promote Sustainable Consumption and Production in the industrial sector” aims at promoting sustainability-driven innovation and knowledge and the integration of Best Available Techniques (BATs) which include both best available technologies and best practices throughout the entire value chain of goods production, and to extend it to the upstream and downstream flows of resources and waste, paying particular attention to the life-cycle of manufactured goods.

This also builds upon the various on-going programmes and projects in place in Lebanon supporting the adoption of resources efficiency and Sustainable Consumption and Production as a whole and which are providing technical assistance for the industries. These include: (i) Lebanese Center for Energy Conservation (LCEC), (ii) Lebanese Cleaner Production Centre (LCPC), (iii) Green Production Help Desk (GPHD), (iv)Lebanon Environment Pollution Abatement Project (LEPA), and (v)SwitchMed/ MEDESTY II Project.

The major expected outputs include:
- Continue the transfer of Sustainable Consumption and Production technologies to industries through demonstration activities.
- Upscale transfer of Sustainable Consumption and Production technologies within industries.
- Identify value chains and green jobs based on the local market’s supply and demand of Sustainable Consumption and Production services in the industrial sector.
- Initiate a Local Authority Programme (LAP) for Sustainable Consumption and Production.

Objective 2 “Introduce Sustainable Consumption and Production approaches at SCP level in the industrial sector” aims at developing a circular economy.

Under this operational objective, many initiatives are already in place in Lebanon specifically with regards to availability of an enabling financial policy for Sustainable Consumption and Production, including the Social or Circular Economy and the development of the industrial sector with the aim to move towards a circular economy.

The Sustainable Consumption and Production action plan for the Industrial sector was officially launched by H.E. Minister Mohamad Al Mashnouk, Minister of Environment and H.E. Minister Houssaini Hat Hassan, Minister of Industry during a press conference on March, 21 2016.

Stakeholder Consultation Process

Throughout the development phase the Sustainable Consumption and Production National Action Plan preparation followed an inclusive consultation process with all concerned stakeholder groups by calling upon various key partners including: (i) Ministry of Economy and Industry and Agriculture, (ii) Ministry of Finance/Institute des Finances Basil Fuleihan, Ministry of Economy and Trade, Association of Lebanese Industrialists, Federation of Chambers of Commerce and Industry and Lebanon Beaux-Arts, (iii) SCP roundtable meetings were organized to present and discuss with all concerned stakeholders the Scoping Review and SCP Action Plan, in order to confirm the status and priority issues related to Sustainable Consumption and Production in the industrial sector in Lebanon among concerned national stakeholders.

The validation by the National Council for the Environment of the SCP Action Plan and confirmed that Lebanon has a significant view and SCP Action Plan, in order to confirm the status and priority aspects related to SCP in the industrial sector.

Building upon the above achievements, the Presidency of the Council of Ministers in cooperation with the Ministry of Environment, launched in March 2018 the “Roadmap towards the National Sustainable Development Strategy (NSDS) of Lebanon”. The NSDS provide Lebanon with a comprehensive National Strategy including an exhaustive economic vision as well as a strategic outlook to be used as a platform for policies and industry. The NSDS has taken needed action to ensure that Sustainable Consumption and Production is integrated in all governmental strategies and adopted in the development plan in order to adopt Sustainable Consumption and Production principles as an integral part of its national planning process. The SCP Action Plan for the Industrial Sector builds upon the NSDS and the Green Economy in Lebanon. The integrated Vision of the Industrial Sector in Lebanon as Lebanon’s strategy for the industrial sector which was adopted in June 2015.

This scoping review further provided a detailed analysis of Sustainable Consumption and Production policy instruments which are important in promoting sustainable development policies in the industrial sector in Lebanon.

Scoping review

An in-depth scoping review was conducted as a basis for the development of the SCP Action Plan and confirmed that Lebanon has a significant potential for adopting SCP principles in the industrial sector given the level of the sector and the challenges facing the sector in optimizing its production processes. The scoping review further confirmed the availability of several key actors already engaged in promoting SCP related policies and actions in the industrial sector in Lebanon.

The review covers a description of the industrial sector and of the impact of the industrial sector on the environment, the mapping of stakeholders involved in SCP in the industrial sector, an analysis of policies and plans related to SCP in the industrial sector and other specific aspects related to SCP in the industrial sector.
The winemaking industry of Lebanon is growing at an unprecedented rate. Only a few years ago, there were but a handful of well-known wineries in the country. The sector has recently witnessed an impressive leap forward, so much so that more than 40 Wines of the Year awards were made in the United Kingdom, France and the United States. The filière of such growth, however, is not only the multi-generational, family-owned wineries, namely grape pomace, lees, stalk and sludge, that requires the industry to come up with an effective management plan.

The main output of WISE was the transformation of over 30 m³ of grape pomace into compost. For this purpose, two composting piles were prepared, tested and monitored by Château Kefraya jointly with the AUB-NCC experts. One of the piles included manure to boost the nitrogen content. Through appropriate turning and monitoring, neither of the two piles exhibited any specific problems in terms of odour emission or attracted an above average number of flies, and both benefited from a similar waste discharge system.

The needs assessment and consultations with the wineries led to the conclusion that they lack the equipment to enable them to compost. As a result, an additional goal was introduced to the WISE programme which involved forging an agreement between AUB-NCC and the Lebanese Agricultural Research Institute (LARD) and a public body affiliated with the Ministry of Environment to generate dignified employment while decoupling economic development from environmental degradation. For this to happen, she add, it will require public-private partnerships in the long term between private business and relevant policy actors in order to push the SCP agenda forward in the light of the current ongoing waste crisis, the time to act is now.

Building on the momentum created by the SwitchMed project, SCP/RAC will be seeking opportunities to continue assisting stakeholder groups to take on the results achieved from the WISE project and contribute to promoting collective efforts for the greening of the Lebanese wine sector.
Demonstrating the business case of a resource efficient and cleaner production (RECP) in Lebanon’s food industry.
At SwitchMed we support the adoption of sustainable production in the southern Mediterranean that enables industries to increase their ability to produce with lower cost, while reducing their environmental footprint. We do so through the MED TEST II project, a comprehensive approach that demonstrates the business case of a resource efficient production in 125 industries in 5 key production sectors of the southern Mediterranean, by using capacities of local service providers. This approach promotes the business case of a resource efficient production to industries in the southern Mediterranean, while advancing the supply of national capacities on sustainable production services.

Transforming industries to meet the needs of changing market conditions and a rising resource scarcity calls for a change in knowledge, attitudes and practices that can lead to a production that requires less resources and reduces pollution. The MED TEST II project, preided by the United Nations Industrial Development Organisation (UNIDO), applies the methodology named the Transfer of Environmentally Sound Technologies (TEST), a concept that addresses the challenges and barriers industries are facing in becoming more resource saving, energy efficient, and less-polluting.

The TEST concept approaches all management levels of a business, involving people with different professional backgrounds and operational responsibilities, in order to enhance and sustain the efficient use of production inputs and environmental performance. Connecting the resource efficient and cleaner production (RECP) assessments with present-day standards in environmental and energy management systems, helps building cross-cutting understanding and capacities within various management areas of a company and enables a holistic understanding and support for RECP within the business. This encourages a business culture where eco-innovative business solutions can thrive, and a systematic assessment of the production can be set-up to monitor resource use and support a continuous improvement on the business performance. Furthermore, this approach encourages the production of goods that are responsibly managed throughout their life cycle, and increases the ability of companies to access international markets with good quality products and to reach compliance with environmental standards.

The MED TEST II project has displayed that the potential for improvements in resource savings within the production of the southern Mediterranean industry is significant. In the eight SwitchMed countries, the MED TEST II project identified 1,830 improvement measures within the 125 demonstration companies. The identified measures have stimulated a total investment of 87.6 million euros out of which 43% of the measures had a payback period below 6 months. A short payback period combined with an annual saving potential worth 417 million euros, has contributed to a high implementation rate of the identified measures (75%), showing that investments in RECP is a feasible and a profitable business decision. Through the identified RECP measure in the MED TEST II project, industries in the Southern Mediterranean region now can annually save 3,512,660 m³ of water, 707 GWh of energy, reducing the solid waste generation with 19,602 tons and CO₂ emissions with 397,525 tons per year. In addition, 682 professionals from industries, service providers, government institutions and academia received training on the TEST methodology during the demonstration phase of MED TEST II in the SwitchMed target countries.

Resource efficiency is key in switching towards circular economy models. The MED TEST II project has revealed how additional economic and environmental benefits can be gained from the RECP approach using an integrated methodology of TEST that gives businesses an opportunity to invest in their future while reducing their environmental footprint.

Strengthening national capacities and competencies related to RECP is not only one of the main objectives of the MED TEST II project, but also an effective way to ensure a sustainable impact that goes beyond the duration of the project. For this reason, UNIDO is closely collaborating with government institutions and stakeholders from the industry and civil society to raise the significance of RECP to policy makers and knowledge networks, and to strengthen the national capacities in providing expertise on RECP.

Under the patronage of the Ministry of Industry (MoI) and the Ministry of Environment (MoE), the MED TEST II Project in Lebanon has been led by the Industrial Research Institute (IRI), in collaboration with the Association of the Lebanese Industrialists (ALI), the Chamber of Commerce, Industry and Agriculture of Beirut and Mount Lebanon (CCIA-BML), and Banque du Liban (BDL) to mobilize funding and support for a sustained application and scaling-up of RECP in Lebanon.

Trainings, combined with onsite technical assistance, were provided by local service providers with the support of international sector/thematic experts. The idea behind this approach was to demonstrate the business case of RECP in one of the largest industry sectors of Lebanon, and to establish reference cases for national service providers willing to offer the TEST concept to interested industries through Lebanon. Together with the Lebanese partners, UNIDO demonstrated through capacity building activities and industry demonstrations more sustainable manufacturing techniques and new green business models within 125 companies from the food industry sector, thus stimulating a national demand and supply in transforming the Lebanese industry in becoming more resource efficient.
Resource efficiency is a major opportunity for industries, the economy and the environment in Lebanon

Lebanon, a diverse nation in the Middle East has due to its geographic location often been affected by conflicts, both from within the country as well as from the neighboring region. The economic and social impact of the Syrian crisis, continue to strain the public finances, the environment, and the economic potential of the country. For Lebanese industries, the situation has caused a drop of export opportunities due to closures of borders with the neighbouring countries, an increased pressure on infrastructures, and an increased informal competition. This is a setback for Lebanon’s own development and continues to constrain the competitiveness of Lebanese businesses.

Reforms and investments that could resolve the issue of a sound distribution of valuable resources such as energy and water within the country, have failed to come and has led to a situation where production costs for industries are distressingly getting higher. For instance, the ongoing power supply interruptions and a rising dependency on expensive and carbon-intensive fossil fuels for energy have made savings in the energy consumption a top priority for Lebanese industries. In common with the energy situation, water also continues to face distribution problems in Lebanon. Although water is considered an almost free resource for most businesses, many companies must drill their own wells or purchase water to meet their water consumption needs. Moreover, national businesses must now also cope with rising transportation costs for delivering their goods to regional export markets, which, coupled with increasing prices for raw materials, puts the abilities of Lebanese businesses to export at risk.

With 20% of Lebanon’s GDP, industries play a key role in the diversifying the economic development, not only as a resource consumer, but also as a driver of economic growth and job creation. But the way industries deal with waste, energy and water needs to change fundamentally, especially in the Lebanese food industry. Therefore, industries require tools and investments that will help the businesses to become more resource and energy efficient, non-polluting, and safe – and to maintain their competitiveness.

Turning challenges into opportunities is at core to the UNIDO TEST methodology as it supports industries with a toolset to address the rising energy and raw material costs by integrating saving measures into ongoing business operations. The TEST concept was introduced in Lebanon in the MED TEST II project, a unique and innovative part of the SwitchMed programme that addressed the challenges and obstacles that Lebanese industries are facing in order to become more resource and energy efficient, and non-polluting. The MED TEST II project, implemented in Lebanon from 2015 to 2017, enabled 8 Lebanese companies to identify 111 RECP measures. During the project, local expert teams recommended each company to set up a set of meters to monitor energy and water use at key consumers. As a result, a total of 475 meters were installed in the 8 companies with an investment of 120,008 euros, showing the high commitment of top management and a raised awareness on the importance of resource efficiency. The installation of this resource monitoring system, together with the formulation of an RECP policy, and the recommendation to improve accounting systems (MFCA) for material losses, will facilitate companies’ adoption of environmental and energy management standards and also enable them to have continuous improvements in resource efficiency as a routine practice in the future. Through the identified saving opportunities in the MED TEST II project, the participating 8 industries will be able to reduce their annual water consumption with 53,412 m³ and the energy consumption with 14.3 GWh per year. These measures require investments worth 1.4 million euros, with an average payback period of 0.9 years, and will accumulate annual savings worth 1.6 million euros. This clearly shows the huge potential and profitability for the RECP concept in Lebanon.
Talking heads section with Nada Sabra

Nada Sabra’s profile:
Nada Sabra is an environmental expert and has been working with UNIDO in developing the Lebanese industry for 14 years. She has a background in environmental biotechnology and is a university lecturer and researcher in the environmental field. She has 18 years of experience in the management, coordination and monitoring of environmental projects in Lebanon and in the Arab region. Nada shares with us how UNIDO managed to attract SMEs into the MED TEST II project and where the biggest challenges lie ahead for Lebanon’s growing industry.

More often than not, companies are not aware on the losses that occur in their production. How does UNIDO and projects like the MED TEST II help SMEs in managing inefficiencies and become more cost efficient?
UNIDO worked in the regional MED TEST II project with local expertise to demonstrate best RECP practices throughout the eight countries of the SwitchMed programme. In Lebanon, the MED TEST II project was implemented locally by the Industrial Research Institute, in partnership with the ministries of Industry and Environment and in collaboration with the Association of the Lebanese Industrialists, the Chamber of Commerce, Industry and Agriculture of Beirut and Mount-Lebanon and Banque du Liban. At the beginning of the project in Lebanon, the MED TEST II team encouraged the companies to install measuring devices to collect data on their consumption. Within the MED TEST II project we say that “you cannot manage what you cannot measure” and this has often changed the mind-sets of business managers on how to approach topics related to raw material, waste, energy, and water consumption. Businesses now have been enabled to identify the value of their losses in their production and take the right countermeasures to prevent these inefficiencies. Resource efficiency simply helps industries in doing better business and that is something every business ultimately wants.

Changing the way industries use raw materials, energy, and water in their production, sometimes require a change of an often ingrained company culture. Where did you see the biggest challenge in convincing SMEs to adopt more resource efficient production practices and what could eventually convince them?
Every company has its own culture in production procedures and sometimes even relation to certain machines, so it is important that we integrate the several levels of a company management to the process of finding efficiency measures. One of the core strengths of the UNIDO TEST methodology is that it incorporates the various department of a company into this process. For example, the accountants and production managers work together in company teams to assign costs to flows of material, energy and water. This price tagging process measures the economic and environmental impacts of the company’s production and helps determine losses as it sheds light on the saving potentials with a monetary value. Later at this stage, managers begin to realize that resource efficiency is about doing good business and is a valuable approach to be thought of even when companies encounter difficult economic conditions. We simply guide them to find the best measures for their business.

What can be done to make investments in resource efficiency for SMEs more attractive and what could be the long term effects of such measures be for industries in Lebanon mean?
For many businesses the connection between improving their resource efficiency and making a positive difference to their bottom line is still not sufficiently evident. The MED TEST II project already managed to identify over 1.6 million Euros worth of savings in eight Lebanese industries, and we know there are still industries out there that could surely benefit from simple improvements to prevent waste and save themselves money. Therefore, it is important to keep in mind that resource efficient production means competitiveness. For businesses, competitiveness is a key aspect to invest in resource efficient technologies. Still, the ability to invest also varies depending on the access to finance. In Lebanon, 60% of the identified investment measures in the MED TEST II project had a payback period of less than 6 months, a circumstance that highlights that sometimes simple actions can take small businesses a long way. Eventually, a resource efficient production leads to lower operation costs, which again will allow the company to make new investments into the business, to upgrade technologies, expand the production and create new jobs. So, eventually switching to more resource efficient operations is also the beginning of a virtuous circle for the business.

Where do you see the challenges regarding the implementation of resource efficiency at different scales in Lebanon and what impact could this have for the future development of the economy?
Before we can make other industries and sectors ready to invest in resource efficiency, we must first create an understanding on the barriers for RECP for businesses. At UNIDO we have, in consultations with the national partner, the government, and key stakeholders developed a roadmap for scaling up resource efficient production in Lebanon. This roadmap is based on the experience gained from the project and gives suggestions on how to overcome barriers. For instance, one of the main barriers for RECP is the perception among businesses, institutions on the topic. The roadmap has therefore set up actions that will help to raise the awareness on the potential and capacities for RECP in Lebanon. Likewise, the roadmap also addresses the importance of providing finance mechanisms for RECP, integrating RECP concept in relevant legislations, developing sector guidelines, and how to raise the national capacities for RECP in Lebanon by introducing a certification scheme and including it into the curriculum of academia. Eventually, it is expected that with a country wide adoption of RECP in Lebanon both environmental and economic goals can be reached, at the same time national expertise on this topic will be encouraged.
Case studies from Lebanon

Skaff Dairy Farm is a small sized company with 11 employees, producing 840 t of various dairy products for the local market. Before the company joined the MED TEST I project the company faced problems related to energy and finished products losses. As recommended by the MED TEST II project team, an information system to monitor water and energy use was installed at the project start and has together with other measures, such as the adoption of a marketing policy that reduces the product returns, helped the company to make annual savings worth 38,849 euros.

“The Project is one of the best we have ever implemented. It has improved the financial and managerial situation of the company and introduced good practices at operational and maintenance levels.”
Camille Skaff, Owner, Skaff Dairy Farm

The Dirani Group, established in 1979 in Qarnabah in the Beeka region, joined the MED TEST II project to reduce resource consumption. As a producer of various food products the company had over the recent years expanded and was already looking for improvements that could save energy in the production. Thanks to the project the Dirani group could make improvements in their production line and reduce the energy bill by 13%, saving the company more the 65,310 euros in energy costs.

“Thanks to the project, we achieved energy efficiency improvements in two years that otherwise would have taken us a decade to accomplish without this support.”
Ahmad Dirani, General Manager, Dirani Group

HMBR Manufacturing and Trading CO S.A.L, was founded in 1993 and is organized into two separate factories named FANTASIA and PAIN D’OR located in the same production area in Choueifat, Lebanon. FANTASIA produces different types of potato chips with a total production of 5,236 t/year, while PAIN D’OR produces numerous types of bread, baked goods, ice cream, and chocolate with a total production of 9,369 t/year. The company was motivated to join MED TEST II to identify opportunities for increasing resource efficiency and reduce operational costs of production. In total, thanks to the MED TEST II project, the business managed identify saving opportunities: worth 1,211,561 euros a year. By applying the TEST methodology it became evident that the product returns was a significant cost for the company. By using a software that will improve the production planning, scheduling, the forecasts of the market demand, the company could reduce product returns by 492 t annually and save 856,000 euros a year.

“Thanks to MED TEST II project, we can say that there has been a quantum leap in awareness among the staff concerning resource use and efficiency. The information system, installed at the start of the project, played a major role in this transformation because it has translated vague concepts and statements into real world numbers.”
Marwan El Koussa, Chairman of the Board of Directors and Owner

Total savings by the selected companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Total Savings, €</th>
<th>Water Savings, %</th>
<th>Energy Savings, %</th>
<th>Material Savings, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skaff Dairy Farm</td>
<td>38,849</td>
<td>2.8</td>
<td>15</td>
<td>44</td>
</tr>
<tr>
<td>The Dirani Group</td>
<td>65,310</td>
<td></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>HMBR</td>
<td>1,211,511</td>
<td>21</td>
<td>13.4</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Chapter 2
Enabling a green growth for industries
Annual environmental impact savings identified in the 8 Lebanese food industries

78 professionals
from academia, business associations, government institutions and industries
received training on the TEST tools during the demonstration phase of MED TEST II in Lebanon

53,412 m³ per year of annual water savings

3,567 tonnes of annual CO₂ savings

1,519,362 litres of gasoline consumed

750 Lebanese households annual water consumption

523 tonnes per year of solid waste avoided

178 years' worth of solid waste produced by a person in Lebanon

14.3 GWh per year of annual energy consumption savings

4,950 Lebanese households annual energy consumption

8 companies

1,600,000 euros saved annually
Scaling up a resource efficient and cleaner production throughout the Lebanese industry

By adhering to the Sustainable Development Goals (SDGs), initiated by the United Nations in September 2015, Lebanon is committed to include the dimension of sustainable development in all of its public policies. Consequently, Lebanon has put in place a national plan for sustainable consumption and production methods (SCP NAPs) whose implementation in the industry sector is reflected in the concept of RECP. In this sense, the achieved results from the MED TEST II project are conclusive as they confirm the relevance and effectiveness of the TEST methodology as an instrument for industries that wish to overcome challenges related to a sustainable consumption and production. The cost effective measures, with a brief payback period, allow businesses to integrate RECP solutions in their current production without jeopardizing the business operations.

Making the transition from demonstration activities in the Lebanese food industry to a sector wide mainstreamed adoption of RECP in the industry of Lebanon, would be pivotal in helping achieving the SDGs in Lebanon. In this regard, UNIDO together with the Government, the IRI, and stakeholders from the industry and civil society, have developed a roadmap with propositions on how to guide a sector wide adoption of RECP in the Lebanese industries and what actions are required to do so. The goal of this action plan, which is based on the concept of leverage points and experience gained from the MED TEST II project in Lebanon, is to eventually create a system change around the topic of RECP for industries in Lebanon that will encourage an adoption and change towards RECP. The table below lists the priorities that were identified in the development of the roadmap for RECP in Lebanon and the required action, needed to accomplish the roadmap.

### (1) Operation

1.1 Capacity-building initiatives that target national service providers and industries through demonstration activities at companies, including a financing instrument to incentivize RECP investments. Capacity-building actions will also target public administrations (e.g., MoI, MoE).

1.2 Promote the adoption of information systems on resource use and resource efficiency by companies: support for industries to install resource metering equipment and upgrade their accounting systems to include the determination of the cost of lost resources.

1.3 Establish a qualification scheme for service providers (consulting firms: target 10 SPs), including theoretical and on-the-job training, eventually combined with demonstration initiatives (i.e. 1.1 Capacity building). This would constitute a first step towards establishing a national certification scheme for service providers.

### (2) Management

2.1 Develop resource efficiency guidelines and benchmarks, and incorporate them into ministerial decisions (10 sectors). For example, MoE decisions on various sectors to strengthen permitting procedures and auditing systems of industries, or MoI decisions regarding the licensing requirements of companies.

2.2 Support RECP investments in the industrial sector: creation of an RECP soft loan for industrial companies in coordination with relevant stakeholders. A cash payback mechanism for companies after they successfully comply with RECP loan requirements would be also developed.

2.3 Incorporate RECP courses into the academic curricula of universities and vocational schools. Courses will be designed in different versions not only for engineering and environmental faculties/programs but also for accounting/business programs. They would have both a theoretical and a practical component.

### (3) Policy

3.1 Draft an amended version of MoE decision 189/1-2016 relating to environmental compliance so that it incorporates RECP elements.*

3.2 Training for the MoE and for environmental consulting firms on reviewing RECP aspects in audits related to the amended version of MoE decision 189/1-2016.

3.3 Issue a ministerial decision to enact MoE decree 167/2017 such that it favours tax reductions for industries that adopt resource efficient and cleaner production technologies and practices.**

* In-kind contribution from the MED TEST II project and MoE.

** In-kind contribution from the MoE.

### (4) Mindset

4.1 Organise a yearly event (e.g., forum) on sustainable industry or the circular economy with a focus on RECP.

4.2 Awareness-raising activities that highlight RECP benefits and success stories (TV spots, billboards, documentaries, awareness seminars, etc.).
Building technical capacity and supporting green businesses in order to build a green entrepreneurship ecosystem in the Mediterranean.
Capacity building for green and circular economy business models

At SwitchMed we are building a green entrepreneurship ecosystem in the Mediterranean by supporting green entrepreneurs from Southern Mediterranean countries. 13 local partners were selected to follow-up closely the programme on the ground. In parallel, an innovative training methodology was developed to support the creation of green business models and adapted to the context of the Southern Mediterranean. The methodology – comprised of a handbook and workbook on green business model development and green business plan development & incubation – guides green entrepreneurs through the entire process of growing their green business idea into a full-fledged enterprise. The methodology also provides tools and test the green entrepreneur's business models, by explaining step by step how to validate the business model hypothesis with targeted customers and stakeholders.

Many of these individuals have a sound business idea but may lack the knowledge needed to transform their idea into a viable business. For this reason, the Green Entrepreneurship programme also includes a comprehensive training and incubation programme for individuals on how to launch a green business, led by the Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC). The training programme – a five-day module delivered over three months in each of the SwitchMed beneficiary countries – requires green entrepreneurs to reflect on and articulate how their business idea will bring value to the economy, the environment and the community. Through the practical exercises, entrepreneurs must clearly identify the underlying problems and needs they are addressing, map their stakeholders, interview potential customers, document their mission and their environmental and social value proposition, evaluate the resources and energy needed to create their product or service and think about how they will generate revenue streams, amongst other activities. A key component of the training programme is the module dedicated to eco-design, which requires entrepreneurs to take an in-depth look at the entire life cycle of their products and services to evaluate and improve their environmental performance and to challenge them to incorporate innovative solutions in their business models. Circular economy principles form the cornerstone of this module, which gets entrepreneurs thinking about the many dimensions of environmental sustainability that can be incorporated in their product or services. Materials, for example, can be chosen to maximise recycled content, renewability and recyclability to preserve natural resources and give value to other waste streams in the community. The incubation programme includes 55 hours individual follow-up advisory service by a local mentor, a tailor-made technical assistance and support to develop a crowdfunding campaign, if applied, as well as support to access to finance throughout a period of 8 months.

In total, 123 local trainers were trained on-site, and finally, 84 were selected for the implementation of the training programme. Out of the 6,000 applicants who submitted an application to join the training programme, 2,300 green entrepreneurs were selected and trained. In the aftermath of the trainings, 166 entrepreneurs were selected and received a 30 hours individual coaching to improve their green business models. Out of the 157 entrepreneurs who submitted an application for the incubation phase, 49 were selected by an International High Level Jury that operated pro bono and included a group of independent experts from business, technical, institutional and academic sectors.

A national synergy workshop in each SwitchMed country was held to identify challenges and opportunities to promote green entrepreneurship and social eco-innovation initiatives, to identify specific measures and tools to strengthen the regulatory framework as well as to stimulate the market for sustainable products and services. In the end, a white paper was published, to highlight the strengths and weaknesses of the country green entrepreneurship ecosystem, in order to reveal the areas and axes where the needs for action are greatest and a whole collection of interviews.

Meet our local partners

Our local partner, as selected by SCP/RAC, is an organisation with extensive knowledge of the current situation in Algeria concerning civil society organisations, social movements and empowered communities aligned with sustainable consumption and production and ecological and social innovation as well as experience of organising/managing workshops. The main task is to assist SCP/RAC in identifying and selecting local trainers and potential grassroots initiatives to join our training programme.

Viridis Investment Fund (VIF) / Fondation Diane
It provides financial & operational support exclusive to green startups and SMEs in Lebanon, as well as a Green Support Platform for technical and business training and development programmes, coaching activities, and workshops to green entrepreneurs.

American University of Beirut, Nature Conservation Center (AUB-NCC)
It is an interdisciplinary academic research center which strives to provide an open and collaborative platform on research, education, community outreach, and knowledge dissemination. As the only academic center in the region that collects, identifies, and catalogues species, creates databases, and researches the nutritional, medicinal, and traditional applications of endemic species, NCC hopes to continue its work and fulfill its vision of establishing the center as a recognized reference.
How is the green entrepreneurship programme contributing to the environmental, social and economic impact?

Applicants
Entrepreneurs who submitted their green business idea in order to be selected to access the training programme.

265

Trainees
Entrepreneurs who received a 5-day intensive on-site training sessions along a period of 3 months in order to develop their green business models and prove their feasibility through the practical tools, exercises and practical tools provided by the SwitchMed methodology.

211

Coached
Entrepreneurs who received a 10 hours individual coaching in order to improve their green business models. They submitted their green business model canvas for the incubation phase/follow-up advisory service.

22

Incubated
Entrepreneurs received support from local mentor and technical experts to develop their Green Business Plan and to launch their product on the market.

17

Green Businesses created

Analysing our Lebanese 211 trainees

By sector:
- 29% Other
- 17% Renewable Energy & Energy Efficiency
- 13% Sustainable Building & Construction
- 12% Organic Food & Agriculture
- 10% Resource Efficiency & Sustainable Waste Management
- 7% Sustainable Waste Management
- 29% Other

By gender:
- 51% Women
- 49% Men

By age:
- 25% <20 years old
- 20-30 years old
- 31-40 years old
- 41-50 years old
- 51-60 years old
- >60 years old

Chapter 3
Green Entrepreneurship
Meet our Lebanese incubated green entrepreneurs

NK by Nour Kays

Turning plastic waste into durable fashion accessories

NK collects and repurposes used plastic bags into a new material that she uses to create handmade, fashionable and eco-friendly bags, pouches and accessories. NK's team of independent professionals are specialists who work together to provide the market with alternative, uniquely designed and environmentally friendly products.

Tell us about yourself and how the idea for your business was born

As kids, my twin sister and I spent a lot of time outdoors, surrounded by trees, eating our grandma's homemade veg and playing with animals and insects. That contact with nature shaped the person I am today and I reckon it's why I have such a profound respect for the environment. While studying a master's in Communication Design at London's King's University, I noticed I had a lot of plastic bags piled under my sink and my concern about this problem started to grow. I realised that plastic bags take centuries to decompose, and the petrochemicals they are derived from are highly nutritious and unhealthy for countries like Lebanon that haven't taken action to tax or ban them, and only a margin of them are recycled. So, I wanted to find a solution and, since they are not yet fully recyclable, one alternative is to repurpose the plastic bags into new usable materials, giving them a new life and diverting them from nature for as long as possible. NK started as a final project for my master's degree at Kingston University in London, and when I moved back to Lebanon, my family and friends encouraged me to continue it. In 2015, I found about SwitchMed's call for green entrepreneurs, and so I applied. What a great programme! I did different experiments to see how to turn my business in a more efficient and environmentally friendly way. I received coaching from local experts to develop my product and enhance the material until I found a way to make it more wearable, and so attract more customers. A lot of times, when you are developing a product, you wonder what can we do with it. Thanks to the technical assistance, we have designed and prototyped different fashion items and found out how the bags and tissue can be used and how easy it is to market. It also helped us to produce a material that is uniform in texture, colour, shape and weight.

NK is an outdoor farming initiative, based on fungi-based technology and a vision of circular production and consumption based on circular production and consumption. The goal is to remediate the natural environment by upcycling agril-industry by-products into specialty mushrooms that decontaminate the environment.

Tell us about yourself and how the idea for your business was born

I'm an environmental designer, architect, writer and green entrepreneur. Around 50% of Arab millennials and MENA youth share youth concerns regarding healthier food consumption and the need for more sustainable lifestyles. Lili's Farm was created to address these concerns, through careful investment in human, natural, spatial and technological resources. We wanted to create a farming system that provides local food to environmentally conscious communities that satisfies new textured taste requirements, alternative vegan food demands and provides essential nutrition needs.

It is not new that specialty mushrooms are considered a superfood, not that they have been used to treat, heal and protect against many different diseases by Eastern medicine. But these mushrooms also decontaminate the environment and break down agricultural by-products as they grow, setting organic life in motion. By creating a new branch of social business market focused on specialty organic mushrooms, we are harnessing essential skills for converting existing rural and urban waste into production and framing environments. Our unique approach is centred on using locally sourced agriculture by-products as a growing substrate. We use custom-made climate control and automation systems to grow mushrooms in a sustainable and scalable manner. We deliver our products directly to the Lebanese consumers. Using environmentally aware operations and products, we focus on the environment and the local community.

What is the environmental and social impact of your project?

Mushrooms production has a low environmental impact as it involves a low level of CO2 emissions. The CO2 footprint of mushroom production is SwitchMed's early lower than the footprint of beef production, 32 kg CO2e versus 27 kg CO2e/kg. We worry about greenhouse emissions on the planet, because mushroom growing requires a lot of water and energy, so we work to find ways to reduce our energy consumption. At Lili’s Farm, we focus on minimizing the greenhouse gas emissions of mushroom production. We are harnessing essential skills for converting existing rural and urban waste into production and framing environments.

It is not new that specialty mushrooms are considered a superfood, not that they have been used to treat, heal and protect against many different diseases by Eastern medicine. But these mushrooms also decontaminate the environment and break down agricultural by-products as they grow, setting organic life in motion. By creating a new branch of social business market focused on specialty organic mushrooms, we are harnessing essential skills for converting existing rural and urban waste into production and framing environments.

The project is scalable regarding larger growing chambers to increase the share of the market. We are currently focusing on the cultivation of specialty mushrooms. We have successfully upcycled locally and regionally available agri-by-products for the production of oyster mushroom varieties. Also, rather than import raw materials from abroad, we use locally available agri-by-products for the production of mushrooms.

Lili’s Farm Scaling up organic mushroom production while counteracting land scarcity

Lili’s Farm is an outdoor farming initiative, based on fungi-based technology and a vision of circular production and consumption. The goal is to remediate the natural environment by upcycling agril-industry by-products into specialty mushrooms that decontaminate the environment.

Tell us about yourself and how the idea for your business was born

I'm an environmental designer, architect, writer and green entrepreneur. Around 50% of Arab millennials and MENA youth share youth concerns regarding healthier food consumption and the need for more sustainable lifestyles. Lili’s Farm was created to address these concerns, through careful investment in human, natural, spatial and technological resources. We wanted to create a farming system that provides local food to environmentally conscious communities that satisfies new textured taste requirements, alternative vegan food demands and provides essential nutrition needs.

It is not new that specialty mushrooms are considered a superfood, not that they have been used to treat, heal and protect against many different diseases by Eastern medicine. But these mushrooms also decontaminate the environment and break down agricultural by-products as they grow, setting organic life in motion. By creating a new branch of social business market focused on specialty organic mushrooms, we are harnessing essential skills for converting existing rural and urban waste into production and framing environments. Our unique approach is centred on using locally sourced agriculture by-products as a growing substrate. We use custom-made climate control and automation systems to grow mushrooms in a sustainable and scalable manner. We deliver our products directly to the Lebanese consumers. Using environmentally aware operations and products, we focus on the environment and the local community.

What is the environmental and social impact of your project?

Mushrooms production has a low environmental impact as it involves a low level of CO2 emissions. The CO2 footprint of mushroom production is SwitchMed’s early lower than the footprint of beef production, 32 kg CO2e versus 27 kg CO2e/kg. We worry about greenhouse emissions on the planet, because mushroom growing requires a lot of water and energy, so we work to find ways to reduce our energy consumption. At Lili’s Farm, we focus on minimizing the greenhouse gas emissions of mushroom production. We are harnessing essential skills for converting existing rural and urban waste into production and framing environments."
Chabrouh, Eco-Farm
Changing social patterns through environmental education

Chabrouh Eco Farm is an organic farm that promotes sustainable practices and runs hands-on educational programmes for students. Ghana Bteich’s goal is to increase awareness on the importance of protecting the environment and preserving soil, biodiversity, animal welfare, sustainable and healthy food production, and organic agriculture in Lebanon.

Tell us about yourself and how the idea for your business was born.
I am 34 years old and Committee Chair for Digital Mindset and Behaviour in the Smart Cities Association. The idea for this project arose from my desire to foster a new generation of responsible citizens in Lebanon, promoting an eco-friendly mindset and an awareness of the solutions and alternatives available to fight pollution. I think there is a need to integrate civic and environmental awareness in education, which is an effective tool for changing social patterns and traditional behaviours.

Through the workshops and activities we offer we help to mainstream sustainable consumption habits. In Lebanon, many people still have terrible habits, like throwing waste from car windows or littering in the street. There is a lack of awareness regarding recycling and the environment, and unfortunately, the country’s major challenges still include dealing with pollution, the garbage crisis and littering. On our farm we teach people about reforestation, air pollution, biodiversity, the bee’s lifecycle, recycling and water efficiency. Our project provides a unique learning environment and experience based on sustainable practices. I believe that by educating youth we can shape a better future for our country.

What is the environmental and social impact of your project?
We want to increase awareness on the importance of protecting nature. Our goal is to transform our farm not only learn how to respect each other, but also the environment. They learn about how sustainable practices in agriculture and respect for biodiversity can help to preserve soil. The farm’s primary beneficiaries are children, and our in-depth workshops, activities and games are designed to be fun and interactive. They improve children’s knowledge about organic food production, and our farm’s own crops offer them the opportunity to put this knowledge into practice and even sell produce to visitors afterwards. Through hands-on participation, they discover how ecosystems function and how we are linked to them, and they also perceive the ecological consequences of our actions.

Another field of teaching refers to organic and healthy food consumption, not only for the obvious benefits of eating well, but also because, by promoting organic agriculture, people, and especially young people and women, will discover new job and entrepreneurship opportunities. There are also volunteering opportunities, in particular for those who live in mountain and rural areas.

How have you benefited from the SwitchMed programme?
SwitchMed has supported me from the very beginning of my business idea. The incubation phase helped me to develop a comprehensive business plan for pedagogical activities based on contact with nature. As part of the business strategy, three main products were designed and developed so as to highlight the importance of circular economy practices and sustainable consumption: a hands-on environmental programme of activities for children called “One day at a farm”; another activity on the production of organic products from the farm, and thematic workshops tailored to the farm facilities. I also received technical assistance from two experts in developing a communication and branding strategy to enhance the visibility of my company. The marketing strategy included a well-defined communication plan as well as social media planning and content. The support provided was also very useful in improving the eco-design of the farm experience. SwitchMed’s experts also mentored me in the right way to access financing programmes.

Re-build
Replacing concrete with solid waste in construction blocks

Re-build produces construction blocks made of unsorted solid waste. The blocks have the same physical and chemical properties of the traditional concrete ones, but do not use chemicals, limit the use of raw materials and are less expensive. Coraline Rasset developed her business idea for tackling the waste crisis in Lebanon after being awarded 1,000 USD by Fondation Diane. The current most common solution for waste management in Lebanon is open-air burning in uncontrolled dumps. As a healthier alternative solution, Re-Build’s unique value proposition is up-cycling all kinds of solid waste without first having to sort it. Re-Build not only reduces landfill volumes but also contributes to the shift to more sustainable practices in the construction sector.

H2GO!
Plastic not-so-fantastic start-up confronts Lebanon’s waste with reusable water bottles

In Lebanon the fact that tap water is not potable means that plastic bottles are the first alternative for drinking water, which is contributing to a dramatic Lebanese environmental crisis. H2go! aims to reduce mass consumption of single-use plastic by encouraging Lebanese citizens to drink from reusable water bottles. The start-up has created a system of accessible sanitised water stations in partnership with the water company whose distribution network it uses. People on-the-go can easily locate the nearest water points to buy water and fill up their bottles thanks to a mobile app developed by the company. H2go! has created trendy reusable bottles for their clients, which adds an element of coolness to sustainable water drinking habits, not to mention the plus of knowing how much plastic is being saved.

TIREVOLUTION
Tired of tyres, an industrial manufacturer helps recycle Lebanon’s rubber waste

TIREVOLUTION has made industrial products in Lebanon for decades and now wants to give a second life to tyres that are usually dumped on roads, in landfills and in the sea. George Kassab explains his company’s commitment to reduce the accumulation of single-use rubber by collecting and recycling scrap rubber to turn it into useful products, such as car and doorsteps mats. They can easily locate the nearest water points to buy water and fill up their bottles thanks to a mobile app developed by the company. H2go! has created trendy reusable bottles for their clients, which adds an element of coolness to sustainable water drinking habits, not to mention the plus of knowing how much plastic is being saved.

TIREVOLUTION recycling process is that energy consumption and emissions are reduced by more than 50% as compared to traditional recycling processes. A closed-loop system that follows eco-design principles is used to cool water. Finally, both the end product and its packaging are easily recyclable.
“So far, NK has diverted almost 4,000 discarded plastic bags from ending up in landfills and nature. Each square meter of our material is made with 30 used plastic bags and each piece is as unique as the mix of those that are used for it.”
Nour Kays, founder of NK by Nour Kays

“We have established a sustainable and circular system for the production of organic mushroom. Comparing to regular producers we use 0.49 kWh less energy per Kg. of mushroom produced. We also up-cycle 55 tonnes of agricultural waste per year.”
Wissam Mansour, Lili’s Farm manager

“Most environmental education programs for kids in Lebanon are about outings to plant trees, cleaning campaigns, or learning how to recycle. Our project provides a unique learning environment and experience in an ecological farm that will be itself built according to sustainable practices and act as a demonstration area. It will inspire kids to learn in a new setting, in a participatory way, while practically seeing the results in front of them. They will learn about animal husbandry, about where food comes from, how we grow it, transport it, consume it, and its ecological and health impact on us.”
Ghana Bteich, Founder of Chabrooh Eco Farm

“The value proposition of our construction blocks is unique as we up-cycle all kind of solid waste without first having to sort it.”
Coraline Rasset, Re-build co-founder

“Our vision is to make Lebanon a country where citizens carry reusable water bottles that they can conveniently and safely refill at an affordable cost, as way to drastically reduce the use of disposable single-use bottles.”
Elyssa Skaff, H2go! co-founder

“We want to help limit as much as possible the environmental damage of tyres that are burned, dumped in the sea and thrown on roads or in deserted nature areas by optimising and accelerating our tyre recycling process to increase capacity.”
George Kassab, TIREVOLUTION founder
The Switchers: Discover inspiring changemakers who are switching towards a cleaner Mediterranean

There are 340 Switchers showcased in the Switchers platform. They are all shining examples of how circular economy approaches can lead to business opportunities and also drive innovation that benefits people and the environment. In Lebanon, there are 53 Switchers at the moment in the platform.

The Switchers is a community of inspiring green entrepreneurs and changemakers in the Mediterranean region hosted by SwitchMed and SCP/RAC. Switchers are individuals, enterprises or civil society organisations implementing innovative ecological and social solutions that contribute to a switch to sustainable and fair consumption and production. They are active in a variety of fields, including organic farming, sustainable tourism, waste management, organic textile, recycling of electronic waste, sustainable building, organic cosmetics production, among others. Most importantly, the Switchers is a community with a voice and a meeting place for people in the region who are passionate about shaping their environment towards a more sustainable future.

For the Switchers, circular economy solutions are at the heart of their business models and also inspire them to seek ways to innovate and achieve even higher levels of environmental sustainability in the design of products and services they provide. Together, these important economic actors are making significant progress towards the goal of the SwitchMed programme and one of the region’s key sustainable development objectives: to accelerate the shift to more sustainable modes of consumption and production. In doing so, they are setting a positive example of how economic growth can also lead to protection of the Mediterranean and its precious, limited natural resources.

To read more on the stories of change makers at our new online Switchers platform at www.theswitchers.eu.
Green Entrepreneurship

A shared nature experience in Lebanon

Vamos Todos is an ecotourism NGO that promotes nature and rural development in Lebanon. Its founders, Prince de Vanina and Vanina, wanted to create a place that would benefit his family and farmers in the community as well as preserve the agricultural identity of the area.

Vamos Todos offers a variety of outdoor activities such as hiking, biking, rafting, and wine tasting tours, carried out respecting the environment and aimed to strengthen the local economy while making the community proud of its natural heritage. In order to achieve a more significant impact, Vamos Todos cooperates with local communities and promotes ecotourism in their villages by creating new hiking trails, hiring local guides, having lunches during the hikes prepared by local village people and organizing fundraising with certain schools for the rehabilitation of rural restaurants. These joint efforts are crucial to achieve a real change and inspire people to participate in the development of his country.

BASMA AGRICULTURAL PRODUCTS

How an agroecological approach is helping save this Lebanese family farm

Basma Agricultural Products is an eco-friendly apple farm that married traditional knowledge to 21st-century research. Basma, which means 'smile' in Arabic, isn't just about growing crops. Nahhas and her family found strategies to reduce waste, while discovering how to improve processes, reduce costs and focus on quality and sustainability to compete in a global market.

Basma is transitioning from monocropping to multicropping, adding complementary crops to apples, to create a diversity of income streams and help to low the money spent on power cuts. Basma’s goal is to make a solar energy program to tackle Lebanon’s heavy power cuts caused by damages of the country’s civil war. For Romanos and Rosi Abi, photovoltaics are a cheap source of electricity in a country with ample sun.

SUNRAY ENERGY

A solar solution for Lebanon’s heavy power cuts

SunRay Energy is a social enterprise that runs a solar energy program to tackle Lebanon’s heavy power cuts caused by damages of the country’s civil war. For Redwan and his family, their dream is to save their orchard while discovering how to produce honey and vegetables in summer.

CEDAR ENVIRONMENTAL

“The garbage king of Beirut” swaps torrents of trash with items of value

Cedar Environmental believes in the concept of zero waste meaning that everything we throw away is valuable and can be used. By doing so, they reuse 30% of their waste, resulting in 70% of the waste being sent to the landfill, which means a 30% decrease in the amount of waste that goes to the landfill.

TAQA

An NGO dedicated to the protection of biodiversity in Lebanon

Green Hand is an NGO dedicated to the conservation of biodiversity in Lebanon, encouraging the cultivation of organic plants. Through its line of gourmet products Casa Verde, Redwan wants to promote the economic development of the rural areas of Lebanon.

TQAO

A Lebanese initiative is stirring up competition in the healthy food market

TQAO was founded by Abir, an entrepreneur born in Beirut who is passionate about healthy eating. She wanted to create a healthy food product that is not only good for the body but also good for the planet.

GREEN HAND

A rural food revolution is growing in Lebanon’s olive groves

Ollidor is a business that produces, packages and sells all natural extra virgin olive oil from olive producers purchased from all over the country.

VANIDO

Lebanese social enterprise creates beautiful, upcycled jewellery and accessories

Vania is a social enterprise that creates beautiful, upcycled jewellery and accessories from upcycled materials such as matchsticks, tin cans or devalued coins. Hayek and Fayad think that with every purchase you get a fashion piece of jewellery while contributing to help the environment.

OLIDOR

A rural food revolution is growing in Lebanon’s olive groves

Ollidor is a locally grown family business where olive groves are the precursor to natural olive oil and soap. Ed Bally sees the company as an opportunity to modernise olive oil production and create a system that will benefit his family and farmers in the community as well as preserve the agricultural identity of the area.

ECOCOZULING

A consulting firm that takes on sustainable construction in Lebanon

ECOCOZULING provides sustainable solutions for the construction industry, in the fields of bioclimatic, design and energy efficiency. Maya’s idea is to preserve the architectural heritage and reduce the environmental impact through innovative and cost-effective solutions.

BKERZAY

At this Lebanese ecolodge, sustainability is a family affair

Bkerzay is the largest Lebanese eco-lodge, where each of its 34 guesthouses possesses a unique layout designed and built respecting the green building principles of the 210,000 square metered of land. The ecolodge is built on the rooftops of trees and is designed to make a positive impact through innovative and cost-effective solutions.

Bkerzay is a family-run ecotourism business in a gorgeous untouched place where 85% is a forested area, developed maintaining the authenticity of the site and which interiors are a throwback to traditional Lebanese handi- craft. Its masterplan was to establish building areas that allow people to preserve nature for future generations, switching the way people see and appreciate nature and reenacting the Lebanese people with their country. Bkerzay is also mindful of its role as a community provider and employs approximately 50 people in its restaurant, as well as in crafts, services, and agricultural roles. It also provides indirect work to a few hundred people working in the surrounding areas.
BIOMASS

The brand that became a reference to organic farming in Lebanon

Biomass is a reference to organic farming in Lebanon. Massoud’s pioneering family brand connects small farmers and consumers by offering quality organic products and runs a network of over 40 producers throughout the country.

Biomass produces and distributes fruits and vegetables, olive oil, jams, spices, and fresh or dried herbs. The brand has quickly become a reference in the organic sector in Lebanon, thanks to the success of its egg production. It then branched into yogurt and cheese with the creation in 2011 of the first 100% organic dairy factory in the Middle East. Its production model is based on partnerships with around 40 farms, and small producers spread throughout the country, which Biomass guides in their ecological farming practices. This method can offer a greater variety of products to consumers but also encourages farmers to continue the transition to sustainable practices.

LEBANESE DEVELOPERS

Giving a second life to shore-polluting fishing nets

Lebanese Developers is an NGO that gives a second life to shore-polluting fishing nets and aware fishers about the damages caused by discarded nets at shore and sea. Dr Roy Abihasde and his team had expanded its scope to train also women in Northern Lebanon to produce and repair fishing nets.

Lebanese Developers had been operating a series of awareness sessions with local fishers to show them how the fish that get caught in the abandoned nets can cut the net and plastics and finally end up on their family tables. The NGO has also partnered with a cooperative to set up a space where fishers can dispose of their old nets knowing they will be collected for recycling rather than end up as marine litter. These collection points can play a key role in frontline prevention since the main reason nets are often discarded is because it is a simpler solution. The task of Lebanese Developers is to make it easier to recycle than to pollute.

THE CHAIN EFFECT

Cycling advocacy and street art go hand in hand in encouraging Beirut’s residents to cycle their city

The Chain Effect is an NGO that uses street art as a way to spread their message of cycling mobility in Lebanon, urging people to get out of traffic and get on a bike. For Hawa, cycling is a way to rediscover new neighborhoods and break the stereotypes people have about certain areas of the city.

The Chain Effect’s mission is to increase cycling mobility in Beirut by shifting public perception to see biking not just as a fun activity, but as a viable and effective way to travel around the city. With exterior walls as their canvas, the NGO aims to inspire social change to see biking not just as a fun activity, but as a viable and effective way to travel around the city. With exterior walls as their canvas, the NGO aims to inspire social change to see biking not just as a fun activity, but as a viable and effective way to travel around the city.

GREEN ESSENCE

Transforming Lebanon through solar energy

Green Essence helps businesses to transform their operations by switching to innovative renewable energy systems. Aware of the environmental and social benefits of solar energy, Maakaron, Zaatar and Farajgeit set up the business potential of solar power in Lebanon.

Green Essence offers customised renewable energy systems, including solar water heaters, solar panels, and solar water pumps, and has worked with diverse businesses to switch from diesel fuel to renewable energy. In addition to giving them electricity bills and lowering their environmental impact, they offer a second life to shore-polluting fishing nets.

NATURE

When vinyl banners become fashion statements

Nature is a green concept store that creates and provides a variety of ecological home goods and services. Marc believes that sustainable living is about making everyday choices, using green and upcycled products, and creating eco-friendly homes.

Vkea

Creating handmade bags and accessories from recycled rubber tires

Vkea designs and creates a full line of handmade bags and accessories using upcycled rubber tires from bicycles, motorcycles, and cars. Patrick thinks that fashion moving towards sustainability is a social challenge that involves local and individual lifestyles and ethical consumerism.

Vkea considers the environmental impact of car emissions but also the adverse effects caused by its components such as old rubber tires. Nearly one billion of tires are generated per year, joining the four billion currently sitting in landfills worldwide. Vkea addresses this tire waste, reusing old rubber as an effective way to deal with the end-of-life tires instead of burning them and producing highly toxic gases that pollute the environment. The result is a surprisingly elegant full range of purses, wallets, and accessories, created in collaboration with Lebanese designers and marketed online to reduce the need for paper-based advertising. Finally, purchased Vkea items are shipped to reduce the need for paper-based advertising.

TADBIR

A Lebanese company is making energy management mainstream

Tadbir offers renewable energy consulting services in small and medium-sized businesses to ensure their properties are energy efficient. Tadbir means “to manage” in Arabic, a fitting name considering it is exactly what Omar Rafeii and his team do.

Tadbir has a platform to link projects with qualified engineers to create energy-efficient buildings in Lebanon and make the properties more energy efficient, involving both passive and active sustainable practices such as insulating windows, updating heating, ventilation, and air conditioning (HVAC) systems and installing light sensors in corridors. Tadbir keeps its services affordable by working closely with the staff and at the facilities of the clients that contract them. Those clients are typically owners of schools, restaurants, and residences that want to decrease its consumption of energy and be better for the environment, but one of Tadbir’s goals is to make this service accessible and affordable for business of all sizes.

WASTE

Giving a second life to shore-polluting fishing nets

When vinyl banners become fashion statements

Waste creates innovative and sustainable fashion specialised in handcrafting quality bags, accessories, and furniture, from non-biodegradable advertising banners which would, otherwise, end up in landfills. By reusing banners material, Marc and Waleed are increasing its life cycle by several years.

Waste’s main goals are to reduce the amount of waste in landfill and the overuse of plastic. Using the knowledge of one of their team members about vinyl banners and its negative environmental impact, they chose this material as their primary fabric medium, but they also use inner tube plastic from bicycles, old car seat belts and other materials to create 100% unique pieces, all with a signature burst of colour and style. Waste also collaborates with companies with active corporate social responsibility missions to design their own products using banners and employs several tailors, many of whom are refugees, immigrants, and Lebanese who have lost their jobs.

ECO-STOUFF

The brand that became a reference to ecological transport

The Innovative hybrid bike offers a high-performance, economical and ecological solution for the topographical conditions of Lebanese cities. To date, its pneumatic system with a compressed air tank, which allows pedalling without great effort. The Innovative hybrid bike is more ecological than the electric ones and accessible to all. It is rechargeable commercially in 2-3 minutes or 30 minutes with a home compressor, which is a big advantage over the electric bike, with a charging time of usually 3 to 6 hours. It is also estimated that lithium batteries electric bikes have a lifespan of 4 years of daily use and must be appropriately recycled because they contain chemicals and pollutants, while air-assisted bicycles have a very long lifespan of up to 20 years. Furthermore, the pneumatic motor and tank require no maintenance.

ECO-STOUFF

The Innovative hybrid bike offers a high-performance, economical and ecological solution for the topographical conditions of Lebanese cities. To date, its pneumatic system with a compressed air tank, which allows pedalling without great effort. The Innovative hybrid bike is more ecological than the electric ones and accessible to all. It is rechargeable commercially in 2-3 minutes or 30 minutes with a home compressor, which is a big advantage over the electric bike, with a charging time of usually 3 to 6 hours. It is also estimated that lithium batteries electric bikes have a lifespan of 4 years of daily use and must be appropriately recycled because they contain chemicals and pollutants, while air-assisted bicycles have a very long lifespan of up to 20 years. Furthermore, the pneumatic motor and tank require no maintenance.

INNOVATIVE HYBRID BIKE

The brand that became a reference to ecological transport

The Innovative hybrid bike is an air powered bicycle, with a very low environmental impact, that can be pedalled without difficulty even in areas where the terrain is hilly. Emilio and Elle think this initiative offers a cheap solution for air pollution and traffic in Lebanon.

The Innovative hybrid bike offers a high-performance, economical and ecological solution for the topographical conditions of Lebanese cities. To date, its pneumatic system with a compressed air tank, which allows pedalling without great effort. The Innovative hybrid bike is more ecological than the electric ones and accessible to all. It is rechargeable commercially in 2-3 minutes or 30 minutes with a home compressor, which is a big advantage over the electric bike, with a charging time of usually 3 to 6 hours. It is also estimated that lithium batteries electric bikes have a lifespan of 4 years of daily use and must be appropriately recycled because they contain chemicals and pollutants, while air-assisted bicycles have a very long lifespan of up to 20 years. Furthermore, the pneumatic motor and tank require no maintenance.

INNOVATIVE HYBRID BIKE

The brand that became a reference to ecological transport

The Innovative hybrid bike is an air powered bicycle, with a very low environmental impact, that can be pedalled without difficulty even in areas where the terrain is hilly. Emilio and Elle think this initiative offers a cheap solution for air pollution and traffic in Lebanon.

The Innovative hybrid bike offers a high-performance, economical and ecological solution for the topographical conditions of Lebanese cities. To date, its pneumatic system with a compressed air tank, which allows pedalling without great effort. The Innovative hybrid bike is more ecological than the electric ones and accessible to all. It is rechargeable commercially in 2-3 minutes or 30 minutes with a home compressor, which is a big advantage over the electric bike, with a charging time of usually 3 to 6 hours. It is also estimated that lithium batteries electric bikes have a lifespan of 4 years of daily use and must be appropriately recycled because they contain chemicals and pollutants, while air-assisted bicycles have a very long lifespan of up to 20 years. Furthermore, the pneumatic motor and tank require no maintenance.
Stakeholders in Lebanon call for increased awareness, business support services, networking opportunities and better access to affordable financing, amongst other actions, to support the country’s growing ecosystem of green entrepreneurs and individuals and community-based groups that are promoting ecological and social innovations. These stakeholders – representing green entrepreneurs, grassroots initiatives, public institutions, supporting organisations and financial actors amongst others – came together for a Synergy Workshop organised in the context of the SwitchMed on 17th November 2015 to discuss challenges, opportunities and solutions surrounding green entrepreneurship and eco-innovative grassroots initiatives in Lebanon. The key messages from these stakeholders are captured in the White Paper on “Promotion of Green Entrepreneurship and Grassroots Ecological and Social Innovations in Lebanon.”
Empowerment of civil society organisations and citizens to lead innovative solutions addressing environmental and social challenges.
Supporting eco and social grassroots innovations

At SwitchMed we support community-based social eco-innovation initiatives to maximise their influence and impact, thereby contributing to the emergence of more sustainable models of consumption and production. A training methodology is developed to support eco and social innovations and grassroots initiatives on sustainable consumption and production which included a Handbook that provides basic knowledge and understanding on the fields of SCP and eco and social innovations. Furthermore, this Handbook presents challenges and opportunities for civil society organisations and grassroots initiatives aiming to work within these fields. It also helps to inspire and build a practical way of looking at collective projects or initiatives.

An intensive 4-day national workshop is organised in each of the SwitchMed target countries in coordination with our local partners. The attendees are gathered in an inspiring framework in order to develop different spheres of their projects, get inspired by other initiatives and help one another during the particularly participatory sessions. Specifically, the training aims to provide practical expertise in what concerns community initiatives while giving them the opportunity to develop different spheres of their projects, get inspired by other initiatives and help one another during the particularly participatory sessions. A key component of the training is the module dedicated to analyse in depth the sustainable aspects of the projects. The initiatives selected in each country for the support phase benefit from 50 hours of training that includes the development of a “support plan” for their initiative and regular coaching sessions for six months to support the implementation of the initiative. Also external technical or expert support based on the needs identified in the “support plan” is provided and when possible, support for the development of a crowdfunding campaign as well.

In total, 260 change agents and civil society organisations were mapped and, in local trainers selected and 8 local partners were selected and trained on-site for the implementation of the training programme. Out of the 350 candidates who submitted an application to take part in the national workshops to train civil society initiatives, 160 people were selected and trained belonging to 80 different initiatives. In the end, 14 initiatives received further support, as explained earlier. Civil society organisations also participated in the Synergy Workshops organised together with the Green Entrepreneurship programme.

Meet our local partners

Our local partner, as selected by SCP/RAC, is an organisation with extensive knowledge of the current situation in Algeria concerning civil society organisations, social movements and empowered communities aligned with sustainable consumption and production and ecological and social innovation as well as experience of organising/managing workshops. The main task is to assist SCP/RAC in identifying and selecting local trainers and potential grassroots initiatives to join our training programme.

Green Line

It is a non-governmental association independent of any government, group, or individual. It was founded in 1991 when a group of professionals from the American University of Beirut (AUB) and their friends decided to translate their concern about the post-war devastated cultural, human and natural environment into an organised action. Green Line embrace the principle of environmentally sound development in the developing world and brings together all those who are concerned with preserving the past, conserving the present, and giving the future a better chance.
Civil society organisations are empowered to act as agents of change and to start community innovations

Applicants
Grassroots initiatives’ representatives were introduced to the challenges they face and were offered further coaching and technical support to develop and implement the proposed initiatives.

Trainers
Grassroots initiatives received training at a national workshop. These activities included how to develop an idea for social eco-innovation, obtaining strategy advice, finding out what the grassroots initiatives entail, how to overcome challenges, and the ideas of other participants to identify innovative solutions, identifying strategies for improving government services, and exchanging ideas with other competent institutions.

Initiatives
Represented by these trainers.

Selected
The grassroots initiatives selected were enrolled in a supporting phase. They received 50 hours of personalized coaching, external technical support tailored to their needs and support to develop a crowdfunding campaign.

Sector:

<table>
<thead>
<tr>
<th>13% Renewable energy</th>
<th>13% Sustainable education</th>
</tr>
</thead>
<tbody>
<tr>
<td>13% Renewable energy</td>
<td>13% Sustainable education</td>
</tr>
<tr>
<td>6% Sustainable fishing</td>
<td>6% Sustainable tourism</td>
</tr>
<tr>
<td>6% Sustainable fishing</td>
<td>6% Sustainable tourism</td>
</tr>
<tr>
<td>6% Sustainable fishing</td>
<td>6% Sustainable tourism</td>
</tr>
<tr>
<td>6% Sustainable fishing</td>
<td>6% Sustainable tourism</td>
</tr>
</tbody>
</table>

Gender:

<table>
<thead>
<tr>
<th>43% Women</th>
<th>57% Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>43% Women</td>
<td>57% Men</td>
</tr>
<tr>
<td>43% Women</td>
<td>57% Men</td>
</tr>
<tr>
<td>43% Women</td>
<td>57% Men</td>
</tr>
<tr>
<td>43% Women</td>
<td>57% Men</td>
</tr>
</tbody>
</table>

Chapter 4
Civil Society Organisations empowerment

Urine-powered generator
Renewable energy
The mission is to use urine to create a renewable energy source. The project aims to generate electricity from urine by using electrolysis to produce hydrogen for hydrogen-fueled generators.

Smart and sustainable tourism: The untravelled Lebanon
Sustainable tourism
The mission is to promote sustainable tourism to combat rural depopulation and boost the local economy. The project aims to promote rural tourism using websites and phone applications.

Sustainable catering: Women to Women
Success
Sustainable catering
The mission is to help unemployed women secure a decent income providing catering services. The project aims to tackle unemployment among middle-aged women by offering them training and job opportunities.

Social catering: Mommy Made
Waste management
The mission is to introduce women to the catering services sector, helping them to secure a decent income and provide healthy and balanced food for children. The project aims to support, train and employ young women in the catering services sector, using recyclable plastic dishes in collaboration with recycling companies. It also aims to promote products made by cooperatives.

Cycling to make electricity: Nahnoo
Renewable energy
The mission is to engage the young people of Beirut in innovative activities that help to build their sense of citizenship and collective ownership. The project aims to install energy-generating bicycles in Ramlet El Bayda beach (Beirut).

Trippel recycles: Yours association
Waste management
The mission is to initiate the practice of new techniques for the recycling and reuse of rubbish. The project aims to collect rubbish and encourage Dam w Farez inhabitants to reuse it.

Promoting eco-design: KED
Sustainable resources and waste management
The mission is to promote eco-design and raise public awareness about sustainable resource management. The project aims to use eco-design to develop innovative materials and systems.

Protecting southern Lebanon gardens
Waste management
The mission is to raise the environmental awareness of the local population by involving them in green conservation activities. The project aims to develop an Environment Improvement Plan against land degradation and loss of forest cover, and help ensure that the needs of local communities are met.

Healthy jams: Women’s cooperative association
Organic food
The mission is to promote healthy eating through the Women’s Cooperative Association. The project aims to produce jams and sauces from natural materials without the use of preservatives.

Educating about our environment
Environmental education
The mission is to promote the concept of sustainable environmental education. The project aims to develop the all-around abilities of disabled people through rehabilitation and environmental education.

Marine eco-tourism
Sustainable fishing
The mission is to promote the sustainable use of resources and conservation of biodiversity in marine protected areas. The project aims to engage boat owners, fishermen, students and local people in sustainable resource management through sustainable fishing and marine tourism activities.

Upcycle and make money
Waste management
The mission is to promote the concept of upcycling among young people. The project aims to involve young people of Batroun, from different backgrounds, in waste collecting, upcycling and selling what they produce to generate income.

Sustainable tourism
The project aims to engage the young people of Beirut in innovative activities that help to build their sense of citizenship and collective ownership.

Men

Women

57%

43%
User-friendly public transport as a gateway to reducing pollution in Beirut

Rush hour is a nightmare in every big city but it is especially troublesome in Beirut because of the overwhelming use of private cars. According to a study led by urban planner Petra Samaha during her studies at the American University of Beirut, around 80% of daily trips in the Beirut and Greater Beirut areas are currently made using private cars, with bus transport accounting for less than two per cent. This is mainly due to the immense complexity of the public transport system and its lack of regulation.

The Bus Map Project is an initiative born from the need to render Beirut’s complex public transport system more accessible and so encourage more users to opt for bus transport rather than private cars. To that end, the initiative is taking on the challenge of helping Beirut residents to understand the public transport system in order to encourage them to use it more often. The founders of the initiative, Jad Baaklini and Chadi Faraj, with the support of a group of volunteers, are specifically working to map the city’s bus routes to achieve two objectives: to help non-users understand the transport system and to establish an informed bus passengers’ association that is committed to fighting for passenger rights.

This is being achieved through an online portal, providing access to transit data and detailed information for passengers, usually based on government sources or service providers. “More passengers means greater investment, catalysing improvements that in turn attract more public transport users,” explains Baaklini. “In the long term, we would like to fight for the rights of bus passengers and further promote the numerous benefits of choosing public transport,” he adds.

SwitchMed provided the founders with technical and organisation al support to develop the project. “The technical assistance was specifically tailored to our project, which we really loved. We received support in relation to data gathering and website development for the new online portal,” Baaklini explains. Thus, the team were able to develop their concept for the online platform to a much more sophisticated level, based on numerous conversations and interactions with experts around the world, such as Where Is My Transport in South Africa, Ma’an Naseel in Jordan, Transport For Cairo in Egypt. These interactions also led to the founders participating in several conferences and events, such as the UITP conference in Dubai. This participation in the regional and global discussion on transit also helped the founders to refine their image and ambitions.

“Thanks to SwitchMed, we were able to transform an idea into an impact story,” adds Baaklini. As evidence of the major impact grassroots initiatives have on their communities, the Bus Map Project was presented to an international audience during SwitchMed Connect 2016. The excellent work done by the Bus Map Project team was also recently recognised when, as part of Team #BeirutDetox, their innovative public transport tracking system won First Prize in the Urb-Hackathon.

As a whole, the Bus Map Project is determined to promote the idea of collective mapping while developing prototypes that capture the imagination and attract more interest in public transport. Examples include collaboration with design students at the Lebanese International University, a Collective Photo Action coordinated by the social media platform and photography tool, FRAME Beirut, and an accompanying print map of major bus and van routes in Beirut. With an extensive network of supporters and followers, the team has also taken part in conferences involving a wide variety of subject areas, such as local governance, grassroots design, rural tourism and mobile technology, to help connect their initiative and the ideas behind it with other important debates going on in and around the city towards helping Beirut become a smarter city.

“This online portal will give access to transit data usually provided by governments or service providers to encourage general public to use public transport. In turn, more riders mean more investment, catalyzing improvements that in turn attract more users of public transport.”
Jad Baaklini, Bus Map Project
Enabling access to finance for green start-ups and entrepreneurs by mobilising impact investment: The Switchers Fund
Financial instruments for innovative green businesses

At SwitchMed we are supporting the region’s green entrepreneurs by enabling access to finance, providing direct finance to new and established green entrepreneurs and mobilising local investors and enterprise support programmes as well as European resources through the newly created SwitchersFund.

The Switchers Fund’s mission is to support innovative green entrepreneurs in the development of their projects, first through grants to test new ideas and attract new funders, and as these projects grow by introducing adapted financial products such as concessional loans and ultimately through equity participations.

In the current situation where private and public financial institutions have difficulties to channel their investments to Medium and Small enterprises in our partner countries in Africa and the EU Neighbourhood region, the SwitchersFund core business lays at facilitating international capital flows from investors to entrepreneurs to facilitate, thus contributing to the Sustainable Development Goals. As the first activity of the Switchers Fund, the Call for OSCE GEMS Award, granted a total of 90,000 euros in six South Mediterranean countries, 15,000 euros in each country to the best business idea. The OSCE GEMS Award was the result of the partnership between the Organisation for Security and Cooperation in Europe (OSCE) and the SwitchersFund, and was established thanks to the support of the Italian Government.

In addition to this, the Business Support Services Facility complements the SwitchersFund’s financial instruments by supporting innovative entrepreneurs via capacity building initiatives, and, in general, enhancement of their access to finance, which focuses on the following actions: green business model and plan development, mentoring and technical expertise, crowdfunding campaign support a ‘Green Start-ups Meet Investors’. The latter, that connects start-ups with the right investors during matchmaking events, is a national event held in each beneficiary country. By covering the major issues that an experienced investor will look for (and expect) before they invest and getting to know the upcoming start-ups to the international investors’ community, SwitchMed aims at mobilising investment capital to help with the growth of green business in the Southern Mediterranean. Prior to the pitch, the green entrepreneurs that are selected receive 30 hours of capacity building session to improve their communication skills and to prepare their business to be evaluated by the financial players. The stages of the investment process are also taught during that session. In the aftermath of the events, an individual feedback on the strengths and weaknesses of the project submitted with a monitoring of the contacts made with the investors during the meeting is offered to the green entrepreneurs with the aim of improving their capacity to meet the appropriate financial players. In total, 245 applicants submitted an application to join the Green Start-ups Meet Investor, 67 green entrepreneurs were selected and coached to give their pitch in front of investors. A total of 79 investors attended the events. A total 2,150,000 euros potential investment raised by the entrepreneurs is expected by the end of the programme. An on-line financial toolkit for the green entrepreneurs, whether they are in ideation phase or already fully operational companies, was also developed to help them to better access to finance in the MENA region. The practical tool allows discovering their finance opportunities and all the necessary instruments and knowledge to approach potential investors, and determining, in 4 easy steps, the right funding strategy for their green business.

These activities, carried out by SCP/RAC, are jointly done with the European Federation of Ethical and Alternative Banks (FEBEA) and the Union for the Secretariat of the Mediterranean (UfM).

Meet our service providers

Our local service providers, carefully selected by the SCP/RAC, are organisations with extensive experience in supporting green entrepreneurs in business development and positive impact assessment, as well as providing them with the necessary support in access to finance. These organisations are selected on the basis of their capacity to empower the green entrepreneurs and their knowledge of financial opportunities in each country.

The main task of these organisations is to develop and implement capacity-building sessions on access to finance and improvement of the entrepreneurs’ communications skills. Subsequent to training, the green entrepreneurs have the opportunity to pitch and showcase their innovative solutions to potential investors during a specific national event.

Local providers also supported SwitchMed in the development of the first green regional portfolio. The green portfolio lists the profiles of each entrepreneur and has been disseminated among potential investors.

Diane Foundation

Diane Foundation is a unique Lebanese Foundation that identifies the best green initiatives, encourage them and provide them with the necessary support to grow and achieve their goals.

Thanks to its wide national network and experience in access to finance, the Diane Foundation is able to reach out a large number of green entrepreneurs, potential investors and business support organisations and to provide services on behalf of the green economy sector in Lebanon.
Access to finance capacity building programme for green entrepreneurs

2017
- **22** Applicants applied to join the local capacity building sessions.
- **9** Coached green entrepreneurs.
- **8** Green entrepreneur pitches during the Green Startups Meet Investors, Elevator pitch.

2018
- **27** Applicants applied to join the local capacity building sessions.
- **13** Coached green entrepreneurs.
- **8** Green entrepreneur pitches during the Green Startups Meet Investors, Elevator pitch.

- **16** Green entrepreneurs

Financial investors identified in Lebanon.
- **24** Potential investors participated at the events.
- **80%** Of the entrepreneurs declared having been approached by investors after the Green Pitch.

Total amount raised funds thanks to the A2F activity. According to Alfanar, the first Arab venture philanthropy organisation, green entrepreneurs have a great potential for growth and for attracting venture philanthropy and impact investment support in Lebanon.

402,500€

Discover our 16 green entrepreneurs who pitch during the “Green start-ups meet Investors” event

<table>
<thead>
<tr>
<th>Name of the company</th>
<th>Business stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ta Group Green Grey</td>
<td></td>
</tr>
<tr>
<td>Basma</td>
<td></td>
</tr>
<tr>
<td>Easy Wall</td>
<td></td>
</tr>
<tr>
<td>Fabric Aid</td>
<td></td>
</tr>
<tr>
<td>Smart Bus Stop</td>
<td></td>
</tr>
<tr>
<td>Pro-Shield</td>
<td></td>
</tr>
<tr>
<td>Inoxhellas</td>
<td></td>
</tr>
<tr>
<td>Lebanon Buses</td>
<td></td>
</tr>
<tr>
<td>Cubex</td>
<td></td>
</tr>
<tr>
<td>Lili’s Farm</td>
<td></td>
</tr>
<tr>
<td>Benergy</td>
<td></td>
</tr>
<tr>
<td>Little Reed</td>
<td></td>
</tr>
<tr>
<td>Plastic Beach</td>
<td></td>
</tr>
<tr>
<td>Savvy Element</td>
<td></td>
</tr>
<tr>
<td>Unclog</td>
<td></td>
</tr>
<tr>
<td>Vertigreau</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ideation</th>
<th>Early stage</th>
<th>Growth</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What financial opportunities are available to Lebanese green entrepreneurs?

The funding scene for start-ups and new entrepreneurs in Lebanon is well developed and two important factors are worth highlighting: the country has no shortage of entrepreneurs, and high-growth potential businesses, particularly technological ones, have a bright future in terms of access and investor interest.

Lebanon has a very sophisticated and well-developed financial ecosystem, especially compared to other countries in the region, but it remains very much focused on a small but successful and growing ICT sector. The country has a large number of banks, and its banking sector shows an excess of liquidity that should permit the private sector easy access to capital. However, access to finance for early stage SMEs and start-ups, including green start-ups, seems to be a problem for several reasons, mainly because of business models that are difficult to assess and a lack of harmonised assessment criteria.

Green entrepreneurship is still a new concept in Lebanon. Nevertheless, the number of entrepreneurs is growing, and will likely continue to grow in the future. In November 2016, SwitchMed led a mission to Lebanon to improve understanding of the market and assess the interest of financing institutions in investing in eco-innovation businesses and initiatives proposed by green entrepreneurs. The mission concluded that the financing scene for start-ups and new entrepreneurs in Lebanon is well developed and the potential for growth is high, particularly with technological projects, which attract great investor interest. The situation is drastically different for green entrepreneurs, however.

Most of the support infrastructure for entrepreneurs, such as incubation, acceleration programmes and existing funds, is exclusively dedicated to tech companies, and mostly to apps. In addition, green entrepreneurs all seem to be focused only on foreign markets, as if there were no potential customers in Lebanon. This could be because the Lebanese market is perceived as too small, but this ambition can also prove a limitation, since any kind of business has to be wary of the Lebanese ecosystem because it is unfamiliar with it. The process is easier if a Lebanese expat invests in their country of origin. The Investment Development Authority of Lebanon offers investment incentives in eight sectors, as long as entrepreneurs establish their enterprise in Lebanon (the further away from Beirut, the better), but the requirements are very high.

Banks may sometimes be open to green projects, but they are not very interested in physical products, which take more time. However, they can be open to projects that have developed a prototype and are already at a more advanced stage. There are also a small number of active angel investors still available for start-ups. Research on mature eco-systems such as that of New York show that the loop of successful start-up founders becoming mentors and angel investors for new ones is critical to achieving sustainability, and that quality training and support for those initial start-ups is essential.

At the meetings, Pascale Khairallah Nassif, from the Corporate Division of the Intercontinental Bank of Lebanon, the first bank in the country to provide green loans to finance projects from ten thousand to 20 million dollars, explained that “when providing green loans, banks don’t have the technical expertise to evaluate projects and their potential risk and returns.” According to the American University of Beirut (AUB), which offers a number of awards and programmes for sustainable entrepreneurship, the problem for innovation projects is at seed level, and young Lebanese need to learn how to innovate, but because of the country’s political situation, they prefer to leave. To address this problem, the Lebanese Canadian Tech Hub, an NGO established initially to integrate Lebanese migrants in Canada, is opening an office in Beirut with the goal of developing the entrepreneurial ecosystem in Lebanon and opening branches in America so that the Lebanese can sell their products in the US instead of immigrating there.

Mr Rollinde, entrepreneur-in-residence at Fondation Diane, explained that “we are arguably the only organisation in Lebanon investing exclusively in green business, with four investments finalised and more than ten in the pipeline.” For its part, Speed Lebanon, with a six million dollar fund, has mapped the investment and fundraising ecosystem in Lebanon and concluded that there are no funding opportunities for start-ups requiring more than 20 million dollars, and that capital therefore has to come from abroad. The Banque du Liban mentioned the Lebanese Centre for Energy Conservation, which provides incentives for financing projects with all green components. To date they have made available 500 million dollars in green loans, and they have a total portfolio of 15 billion dollars. The Kafalat programme, offering 75% guarantees on bank loans, could also be of interest for the purposes of SwitchMed.

Banks may sometimes be open to green projects, but they are not very interested in physical products, which take more time. However, they can be open to projects that have developed a prototype and are already at a more advanced stage. There are also a small number of active angel investors still available for start-ups. Research on mature eco-systems such as that of New York show that the loop of successful start-up founders becoming mentors and angel investors for new ones is critical to achieving sustainability, and that quality training and support for those initial start-ups is essential.

Even though the gap between banks and green entrepreneurs still exists, the Lebanese economy has a number of strengths that can help to boost green business opportunities: a highly developed financial system, a widespread entrepreneurial spirit, and institutional support for entrepreneurship.
**Marc Aoun’s profile:**
Marc Aoun, an environmental science graduate and CubeX’s business developer, has won the Green Start-Ups Meet Investors competition organised by SwitchMed and Fondation Diane.

**CubeX**
CubeX is a domestic-scale wastewater and solid waste treatment system that allows households to process all their organic waste effortlessly at home. The fully automated CubeX unit is connected to the sewage network and eliminates the need for septic tank servicing. What makes CubeX unique is that it allows users to process water and recycle waste as energy or fertiliser. This modular system, with a small footprint, can service households of four or more people.

How did you hear about SwitchMed and the Green Start-Ups Meet Investors initiative?
I heard about SwitchMed through an email flyer sent by Fondation Diane, the primary funding institution for green entrepreneurs in Lebanon.

You received training before your pitch, right?
Yes, before the interviews with potential investors I received help to improve my communication skills, so I could explain my project in the most comprehensive way possible.

Do you think that it is difficult to attract attention from investors?
If you have the right idea, I believe that there are people who will want to invest in you.

What would you say that was the most important thing that you learnt during that pitch?
The training helped me understand all the stages involved in investment processes. The pitch trainer was very helpful and supportive, so I would say that the most effective component was doing the mock pitch and receiving feedback from other participants.

What lessons did you learn from the feedback from the investors?
It really helped me focus on unforeseen obstacles, such as permitting constraints and the current status of finance for renewable energies.

As the Elevator Pitch winner, you received 2,500 dollars: how do you plan to spend this grant?
Thanks to this grant we can now cover some basic needs of our project. We have budgeted 400 dollars for branding, including our logo and brochure; 1,000 dollars will buy the materials to build a prototype; 300 dollars is earmarked to buy data logging and climatic sensor monitoring equipment; and finally, the remaining 800 dollars will pay the salaries of the monitoring personnel.

Can you tell us where you got the idea for CubeX?
We were hearing a lot about municipalities facing wastewater treatment issues when the network is inaccessible, so we did some research of our own and found that while there are some decentralised wastewater systems in Lebanon, they are not being used. We ran a survey that revealed that rural households are willing to divert their food waste from landfills and water systems.

Do you think that it is difficult to attract attention from investors?
If you have the right idea, I believe that there are people who will want to invest in you.

What would you say that was the most important thing that you learnt during that pitch?
The training helped me understand all the stages involved in investment processes. The pitch trainer was very helpful and supportive, so I would say that the most effective component was doing the mock pitch and receiving feedback from other participants.

What lessons did you learn from the feedback from the investors?
It really helped me focus on unforeseen obstacles, such as permitting constraints and the current status of finance for renewable energies.

As the Elevator Pitch winner, you received 2,500 dollars: how do you plan to spend this grant?
Thanks to this grant we can now cover some basic needs of our project. We have budgeted 400 dollars for branding, including our logo and brochure; 1,000 dollars will buy the materials to build a prototype; 300 dollars is earmarked to buy data logging and climatic sensor monitoring equipment; and finally, the remaining 800 dollars will pay the salaries of the monitoring personnel.

Can you tell us where you got the idea for CubeX?
We were hearing a lot about municipalities facing wastewater treatment issues when the network is inaccessible, so we did some research of our own and found that while there are some decentralised wastewater systems in Lebanon, they are not being used. We ran a survey that revealed that rural households are willing to divert their food waste from landfills and water systems.

Could you explain the basic phases?
All organic waste is disposed of in the sewage network and food waste is crushed using an in-sink garbage disposal unit. All these materials enter the bio-digester for anaerobic digestion, which generates methane. This methane is stored in a safe compartment to be used afterwards for cooking and heating as needed. The waste is sent to a separation container, where solid and liquids are treated separately using a biological reactor.

“We have calculated that each household will annually generate around eight tanks of propane as an alternative natural gas, recover and reuse 365 cubic metres of water and produce 15 bags of compost. Overall, this means that around one tonne of organic waste will be diverted from landfills and water systems.”
Marc Aoun, CubeX’s business developer

Support eco and social innovations of green entrepreneurs and Switchers through a mix of grants, loans and equity participations. Join now

The Switchers Fund and contribute to the first MENA impact investing Fund.

**Chapter 5**
Enabling access to finance

Support eco and social innovations of green entrepreneurs and Switchers through a mix of grants, loans and equity participations. Join now

The Switchers Fund and contribute to the first MENA impact investing Fund.
Fondation Diane supports creative minds and actions to boost green entrepreneurship in Lebanon

Diana Fadel's profile:

Diana Fadel is the founder and president of Fondation Diane, the local partner of SwitchMed in Lebanon, and a key stakeholder in the Lebanese green economy system. She wants to prove that eco-sustainability and profitability are compatible.

Fondation Diane, the local partner of SwitchMed in Lebanon and a key stakeholder in the Lebanese green economy system, was founded by Diana Fadel, also its current president. It aims to prove that eco-sustainability and profitability are compatible.

With a focus on civic awareness and eco-sustainable development, Fondation Diane's mission is to enlighten the general public about their responsibilities for Lebanon's environment and to motivate and mobilise people to act and support creative minds engaged in making the switch to sustainable development. Fondation Diane provides support, and notably financial support, to the best green initiatives to help them grow and achieve their goals.

How do you identify the best green initiatives?

We have basically two channels to identify green initiatives: from applications via our website and by word of month. Entrepreneurs submit their applications and we select the top-tier start-ups to interview the people behind them and understand the projects better. We also use social media to launch specific calls for our partners’ training programmes.

Can you tell us more about the Viridis Investment Fund?

VIF is an initiative created in 2015 by Diana Fadel, our founder and president, which provides the necessary financial and operational support to help the best green initiatives grow and achieve their goals. VIF, by investing in start-ups that have a positive impact on the environment and helping tomorrow’s green businesses emerge and serve as an example for Lebanon, aims to demonstrate that eco-sustainability and profitability are compatible. VIF also organises green training and mentorship programmes. To date it has conducted five green training and start-ups in five different sectors: transport, eco-tourism, waste management, healthy food production and renewable energy.

VIF, in collaboration with SwitchMed, has also implemented coaching activities for 45 green entrepreneurs to help them develop their green business canvas and has organised two access-to-finance events to connect green start-ups with potential investors. It has also arranged technical and business training for entrepreneurs in the water, sanitation and waste management sectors and has run workshops for around 30 entrepreneurs on the challenges facing green businesses in Lebanon.

What kind of support do you provide to help projects grow?

We provide financial and operational support. In fact, Fondation Diane and Viridis Investment Fund (VIF) rely on a range of financial tools, such as equity, convertible loans, lease-to-own and straightforward loans.

Is the same kind of financial support offered to all of them?

No, because it differs depending on the start-up stage and needs. The average amount is $100,000. We also help our entrepreneurs to develop their business plan, find new opportunities and also expand their networks, as we connect them with experts who can help them better understand what kind of business model to develop.

From the investor’s point of view, how do you assess a project’s positive environmental impact?

Calculating the environmental impact of a start-up is a novel issue, so the procedure is not standardised as of yet and is therefore open to debate. We have to take into account numerous factors, such as environmental protection, people's health protection, people's needs, etc.

Ultimately, our main goal is to convert a linear economy mindset into a circular economy mindset: developing an economy that is more efficient, diverse and sustainable by extending product lifespans and convert what today is considered waste into valuable resources.

Is there any green area that needs more attention from investors?

From an investor’s point of view, we seek sustainable and profitable businesses. After two years analysing the market, we conclude that 40% of the start-ups come from the waste management and plastic recycling sector, 20% are optimising agricultural processes, 20% are focused on the transportation sector and the remaining 20% reflect a range of sectors, such as air purification, water treatment and eco-tourism.

Considering the environmental issues faced by Lebanon, the main areas that need greater attention from investors are solid waste management and plastic recycling, 20% are optimising agricultural processes, 20% are focused on the transportation sector and the remaining 20% reflect a range of sectors, such as air purification, water treatment and eco-tourism.

What happens if they are still in the ideation phase of development?

Projects at an early stage do better to rely on family and friends who are willing to help by investing in their project. That is a great way to get started. The approach to investors must be a final phase, when the entrepreneur really knows their market and their impact, not to mention what funding they are seeking.

Inventors always look for profitability. Yes, impact or non-impact investors both want to know that your project is economically viable. If the figures do not work out, the project is not profitable.

So, what would you recommend to businesses in the early stages?

As trainers and incubators, we have learnt that we need to select the best team, not the best project. Motivation is often the most important component in success. I would recommend that entrepreneurs participate in competitions, pitch their ideas wherever they can and listen to mentors, even if they do not necessarily end up doing what was recommended to them.

How can green entrepreneurship succeed in getting the support of investors?

They have to know the stage of their business and think about the market needs. Sustainability is no longer an option but an imperative. Being green should not be about luxury, but an attitude. Green entrepreneurs may only succeed after trying three or four times, but in that attitude. Green entrepreneurs may only succeed after trying three or four times, but in that
Stepping up internationalisation of SMEs on green business models and resource efficiency in the Southern Mediterranean.
Enabling conducive technologies and frameworks for green businesses

Small and medium-sized enterprises (SMEs) play a key role in national economies around the world and generate a significant contribution in employment generation and added value to the economy. Therefore, increasing the internationalisation of SMEs and helping them to access third markets, and thus becoming drivers of a green growth, is crucial, not only for the businesses but also for the economy in the Southern Mediterranean.

Eco-innovative business solutions for the Southern Mediterranean.

At SwitchMed, we recognize how important it is to engage and exchange best practices and solutions on innovations that can further the uptake of SCP in existing business models. For this reason, we support the development of networks that can create business partnerships between European companies and SMEs in the Southern Mediterranean in order to promote the uptake of green business models and eco-innovations that can strengthen productivity, deliver a more inclusive growth and assist SMEs in the Southern Mediterranean.

To increase the cooperation between businesses and innovation networks in Europe, UNIDO together with local institutional partners, organized six B2B for eco-innovation events in Egypt, Lebanon, Morocco and Tunisia. 35 selected eco-innovative business solutions were presented at the B2B events where local businesses could get in touch with the latest eco-innovations for their sector. The eco-innovations had been selected from a pool of relevant and ready for market uptake solutions developed under the framework of EU “Eco innovation Programme”, “Best Life Environment”, the “European Business Award”, and innovation Seed initiative. All in all, 725 local businesses attended the six B2B events to have 315 business to business consultations with providers of eco-innovations from the European Union. As a result of these consultations, 60 business partnerships were concluded during the months following the B2B activities resulting in technology cooperation agreements; skill transfer and innovation research collaboration have been enabled across several industrial sectors such as textile, food, waste and wastewater management, wood and furniture, constructions, leather, plastic, agriculture. Preliminary investments in eco-innovative technologies concluded to 1.4 million euros and with the potential of totally saving valuable resources, such as 8,432,860 m³ in annual water consumption. The B2B events have displayed the need and potential for eco-innovations in the region and that cooperation between businesses from the EU and the Southern Mediterranean is an attractive bid for the environment as well as for the economy.

Pilot studies for the Product Environmental Footprint framework.

Developing the potential of SMEs to participate and reap the benefits of a global and green economy, will also depend to a great degree on enabling framework conditions that can ensure a healthy competition. For instance, the EU single market is one of the most important trading partners for businesses in the Southern Mediterranean region, and every new regulation on this market will eventually also affect businesses ability of producing and exporting goods that are standing in compliance to these market regulations. One example of such a regulation, which might also affect Southern Mediterranean producers, is the EU Single Market for Green Products initiative. This initiative envisages a labelling scheme that will require the provision of meaningful and verified information from producers about the environmental footprint of products to the consumer. Based on the Product Environmental Footprint (PEF) assessment, the EU Single Market for Green Products initiative is currently evaluating how producers of environmentally friendly products, in Europe, and in other regions, are currently performing and what criteria need to be applied for certain product categories in order to label a product “green”.

Starring in 2017, UNIDO invited relevant partners in Egypt, Lebanon, Morocco and Tunisia, such as, industrial associations and export oriented businesses, to take part in local organized PEF workshops. The workshops were organized to present the outcomes of the European pilot studies related to the PEF framework development, to inform industry stakeholders on the methodology, and to find suitable businesses from four sectors which could undertake a pilot PEF study in order to see how this new framework would work in the region and the specific sector. The selected sectors for these studies are related to the product category of wines, intermediate paper products, pasta and olive oil, and were selected on the basis of an existing PEF category rules and their financial value in the national exports to the EU and consequently the importance of this sector to the national economy. The selection process was done in this way to ensure not only the interest of the export oriented industries but also the potential for replication in the national or regional context later on, based on the capacity built during the project.

A high interest from local companies was noted and nine companies were selected for the implementation of the PEF categories on a specific product that they export or plan to export in the EU. Their motivation to participate in this activity, even though the PEF categories were not yet final at that point, was mainly based on the need to understand their products environmental footprint and the potential for improvement. For each company product, one local expert has been assigned to implement the PEF categories, after receiving an in-depth training from the international PEF experts from PRe Sustainability, a Consultancy based in the Netherlands involved in their development. These experts now form the core which can respond to future demands from the industries that wish to have the PEF Category Rules implemented on their products.

The studies developed demonstrated the need for national Life Cycle Assessment (LCA) databases which can be used by the LCA and PEF experts. Hopefully, this will be addressed in the near future, enabling the companies and experts in the region to optimize the production faster and much more accurately. In addition, national partners in Egypt, Lebanon, Morocco and Tunisia were assisted in raising awareness among national stakeholders about the framework for a Single Market for Green Products initiative, contributing to the adoption of greener standards for the national manufacturing businesses in order to compete on equivalent terms in the EU market.
Wine from Lebanon growing to new heights

Couvent Rouge, a winery in the Lebanese Beqaa valley, produces organic wine for the local and European market. Knowing what rules and conditions apply to the European Single Market for Green Products is essential in creating a local value-added green industry for the region that can reshape the livelihood of farmers. In Lebanon, UNIDO undertakes a pilot study to evaluate how the wine sector is performing under the EU Product Environmental Footprint (PEF) methodology that eventually will determine how the environmental footprint for green products on the European single market will work.

The farmers of the Northern Bekaa Valley have due to missing government presence and support often chosen their own paths of development. Without any real alternatives, the farmers have cultivated their fields with illicit crops such as cannabis and poppy, establishing the reputation a hotspot for hashish and opium production. This practice often yielded high profits for the farmers but the income, due to the "non-legal" nature of this business, was often also very volatile, not ensuring a stable livelihood.

But there are people that are working for a change. Charbel El Fakhri is one of the founders of the Coteaux d’Héliopolis, a cooperative that since 1999 has worked together with 11 villages in the region to replace poppy and cannabis with the wines of Syrah, Cabernet Sauvignon, and Tempranillo in order to change the living for the people in the region. Today the cooperative includes 250 farmers with 240 hectares of vineyards and produces 700 tons of grapes annually and the farmers of the cooperative are not the only one benefit from this change.

The unique terroir of the region does not only guarantee an exceptionally high quality of the grapes, it also allows the farmers to grow their vine without any pesticides, making the grapes highly desired among some of the best wine producers in Lebanon. The altitude and location of the vineyards make it free from pests and pollution, so taking the step in producing organic was a natural step for the cooperative. But selling the grapes of the cooperative to other wine producers of Lebanon is not enough for Charbel El Fakhri. Together with an associate form the cooperative, he decided to start producing his own wine under the name Couvent Rouge, aiming important export markets in Europe.

"Producing organic does not only add value to our product but also to our land, community, and our identity." This pilot study enables us to assess how we produce, performing organically, but it also how we can evolve as a growing company exporting to European markets.

"Although the EU is still negotiating the final criteria for a "green" wine label, pilot studies, such as these, will eventually provide an important feedback for the EU on how producers in the neighboring region performs by using the PEF methodology. Introducing the PEF methodology to businesses in Lebanon has inevitably also given the country an expertise on a methodology that can assist businesses to assess the environmental impacts of their products throughout their life cycle. This will sooner or later give green producing business the ability to measure and communicate their products at a better value for the business and the environment."

As part of the EU funded SwitchMed Program on Sustainable Consumption and Production, UNIDO has organized capacity building activities on Product Environmental Footprint (PEF) methodology to improve the abilities of Lebanese companies to compete in the EU markets where consumers are taking environmental considerations more and more seriously. The EU common label and methodology for green products will enable exporters to maintain a competitive advantage on the European Single Market and to communicate this consistently to the market on same and equal terms as European companies over one common label. At the same time, this methodology might also give a reason for Lebanese producers that are interested in adding value to their products with a benchmark methodology that in the long term can prove to be good for the business, the environment and ensure them a green labeled product ready for export to the EU.

The farmers of the Northern Bekaa Valley have due to missing government presence and support often chosen their own paths of development. Without any real alternatives, the farmers have cultivated their fields with illicit crops such as cannabis and poppy, establishing the reputation a hotspot for hashish and opium production. This practice often yielded high profits for the farmers but the income, due to the "non-legal" nature of this business, was often also very volatile, not ensuring a stable livelihood.
Promoting eco-innovative solutions from the EU for Lebanese SMEs

87
Number of registered participants (EU and MENA)

36
Number of face to face meetings between the EU technology providers and the MENA companies

9
EU companies attendees

1
Projects concluded and under negotiation (April 2018)

VAN MAREN SYSTEMS + PARTNERS IN LEBANON
Netherlands, EU Partner
Tunisia, Morocco and Egypt

Type of license: Agreement
Investment: 10% royalties on turnover
Sector: Plastic
Environmental savings: 9.45 Mio kg of plastic to be reused

Photo credit: @Etienne Boulanger
Exchanging, synergising and engaging with business & investment networks to scale-up demo actions.
Supporting the visibility, effectiveness, long-term sustainability and impact of the SwitchMed programme

The SwitchMed Networking Facility, led by SCP/RAC, aims to contribute to the visibility, effectiveness, long-term sustainability and impact of the different activities carried out under the SwitchMed programme. In order to deliver this, the Networking Facility focuses on three main areas of activity:

Firstly, we enable extensive communication and networking and facilitate the exchange of best practices and lessons learnt among SwitchMed partners, connecting them with key external stakeholders. We have been working closely with 32 strategic partners in order to achieve common goals. We have also developed the SwitchMed Action Network, an online platform with a mobile app, to exchange knowledge related to SCP initiatives taking place in the Mediterranean, provide inspiration through disruptive innovations integrating closed-loops and collaborative consumption business models, showcase stories and participate in facilitat ed in-country stakeholder dialogues. It also functions as a database of experts. Another major activity is the organisation of SwitchMed Connect, a gathering of Mediterranean stakeholders to build synergies, exchange knowledge and scale-up eco and social innovations. Leading start-ups and entrepreneurs, industry agents, initiatives, change agents, policy and financial institutions working on applications related to productive, circular and sharing economies in the Mediterranean come together in Barcelona every year. In total, three events have been held, bringing together more than 1,000 stakeholders from 16 different countries.

Our second area of activity involves encouraging the scaling-up of activities and impact, with a focus on harvesting lessons learnt in order to replicate demonstration pilot projects, thereby contributing to activities’ long-term sustainability and increasing visibility with regard to the impacts achieved during the programme. To that end, the Networking Facility has promoted the production of regional and national scaling-up roadmaps that aim to replicate and continue the green innovations and demo activities beyond the lifetime of the programme. The Networking Facility has designed a general theoretical framework for scaling-up analysis based on the identification of a specific strategy tailored to the SwitchMed programme. In order to gain traction with regard to sustainable consumption and production and generate greater impact, the scaling-up of the SwitchMed programme has been defined as “expanding, adapting and sustaining demonstration actions in more locations and over time to reach beyond the original target groups, with the ultimate vision of sustainable consumption and production being mainstreamed into everyday economic life across Southern Mediterranean countries”. For instance, the compelling outcomes and impact achieved by the SwitchMed Green Entrepreneurship programme indicate the growing demand for business support in Southern Mediterranean countries for the creation of circular economy/business models, and clearly demonstrate the potential benefits of these business models. As the full potential equates to the creation of millions of jobs, effective strategies should be explored for scaling up the impact achieved.

The third line of action includes reinforcing the internationalisation of green start-ups and SMEs through closer cooperation between businesses and investment networks in Europe and Southern Mediterranean countries. As such, the Networking Facility has mapped the range of financial instruments available in four selected countries (Egypt, Lebanon, Tunisia and Morocco), as well as in Europe, and has organised seminars with national and international investors to discuss the barriers that restrict access to markets and sources of finance. Despite the results for the relevant countries being collected at national level, it is important to process the results achieved across beneficiary countries and to provide a regional perspective; thus we collect data and facilitate information exchange across all SwitchMed activities, primarily at regional and thematic levels, communicating these to external stakeholders in line with the programme identity, as has been done since the start. Indeed, well-proven methodologies, tools and initiatives that avoid unnecessary efforts are used or carried out on a regular basis.

Meet our strategic partners

We work in strategic partnership with international and national organisations that are very experienced an active in addressing the shift to sustainable consumption and production in the Mediterranean region. Our strategic partners are like-minded organisations to facilitate the exchange of ideas, build bridges and synergies and foster cooperation among diverse organisations in different countries with shared goals.

Our strategic partners represent a diverse range of organisations whom we trust to help us execute our mission. Their expertise enables us to do far more than we could alone, and their passion and talent inspire us.

Our current strategic partners are:

- SCP/RAC
- Green Economy
- Sustainable Consumption and Production
- Mediterranean Countries
- SWITCH MED
- Mediterranean Green Economy
The SwitchMed Programme is implemented by the United Nations Industrial Development Organisation (UNIDO), UN Environment Mediterranean Action Plan (UN Environment/MAP), Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC) and UN Environment’s Economy Division.

This publication has been produced with the assistance of the European Union.

The content of this publication is the sole responsibility of SwitchMed and can in no way be taken to reflect the views of the European Union.

Supervision and coordination: Roser Gasol (SCP/RAC)

Authors: Alessandro Miraglia (SCP/RAC), Ananda Alonso (SCP/RAC), Chang Yan (UN Environment), Claudia Pani (SCP/RAC), Fabiola Martínez (SCP/RAC), Michael Barla (UNIDO) and Roser Gasol (SCP/RAC)

Design: Florencia Cufre Meyer

Translation & Editing: T&S

Contacts:

For more information on the SwitchMed policy-makers Programme please get in touch with us:
- Magali Outters: moutters@scprac.org
- Luc Reuter: luc.reuter@unep.org

For more information on the SwitchMed MED TEST II Programme please get in touch with us:
- Roberta de Palma: r.de-palma@unido.org
- Carolina Gonzalez-Mueller: c.gonzalez-mueller@unido.org

For more information on the SwitchMed Green Entrepreneurship and Civil Society Empowerment Programme please get in touch with us:
- Giorgio Mosangini: gmosangini@scprac.org

For more information on the SwitchMed Networking Facility please get in touch with us:
- Burcu Tunçer: bturner@unep.org

Join us now at switchmed.eu/en/community/jointheactionnetwork

For further information visit us:
- www.switchmed.eu
- www.theswitchersfund.eu
- www.theswitchers.eu
- www.switchmedconnect.com

Follow us on our social media channels at:
- Twitter: @SwitchMed
- Facebook: Switchmed.eu
The SwitchMed Networking Facility, is hosted by the Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC).

Sant Pau Art Nouveau Site – Nostra Senyora de la Mercè Pavillion, Sant Antoni Maria Claret, 167. 08025 Barcelona (Catalonia) Spain.

Find us at:
• www.switchmed.eu

For further information:
• The Switchers: www.theswitchers.eu
• SwitchMed Connect: www.switchmedconnect.com
• Switchers Fund: www.theswitchersfund.eu

Our social media channels:
• Facebook
• YouTube
• Linkedin
• Twitter
• Flickr