




SwitchMed II in Lebanon

Demonstrating Sustainable Consumption and
Production and Circularity Practices



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nudawwer

Green and Circular Restaurants Summary Report

Project Implemented by: 

July 2022 to July 2023

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United Nations Environment Programme

The United Nations Environment Programme (UNEP) is the leading environmental authority in the United Nations system. UNEP uses its expertise to strengthen environmental standards and practices while helping implement environmental obligations at the country, regional and global levels.

UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations.

SwitchMed Programme

The SwitchMed programme is funded by the European Union (EU) and implemented by UNEP. It aims at achieving a Circular Economy in the southern Mediterranean by changing the way goods and services are produced and consumed. In order to achieve this, the SwitchMed provides tools and services directly to the private sector, supports an enabling policy environment, and facilitates exchange of information among partners and key stakeholders.

Nusaned

Nusaned is a Lebanese-based Non-Governmental Organization (NGO). Their aim is to empower and enable marginalized Lebanese communities by supporting sustainable development through a community-based approach. By offering access to food security, shelter, and continuous opportunities for creating productive economies, Nusaned works on building sustainable communities that are self-sustaining.

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1. Background

1.1 SwitchMed

The policy component of the **EU-funded SwitchMed programme**, led by **UNEP**, aims to develop and implement policies to switch to **Sustainable Consumption and Production (SCP) and Circular Economy (CE)** practices in Lebanon and 7 additional countries across the southern shore of the Mediterranean Sea.

Under SwitchMed I in Lebanon UNEP provided advisory services to the Ministry of Environment in the production and endorsement¹ of the Sustainable Consumption and Production National Action Plan ([SCP-NAP](#); SDG 12.1) with a focus on the industrial sector along the Litani Basin and Qaraoun Lake.

During SwitchMed II, considering the local context in Lebanon and as an entry point for piloting circular loops and SCP patterns, UNEP established a partnership with the civil society organization, Nusaned, to test SCP and CE practices and collect insights through a community-based demonstration project in the Mar Mikhael-Gemmayze area in Beirut. The project aims to develop impactful methodologies to:

- (i) **establishing circular loops with a focus on plastics and food waste**
- (ii) **reinforcing the greening of restaurants**

1.2 Sustainable Consumption and Production and Circular Economy?

Circular Economy is a concept and a model of consumption and production that builds upon value retention loops and involves several interconnected circular processes which are the 9 Rs: reducing by design, refuse, reduce and reuse, repair, refurbish, remanufacture, repurpose, and lastly recycle².

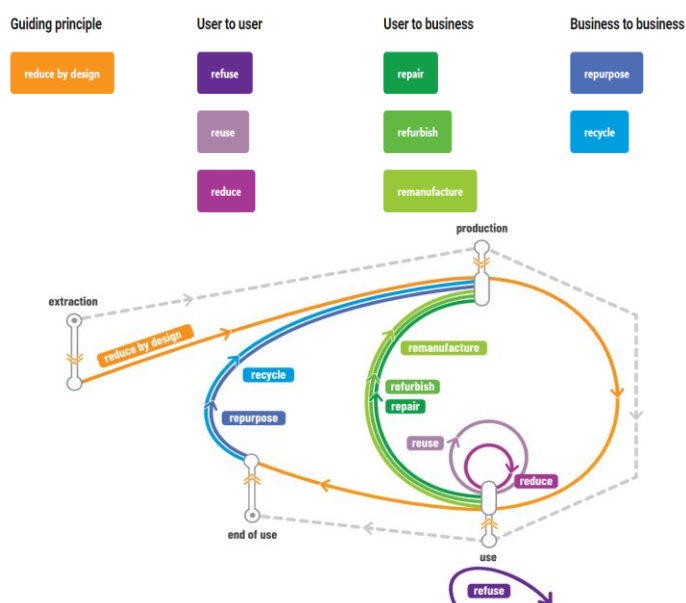


FIGURE 1 CIRCULARITY BUILDS UPON VALUE RETENTION LOOPS, AS SHOWN ON THE UNEP CIRCULARITY APPROACH

¹ The SCP-NAP was endorsed by the Lebanese Ministry of Environment and Ministry of Industry.

² <https://www.unep.org/circularity>

Sustainable Consumption and Production is about “doing more and better with less³”; which means maximizing the proper use of services, products, and resources to get the best possible outcomes with the least number of raw materials being wasted in the production phase. As for the consumption phase, shifting to sustainable practices involves changing consumers behaviour which will affect the ways of production.

SDG 12: Sustainable Consumption and production was adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development⁴. It aims to ensure sustainable consumption and production patterns by reducing waste and pollution, increasing resource efficiency, and promoting the sustainable use of natural resources. The goal targets to promote responsible and sustainable management of resources and encourage environmentally friendly technologies and practices. The ultimate objective of SDG 12 is to achieve a sustainable future where economic growth, human well-being, and environmental protection are balanced and interdependent.



FIGURE 2 SUSTAINABLE DEVELOPMENT GOALS OF THE 2030 AGENDA

2. Restaurants Industry – the Business Case of Going Green and Circular

The restaurant industry plays a pivotal role in the global pursuit of sustainability, with a unique capacity to drive awareness and foster a sense of community engagement. Within this broader responsibility, restaurants hold a critical position in addressing the issues of food waste and packaging waste, particularly plastics.

The industry can actively participate in reducing its environmental footprint by advocating for conscious consumption, responsible waste management practices, including waste segregation at the source, reuse and recycling practices to address packaging and food waste while emphasizing sustainable choices and promoting the circular use of materials.

It is important to note that [UNEP's Food Waste Index](#) highlights the challenge of effectively measuring food waste generation in the food service sector. This is not only due to the sector's diversity, encompassing restaurants, hotels and canteens, but also due to entities within this sector often resisting waste audits, which complicates efforts to gather the needed data. Additionally, the absence of robust national data on metrics such as the number of operating restaurants and the

³ [UNEP sustainable consumption and production policies](#)

⁴ <https://sdgs.un.org/2030agenda>

volume of meals consumed outside homes increases the challenge of realizing a national food waste estimate for the sector.

2.1 UNEP Resolutions on Preventing Plastics Pollution and Food Waste

The business case of green and circular restaurants includes the effective management of two key and high impact sectors: plastics and food, which have far-reaching environmental implications and play a central role in advancing the broader goals of sustainability and responsible consumption and production.

Ending Plastic Pollution

In March 2022, [UNEA 5.2](#) marked the historic adoption of the resolution 'End Plastic Pollution: Towards an Internationally Legally Binding Instrument'. The international legally binding instrument to address plastic pollution will tackle the topic in a comprehensive manner by considering all stages of its lifecycle. The Intergovernmental Negotiating Committee ([INC](#)) is leading negotiations on this agreement, aiming to finalize by the end of 2024. The legally binding instrument bring forward alignment of national efforts with global efforts to prevent plastic waste and promote sustainable plastic use, both at the national and international levels.

Preventing and Reducing Food Waste

Being the custodian for the Food Waste Index ([SDG 12.3.1b](#)), UNEP is committed to promoting sustainable practices and innovative solutions to reduce food loss and waste in accordance with the United Nations Environment Assembly (UNEA) Resolution ([4/2](#)) 'Promoting sustainable practices and innovative solutions for curbing food loss and waste'. As part of this commitment, UNEP focuses on capacity building and advocacy facilitating experience and knowledge exchange to improve the enabling conditions necessary to achieve the goal of halving food loss and waste.

UNEA Resolution ([2/9](#)) on 'Prevention, Reduction and Reuse of Food Waste' emphasises the importance of collaborative efforts especially with other international organizations.

2.2 Restaurants Industry in Lebanon

The restaurant industry is a cornerstone of the Lebanese economy, coupled by increasing tourism trend and diaspora flows. According to [Lebanon's Economic Vision 2019](#), the contribution of productive sectors accounts up to 16% of the country's GDP, whereby the Agriculture sector and 'Hotels and Restaurants' sector account for 3% each and Manufacturing accounts for the remaining 10%.

According to the [Syndicate of Owners of Restaurants, Cafes, Night-Clubs & Patisseries](#), in 2019 approximately 8,500 restaurant establishments were running; however, after the nation faced multifaceted crises, the number of establishments decreased to 4,500 institutions in 2022. Despite persistent challenges, the restaurant industry demonstrated resilience and witnessed a remarkable recovery, driven by the optimism surrounding Lebanon's tourism industry, even though economic challenges remained. Noting that, [according to recent figures](#) from the Ministry of Tourism in Lebanon, the number of tourists visiting the country in July 2023 increased by nearly 26% when compared to July 2022.

This presents an unparalleled opportunity for the restaurant industry on multiple fronts. It offers prospects for economic revival, the creation of green jobs, and serves as a driving force for positive environmental change. By applying Circular Economy (CE) and Sustainable Consumption and Production (SCP) practices, this industry can significantly reduce its environmental footprint and contribute to Lebanon's path to a more sustainable and prosperous future.

3. *Nudawwer* - Pilot Project

UNEP collaborated with the Lebanese NGO “Nusaned” to implement the pilot project *Nudawwer* in Beirut. *Nudawwer* refers to a circular or continuous movement in Arabic and the root of the word may also be associated with recycling. Throughout the project duration (July 2022 – December 2023), the emphasis is on drawing lessons learned from the testing phase to instil circularity, particularly the concepts of prevention and reduction, rather than just promote recycling practices within the community.

The project is a community-based pilot in the Mar Mikhael - Gemmayze area in Beirut which seeks to address the challenges of reduction and prevention of food waste and packaging waste to divert them from landfills using concepts of the circular economy. Through awareness raising and capacity building activities, this project is introducing circular elements and sustainable consumption and production patterns into the neighbourhood to induce behavioural change and allow green businesses to thrive. *Nudawwer* addresses primarily SDG 12 (Sustainable Consumption and Production). The results of the project will serve as a foundation and blueprint for replication and scaling up across the country to influence policy action.

Both concepts of CE and SCP are interconnected and introducing such concepts to restaurants’ practices, and to the community, will reduce stress on the raw materials being used, diverge plastics and food waste from landfills and allow a healthier environment to flourish. For *Nudawwer*, the aim is to address (1) *User to User (Reuse and Reduce)*, (2) *User to Business (Repair)*, and (3) *Business to Business (Recycle)* components.

By creating a replicable model, *Nudawwer* seeks to promote the adoption of more sustainable practices and policies, with the potential for national impact, leading to a more significant contribution to the global efforts of preventing waste and circularity. This approach will ensure that the project's efforts have a far-reaching impact.

Shifting from a linear economy model to a circular economy model is achieved through “transforming every element of our take-make-waste system: how we manage resources, how we make and use products, and what we do with the materials afterwards”. With this approach, *Nudawwer* aims at achieving its objectives and contributing to the policy making strategies. This model has been created using the “UNEP Building circularity platform⁵” as a reference and exemplifies what *Nudawwer* will be achieving whereby UNEP will be playing an integral role in assisting in dissemination and policy recommendations at the national level.

Mar Mikhael - Gemmayze Neighbourhood

The project leveraged the dynamic restaurant scene in the *Mar Mikhael-Gemmayze* area in Beirut, to test SCP/CE elements that enable the establishment of a customized methodology to inspire circular practices and long-lasting behavioural change to prevent food waste and plastic waste pollution.

The neighborhood that the *Nudawwer* project is mainly residential and commercial. This area of Beirut is known as a lively bar and restaurant area, amongst the residential and business buildings. *Mar Mikhael-Gemmayze* are located at the eastern boundary of Beirut in the *Medawar* district which

⁵ <https://buildingcircularity.org/>

has a total population of 8,112⁶. They lie in a strategic location south of the Beirut port and are considered a main connection from the Beirut central district to the eastern suburb of Beirut.

4. Nudawwer Green and Circular Restaurants

Within the scope of the project, **Green and Circular Restaurants** refers to eateries committed to environmental responsibility and the principles of a circular economy, which includes efficient resource use, waste segregation, minimization, and recycling or repurposing materials. The terms **Plastic Circle** and **Food Circle** refer to creating a closed loop system for the plastic waste and food waste generated in the area, where socio-economic returns are ensured by rewarding contributors with points redeemable for vouchers for local vendors, to reinvest proceeds into the local economy.

Green and Circular Restaurants are eateries that adopt sustainable practices (based on SCP and CE) in their operations. These restaurants strive to minimize their ecological footprint and promote sustainable food production and consumption. The term "green" signifies their commitment to environmental responsibility, while "circular" emphasizes the concept of a circular economy, where resources are used efficiently, waste is minimized, and materials are recycled or repurposed. In the context of the Nudawwer pilot project, the restaurants are those actively implementing sustainable and circular practices to reduce their environmental impact.

Food Circle: Preventing and reducing food waste, while creating a closed-loop system. Restaurants received guidance on waste segregation, monitoring food waste reduction through meal tracking and waste composition analyses. The food waste is collected and processed to produce organic compost that is tested to ensure quality and used in-house or shared with the restaurants' local farmers.

Plastics Circle: Reducing non-organic waste, particularly plastics, through sorting at the source and recycling to earn points redeemable at local vendors while incentivizing sustainable behaviours and waste reduction to earn points converted to vouchers which are redeemable at local vendors.

4.1 Engaging Restaurants in Sustainable and CE Practices

The project engaged 10 restaurants⁷ to address packaging and food waste throughout the testing phase, they were encouraged to adopt sustainable practices, taking part in the **Plastics Circle** and **Food Circle** strategies to encourage active participation and positive change in the restaurant industry to reduce environmental impact and give back socio-economic returns.

During the initial phases of the project, situational **assessments** were conducted on the participating entities to map out current practices. After the baseline assessment in August 2022, restaurants further underwent evaluations through surveying to monitor their practices including responsible procurement procedures, water efficiency, and energy efficiency.

During one-to-one visits, restaurants received valuable guidance and were provided with additional resources to encourage the adoption of environmentally friendly practices.

Phases of Green and Circular Restaurants Implementation

⁶ https://maps.mapaction.org/dataset/fe6fcedd-a678-44e4-831e-84699e1d8a5a/resource/8fa96dd0-b4cf-4709-8ddb-730c9b402d67/download/ma011_beirut_population-300dpi.pdf

⁷ Dar Beirut, Green Junkie, Baron, Le Petit Gris, Mayrig, Stairway, Starbucks, Kaake square, Salad Bar and SIP

Through active participation in the **Plastics and Food Circles**, restaurants enhance sustainability and contribute to creating a more environmentally responsible food service sector.

The implementation of the **Green and Circular Restaurants** is similarly structured around four phases:

- (i) Undertaking an **in-depth assessment** of the “plastic pollution” challenge at global, regional, and local level
- (ii) Develop a detailed **roadmap for implementation**
- (iii) **Test / implement** the roadmap
- (iv) **Showcase** insights to inspire replication

Actions and commitments that were presented to the engaged stakeholders to support their switch to more circular practices on plastic and food waste are:

- Preventing and reducing food waste
- Sorting waste at the source (packaging waste and food waste)
- Meal tracking to monitor waste generation per meal
- Waste composition analysis to gain insights into discarded materials
- Composting: turning food waste into nutrient-rich compost
- Minimizing packaging waste
- Tracking energy and water consumption
- Repairing/repurposing items
- Spreading awareness on environmental issues

Engaged restaurants:

The participating restaurants varied from dine-in only to take-out only entities serving various cuisines. This diversity emphasised the applicability and pertinence of sustainable practices in the food service sector, regardless of the dining format. The pilot project welcomed the inclusion of both traditional and contemporary culinary experiences, underscoring the importance of embracing sustainable principles throughout the entire restaurant industry.

Table 1 Engaged Entities within the Food Service Sector

Name	Date of Joining	Description
Dar Beirut	7/6/2022	Dine-in and take-out restaurant serving Lebanese cuisine
Mayrig	7/6/2022	Dine-in and take-out restaurant serving Armenian cuisine
Green Junkie	7/6/2022	Take-out restaurant serving healthy organic food

Starbucks	7/6/2022	International coffeehouse chain with sit-in and take-out options
Baron	15/7/2022	Dine-in and take-out restaurant serving Mediterranean cuisine
Le Petit Gris	14/7/2022	Dine-in restaurant serving French and Mediterranean cuisine
Amelia	25/7/2022	Dine-in resto-bar with Japanese-Peruvian fusion and Mediterranean influences. Discontinued engagement on 6/12/2022 due to lack of storage space
Kaake Square	19/12/2022	Dine-in and take-out Lebanese bakery
Stairway	12/1/2023	Dine-in only resto-bar
SLD Bar	8/12/2022	Dine-in and take-out restaurant serving healthy options
SIP	20/3/2023	Coffee shop with sit-in and take-out options

5. Green and Circular Restaurants Lessons Learned

Based on the **Green and Circular Restaurants component** and UNEP experiences, the following lessons learned should be highlighted:

- The adoption of CE and SCP practices in Lebanon's urban areas presents environmental and socio-economic opportunities, including job creation and the introduction of sustainable business practices in alignment with global environmental objectives, and enhances access to finance, promoting innovation and sustainable economic growth.
- Restaurants have a significant chance to showcase innovative approaches that prioritize sustainable methods for food preparation and storage within urban contexts, while also taking a proactive stance within the community to prevent and reduce plastic pollution.
- An increasing number of consumers prefer dining at restaurants that are committed to sustainable practices, reflecting a growing awareness of environmental issues and presenting an opportunity for restaurants to attract and retain customers by adopting SCP and CE practices and initiatives.
- Engaging all restaurant staff in sustainability practices and initiatives, while ensuring they are well informed, is crucial. Comprehensive training ensures that staff understand the importance of environmental action, waste prevention and proper sorting practices.
- One-on-one follow-up sessions are effective in improving waste segregation and other sustainable practices, offering flexibility to answer arising questions, addressing challenges and providing guidance for ongoing improvements.
- Prevention, reduction and reuse goals are most likely to be met if they are quantifiable, using a strategic approach that is monitored for continuous improvement. Encouraging restaurants to share specific data, such as the number of meals served and the number of customers, is challenging but important to monitor reduction measures and can be done through promoting success stories and aggregated data from other restaurants.
- Implement incentives for staff to encourage prevention and reduction, linking these incentives to waste tracking. Establish a formal structure that enables staff to provide feedback on waste reduction measures and ideas, ensuring that suggestions reach the management.
- Leverage the trust relationship between restaurants and customers to educate and motivate consumers on environmental awareness with a focus on food waste reduction and plastic pollution prevention. Consumer education is essential to trigger long-lasting behavioural change.
- Integration of international days focused on environmental awareness (e.g., the International Day of Awareness on Food Loss and Waste, Zero Waste Day, World Environment Day etc.) into restaurants operations and communication plans, to enhance customer engagement and demonstrate the restaurant's commitment to global sustainability goals.
- Restaurants are often willing to adopt SCP and CE practices if these changes don't disrupt their day-to-day operations; however, with changes that require operational adjustments, restaurants may need incentives, such as working to achieve a green certification or ecolabeling.