





12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



SDG 12

**Ensure sustainable
consumption and
production patterns**

A. Introduction

SDG 12 encapsulates sustainable development at all levels, from local to global, and in all its dimensions, linking the environment and natural resources with the social and economic components. Around the world, not a single country is fully engaged in the required fundamental shifts in consumption and production patterns. The current linear economic model of extract, make and dispose is rapidly depleting natural resources and progress in greening the economy remains negligible. **While the Arab region is still developing and has not yet reached the excessive levels of resource consumption seen in industrialized nations, its economies are heavily carbon intensive and operate at the expense of natural resources.**

The region's sustainable consumption and production challenges are further aggravated by accelerating rates of resource depletion, losses in biodiversity and ecosystem health, increasing water scarcity (SDG 6), rapidly rising energy use (SDG 7) and associated greenhouse gas emissions (SDG 13). The escalating generation of waste and very low levels of reuse and recycling hinder progress on the environmental SDGs, including SDG 12. Ensuring careful management of waste is important in making cities and human settlements sustainable (SDG 11) and preserving the integrity of marine and terrestrial ecosystems (SDGs 14 and 15). SDG 12 is interlinked with economic growth and industrial development (SDGs 8 and 9) as well as sustainable agrifood systems for a world free of hunger (SDG 2). The cross-cutting character of sustainable consumption and production explains why relevant programmes are often reported under more sector-specific SDGs.

Only a few Arab countries have a strategic vision with targets to transition to sustainable consumption and production and the green economy. Some countries have nevertheless moved forward with national action plans on sustainable consumption and production and green and circular economy policies. They are making efforts to improve waste management, reduce food loss and rationalize fossil fuel subsidies. Initiatives to reduce pollution, advance sustainable tourism and organic agriculture, and institute sustainable public procurement engage the private sector, civil society organizations and the public in the more efficient use of natural resources. Many good practices and demonstration projects need to be scaled up. Policy implementation is weak and insufficiently supported with financial resources.



Sustainable consumption and production refers to using services and products that respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants. This process must occur over the life cycle of services and products to avoid jeopardizing the needs of future generations.

A green economy is defined as low-carbon, resource-efficient and socially inclusive. In a green economy, growth in employment and income are driven by public and private investment in economic activities, infrastructure and assets with reduced carbon emissions and pollution, and enhanced energy and resource efficiency. Growth operates in line with the prevention of the loss of biodiversity and the provision of ecosystem services.

The circular economy is a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes such as maintenance, reuse, refurbishment, remanufacture, recycling and composting. The circular economy tackles climate change and other global challenges, including biodiversity loss, waste proliferation and pollution, by decoupling economic activity from the consumption of finite resources.

Sources: UNEP, [Sustainable Consumption and Production Policies](#) and the [Green Economy](#); Ellen Macarthur Foundation, [What Is a Circular Economy?](#).

What the data say

Data included in this section are from the [ESCWA Arab SDG Monitor](#), unless otherwise indicated (accessed in December 2023).



Economic growth still comes at the expense of natural resources: the Arab region's **material footprint per capita** increased from 11.7 to 12.4 tonnes between 2015 and 2019, compared to a global average of 12.4 tonnes.



Food loss stood at 16.29 per cent in 2020, compared to 13.3 per cent globally. **Household wasted food per capita** in 2019 was 141 kilograms compared to 120 kilograms on average globally.



Arab economies are highly dependent on the consumption of natural resources and extractive activities: the region's **material footprint per unit of GDP** increased from 1.88 kilograms per constant United States dollar in 2015 to 1.96 kilograms in 2019. It decreased from 1.22 to 1.14 kilograms globally over the same period.



The region's **fossil fuel subsidies** represented more than 15 and 17 per cent of total fuel subsidies worldwide in 2019 and 2020, respectively, yet the Arab population is less than 6 per cent of the global total.



Petroleum consumption per capita stagnated at 1.18 tonnes from 2015 to 2019 but is still approximately double the world average, which decreased from 0.58 to 0.56 tonnes in the same period.



Fossil fuel subsidies (consumption and production) declined by more than half from 2015 to 2020, falling from \$118 billion to \$57 billion (nominal dollars). This was mostly due to substantial decreases in the Gulf Cooperation Council countries.



Arab economies depend strongly on fossil fuels, as exemplified by **domestic petroleum consumption per unit of GDP**, which was at 1.188 kilograms per United States dollar in 2019 against 0.052 on average globally.

For an up-to-date view of SDG 12 data at the national and regional levels and an analysis of data availability, please refer to the [ESCWA Arab SDG Monitor](#).

On the road to 2030 – suggested policy approaches to accelerate progress on SDG 12

- Sustainable consumption and production principles need to be integrated into national development plans across various economic sectors, including through the promotion of environmentally friendly and socially responsible product standards and labels.
- To become efficient, sustainable consumption and production policies need to be translated into proactive regulations, including command-and-control and market-based instruments to engage producers and consumers in sustainable consumption and production patterns.
- At the production level, regulations can include incentives, subsidies and tax breaks for using low-emissions technologies and improving energy efficiency. The environmental producer responsibility¹ approach and R&D in sustainable consumption and production technologies and innovations need to be promoted.
- At the consumption level, incentives and disincentives can engage the public and consumers in sustainable consumption and production and related behavioural changes. These can be combined with awareness, education and training programmes on sustainable practices.
- Investment in green technologies can improve resource efficiency, the use of renewable resources and the reuse of non-renewable ones to support the transition towards a low-carbon economy. This process can also cut production costs, enhance competitiveness and address environmental concerns.
- Sustainable public procurement can help public agencies prioritize environmentally and socially responsible products and services while encouraging businesses to adopt sustainable practices.
- Stronger governance structures and legislation can enforce integrated solid waste management, including efforts to separate, recycle, treat and decompose waste as well as to formalize recycling practices.



The concept of **leapfrogging** is relevant for the region. Arab countries that have not yet become entrenched in resource-intensive development paths can embrace efficient and advanced technologies offering an opportunity to excel by using innovative approaches and fewer natural resources.

A swift transition to a greener economic paradigm should prioritize safeguarding environmental assets and addressing the triple planetary crisis of pollution, climate change and biodiversity loss. Failure to act promptly may lead to irreversible environmental damage, posing significant threats to human health and livelihoods.

Source: UNEP, 2023e.



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B. The policy landscape for SDG 12

The challenges in advancing sustainable consumption and production in the Arab region are multifaceted. First, **sustainable consumption and production is often looked at from a sectoral perspective and tends to be restricted to waste management.** In addition, inadequate coordination among government actors, various economic sectors and different stakeholders is exacerbated by resistance from vested interests, compounding the difficulties of an already vast and complex domain. From a social perspective, changing deeply ingrained consumption patterns is problematic in a context of increasing population needs and evolving lifestyles with more but not necessarily more resource-efficient consumption. Poverty and inequality and a lack of public awareness further complicate the transition.

Although sustainable consumption and production and green economy paradigms go far beyond sectoral waste management approaches, the policy landscape related to SDG 12 in the Arab region mostly focuses on waste management and food loss and waste. There is some attention to sustainable procurement and tourism too. This restrictive approach is reflected in the policy areas covered by this chapter.

Many countries have launched policies on sustainable consumption and production and the green economy but these policies are more aspirational than actionable. Most countries fall short in fulfilling international and regional agreements and obligations linked to environmental protection, even where these frame the policy landscape. As the COVID-19 pandemic has been interpreted as humanity being on a collision course with nature, the post-COVID-19 era represents a unique opportunity to embrace green economic models as the new normal, strengthen environmental laws, and harmonize socioeconomic development with the preservation of natural resources for the well-being of communities.

1. Regional strategies and initiatives

◆ **Developed under the auspices of the League of Arab States, the Arab Regional Strategy for Sustainable Consumption and Production² was endorsed by the Council of Arab Ministers Responsible for the Environment in November 2009.** But in 2023, it was not yet monitored, evaluated or updated. The strategy promotes sustainable consumption and production through the rational use of resources to protect the environment and contribute to poverty eradication and a sustainable lifestyle.³ Priority areas and policy objectives include energy efficiency, renewable energy technologies, sustainable and integrated water resources management, waste management, rural development, education, responsible lifestyles and sustainable tourism. National translation of the regional strategy is advancing at varying degrees. Several countries have adopted sustainable consumption and production action plans and have mainstreamed related targets and indicators into their national development strategies. Some countries have developed a holistic vision with targets; others have put sectoral policies in place. Some are still in the early planning phase in a selected sector, especially solid waste management.



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◆ **Supporting the regional policy framework, several initiatives bring countries into dialogues with potential to drive policy change. Regional round tables have engaged stakeholders since 2008.**⁴

Aligned with the Regional Action Plan on Sustainable Consumption and Production in the Mediterranean,⁵ the SwitchMed Programme⁶ supports **Algeria, Egypt, Jordan, Lebanon, Morocco, the State of Palestine and Tunisia** in shifting to sustainable consumption and production patterns, developing enabling national policy frameworks, and connecting eco-entrepreneurs and micro-, small and medium-sized Enterprises in an active regional network. **Morocco, Somalia, the Sudan and Tunisia** are involved in the African Circular Economy Network.⁷

◆ **Sectoral regional strategies include, inter alia, the Pan-Arab Sustainable Energy Strategy, which expanded the Pan-Arab Renewable Energy Strategy 2010–2030.** Adopted by the Arab Ministerial Council of Electricity under the auspices of the League of Arab States, these strategies cover renewable energy, energy efficiency, energy access and carbon dioxide emissions, and include specific targets and indicators. They promote sustainable energy and enhanced regional coordination and investment (see the chapter on SDG 7). The regional strategies touch on institutional and financial frameworks, grid infrastructure and a skilled workforce for

accelerating the transition to renewable energy. They also call for increased private sector engagement in electricity markets.

The region has some of the greatest potential for solar power generation worldwide, in addition to high potential for wind energy and waste-to-energy.

Renewable energy potential needs to be activated to decouple growth in living standards from fossil fuel consumption and greenhouse gas emissions. This can also accelerate economic diversification and the transition to a low-carbon economy, while creating new and decent jobs.

2. Commitments related to multilateral environmental agreements

◆ **Most Arab countries are parties to international agreements on protecting human health and the environment from hazardous wastes and other chemicals.** The **Comoros** and **Egypt** are not parties to the Rotterdam Convention,⁸ however, and **Egypt, Libya,**



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Morocco, Somalia, the Sudan, Tunisia and Yemen are not parties to the Minamata Convention on Mercury. Although national legislative structures reflect the commitments of international agreements, in 2020, only 63.6 per cent, 61.6 per cent, 39.2 per cent and 48.1 per cent of Arab parties to the Basel,⁹ Rotterdam, Stockholm¹⁰ and Minamata conventions, respectively, met obligations in transmitting required information. All Arab countries are parties to and compliant with the Montreal Protocol.¹¹

- There are important gaps in the enforcement of environmental agreements, such as in the poor control of illicit transboundary movements of hazardous wastes and their disposal, and a lack of monitoring, financing and technical capacities.
- Updates and amendments are required to strengthen environmental protection regulations in countries where laws addressing international commitments were established in some cases more than two decades ago.
- Coordination among relevant ministries (health, industry, agriculture, environment) and with other entities is required.

Source: UNEP, 2019.

3. Slow adoption of green technologies

◆ **Industries are still struggling to adopt green technologies. Pre-conditions, such as an enabling environment and adequate capacity-building for businesses, have not been met.**¹²

- ◆ Most countries subsidize water, discouraging efficient use and leading to uncontrolled overextraction (see the chapter on SDG 6). Only 20 per cent of wastewater is reused in irrigation and industrial applications. Efficient irrigation practices, crop selection and taxes on pesticides and fertilizer use can encourage more efficient water use.
- ◆ Reducing waste generation and reuse and recycling should be at the core of any waste management policy. Suitable technologies encompass a spectrum of solutions, spanning sorting and recycling lines, composting methods, mechanical-biological treatment, refuse-derived fuel and biogas. Economic instruments such as waste generation charges, tipping fees and pollution taxes can serve as cost-recovery mechanisms, ensuring a return on investments in

green technologies.

◆ The region's transport sector faces challenges such as an ageing vehicle fleet, inefficient fossil fuel use and increasing emissions. Countries must embrace green transport technologies, particularly in public transport. This shift can reduce the use of private cars, cut fuel costs, enhance mobility and alleviate road congestion (see the chapter on SDG 11). The Mecca monorail of **Saudi Arabia** exemplifies such efforts. Other initiatives include the transition of **Egypt** to gas-powered public transport and promotion of electric cars, and the development of rapid express bus infrastructure in **Jordan**.

◆ Paying more attention to social and environmental responsibilities in their marketing practices, tourist enterprises are increasingly engaging in eco-labelling schemes. In **Tunisia**, the Center for Environmental Technologies, a public agency of the Ministry of the Environment, expanded a voluntary certification scheme to improve the environmental performance of products and services offered by the tourism sector. In **Egypt**, ecotourism is a pillar of the 2019 national tourism strategy, and natural areas listed under international conventions are promoted as ecotourism sites. The Ministry of the Environment oversees policies to rebrand the country as an ecotourism destination. In that context, a ministerial decree (No. 760–2019) set new green criteria for ranking hotels, and the Green Star eco-label was revised to encourage hotels and resorts to commit to improving their environmental and social performance.

4. Waste management policies

◆ **Countries have policies related to waste management and legislation banning single-use plastic and/or plastic bags** (table 12.1). Some have strategies and legislation on integrated solid waste management. Examples include the National Strategy for Integrated Waste Management by 2035 of **Algeria**, the Waste Management Law (2020) of **Egypt**,¹³ The National Strategy and Action Plan for Municipal Solid Waste Management 2015–2034 and Waste Management Framework Law (2020) of **Jordan**,¹⁴ the Law on Integrated Solid Waste Management of **Lebanon**, the National Strategy for Waste Reduction and Recovery (2019) and Waste Management and Disposal Law of **Morocco**, and the Integrated Strategy on Waste Reduction and Management of **Tunisia**. Waste disposal is gradually shifting from uncontrolled dumpsites and illegal landfills to sanitary dumps.

- Municipal solid waste generation has reached 2.7 kilograms per person per day in some parts of the region.
- Although 90 to 95 per cent of all municipal solid waste goes to landfills, open dumping accounts for more than 50 per cent of overall waste in the region.
- A very limited amount of collected and disposed waste is separated, recycled, adequately treated or composted. Collected household waste is often mixed with industrial and medical waste during handling and disposal.
- Improved solid waste landfilling would not solve the issue of increasing waste generation.

◆ **Several States have adopted recycling plans**, including the Gulf Cooperation Council countries, **Iraq, Jordan, Lebanon** and **Morocco**. Most recycling and incineration plants are in the Gulf Cooperation Council countries. The region's largest recycling plant is in **Saudi Arabia**; the **United Arab Emirates** has an incineration plant.¹⁵ **Qatar** adopted a comprehensive plan for solid waste management and recycling, resulting in a fully integrated solid waste management facility in *Mesaieed*. In 2020, the centre produced more than 30,000 tons of organic fertilizer and generated about 269,000 megawatts per hour of electric power and more than 33 million cubic metres of biogas. This was in addition to processing more than 30,000 tons of car tires and recycling about 420,000 tons of construction waste.¹⁶ In general, however, across the region, inadequate governance, such as multiple levels of responsibilities, as well as a lack of legislation remain barriers to integrated solid waste management. Other challenges include inadequate planning and improper waste disposal, rapid population growth, limited collection services, inappropriate use of technology and insufficient financing.

Opportunity:

In 2022, the Fifth United Nations Environment Assembly adopted a resolution to prepare a global treaty to end plastic pollution.^a A global treaty will be highly relevant for the Arab region, both from an economic perspective for oil-producing countries, since plastic comes from oil, and from an urban perspective when it comes to plastic waste generation, collection and treatment. Coastal cities in particular struggle with deficits in waste management and the proliferation of marine debris.

a United Nations Environment Assembly, 2022.

Reducing marine litter in Jordan

Following the One Dead Sea Is Enough initiative launched by the Ministry of the Environment during the World Science Forum in the Dead Sea in 2017, Jordan made waste management and the reduction of marine litter one of its national environmental priorities. For instance, the Plastic Shopping Bags Bylaw regulates the importation, production and distribution of single-use plastic bags. The campaign aims to reduce bag use and replace single-use bags with biodegradable alternatives.

Source: UNEP, 2023c.





Table 12.1
Countries with legislation banning plastic bags

Country	Comment
Algeria	No data.
Bahrain	2019: Importation of non-biodegradable single-use plastic bags is prohibited. 2021: Manufacturing, importing and trading plastic water bottles and cups below 200 millilitres are prohibited but water bottles and cups below 200 millilitres that are manufactured for export are exempt from the order. 2022: Importing, manufacturing and distributing single-use plastic bags with a thickness of less than 35 microns are prohibited but bags used for medical purposes and those manufactured for export are exempt from the order.
Comoros	2018: Production, importation, marketing and distribution of non-biodegradable plastic packaging and bags are prohibited.
Djibouti	2016: Importation and marketing of non-biodegradable plastic bags that are not produced in Djibouti are prohibited.
Egypt	2019: Red Sea Governorate prohibited the single use of plastic bags and plastic cutlery used in restaurants, coffee shops, supermarkets, groceries, butchers, fisheries and pharmacies, and during safari and boat trips. In South Sinai, the city of Dahab announced a ban on the use of plastic bags in July 2021.
Iraq	Iraq lacks specific legislation to address plastic pollution.
Jordan	2017: Regulations limit the use of plastic bags by imposing fees on their distribution. They prohibit the use and production of black plastic bags, excluding those for waste collection, and oblige manufacturers to indicate with a symbol that bags are biodegradable and have obtained the approval of relevant national institutions. Plastic bags continue to be used widely, however.
Kuwait	2019: Regulations prohibit certain single-use plastic items such as bottles, hot drink cups and food containers on Kuwaiti and foreign ships while in port in Kuwait or in Kuwaiti waters.
Lebanon	2018: The Municipality of Jbeil banned single-use plastic bags.
Libya	No data.
Mauritania	2013: Plastic bags ban.
Morocco	2015: Plastic bags ban. In 2019, the law was amended to define the legal framework for inspections and seizures. There is a ban on manufacturing, importing, exporting, marketing and using plastic bags through Law 77-15.
Oman	2021: Use of single-use plastic shopping bags is prohibited. 2023: Importation of single-use plastic bags is prohibited.
State of Palestine	The State of Palestine lacks specific legislation dedicated to addressing plastic pollution.
Qatar	2022: Regulations prohibit companies, institutions and shopping centres from using single-use plastic bags unless they are biodegradable, reusable or recyclable.
Saudi Arabia	A three-staged phase-out of single-use plastics from 2017 to 2019.
Somalia	2005: Local ban.
Sudan	2017: Local ban (Khartoum State).
Syrian Arab Republic	The Syrian Arab Republic lacks specific legislation to address plastic pollution.
Tunisia	2017: Production, possession and use of single-use bags, bags containing a high concentration of heavy metals and plastic bags of unknown origin are prohibited. This decree was implemented from 1 March 2020 for commercial spaces and pharmacies and from 1 January 2021 for producers and suppliers of plastic bags.
United Arab Emirates	2022: Importation, manufacture and circulation of single-use plastic bags, irrespective of their material (including biodegradable bags), are prohibited. Specific legislation exists in each Emirate with several exemptions.
Yemen	2021: Use, manufacture and importation of non-biodegradable plastic bags for commercial and household packaging are prohibited.

Source: Compiled based on UNEP, 2018, among other sources

Note: Blue indicates national legislation, beige a local ban, orange a lack of legislation and white no data.

5. Policies to reduce food loss and waste

◆ Although non-targeted subsidies for food items indirectly encourage food loss and waste, some countries have developed legislation, policies, national guidelines and action plans to address food loss and waste. The National Food Security Strategy 2021–2030 of **Jordan** sets a subobjective to reduce food loss and waste and enhance food safety. The *Génération Green 2020–2030* of **Morocco** builds on achievements in primary production under the *Plan Maroc Vert* by emphasizing downstream agrifood system activities and modern and efficient distribution chains. The National Food and Nutrition Security Policy (2019–2030) of the **State of Palestine** connects food loss and waste with food and nutrition security through sustainable food production systems and resilient agricultural practices. The National Food Security Strategy 2051 of the **United Arab Emirates** makes cutting food loss and waste one of five strategic pillars and targets a 50 per cent reduction by 2030.

Most countries lack sufficient information to develop action-oriented strategies and policies to prevent food loss and waste. The region produces high amounts but information about drivers of food waste is scarce. Significant gaps exist in institutional set-ups and coordination, with food-related issues spread across various ministries (e.g., agriculture, commerce, industry and health). This suggests the need for a common vision and commitment to effective policies addressing food loss and waste.

The reduction of food loss and waste is becoming a more prominent issue in updated nationally determined contributions to cut emissions and adapt to climate impacts. The 2021 submission of **Tunisia**¹⁷ called for a national food waste programme. The first submission of the **State of Palestine**¹⁸ highlighted the vulnerabilities of the agrifood sector in its adaptation plan and addressed improved cold storage, grain storage and livestock value chains. The updated submissions of **Jordan** and **Lebanon**

refer to food loss and waste and the improved efficiency of agrifood value chains.

Among the 11 States with national pathways for food systems transformation, 8 have specific actions and measures to address food loss and waste.¹⁹ The General Food Security Authority in **Saudi Arabia** has set a food loss and waste baseline. **Qatar** developed a household food waste baseline in compliance with the United Nations Environment Programme (UNEP) Food Waste Index.²⁰ **Jordan** is advancing efforts to implement a national food systems pathway, selecting food loss and waste reduction as a key entry point to transform agrifood systems.²¹





A variety of initiatives related to food loss and waste could be scaled up and reflected in policies to create structural changes, with adequate implementation and financing. For instance:

- ◆ In the **United Arab Emirates**, the Dubai Municipality's Food Safety Department has taken actions to reduce food spoilage and waste through recycling and food transfers to the national food bank.
- ◆ Food Bank of **Bahrain** collects surplus food from hotels, restaurants, markets and various events, redistributing it to families, expatriate workers and individuals in need.
- ◆ In **Lebanon**, the Food Waste Law regulates donations of leftovers and surplus to charities.
- ◆ In **Egypt**, a new draft law on regulating food waste and encouraging its redistribution, recycling and donation has been referred to relevant parliamentary committees.
- ◆ In **Tunisia**, the *Institut National de la Consommation* has led awareness campaigns about food loss and waste, producing educational materials and a teaching guide for secondary students.
- ◆ In **Saudi Arabia**, the National Transformation Programme signed an agreement with the Saudi Grains Organization and the Savola World Foundation to minimize food waste.²² The Saudi Grains Organization has provided training to businesses on best practices to reduce food waste. In cooperation with a food donation society and a recycling company, Eastern Province launched an initiative to use food waste for conversion into organic fertilizers.
- ◆ In the **United Arab Emirates**, the I'M PERFECT campaign encourages the use of imperfectly shaped fruits and vegetables to reduce food waste and support local food production. The Food Waste Pledge mobilizes commercial kitchens in the hospitality sector to cut food waste. *Ne'ma*, the National Food Loss and Waste Initiative,²³ brokers collaboration among governmental entities, the private sector, NGOs and communities to combat food loss and waste throughout the entire value chain. It involves farms, producers, distributors, retailers, restaurants and households, and fosters new national social norms that promote responsible consumption and contribute to reducing food loss and waste.



6. Lack of e-waste management

◆ No country has specific e-waste legislation.

In countries without comprehensive waste laws, such as **Mauritania**, all e-waste and other hazardous waste is treated alongside municipal waste, posing threats to the environment and human health. Without relevant legislation, **producers and importers play minimal roles in e-waste collection**. A policy approach based on extending a producer's responsibility for a product to the post-consumer stage can support financing to establish and improve e-waste management. As of 2021, however, the **United Arab Emirates** is the only country in the region that applies the principle of extended producer responsibility to e-waste and battery waste. **Jordan** and **Lebanon** are establishing similar approaches.

Generation of e-waste in the region increased by 61 per cent from 1.8 megatons (4.9 kilogram per inhabitant) in 2010 to 2.8 megatons (6.6 kilogram per inhabitant) in 2019.

In 2019, only 0.1 per cent of e-waste was collected. No e-waste was recycled.

The largest e-waste generator is Saudi Arabia at 595 kilotons (or 13.2 kilogram per inhabitant) in 2019. The lowest is the Comoros at 0.6 kilotons (or 0.7 kilogram per inhabitant). This reflects vast diversity in the region.

Source: Iattoni, Vermeersch, Baldé and other 2021.

Data on e-waste and its management are limited, with information available only for **Jordan, Qatar, the State of Palestine** and the **United Arab Emirates**. **Egypt** has licensed treatment facilities but lacks official data on e-waste collected and managed. Some countries have more limited e-waste initiatives, involving various formal and informal actors. The **Regional E-waste Monitor for the Arab States 2021 is the first regional effort to develop e-waste statistics, legislation and e-waste management infrastructure**.²⁴ Its purpose is to enhance understanding and interpretation of regional e-waste data towards facilitating environmentally sound management.

C. Policy trends by subregion

1. Gulf Cooperation Council countries

Facing challenges related to hydrocarbon reliance, policy coordination and changes in behaviour linked to sustainable lifestyles, Gulf Cooperation Council countries have among the highest carbon footprints and carbon emissions per capita worldwide. They have nevertheless streamlined environmental policies in line with international agreements and adopted policies to transition towards green and circular economies. They have also launched initiatives to reduce waste generation, expand recycling facilities and encourage sustainable waste disposal practices.

◆ **Green and circular economy policies are proceeding through legislative changes and national programmes.** For instance, **Qatar** published a Circular Economy Policy Paper²⁵ paving the way to a national strategy. The circular economy and waste management is one of four pillars of the national environment and climate change strategy of **Qatar**. **Saudi Arabia** launched its Circular Carbon Economy National Programme to reduce greenhouse gas emissions through energy efficiency, storage and capture of carbon dioxide, and other energy-focused measures. The **United Arab Emirates** established a Circular Economy Council to oversee the Circular Economy Policy 2021–2031, which includes coordinating national and local actions, developing sectoral plans and projects, and encouraging the participation of the private sector and cooperation between public and private entities. The policy focuses on the manufacturing, infrastructure, transport and food sectors. The United Arab Emirates is exemplary in updating its legislation in line with international commitments on the environment at both the federal level and within each Emirate.

In the **United Arab Emirate**, Dubai has achieved notable progress in green procurement, mandating government entities to reduce transport fuel, electricity and water consumption. Key milestones include issuing Green Public Procurement Guidelines in 2015, appointing Green Procurement Officers, and defining baselines and targets. A pilot regulation on indoor lighting is in place for public administrations. Regulations on electric motors, vehicles, information technology, air conditioning, irrigation equipment, indoor water fixtures and solar panels are underway. Purchasing criteria include prioritizing LED technology and prohibiting mercury vapor, incandescent lights and halogen lamps, where technically feasible.

◆ **Gulf Cooperation Council countries are improving waste management practices²⁶ and increasing recycling rates.** The National Centre for Waste Management of **Saudi Arabia** has set a target to divert 82 per cent of its waste from landfills by 2030, mainly through recycling, composting, energy production and incineration. In addition to a new waste management law, a governance framework has been established, linking national institutions and private companies through public-private partnerships.²⁷ **Bahrain** reviewed its National Waste Management Strategy, emphasizing reduction and recycling initiatives. It has issued legislation to regulate plastic waste, a ministerial order on the management of hazardous medical waste, and special legislation on managing e-waste in a sound, safe and sustainable manner.



2. Arab middle-income countries

Arab middle-income countries show varying degrees of progress and challenges. Most have developed national action plans on sustainable consumption and production as well as laws and regulations related to waste management, energy efficiency and environmental protection. They have made efforts to reduce pollution and improve waste management, despite inadequate infrastructure and limited capacities and financing.

◆ **Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia have adopted sustainable consumption and production national action plans.** The European Union-funded SwitchMed programme has supported them, as well as the State of Palestine, in developing these national frameworks and promoting good practices by the private sector, mainly micro, small and medium-sized enterprises and eco-entrepreneurs. The programme has backed the sharing of experiences towards creating a community of practice on sustainable consumption and production.

◆ **The national action plan of Algeria on sustainable consumption and production is one of seven cross-cutting strategic axes of the National Strategy on the Environment and Sustainable Development.** The plan focuses on concrete, innovative actions based on technological advances and better scientific knowledge, emphasizing the energy transition through the promotion of energy efficiency and a zero-waste economy by 2030.

◆ **In Egypt, the national action plan on sustainable consumption and production is aligned with the national strategy for sustainable development, Vision 2030.** The plan promotes the efficient allocation and use of water and energy as well as sustainable agriculture and waste management, with a focus on waste reduction, recovery, reuse and recycling.²⁸ The plan stresses the regulatory framework and behavioural changes, emphasizing awareness-raising, capacity-building, multistakeholder collaboration and partnerships, and includes provisions for monitoring and evaluation. Implementation is ongoing through flagship projects, for instance, on reducing plastic bag consumption and mainstreaming sustainable public procurement.

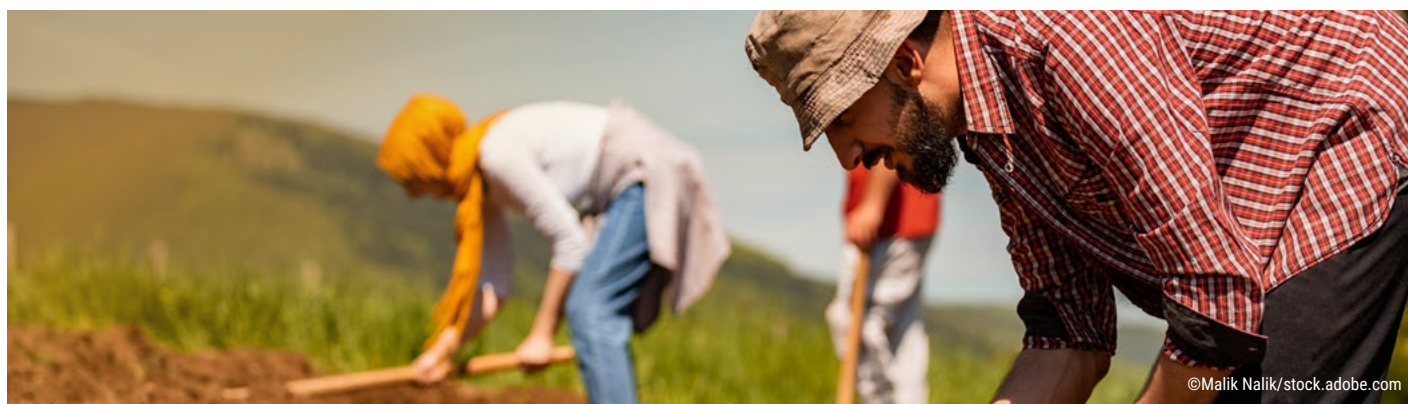
◆ **Jordan developed the National Strategy and Action Plan 2016–2025 on sustainable consumption and production for the food production, transport and waste management sectors.** The Green Growth National Action Plan 2021–2025 mainstreams climate and green investments into six key sectors (agriculture, energy, tourism, transport, water and waste) and defines 86 priority policy actions and projects.

The Ministry of the Environment of Jordan, the EDAMA Association for Energy, Water and Environment, the Aqaba Special Economic Zone Authority and UNEP worked with hotels and restaurants in the seaside city of Aqaba to apply circular economy approaches. A detailed action plan was developed to modify solid waste collection fees so that producing less solid waste results in lower fees. Currently, hotels pay a fixed tax for waste collection based on their built-up area and not on the way they manage their waste. Local women's associations have participated in technical trainings about upcycling hotel material among new approaches to solid waste management that could cut the amount transferred to landfills.

Source: [SwitchMed in Jordan](#).

◆ **In Lebanon, based on a multistakeholder consultation and a policy scoping study, the national action plan on sustainable consumption and production identified three operational objectives:** first, adopt the best available techniques to promote sustainable consumption and production in the industrial sector; second, introduce sustainable consumption and production approaches related to the industrial sector in policy and institutional frameworks; and third, conduct education and awareness-raising among consumers. The plan builds on a national strategy, Lebanon Industry 2025: The Integrated Vision of the Industrial Sector in Lebanon,²⁹ which promotes green industries and commits to promoting environmental management and sustainable consumption and production principles.

◆ **Morocco developed a national framework to promote sustainable consumption and production, a 10-year action plan for eco-construction and sustainable buildings, and a 10-year action plan for agriculture and agrifood.**³⁰ The last is complemented by Law No. 39–12 on the organic production of agricultural and aquatic products. It governs the creation of labels and the accreditation of certification



and control bodies. Further, the Generation Green 2020-2030 agricultural strategy aims to extend organic production to 100,000 hectares of cultivated land by 2030.

◆ **Tunisia developed two 2016–2025 national action plans on sustainable consumption and production for the tourism and agrifood sectors.** The latter complements the National Strategy for Organic Agriculture. The National Strategy for Sustainable Development has identified sustainable consumption and production and the sustainable management of natural resources as major challenges. The National Strategy on the Green Economy addresses sustainable agriculture, integrated waste management, promotion of sustainable tourism, energy efficiency and renewable energies.

◆ **Sustainable public procurement has progressed in several middle-income countries,**³¹ including through partnerships with international counterparts to establish and adhere to standardized norms and guidelines. This has potential to stimulate market development through innovative processes (reuse and recycling, use of renewable resources, energy-saving measures, improved energy efficiency), the production of goods and services that meet environmental considerations, and new business models.

- **Sustainable public procurement** can play a crucial role in advancing sustainable development by guaranteeing that suppliers, contractors, and the goods and services purchased by public entities generate economic, social and environmental benefits.
- **Green procurement** refers to the purchase of products and services with reduced environmental and human health impacts.

◆ **In Egypt, several activities to promote sustainable public procurement include an assessment study, a national sustainable public procurement manual, and national sustainable public procurement round tables and trainings.** New measures include converting to natural gas for government vehicle procurement and the introduction of LED lamps in government buildings.³²

◆ **In Morocco, a national Sustainable Procurement Strategy supports the establishment of an appropriate institutional framework (including verification mechanisms such as eco-labels) and a strengthened legal framework.** As part of the National Strategy on Sustainable Development, the Exemplary Pact of the Administration (*Pacte de l'Exemplarité de l'Administration*) has encouraged government institutions to lead by example through commitments on key objectives,

such as being a responsible employer, mainstreaming environmental approaches in the management of public buildings, adopting sustainable waste management practices, and promoting sustainable public procurement and sustainable mobility.

◆ **In Tunisia, where a Public Procurement Agency was created, the National Sustainable Public Procurement Plan includes technical specifications for labelling, evaluation and implementation criteria, and product and service life cycles.** The Ministry of the Environment has prepared an annual plan outlining activities to promote sustainable public procurement, and provides general oversight of the programme.³³

◆ **Several Maghreb countries have adopted policies to improve waste management.** The National Strategy for Integrated Waste Management by 2035 of **Algeria** targets the reduction of waste at source; “zero waste in nature by 2035” is one of the main expected outcomes. In **Morocco**, the national waste recovery programme focuses on plastic waste, batteries, oils, tires, paper, construction waste and electronic equipment to prevent and reduce waste production and maximize reuse, recycling and environmentally friendly substitute materials. **Tunisia** developed the Strategy for Integrated Management of Domestic and Assimilated Waste 2020–2035.

3. Arab least developed countries and countries in conflict

The Arab least developed countries and countries in conflict continue to be at a particular disadvantage in adopting and implementing sustainable consumption and production policies due to limited financial capacities, weak governance and fragile contexts. They need substantial technical support and financial assistance through regional and international cooperation to move towards clean, modern technologies and practices.

◆ **Some countries have made notable but fragmented efforts to address significant environmental challenges, such as land, water and air pollution, that disproportionately affect poor communities.**

There is very little information available on sustainable consumption and production policies for these groups of countries. Examples include:

◆ **In Palestine**, under the national action plan on sustainable consumption and production, the Government has implemented pilot initiatives to promote sustainable agriculture and ecotourism, aiming to influence the behaviour of businesses and consumers.



The State of Palestine introduced the “polluter pays” principle into environmental law, including penalties to rectify any damage caused by companies. “Green loans” support farmers and households in using sustainable technologies such as rainwater harvesting and solar energy, the expansion of recycling initiatives and gas collection from landfills. A green export policy framework provides a roadmap for three priority exports: sustainably grown agricultural products, with a focus on organic products; sustainable tourism services; and sustainably produced marble and stone.

- Vision 2035 of **Djibouti** and the nationally determined contributions of the **Comoros** and **Mauritania** integrate circular practices in the agricultural sector, such as agroforestry.
- In **Djibouti**, the strategic plan for the development and promotion of tourism was launched in 2019 through a law to integrate sites on the United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage List into the international market.

- **Iraq, Somalia** and the **Sudan** are raising public awareness about circular processes and solutions.
- **Mauritania** reduced fossil fuel subsidies by 53 per cent from 1.86 per cent of GDP in 2012 to 0.92 per cent in 2018. A subsidy for butane gas, used for household cooking, has been maintained for social reasons but its level was halved from 2015 to 2018.
- **Libya** has developed plans to expand wastewater reuse and improve energy efficiency.
- The nationally determined contribution of the **Syrian Arab Republic** refers to the circular economy, including solutions in the waste, agriculture, transport and energy sectors.
- The waste-to-energy plant in the Lahij Governorate of **Yemen** is expected to reduce waste going to the landfill by 70 per cent and generate affordable electricity at 16 cents per kilowatt hour, compared to 160 cents per kilowatt hour for fossil fuel.³⁴

D. Policies to leave no one behind



Poor communities in informal settlements across the region continue to bear the brunt of pollution from waste and landfill sites, and in water and air. Since conventional, modern, technological solutions to solve such problems are typically centralized, capital-intensive and top-down, they often do not consider the needs of informal workers and inhabitants of informal settlements. Examples of current efforts to leave no one behind include the fertilizer station of Mafraq in **Jordan**. It enhances the management and treatment of solid waste, generates income for refugees and their host communities, and improves conditions for treating organic animal waste from livestock farms. In **Morocco**, the third phase of the national plan on domestic waste stresses the creation of sorting and recycling centres and waste recovery, ensuring additional financing and the integration of scavengers.



Many informal workers in waste collection and recycling continue to be **women and children**, who are further exposed to several health risks.

Despite successful initiatives to include waste scavengers, most recycling is carried out by the informal sector with no proper regulations. Morocco is an exception. Through the National Household Waste Collection Programme, 90 per cent of workers in the waste sector are now professional; 62 per cent of household waste goes to controlled landfill or waste recovery centres, up from 10 per cent in 2008. A special focus of national integrated waste management has been bringing informal waste

pickers into the formal system through cooperatives or contractual obligations. In the future, additional measures may include establishing systems for sorting at the source, awareness-raising and behavioural changes aimed at recycling by households and individuals, and various value chains built under the environmental producer responsibility approach.³⁵

Efforts to address the social and health impacts of environmental damage have to be linked to broader efforts to reduce poverty and inequalities (SDGs 1, 8, 10 and 11). They cannot be seen primarily within the framework of SDG 12. The region has yet to roll out holistic policies that embed a focus on the social and economic impacts of environmental degradation.

E. The financing landscape: a focus on the rationalization of fossil fuel subsidies

Harnessing and reorienting environmentally harmful subsidies, including fossil fuel subsidies, could help propel achievement of the SDGs. The funds reallocated from subsidies could be used to address poverty and inequality, service the national debt, reduce inefficiencies along supply chains, invest in regenerative and climate-smart agriculture, support the development of renewable energy, reduce waste and promote recycling, and support ecosystem restoration while cutting carbon emissions, among other possibilities.

Phasing out environmentally harmful subsidies would also have indirect impacts, such as halting the exploitation of non-renewable aquifers, expanding the use of more efficient production methods and diminishing overconsumption, especially if remaining subsidies are linked to adopting non-degrading practices, including land restoration.

Fuel subsidies harm the environment and tend to benefit the well-off more than those in need, thereby creating special interest groups and individuals who consider them an entitlement. Such subsidies reinforce privileged positions, rendering reforms difficult and broadly unpopular. Yet non-targeted subsidies waste public money and perpetuate unsustainable consumption and production.

Resources “saved” from the rationalization of fossil fuel subsidies cannot achieve desired effects without measures addressing inefficiencies, corruption and mismanagement. In addition, universal and rights-based social protection policies must ensure that the poor and those just above the poverty line are not disproportionately harmed by rationalization.

Successfully reforming fuel subsidies requires three steps. The first is to phase out consumption subsidies that do not benefit the poorest (bottom half of the population) and small producers (e.g., small farmers). A second step is to target and reach the poorest to ensure that price hikes do not negatively affect them. This could include facilitating access to energy services and providing other compensatory mechanisms. A third prong is to reinvest savings into renewable energy and enhanced efficiency.³⁶

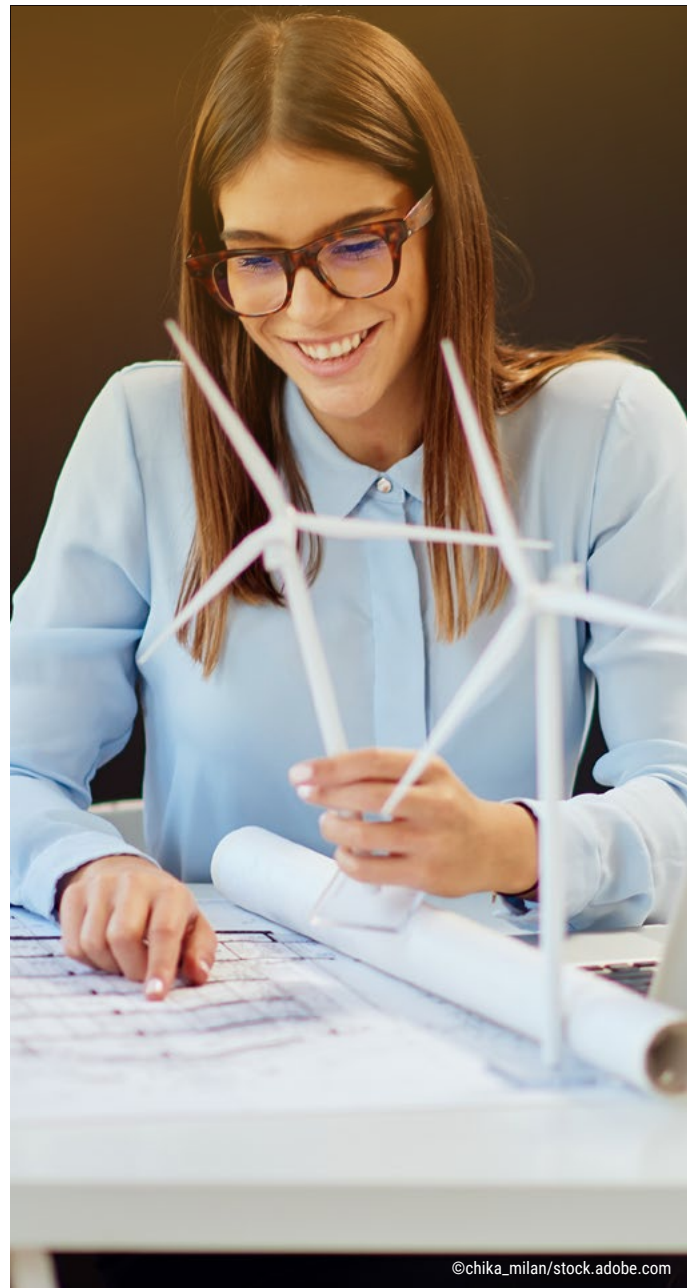


Table 12.2

Fossil-fuel subsidies (consumption and production) in the region, 2022

	Per capita (nominal dollars)	Billions of nominal dollars	Percentage of total GDP
Kuwait	4,939	21.08	18.4
United Arab Emirates	3,923	37.03	8.6
Qatar	3,762	10.14	5.9
Bahrain	2,796	4.12	11.5
Saudi Arabia	2,113	76.94	10.0
Libya	1,784	12.15	27.1
Algeria	1,110	49.84	27.8
Egypt	597	66.21	14.4
Iraq	492	21.87	11.3
Lebanon	419	2.30	7.4
Tunisia	285	3.52	7.0
Mauritania	78	0.37	4.7
Sudan	78	3.66	4.2
Oman	53	0.24	0.3
Djibouti	47	0.05	1.6
Jordan	43	0.49	1.1
Morocco	38	1.42	1.0
Comoros	14	0.01	1.0
Yemen	0.71	0.02	0.1
Arab region	741.80	311.5	10.9
World	192	1,529.41	1.7

- The region spent about \$311.5 billion on fossil fuel subsidies in 2022, amounting to 10.9 per cent of GDP. This represents more than 20 per cent of the global total for 5.8 per cent of the global population.
- Seven countries spend more than 10 per cent of GDP on fossil fuel subsidies, compared to a global average of 1.7 per cent.
- Worldwide, by comparison, net official development assistance amounted to about \$253.3 billion in 2022.^a

Source: See the [United Nations SDG Indicators Database](#)

Note: All information in this table derives from the United Nations SDG Indicators Database and may differ slightly from data used elsewhere in the report. Data are not available for the State of Palestine, Somalia and the Syrian Arab Republic.

^a Aid (ODA) disbursements to countries and regions [DAC2a]. See [OECD Stat DAC2a](#).

In Morocco, the fossil fuel subsidies reform plan sought to ensure energy security, enhance the national budget, and comply with international commitments to reduce fossil fuel use and emissions. In 2012, before the reform, fuel subsidies accounted for 5 per cent of national GDP, with the country spending upwards of \$6.5 billion a year. By 2016, Morocco had reduced this amount to \$1.1 billion, slightly less than 1 per cent of GDP. Part of the savings was reinvested in the development of renewable energy. By 2019, Morocco had 2,696 megawatts of renewable electricity, 34 per cent of its total installed capacity. The sector created 26,000 jobs by 2020, a figure expected to reach half a million by 2040.^a

^a World Resources Institute, 2021.



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F. Regional dimension: the Middle East Green Initiative

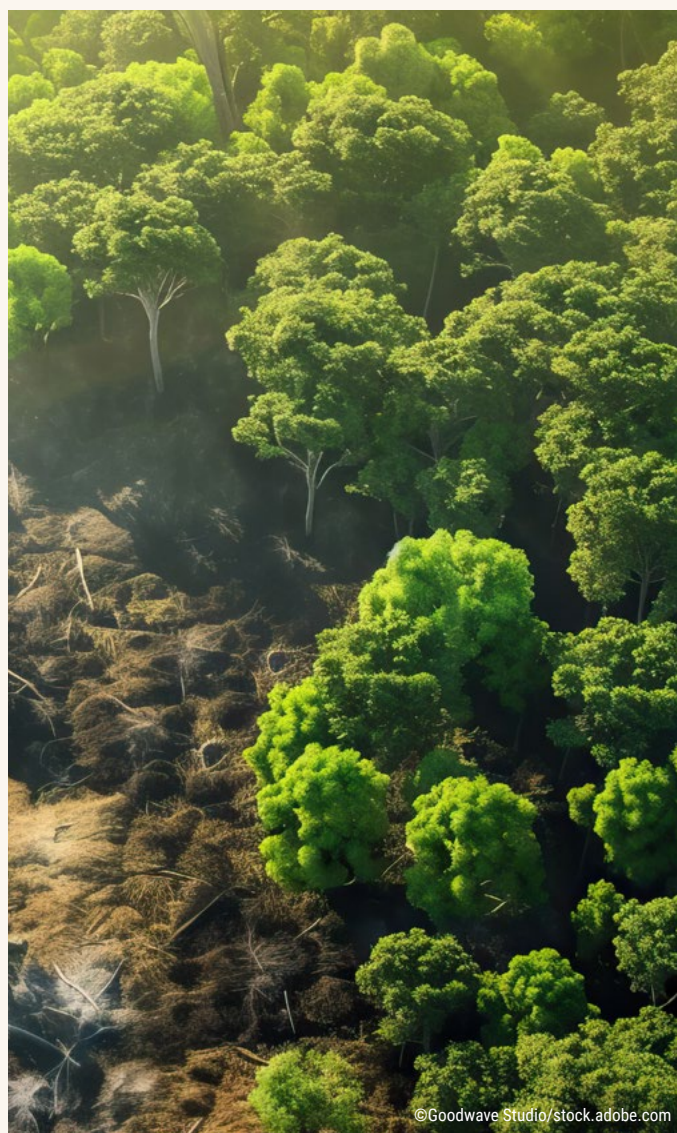
Launched by **Saudi Arabia** in 2021 as a first-of-its-kind regional alliance, the Middle East Green Initiative mobilizes regional and international partners to achieve a significant global reduction in carbon emissions and deliver an ambitious reforestation programme.

Its first objective is to cut carbon emissions through several efforts, including a 60 per cent cut in emissions from hydrocarbon production. A second objective is to plant 50 billion trees across the region, including 10 billion in Saudi Arabia, equivalent to 5 per cent of the global afforestation target. This will restore land and counter desertification.

The Green Initiative Foundation was established as a non-profit organization to support the objectives of the Middle East Green Initiative and its national counterpart, the Saudi Green Initiative. In November 2022, Saudi Arabia announced the creation of a secretariat and the allocation of \$2.5 billion to support projects and administration. To date, 28 countries have endorsed the Middle East Green Initiative, including 15 Arab countries.^a Its first summit was held in Riyadh in October 2021. A 2022 summit took place back-to-back with global climate talks in Sharm El Sheikh, Egypt.

Sources: The [Middle East Green Initiative](#) and the [2022 summit](#).

^a **Algeria, Bahrain, Djibouti, Egypt, Kuwait, Libya, Iraq, Jordan, Morocco, Qatar, Saudi Arabia, the State of Palestine, Tunisia, the United Arab Emirates and Yemen.**





Endnotes

1. The environmental producer responsibility approach holds producers responsible for the end-of-life consequences of the goods they produce. It enables proper collection and disposal of items after use and assures responsible manufacturing methods, encouraging waste reduction. The approach adds all estimated environmental costs associated with a product throughout its life cycle to its market price. See: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/extended-producer-responsibility>.
2. One Planet Network, 2009.
3. ESCWA, 2017b.
4. See the [SwitchMed and Arab Sustainable Consumption and Production Round Table](#).
5. The [Regional Action Plan on Sustainable Consumption and Production](#) in the Mediterranean is an integral part of the [Mediterranean Strategy for Sustainable Development](#), which is a strategic framework to support the translation of the 2030 Agenda and SDGs at the regional, Mediterranean level.
6. See more on the [SwitchMed](#) initiative.
7. See the [African Circular Economy Network](#).
8. The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
9. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.
10. The Stockholm Convention on Persistent Organic Pollutants.
11. The Montreal Protocol on Substances that Deplete the Ozone Layer.
12. ESCWA, 2019.
13. The Egyptian integrated waste management law covers extended responsibility for producers, energy production from waste, plastic bag distribution and use, and the safe collection, transfer, treatment and disposal of waste.
14. Jordan's Waste Management Framework Law covers waste recycling, treatment and safe disposal.
15. ESCWA, 2023.
16. See Qatar, [Voluntary National Review 2021](#).
17. See Tunisia's [first nationally determined contribution \(updated submission\)](#).
18. See the State of Palestine's [first nationally determined contribution \(updated submission\)](#).
19. The 11 countries are as follows, with those in bold having specific actions and measures: **Algeria, Egypt, Jordan, Kuwait**, Mauritania, **Oman**, Qatar, Somalia, the **Sudan**, the **United Arab Emirates** and **Yemen**. See the United Nations Food Systems Coordination Hub, [Member State Dialogue Convenors and Pathways](#). See also United Nations, 2021.
20. UNEP, 2021b.
21. United Nations, Jordan, 2023.
22. Arab News, 2022. See the Savola Group on [key CSR initiatives](#).
23. See more on [Ne'ma, the National Food Loss and Waste Initiative](#).
24. Iattoni and others, 2021.
25. Invest Qatar, n.d.
26. UNEP, 2019.
27. ESCWA, 2023.
28. UNEP, 2023b.
29. See [Lebanon Industry 2025: The Integrated Vision for Lebanese Industrial Sector](#).
30. UNEP, 2023d.
31. See more on the [SwitchMed](#) initiative.
32. See more on [SwitchMed in Egypt](#).
33. UNEP, 2023a.
34. UN-Habitat, 2023.
35. World Bank, 2022.
36. IISD and GSI, 2018.