



9 initiatives to tackle food waste in the UAE



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Introduction

Food waste is a global problem which is why reducing food loss and waste is prioritized in UN sustainable development goal (SDG) target 12.3, to "ensure sustainable consumption and production patterns".

Tackling food waste could have a significant impact on global food security and mitigating greenhouse gas (GHG) emissions. One third of food produced in the world is wasted, and food waste is a challenge within the UAE. Overall, the UAE is ranked 49th in the current [Food Sustainability Index](#) (FSI), 38th for food waste and is last on the index in terms of sustainable agriculture.

What is the scale of food waste in UAE?

Food waste costs the UAE an estimated 3.5 billion dollars (3.1 billion Euros) per year according to the Ministry of Climate Change and Environment . According to Najla Al-Midfa, CEO of the [Sharjah Entrepreneurship Center](#):

"In the MENA region, reports show that we waste up to 250 kilograms of food a year per capita. And when it comes to the UAE, food waste sets us back an average of \$3.5 billion every year, with an average person wasting about 197 kilograms of food per year."

Khalid Al-Huraimal, the CEO of Emirati environmental-management company Bee'ah, said up to 38% of food is wasted in the UAE, and this figure rises to 60% during Ramadan . During Ramadan demand for meat increases by almost 50%, alongside other items like vegetables, fruits, and dairy products.

According to Ivano Ianelli, the CEO of [Dubai Carbon](#):

"An average person in Europe generates around 1.2kg of waste a day, which is almost double in the UAE with per capita waste generation being 2.7kg per day. However, this doubles to 5.4kg a day during Ramadan"

Decomposing food waste emits methane, which is 25 times more damaging than CO₂ in terms of its effect on the climate.

What are the solutions to food waste for the UAE?

1. Ne'ma awareness campaigns

The UAE is pledging to slash food waste in half by 2030. How do they plan to achieve this? One key initiative that the country recently launched is called [Ne'ma](#) which aims to encourage the public and private sectors across the food chain to address food waste and encourage responsible consumption to preserve food resources .

The initiative includes a wide range of measures such as analysis to identify food waste hotspots, and campaigns to change consumer behaviour . Using technology is also a key part of the UAE's action plan to tackle food waste with measures to reduce and redistribute unwanted food as well as recycling. The countries collaborative approach means that it is also looking to technology companies to support its aims.

2. Using AI to reduce food waste

London-based start-up [Winnow Solutions](#) is using artificial intelligence (AI) to scan and identify excess food waste with cameras within the UAE. They claim they can prevent up to 70% of food waste in the first year of use. Key contributors to the Middle East region's food waste problem are large buffet-style dining operations and a culture of generous hospitality, says Ignacio Ramirez, the company's MENA director. In the region, there is a culture of always ensuring that guests always plenty to eat

3. Targeting hospitality

The Sharjah Entrepreneurship Center has partnered with [Etihad Airways](#) to introduce in-flight meal trays which use smart technology to collect data on how much food passengers waste. It is believed that recording food preferences would help the airline industry reduce food waste, an issue that costs the industry about \$3.9 billion every year.

A third of food wasted is within the hospitality sector, where it can impact on profitability as well the environment. Many restaurants and hotels are switching away from buffets, where a lot of food is not eaten, to à la carte menus or smaller buffets.



4. Raising awareness around household waste

Changing consumer behaviour is also important and initiatives have been developed to educate the public. Dubai Carbon advises households to buy loose vegetables, which allows them to buy only the amount needed; and to select products that do not have an extra layer of packaging. They are also encouraged to compost food waste. Composting food waste at home could divert 150 kg of food waste per household per year from landfill.

5. Redistributing unwanted food

Tech company [BonApp](#) currently works with 150 food providers who sell their excess food through the app to users. The app provides real-time information to its users on the food available, with discounts of 30 to 50% available. Sales are processed through the app and the meals can be enjoyed either at home or in participating restaurants. So far, BonApp has been operating in Dubai and Abu Dhabi and has helped to save 10,000 meals or three tonnes of food from ending up in landfills. After its launch in February 2018, the app received more than 1,000 downloads in the first year.

6. Food for those who need it

The UAE Food Bank was launched in 2017 to help feed those in need and reduce food waste. The food bank helps local authorities as well as local and international charities to efficiently store, package, and distribute excess food discarded by hotels, and restaurants and supermarkets.

7. Innovations in recycling food waste

There are also initiatives to produce clean energy from food waste. According to Dubai Carbon, organic food waste can be converted using heat and spinning technology to create biosolid fuels. To help divert organic waste away from landfill, a Dubai Carbon pilot programme will create five new localised wet-waste processing facilities. The new localised wet-waste plants will turn food waste from a problem and a cost, to a business opportunity with the biofuel produced sold commercially on open markets.

Other innovative solutions for food waste are also being developed in the UAE such as the [Dubai Central Lab \(DCL\)](#) who are promoting food waste recycling by using a machine that can artificially digest food and turn it into grey water. A liquid food composter (LFC) uses enzymes, bacteria, and water to recycle food waste in a process very similar to digestion in the human stomach. According to the DCL the machine does not produce any odour and helps to reduce emissions. DCL's future plans include using filters to purify the grey water to reuse it for running the machine itself or for landscape irrigation, something which could be especially valuable in the water scare country.

8. Businesses thinking sustainably

Other food and hospitality businesses are simply composting waste. For example, at the [Cave Rotana Hotel](#) in Ras Al Khaimah, food waste is put into a composter and then used to fertilise the hotel grounds. These circular or zero waste approaches can add value for businesses while also significantly contributing to sustainability targets.

9. Zero waste initiatives

The Region's first commercial scale waste to energy plant in the Emirate of Sharjah was inaugurated in 2022. The Emirates Waste to Energy company is a joint venture between Bee'ah, the Middle East's sustainability pioneer, and [Masdar](#), one of the world's leading renewable energy companies. The facility will divert 300,000 tonnes of waste from landfill every year while producing 30 megawatts of low-carbon energy. The project will enable Sharjah to increase waste diversion from 76% to 100%, making it the Middle East's first zero-waste city. Bee'ah has also launched programs to educate communities on the importance of segregating waste to allow for more efficient recycling.

Has the UAE achieved progress with food waste reduction efforts?



For a variety of reasons historically food waste has been especially high within the UAE and the MENA region. However the UAE is taking a lead in using a range of measures including technology and education to reduce or recycle food and reduce its environmental impact. It is showing that a concerted effort by government, businesses and households can make a difference.

Preparing for a future with more sustainable agriculture

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