

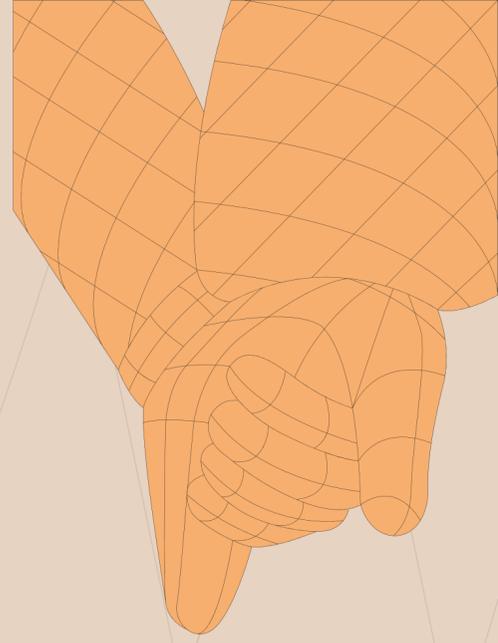
YEAR OF SUSTAINABILITY

Climate Action

Sustainability Guide
3rd Edition

A practical guide to
support climate action in
our daily lives





Overview

Welcome to the third and last edition of the Sustainability Guide. In the first issue, we delved into the importance of responsible consumption and making conscious decisions to ensure a more sustainable tomorrow for future generations. Our second issue explored conservation and the steps we can take as individuals and communities to reduce our ecological footprint and safeguard our environment.

As we approach the end of the Year of Sustainability, we invite you to once again think of your critical role in significantly mitigating climate change and protecting our biodiversity by embracing daily practices that promote sustainability.

This edition explores the merits of saving energy and water and how they contribute directly to our environment and food security and health. We also shed light on some inspiring stories of people who call the UAE home as they work together to protect our resources and innovate for a sustainable future.

We power our information with the brilliant insights from Abdulla Al Remeithi and Nour Al Mehairi.

Thank you for joining us in our journey so far, and we hope you now realise, like us, that every action counts today for tomorrow.

About the Year of Sustainability

His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates, announced that 2023 will be the 'Year of Sustainability'. The year will run until December 2023 and aims to promote the nation's deeply-rooted value of sustainability to encourage sustainable behaviour change and work towards a more sustainable and thriving UAE. It will draw on the UAE's heritage to inspire sustainable practices and collective action, bringing together everyone that calls the UAE home.

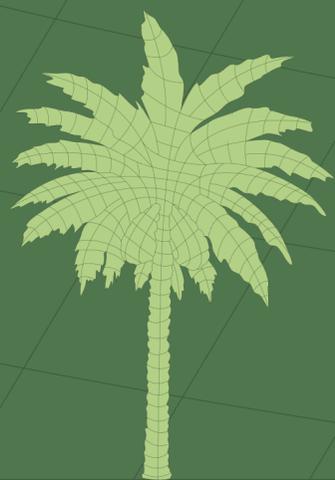
Why do we need to adopt sustainable practices?

Sustainability is vital for protecting our environment, preserving our natural resources, and ensuring our well-being and a better future for all. Our actions, both big and small, can make a real impact and create a healthier, more sustainable world.

How can I start?

Starting your journey towards sustainability might feel overwhelming, but every small action can make a big difference. These guides will give you easy tips to be more eco-friendly in your daily life.

You can do simple things at home or work to help. From using less and choosing eco-friendly stuff, our guides give you practical ways to start your journey towards sustainability.





Empowering Our Sustainable Future

The UAE is making big moves to save energy and reduce its carbon footprint! The UAE kicked off a 20 million AED initiative to boost energy efficiency in mosques to cut energy use by a whopping 20%. This excellent project aligns with Abu Dhabi's 2030 plan to use 22% less electricity and 32% less water [1].

But that's not all! The UAE is also working on a great Water Security Strategy for 2036. The strategy aims to reduce water demand by 21%, boost water productivity, and reduce water scarcity. The UAE also plans to reuse treated water more efficiently, aiming for a remarkable 95% reuse rate. And to top it all off, the UAE is beefing up the national water storage capacity, allowing for an extra two days of water supply [2].

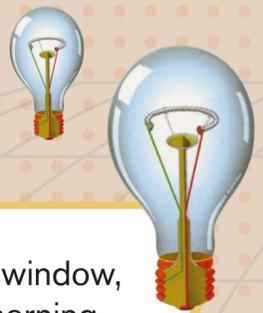
Our Energy for Life!

Let's envision a typical day in a UAE resident's life. You wake up, the sun peeking through your window, and head to the kitchen for your morning coffee. While the coffee brews, you notice the early morning sun, and with a mindful effort, you switch off the lights in your home, letting the natural light brighten your space.

As the day progresses, the temperature begins to rise. Instead of switching the air conditioning to the coolest setting, you opt for a more moderate temperature, realising that a small adjustment can go a long way in conserving energy. You also remembered that a week ago, you cleaned the AC filters and ducts, which put a smile on your face, knowing that your AC system is using energy efficiently.

You embrace the evening with the soft glow of energy-efficient LED lighting, and as you do your laundry, you're using an energy-efficient washing machine. You make sure to switch off any unnecessary electrical devices before bed.

Through these daily choices, you're not just conserving energy but also playing your part in building a greener, more sustainable future for the UAE and the world.

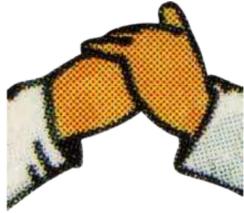


On Us



Food Security

Efficient water use supports irrigation processes, ensuring a stable food supply and helping combat food scarcity. Insufficient water can lead to crop failures and food shortages [3,5].



Public Health

Proper water use and sanitation practices reduce the risk of waterborne diseases such as Cholera. Access to clean water is essential for overall public health and hygiene [4].



Cost Savings

Conserving energy at home leads to lower utility bills, freeing up funds for other essential expenses. It also contributes to a reduction in greenhouse gas emissions, which benefits both your wallet and the environment.

On our Environment



Soil Health

Inadequate water management and irrigation practices can lead to soil degradation. Ensuring responsible and sustainable irrigation methods, such as drip irrigation and land levelling for even water distribution, is vital to mitigate this risk [6].



Environmental Stewardship

Lowering energy consumption helps reduce air pollution, improving air quality, particularly in urban areas. It also plays a vital role in decreasing carbon emissions and mitigating climate change, which is essential for the planet's long-term health.



Homegrown Nutrition

When it comes to the food we consume, the journey from harvest to our plates can significantly influence its nutritional value. When we consider imported produce, time plays a vital role. The period between harvest and consumption is often extended, allowing for potential nutrient degradation. For example, the sensitivity of vitamins like vitamin C to factors such as light, air, and temperature can lead to gradual losses.

Moreover, processing and preservation methods that maintain quality during transportation can also affect the nutritional content. Techniques like canning or freezing may lead to nutrient losses, while some may remain preserved. The natural ripening process has the potential to enhance the nutritional value of fruits and vegetables, which can be compromised in the case of some imported foods harvested prematurely to ensure their resilience throughout the journey. [7][8]

These facts invite us to appreciate the complexities of the food journey and underscore the value of embracing local produce and even considering growing our produce at home. By supporting local growers and cultivating our gardens, we can shorten the journey from harvest to table, enhancing the nutritional quality of the food we enjoy.

On Us

Freshness

Local crops, picked at their peak and delivered, ensure maximum freshness. They retain more vitamins, minerals, and antioxidants than food transported over long distances or stored for extended periods [7].

Nutrient Content

Seasonal crops often pack more nutrients, as they're allowed to grow naturally and are harvested when nutritionally optimal. Fruits and vegetables ripened on the plant rather than early or artificially tend to be richer in vitamins, minerals, and phytochemicals [7].



On Us



Variety and Diversity

Embracing locally grown seasonal foods encourages a diverse diet. Consuming various fruits and vegetables enhances the intake of vital vitamins, minerals, and antioxidants essential for optimal health [9].



Control and Freshness

When you grow your produce at home, you have complete control over the growing process. The convenience and pleasure of picking and consuming immediately from your garden enhances the freshness and taste of your food.



Improved Quality of Life

Home gardening contributes to your dietary health and adds aesthetic appeal to your home, providing a pleasant visual backdrop and often serving as a serene escape. They also reduce noise, creating a quieter and more peaceful environment.

On our Environment



Transportation of Goods

Opting for locally grown produce reduces the carbon footprint associated with long-distance shipping and storage. Supporting local farmers and choosing seasonal vegetables can promote sustainable agriculture, significantly reducing the energy and resources required for food transportation [10].



Planting Local Crops

Trees and urban vegetation directly impact surface and air temperatures by offering shade and cooling through evaporation and transpiration. As trees create shade over buildings, air conditioning is reduced, leading to improved air quality, lower greenhouse gas emissions, and enhanced water quality [11].



Reduced Pavement Maintenance

Shade provided by trees and greenery can lessen the need for pavement maintenance, as it lowers the heat that pavement is exposed to. This natural cooling effect can extend pavements' lifespan and reduce maintenance and repair costs [12].



Inspiring Stories

Our people in the UAE have always worked and lived in harmony with our land. We celebrate some of these endeavours and reflect on the shared commitment to preserving and harnessing the environment's potential to build a more sustainable future.

Farm Fresh Harvest

The story of Farm Fresh Harvest exemplifies how changing the world can begin right at home. The journey started with a family endeavouring to grow vegetables on their balcony. Today, Farm Fresh Harvest, co-founded by Arva Gadiwala, is a high-tech farming success.

Through Farm Fresh Harvest, the focus is on cultivating salad crops in a climate-controlled hydroponic system situated in Abu Dhabi. This innovative approach ensures the efficient production of crops on land that would typically be deemed unsuitable for agriculture.

Since 2017, Farm Fresh Harvest has blossomed into a thriving success story. Gadiwala and her dedicated team are driven by the ambition to blend technology, knowledge, and the abundant sunlight of the UAE to create a sustainable crop production model [14].

Manhat

Manhat is an innovative project introducing a unique circular system for watering plants on floating farms. The brainchild of founder Dr Saeed Alhassan and co-founded by Vishnu Vijayan Pillai, the technology harnesses the power of sunlight to distil water from the farm's surrounding surface, which is then used for irrigating the crops.

This natural distillation system operates without electricity, produces zero CO2 emissions, and eliminates brine discharge. It not only paves the way for alternative farming methods but also holds promise for coastal communities facing the challenges of rising sea levels.

Manhat has already initiated the deployment of prototypes in various locations across the UAE [15].

BaityKool

BaityKool is an innovative prototype made by a multidisciplinary team. Baitykool can cool the house at night with the north wind for natural ventilation with Radiative Sky Cooling panels.

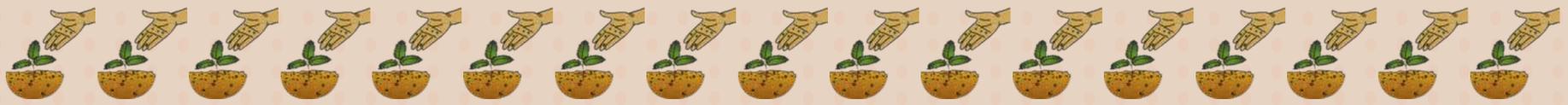
The skin is a contemporary mashrabiya and integrates solar panels to maximise energy production from sunrise to sunset. Protected from the sun by a movable pergola with integrated PV, the green living heart with the aquaponic system produces food.

After more than two years of preparation, The Baitykool team won the 3rd general prize for the first edition of Solar-Decathlon Middle-East in Dubai in November 2018 [13].

Lootah Biofuels

Lootah Biofuels is an innovative company for alternative fuels headed by Yousif Bin Saeed Al Lootah. A young and enthusiastic entrepreneur, Yousif is a strong advocate of circular economy and has found an innovative method to turn the common waste of cooking oil into alternative fuel. Collecting used cooking oil from large corporations, he refines them to produce biodiesel that can power fleets of trucks and other vehicles. He also exports this clean fuel around the globe.

Lootah collects used cooking oil from a variety of companies and stakeholders around the UAE. In a year, the company produces 60 million litres of biofuel, and in 2022 contributed to reducing more than 500 tonnes of carbon dioxide [16].



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