

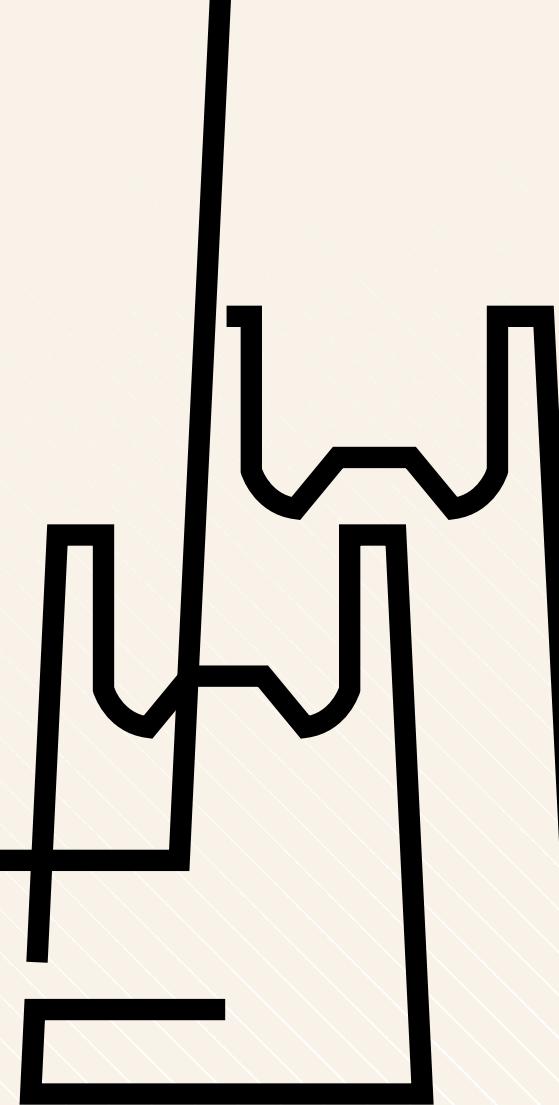
A GUIDE TO REDUCE WATER AND ENERGY

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Introduction



Our **dear readers**, welcome to the fourth edition of our guides series on ways to sustainable living.

We are proud of the successful launch of our guides in 2023, and we are excited **to continue this journey with you**. Your insights and engagement make our initiatives worthwhile.

As the UAE grows and develops, adopting sustainable practices in our daily lives becomes increasingly critical. With this guide, **we aim to inspire you and learn together** how we can all contribute to a more sustainable present and future. Each small step we take can lead to significant change—that's what makes this collective journey so full of hope.

In this issue, we focus on **Energy and Water Consumption** — two of our most vital resources. Building on last year's foundation, we bring fresh insights and practices designed to be both informative and engaging.

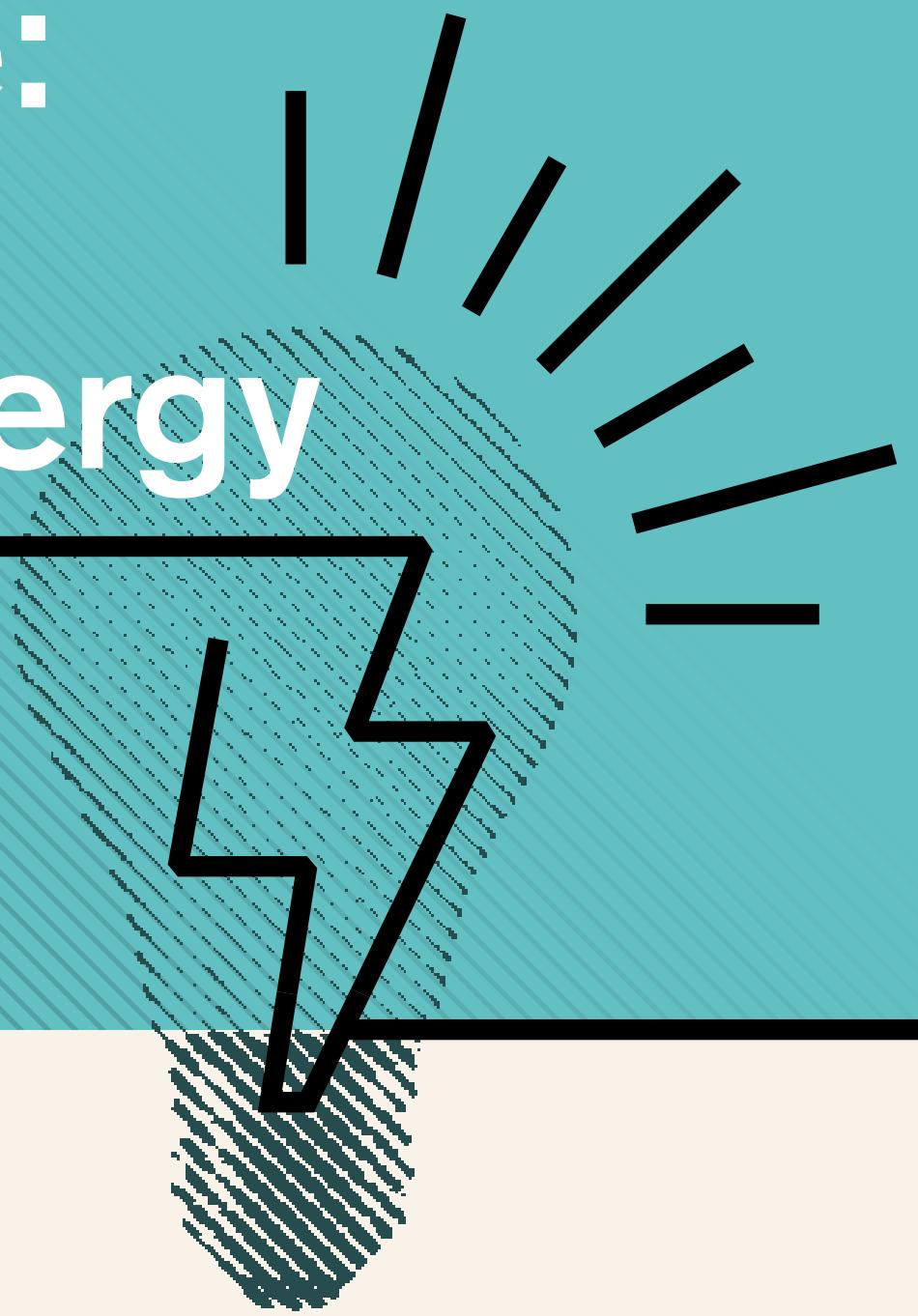
We share our stories, backed by our insights and engaging advice from our community, and aim to make sustainability an integral part of our daily lives.

Join us as we explore the exciting possibilities of sustainable living in the UAE. Together, we can **plan to action** a brighter, greener future for all.

About the Year of Sustainability

His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates, has declared 2024 as the **'Year of Sustainability'**. This year-long initiative aims to promote the nation's deeply rooted value of sustainability, encouraging sustainable behaviour change and working towards a more sustainable and thriving UAE. Drawing on the UAE's heritage, the Year of Sustainability aims to inspire sustainable practices and collective action, bringing together everyone who calls the UAE home.

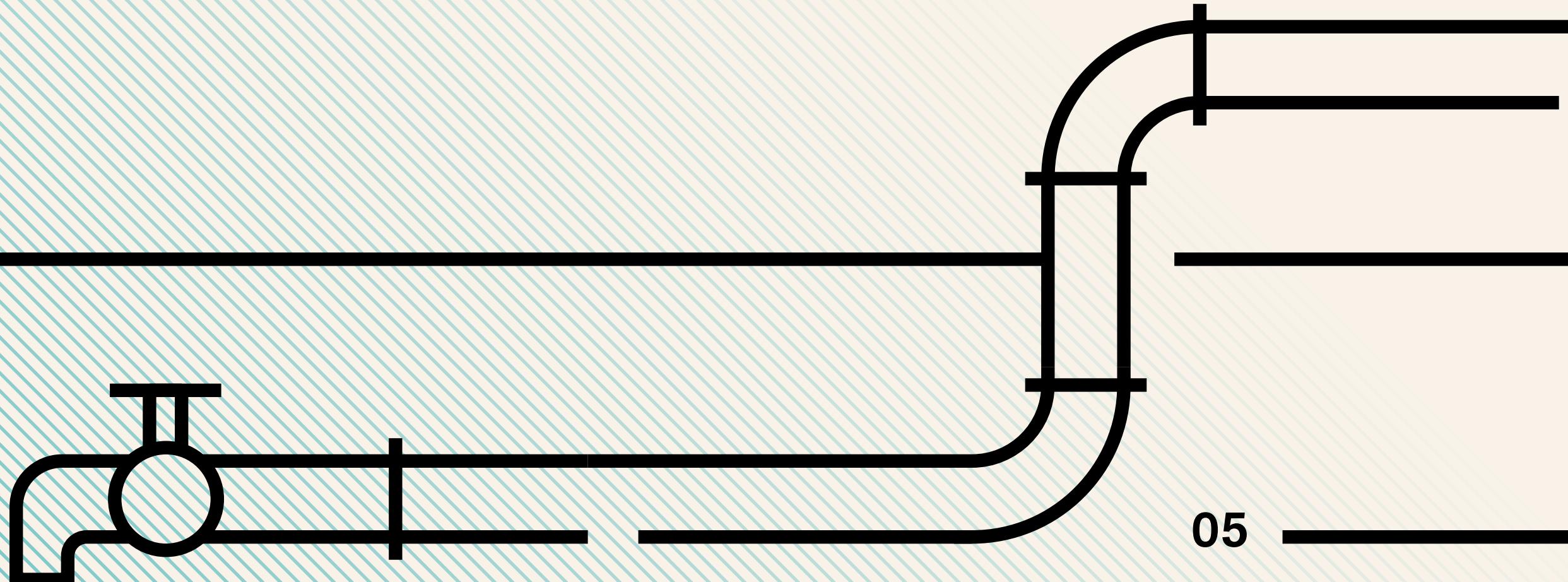
Sparking Change: The Power of Renewable Energy



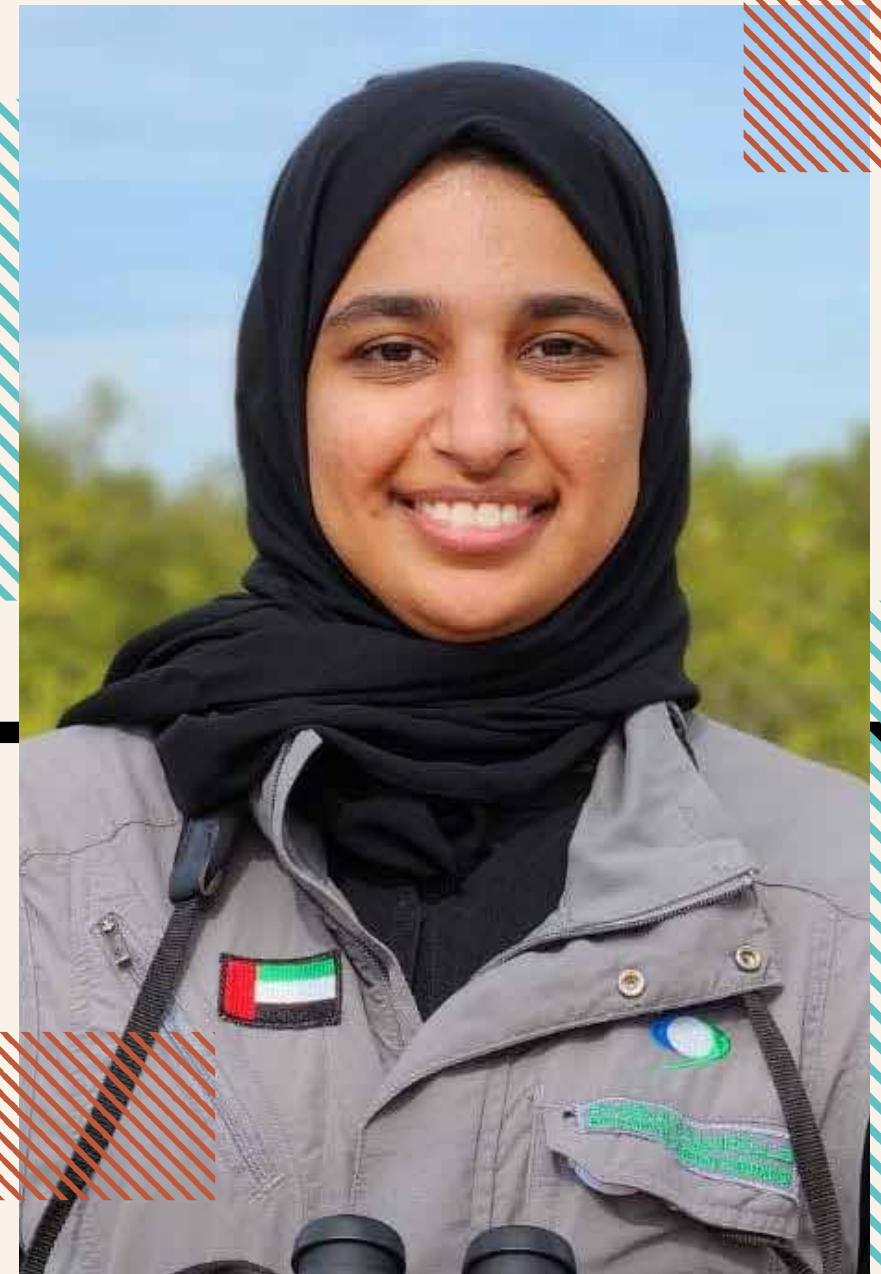
Our story in the UAE is one of resilience, a value we hold dear and champion in our endeavours. But what does this resilience mean in the context of energy, water conservation, and innovation? Sustainability isn't just our modern aspiration; it was and continues to be a necessity that our both ancestors and we grapple with, compelling us to rethink our precious resources amid their abundance and scarcity.

In the past, our ancestors devised ingenious methods to conserve energy and water, ensuring their survival in our environment. Today, we face challenges of water scarcity and the urgent need for clean energy amidst the realities of climate change. We strive to draw from this conservation legacy and adapt it to the contemporary context, utilising modern innovations and strategic planning.

But first, let us meet **Nouf**.



Marhaba Nouf Al Qadi!

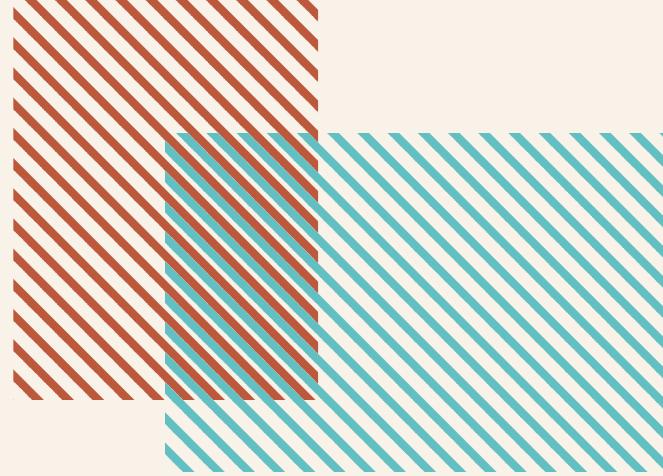


"Hello, I'm Nouf Al Qadi, an environmental expert and PhD student from Abu Dhabi. As a **Sustainability Champion** and Youth Ambassador with The Climate Tribe (an NGO and social enterprise that inspires climate action). My commitment to sustainable energy is evident in my daily life and advocacy work. I drive an electric vehicle and champion the adoption of renewable energy sources.

My love and fascination for the sea started early on in my childhood. My parents used to take my siblings and I to the beach where we would do our homework. I would try to finish my work as quickly as possible so I could enjoy playing by the water. I guess nature has always driven my academic pursuit.

My commitment to a sustainable future is deeply rooted in my ancestral heritage, where consumption was guided by wisdom and mindfulness. Bearing in mind that sustainability is not a new concept, it is a principle that dates back to the beginning of Islam. This principle transcends religious practices and geographical boundaries."





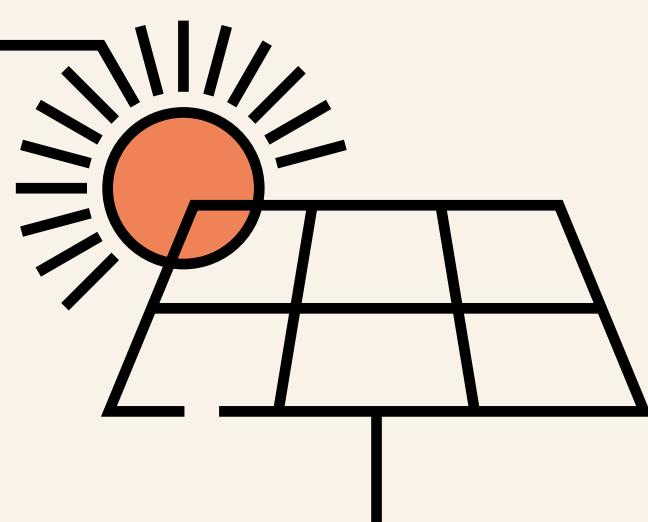
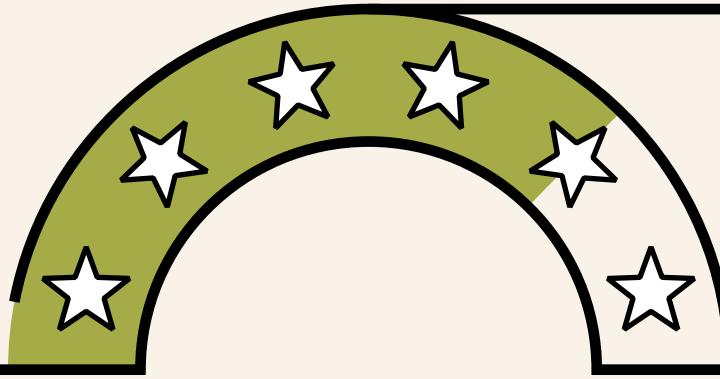
In addition to her energy-focused initiatives, **Nouf** is passionate about wildlife conservation, particularly bird species like the Crab Plovers and Indian Rollers found in the UAE. This passion for nature complements her energy advocacy, creating a holistic approach to environmental Sustainability.

Her words echo the UAE's national initiatives, such as the ambitious project to reduce energy use in mosques by 20% through a strategic collaboration between Abu Dhabi Distribution Company (ADDC) and the General Authority of Islamic Affairs & Endowments (AWQAF), aiming to save 26 gigawatt-hours of electricity and approximately 4,600 tonnes of CO₂ annually – equivalent to taking more than 900 vehicles off the road for a year.^[1]

Nouf Al-Qadi wanted to leave us some practical tips, so we added some of our insights, too!

Use appliances with high energy efficiency ratings to reduce electricity consumption. Look for the energy efficiency labels to ensure you choose the most efficient options.

P.S: Look for the green stars sticker next time you go appliance shopping.



Consider installing solar panels or other renewable energy sources for your home. These can significantly reduce your carbon footprint and lower energy bills over time.

If you are wondering about the meaning of Renewable energy, it is any energy derived from natural sources that are replenished at a higher rate than they are consumed.

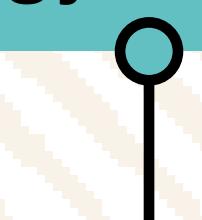


How the UAE Plans to Action



The UAE's pioneering commitment to a sustainable future is exemplified in a major national strategy: the **UAE Energy Strategy 2050**^[2]. This strategy is not just about transforming the country's energy landscape but also about leading the world in significantly increasing the contribution of renewable energy sources.

UAE Energy Strategy 2050



Launched
in 2017

2023

It represents the country's
ambitious vision.

1st revision to ensure reaching to
the Net Zero in power and water sector

By 2050

By 2030

The UAE is resolute
in its aim to achieve

Increase individual and institutional
energy consumption efficiency by
42-45 per cent, compared to 2019

42-
45%

Reach Net Zero in
power and water sector

100%

x3 Triple the contribution
of renewable energy

Invest AED 150
to 200 billion

Surge the share of installed
clean energy capacity in the
total energy mix to

30%

The strategy is not just about meeting
environmental obligations, but also
about fostering economic growth



But wait, why does it matter to you?

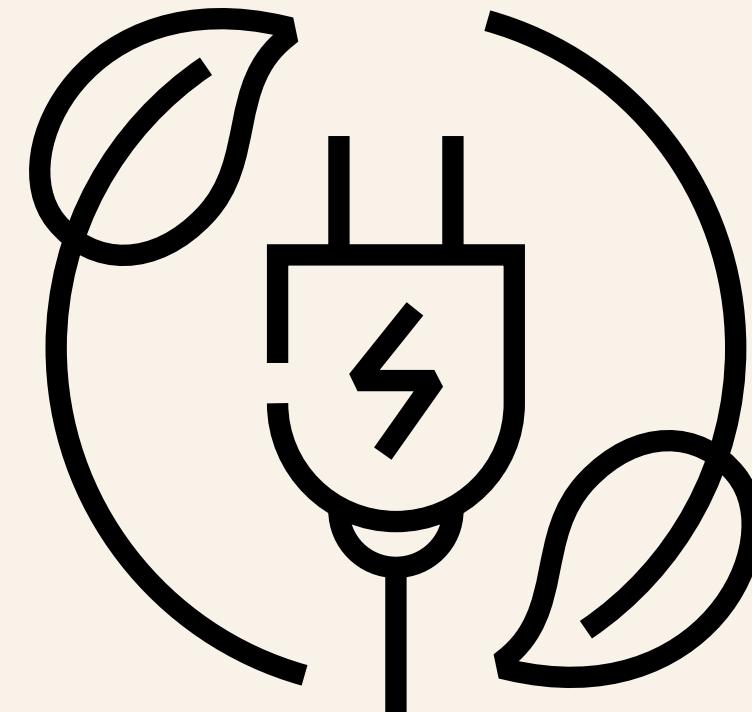
We are glad you asked

Every step we take together towards clean energy profoundly impacts our daily life.

Imagine a future where the air you breathe is cleaner, significantly reducing health risks associated with pollution. Picture the potential savings on your energy bills as renewable energy becomes more affordable. Consider the exciting job opportunities available to you and your children in the growing renewable energy sector or the schools and playgrounds powered by sustainable sources.

Envision the community you live in thriving with green spaces, supported by the government's commitment to sustainability.

Do you see it now?



The UAE's strategic focus on clean energy is not just about protecting the environment — it's about creating a healthier, affordable and more prosperous future for you... for the community.



Let us look at some of our nation's ambitious energy projects



Noor Abu Dhabi Solar Park [3]

- Largest single-site solar project in the world that reduces UAE's carbon footprint by 1 million metric tons annually.
- Equivalent to removing 200,000 cars from the road.

Mohammed bin Rashid Al Maktoum Solar Park [4]

- Largest solar park in the Middle East, spanning 4,000 acres.
- Will generate enough energy to power 800,000 homes by 2030.



Masdar's Wind Program [5]

- Introduces wind power to the UAE's electricity grid.
- Develops utility-scale, low-wind speed projects.



Shams 1 Solar Power Station [6]

- One of the world's largest concentrated solar power (CSP) plants is in the Western Region of Abu Dhabi.
- Produces enough electricity to power 20,000 homes and reduces carbon emissions by 175,000 tons annually.

Al Dhafra Solar Project [7]

- Set to be one of the world's largest solar power plants upon completion.
- Expected to generate 2 GW of power, enough to supply 160,000 homes.



SNOC Solar Project in Sharjah [8]

- Set out to be the biggest solar plant in Sharjah.
- The positive environmental impact of this project is equivalent to taking 14,000 cars off the road.



Ras Al Khaimah Solar Program [9]

- This initiative aims to promote solar energy in Ras Al Khaimah to generate electricity.

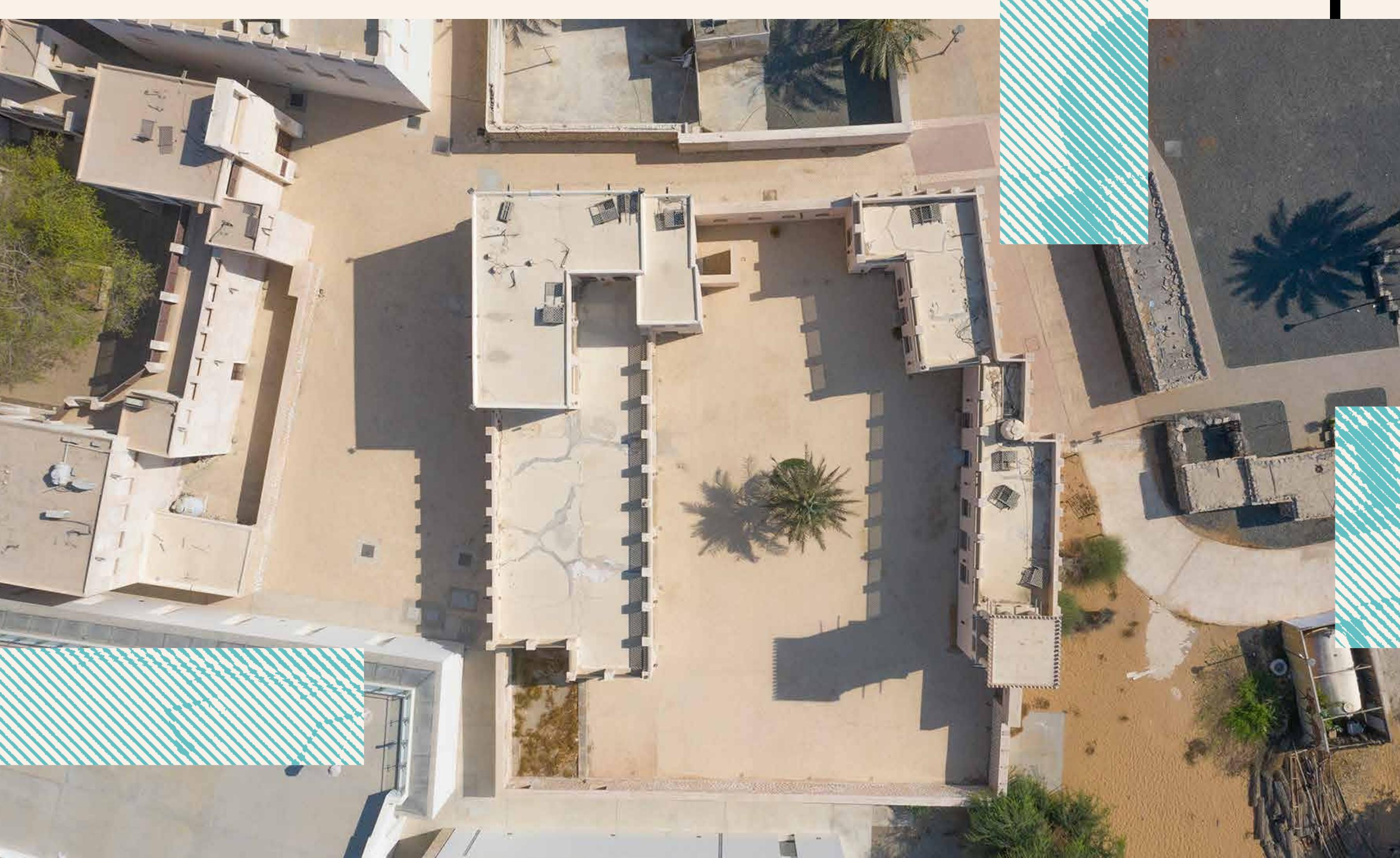
Dream Big, Build Green



Sustainability champion and Architect Yousif Al Ani is a firm believer that using sustainable materials and integrating greenspaces to improve the climate, is one of the best ways to enhance the overall quality of life.

These sustainable solutions are not just options we can consider; they are essential for addressing climate challenges and protecting the environment. By leveraging smart technologies and advanced techniques, we can create homes that enhance our well-being while minimising our carbon footprint.

— Yousif Al Ani



Engineer Yousif is sharing some important things to consider while building:

Energy Consumption

Integrating solar power systems within the design to harness renewable energy.

Using advanced insulation materials that maintain comfortable, indoor temperatures, thereby eliminating the need to use ACs.

Sustainable Technologies

Smart Home Systems try to help us achieve energy efficiency through automation by controlling lighting, cooling and heating.

Advanced heating and cooling systems using geothermal heating and cooling to reduce energy consumption.

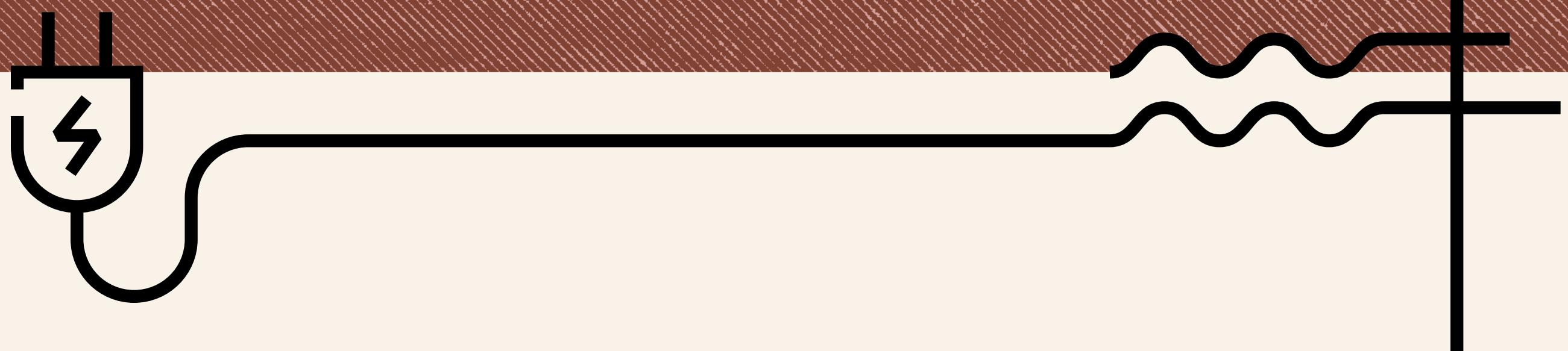
Using technologies allows us to boost energy efficiency without sacrificing convenience or aesthetics, this can save us significant funds especially when considering the long-term benefits of building a sustainable home.

Indoor Plants and the Urban Climate

Indoor plants offer natural cooling through transpiration. Indoor green spaces help us capture carbon and improve air quality, while making us feel more relaxed, which can positively impact our mental and physical health.

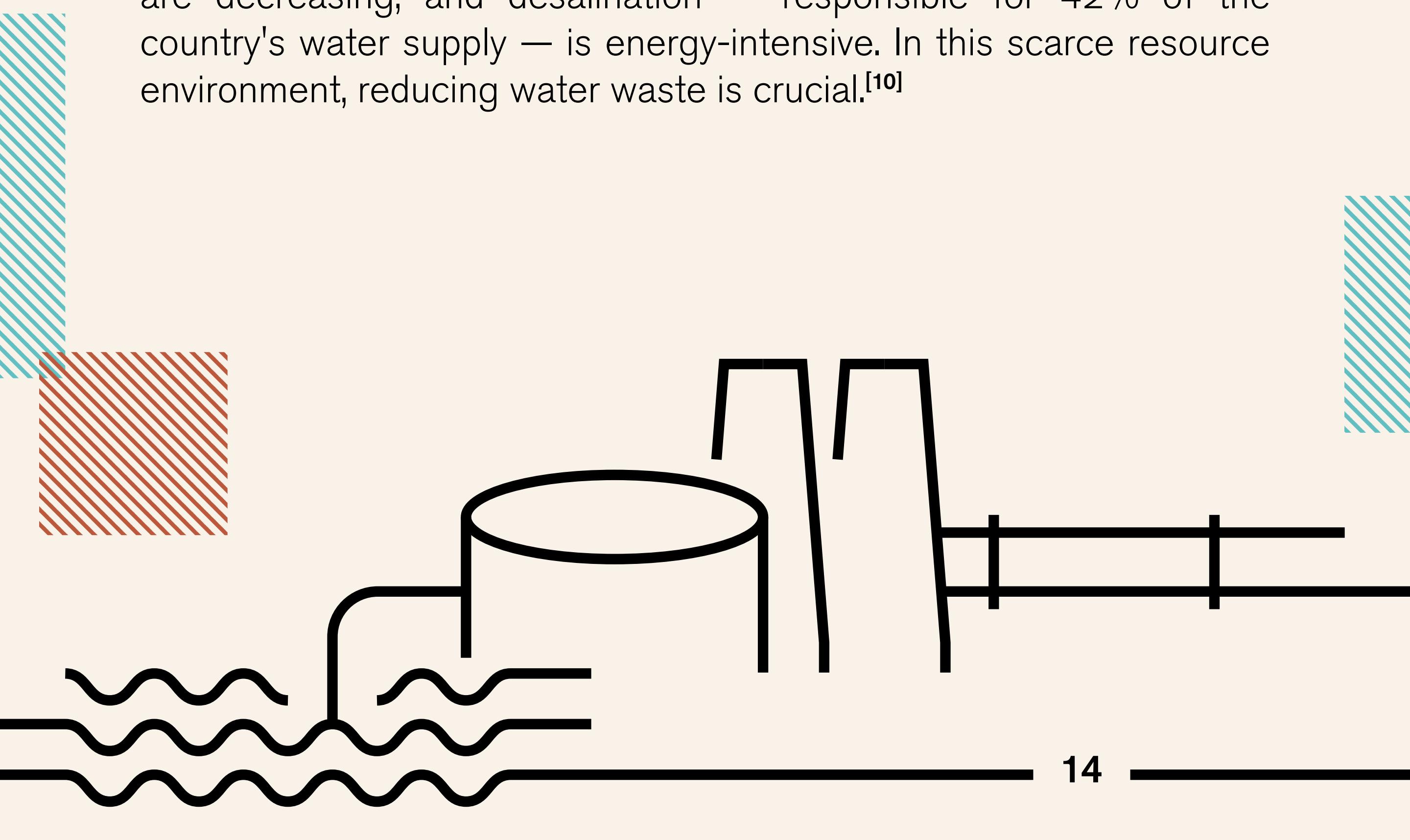


Renewable Water Resources



Despite facing water scarcity challenges, the UAE is actively pursuing innovative solutions to ensure sustainable water resources for its growing population and economic development. With a clear understanding of the issue, the government and various organisations are working together to implement water-saving technologies, promote water conservation, and invest in alternative water resources. By taking proactive measures and embracing sustainable practices, **the UAE is moving towards a more water-secure future**, ensuring that scarcity does not hinder the country's prosperity.

Meeting water needs is especially difficult because groundwater levels are decreasing, and desalination — responsible for 42% of the country's water supply — is energy-intensive. In this scarce resource environment, reducing water waste is crucial.^[10]



A Glimpse of the UAE Water Security Strategy 2036



The UAE launched the Water Security Strategy 2036, a comprehensive plan to ensure sustainable water access during normal and emergency conditions.

We summarised its key takeaways and encourage you, our dear reader, to read more about this brilliant strategy through the references in our guide.^[11]



Key Goals

Reduce Water Demand

Aim to cut water use by 21%

Reuse Treated Water

Reuse of 95% of treated wastewater

Boost Water Productivity

Increase efficiency to USD 110/m³

Expand Storage

Ensure a two-day water supply, extendable to 16 days in emergencies

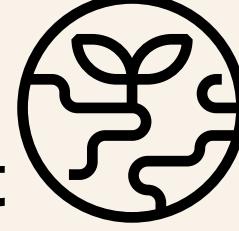


Cost Savings

Save AED 74 billion

Benefits

Environmental Impact



Reduce CO₂ emissions by 100 million metric tons



Why does it matter, you ask?

Let us draw you a picture

Imagine waking up to a new reality shaped by the UAE's commitment to water conservation. **You no longer dread the arrival of your monthly water bill.**

You find an abundance of fresh, locally-grown vegetables and fruits during your weekly grocery shopping. The vibrant produce results from sustainable farming practices that optimise water use.

Before going to bed, you fix a small leak in your kitchen sink, knowing that **this simple conservation act becomes part of the collective effort for our sustainable shared future.**

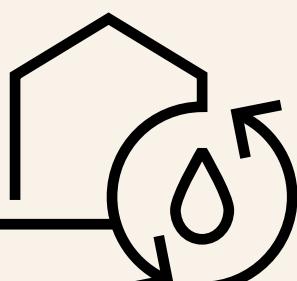
Architect **Yousif Al Ani** wanted to leave us with some practical tips when it comes to water consumption too. These tips will help us implement the best possible techniques to conserve this precious resource.

Rainwater Collection



This system can help collect rainwater for irrigation and cleaning purposes to help us conserve fresh water.

Utilising Grey Water



Using recycled water for irrigation within a smart irrigation system, like drip irrigation, can improve water efficiency and reduce environmental impact as well as eliminate costly water bills.



How the UAE Plans to Action



Here are some of the UAE's ambitious water conservation initiatives:



مبادرة محمد بن زايد للسَّماءِ
THE MOHAMED BIN ZAYED WATER INITIATIVE

Mohamed Bin Zayed Water Initiative ^[12]

The initiative aims to confront the urgent challenge of water scarcity around the world. It also aims to enhance awareness of the severity of the crisis of water scarcity and accelerate the pace of technological innovation to deal with the challenges it poses.

Expand the scope of international cooperation to address the crisis and drive investment for the benefit of current and future generations.



هيئة كهرباء ومياه دبي
Dubai Electricity & Water Authority

Dubai Electricity & Water Authority (DEWA) Conservation Programs ^[13]

Saved 2.2 TeraWatt-hour of electricity and 5.6 billion gallons of water between 2012 and 2021, which reduced carbon emissions by 1.1 million tonnes and saved AED 1.2 billion.





AgriFood Growth and Water Abundance Cluster ^[14]

This initiative aims to boost global food and water security by leveraging advanced technologies to ensure safe drinking water and efficient water use. The cluster will be led by the Abu Dhabi Department of Economic Development and the Abu Dhabi Investment Office, with the vision of becoming a global center for the development of food products and innovative technologies to ensure safe drinking water and improve water usage. The initiative seeks to support local suppliers and exporters while creating international business opportunities. It is anticipated that it will contribute approximately AED 90 billion to Abu Dhabi's GDP and generate over 60,000 new jobs by 2045, in alignment with the National Food Security Strategy 2051 and the Water Security Strategy 2036.

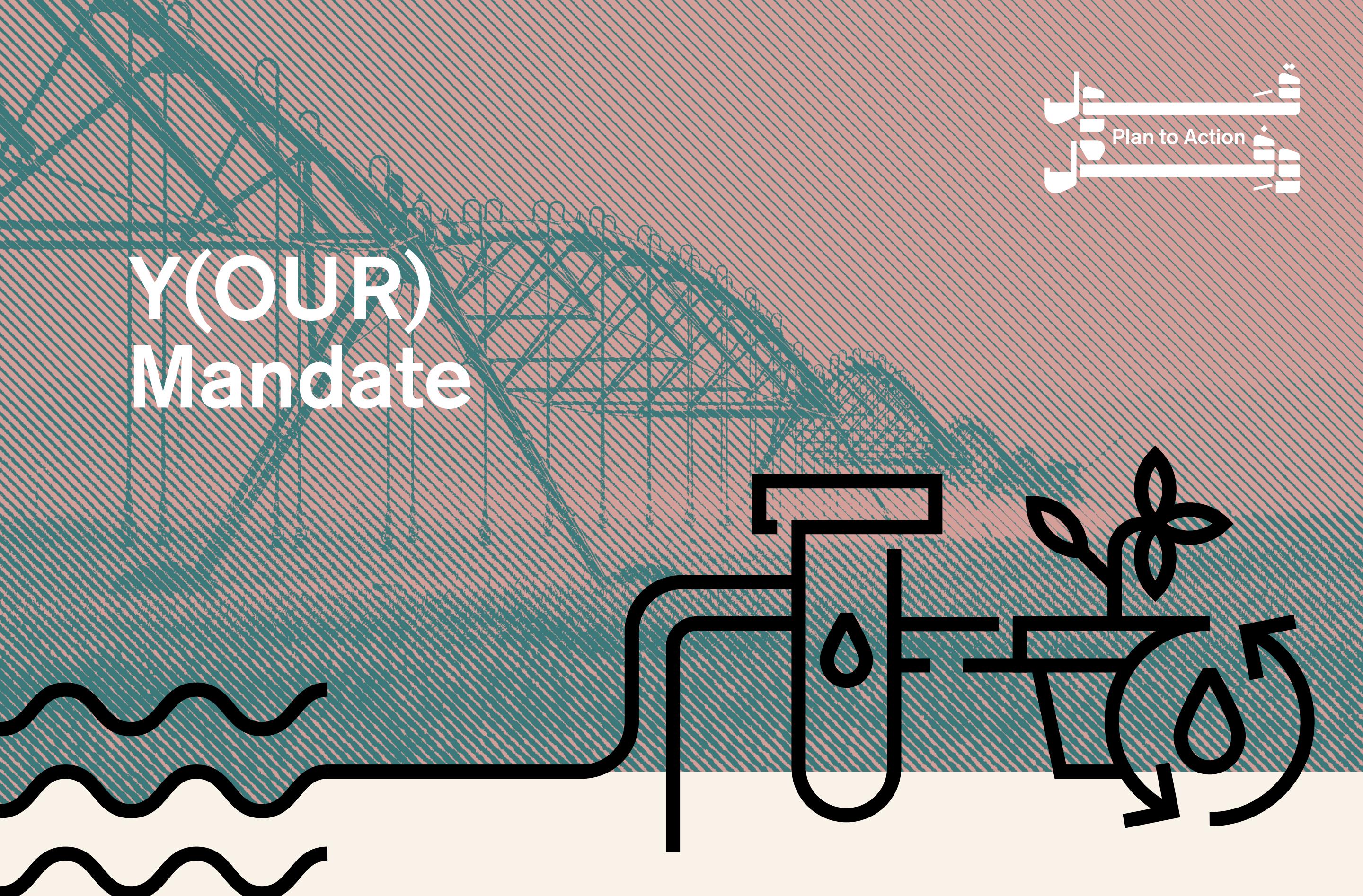


Masdar's Water Desalination Projects ^[15]

Developed energy-efficient desalination technologies and projects that includes the Advanced Energy-Efficient Desalination Pilot Project, which connects desalination to renewable energy sources.

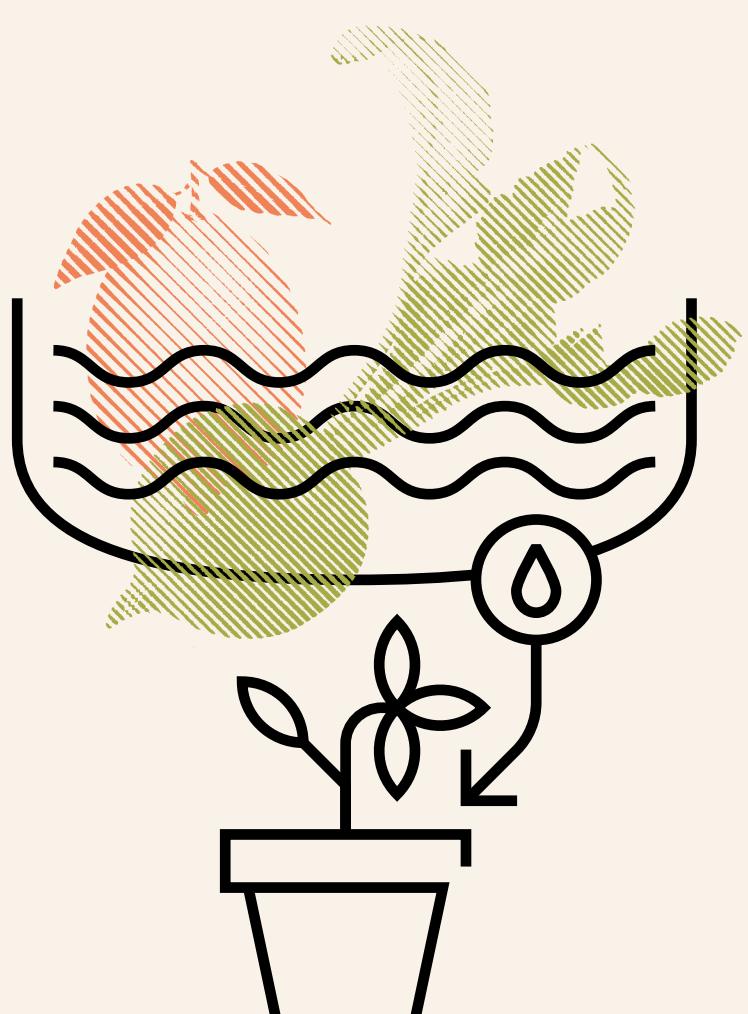
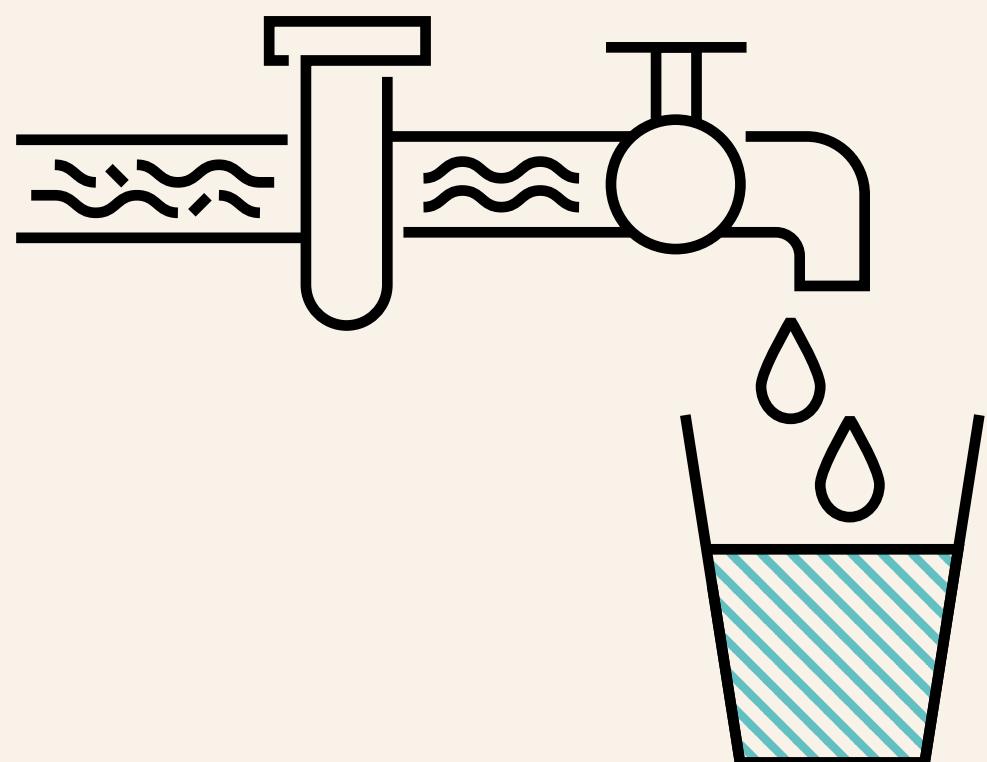


Y(OUR) Mandate



In our short but essential reading journey, we gained a deeper understanding of our nation's efforts in conserving energy and water. Before you leave, our team of researchers, sustainability champions and advocates for our environment really want to share some other tips and tricks:

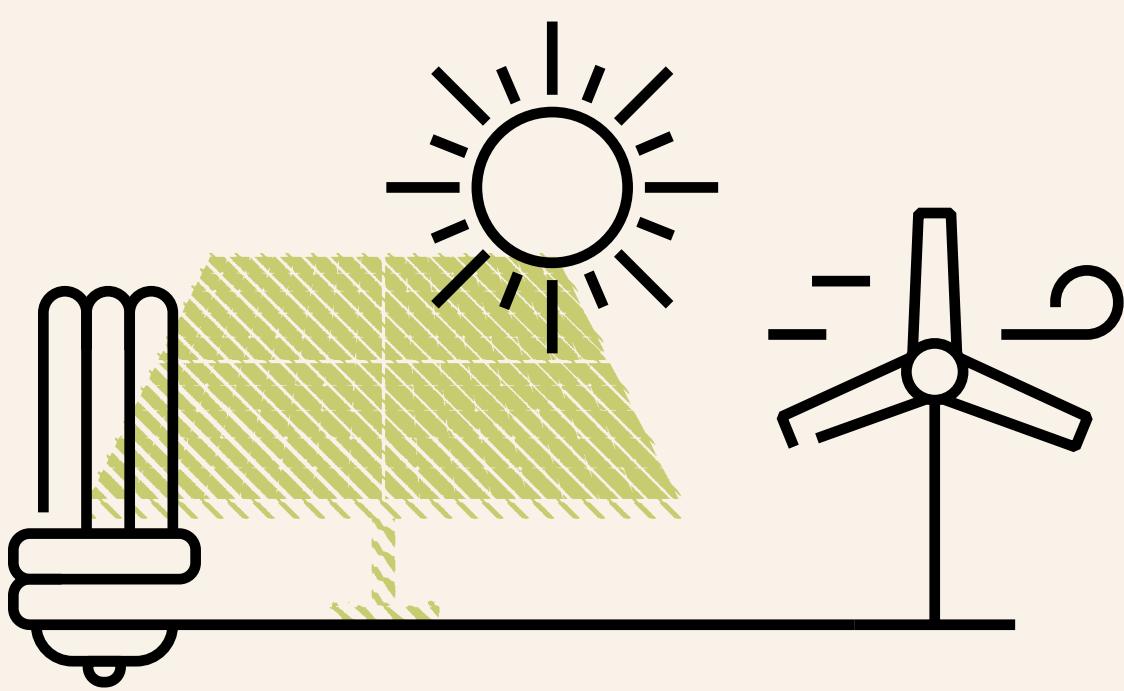
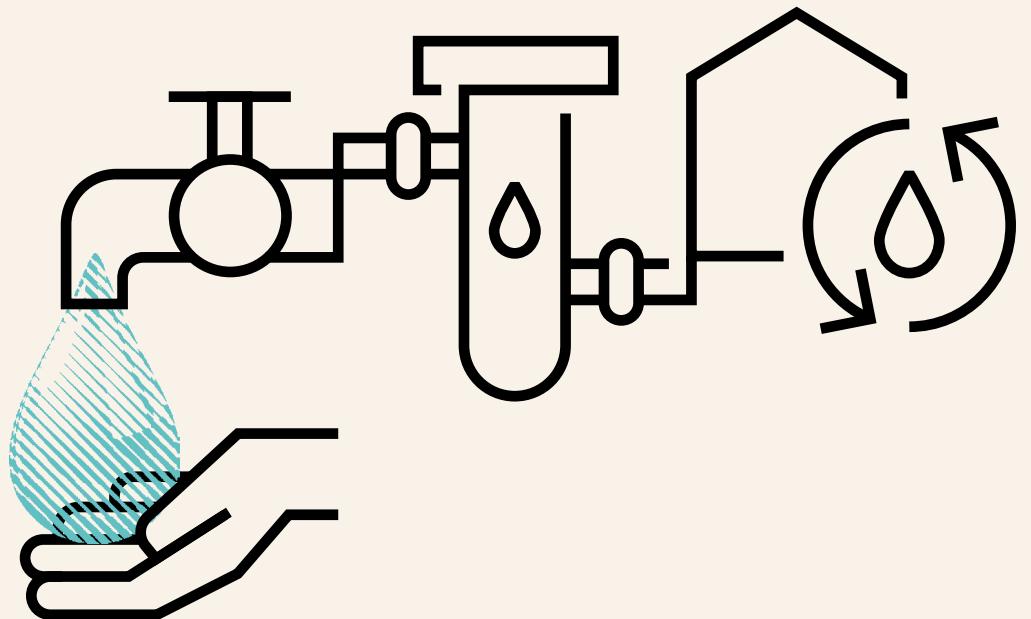
Use a water filter at home to safely drink and cook with tap water, reducing the need for bottled water and minimising plastic waste.



Recycle water used to wash vegetables by using it to water homegrown herbs or plants.

Save Water

- Fix leaks as early as possible to avoid wasting water.
- Install water-saving fixtures like low-flow showerheads and faucets.
- Use efficient irrigation systems, such as drip system, for your garden.



Conserve Energy

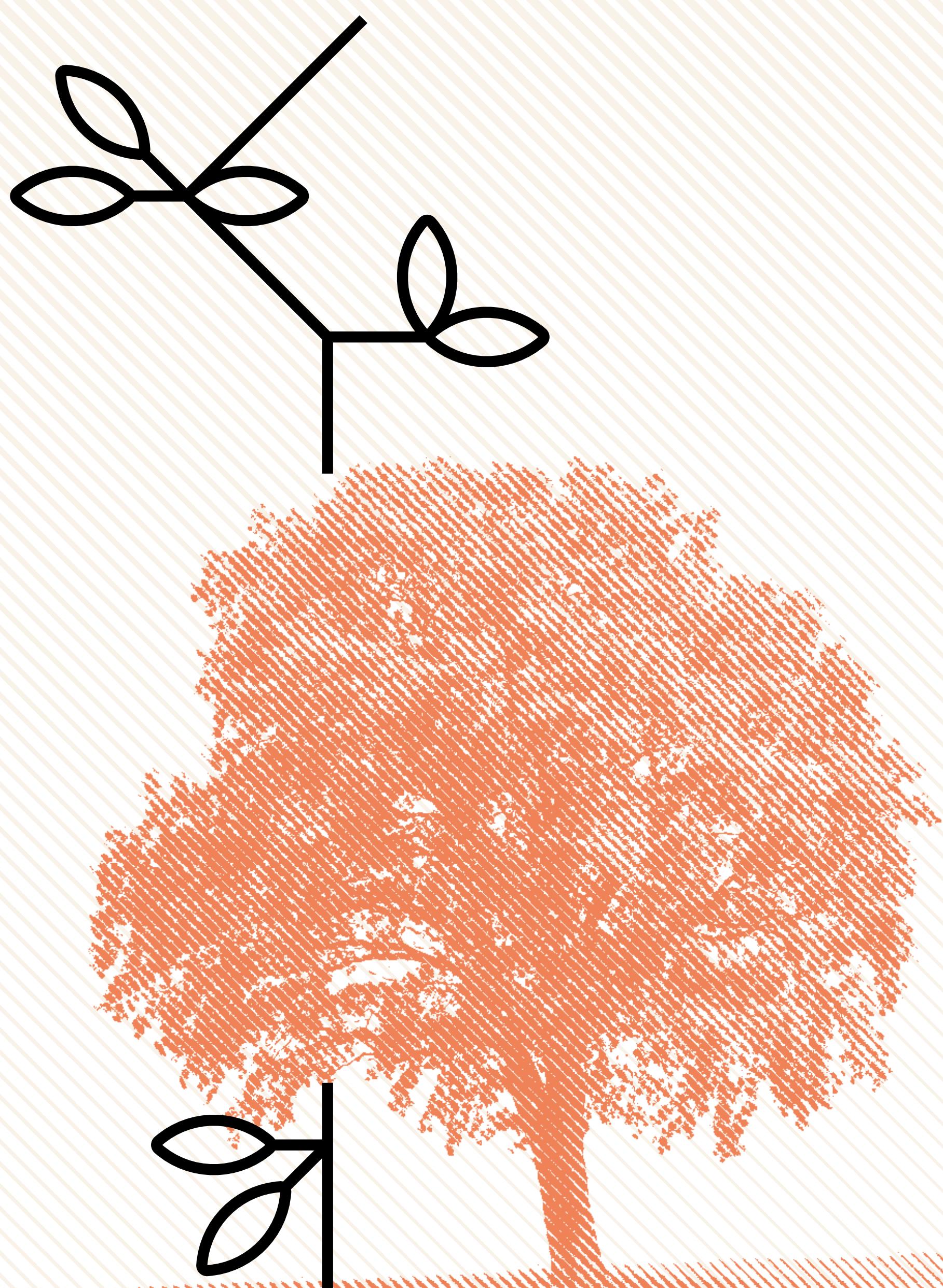
- Switch to energy-efficient appliances and light bulbs.
- Unplug electronics when not in use to save energy.
- Make the most of natural light during the day and use cooling mindfully to reduce energy consumption.



Plan to Action

We hope we have instilled in both you and ourselves a sense of how important our collective efforts are. Our country's initiatives are a symbol of our resilience and innovation, but the success of these initiatives depends on the actions and commitment of each one of us.

Your mandate is our mandate – a shared responsibility to protect and preserve our precious resources.



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الاستدامة

SUSTAINABILITY

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