

What Is the UAE Wind Program?

The UAE has launched the first utility-scale wind project in the country as part of a wider push towards carbon neutrality. The Emirates have famously built their vast stores of wealth on fossil fuels, but are now attempting to transition towards more sustainable sources of power in the face of the looming climate crisis.

The UAE Wind Program, developed by clean energy powerhouses Masdar and constructed in collaboration with Chinese companies the GoldWind Group and PowerChina, is set to provide enough energy to power over 23,000 homes across the country each year. As the first project of its kind in the country, the Program is a significant milestone in the UAE's energy development.

A landmark undertaking

The UAE Wind Program is located across four different sites. The chief one is situated on Sir Bani Yas Island and will contribute 45MW of wind power plus 14MW of solar, but it is supplemented by a further 27MW of wind on both Delma Island and Al Sila in Abu Dhabi, as well as another 4.5MW of wind in Al Halah in Fujairah.

Masdar is the owner of the site and now boasts an admirable portfolio of green energy projects. The turbines used in the venture were supplied by Beijing-based GoldWind, while PowerChina oversaw the engineering, procurement and construction aspects of the Program. Once fully operational, it is projected to displace some 120,000 tonnes of carbon dioxide from the atmosphere annually, which is roughly equivalent to taking 26,000 vehicles off the road.

Innovation and invention

Wind has not previously featured in the UAE's energy profile until now, largely due to the fact that the arid climate of the region does not generate strong winds with great frequency. However, advances in climate technology now made the project viable, according to a spokesperson for Masdar.

Predominantly, those advances concern the development of larger turbines more adept at catching slower wind speeds, as well as a general reduction in the price of the technology which made it more financially feasible. What's more, the discovery that winds generally pick up at night-time in the UAE prompted a shift in the hours of the turbines' deployment, which dovetails nicely with the country's other main source of renewable energy (solar) and provides round-the-clock options.

Aiming high

The UAE Wind Program is an encouraging step in the right direction. That's because the Emirati government have bold ambitions about improving their environmental credentials in the future. The UAE Energy Strategy 2050 has targeted becoming carbon neutral by that date and aims to generate 44% of its power from clean energy sources and a further 6% from nuclear.

Progress is already in evidence. Last month, the UAE launched the world's largest single-site solar farm at Al Dhafra 22 miles from the capital, which is capable of generating a whopping 2GW of energy annually, enough to power almost 200,000 homes. That's in addition to the 5GW Mohamed bin Rashid al Maktoum Solar Park in Dubai and the 5GW Barakah Nuclear Plant.