



Solar Concentrator Installed in Abu Dhabi

The UAE is proud to announce the installation of a first-of-its-kind solar concentrator at the Masdar City Campus on the outskirts of Abu Dhabi. The project is a joint venture between Masdar City (the UAE's flagship sustainable community), Wahaj Solar and the Khalifa University of Science and Technology.

Capable of harnessing the power generated by temperatures above 1,000°C – or that roughly equivalent to 1,000 suns, the concentrator is expected to revolutionise the way the UAE collects and stores solar energy. Due to the ultra-efficiency of its design and power generation method, it is equipped to turn higher amounts of sunshine into electricity than other devices seen elsewhere.

The cutting edge of solar power

The new concentrator was wholly developed by Wahaj Solar and represents the most sophisticated machine of its type anywhere in the world. In stark contrast to conventional concentrated solar power (CSP) systems, the new device uses a smaller mirrored surface (a mere 10m across) to collect and harness the power of the sun's rays.

Despite this, it is still able to withstand temperatures in excess of 1,000°C, meaning it can create larger amounts of energy with fewer resources. This should pave the way for the Masdar Institute Solar Platform (MISP, where the concentrator is now in place) to develop similar forward-thinking technologies, such as solar, thermal and thermochemical storage units.

An ideal solution

Given that the Emirates have historically earned their vast riches from the fossil fuel industry, the solar concentrator is the perfect tool to simultaneously wean the country off this damaging fuel source and make it more sustainable going forwards. Several different avenues of renewable energy are currently being explored, but many of them pose problems of their own.

For example, nuclear power is fraught with all kinds of security and safety concerns, while [offshore wind energy can negatively impact marine life](#). The biggest criticism levelled at solar is its intermittency, but the development of more advanced battery systems will mean that the UAE's abundance of sunshine can be converted into energy and stored for use during the night as well as the daytime.



Masdar City leading the way

The unveiling of the concentrator just marks off one more milestone in the UAE's march towards a greener tomorrow, according to Dr Arif Sultan al Hammadi, who currently serves as the executive vice-president of the Khalifa University of Science and Technology. "The installation of UAE's first-of-a-kind solar concentrator marks the next stage of Masdar Institute Solar Platform's advancing research in solar energy technologies," [he explains](#).

"MISP stands as an example for innovation and we are keen to contribute to seeking new solutions to increase efficient clean generation of 24/7 power, which remains one of the strategic areas for the UAE. We believe the MISP will further enhance its significance to innovations in the energy sector, especially solar power, while attracting more industry collaborators."