



Around 785 million people around the world lack a basic drinking-water service | Photo source [Pixabay](#)

[Innovation](#) > [Science](#) > [A way to make water out of thin air](#)

A WAY TO MAKE WATER OUT OF THIN AIR

 SCIENCE

An Israeli startup has developed portable, low-energy condensers that can help in water shortages and emergencies

Spotted: According to the World Health Organisation, around 785 million people around the world lack a basic drinking-water service, with around 144 million people dependant on surface water. As climate change continues, this problem is set to worsen. It is estimated that by 2025, half of the world's population will be living in water-stressed areas. Israeli company Watergen hopes to do something about this, with their invention of technology that produces fresh-water literally out of thin air.

Watergen's products extract and purify water from the air. They use heat-exchangers to condense it, by cooling the air to its dew point (the temperature at which water vapour condenses to form liquid). The liquid is then filtered and purified using carbon, and remaining bacteria are eliminated with ultraviolet rays. Once purified, the water is stored in a built-in or external reservoir and kept fresh through continuous circulation, or delivered directly to taps.

The company has developed both large scale, industrial water extractors, and small-scale extractors designed for home use. The condensers can be operated using diesel generators, solar panels, or home currents. They are more energy-efficient than other types of water condensers, using only 250 Wh of power per litre. The company has also developed a customised, heavy-duty truck to securely transport the units for use in emergency situations and natural disasters.

Recently, Watergen delivered a large unit, capable of producing up to 800 litres of water per day, to a town in northern Columbia called El Talento. They have also supplied condensers to Uzbekistan, to help deal with water shortages, and worked with the Red Cross and the United States' Federal Emergency Management Agency.

As climate change increases water shortages, we are seeing more innovations aimed at preserving water. Recently, we have covered a solar-powered [desalinator](#) and a low-water [toilet](#) that lets urine be used for fertiliser.

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Takeaway:

As populations around the world increasingly struggle to access clean, natural water, innovative solutions are required to provide communities with clean drinking water. Condensers like Watergen's could form an important part of the solution, particularly if they can be powered using alternative sources of energy, such as solar power. The portability of this technology also makes it useful for emergency situations, and areas with limited infrastructure.