

Initiative...

**With its heat exchanger « Terrao »,
Terraotherm recycles the air and revolutionizes environment control
giving you air that is always fresh with controlled temperature and humidity!**

Established in 2013 in Grande-Synthe near Dunkirk, the firm « Terraotherm » was recently invited to attend the debates at COP22 on the innovative technologies that are helping to fight global warming through the association of Citizen Innovation and Sustainable Development (CISD). In point of fact, the northern start-up is behind a revolutionary system – invented by Jaouad ZEMMOURI – scientific director and professor of physics at Lille University, that aims to recover and recycle the thermal energy contained in the indoor air, in order to immediately redistribute it via fresh air in order to obtain a controlled temperature and humidity atmosphere. The system thus enables a saving of up to 70% in heating energy - a process that holds out the prospect of numerous applications and which has already won over many sites concerned by environment control: museums, archive centres, municipal swimming pools and even... owners of wineries!



At the heart of the process – a patented technological innovation: Terrao* - an air-water heat exchanger. Thanks to a direct exchange, by stirring up the air and the water, Terrao ensures a virtually complete transfer of the calories between the 2 fluids. The exchanger also enables the recovery of the latent energy in the humid air to convert it into sensible energy. By recovering the heat contained in the air, and at the same time dehumidifying it, the system enables the thermal energy of the stale air to be recycled to heat rooms that consume very little energy. Another asset: the relative humidity regulator has been designed to adapt to sudden variations in the relative humidity level of the air in order to provide indoor air relative humidity precision of within 1%. The system therefore enables guaranteed long-term control. This technology thus enables many uses in just one system: from heating to air conditioning, via dehumidification, air decontamination or again humidification.

Successfully tested for the first time in the greenhouses of the Dunkirk horticultural lycée with a recorded drop in energy consumption of 45%, Terraotherm is today a partner of numerous local authorities and public and private structures and even rolls out its system under licence for large volumes in partnership with Dalkia in particular.

A member of the Regional Excellence Energy Cluster 2020, Terraotherm has just been named the winner of the Hauts-de-France PULSE 2016 Competition in the « decarbonized town » category. This technology holds out in fact real prospects for fighting global warming and climate change as it recycles

the thermal energy emitted by any human activity. Next step planned by the company directors: providing support for the recycling of industrial smoke emissions - a challenge to be closely watched!

Managed by Audrey KEUNEBROCK, co-founder and Chairwoman, the company achieved a turnover of 1.1 million euros in 2015 and employs 12 staff.

For further information: www.terraotherm.com/

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