Electricity drawn from residual industrial heat through a world-wide pilot project

LOCATION: Almería
VTR: 1'27"

SUMMARY: Almerian researchers are participating in a European project, pioneered at a global level, to try and transform the residual heat that the industry generates into electric power. What they do is put one solution with a high salt content and another that is diluted into a closed circuit that, through movement, produces electricity. The inconvenience of this process is that it generates a brine that has to be recycled in order to use it again in obtaining energy. This they achieve using the residual heat that companies create.

VTR:

All industrial processes generate residual heat at temperatures below 100 degrees celsius that have no use. Almerian researchers are working on a world-wide pilot project to take advantage of this excess. But in what form?

GUILLERMO ZARAGOZA
CIEMAT Researcher

"We offer a solution to capitalize on this heat and convert it into electricity."

The electricity is produced by the difference in the level of salt in the water that circulates this closed circuit. More salt, higher density. This contrast in movement is what creates the impossible-electricity. In order to be able to utilize and generate more electricity, the ensuing water needs heat. In this case, the residual heat from industries.

GABRIEL ACIÉN
UAL Professor

"In this case we produce electric energy by taking advantage of the fountains of heat that today

This technology has been tried in open circuits using basically just sea water, but the new part of this research is that for the first time they can do it in a closed circuit, this way…

GUILLERMO ZARAGOZA
CIEMAT Researcher

"On one hand we can choose the salts that will produce the most electricity, and on the other, we can have a completely autonomous system that does not need any type of water."

So, in the future it won't be necessary for companies to be close to a water source to benefit from this system. Together with the research center in the University of Almería, the CIESOL, and the Solar Platform of Almería, they are working on this European project alongside the Universities of Palermo, Edinburgh, and the Polytechnic University of Catalonia.