

Scientists patent a method to avoid CO₂ emissions with sound in Seville

LOCATION: Sevilla

DURATION: 1:29

SUMMARY: Researchers at the Physics Faculty of the University of Seville have patented a method to capture the CO₂ that comes from combustion. It is based in the use of calcium carbonate (lime) at high temperature. The absorption capacity of lime regarding this gas responsible for global warming was already known; the innovation introduced by these scientists has been multiplying this capacity with sound. Now their intention is that industrial plants install this system at large scale to reduce CO₂ emissions.

VTR

The CO₂ concentration rate in the atmosphere, responsible for global warming, has now reached four hundred parts per million, a record since humans inhabit the planet.

JOSÉ M.P. EBRI
Researcher

"One of the big problems of the whole planet."

To fight this, these researchers of the University of Seville have developed a method to capture the CO₂ emitted by industry. It is based on this: lime. It is heated at high temperature and when it contacts the contaminant gas it is absorbed. CO₂ becomes solid and doesn't end up in the atmosphere. This technique already existed but the innovation introduced by these scientists is related to sound.

JOSÉ MANUEL VALVERDE
Director of the research

"Sound shakes the gas so CO₂ molecules contact more easily with the solid, with calcium oxide, with places where CO₂ is going to react and remain trapped."

Sound, at certain intensity, multiplies the capacity of lime to absorb this gas.

JOSÉ MANUEL VALVERDE
Director of the research

"Usually it has to be above 130 decibels."

The plan is that future industrial plants that emit CO₂ install large scale devices like this one.

JOSE M.P. EBRI
Researcher

"So there wouldn't be CO₂ emissions from a cement company or a thermal power plant. It could be applied to any plant. I think it is a very promising and hopeful step."

A step towards sustainability taken at the University of Seville.

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