

Australia hopes for carbon capturing 'sponges'

September 13 2010



A woman covers her nose as she crosses a busy street as vehicles contribute fumes and pollution in a busy shopping district area of Hong Kong 2007. Australian scientists said Monday they are working to develop "molecular sponges" that they hope will soak up carbon gases and help in the fight to contain greenhouse gas pollution.

Australian scientists said Monday they are working to develop "molecular sponges" that they hope will soak up carbon gases and help in the fight to contain greenhouse gas pollution.

Researchers at Sydney University have produced [crystals](#) full of minute holes which can retain gases such as [carbon](#) dioxide, and which they hope could be used in places where these gases are produced, such as power stations.

"You could think of them a little bit like your kitchen sponge," lead

researcher and postdoctoral fellow Deanna D'Alessandra told ABC Radio.

The chemical frameworks are full of so many tiny holes or pores that they have a far greater surface area than would be expected from their size, she said.

"So if you thought of all of the area inside of the little pores of the sponge, then in fact it would add up to an incredible amount.

"So in fact if you took a teaspoon of one of the best materials we have at the moment, then it would actually have a surface area of about a rugby field, which is pretty amazing," she said.

D'Alessandro said the "sponges" currently in development are more robust than previous ones, and could potentially withstand the high temperatures in power stations.

The process of soaking the "molecular [sponges](#)" with [carbon dioxide](#) could also be reversible, allowing the gas to be released under certain conditions, she said.

The scientists say their findings are not yet ready for commercial adaptation, but D'Alessandro said she hopes they will become viable.

(c) 2010 AFP

Citation: Australia hopes for carbon capturing 'sponges' (2010, September 13) retrieved 24 April 2024 from <https://phys.org/news/2010-09-australia-carbon-capturing-sponges.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.