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Brown coal could underpin new 'industrial revolution', agency says

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There are promising signs that Victoria's brown coal could be used to make lightweight carbon fibre, according to the agency responsible for finding low-emissions uses for it.

Brian Davey, chief executive of Brown Coal Innovation Australia, told Footprint his organisation is assessing research proposals from Monash and Deakin universities to investigate the use of brown coal to synthesise carbon fibre.

Deakin University is home to the globally-renowned Carbon Nexus carbon fibre research facility.

"We are pretty sure you can make carbon fibre from brown coal," Davey told Footprint. "This could be a new industrial revolution for Victoria."

However, while lots of things are promising in the lab, "the challenge is to bring them out of the lab", he acknowledged.

As well as assessing feasibility, research would be required to assess the greenhouse gas emissions intensity of the process, Davey said.

"We think that the process will produce some CO2, but not a huge amount," he said.

Davey added that oil prices are highly volatile, and using brown coal would have the advantage of price certainty and an abundant resource supply.

Agricultural uses under investigation

In addition to the research on brown coal-to-carbon fibre, BCIA is in the final stages of negotiating a research program on using brown coal to boost crop productivity and soil carbon levels.

Davey said brown coal could be used to produce biostimulants that encourage plant growth, known as humates and fulvics, and in the manufacture of urea.

So far, weathered coal has proved most suitable for use as a biostimulant, but BIAC plans to research the use of normal run-of-the-mill coal.

Early indications are that agricultural uses of brown coal would result in a net carbon benefit, Davey added.

BCIA is also one of the agencies involved in research work on the production of hydrogen from brown coal – a process that results in a pure waste stream of CO2 suited to compression, transport and deep underground storage (see background here).

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