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In the world

What hope for making clean coal?

The Prime Minister's recent decision to back coal rests on the assumption that it can somehow be made 'clean' or more precisely, that carbon capture and storage (CCS) technologies can be made to work for coal plants. The problem is that they can't and the US experience shows why.

The US has for a long time been the leader in the development of this technology and has driven some of the most ambitious CCS projects over the last two decades.

So if any nation can get CCS to work it should be the US. However, there are three factors that make the commercial large-scale development of this technology unlikely in the US.

First is the technology. As the US government has pointed out, and the International Energy Agency has confirmed, there remain barriers to the widespread demonstration and deployment of CCS technology at a commercial scale.

Take the most promising demonstration project as an example.

Led by Southern Company, the fourth largest electricity utility in the US, the so-called Kemper County project, a 582 MW integrated gasification combined cycle plant, aims to sequester 50 percent of its CO₂.

The project has benefited from Southern Company's research and development base, one of the largest of any utility in the US, and support from the US Department of Energy, which has contributed \$270 million, on top of an estimated \$133 million in investment tax credits.

Despite these favourable funding conditions, the project has experienced numerous delays and cost blow-outs. In fact, the Kemper County project is expected to cost almost three times the originally estimated cost of \$2.2 billion.

And last month Southern Company CEO Tom Fanning conceded that the Kemper plant is not economically viable as a coal-burning power plant. The second problem for CCS is the structural decline of the US coal market. Its share of electricity generation has fallen from more than half in 1990 to just over a third today, in large part due to falling gas prices.

This has negatively affected the investment environment for coal plants and reduced the appetite for investors to fund new plants, which can require up to 30 years to amortise the costs.

In such an environment, there is little justification to fund new coal infrastructure, especially risky investments in CCS technology.

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Trending



Dr Christian Downie

Third, the US regulatory environment is limiting the possibility that this technology will be demonstrated at a commercial scale. During President Obama's eight years in office, the Environmental Protection Agency instigated a series of initiatives to address air pollution, which had a direct impact on the US coal industry.

For Australian leaders wishing for CCS technology, the US experience is instructive.

For more than two decades, successive US Presidents have supported the technology with their words and taxpayer dollars.

As President Obama argued on the campaign trail back almost a decade ago: "This is America – we figured out how to put a man on the moon in 10 years. You tell me we can't find a way to burn coal that we mine right here in the United States of America and make it work."

We now have the answer to that question: they can't. If the US, which has delivered a track record of successful postwar innovation not matched by any other country cannot make CCS work, what hope is there for Australia?

It's time to replace the fossil fuel technologies of the last century with the renewable technologies of this one. Coal cannot be made clean, whatever our Prime Minister says.

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