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MEDIA RELEASE

Research trial shows Direct Injection Carbon Engine project on track to reduced brown coal emissions

Brown Coal Innovation Australia (BCIA) today announced higher energy efficiency levels were achieved for the conversion of brown coal to electricity in a prototype direct injection carbon engine during recent laboratory tests.

The research results indicate the CSIRO-led Direct Injection Carbon Engine (DICE) project is on track to achieve a step-change in fuel cycle efficiency. State-of-the art brown coal power plant technology could reduce emissions from Victoria's existing power stations by 30 per cent. As a distributed generation option, DICE has the potential to considerably exceed this, cutting emissions at a much lower capital and operating cost.

BCIA Chief Executive, Dr Phil Gurney, said: "The advanced technology DICE program is one of more than 30 BCIA research projects spearheading Australia's efforts to deliver more sustainable energy from brown coal, reducing carbon emissions from coal-fired power and cutting the cost of carbon capture technologies.

"Importantly, DICE can turn on and off rapidly, allowing it to be used to back up intermittent energy sources such as solar power. DICE can be implemented as a small-scale distributed power generation option. These capabilities can enable DICE to provide low cost, low emissions option that delivers grid security while enabling a more complimentary approach with renewable technologies."

"The commercial success of such technologies would help secure Victoria's - and indeed Australia's - future economic prosperity by enabling the continuation of low cost distributed power generation while also creating valuable new industries and employment opportunities in the State's Latrobe Valley." Dr Gurney said.

Following the BCIA investment of \$1 million, the black coal industry through the ACALET COAL21 Fund provided an investment of \$1.9 million and the Australian Government will also invest up to \$1.9 million.. Australian black and brown coals are being processed into micronised refined carbon fuel (MRC; a water-based slurry fuel) for use in a specially adapted diesel engines or DICE in this three year high efficiency low emissions power generation research program conducted by CSIRO.

CSIRO lead scientist, Dr Louis Wibberley, reported that this slurry fuel was successfully used in an 8kW laboratory engine. Dr Wibberley said: "This is the first long-duration test of Victorian brown coal in DICE. MRC produced from Victorian coal proved ultra-stable, easy to inject, and gave rapid ignition and smooth combustion characteristics. The test, which ran for over 10 hours, showed no significant high temperature ash fouling of the laboratory prototype engine.

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“Given these very positive technical results, we expect successful large-scale engine tests by MAN/Mitsui in Japan during the next stage of the research project.”

Following successful completion of the stage one project assessment by CSIRO, the DICE research program will now progress to a world-first trial of brown and black-coal derived MRC fuel from in a 1000kW single cylinder diesel test engine, specially adapted by leading international engine manufacturer; MAN Diesel & Turbo.

The CSIRO research will help to determine if DICE technology can deliver for Australia, a lower cost, highly flexible, low emissions power generation solution and create a valuable opportunity for Australian coals.

More information:

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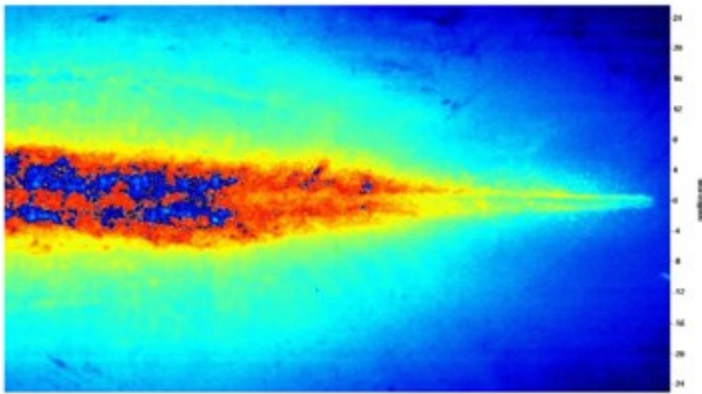


Image: The image above shows the rapid combustion of (micronised refined coal) brown coal water slurry during recent laboratory testing in a prototype Direct Injection Carbon Engine.