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## MEDIA RELEASE

### BCIA funds Victoria's first 24/7 capable CO<sub>2</sub> capture facility for brown coal power generation

Brown Coal Innovation Australia (BCIA) today announced funding for a research and development project which will target significantly reduced carbon emissions from brown coal power generation in Victoria and throughout the world.

The project, selected in BCIA's 2013/14 competitive R&D funding round, also aims to slash the capital and operational costs for large-scale carbon capture plants; arguably the greatest challenge facing global deployment of carbon capture for fossil fuel power generation.

BCIA has received multi-million dollar funding from the Victorian Government and the Australian Government via a relationship agreement with Australia National Low Emissions Coal R&D (ANLEC R&D). The ANLEC R&D relationship agreement provides for BCIA to manage ANLEC R&D's brown coal energy research portfolio.

Today BCIA announced \$650,000 awarded towards a research project which will combine CSIRO CO<sub>2</sub> capture innovation with that of major Japanese technology vendor; IHI Corporation. The project targets a 40 per cent reduction in the energy usage of current plant post combustion capture (PCC) processes for Victorian brown coal-fired power plants. Capturing CO<sub>2</sub> requires significant power and consequently increases energy costs. There are currently about 25 pilot-scale PCC processes operating throughout the world seeking to reduce this energy penalty.

BCIA Chief Executive, Dr Phil Gurney, said: "This research project is targeting a 40 per cent reduction in energy use of current post combustion capture (PCC) processes and will see the installation of a \$1 M Japanese-built PCC pilot plant at AGL Loy Yang Power station; the first in Victoria to operate around the clock. The expected reduction in energy usage – as targeted by this project – would lead to significant savings in the cost of energy supplied to the consumer compared to implementing carbon capture using first-generation PCC plant.

"This project entails a two-year evaluation of two advanced liquid absorbents, two advanced process designs and an advanced gas/liquid contactor. The combination of these three aspects represents a significant step forward in PCC technology application for Victorian brown coal-fired power stations. Additionally, this research project is unique because it denotes a major collaboration between internationally renowned technology provider, IHI Corporation, and Australia's national research institute; CSIRO," Dr Gurney said. "The collaboration is a world-first evaluation of a technology provider-developed PCC process in flue gases from Victorian lignite-fired power."

In the first year of the research program, a 0.5 tpd CO<sub>2</sub> capture pilot plant - incorporating an advanced, low-pressure packing material - will be designed and manufactured by IHI in Japan. The plant will then be transported to Australia and re-commissioned at AGL Loy Yang Power station in Victoria's Latrobe Valley. The combination of three new technology innovations - simultaneous improvements in capture agents, equipment and process design - is expected to

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#### Brown Coal Innovation Australia Limited

▶ Suite 420, 1 Queens Road, Melbourne, Victoria 3004 Australia  
▶ PowerWorks, Ridge Road, Morwell, Victoria 3840 Australia  
Tel +61 3 9653 9601 | Fax +61 3 9653 9026 | ABN 51 141 273 261  
Web [www.bcinnovation.com.au](http://www.bcinnovation.com.au) | Email [info@bcinnovation.com.au](mailto:info@bcinnovation.com.au)

deliver almost a 40 per cent reduction in the absorbent energy requirement of the pilot plant compared to a standard amine process.

“The participation of significant international and local industry players in our research program recognises the significant contributions to advancing CCS being made in Australia and will also enable the innovative technologies developed here to be commercially adopted as quickly as possible. The commercial success of such technologies would secure Victoria’s - and indeed Australia’s - future economic prosperity by enabling the continuation of low cost power generation while also creating valuable new industries and employment opportunities in the State’s Latrobe Valley,” Dr Gurney said.

CSIRO Executive Director Energy and Resources, Dr. Alex Wonhas, said the project was part of CSIRO’s commitment to developing low emission technologies. “We expect coal will continue to contribute to Australia’s and the global energy mix in the coming decades. It is therefore important that we work with industry to minimise its environmental impacts. CSIRO has a critical role to play in this space,” he said.

IHI Corporation Managing Executive Office of Energy & Plant Operations, Naoya Domoto , said: “IHI is focusing our efforts to solve global environment and energy issues in development of low-emission technologies, such as CCS technology and effective utilisation technology of coal resource including the unused lignite coal. Victoria is the focal point for leading-edge research in this area, and IHI is pleased to be supporting the advancement of this field through this project, and we hope to expand our business in the fields of energy and environment including further optimisation of efficiency in coal fired power generation facilities as well as development of CO<sub>2</sub> capture technologies.”

BCIA has awarded a total of \$3.65 million in R&D funding for nine R&D projects selected as part of the company’s 2013/14 competitive funding round for low emissions brown coal power generation technologies. At the completion of these projects, the leveraged value of BCIA’s new portfolio of low emissions R&D projects will total nearly \$12 million including research institute, industry and State and Commonwealth Government (via Australian National Low Emissions Coal R&D) contributions.

**More information:**

Mandy Frostick, BCIA Communications, Tel: + 61 419 546 245 Email: [mandy.frostick@messageworks.com.au](mailto:mandy.frostick@messageworks.com.au)

**Print quality images and overlay video footage available** at <http://youtu.be/WBf6hn30waE> and <http://youtu.be/uJ49XHAW7hE> or <https://www.dropbox.com/sh/81wdwqftrgkj5j0/AABdR28j242kB83Nx6JbrQxVa>



**Captions (clockwise):** 1. Monash University PhD-student, Mai Bui, records data from CSIRO's existing post-combustion carbon capture pilot plant located at the AGL Loy Yang brown coal power station in the Latrobe Valley, Victoria  
**2. & 3.** (5656/5658): CSIRO's existing post-combustion carbon capture pilot plant scrubs CO<sub>2</sub> from flue gas at the AGL Loy Yang brown coal power station in the Latrobe Valley, Victoria  
**4.** CSIRO and Monash University researchers working on CSIRO's existing post-combustion carbon capture pilot located at the AGL Loy Yang brown coal power station in the Latrobe Valley, Victoria