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## Media Release

### Research Fellowships to foster groundbreaking research in high-value uses and reduced emissions from brown coal

Brown Coal Innovation Australia (BCIA) today announced the appointment of Australia's 2010 BCIA Research Leader Fellowships. The fellowships are awarded to outstanding researchers of international repute who can provide a significant leadership and mentoring role in building Australia's internationally-competitive research capacity within this key field.

BCIA Chair, Gerry Morvell, said: "The inaugural BCIA Fellowships are world-class research programs that will drive future high-value, low emissions uses for Victoria's unique brown coal resource and the development of technologies to reduce and capture carbon dioxide emissions from brown coal electricity generation.

"The Fellowships and research programs supported by BCIA will make a vital contribution to our capacity to tackle environmental challenges associated with the exploitation of brown coal. As such, the research supported by BCIA will advance Australia's research standing in this important field and help to ensure the nation's future prosperity," Mr Morvell said.

The two scientists awarded BCIA Research Leader Fellowships are:

- Dr Klaus Hein, as Professor of Low Emissions Technology, Department of Chemical Engineering, Monash University and Research and Development Manager, HRL Technology Pty Ltd
- Dr Alan Chaffee, as Professor and BCIA Research Leader, School of Chemistry, Monash University.

Professor Hein is a European leader in the science and technology of lignite for power generation and consults widely to industry in Europe, United States, China, Japan and Australia. His BCIA Research Leader Fellowship is Australia's first joint industry-university professorial appointment in brown coal related technology.

Professor Chaffee has worked across Australia's three major research sectors - government, industry and academia. His previous work has fostered cross-disciplinary collaborations and broad research interests focused on fundamental and applied chemistry of hydrocarbon fuels.

Mr Morvell said: "The BCIA Research Leaders recognise the strategic significance of Victoria's vast brown coal resource. We are delighted that the combined focus of Professor Hein's and Professor Chaffee's research programs seeks to secure low emissions brown coal power supplies and identify new high-value uses for brown coal that may displace materials currently based on expensive petroleum products."

Professor Hein's research program will focus on advanced technologies for coal preparation, power generation cycles and the development of new products from brown coal. It will also strengthen the linkages and complementary research capabilities of Monash University with HRL Technology's applied research, project development and industrial experience and contribute to the development of brown coal research capability at the University's Gippsland campus.

The program seeks to enhance Victoria's low emissions coal technology skill base through research and development, education, mentoring and industrial and international collaboration. A key outcome will be the training of young graduate engineers and scientists in the fundamentals of brown coal utilisation.

Mr Morvell said: "Professor Hein's vast experience will be invaluable in mentoring and developing young researchers in the field and will also provide them with high level linkages to European and international research and development."

Professor Chaffee's research interests also include processing and hydrocarbon fuel usage and the recovery and use of associated carbon dioxide emissions. His BCIA Fellowship research program will seek to understand and overcome the spontaneous combustion of brown coal which currently limits the development of new low emissions products.

His program will also focus on new routes for the conversion of brown coal into high-value products with the potential for such products to displace materials currently based on expensive petroleum products. An emphasis of the research program will be conversion routes that offer improved environmental outcomes including reduced energy consumption and the recovery or utilisation of associated carbon dioxide emissions.

Mr Morvell said: "Professor Chaffee's research offers significant potential economic benefits to the Victorian community through the development of new high-value brown coal products, such as plastics and light weight building materials. These products have the potential to attract new industries to local communities which are dependent on the exploitation of brown coal."

BCIA will provide an initial research and development funding contribution of up to \$1 million, over four years, to support each of the BCIA Research Leaders and their research programs. Monash University and HRL Technology Pty Ltd will provide approximately \$3.3 million in direct and indirect support over the duration of Professor Hein's Fellowship program and the University will provide a further \$3.2 million in direct and indirect support over the duration of Professor Chaffee's Fellowship program.

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## Background Information

### About BCIA

Brown Coal Innovation Australia (BCIA) will progress new brown coal innovation and emissions reduction research and development initiatives and will serve as a focal point for programs and projects underway.

BCIA is an independent company, established late this year, with a mandate to co-invest with stakeholders in skills development, research and development of new brown coal technologies and the adaptation of existing low-emissions technologies to Victoria's unique brown coal resource.

BCIA's funding agreement with the Victorian Government provides for multi-million dollar research and development investment in key activities in the brown coal innovation value-chain, spanning from mine-mouth to the capture of greenhouse emissions.

### BCIA Research Leaders

Professor Hein is Professor Emeritus at the University of Stuttgart and the recipient of many prestigious prizes and awards throughout a distinguished career spanning both industry and academia. His career includes previous appointments as Head of Research and Development, RWE Power Company; Dean Faculty of Energy Technology, University of Stuttgart; Vice-President for Research, University of Stuttgart and more recently Acting Director, Institute of Combustion Technology, University of Stuttgart.

Professor Hein has held visiting Professorships in leading international universities, served on visiting expert delegations, delivered more than 20 keynote addresses and organised and taught in various training courses related to brown coal and power generation. He has produced over 300 research publications.

Professor Chaffee has worked in the three major research sectors in Australia – government (CSIRO), private industry (BHP) and academia (Monash University since 1998). His PhD was on brown coal structure and he was first appointed to Monash as CRC Lecturer in Coal Science. Prior to being awarded the BCIA Research Leader Fellowship, he was Associate Professor and Associate Head (Teaching) in the School of Chemistry at Monash University.

Several international and local collaborations will be part of Professor Chaffee's research program including University of Kyoto; University of Kyushu; Kyushu Electric Power Company; Nippon Steel; Mast Carbon International (UK); Pennsylvania State University; University of Dortmund; HRL Technology Pty Ltd; AusChar Pty Ltd; CSIRO; Monash Centre for Electron Microscopy; Australian Synchrotron; RMIT University; and, at Monash University, the Department of Chemical Engineering, Centre for Green Chemistry and School of Applied Science and Engineering (Churchill).