



Independent Expert Scientific Committee
on Coal Seam Gas and Large Coal Mining Development

fact sheet

Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC)

What does the IESC do?

The IESC provides independent, expert, scientific advice to the Australian and state government regulators on the potential impacts of coal seam gas and large coal mining proposals on water resources.

The IESC's advice ensures that decisions by environmental regulators on coal resource development proposals are informed by the best available science.

At the request of a relevant state government Minister with the written agreement of the Australian Government Environment Minister, the IESC can also provide advice on proposals other than large coal mining and coal seam gas developments.

The IESC has provided over 150 pieces of independent scientific advice on development proposals.

The IESC also provides advice to the Australian Government on other actions it is taking, including bioregional assessments and research, to improve the understanding of water-related impacts of coal resource development.

How was the IESC formed?

The IESC was established in November 2012 by the Australian Government under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

The legislation requires the Commonwealth Environment Minister to seek the advice of the IESC on coal seam gas and large coal mining developments.

Where applicable, state governments are also required to request advice from the IESC for coal seam gas or large coal mining developments that are likely to have a significant impact on water resources.

What is the expertise of the IESC?

Members of the IESC possess extensive scientific qualifications and expertise in the fields of hydrogeology, hydrology, ecology, geology and ecotoxicology.

Members are appointed by the Australian Government Minister with responsibility for the Environment.

What role does the IESC have in approving projects?

The IESC is not responsible for making decisions regarding whether or not to approve coal seam gas or large coal mining development proposals. This continues to be the role of the relevant state and/or Australian government environmental regulator.

Scientific advice sought from the IESC is considered during the decision-making process. The IESC's advice helps increase transparency and strengthens the scientific basis of regulatory decisions. The IESC publishes its advice on its website within ten business days of providing it to the regulator.

More Information

Further information about the IESC, its activities, including advice on development proposals, visit our website:

<http://www.iesc.gov.au/>

This initiative is funded by the Australian Government.

www.iesc.gov.au



Dr Chris Pigram AM FTSE – Chair

Dr Pigram is a geologist with over 40 years' experience and is a leader in research and management of minerals, marine and petroleum geoscience programs, and geospatial and earth monitoring. Dr Pigram was formerly the CEO of Geoscience Australia, where he held the role for seven

years. Consequently, he has extensive experience in managing the interface between science and government and in stakeholder engagement.



Professor Rory Nathan – Hydrology

Professor Nathan has over 35 years' experience in engineering and environmental hydrology and is currently Professor of Hydrology and Water Resources at the University of Melbourne. He has made a substantial contribution to industry best-practice in a range of

engineering and environmental fields, particularly in the characterisation of hydrologic risk, the assessment of hydrologic impacts, and hydrologic model development and application.



Dr Andrew Boulton – Ecology

Dr Boulton's research spans river and groundwater ecology, especially in semi-arid areas, with 4 books and over 130 peer-reviewed articles. He has been on international and national panels to assess riparian zone policies, environmental flows, groundwater-dependent ecosystems and

biodiversity of intermittent rivers. Dr Boulton is Adjunct Professor in Ecosystem Management at the University of New England and has held academic positions at other national and international universities.



Professor Wendy Timms – Geology and Hydrogeology

Professor Timms has extensive geology, hydrogeology and engineering expertise with over 25 years of professional experience. In 2020 she was the Distinguished Lecturer for the National

Centre for Groundwater Research and Training, on Digg'n deeper – the state of mining hydrogeology. She has engineering project and research experience at coal, gas, uranium, metals and potash sites in Australia, Asia and Canada. Wendy is Professor of Environmental Engineering at Deakin University, teaching geology for geotechnical engineering and leading research in geological carbon sequestration, water tracer technology, and groundwater hydrology. She has published over 200 technical reports and more than 50 peer reviewed journal papers and until recently, served as Vice-President of International Association of Hydrogeologists.



Dr Jenny Stauber – Ecotoxicology

Dr Stauber has 40 years of research experience in the fields of ecotoxicology, water quality, contaminant environmental risk assessment and human toxicology. She serves as an expert ecotoxicologist on a wide range of advisory panels for national and international agencies. Dr Stauber is

currently a Chief Research Scientist in CSIRO Land and Water. She is a Fellow of the Australian Academy of Technology and Engineering and a Fellow of the Australian Academy of Science.



Associate Professor Phil Hayes – Hydrogeology

Associate Professor Hayes is a geoscientist, hydrogeologist and groundwater modeller with over 25 years' experience in Australia, the UK and South America. He has worked across sectors from water resource

management and groundwater protection to impact prediction and mitigation for mining, oil and gas, contaminated land, infrastructure, and nuclear waste. He is Associate Professor of Water Resources at the University of Queensland, leading research at the interface between reservoir engineering and hydrogeology, and in groundwater modelling uncertainty analysis.



Professor Jenny Davis – Ecology

Professor Davis has expertise in freshwater biodiversity and wetland conservation with more than 200 published papers and reports. She was awarded the Limnology Medal for excellence in freshwater research in 2006. Professor Davis co-chairs the Wetlands Working Group of the

International Association for Ecology (INTECOL). She is a member of the Research Institute for Environment and Livelihoods at Charles Darwin University.



Dr Juliette Woods – Hydrogeology

Dr Woods has worked in hydrogeology for 26 years, specialising in groundwater modelling, often investigating the interconnections between groundwater, hydrology and ecology. She currently leads a groundwater modelling team within the South Australian government and has

previously worked in academia and industry, fostering knowledge transfer across these sectors. Dr Woods's recent research explores interactions between surface water, groundwater, and vegetation in saline floodplains.