



14 December 2020

Companies Announcements Office
ASX Limited
10th Floor, 20 Bridge Street
SYDNEY NSW 2000

Advent Energy appoints eminent Scientist

Professor Peter J Cook CBE FTSE

BPH Energy Ltd investee Advent Energy Ltd is pleased to announce the appointment of Professor Peter Cook as an advisor on geosequestration (the geological storage of carbon dioxide) for its project in the Offshore Sydney Basin.

Professor Peter Cook is an eminent Australian and international earth scientist. He is a leader in the development and application of carbon capture and storage (CCS) technologies and has published more than 30 papers and articles on greenhouse gas technologies, including the books "*Clean Energy Climate and Carbon*" and "*Geologically Storing Carbon*" and was an IPCC Co-ordinating Lead Author. He first drew attention to Australia's CCS opportunity more than 20 years ago, then going on to establish national CCS programs and research facilities through the Petroleum CRC and the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC). In 2011, the University of Melbourne established the Peter Cook Centre for CCS Research.

Professor Cook has received a number of Australian and international awards and honours in recognition of his contribution to science and is a Fellow of the Academy of Technological Sciences and Engineering. He has held academic and research positions in the UK, Australia, France and the USA and senior executive and CEO positions at the Bureau of Mineral Resources (now GA), the British Geological Survey, and two Cooperative Research Centres. He has provided advice to industry and Governments on CCS and chaired major reviews of unconventional gas. Currently he is a Professorial Fellow at the University of Melbourne, CO2CRC Distinguished Scientist, a member of Advisory Boards, and a Consultant to Companies and Governments.

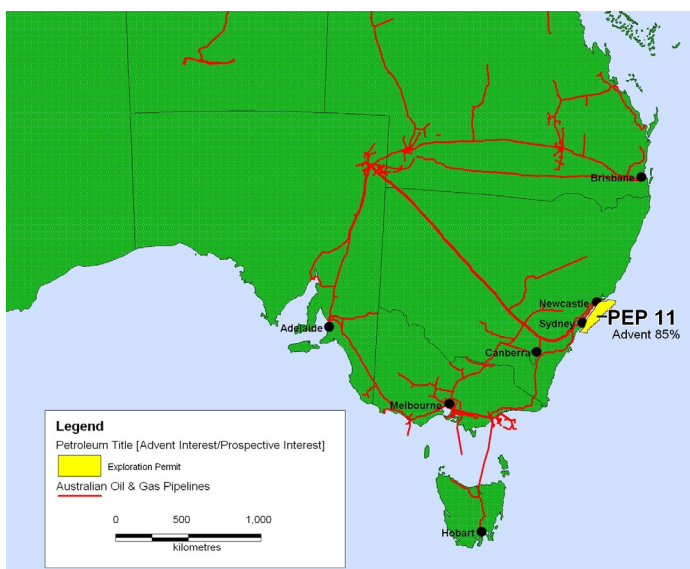
The Baleen well program in PEP11 (Offshore Sydney Basin) offers potential environmental benefits in carbon capture and storage (carbon reduction) for the greater Sydney/Newcastle area.

Key points

The Offshore Sydney Basin offers the potential opportunity for NSW to make deep cuts in its CO₂ emissions through CCS -Carbon Capture and Storage (geosequestration of CO₂ emissions)

- CCS is part of a suite of solutions with the potential to mitigate greenhouse gas emissions and help address climate change
- The International Energy Agency and the Intergovernmental Panel on Climate Change believe that CCS will play an essential role in helping to meet global emission reduction targets¹

- NSW is a major source of CO₂ emissions, but to date a suitable site has not been identified in the State for large scale geological storage of CO₂
- Independent published research suggests large scale CO₂ storage may be feasible in parts of the offshore Sydney Basin²
- The Sydney Basin is a major contributor to Australia's greenhouse gas emissions² and contains the largest number of stationary CO₂ emission sources in Australia including oil refineries, coke ovens and power stations. Previously published research has informed that eleven major stationary sources of anthropogenic CO₂ within the Sydney Basin alone contribute 34% of the total national emissions³
- Research by CO2CRC and Geoscience Australia has confirmed emissions projections solely from stationary sources will be in the order of 705 Billion cubic metres or 24.9 TCF of CO₂ over the next twenty-years unless major steps are taken to mitigate those emissions.²
- In Victoria, the Carbonnet Project aims to inject and geologically store CO₂ from multiple onshore sources, into offshore storage sites in Bass Strait
- Advent Energy will investigate the potential for a similar large scale geological storage project for New South Wales through offshore Sydney Basin drilling, which will provide real data on the available storage capacity
- The offshore Sydney Basin Baleen drill test will investigate the potential future storage capacity for CO₂ emissions
- Implementation of CO₂ capture and geological storage (CCGS) technology at the scale needed to achieve a significant and meaningful reduction in CO₂ emissions requires knowledge of the available CO₂ storage capacity⁴
- BPH Energy investee Advent Energy is proposing with its Joint Venture Partner Bounty Oil and Gas NL (ASX:BUY) to use the gas exploration drilling program at Baleen to investigate as a secondary objective the potential for geosequestration of CO₂ emissions)
- Rising concerns over climate change and the commitment by the NSW Government to achieving net zero by 2050 will place increasing emphasis on CCS as a mitigation option for large scale industrial sources of CO₂ which in turn will benefit the CCS market over the forecast period⁴



Location of Block PEP 11 offshore Australia (above) and location of Baleen well site (DM below)

About Advent Energy Advent Energy Ltd is an unlisted oil and gas exploration company held by major shareholders), BPH Energy (ASX: BPH), Grandbridge and MEC Resources (ASX: MMR) BPH has an interest of 22.7 % in Advent Energy Ltd. Bounty Oil and Gas NL holds an interest in PEP11 (ASX: BUY). Advent holds an 85% interest in the PEP11 permit

- (1) <https://earthresources.vic.gov.au/projects/carbonnet-project>
- (2) New South Wales-Deep Saline Aquifer Storage Potential /Geoscience Australia.Co2CRC Research Report Patchett. A. and Langford .R. 2005
- (3) The potential for geological sequestration of CO2 in Australia: Preliminary findings and implications for new gas field development Bradshaw.J;Bradshaw.B;AllinsonG;Rigg.A;Nguyen; 2002 (In 2)
- (4) Science Direct_CO2 storage capacity estimation: Bachu.S;Bonijoly.D;;Barruss.R;Holloway.S;Bradshaw.J Mathiassen o
- (5) <https://www.marketwatch.com /carbon-capture-and-sequestration-ccs-market-size -industry-news-2020-09-02>