

Impacts of Coal Seam Gas (Coal Bed Methane) Extraction on Water Resources in Australia

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While extraction of methane from shale gas deposits has been the principal source of the recent expansion of the industry in the United States, in Australia extraction of methane from coal bed methane deposits (termed 'coal seam gas' in Australia) has been the focus to date. The two sources of methane share many of the same characteristics including the potential requirement for hydraulic fracturing. However, as coal seam gas deposits generally occur at shallower depths than shale gas, the potential impacts of extraction on surface and groundwater resources are likely to be of greater concern.

In Australia, an Independent Expert Scientific Committee (IESC) has been established to provide scientific advice to federal and state government regulators on the impact that coal seam gas and large coal mining developments may have on water resources. This advice is provided to enable decisions to be informed by the best available science about the potential water-related impacts associated with these developments. To support this advice, the Australian Government Department of the Environment implemented a program of research termed 'bioregional assessments' to investigate these potential impacts. Further details of the program and results of the analysis can be found at <http://www.bioregionalassessments.gov.au>.

Our research focused on modelling the impacts of coal seam gas development on surface and groundwater resources in three regions of eastern Australia, namely the Clarence-Moreton, Gloucester, and Namoi. This presentation will show key results related to the potential impacts of coal seam gas extraction on both surface and groundwater resources, as well as the ecosystems and assets that are dependent on these resources.