



Investigating the environmental, social and economic impacts of conventional gas development in south east South Australia

South Australian onshore gas research through CSIRO's Gas Industry Social and Environmental Research Alliance.

To better understand the long-term cumulative environmental, social and economic impacts of conventional gas development in the south east, Australia's lead science agency, CSIRO, began a three-year research program in the region in February 2018.

CSIRO's Gas Industry Social and Environmental Research Alliance (GISERA), supported by the State and Australian Governments, has extended the initial round of six projects with four new projects to provide independent information for communities, government and industry. The six original projects are now complete.

Underlying South Australia's South East is part of the Otway Basin, a geological basin which has been subject to onshore gas exploration and production since 1987.

The South Australian Government's Plan for Accelerating Exploration (PACE) has funded new conventional gas exploration in the region.

To help identify South Australian research priorities, a SA Regional Research Advisory Committee (RRAC) was established to approve research proposals on the range of science questions to which the community, government and local industry seek answers. The SA RRAC includes a majority of independent local members.



A conventional gas well near Penola

FAST FACTS

What is GISERA?

GISERA is a collaboration between Australia's lead science agency, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), State Governments and industry.

GISERA was set up in 2011 to undertake publicly-reported independent research into onshore gas regions to better inform communities, governments and policy makers. GISERA aims to ensure the research conducted by CSIRO is informed by, and of benefit to, the broader community and industry.

Is it independent?

CSIRO has built its reputation on providing impartial, integrated research to industry, regulators and the wider community. GISERA's governance model is central to ensuring independence and transparency in the research undertaken by CSIRO.

How much funding has been committed to this region?

Total funding is over \$2.8 million, with contributions from the SA Government (\$1.0 million) the Australian Government (\$1.2 million) and CSIRO (\$670,000).

Will this research be available to the South Australian public?

Absolutely. GISERA's research is publicly available at gisera.csiro.au as well as explanatory fact sheets and videos. GISERA also shares its research through local, regional and national workshops, seminars, conferences and technical briefings.

New and completed research projects in south east South Australia

Research subject area	Project	Outcomes
 <p>Surface and groundwater</p>	<u>Microbial degradation of chemicals and fluids in aquifers of the Limestone Coast, South Australia</u>	NEW Investigate microbial communities in the Tertiary Limestone Aquifer, focusing on sites of agricultural importance near prospective onshore gas activities, and assess microbial degradation potential on chemicals used in onshore gas activities.
	<u>Decision support framework for future groundwater development scenarios in south east South Australia</u>	NEW Develop and test a decision support framework to improve groundwater management in south east South Australia, considering future groundwater use scenarios, climate change and water use by irrigation, forestry, onshore gas and other industries.
	<u>Water contamination: causes, pathways and risks</u>	COMPLETED Achieved a realistic quantification of groundwater contamination risks in gas development areas, providing improved knowledge for regulators, industry and community.
	<u>Groundwater balance in gas development regions of South East SA</u>	COMPLETED Improved understanding of groundwater flow regimes in the Otway Basin to inform decision making and community understanding of licensing and management measures required for optimal water use.
 <p>Social and economic</p>	<u>Microbial degradation of onshore gas-related chemical compounds</u>	COMPLETED Information about which chemical compounds are degraded by microbes living in the soils and subsurface aquifers, and the impact on these microbial communities. This data can be used to assess the health of an ecosystem.
	<u>The role of gas in South Australia</u>	NEW Improve understanding of the role of natural gas in meeting renewable energy, security, emissions and energy pricing goals and define a least-cost technical pathway towards 100 per cent renewable electricity and a hydrogen industry.
	<u>Perspectives on risk to local markets and industries</u>	NEW Assist community understanding and inform policy development that relates to any concerns and potential market impacts on the value of branding, and the possible impacts from conventional gas development.
	<u>Assessing the value of locally produced conventional gas in SA's south east</u>	COMPLETED Knowledge for policy makers and local businesses about the socio-economic value of gas activity for local communities, and an improved capacity to forecast outcomes from industry development.
 <p>Agricultural land management</p>	<u>Community well-being and attitudes to conventional gas</u>	COMPLETED Baseline information about community well-being, perceptions, expectations and resilience for conventional gas development, to improve awareness and knowledge.
	<u>Gas impacts and opportunities on primary industries</u>	COMPLETED Information to assist community understanding and inform policy regarding potential impacts and opportunities from conventional gas development on primary industries.

Dive deeper on the GISERA website
gisera.csiro.au/states/sa

ABOUT CSIRO's GISERA

The Gas Industry Social and Environmental Research Alliance (GISERA) is a collaboration between CSIRO, Commonwealth and state governments and industry established to undertake publicly-reported independent research. The purpose of GISERA is to provide quality assured scientific research and information to communities living in gas development regions focusing on social and environmental topics including: groundwater and surface water, biodiversity, land management, the marine environment, and socio-economic impacts. The governance structure for GISERA is designed to provide for and protect research independence and transparency of research. Visit gisera.csiro.au for more information about GISERA's governance structure, projects and research findings.

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