Australia's National
Science Agency

GISERA | Gas Industry Social and Environmental Research Alliance

CSIRO's GISERA Annual Summary Report

Research investment profile, project progress and communication activities

2024/25

Contents

Cover image: Drone pilot capturing vegetation data over the Beetaloo Sub-region. CSIRO, Australia's national science agency, collected high-resolution vegetation structure data using a UAV-LiDAR system. These detailed datasets were combined with satellite remote sensing to develop a scalable approach for monitoring vegetation condition across the Beetaloo Sub-basin. The project was funded through CSIRO's Gas Industry Social and Environmental Research Alliance. Find out more about this project on the GISERA website. Credit: Shaun Levick.

1 About CSIRO's GISERA

Established in 2011, the CSIRO's Gas Industry Social and Environmental Research Alliance (GISERA) undertakes publicly-reported, peer-reviewed social and environmental research on the impacts and opportunities arising from gas development, nationally.

1.1 Our aims

The purpose of CSIRO's GISERA is to provide high-quality, independent scientific research and information to communities living in gas development regions. The research focuses on environmental and socio-economic topics including:

- Ground and surface waters
- Biodiversity
- Agriculture
- Social and economic impacts
- Health
- Greenhouse gases and air quality
- Land and infrastructure.

1.2 Our objectives

GISERA's primary objectives are to:

- carry out independent research, and improve and extend knowledge of social and environmental impacts and opportunities of onshore gas projects, primarily for the benefit of communities living in gas development regions and the broader public
- inform governments, regulators and policy-makers about key issues regarding policy and legislative frameworks for the gas industry
- improve gas industry operations in regions where exploration and production activities are occurring.

1.3 Our partners

CSIRO's GISERA is a national collaboration and partners with the Australian Government, the Governments of Queensland, the Northern Territory, New South Wales and South Australia.

Members of GISERA now include Australia Pacific LNG Pty Limited, Origin Energy Upstream Holdings Pty Limited, Santos Limited, QGC Pty Limited, Empire Energy Group Limited (now operating as Beetaloo Energy Australia Limited) and Tamboran B2 Pty Ltd.

We also collaborate with universities and research institutes, nationally.

1.4 Governance

The GISERA governance model is central to ensuring independence and transparency in the research undertaken by CSIRO. State and Territory-based Research Advisory Committees are critical to GISERA's values and value proposition. With a majority of members who are not affiliated with the gas industry, the committees oversee and approve all research projects within GISERA, which contributes to further ensure CSIRO's independence. In addition, all GISERA research is carried out by CSIRO scientists, whose methods and outputs are subject to CSIRO's robust peer-review process.

2 Director's summary

This Annual Summary Report of CSIRO's GISERA provides a summary of our research and communication activities and financial performance for the year ended 30 June 2025.

The 2024/25 financial year progressed with 4 new projects approved taking the total number of GISERA projects to 100 and total research investment to $49,637,969[1] over the life of GISERA.

CSIRO ensures all output and activities during the year contribute to GISERA's ongoing credibility through the open and transparent conduct and communication of its research and synthesis activities. All GISERA results and research outputs, including scientific reports, journal papers and supporting communication products (such as fact sheets, story maps, video animations, communiques and online articles) are available to view and download at www.gisera.csiro.au.

2.1 2024/25 at a glance

- 99 CSIRO researchers from 5 business units, across 17 sites throughout Australia delivering science for GISERA
- 41 research project collaborations
- 4 new projects developed, representing a research investment of $1,627,143
- 10 research projects completed
- 13 project reports published
- 148 citations on GISERA-generated scientific publications
- 19,572 website visits and 60,811 page views
- 5,263 video views
- 247 stakeholder engagements
- 10 fact sheets, 2 video-animations, 2 story maps and an online interactive tool developed.
- 19 GISERA website news articles and 1 GISERA e-newsletter (September 2024)
- Variation Agreement executed to extend the term of GISERA Alliance Agreement to 31 December 2026.

[1] This includes CSIRO in-kind contribution.

- Variation Agreement to the Northern Territory Government Funding Agreement executed for an additional $450,000 contribution and to extend the term to 31 December 2026.

2.2 Looking ahead

There are 22 projects currently in progress that will continue into 2025/26 and beyond.

Table 2.1 Research projects across Australia that will continue into 2025/26 and beyond

RESEARCH AREA	PROJECT
Surface and groundwater	• Groundwater modelling and predictive analysis to inform CSG impact assessment, monitoring and management (NSW) • Examination of stygofauna ecosystems of the Beetaloo Sub-basin (NT) • Environmental baseline characterisation of the springs in Hot Springs Valley (NT) • Establishing Baseline Groundwater & Natural Seismicity levels across the northern Perth Basin with Passive Seismic Data (WA) • Understanding controls and constraints of potential microbially induced corrosion in onshore gas wells (QLD) • Sources and mobility of gas in formations below the Walloon Coal Measures (QLD) • Beneficial reuse and disposal options for brine from the Surat and Bowen basins (QLD) • Groundwater connectivity in the eastern extension of the Beetaloo Sub-basin (NT) • Review of potential environmental impacts of shale gas related wastewater disposal options (NT)
Social and economic	• Monitoring community wellbeing and attitudes to CSG in Narrabri (pre-construction phase) (NSW) • Community wellbeing and attitudes to the energy transition in the North Perth Basin (WA) • Pathways for Indigenous socio-economic development in the Beetaloo region (NT)
Greenhouse gases and air quality	• Methane emissions quantification of well drilling to completion processes in Beetaloo sub-basin (NT) • Key controls or contributors to methane emissions from CSG water holding ponds in the Surat Basin (QLD) • Comprehensive survey of methane emissions from Queensland CSG water holding ponds in the Surat Basin (QLD) • Using carbon and hydrogen isotopes to fingerprint sources of methane emissions from the Western Downs Region in the Surat Basin (QLD)
Biodiversity	• Breeding response of focal threatened species to a resource pulse in the Cooper Basin (QLD)
Health	• Exposure assessment of identified chemicals used in CSG activities (QLD) • Analysis of dust near CSG sites to assess potential for respirable crystalline silica (QLD)
Land and infrastructure	• Baseline seismic monitoring of the Canning Basin (WA) • Northern Perth Basin subsurface resources conflicts (WA) • Laboratory Based Evaluation of Cement Degradation Processes in CSG Wells (QLD)

A list of all projects (completed and underway) can be found below in each of the state and territory sections and in the Summary of GISERA Research Projects available online.

3 Consolidated budget

3.1 Consolidated budget across all regions

3.1.1 Contributions and grants

The committed financial contributions received from membership, in-kind, grants, funding agreements, APPEA and other industry contributions (separate from membership) over the life of GISERA is outlined in Table 3.1, and a summary of contributions by group shown in Figure 1.

Table 3.1 Incoming contributions and grants, by contributor, 2011/12-2024/25

GROUP	PAYMENT TYPE	CONTRIBUTOR	TOTAL
Industry	Membership	Australia Pacific LNG	**$10,900,000**
		QGC	**$1,750,000**
		Santos	**$1,500,000**
		AGL	**$287,500**
		Origin Energy	**$1,050,000**
		Pangaea Resources	**$150,000**
		Tamboran	**$225,000**
		Empire Energy	**$75,000**
	Contribution to water project: 'Air, water and soil impacts of hydraulic fracturing: Phase 1'	Australia Pacific LNG	**$245,670**
	Contribution to water project: 'Air, water and soil impacts of hydraulic fracturing: Phase 2'	Australia Pacific LNG	**$1,285,000**
	Contribution via APPEA to GHG project: 'Methane Seepage in the Surat Basin'	Australia Pacific LNG, Santos, Arrow Energy & QGC	**$1,121,707**
Government	Grant	Federal Government	**$18,887,000**
		NSW Government	**$1,500,000**
		SA Government	**$1,000,000**
		QLD Government[2]	**$500,000**
		NT Government	**$1,850,000**
	Contribution to GHG project: 'Baseline measurement and monitoring of methane emissions in the Beetaloo Sub-basin'	NT Government	**$305,297**

[2] QLD Government's grant to go towards the health project 'Potential health impacts from CSG'.

GROUP	PAYMENT TYPE	CONTRIBUTOR	TOTAL
	In-kind contribution to water project: 'Baseline groundwater and seismicity of northern Perth Basin'	Geological Survey of WA (GSWA)	**$638,400**
	In-kind contribution to water project" 'Baseline seismic monitoring of the Canning Basin'	Geological Survey of WA (GSWA)	**$1,154,800**
	In-kind contribution to water project: 'Baseline seismic monitoring of the Canning Basin'	Geoscience Australia (GA)	**$300,000**
CSIRO	In-kind	CSIRO	**$18,057,393**
Other	In-kind contribution to agriculture project: 'Without a Trace'	University of Southern Queensland (USQ)	**$79,990**
	In-kind contribution to water project: 'Characterisation of the Stygofauna and microbial assemblages of the Beetaloo Sub-basin'	Charles Darwin University (CDU)	**$53,858**
TOTAL			**$62,916,615**

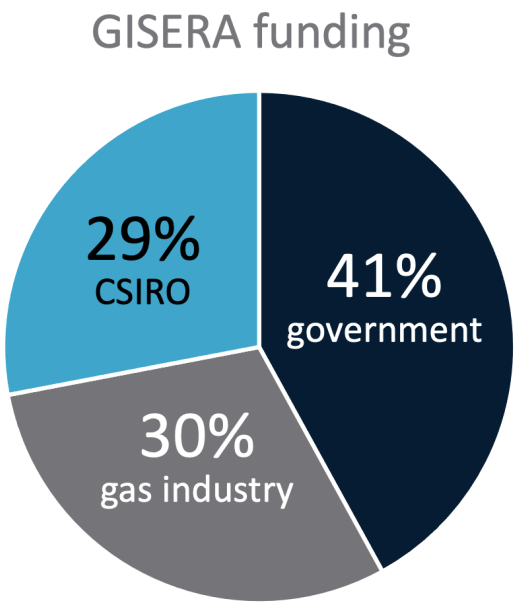

Figure 1 Committed contribution over life of GISERA, by group[3]

[3] The 0.21% contribution from universities has been included in table 3.1 but not included in this pie chart.

3.1.2 Committed Research Investment

The committed budget for projects across all regions for 2011/12-2026/27 now stands at $49,637,969. A breakdown of the committed research budget for the various research subject areas, and each state and territory are provided in Tables 3.2 and 3.3, respectively.

Table 3.2 Committed research investment across all regions, by research subject area, 2011/12-2026/27

RESEARCH SUBJECT AREA	TOTAL RESEARCH INVESTMENT
Surface and groundwater (43.8%)	**$21,754,973**
Biodiversity (12.2%)	**$6,037,092**
Greenhouse gases and air quality (12.1%)	**$6,012,717**
Social and economic impacts (11.3%)	**$5,635,660**
Land and infrastructure (8.4%)	**$4,150,245**
Agriculture (7%)	**$3,475,390**
Health (5.2%)	**$2,571,892**
Total	**$49,637,969**[4]

Table 3.3 Committed research investment by state/territory, 2011/12-2026/27

STATE / TERRITORY	TOTAL RESEARCH INVESTMENT
Queensland (53%)	**$26,312,586**
Northern Territory (19%)	**$9,417,438**
New South Wales (14.2%)	**$7,060,022**
Western Australia (8.4%)	**$4,177,653**
South Australia (5.4%)	**$2,670,270**
Total	**$49,637,969**

[4] These figures do not include funds for the GISERA Director's office and communications.

3.2 Research projects by region

GISERA's integrated research program and regional focus ensures that its research identifies cumulative impacts from onshore gas developments and informs coordinated responses across industry, community and government. A full Summary of GISERA Research Projects is available online.

Figure 2 shows the total number of research projects[5] in each state and territory over the life of GISERA.

Figure 2 Number of research projects in each active state and territory

[5] GISERA's research portfolio comprises a total of 100 projects, which includes a jointly funded QLD and NSW project. The figures presented in this map account for this project in both states.

4 Queensland

4.1 QLD research activities

4.1.1 New Projects

The Queensland Research Advisory Committee met in April 2025, resulting in:

- Approval of land and infrastructure project titled 'Cement degradation processes in coal seam gas wells in Queensland'. This project will investigate the potential for cement degradation and their processes in CSG wells in the Surat Basin under conditions (pressure, temperature, groundwater chemistry) typically encountered in this region. The project will be laboratory based, using ageing and accelerated ageing experiments to evaluate the extent of potential cement degradation. Cement samples will be exposed to groundwater with compositions found in CSG fields at the pressures and temperatures representative of reservoir conditions for an extended period.
- Stage gate / decision point approval for existing project 'Sources and mobility of gas in formations below the Walloon Coal Measures' to proceed with stage two of the project which involves numerically modelling the petroleum system of the Bowen-Surat basin and examining the gas mobility in water bores that abstract water from the Hutton and Precipice sandstones and the impact of CSG extraction from the overlying Walloon Coal Measures.

Out of session the Queensland Research Advisory Committee approved:

- a variation to existing project 'Identifying drought refuges for terrestrial species in the Cooper Basin' to take advantage of recent major flooding in the Cooper Basin and capture information on important breeding sites of threatened or otherwise significant birds species. Revised project title 'Breeding response of focal threatened species to a resource pulse in the Cooper Basin'.

4.1.2 Completed Projects in 2024/25

Three projects were completed during this reporting period:

- 'Cooper Creek flood modelling scenarios'
- 'Community wellbeing and attitudes to CSG development - 2014 to 2024 - Survey 4'
- 'Evaluating medium-term socio-economic impacts of onshore gas activity in Southern Queensland'

Of the 47 projects in Queensland, 37 are complete and ten will continue in 2025/26 and beyond.

4.2 QLD investment profile

4.2.1 Committed research investment for 2011/12-2026/27

The committed budget for projects in Queensland for 2011/12-2026/27 now stands at $26,312,586. A breakdown of the committed research budget across the various research subject areas is provided in Table 4.1 and Table 4.2 shows the investment committed by contributor.

Table 4.1 Committed research investment in Queensland by research subject area, 2011/12-2026/27

TOPIC	TOTAL RESEARCH INVESTMENT
Surface and groundwater (35%)	**$9,261,169**
Biodiversity (17%)	**$4,460,909**
Greenhouse gases and air quality (16%)	**$4,137,490**
Agriculture (10%)	**$2,809,166**
Social & economic (10%)	**$2,606,884**
Health (9%)	**$2,299,368**
Land and infrastructure (3%)	**$737,600**
Total	**$26,312,586**

Table 4.2 Committed research investment in Queensland by contributor, 2011/12-2026/27

CONTRIBUTOR	CONTRIBUTION TYPE	TOTAL RESEARCH CONTRIBUTION
Australia Pacific LNG (43.4%)	GISERA Membership	**$9,618,001**
	Contribution via APPEA to GHG project 'Methane Seepage in Surat Basin'	**$280,427**
	Contribution to water project 'Air, water and soil impacts of HF: Phase 1'	**$245,670**
	Contribution to water project 'Air, water and soil impacts of HF: Phase 2'	**$1,285,000**
QGC (6.7%)	GISERA Membership	**$1,496,870**
	Contribution via APPEA to GHG project 'Methane Seepage in Surat Basin'	**$280,427**
Santos (1.1%)	Contribution via APPEA to GHG project 'Methane Seepage in Surat Basin'	**$280,427**
Arrow Energy (1.1%)	Contribution via APPEA to GHG project 'Methane Seepage in Surat Basin'	**$280,427**
Origin (1.5%)	GISERA Membership	**$384,668**
Federal Govt (16%)	Grant	**$4,210,524**
Qld Govt (1.9%)	Grant	**$500,000**
CSIRO (28%)	In-kind	**$7,370,155**
USQ (0.3%)	In-kind contribution to agriculture project 'Without a Trace'	**$79,990**
Total		**$26,312,586**

4.2.2 Queensland Research Progress and Expenditure

The committed Queensland research budget, expenditure and milestones completed for each project is provided in Table 4.3 (* = project complete).

Table 4.3 Committed research investment, expenditure and progress in Queensland, by project

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[6]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Surface and groundwater	Geochemical response to re injection*	$1,061,242	$1,126,356	106%	100%
	Re-injection of CSG water*	$1,039,989	$1,085,085	104%	100%
	High performance groundwater modelling*	$928,215	$1,024,173	110%	100%
Surface and groundwater	Isotope and geochemical groundwater baseline study*	$667,053	$709,848	106%	100%
	Hydrocarbons in groundwater, Surat and Bowen basins*	$257,694	$568,722	221%	100%
	Constraining water flows in the Surat Basin*	$588,957	$732,651	124%	100%
	Groundwater contamination risk assessment*	$290,624[7]	$293,542	101%	100%
	Air, water and soil impacts of hydraulic fracturing (Phase 1)*	$330,795[8]	$351,433	106%	100%
	Air, water and soil impacts of hydraulic fracturing (Phase 2)*	$2,111,055[9]	$2,153,095	102%	100%
	Cooper Creek flood modelling scenarios*	$503,797	$527,900	105%	100%
	Microbial activity in the subsurface	$365,332	$182,831	50%	40%
	Sources and mobility of gas in formations below the Walloon Coal Measures	$857,550	$547,953	64%	45%
	Beneficial reuse and disposal options for brine in Queensland	$447,770	$204,431	46%	40%
Social and economic	Monitoring regional transition*	$376,088	$404,084	107%	100%
	Community functioning and well-being - survey 1*	$417,438	$457,314	110%	100%
	Economic assessment and forecasting project*	$296,508	$299,971	101%	100%

[6] Any expenditure exceeding 100% represents an additional CSIRO contribution.

[7] This is a jointly funded QLD and NSW project. The figures presented in this table are for 'total project costs' and not split by region.

[8] This includes $245,670 contribution from APLNG (separate from membership).

[9] This includes $1,285,000 contribution from APLNG (separate from membership).

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[6]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
	Understanding community aspirations*	$342,692	$341,821	100%	100%
	Community function and well-being survey 2*	$180,479	$190,269	105%	100%
	Trends in community wellbeing and attitudes to CSG development – Survey 3*	$240,474	$243,795	101%	100%
	Community wellbeing and attitudes to CSG development - 2014 to 2024 - Survey 4*	$462,426	$471,419	102%	100%
	Evaluating medium-term socio-economic impacts of onshore gas activity in Southern Queensland*	$290,779	$290,789	100%	100%
Greenhouse gases and air quality	Methane seepage in the Surat Basin*	$2,015,937[10]	$2,293,692	114%	100%
	Greenhouse gas emission assessment of the Surat Basin Gas Reserve*	$241,708	$318,256	132%	100%
	Ambient air quality in the Surat Basin*	$541,771	$605,517	112%	100%
	Methane contributions from holding ponds (Phase 1)	$112,504	$112,504	100%	100%
	Key controls or contributors to methane emissions from CSG water holding ponds in the Surat Basin, Queensland (Phase 2)	$419,771	$296,349	71%	35%
	Methane emissions from Queensland CSG water holding ponds in the Surat Basin (Phase 2)	$325,411	$205,015	63%	35%
	Sources of methane emissions from the Western Downs Region	$480,388	$309,232	64%	40%
Agriculture	Preserving agricultural productivity*	$547,756	$538,532	98%	100%
	Shared space*	$140,445	$138,805	99%	100%
	Gas farm design*	$651,329	$626,057	96%	100%
	Making tracks, treading carefully*	$564,089	$578,197	103%	100%
	Without a trace*	$339,990[11]	$339,990	100%	100%
	Telling the story*	$332,224	$329,234	99%	100%
	CSG & livestock – Inside the herd*	$233,333	$239,628	103%	100%

[10] This includes $1,121,707 combined contribution from APLNG, QGC, Santos and Arrow (separate from membership).

[11] This includes $79,990 in-kind contribution from USQ.

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[6]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Biodiversity	Priority threat identification, management and appraisal*	$945,400	$995,144	105%	100%
	Fire ecology of grassy woodlands*	$789,042	$840,016	106%	100%
	Habitat selection by two focal species*	$167,432	$204,990	122%	100%
	Ensuring biodiversity offset success: the right kind of seed for a rare daisy*	$198,055	$225,232	114%	100%
	Guidelines for offset population sizes*	$198,630	$200,326	101%	100%
	Sustaining turtles & their homes *	$1,693,199	$1,802,905	106%	100%
Biodiversity	Breeding response of focal threatened species to a resource pulse in the Cooper Basin	$469,152	$50,927	11%	30%
Health	Potential health impacts from CSG*	$1,124,423	$1,128,787	100%	100%
	Exposure assessment of identified chemicals used in CSG activities	$597,742	$597,906	100%	80%
	Analysis of dust near CSG sites to assess potential for respirable crystalline silica	$577,203	$604,061	105%	60%
Land and infrastructure	Review of cements, steels and microbial activity for Qld CSG wells*	$375,693	$379,894	101%	100%
	Cement degradation processes in CSG wells in Queensland	$361,907	$3,165	1%	0%
TOTAL ALLOCATED BUDGET		**$26,312,586**			

**These projects are complete, and their reports are available at www.gisera.csiro.au .*

5 New South Wales

5.1 NSW research activities

5.1.1 New Projects

There were no new projects approved in New South Wales in 2024/25.

5.1.2 Completed Projects in 2024/25

Four projects were completed during this reporting period:

- 'Review of beneficial reuse or end-use options for brine from the Narrabri Gas Project region'
- 'Microbial communities and their ability to degrade prospective chemicals used in CSG activities'
- 'Geochemical modelling and geophysical surveys to refine understanding of connectivity between coal seams and aquifers'
- 'Remote sensing and threatened species surveys to better understand risks of forest fragmentation from the Narrabri Gas Project'

Of the 17 projects in New South Wales, 15 are complete and two will continue in 2025/26.

5.2 NSW Investment profile

5.2.1 Committed research investment for 2016/17-2025/26

The committed budget for projects in New South Wales for 2016/17-2025/26 now stands at $7,060,022. A breakdown of the committed research budget across the various research subject areas is provided in Table 5.1 and Table 5.2 shows the investment committed by contributor.

Table 5.1 Committed research investment in NSW by research subject area, 2016/17-2025/26

RESEARCH AREA	TOTAL RESEARCH INVESTMENT
Water (64.2%)	**$4,534,145**
Social & economic (18.4%)	**$1,296,738**
Biodiversity (11.3%)	**$801,252**
Health (3.9%)	**$272,524**
Greenhouse gas and air quality (2.2%)	**$155,363**
TOTAL	**$7,060,022**

Table 5.2 Committed research investment in NSW by contributor, 2016/17-2025/26

CONTRIBUTOR	CONTRIBUTION TYPE	TOTAL RESEARCH CONTRIBUTION
Federal Government (55.6%)	Grant	**$3,927,053**
NSW Government (12.9%)	Grant	**$908,143**
CSIRO (23.9%)	In-kind	**$1,688,460**
Santos (4.5%)	GISERA Membership	**$315,229**
AGL (3.1%)	GISERA Membership	**$221,137**
TOTAL		**$7,060,022**

5.2.2 NSW Research Progress and Expenditure

The committed New South Wales research budget, expenditure and milestones completed for each project is provided in Table 5.3 (* = project complete).

Table 5.3 Committed research investment, expenditure and progress in NSW, by project

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[12]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Surface and groundwater	Impacts of CSG depressurization on Great Artesian Basin flux*	$429,859	$429,859	100%	100%
	Spatial design of groundwater monitoring network in the Narrabri Gas Project area*	$216,218	$217,613	101%	100%
	Improving groundwater models to better represent CSG extraction impacts in the Namoi region*	$301,295	$301,834	100%	100%
	Groundwater contamination risk assessment*	$290,624[13]	$293,542	101%	100%
	Assessment of faults as potential connectivity pathways*	$234,930	$235,462	100%	100%
	Microbial communities and their ability to degrade prospective chemicals used in CSG activities*	$545,271	$545,452	100%	100%
	Geochemical modelling and geophysical surveys to refine understanding of connectivity between coal seams and aquifers*	$1,100,521	$1,104,339	100%	100%
	Groundwater modelling and predictive analysis to inform CSG impact assessment, monitoring and management	$1,194,385	$972,949	81%	65%

[12] Any expenditure exceeding 100% represents an additional CSIRO contribution.

[13] This is a jointly funded QLD and NSW project. The figures presented in this table are for 'total project' and not split by region.

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[12]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Surface and groundwater	Review of beneficial reuse or end-use options for brine from the Narrabri Gas Project region*	$322,760	$324,534	101%	100%
Social and economic	Analysing economic and demographic trajectories in NSW regions experiencing CSG development and operations*	$103,697	$103,694	100%	100%
	Social baseline assessment of the Narrabri region of NSW in relation to CSG development*	$272,292	$320,467	118%	100%
	Decommissioning CSG wells*	$298,876	$299,012	100%	100%
	Assessing and projecting onshore gas effects on regional economic activity*	$258,883	$258,882	100%	100%
	Monitoring community wellbeing and attitudes to CSG in Narrabri (pre-construction phase)	$362,991	$162,795	45%	60%
Greenhouse gases and air quality	Regional Methane Emissions in NSW CSG Basins*	$155,363	$155,363	100%	100%
Biodiversity	Remote sensing and threatened species surveys to better understand risks of forest fragmentation from the Narrabri Gas Project	$801,252	$813,900	102%	100%
Health	Potential human health effects of coal seam gas (study framework)*	$272,524	$317,002	116%	100%
TOTAL ALLOCATED BUDGET		**$7,060,022**			

**These projects are complete, and their reports are available at www.gisera.csiro.au*

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6 Northern Territory

6.1 NT research activities

6.1.1 New projects

The Northern Territory Research Advisory Committee met in March 2025, resulting in:

- Approval of surface and groundwater project titled Groundwater connectivity in the eastern extension of the Beetaloo Sub-basin'. This project will investigate potential connectivity of groundwater systems between the Cambrian Limestone Aquifer and the surface in the eastern extension of the Beetaloo Sub-basin. The project will collect new baseline environmental data to better characterise groundwater flow processes governing inter aquifer-aquitard connectivity and groundwater–surface water connectivity in this area and provide new information to underpin future decision making on water and energy resource planning, investment and management.

The Northern Territory Research Advisory Committee met again in April 2025, resulting in:

- Approval of surface and groundwater project titled 'Review of potential environmental impacts of shale gas related wastewater disposal options'. This is project will assess wastewater management and treatment options, including associated waste disposal requirements, and their potential for environmental harm. The project's focus will be on wastewater derived from drilling, hydraulic fracturing and flowback activities associated with shale gas development. Wastewater from other industries will also be considered to provide additional context.
- Approval of socio-economic project titled 'Pathways for Indigenous socio-economic development in the Beetaloo region of the NT'. This project will explore how economic opportunities from shale gas and other projects (agriculture, renewables, etc) can support the aspirations, values, and priorities of Aboriginal communities.

6.1.2 Completed projects in 2024/25

Three projects were completed during this reporting period:

- 'Background Seismicity of Beetaloo Sub-Basin and Seismic Hazard'
- 'Beetaloo basin shale long-term competency after decommissioning'
- 'UAV–LiDAR and spaceborne remote sensing for site survey and habitat condition monitoring in the Beetaloo'

Of the 21 projects in the Northern Territory, 15 are complete and 6 will continue in 2025/26.

6.2 NT investment profile

6.2.1 Committed research investment for 2018/19 - 2026/27

The committed budget for projects in Northern Territory for 2018/19-2026/27 now stands at $9,417,438. A breakdown of the committed research budget across the various research subject areas is provided in Table 6.1 and Table 6.2 shows the investment committed by contributor.

Table 6.1 Committed research investment in Northern Territory by research subject area, 2018/19-2026/27

RESEARCH AREA	TOTAL RESEARCH INVESTMENT
Surface and Groundwater (55.4%)	**$5,218,566**
Greenhouse gases and air quality (18.3%)	**$1,719,864**
Land and Infrastructure (9.2%)	**$869,371**
Biodiversity (7.7%)	**$723,707**
Agriculture (2.5%)	**$239,828**
Social & economic (6.9%)	**$646,102**
Total	**$9,417,438**

Table 6.2 Committed research investment in Northern Territory by contributor, 2018/19-2026/27

CONTRIBUTOR	CONTRIBUTION TYPE	TOTAL RESEARCH CONTRIBUTION
Federal Government (44.2%)	Grant	**$4,167,163**
NT Government (15.9%)	Grant	**$1,501,130**
CSIRO (21.5%)	In-kind	**$2,028,790**
Santos (9.4%)	GISERA membership	**$883,028**
Origin (4.4%)	GISERA membership	**$409,088**
Tamboran (2%)	GISERA membership	**$188,263**
Pangaea (1.3%)	GISERA membership	**$123,438**
Empire (0.7%)	GISERA membership	**$62,679**
Charles Darwin University (0.6%)	In-kind contribution to water project: 'Characterisation of Stygofauna and microbial assemblages of the Beetaloo Sub-basin'	**$53,858**
Total		**$9,417,438**

6.2.2 Northern Territory research progress and expenditure

The committed Northern Territory research budget, expenditure and milestones completed for each project is provided in Table 6.3 (* = project complete).

Table 6.3 Committed research investment, expenditure and progress in Northern Territory, by project

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT [14]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Surface and Groundwater	Baseline monitoring of groundwater properties in the Beetaloo Sub-basin, NT*	$410,550	$410,550	100%	100%
	Characterisation of the stygofauna and microbial assemblages of the Beetaloo Sub-basin, NT*	$346,890[15]	$346,909	100%	100%
	Improved approaches to long-term monitoring of decommissioned onshore gas wells*	$352,436	$356,346	101%	100%
	Environmental monitoring and microbial degradation of onshore shale gas activity chemicals and fluids*	$291,964	$297,923	102%	100%
	Onshore gas water lifecycle management options framework*	$393,945	$393,945	100%	100%
	Fate of hydraulic fracturing fluids/chemicals and geogenic hydrocarbons in surface facilities and in the subsurface*	$821,200	$826,571	101%	100%
	Examination of stygofauna ecosystems of the Beetaloo Sub-basin	$1,064,155	$1,013,331	95%	85%
	Environmental baseline characterisation of the springs in Hot Springs Valley, NT	$723,983	$484,266	67%	25%
	Groundwater connectivity in the eastern extension of the Beetaloo Sub-basin	$486,929	$19,688	4%	0%
	Review of potential environmental impacts of shale gas related wastewater disposal options	$326,513	$0[16]	0%	0%
Greenhouse gases and air quality	Baseline measurement and monitoring of methane emissions in the Beetaloo Sub-basin*	$305,297	$311,931	102%	100%

[14] Any expenditure exceeding 100% represents an additional CSIRO contribution.

[15] This includes $53,858 in-kind contribution from CDU.

[16] This is a newly approved project. Expenditure will be incurred in 2025/26.

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT [14]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Greenhouse gases and air quality	Mitigating Fugitive Gas Emissions from Well Casings*	$238,249	$239,557	101%	100%
	Offsets for Life cycle Greenhouse Gas Emissions of Onshore Gas in the NT*	$417,884	$430,023	103%	100%
	Methane emissions quantification of well drilling to completion processes in Beetaloo sub-basin	$758,434	$714,220	94%	35%
Agriculture	Putting land management knowledge into practice*	$239,828	$239,828	100%	100%
Biodiversity	Understanding and managing impacts to biodiversity from roads and pipelines in the Beetaloo*	$319,520	$320,685	100%	100%
	UAV–LiDAR and spaceborne remote sensing for site survey and habitat condition monitoring in the Beetaloo*	$404,187	$423,248	105%	100%
Social and Economic	Mapping future transport passages and volumes for improved planning and operation*	$194,308	$194,450	100%	100%
	Pathways for Indigenous socio-economic development in the Beetaloo region of the NT	$451,794	$2,121	0.5%	0%
Land and Infrastructure	Background Seismicity of Beetaloo Sub-Basin and Seismic Hazard*	$451,882	$451,970	100%	100%
	Beetaloo basin shale long-term competency after decommissioning*	$417,489	$417,489	100%	100%
TOTAL ALLOCATED BUDGET		**$9,417,438**			

**These projects are complete, and their reports are available at www.gisera.csiro.au .*

7 Western Australia

7.1 WA research activities

7.1.1 New projects

There were no new projects approved in Western Australia in 2024/25.

7.1.2 Completed Projects in 2024/25

No projects were completed during this reporting period.

There are four projects currently underway, and two projects complete in Western Australia.

7.2 WA investment profile

7.2.1 Committed research investment for 2020/21-2025/26

The committed budget for projects in Western Australia for 2020/21-2025/26 now stands at $4,177,653. A breakdown of the committed research budget across the various research subject areas is provided in Table 7.1 and Table 7.2 shows the investment committed by contributor.

Table 7.1 Committed research investment in Western Australia by research subject area, 2025/26

RESEARCH AREA	TOTAL RESEARCH INVESTMENT
Land and Infrastructure (61%)	**$2,543,274**
Water (30%)	**$1,256,529**
Social & economic (8%)	**$326,626**
Biodiversity (1%)	**$51,224**
Total	**$4,177,653**

Table 7.2 Committed research investment in Western Australia by contributor, 2025/26

CONTRIBUTOR	CONTRIBUTION TYPE	TOTAL RESEARCH CONTRIBUTION
CSIRO (19%)	In-kind	**$802,543**
Federal Government (31%)	Grant	**$1,281,910**
Geological Survey of Western Australia (43%)	In-kind contribution to water project: 'Baseline seismic monitoring of the Canning Basin'	**$1,154,800**
	In-kind contribution to water project: 'Baseline Groundwater and Seismicity of northern Perth Basin'	**$638,400**
Geoscience Australia (7%)	In-kind contribution to water project: 'Baseline seismic monitoring of the Canning Basin'	**$300,000**
Total		**$4,177,653**

7.2.2 Western Australia research progress and expenditure

The committed Western Australia research budget, expenditure and milestones completed for each project is provided in Table 7.3. (* = project complete).

Table 7.3 Committed research investment, expenditure and progress in Western Australia, by project

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[17]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2025		
Surface and Groundwater	Groundwater baseline study of the Canning Basin, Western Australia*	$99,275	$104,338	105%	100%
	Baseline groundwater and seismicity, northern Perth Basin	$1,157,254[18]	$953,815	82%	60%
Social and Economic	Community wellbeing and attitudes to the energy transition in the North Perth Basin	$326,626	$124,750	38%	50%
Biodiversity	Baseline assessment of the biodiversity of the Canning Basin, Western Australia*	$51,224	$51,221	100%	100%
Land and Infrastructure	Baseline seismic monitoring of the Canning Basin, WA	$2,138,181[19]	$2,136,161	100%	80%
	Northern Perth Basin subsurface resources conflicts	$405,093	$363,835	90%	80%
TOTAL ALLOCATED BUDGET		**$4,177,653**			

**These projects are complete, and their reports are available at www.gisera.csiro.au.*

[17] Any expenditure exceeding 100% represents an additional CSIRO contribution.

[18] This includes $638,400 in-kind contribution from GSWA.

[19] This includes $1,154,800 in-kind contribution from GSWA and $300,000 in-kind contribution from GA.

8 South Australia

8.1 SA research activities

8.1.1 New Projects

There were no new projects approved in South Australia in 2024/25.

8.1.2 Completed Projects in 2024/25

There are no projects currently underway with all ten projects now complete in South Australia.

8.2 SA investment profile

8.2.1 Committed research investment for 2018/19 - 2023/24

The committed budget for projects in South Australia for 2018/19-2023/24 now stands at $2,670,270. A breakdown of the committed research budget across the various research subject areas is provided in Table 8.1 and Table 8.2 shows the investment committed by contributor.

Table 8.1 Committed research investment in South Australia by research subject area, 2018/19-2023/24

RESEARCH AREA	TOTAL RESEARCH INESTMENT
Water (56%)	**$1,484,564**
Social & economic (28%)	**$759,310**
Agriculture (16%)	**$426,396**
Total	**$2,670,270**

Table 8.2 Committed research investment in South Australia by contributor, 2018/19-2023/24

CONTRIBUTOR	CONTRIBUTION TYPE	TOTAL RESEARCH CONTRIBUTION
Federal Government (46%)	Grant	**$1,225,787**
SA Government (29%)	Grant	**$782,607**
CSIRO (25%)	In-kind	**$661,876**
Total		**$2,670,270**

8.2.2 South Australia research progress and expenditure

The committed South Australia research budget, expenditure and milestones completed for each project is provided in Table 8.3. (* = project complete).

Table 8.3 Committed research investment, expenditure and progress in South Australia, by project

RESEARCH SUBJECT AREA	PROJECT	ALLOCATED BUDGET	EXPENDITURE	PERCENTAGE OF BUDGET SPENT[20]	PERCENTAGE OF MILESTONES COMPLETED
			UP TO 30 JUNE 2024		
Surface and Groundwater	Onshore gas and water contamination: causes, pathways and risks*	$277,550	$280,170	101%	100%
	Groundwater balance in gas development regions of south east South Australia*	$326,036	$327,994	101%	100%
	Microbial degradation of chemical compounds used in onshore gas production in the south east of South Australia*	$240,604	$244,834	102%	100%
	Microbial degradation of chemicals and fluids in aquifers of the Limestone Coast, SA*	$273,502	$274,329	100%	100%
	Decision support framework for future groundwater development scenarios in the southeast SA*	$366,872	$366,264	100%	100%
Social and Economic	Community wellbeing and attitudes to conventional gas development in the South East of South Australia*	$198,500	$198,606	100%	100%
	Assessing the value of locally produced conventional gas in SA's South East*	$238,480	$238,667	100%	100%
	The role of gas in South Australia*	$322,330	$323,573	100%	100%
Agriculture	Gas impacts and opportunities on primary industries*	$175,133	$178,089	102%	100%
	Perspectives on risk to local markets and industries*	$251,263	$251,263	100%	100%
TOTAL ALLOCATED BUDGET		**$2,670,270**			

**These projects are complete, and their reports are available at www.gisera.csiro.au .*

[20] Any expenditure exceeding 100% represents an additional CSIRO contribution.

9 Management and communication budget

Table 9.1 shows GISERA's actual management and communications expenditure during 2011/12 to 2024/25 financial years and the proposed management and communications budget for 2025/26. Table 9.2 summarises actual and planned partner contributions to management and communications for past and current years.

Table 9.1 Proposed management and communications budget, with actual expenditure for 2011/12-2024/25 and proposed for 2025/26

ITEM	ACTUAL EXPENDITURE		PLANNED EXPENDITURE	TOTAL
	2011/12 - 2023/24	2024/25	2025/26	
Director, Deputy Director and State Leaders (salary & overheads)	$3,656,921	$269,400	$87,460	**$4,013,781**
Communication & Engagement team (salary & overheads)	$3,733,063	$389,868	$158,187	**$4,281,118**
Admin & Executive Officer support (salary & overheads)	$2,742,356	$260,527	$237,005	**$3,239,888**
Contractors	$407,163	$25,186	$0	**$432,349**
Travel & accommodation	$488,935	$17,241	$7,500	**$513,676**
Communication collateral (e.g., factsheets, brochures, infographics, videos & animations)	$203,129	$31,537	$26,000	**$260,666**
Website update (redesign and rebrand)	$22,810	$0	$0	**$22,810**
Conferences	$120,461	$11,661	$0	**$132,122**
Annual Symposium/Stakeholder & RAC meetings	$90,739	$7,470	$2,500	**$100,709**
General Expenses & Annual report	$90,733	$3,183	$2,300	**$96,216**
Public information sessions	$65,803	$8,899	$0	**$74,702**
Media and other training	$29,929	$1,440	$1,500	**$32,869**
Printing	$25,213	$420	$1,000	**$26,633**
Office supplies	$13,605	$126	$200	**$13,931**
Vodcasts	$3,000	$0	$0	**$3,000**
Auditor	$0	$8,300[21]	$0	**$8,300**
TOTAL	**$11,693,861**	**$1,035,257**	**$523,652**	**$13,252,770**

[21] This audit was required under the terms of the Commonwealth Grant Agreement.

Table 9.2 Partner contributions to management and communications, with actual expenditure for 2011/12-2024/25 and proposed for 2025/26

COMMS & MNGT COSTS CONTRIBUTIONS	ACTUAL CONTRIBUTION		PLANNED CONTRIBUTION	TOTAL
	2011/12 - 2023/24	2024/25	2025/26	
CSIRO	$4,649,292	$856,695	$523,652	**$6,029,639**
Federal Govt	$4,074,524	$0	$0	**$4,074,524**
NSW Government	$591,857	$0	$0	**$591,857**
SA Government	$217,392	$0	$0	**$217,392**
NT Government	$171,983	$32,185	$0	**$204,168**
APLNG	$1,162,815	$32,185	$0	**$1,195,000**
Santos	$273,376	$28,367	$0	**$301,744**
QGC	$229,402	$10,728	$0	**$240,130**
Origin	$224,059	$32,185	$0	**$256,243**
AGL	$66,409	$0	$0	**$66,409**
Pangaea	$26,607	$0	$0	**$26,607**
Tamboran	$4,552	$32,185	$0	**$36,736**
Empire	$1,593	$10,728	$0	**$12,321**
TOTAL	**$11,693,861**	**$1,035,257**	**$523,652**	**$13,252,770**

10 Communication

10.1 Overview

CSIRO's GISERA plays an important role in providing trusted information about the challenges and opportunities associated with the onshore gas industry. Communication of CSIRO research conducted through GISERA has occurred using a range of traditional and online media channels to reach wider community audiences.

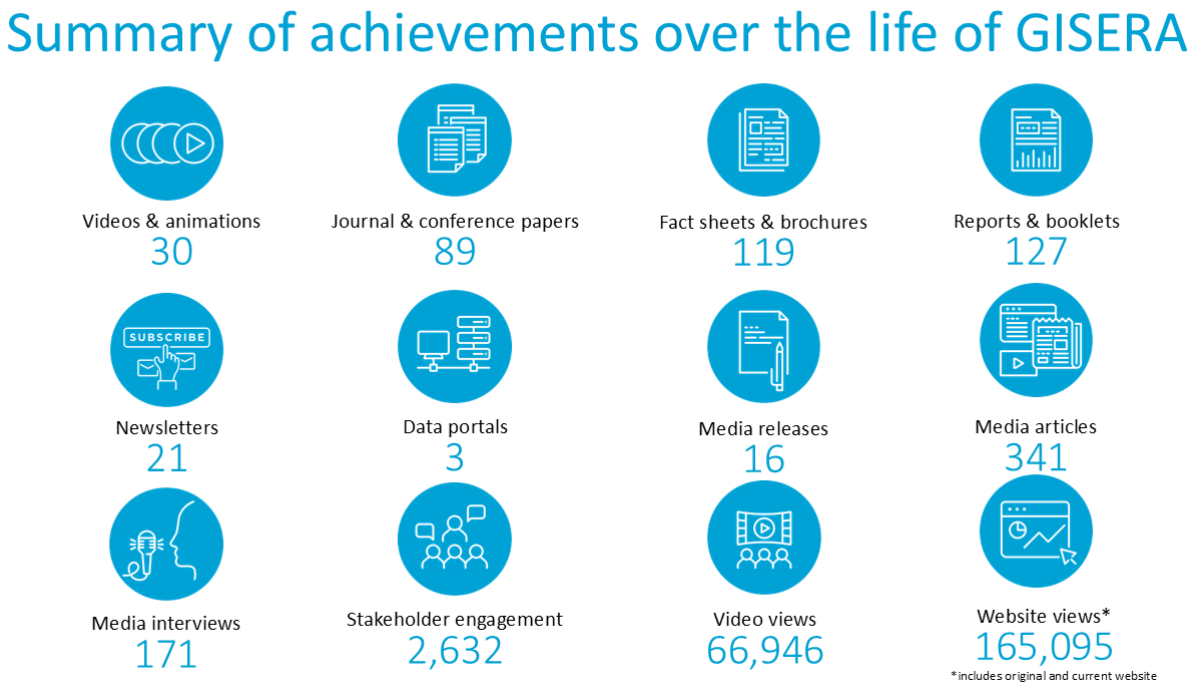

Figure 3 Summary of achievements over life of GISERA

10.2 Communication outputs

A suite of communication methods and channels have been used to ensure effective and meaningful communication of our research outcomes. Table 10.1 shows a range of communication outputs GISERA has achieved in 2024/25.

Table 10.1 Summary of technical and general communication outputs in 2024/25

OUTPUT TYPE	NAME OF COMMUNICATION OUTPUT	STATE / TERRITORY	RELEASE DATE
Article	Establishing baseline groundwater depth and seismicity of the northern Perth Basin	WA	July 2024
Article	Community views under the spotlight in new CSIRO research in Western Australia	WA	July 2024
Final Report	Beneficial reuse or end-use options for brine	NSW	July 2024

OUTPUT TYPE	NAME OF COMMUNICATION OUTPUT	STATE / TERRITORY	RELEASE DATE
Article	CSIRO study seeks to identify drought refuges for terrestrial species in the Cooper Basin[22]	QLD	August 2024
Article	From waste to resource: exploring beneficial reuse options for brine	NSW	August 2024
Article	CSIRO study identifies long-term demographic shifts during onshore gas operations in Queensland	QLD	August 2024
Fact sheet	Beneficial reuse options for brine	NSW	September 2024
Article	Examining sources and mobility of gas in formations below the Walloon Coal Measures, Qld	QLD	September 2024
Article	Cements, steels and microbes: CSIRO study improves community understanding of CSG well construction	QLD	September 2024
Article	Study improves our understanding of the lifecycle of hydraulic fracturing fluids	NT	September 2024
Newsletter	GISERA Newsletter - issue 20	National	September 2024
Presentation	Presentation at the IAH World Groundwater Congress 2024 titled *Integration of 3D geological modelling, geophysics, hydrochemistry and environmental tracers to characterise the hydrodynamics of intrusive and extrusive igneous rocks in eastern Australia*.	International	September 2024
Presentation	Presentation at the International Conference on Emerging Trends in Water Treatment 2024 titled *Beneficial use of brine from coal seam gas mining* on the 'Review of beneficial reuse and end-use options for brine' project	International	September 2024
Presentation	Presentation at the ForestSAT 2024 Conference titled *UAV-LiDAR as a scaling tool for quantifying 3D structure in heterogenous landscapes*	International	September 2024
Interim report	Establishing Baseline Groundwater and Natural Seismicity levels across the Northern Perth Basin with Passive Seismic Data – Interim Report 1	NT	October 2024
Presentation	Two presentations at the International Applied Geochemistry Symposium 2024 titled *Understanding hydrogeological connectivity between Great Artesian Basin aquifers and coal seams: Geochemical and reactive transport modelling approach* and *Isotopic fingerprinting in groundwater and rocks of the Great Artesian Basin, Australia: implications for the identification of source aquifer and hydrogeological connectivity*.	NSW	October 2024

[22] Following publication of this article, a project variation was approved to pivot research focus due to heavy rain and associated flooding in Cooper Basin.

OUTPUT TYPE	NAME OF COMMUNICATION OUTPUT	STATE / TERRITORY	RELEASE DATE
Presentation	Presentation of CSIRO's GISERA southern Queensland research to a diverse group of government and industry stakeholders and researchers from UQ (face-to-face in Brisbane) – to learn about new and recently completed GISERA research projects across the broad topics of health and socio-economic impacts, methane emissions, and gas infrastructure. Ten CSIRO researchers gave short presentations on work that has been based in southern Queensland region.	QLD	November 2024
Journal paper	Strontium isotopes in the atmosphere, geosphere and hydrosphere: Developing a systematic "fingerprinting" framework of rocks and water in sedimentary basins in eastern Australia	QLD	November 2024
Final report	Beetaloo Basin Shale Long-term Competency after Decommissioning	NT	November 2024
Fact sheet	Beetaloo Basin shale: long-term competency after decommissioning	NT	December 2024
Knowledge transfer presentation	Background seismicity in the Beetaloo Sub-basin	NT	December 2024
Knowledge transfer presentation	Examination of stygofauna ecosystems of the Beetaloo Sub-basin	NT	December 2024
Interim report	Baseline Seismicity of Beetaloo Basin - Interim Report 2	NT	December 2024
Fact sheet	Understanding the potential for microbially influenced corrosion in onshore gas wells	QLD	December 2024
Fact sheet	Sources and mobility of gas in formations below the Walloon Coal Measures in Queensland	QLD	December 2024
Fact sheet	Beneficial reuse and disposal options for brine in Queensland	QLD	December 2024
Fact sheet	Identifying drought refuges for terrestrial species in the Cooper Basin[23]	QLD	December 2024
Fact sheet	Local demographic and economic shifts over 20 years of onshore gas operations in Queensland	QLD	December 2024
Knowledge transfer presentation	Understanding connectivity between coal seams and aquifers	NSW	February 2025
Knowledge transfer presentation	Remote sensing and threatened species surveys in the Narrabri Gas Project region	NSW	February 2025

[23] Following publication of this fact sheet, a project variation was approved to pivot research focus due to heavy rain and associated flooding in Cooper Basin.

OUTPUT TYPE	NAME OF COMMUNICATION OUTPUT	STATE / TERRITORY	RELEASE DATE
Presentation	Presentation at the Australasian Agricultural and Resource Economics Society Conference 2025 titled *The Queensland gas boom and local economic experiences*.	QLD	February 2025
Presentation	Presentation at the Queensland Geochronology workshop of findings from three GISERA projects	QLD	February 2025
Final report	Chemical and microbial baseline studies and biodegradation experiments of chemical compounds used in coal seam gas activities in the Narrabri region, NSW	NSW	March 2025
Fact sheet	Petroleum systems modelling – Surat and Bowen basins, Queensland	QLD	April 2025
Knowledge transfer presentation	Community wellbeing and attitudes to CSG development – 2014 to 2024 (Survey 4)	QLD	April 2025
Journal paper	Beyond the initial boom: Energy transitions can improve rural development indicators	QLD	April 2025
Article	New projects	QLD & NT	April 2025
Animation	Kyalla Shale formation in the Beetaloo Sub-basin, NT	NT	May 2025
Final report	Baseline Seismicity of Beetaloo Basin	NT	May 2025
Article	It's quiet out there…	NT	May 2025
Article	Microbial degradation of chemicals used in coal seam gas activities	NSW	May 2025
Article	Pilliga Forest habitat research	NSW	May 2025
Final report	Examination of stygofauna ecosystems of the Beetaloo Sub-basin	NT	May 2025
Story map	Subterranean life in the groundwaters of northern Australia	NT	June 2025
Video	CSIRO research in the Hot Springs Valley, NT	NT	June 2025
Knowledge transfer presentation	Exposure assessment of identified chemicals used in CSG activities	QLD	June 2025
Knowledge transfer presentation	Analysis of dust near CSG sites to assess potential for respirable crystalline silica	QLD	June 2025
Knowledge transfer presentation	UAV–LiDAR and spaceborne remote sensing in the Beetaloo	QLD	June 2025
Final report	Remote sensing and threatened species surveys to better understand risks of forest fragmentation from the Narrabri Gas Project	NSW	June 2025

OUTPUT TYPE	NAME OF COMMUNICATION OUTPUT	STATE / TERRITORY	RELEASE DATE
Final report	UAV–LiDAR and spaceborne remote sensing for habitat structure monitoring in the Beetaloo	NT	June 2025
Interim report	Baseline Seismicity of Canning Basin: Interim Reports 2 & 3	WA	June 2025
Interim report	Establishing Baseline Groundwater and Natural Seismicity Levels across the Northern Perth Basin with Passive Seismic Data – Interim Report 2	WA	June 2025
Final report	Trends in community wellbeing and local attitudes to coal seam gas development, 2014 - 2024: Western Downs and eastern Maranoa regions, Queensland	QLD	June 2025
Online interactive tool	Deep dive into results of community wellbeing and attitudes to CSG development survey results, 2014 - 2024	QLD	June 2025
Final report	Integration of airborne electromagnetic surveys, environmental tracers and geochemical modelling to refine the understanding of connectivity between coal seams and overlying aquifers in the Gunnedah and Surat basins, NSW	NSW	June 2025
Article	Understanding connectivity between coal seams and aquifers	NSW	June 2025
3D visualisation slide presentation	Airborne electromagnetic (AEM) surveys, environmental tracers and geochemical modelling to refine the understanding of connectivity between coal seams and overlying aquifers: Overview of results of geophysical (including AEM), geological and hydrogeological techniques applied in project	NSW	June 2025
Article	Drones, satellites and biodiversity	NT	June 2025
Article	Cooper Creek Flood Modelling	QLD	June 2025
Story map	Cooper Creek Flood Modelling Story Map	QLD	June 2025
Article	CSIRO's GISERA in the Top End	NT	June 2025
Article	New animation – Beetaloo Sub-basin Kyalla Shale	NT	June 2025
Article	A decade of research	QLD	June 2025
Article	New video – Journey to the Hot Springs Valley	NT	June 2025
Fact sheet	Groundwater connectivity the Eastern Beetaloo Sub-basin extension	NT	June 2025
Fact sheet	Baseline studies and microbial degradation experiments of chemicals used in coal seam gas activities in Narrabri	NSW	June 2025

10.3 Stakeholder engagement

GISERA aims to promote ongoing trust and respect from all stakeholder groups through the open and transparent conduct and communication of its research and synthesis activities.

Since launching CSIRO's GISERA in July 2011, the GISERA Director, State Leaders, CSIRO research and communications staff have participated in 2,632 engagements with a range of stakeholders, such as federal and state Members of Parliament, industry associations, community groups, research organisations, gas developers, journalists and consultants.

Table 10.2 outlines the engagements for 2024/25 and Figure 4 shows stakeholder interactions over the past 14 years.

Table 10.2 Summary of GISERA engagements for 2024/25

STAKEHOLDER	NUMBER OF ENGAGEMENTS FOR 2024/25	NUMBER OF ENGAGEMENTS OVER LIFE OF GISERA
Regional community	34	355
Gas Industry	101[24]	577
Federal, State and Local Departments and Agencies	79	784
Media (includes print, TV and radio)	3	251
School/Educational institutions/Students	1	25
Research organisations	32	281
Industry associations	3	147
Business groups	59	212
Total	**312**[25]	**2,632**[26]

[24] The number of industry engagements is particularly high in this reporting period as there were five research projects planning and negotiating access for upcoming field campaigns and sample collections.

[25] It is important to note here that these numbers of interactions do not take into account the number of individuals engaged in that interaction. For example, regional community group interactions can range from 20-360 participants and a gas industry interaction can be a technical meeting with only 1-10 participants

[26] It is important to note here that these numbers of interactions do not take into account the number of individuals engaged in that interaction. For example, regional community group interactions can range from 20-360 participants and a gas industry interaction can be a technical meeting with only 1-10 participants

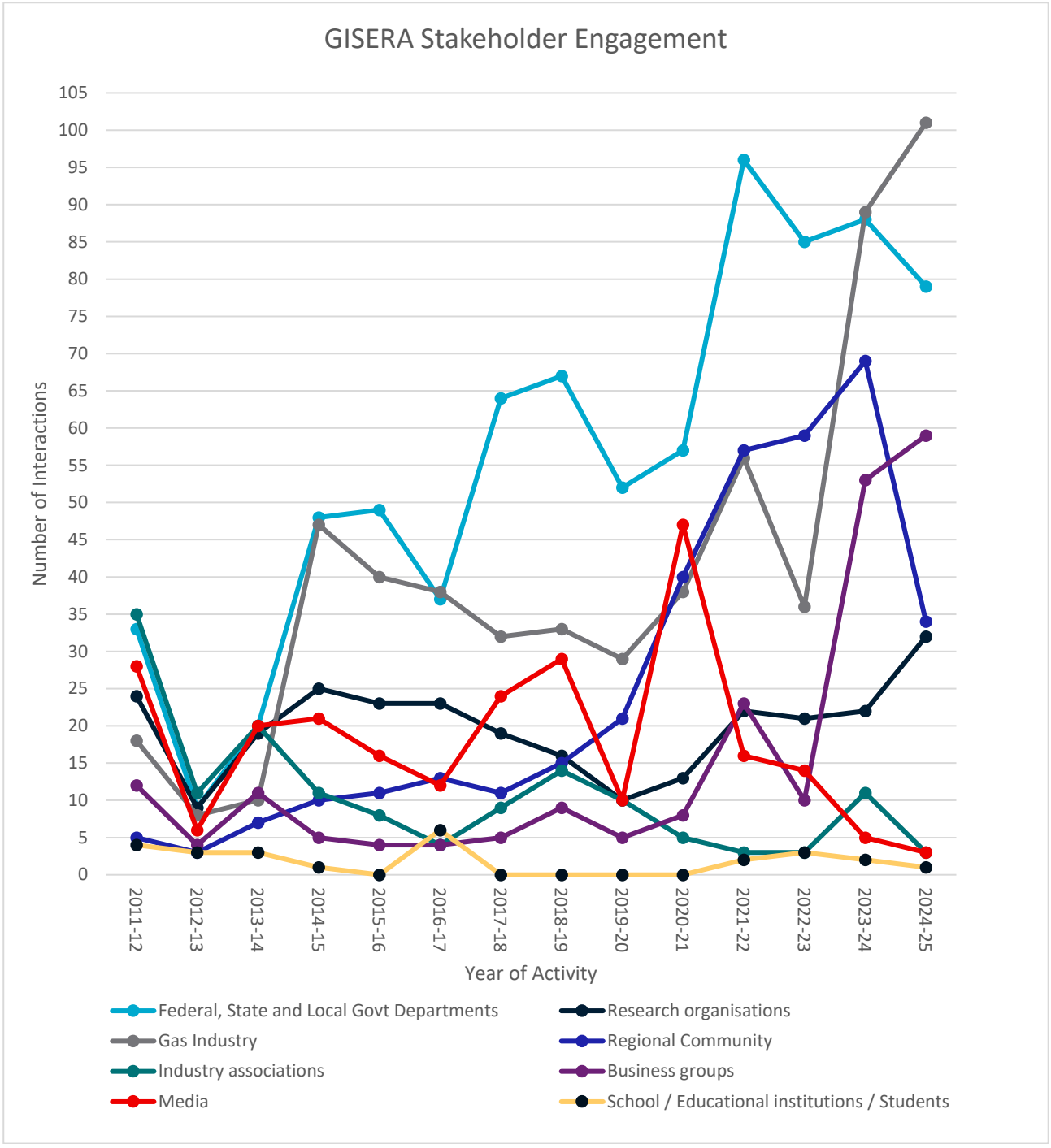

Figure 4 Stakeholder interactions from 2011/12 to 2024/25 - these numbers do not take into account the number of individuals engaged in that interaction. Regional community group interactions can range from 20-360 participants and a gas industry interaction from 1-10 participants.

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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, greenhouse gas emissions, 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.