



GISERA research in NSW

Narrabri Community Consultative Committee

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29 November 2016

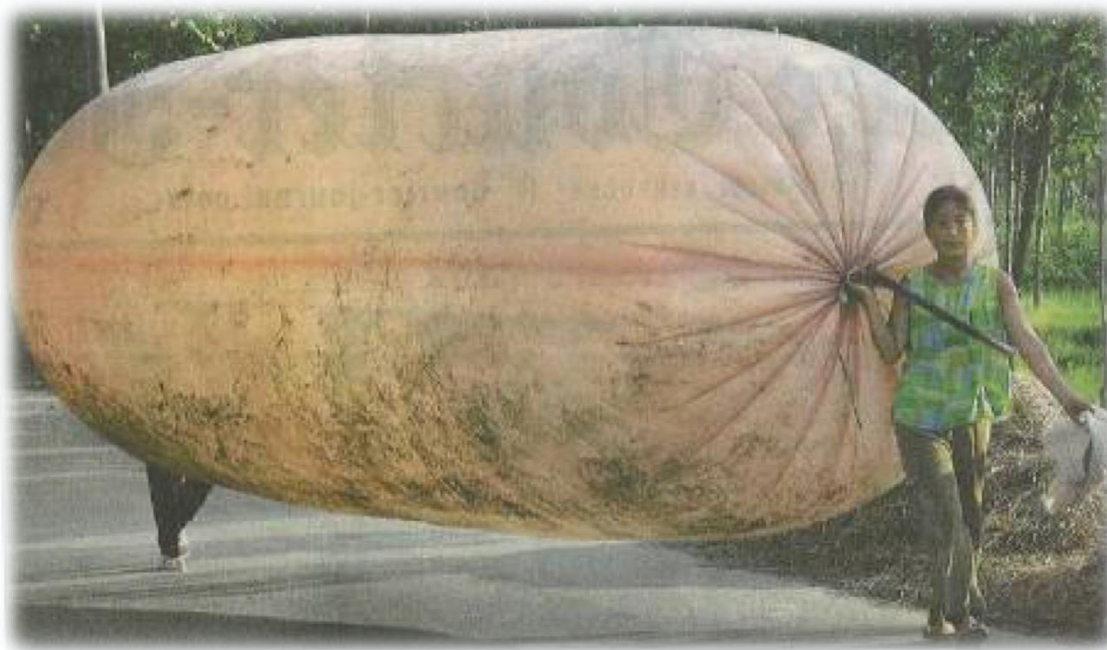
ENERGY BUSINESS UNIT

www.csiro.au



Australian Government
Department of Industry,
Innovation and Science

Energy demand



- 502,960 PJ
- 17,360 PJ
- 5,772 PJ
- Gas 21% Aust. energy needs
- Largest gas exporter
- (Largest coal exporter)
- ~50% < GHGs

- CSG: Challenges & opportuniPes

- Not distributed evenly in space & Pme or among stakeholders
- Uncertainty creates tension and public discontent
- Science to improve predicPons of distribuPon of challenges & opportuniPes
- Inform decision making, inject informaPon into debate & reduce tension

- GISERA seeks to develop

- Integrated, regional, systems-based research porYolio
- Provide gas industry/community evidence based knowledge
- Underpin decision making to maximize benefits & minimize costs

- Benefits

- New knowledge & reduced uncertainPes for relevant stakeholders
- Foster collaboraPon by industry, communiPes, government, universiPes
- Synthesize data & knowledge at a regional scale
- Provide non-exclusive & mutual leverage opportuniPes

Key environmental & social questions



- Does CSG affect quality/quantity of water?
- What are impacts on farm production, productivity and amenity?
- What is CSG contributing to regional greenhouse gas & global climate change?
- What are costs/benefits for communities?
- What are impacts on regional flora/fauna?
- Does CSG development make people sick or affect ecosystems?
- Decommissioning issues?

GISERA's research porFolio

- **Agriculture:** identifying landscape/development configurations that maximise co-benefits
- **Water:** understanding risks associated with extraction & use of groundwater
- **Biodiversity:** understanding & minimising impacts of development on regional ecological function
- **Marine:** understanding vulnerable components of the marine ecosystem to minimise or offset impacts
- **Socio-economic:** informing & supporting change to enhance regional & community benefit
- **Greenhouse footprint:** identifying sources and profiling the region
- **Health:** understanding exposure pathways and associated risks

GISERA governance

Members of the NSW RRAC

40%

Professor Alison Sheridan – Head of School of Business, University of New England

Mr Jack Warnock – Lower Namoi Cotton Growers' Association and Managing Director, Warnock Agronomics Pty Ltd

Mr Ken Flower – General Manager, North West Local Land Services

Mrs Annette Turner – President, Country Women's Association of NSW



INDEPENDENT

20%

Neale House – Manager, Environment and Water, Santos

Mr Aaron Clifton – NSW Environment Manager, Gas Operations, AGL



INDUSTRY

20%

Dr Peter Wallbrink – Research Director – Basin Management Outcomes, Land and Water, CSIRO

Dr Michael Braunack – Research Team Leader, Agriculture, CSIRO



CSIRO

20%

Mr Jock Laurie – NSW Land and Water Commissioner, NSW Department of Industry

Dr Philip Wright – Chief Scientific Officer, NSW Department of Primary Industries



GOVERNMENT

- GISERA NSW Research Advisory Commibee
 - Contains 2/10 industry members
 - Can idenPfy, develop, approve or stop projects
 - Ensures research prioriPes are independent
 - Ensure research is transparent
 - Oversees conduct
 - Internal documentaPon completely visible (www.gisera.org.au)
 - Reports publicly available following CSIRO peer-review
- GISERA Research Management Commibee
 - ComposiPon: CSIRO, APLNG, QGC
 - Oversees day-to-day operaPons
 - Financial governance
 - Milestone sign-off

NSW GISERA total budget

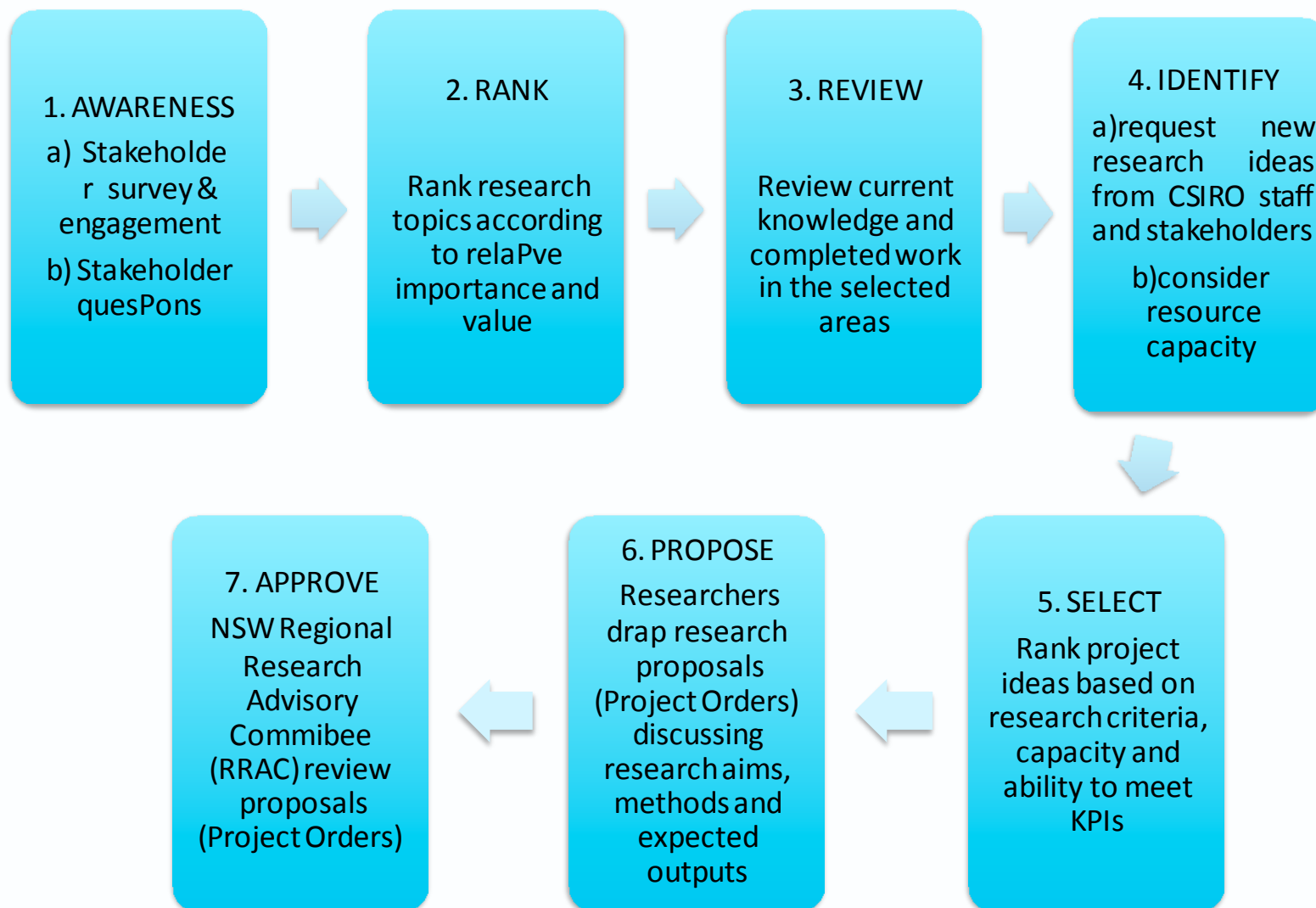
Group	Contributor	Payment type	GISERA – NSW
Industry		Membership	\$900,000
Government	Federal Government	Grant	\$1,500,000
	NSW Government	Grant	\$1,500,000
CSIRO	CSIRO	In-kind	\$1,500,000
TOTAL (from 2016 – 2018)			\$5,400,000

Construc@ng the NSW research porFolio

Projects approved

THEME	TOPIC
Water	Impacts of CSG depressurizaPon on Great Artesian Basin flux: conceptual model refinement, uncertainty analysis and hypothesis tesPng
Greenhouse	Regional Methane Emissions in NSW CSG Basins
Economic	Analysing economic and demographic trajectories in NSW regions experiencing CSG development
Social	Social baseline assessment of the Narrabri region of NSW in relaPon to CSG development

Construc@ng the NSW research porFolio



Construc@ng the NSW research porFolio

Projects approved & pending by NSW RRAC

Subject Area	Title
Groundwater	Assessment of water quality risk to farmers' bores and spaPal design of groundwater monitoring networks for early detecPon of groundwater quality impacts in the Narrabri Gas Project area
Groundwater	Improving the representaPon of the impact of coal seam gas extracPon in groundwater flow models for the Namoi region
Groundwater	Water contaminaPon risk assessment tool for borehole delaminaPon and hydraulic fracturing acPvity in unconvenPonal gas extracPon
Agricultural	Landscape values in the Namoi*
Decommissioning	Decommissioning Pathways for CSG Projects
Social	Building a Learning Community*
Economic	Using gas to meet NSW energy needs and GHG targets*
Health	Human health effects of Coal Seam Gas AcPvity: Review and Study Design

Thank you

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