# “Understanding Social Risks in CSG Brine Management”


## A/Prof Kathy Witt, Amrita Kambo & Debashish Dev

Gas and Energy Transition Research Centre, The University of Queensland, St Lucia, QLD, Australia


## Introduction

- Coal seam gas extraction in Queensland produces salty formation water, which is treated via reverse osmosis (RO), leaving a waste brine stream.
- The CSG industry has spent over $100M investigating salt and brine management solutions, with salt encapsulation identified as the most effective long-term waste management approach.
- Despite its technical effectiveness, salt encapsulation facilities often face local opposition, with moderate community concern anticipated.
- The Queensland Government's Brine Management Action Plan emphasizes clear communication and transparency regarding SEF construction and monitoring.
- This study aims to quantify community concerns, identify engagement strategies, and provide case studies to support informed decision-making on brine waste management.
- Project Duration: December 2023-March 2025

## Media Analysis

- *Timeframe:* 2010-2023
- *Newspapers:* Regional and National Australian Newspapers.
- *Database:* Factiva
- *Keywords:* "waste water" OR "waste brine" OR "waste salt" OR coal seam waste" OR "csg waste" OR "csg salt" OR "csg brine" OR coal seam salt" "coal seam brine“
- *Sampling:* 196>68>**57**
- *Articles analyzed:* **57**

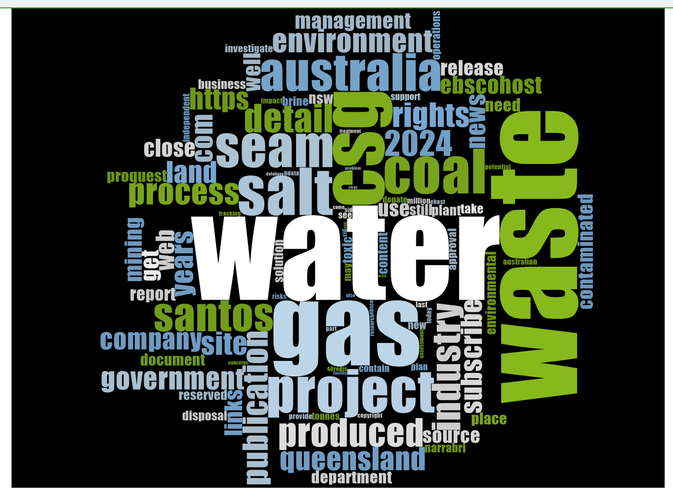



Figure 1: Wordcloud of media articles

## Methods

### 1. Desktop Analysis (*completed*)

Identification of positive case studies of brine management to use in communication and community engagement

Identification of potential social risks as articulated in media and other online platforms.

### 2. Focus Group Discussions (*completed*)

**05 FGDs: Roma, Chinchilla, Miles, Wandoan and Online**

### 3. Online Survey (*ongoing*)

Target audience: Surat Basin residents
Channel: Market Research panel
Sample size *(tentative): 300*

## Highlights of the Media Analysis Outcomes

Environmental risks discussed: **Potential spills causing water, soil contamination, and biodiversity loss.**

Community fears: **Unsustainable salt storage methods, health impacts, and future control.**

**Salt encapsulation is preferred but criticized for being environmentally risky.**

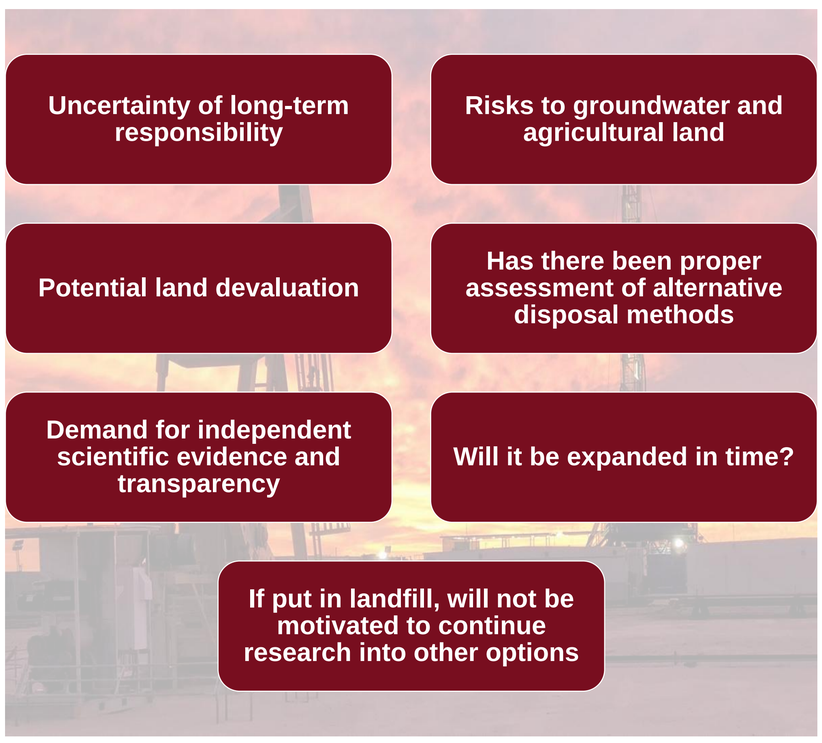
Public mistrust, highlighted by advocacy groups, signals an urgent need to address community concerns.

Industry leaders assure the public of safe, effective wastewater management, focusing on salt encapsulation

Community members allege poor government coordination and corporate lobbying influence decisions.

Advocacy groups emphasize the need for independent research on alternatives to protect interests.

## Highlights from the focus group discussions




Key concerns and questions raised by FGD participants on brine management


Concerns relevant to Government and Gas company operations


Key expectations of FGD participants in brine management


k.witt@uq.edu.au www.gas-energy.centre.uq.edu.au.

Gas and Energy Transition Research Centre, UQ



**Acknowledgments:**

**This project is funded by Santos, APLNG, and Arrow Energy.**


THE UNIVERSITY OF QUEENSLAND
AUSTRALIA
CREATE CHANGE