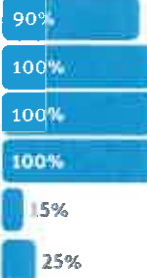


Surface and groundwater

Current research projects are looking at maximising the amount of treated coal seam gas water that can be re-injected into aquifers.

Overall progress **80%**



Geochemical response to re-injection – understand how treated coal seam gas water interacts with groundwater.

Re-injection of coal seam gas water – understand how to minimise clogging of re-injection wells.

Groundwater modelling – determine the possibility of large scale re-injection programs.

Groundwater baseline study – understand the origin and age of groundwater prior to and during initial stages of development.

Hydrocarbons in groundwater – assess the presence and source of hydrocarbons found in the Surat and Bowen basins.

Improving groundwater flow models – (new) measuring and modelling specific chemicals called environmental tracers to gain a better understanding of the speed and direction of groundwater flow.

Greenhouse gas footprint

Current research project is looking at characterising methane emissions from the Surat Basin.

Overall progress **20%**



Methane seepage – measure methane seeping from underground in the Surat Basin, and identify sources of methane.

Greenhouse gas (GHG) emission assessment of the Surat Basin Gas Reserve – (new) analysis of the whole of life cycle GHG emissions, including extraction, transportation and usage of CSG.

Ambient air quality in the Surat Basin – (new) comprehensive assessment of air quality in the Surat Basin region in Queensland using air quality measurement network and modelling.

Agricultural land management

Current research projects are designed to maximise agricultural productivity during and beyond the life of gas extraction on farms.

Overall progress **85%**



Preserving agricultural productivity – land use planning to help protect agricultural productivity.

Shared space – understand how farmers perceive and value coal seam gas developments on their and others' farms.

Farm gas design – understand how to design farms for a new mixed land use.

Making tracks, treading carefully – understand the impacts of tracks and traffic on weeds and erosion in agricultural landscapes.

Without a trace – identify the nature and extent of damage to agricultural soils, and methods for improving soils.

Telling the story (new) – share understanding of changes on farms and in towns during CSG development in the Surat area.

Terrestrial biodiversity

Current research projects are identifying cost-effective actions that can be taken to reduce threats to plants and animals.

Overall progress **80%**



Priority threat identification and management – identify and understand the range of existing and new threats to biodiversity across a coal seam gas development region.

Fire study – determine how sensitive animals and plants are to burning events in coal seam gas development areas.

Habitat selection by two focal species – understand the range of impacts from CSG development on Golden-tailed gecko and Glossy black-cockatoo habitats.

Ensuring biodiversity offset success – identify genetic and demographic factors that may limit the success of establishing a rare daisy (*Rutidosis lantana*) in a new location.

Marine environment

Current research projects are examining how sediments from dredging and discharge affect seagrass and turtle feeding grounds.

Overall progress **40%**



Sustaining turtles and their homes – understand how sediments from dredging and discharges affect seagrass and turtles.

Socio-economic

Current research projects are identifying what communities want and need to help inform and support changes occurring in coal seam gas development regions.

Overall progress **85%**



Monitoring regional change – track and document the population and monetary changes occurring in coal seam gas development regions.

Community function and well-being – understand what makes communities strong and how they respond to major developments.

Community aspirations – understand how different sectors of the community see the future of their region.

Economic assessment and forecasting – (new) understand future impacts on regional economies and how local businesses can respond.

Community function and well-being survey 2 – (new) conduct a community well-being survey to measure the changes since the end of the construction and start of the operations phases and compare results with the Survey 1 in 2014.