

GOAL

 Deliver solutions that will enhance Australia's economic competitiveness and regional energy security while enabling the transition to a lower emissions energy future.

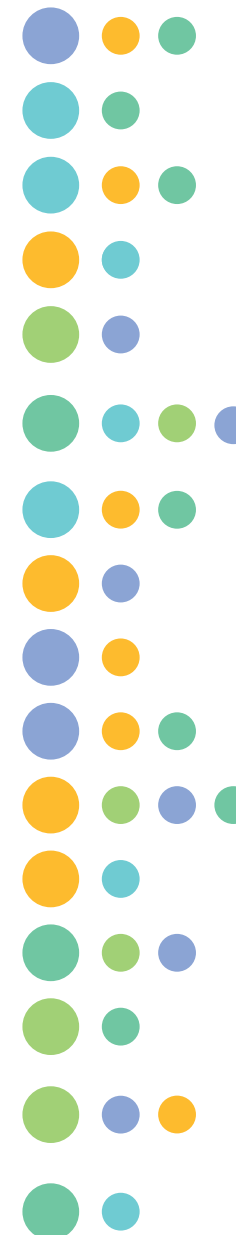
IMPACT AREAS

- Improve productivity and efficiency
- Resource information for decision makers
- Remove barriers for adoption
- Reduce extraction, processing and conversion costs

IMPACT STATEMENTS

- Improve productivity of O&G production and processing plant:** Increase Australia's competitiveness and attractiveness for investment through improved technology and solutions for LNG productivity.
- Reduce building energy consumption:** Building energy consumption significantly reduced through better information on consumption and integration of intelligent HVAC systems.
- Efficient system integration of distributed energy resources (DERs):** Increasingly informed societal, industry and end-user decisions regarding the economically-optimal application and use of distributed energy resources.
- Extending the life of onshore gas reservoirs:** Enhancing Australian onshore gas production will significantly increase the wealth generated for the nation while decreasing the environmental footprint.
- Long term coal production support:** Provide better information, processes and technology for anticipated complex mining conditions and addressing decline in productivity to release 3Bt of coal.
- New technologies and systems for low emissions power, H2, and chemicals:** Science, technology and systems development to enable deployment of advanced low emissions technologies for power, H2, and chemicals production from coal, waste, and renewables.
- National transition pathways to decentralised, low carbon electricity systems:** Accelerated national transition to a highly decentralised, low carbon and socially just electricity future with limited destruction of economic value.
- Extend onshore gas accessible reserves:** Unlock new and previously uneconomical acreage and identify new high production fairways for onshore gas.
- Reduce oil and gas exploration risk and improve resource characterisation in Frontier Basins:** Unlock Frontier and previously uneconomical offshore and onshore oil and gas acreage.
- Improve geological carbon storage knowledge and capability:** Enabling industrial scale CO₂ emission abatement through demonstrator projects which mitigate the economic and technical risks of deep geological CO₂ storage.
- Understand and manage fugitive emissions:** Identifying and understanding fugitive emissions will lead to developing processes for mitigation and reducing carbon footprints.
- Trusted advice for natural resource development:** Provide trusted advice to all parties to support the development of a natural resource with community involvement.
- Reduce emissions from energy cycles:** Develop the science and qualify technologies to mitigate the emissions from energy cycles and their secondary production, which will greatly reduce health and environmental costs.
- Minimise environmental impacts:** Develop and demonstrate new coal mine methane drainage and ventilation air methane (VAM) technologies that will lead to coal mine fugitive emissions reduction by 10Mt CO_{2-e} by 2020.
- Develop technologies to unlock coal resources:** Develop coal mining automation technologies and facilitate the remote management of longwall mine operations in Australia, removing people from the most hazardous areas and increasing coal mining productivity that will lead to increased mineable resources by at least 2Bt by 2020.
- Adoption of large scale solar (PV and CSP):** Provide technology pathway for uptake of large scale solar through support and growth of PV industry and power generators, identification of new markets and applications for emerging PV technologies and exploit cost-competitiveness of CSP for thermal storage and industrial processes.

INTERNAL PROGRAMS



ROLES

OTHER BUSINESS UNITS



ROLE KEY

○ = Lead ○ = Support

PROGRAMS

- Grids and Energy Efficiency Systems
- Unconventional Gas (onshore gas – shale & CSG)
- Coal Mining
- Low Emissions Technologies
- Oil, Gas and Fuels

OTHER BUSINESS UNITS

- Data61
- Health and Biosecurity
- Manufacturing
- Oceans and Atmosphere
- Food and Nutrition
- Land and Water
- Mineral Resources