NERA : National Energy Resources Australia

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Why industry growth centres?

- Industry-led and independent
- Drive productivity and competitiveness
- Trusted brokers of innovation
- Transfer investment in knowledge and capabilities into commercial value and capacity here in Australia
- Connect to global export markets
CREATING CONNECTIONS FOR GROWTH
Our vision:

Australia as a global energy powerhouse: a sought-after destination for investment and the leading source of knowledge and solutions.
KNOWLEDGE PRIORITIES

Enhance skills and business capabilities to support automation and digitisation

Build talent and enable effective collaboration and innovation

Pursue a sustainable and low carbon energy future

Understand and unlock Australia’s resources base

Develop new market and business models

Commercialise technology and research

Enhance efficiency in operations and maintenance

Optimise the regulatory framework
NERA’s Impact

$15.6 million
NERA’s collaborative project fund

+160
Project partners

$10 billion
of value NERA is helping to unlock
to the Australian economy

+40
Lighthouse projects and initiatives around Australia
SPEE3D - Metal parts in minutes

Collaboration Partners
SPEE3D, CDU, ConocoPhillips

Overview
• Supporting the development of a new high-speed, low-cost metal 3D printing technology
• 1000 times the speed of conventional metal 3D printing at a fraction of the cost
• Cold process - no melting, process very fast, no inert gases, argon or nitrogen

Benefit/Impact
• The printer will enable environments to fabricate necessary parts on site and limit costly delays associated with downtimes that can be in the order of tens of millions of dollars.
• Australian-developed and Australian-owned, the technology is now benefitting multiple industries (defence and oil and gas) and is exported internationally.
Technology Catalogue

www.technologycatalogue.com/nera

Your “TripAdvisor” for technology

MODULES & SUBMODULES
Technologies are grouped in modules around specific business challenges & opportunities. Each module contains multiple submodules to ease navigation.

TECHNOLOGY PAGE
A page per technology summarising the technology, the pros and cons, specifications, deployment record and contact info.

REFERENCES & REVIEWS
Nothing gives more confidence to start using technology than deployment records and reviews by industry experts and end-users. This is particularly true in risk-averse industries.
Opportunities & Challenges

• Innovation is the key to lift production, reduce costs & optimize performance
• Transition to less carbon intensive energy sources — renewables
• Harness automation, digitalization, develop future workforce skills
• Improve supply chain integration
Global Energy Outlook

• Global primary energy demand will expand by 25% between 2017 & 2040 (International Energy Agency)

• Natural gas is expected to be the world’s fastest growing fossil fuel — 2040 demand +45% to today

• Energy resources — exploration, development and consumption driven by global and domestic demand
**Australia’s Energy Resources Sector**

- Energy exports are forecast to be $117B in 2019-20
- Australia’s O&G industry is currently the world’s largest exporter of LNG (although Qatar challenging)
- 16 nuclear reactors under construction in OECD countries
- Australian coal production expected to grow by 14.5% by 2040 to meet Asian demand
**NERA’s Sector Competitiveness Plan**

Underpins efforts by the Australian energy resources sector to address productivity and competitiveness challenges.

Sets out a strategic road map over a 10-year horizon.

Identifies priorities for collaborative action and innovation required to enable the Australian energy resources sector to transform its productivity performance, compete globally and be sustainable.
A plan for the future of Australia’s energy resources sector

- Preparing Australia’s Future Oil & Gas Workforce
- The drivers of the oil and gas workforce are highly volatile which makes prediction difficult.
- As an industry growth centre, NERA has a mandate to foster collaboration and innovation and help the energy resources sector respond to workforce trends.
- This Report is a step towards developing a common expectation about the skills needed in the oil and gas industry by 2030.
- www.NERA.org.au