



NERA

NATIONAL
ENERGY RESOURCES
AUSTRALIA

Creating connections for growth

Forum for Operational Oceanography

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About NERA & Context

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6 Steps to Impact through Innovation

3

Collaboration Fund



1

**NERA -
collaboration and
innovation**



Australia has seen 25 years of sustained growth, strongly underpinned by the energy resources sector...

But is now in transition ...

1 Global megatrends



Urbanisation



Technological
Evolution



Asian Century



Changing Energy
Mix



Globalisation of
Business



Changing
Demographics



Low Carbon Future



Search for Energy
Security

1 Industry growth centres

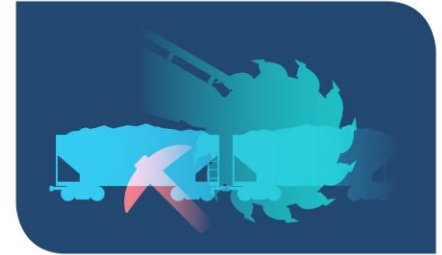
- Industry led and independent
- Trusted brokers of innovation
- Drive productivity & competitiveness
- Transfer more of our investment in **knowledge** into **commercial value** developed here in Australia
- But connected to global markets



1 What is NERA?



- NERA was established in 2016 as an independent, not for profit company
- NERA covers the energy resources sector, specifically oil and gas, onshore & offshore, uranium and coal
- NERA's role is to maximise value to the Australian economy by having a globally competitive energy resources sector that is sustainable, innovative and diverse



1 A plan for the Australian energy resources sector

NERA's Sector Competitiveness Plan will:

- underpin efforts by the Australian energy resources sector to address the serious productivity and competitiveness challenges it currently faces
- set out a strategic road map over a 10-year horizon
- identify priorities for collaborative action and innovation required to enable the Australian energy resources sector to transform its' productivity performance, compete globally and be sustainable

1 Sector Knowledge Priorities



Work skills of the future



Enabling effective collaboration



Understanding Australia's resource base



Social licence to operate



Unlock future resources



New markets,
New technologies,
New business models



Commercialisation of research and development



Efficient operations and maintenance

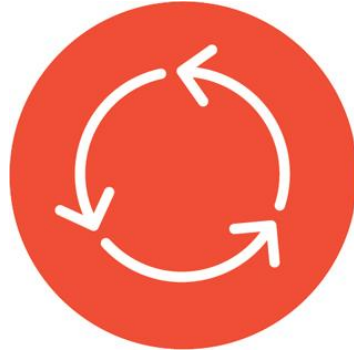


Regulatory framework optimisation

1 Why the industry needs to transform



**Changing Energy
Demand**



**Changing Energy
Supply**



**Technology
Disruptor or
Enabler**

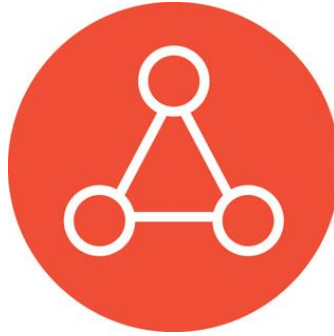


Speed of Change

1 Why is transformation hard



**Internal pipeline
approach**



**Typically structured
with a few vendors**

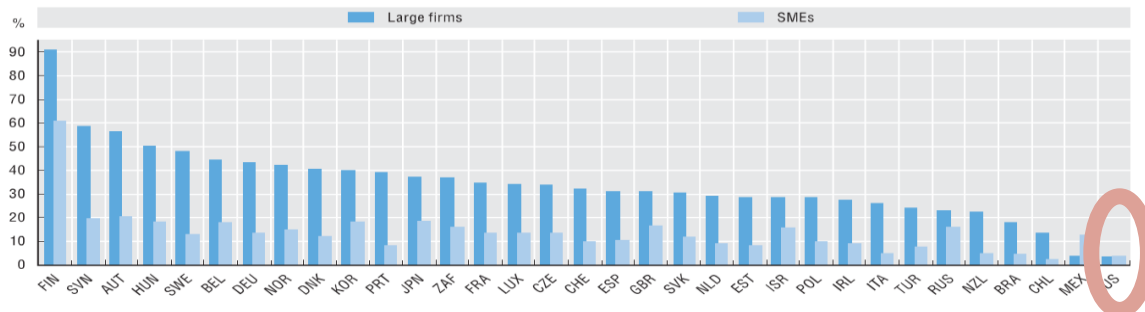


**Slow results,
highly risk averse**

1 Australian industry lags OECD benchmarks on collaboration

Firms collaborating on innovation with higher education or public research institutions, by firm size, 2008-10

As a percentage of product and/or process innovative firms in each size category

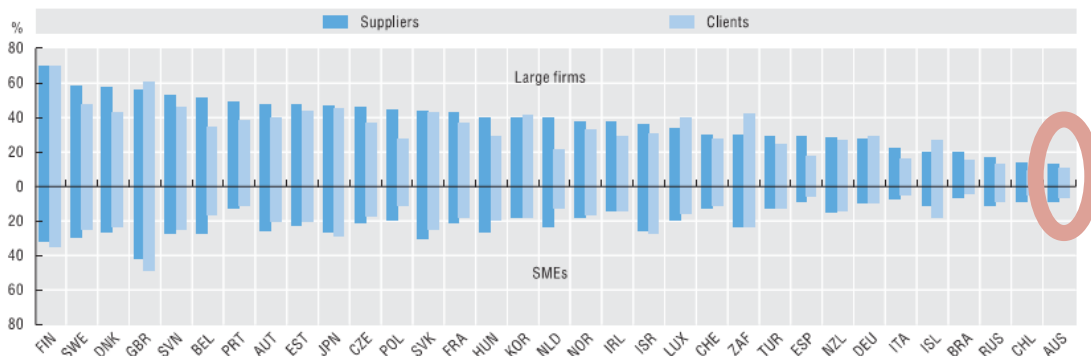


Source: OECD, based on Eurostat (CIS-2010) and national data sources, June 2013. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932891359>

Firms collaborating with suppliers and clients, by firm size, 2008-10

As a percentage of product and/or process innovative firms



Source: OECD, based on Eurostat (CIS-2010) and national data sources, June 2013. See chapter notes.

StatLink <http://dx.doi.org/10.1787/888932891378>

1 What is best practice for Industry and University Collaboration?

- MIT - 3 year review of >100 projects from 25 research-intensive multinational companies across a range of industries
- Key findings:
 - ~50% of the projects achieved major outcomes and a further 30% achieved some outcomes (new ideas, solutions, methods or IP of potential benefit) => **~80% are successful research**
 - However, **only ~20% of the total research projects led to major impact on the partner company**
 - Failure is triggered at two places – incorrect definition of the problem / solution match and inability to commercialise

1 Three Levers for Transformational Change

Business Models



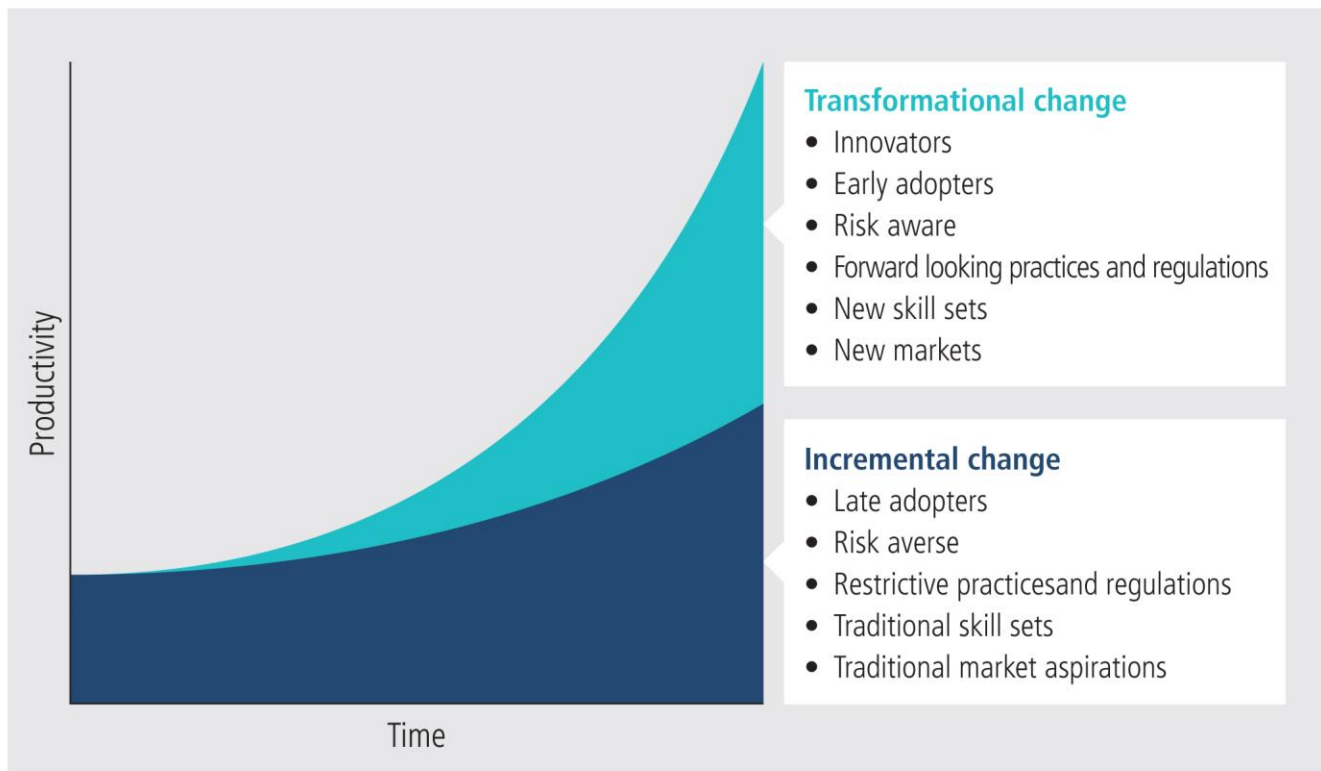
Operating Models



Culture and Capability

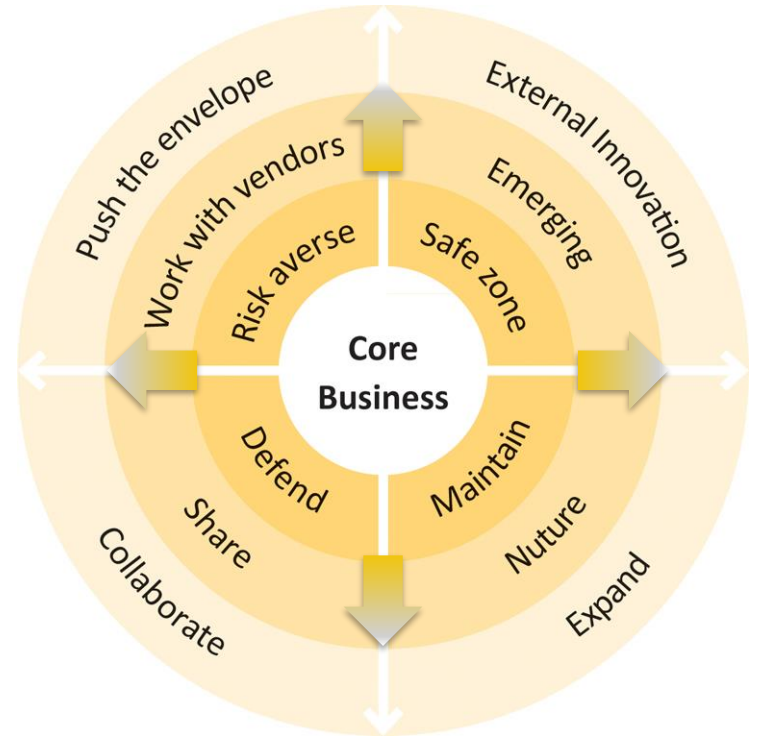


1 Transformational Change



1 Extending the innovation boundary

- 3 **External innovation** - engage with multiple external knowledge experts, use technology to verify and de risk adoption of innovation
- 2 **Emerging innovation** – work with vendors, extend external collaboration and create new value
- 1 **The safe zone** – look internally, improve margins and keep cash coming in



1 Creating Connections for Growth

Conclusion:

- The energy resources sector needs new business models based on collaboration and innovation to facilitate the commercialisation and adoption of disruptive technologies, securing a sustainable, competitive future.
- Improved collaboration amongst industry and sector participants will lead to sharing of innovative solutions, development of synergies to drive value creation, reductions in duplication and create further cost saving opportunities.
- The size of the prize is significant for everyone. The Australian energy resources sector has the potential to continue to supply both domestic and international needs for many years, generate substantial revenue for the nation and growing an export orientated service and technology sector.

2

Six Steps to Impact through Innovation



2 Preparing for success



STEP 1
Establish a
strategic basis
in challenging
goals



STEP 2
Prioritise
opportunities



STEP 3
Organise
for success



STEP 4
Consider
alternative
partnership
models



STEP 5
Assess the
potential
research
providers



STEP 6
Prepare for
commercial
negotiations



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**ARE YOU
RESEARCH
READY?**

A guide to successful
industry-led research
collaboration

3

**Collaboration Fund
Call for Proposals**



3 Collaboration Fund – Funding Round #1

NERA Collaborative Project Fund

Calling for Expressions of Interest (EOI) Funding Round #1

01 What is the Collaborative Project Fund?



- A pool of \$15.6 million established to support collaborative projects in the energy resources sector
- NERA will provide matching funding to industry-led projects
- Funding can be up to \$3 million
- We are looking to engage with Consortia with a minimum of two independent businesses drawn from any combination of producers, small to large service and/or equipment providers, research and academia

02 What is the criteria?



- Must be linked to one or more of the knowledge priorities outlined in NERA's Sector Competitiveness Plan
- Demonstrate innovative approaches, clear commercialisation applications, pathways and implementation timeframes
- Must be no more than two years
- Have a national benefit for Australia, with the results available to the whole energy resources sector as far as possible

3 Collaboration Fund – Funding Round #1

What is the timeframe and how do you apply?

NERA is seeking EOI to fund industry-led, collaborative projects that demonstrate innovative solutions for the energy resources sector (oil, gas, coal and uranium) with the objective to enhance the sector's productivity, competitiveness and sustainability

- EOI round opens on 31 July 2017
- EOI submissions close on 20 October 2017
- EOI guideline, template and example can be accessed at www.nera.org.au
- Shortlisted EOI will be assessed for suitability by the NERA Board
- Successful Consortia will be required to enter a Project Funding Agreement with NERA - a sample agreement is available at www.nera.org.au

3 Collaboration Fund – Clean Tech

NERA Collaborative Project Fund

Calling for Expressions of Interest (EOI) for the Clean Tech funding round

01 What is the Clean Tech EOI?



- A call for proposals focussed on collaborative clean technology that supports efficiency & productivity gains in the energy resources sector. Funding can be up to \$3 million.
- NERA will provide matching funding to industry-led projects.
- We are looking to engage with Consortia with a minimum of two independent businesses drawn from any combination of producers, small to large service and/or equipment providers, research and academia.

02 What is the criteria?



- Must be linked to one or more of the knowledge priorities outlined in NERA's Sector Competitiveness Plan.
- Demonstrate innovative approaches, clear commercialisation applications, pathways and implementation timeframes.
- Must be no more than two years.
- Have a national benefit for Australia, with the results available to the whole energy resources sector as far as possible.

3 Collaboration Fund – Clean Tech

What is the timeframe and how do you apply?

NERA is seeking Clean Tech EOI to fund industry-led, collaborative projects that demonstrate innovative solutions for the energy resources sector (oil, gas, coal and uranium) with the objective to enhance the sector's productivity, competitiveness and sustainability

- EOI round opens on 18 July 2017
- EOI submissions close on 31 August 2017
- EOI guideline, template and example can be accessed at www.nera.org.au
- Shortlisted EOI will be assessed for suitability by the NERA Board
- Successful Consortia will be required to enter a Project Funding Agreement with NERA - a sample agreement is available at www.nera.org.au

3 Relevant Projects to-date



NERA KP – Efficient Operations

- Objective tropical cyclone reanalysis



NERA KP – Social Licence

- Bio remediation of contaminated sites
- WAMSI Blueprint stakeholder engagement
- Environmental impact assessment reference case project



NERA KPs – Industry informed R&D and Effective Collaboration

- Co-operative Research Centre Decommissioning Offshore Infrastructure

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