



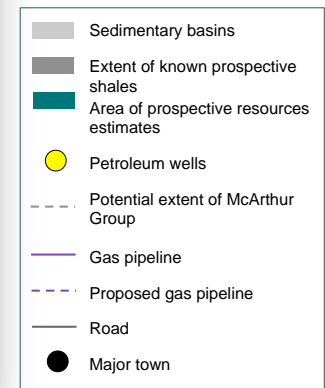
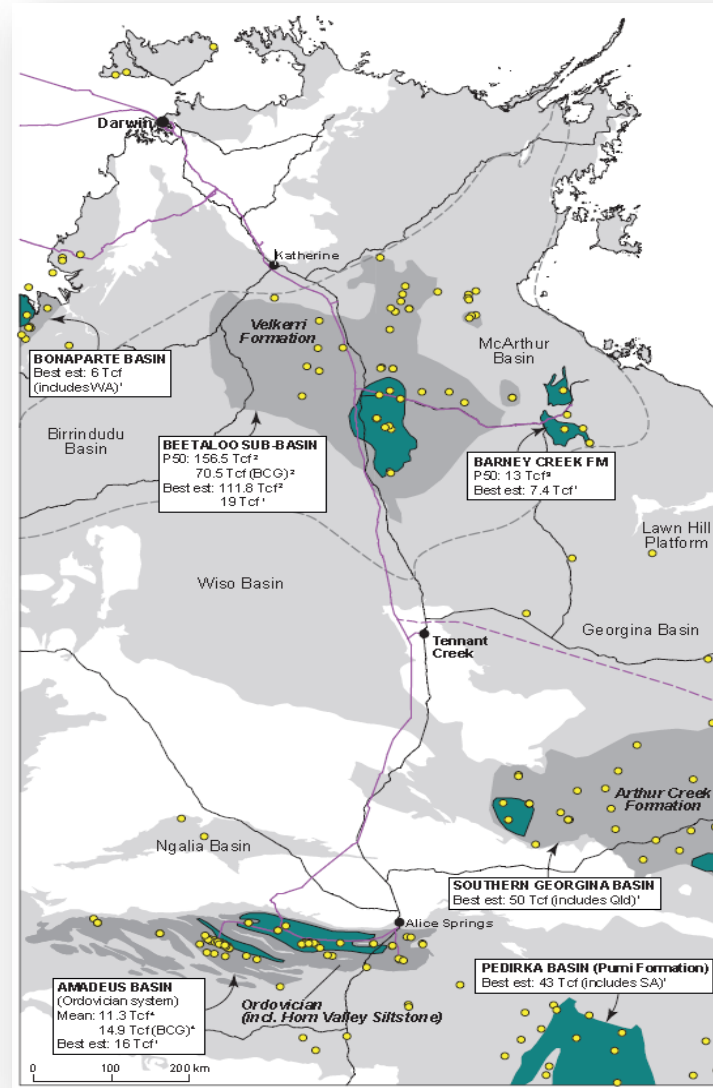
APPEA 2016

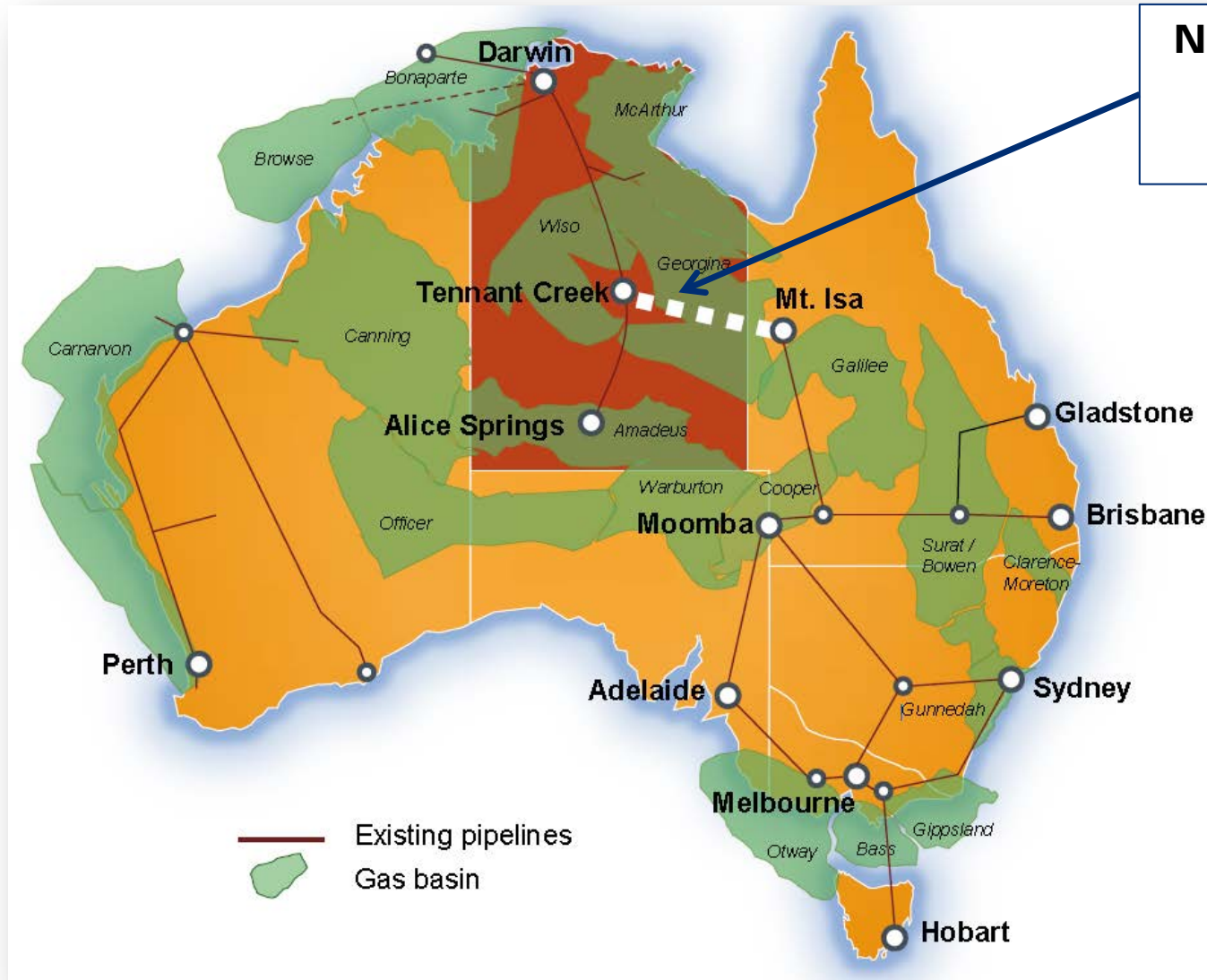
Jop van Hattum

Senior Director Petroleum Technology and Operations

Department of Mines and Energy

Shale gas resources and potential





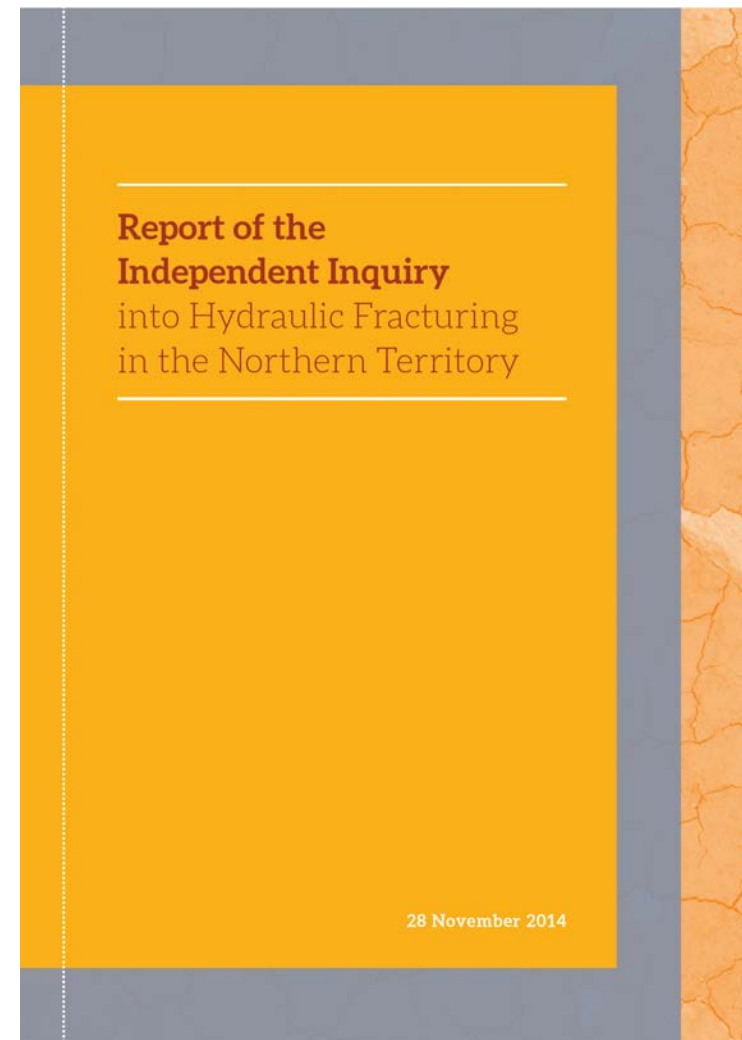
Northern Gas Pipeline
623km x 12-inch
\$800M capex
90 TJ/d, Startup 2018

The Road to Reform...

Released in February 2015 (*Hawke 1*)

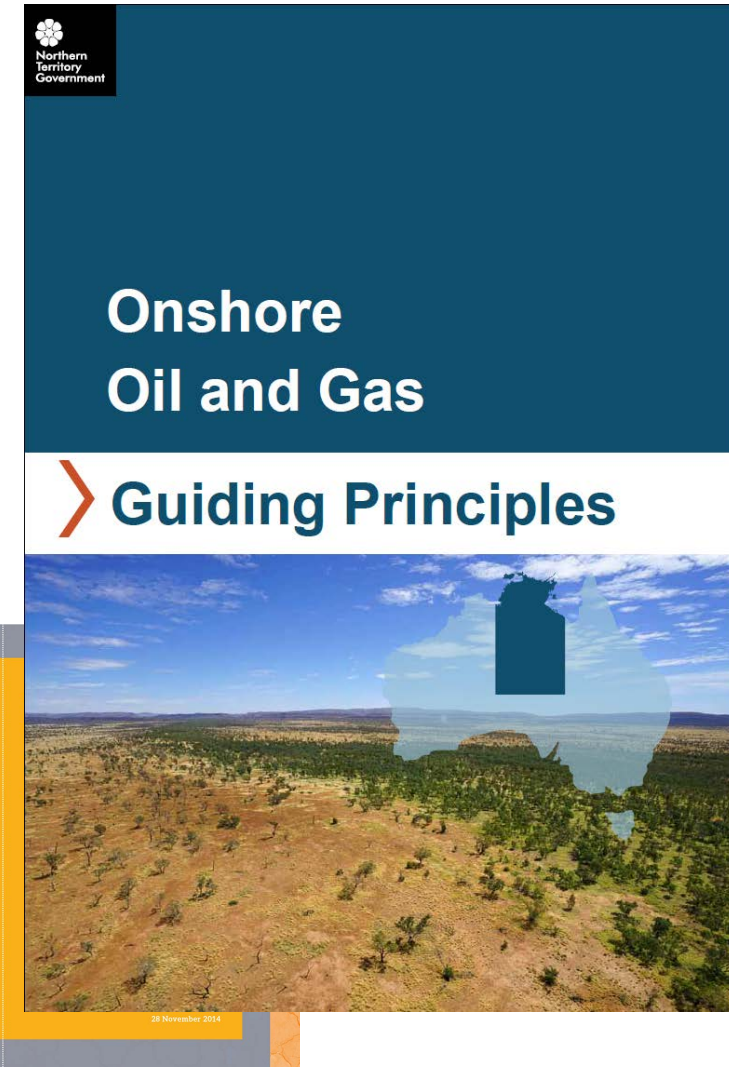
Key findings:

- “there is no justification whatsoever for the imposition of a moratorium on hydraulic fracturing in the NT”
- “the environmental risks associated with hydraulic fracturing can be managed subject to the creation of a robust regulatory regime”



The Road to Reform...

- Well design, construction and operation
- Water management
- Land access
- Air and noise emissions
- Community and social impacts
- General operations
- Hydraulic fracturing
- Chemical and waste handling and management
- Induced seismicity
- Rehabilitation and decommissioning
- Local content



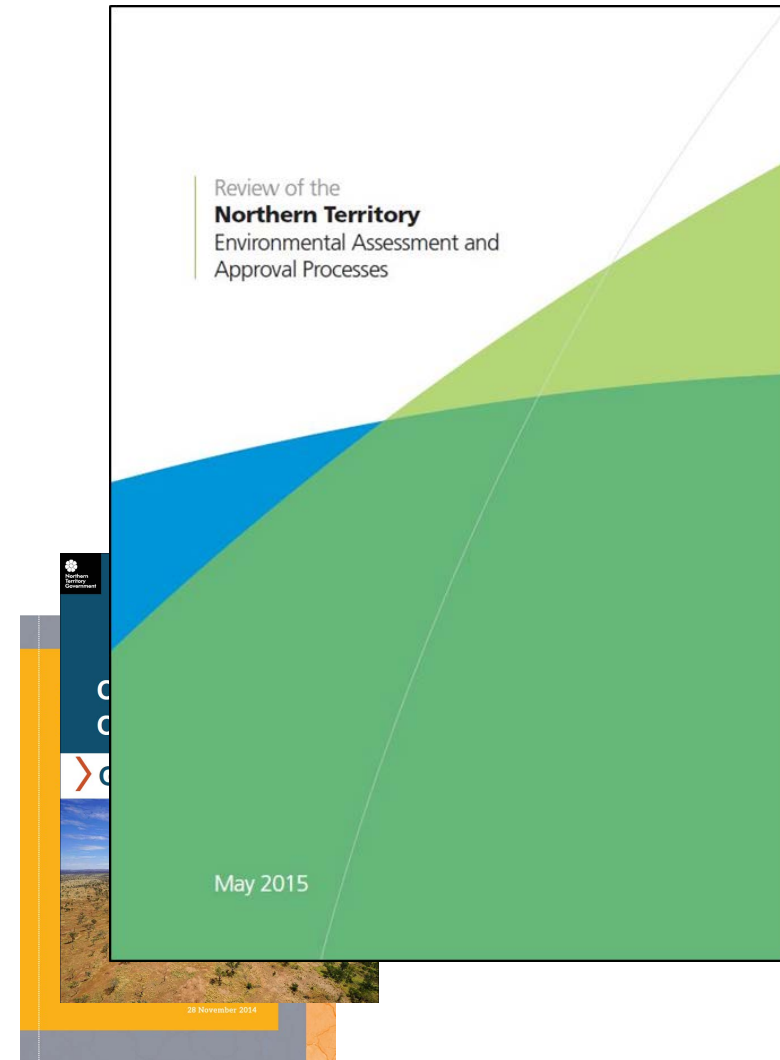
The Road to Reform...

Dr Hawke asked to provide further advice on strengthening the system (*Hawke 2*).

Report released on 18 November 2015.

- Option 1 - retain the current system with incremental improvements;
- Option 2 - create a single environment approval process with the Environment Minister as decision maker;
- Option 3 - strengthen the sectoral 'one-stop-shop' model, supported by enhanced transparency and independent performance monitoring.

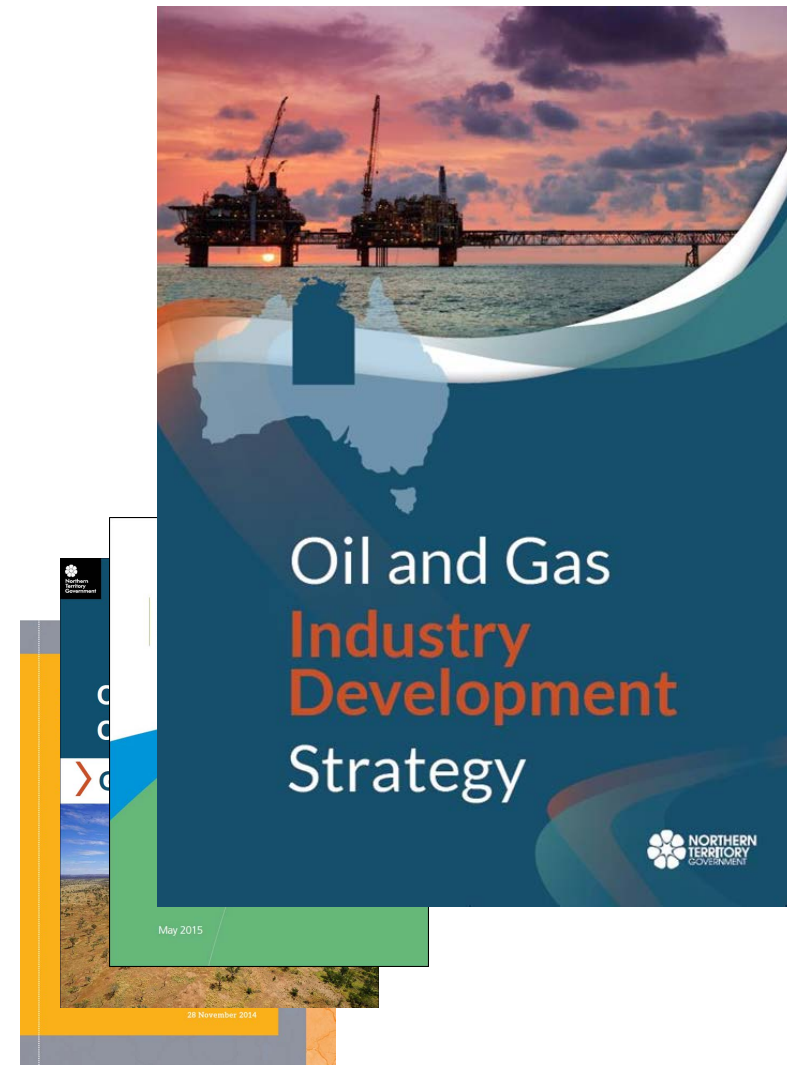
Government broadly supports the recommendations to reform and improve the system.



The Road to Reform...

Four priorities critical to the success of the onshore oil and gas sector:

- Building awareness
- Facilitating access to capital and providing development pathways and market access
- Balanced legislation and regulation
- A competitive local supply and services sector



The Road to Reform...

A Strategic and Contemporary Approach to the Sustainable Management of the Environment:

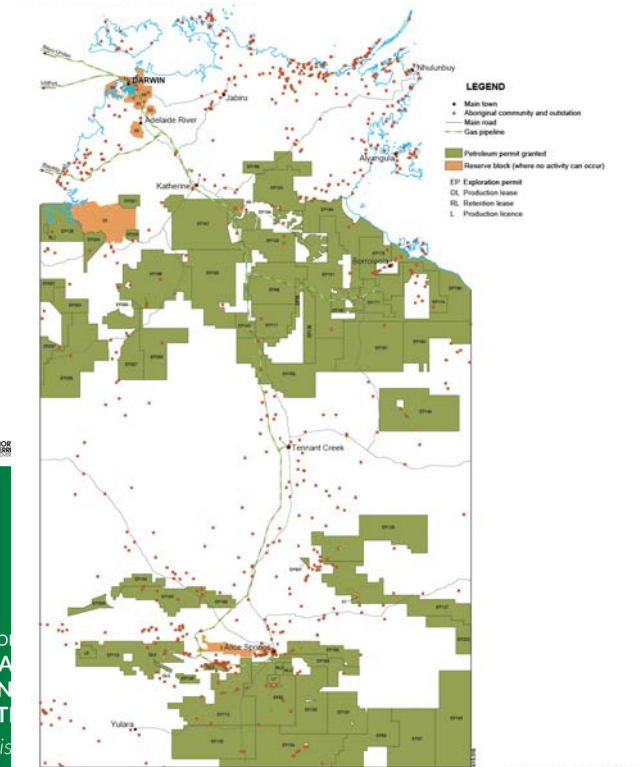
- risk-based regulation of activities
- the use of the best available scientific knowledge to guide our decision making
- strengthening of our regulatory system and making it more efficient and transparent
- the planning of our cities, towns and infrastructure to ensure a balance between development and sustainability is achieved.



The Road to Reform...

Strategic Acreage Release:

- Urban living areas including rural residential areas
- Areas of intensive agriculture
- Areas of high ecological value
- Areas of cultural significance as advised by the Aboriginal Areas Protection Authority and/or Land Councils
- Areas which include assets of strategic importance to nearby residential areas



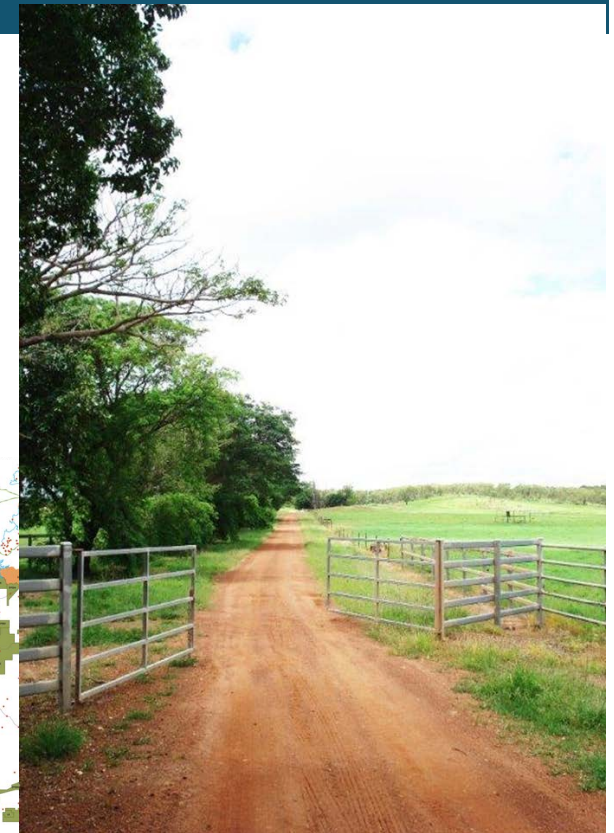
As at November 2015



The Road to Reform...

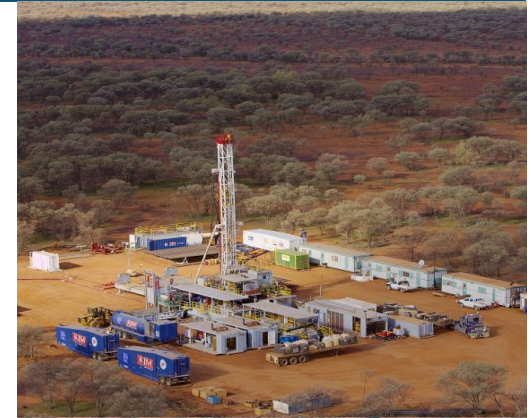
Fair Land Access Arrangements:

- The Government requires that a land access agreement be reached between explorers and land owners/managers prior to the Department of Mines and Energy granting any authorisations to commence work.
- To date no authorisations have been granted without an agreement being provided.
- The process for arriving at an agreement has now been reached with pastoralists and explorers working together to accommodate each others needs.
- No changes to NTA and ALRA provisions



Further reform...

- Implementation of new Petroleum (Environment) Regulations following extensive consultation
 - DLPE, NT EPA, DLRM, DCM, DTF, DAGJ and DPIF
 - WA DMP, SA DSD, NOPSEMA
 - Alberta Energy Regulator, Groundwater Protection Council, Texas Railroad Commission
- A comprehensive review of the Petroleum Act
- Replace the Schedule of onshore requirements with Petroleum (Resource Management) Regulations
- Removal of the exemption for mining and petroleum activities from the Water Act.
- Consultation with stakeholders over the next 12 months on recommendations and findings Hawke 2
- Review of the Environmental Assessment Act



Environmental Assessment Process

- all petroleum activities must comply with petroleum legislation and other relevant territory and commonwealth legislation by **DME**
- Projects that trigger criteria for a notice of intent are assessed by the **NT EPA** to follow an EIA process
- Projects that trigger matters of national environmental significance are assessed under the EPBC Act by the **Commonwealth**

Legislation	Petroleum (Environment) Regulations	Environmental Assessment Act	EPBC Act
Small Project (Exploration)	✓		
Medium Project (Pilot Project)	✓	✓	
Large Project (Full field development)	✓	✓	✓

DME

NT EPA

Dept. of Environment

Single portal?

1-stop-shop?

Sectoral 1-stop shop?

Proposed Reform

- Hawke 2 is about optimising this process



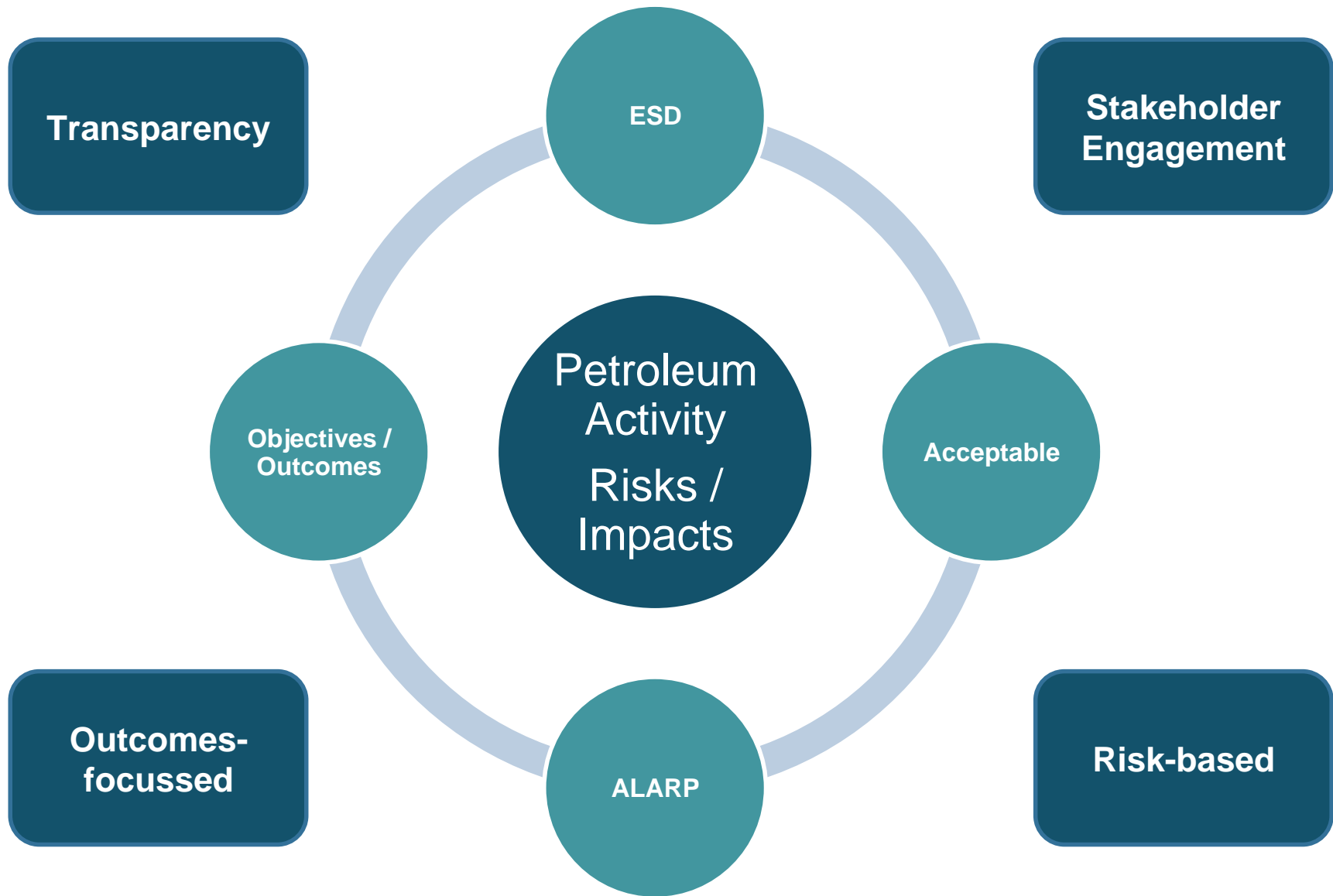
Objectives of the Petroleum (Environment) Regulations

- onshore oil and gas activities are carried out in a manner consistent with the principles of **ESD** and
- environmental impacts and risks are reduced to a level that is **ALARP** and **acceptable**.
- **affected stakeholders** are **engaged** during the development of environment management plans throughout the activity through to decommissioning
- environmental management and decision making is **transparent**,
- focussed on **outcomes** and based on managing key **risks**
- the regulations are **robust** and **enforceable**

The *principles of ecologically sustainable development*

- (a) integrate both long-term and short-term economic, environmental, social and equitable considerations;
- (b) lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- (c) the principle of inter-generational equity;
- (d) the conservation of biological diversity and ecological integrity; and
- (e) improved valuation, pricing and incentive mechanisms should be promoted.





- The draft Regulations have been developed following review of petroleum legislation in Australia and North America and consultation with Industry and Territorians throughout this road to reform
- Recommendations by Dr Hawke (2015) and Tina Hunter (2012 & 2016) have been incorporated in the decision-making process and for the most part accepted.
- Tina Hunter reviewed the regulations in March 2016 and made the following observation:

“They are a solid regulatory tool for future petroleum activities [in the NT], and represent a quantum leap from the Northern Territory regulations of old. They herald in, a new era of objective-based regulation, which has been assessed by the World Bank to be the most suitable form of regulation to foster petroleum development. In addition, these Regulations are the first for onshore petroleum to implement the concepts of Ecologically Sustainable Development, The Environment Regulations will ensure impacts on the environment from onshore oil and gas industry can be safely and transparently regulated.”

- As with any new industry, community engagement and understanding is important
- DME is committed to proactively working with government, industry and the community to identify and address opportunities and concerns arising from the development of onshore gas resources.



6

Onshore basins with high potential

\$B

Onshore oil and gas estimated to deliver between \$17B and \$22B in GSP between 2020 and 2040

Supply

Australian and International markets with NT gas

200+

Trillion cubic feet of prospective shale and tight gas resources

Jobs

Long-term employment increase of between 4200 and 6300 jobs

Industries

Opportunities for local businesses to build sector skills and capability



Thank you