

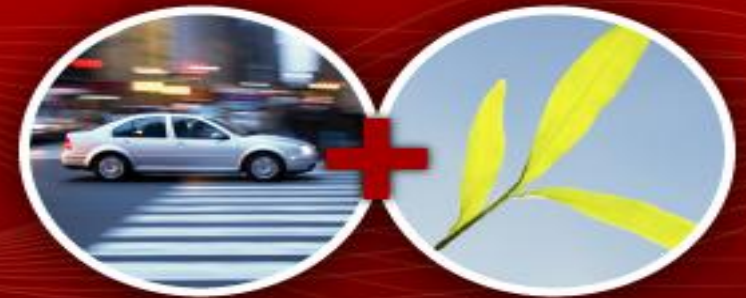


Helping to secure Australia's energy independence in a carbon constrained economy

A draft strategy for the nation's natural gas industry

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About this presentation

- In July 2010, the Energy Networks Association (ENA) commissioned Rare Consulting to develop a Natural Gas Strategy for the Australian gas industry.
- While primarily interested in the role of gas networks (i.e. pipeline operators), ENA recognised that the development of the strategy would require consideration of the gas industry as a whole.
- This presentation provides an overview of the draft strategy that has been developed following conduct of industry research, public policy assessment and industry consultation.
- The development of this strategy has been overseen by a select group of ENA member companies but is yet to be formally considered by the Board of ENA.

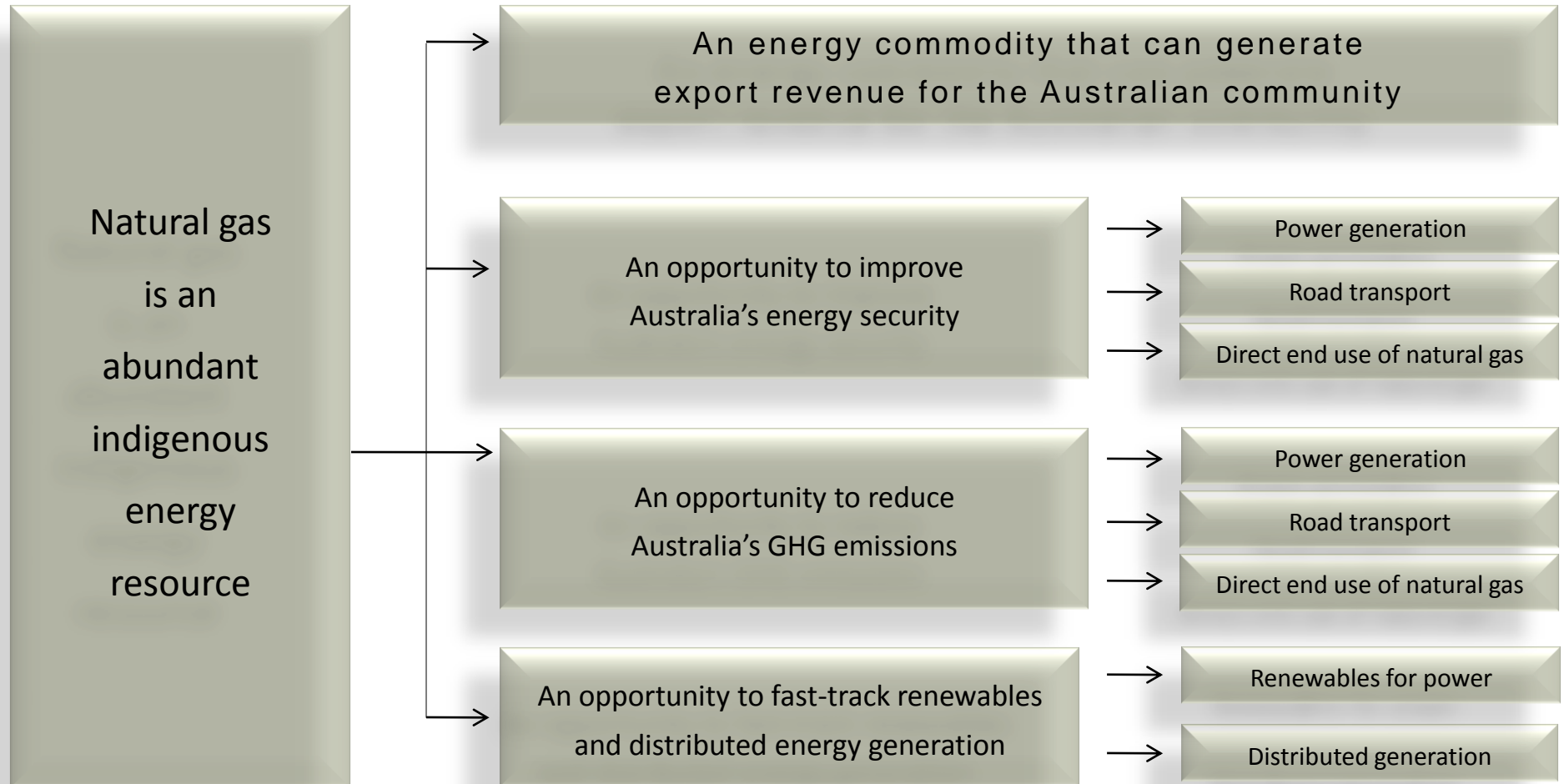
Situational analysis

- The industry has been subject to substantial market reform over the past 10 years in respect of competition and market oversight.
- These market reforms have resulted in an understandable internal industry focus among gas industry stakeholders.
- Meanwhile, the public policy agenda has shifted dramatically with an increased focus on the dual national imperatives of (a) energy security and (b) climate change.
- These two imperatives create opportunities and risks for the Australian natural gas industry – both immediate and near term.

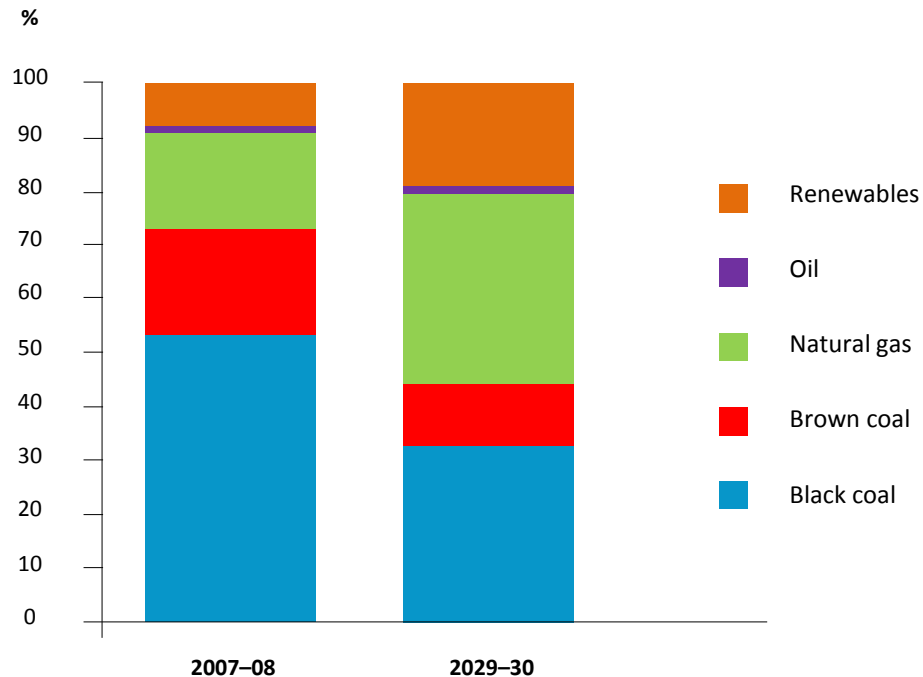
A strategic objective for the Australian natural gas industry to 2020 and beyond

Continue to build a dynamic and economically viable gas industry that delivers energy security and GHG benefits to the Australian economy

Australia's natural gas can be leveraged to benefit the Australian economy



Improving Australia's energy security (stationary energy)



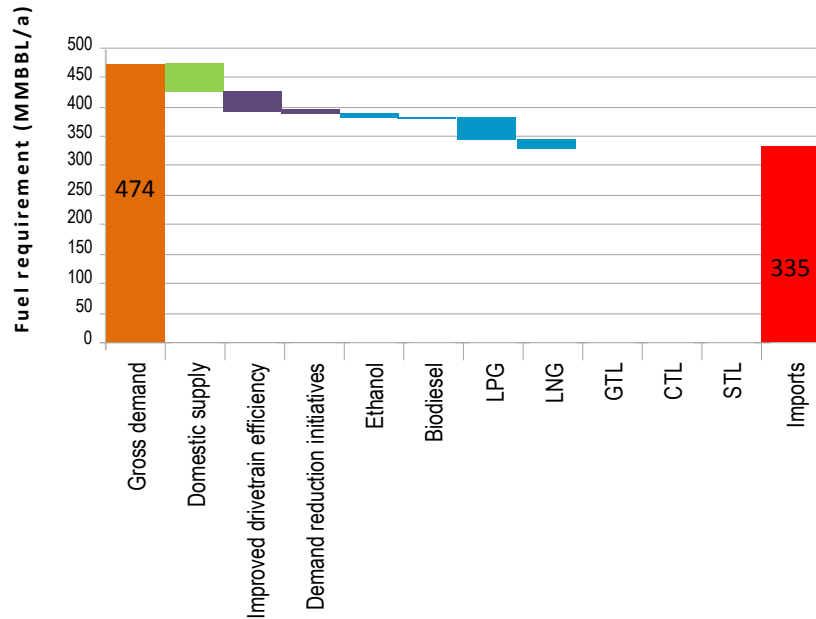
ABARE 2010, 'Australian energy projections to 2029-30'

- Natural gas is an abundant indigenous resource, and its increased use for power generation provides an opportunity to improve Australia's energy security.
- The combination of natural gas and trigeneration technology provides an innovative opportunity to advance the distributed generation agenda, minimising losses (and GHG emissions) from large, centralised power generation facilities.

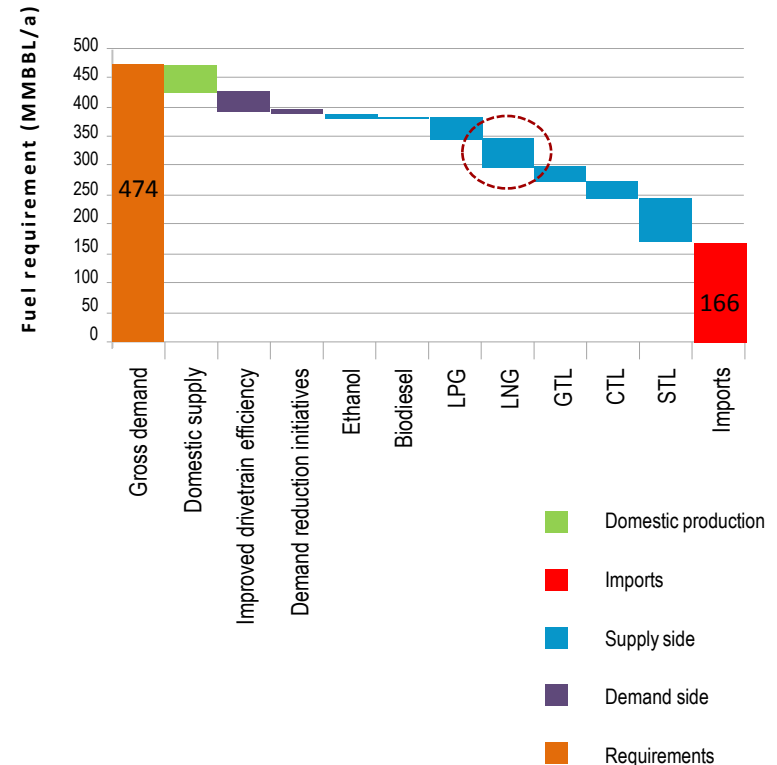
Improving Australia's energy security (transport fuels)

Natural gas, together with other alternatives, has the potential to halve Australia's projected transport fuel deficit to 2030

Business as usual scenario for Australian transport fuels to 2030



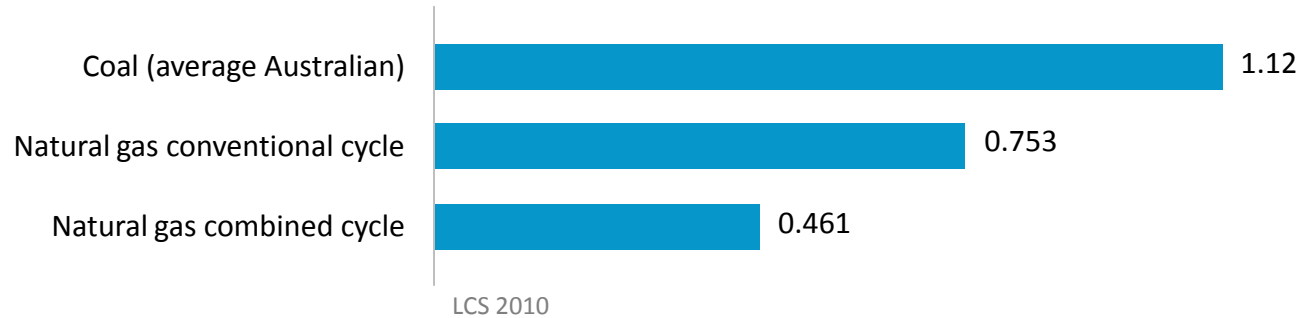
Reduced fuel deficit with alternative transport fuels to 2030



ACIL Tasman et al. 2009, 'Australia's future transport fuel supply options – Economic implications of alternative regional supply and demand scenarios'

Reducing GHG emissions from power generation and road transport

GHG emissions from Australian power generation (CO₂-e kg/kWh)



Heavy duty vehicle GHG emissions (CO₂-e kg/km)



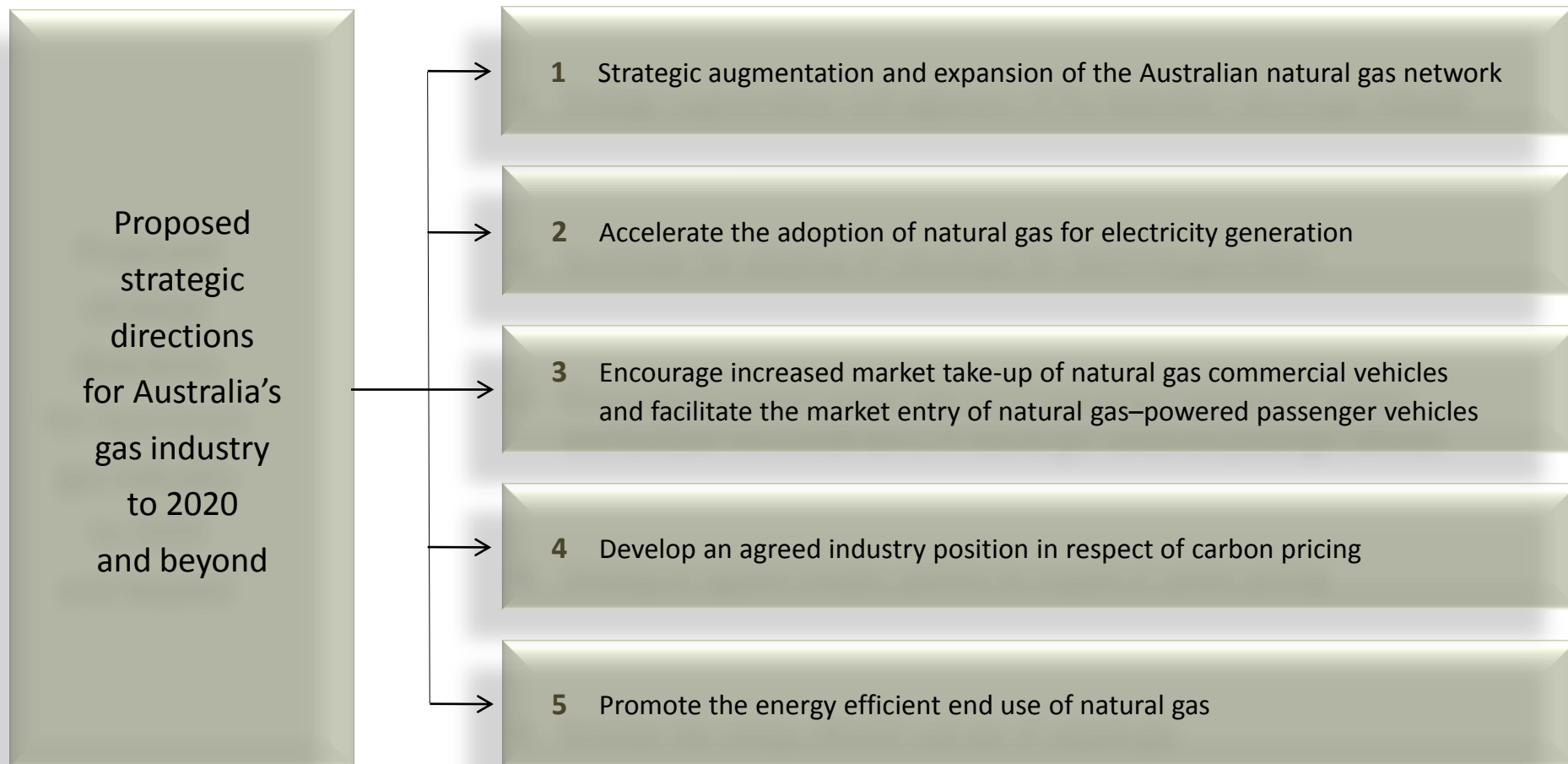
Passenger vehicle GHG emissions (CO₂-e kg/km)



Fast tracking adoption of renewable energy and distributed power generation

- Supporting increased adoption of renewables in the electricity mix beyond 2020:
 - current estimates suggest that the Australian Renewable Energy Target (large-scale and small-scale) of 20% electricity generation by 2020 will be exceeded
 - natural gas power generation facilities can be deployed to respond rapidly to demand fluctuations, creating a power generation solution that can be developed to complement increased use of renewable power for electricity generation beyond 2020.
- Supporting the roll-out of trigeneration technologies for distributed generation:
 - distributed generation offers energy efficiency and GHG reduction benefits by reducing energy losses in the transmission of energy between the power source and the point of end-use
 - natural gas is the ideal feedstock for distributed generation owing to its cleaner burning properties, abundant supply, network availability and suitability for small-scale power generation technologies.

Realisation of the potential opportunities created by Australia's natural gas will require simultaneous pursuit of five strategies by the natural gas industry to 2020 (and beyond)



Strategy 1

Network augmentation and expansion

1. Conduct a comprehensive audit of the national natural gas network (including storage) with a view to identifying:
 - areas of current network vulnerability
 - physical constraints to growth in national domestic demand
 - downstream storage requirements to reduce risk of supply interruption.
2. Develop a 'Natural Gas Network Improvement Plan' for redressing the network deficiencies identified by the audit of the network.
3. Work with government to develop a package of industry assistance measures designed to incentivise near-term investment in the enhancement of the network according to the priorities identified in the Network Improvement Plan. Potential incentives could include:
 - tax breaks
 - accelerated depreciation
 - capital grants assistance for network expansion to unserved areas.

Strategy 2

Accelerate the adoption of natural gas for electricity generation

1. Work cooperatively with electricity generators to develop progressive goals for the future mix of national electricity generation (including commercially sustainable targets for natural gas and renewables) beyond 2020.
2. Assess market barriers to the increased adoption of natural gas for electricity generation and develop an action plan to redress those barriers.
3. Develop a strategic framework for advancing high levels of renewable energy/gas energy use beyond 2020.
4. Investigate the opportunities for distributed generation (via trigeneration technologies) in Australia's major cities.
5. Investigate the real-world merits of introducing smart meters and smart grids for use in the national gas network.

Strategy 3

Encourage the market take-up of natural gas for road transport

1. Work with government and industry stakeholders to develop national targets for natural gas (and other alternative fuels) use in the Australian road transport sector to 2030 and beyond.
2. Assemble a taskforce of industry partners to develop a 'Natural Gas for Vehicles 2020 Strategy' – a strategy for overcoming the current market barriers to increased adoption of natural gas in the transport sector. The strategy will need to:
 - be cognisant of past failures and utilise this experience to design a successful approach
 - leverage early movements in the commercial vehicles sector in the first instance
 - consider opportunities for home-based refuelling of passenger vehicles.
3. Work with government to develop a package of incentives that redress current market barriers to the increased adoption of natural gas based on the actions identified in the Natural Gas for Vehicles 2020 Strategy.

Strategy 4

Develop an agreed industry position in respect of carbon pricing

1. Analyse the GHG benefit that would likely be derived by increased direct end use of gas and increased market adoption of natural gas for electricity generation and road transport on a progressive basis. Develop aggregate GHG scenarios based on gas use targets for:
 - 2020
 - 2030
 - 2050
2. Undertake an investigation of the industry and community impact of difference pricing mechanisms on the achievement (i.e. timing and cost) of the GHG reduction scenarios developed under the action above.
3. Identify a preferred position in respect of carbon pricing and work with all stakeholders to contribute positively to the carbon pricing agenda.

Strategy 5

Promote the energy efficient end use of natural gas

1. Establish a joint industry/government fund for the demonstration and evaluation of new energy efficient gas technologies.
2. Commission credible independent analysis of the GHG abatement potential of gas technologies as an input to government policy development.
3. Work with the gas appliance industry to improve the energy efficiency of natural gas appliances.

The proposed strategy at a glance

Strategic objective

A dynamic and commercially viable industry that delivers energy security and GHG benefits to the wider Australian community

Five strategic directions

1 Augmentation and expansion of the Australian natural gas network

2 Accelerate the adoption of natural gas for electricity generation

3 Encourage increased take-up of natural gas for road transport

4 Develop an agreed industry position in respect of carbon pricing

5 Promote the energy efficient end use of natural gas

Principal supporting actions

- Conduct a network audit
 - Develop a network improvement plan
 - Develop industry assistance measures for network enhancement
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- Develop energy mix targets beyond 2020
 - Identify market barriers to increased gas use
 - Framework for increased renewables and gas in power generation
 - Investigate opportunities for distributed generation
 - Investigate use of smart grids in the national gas network
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- Develop national targets for the transport fuel mix in 2030
 - Natural gas for vehicles 2020 strategy (taskforce)
 - Redress barriers to market take-up of gas for transport
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- Develop GHG reduction scenarios
 - Assess market pricing mechanisms
 - Identify preferred position and advocate this position
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- Establish joint government/industry fund for research
 - Commission study of GHG abatement potential of gas appliances
 - Continue to improve energy efficiency of natural gas appliances

Next steps

1 Board consideration of draft strategy and implementation plan



October 2010

2 Stakeholder consultation



mid-October to mid-November 2010

3 Finalisation of strategy and implementation plan



30 November 2010

4 Ratification by ENA Board



2 December 2010



Policy Design

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