

19 December 2016



**Hon Dr Anthony Lynham MP**  
Minister for State Development  
Minister for Natural Resources and Mines  
State Member for Stafford  
PO Box 15216  
CITY EAST QLD 4002

Dear Minister

Gas Energy Australia is pleased to make a submission in response to the *Queensland Gas Supply and Demand Action Plan* discussion paper. As a state with vast supplies of Australian gaseous fuels, Queensland should be leading other states in the adoption of cleaner, cheaper gaseous fuels as part of its domestic energy mix.

Perhaps more importantly, Queensland – as a major upstream gas supplier – could also be a driver of downstream gas application innovation, technology and skills.

As the peak industry body for downstream gaseous fuels, Gas Energy Australia welcomes the opportunity to work with the Queensland Government. This cooperation can contribute to the development of a policy framework which will showcase the range of benefits that greater use of gaseous fuels domestically can deliver for the broader Queensland community including reducing emissions, creating jobs and developing and showcasing niche skills.

Included as part of our submission, is our recently released *2030 Vision for Natural Gas Fuels* and *Vision for LPG Stationary Energy*, which both include a 10 Point Plan for industry and government to use to work together to take control of our energy future by embracing cleaner and cheaper local energy sources for domestic use.

Perhaps one shortfall in the discussion paper is that while we can work together on demonstrating the benefits and applications of gas to local communities, the paper does not fully address the need to ensure more secure gas supply into the domestic market. Clearly, at least for the short term, failure to address this need not only creates economic dislocation and higher costs, but in itself undermines perceptions of the value of the gas industry.

As predominantly downstream users of gas and developers of gas energy solutions rather than upstream suppliers, our members can assist, but ultimately not force increased supply. What we do know is that where local communities can connect and see first hand

the benefits locally, including jobs, they are more likely to continue to support the development of the gas industry. In that regard, the Queensland Government, the Australian Government and industry can and should work together to show how domestic applications and jobs are created through a vibrant, lower emitting gas future. This would not only assist in maintaining the gas industry's license to operate in Queensland but help encourage other governments to approve the development of their own gas resources.

A number of our members are Queensland-based and would welcome the opportunity to show you around their facilities and demonstrate the benefits the domestic gas industry provides to Queensland in terms of creating jobs, fostering innovation and developing skills.

We would be more than happy to discuss our submission with you in more detail.

Yours sincerely

A handwritten signature in black ink, appearing to read "John Griffiths", with a long horizontal flourish extending to the right.

John Griffiths  
Chief Executive Officer

## EXECUTIVE SUMMARY

Gas Energy Australia (GEA) welcomes the Queensland Government's *Queensland Gas Supply and Demand Action Plan* discussion paper. Queensland is a state with vast supplies of Australian gaseous fuels and has the opportunity to lead the way in the adoption of cleaner, cheaper Australian gaseous fuels for domestic use as part of a clean energy future.

Gaseous fuels are Queensland's natural advantage. They are cleaner, cheaper over the longer term than higher emitting imported fuels, support cleaner air and local jobs and assist Queenslanders to take control over their economic and energy future. With Queensland's abundant supplies of gaseous fuels, it makes sense for Queensland to embrace gaseous fuels for transport energy, commercial, household, recreational and off-grid power generation.

Importantly, gaseous fuels not only offer future lower emitting fuel options for a range of transport applications – including heavy freight trucking, rail and maritime fuels – they also provide an important part of the lower emissions mix for off-grid generation and other stationary energy applications.

No other fuel source in Queensland offers both existing and emerging technology in conjunction with sufficient abundance of resource to significantly displace higher emitting (and mostly imported) transport fuels. Given the focus on energy security in Australia, gas provides an ideal lower emitting base load option in conjunction with renewables as part of the transition to a lower emissions future.

We welcome the recent comments from Minister Lynham that "gas-fired generators have the advantage", because "you can switch them on and off really quickly, unlike coal, which you've got to ramp up and keep burning all the time" (Speech to Local Government Association of Queensland Annual Conference, 19 October 2016).

As the peak industry body for downstream gaseous fuels, our submission focuses on the benefits of greater use of gaseous fuels in the domestic market, including better air quality, fewer carbon emissions, more local jobs, expanded skills and manufacturing, improved energy security and cheaper energy for Queenslanders. These benefits are consistent with the goals of a number of Queensland Government policies including climate change, employment, manufacturing and innovation.

Conversely, we argue that a diverse, regionalised state like Queensland will struggle to meet these goals without incurring significant economic cost, unless it more effectively harnesses the opportunities offered by its significant low emission gas energy resources. It would be crazy, for example, for an energy rich State to remain dependent on imported fuels for its transport needs, even with some progress in alternative fuels, while failing to harness its gas resources for its own domestic needs not just for export income. We do not argue for the exclusion of other emerging technologies and this submission supports a 'gas AND renewables' setting; but we do point out that only gaseous fuels provide both the energy density and abundance of resource to meaningfully displace other fuels for the foreseeable future.

In direct response to the discussion paper's core objective of improving the sector's social licence to operate and the strong imperative to increase gas exploration and production,

our submission focuses on the need for increased awareness of how this abundant and cleaner resource works in conjunction with other technologies. Additionally, we advocate for more local demonstrations of the benefits of gaseous fuels. Our experience is that where local demonstrations of the benefits gaseous fuels exist, such demonstrations improve support for upstream operations – as opposed to the view that the industry is exporting the benefits but localising the impacts.

Our submission and specific responses to reform ideas, emphasises the need to increase the presence of domestic gaseous fuels in Queensland. This aligns with a range of Queensland Government policy agenda's including:

- Advance Queensland, to drive innovation and build on Queensland's advantages, such as our abundant supply of gas;
- Skilling Queenslanders for work and Jobs Queensland, to ensure skills demand and future workforce planning;
- Great Barrier Reef Water Quality Protection Plan to protect the Reef that support tourism, recreation and fishing; and
- The Advancing Climate Change Action policy.

We recently released a *2030 Vision for Natural Gas Fuels* and *Vision for LPG Stationary Energy*, both of which contain comprehensive 10 Point Plans that map out how industry and government can work together to take control of Australia's energy future. These documents are included as part of our submission.

## RESPONSE TO REFORM IDEAS

### ***Reform Idea 6: Improve the provision and clarity of information regarding the gas sector to communities***

As outlined in our Vision documents, GEA agrees that there is a need for more information to be provided to the community about the range of downstream benefits that flow from the gaseous fuels industry.

By creating more awareness of the downstream benefits, including air quality and jobs, direct and indirect, and opportunities for improved skills and training we can help demonstrate the true value of the gaseous fuels industry. This would tackle the perception that governments and industry alike are exporting the benefits while 'localising the impacts',

#### **NESTLE, Gympie**

Nestle has had a factory in Gympie since 1986, produces half of all of the coffee that is consumed in Australia and employs over 200 people.

Originally using butane, which is no longer being produced at local refineries, Nestle transitioned to LNG because of environmental benefits and the LNG is produced locally.

Nestle uses LNG for roasting, raising steam and for drying its coffee beans.

Our industry recognises that together with government, we must do more to make the community aware of the benefits and many applications of cleaner, cheaper gaseous fuels as alternatives to dirtier, higher emitting and imported oil.

We can also work with the Queensland Government to highlight the realities and opportunities of various alternative fuels and technologies in the Australian context, promote the use of local resources and realistically map a path to a lower emissions future. While Australia will and should seek a range of lower emitting technologies for different uses – solar power cannot drive a truck from Brisbane to Cairns and wind will not supply fuel for a road train from Longreach to Kurumba. Currently, no other energy resource, apart from gas, offers an alternative to Queensland's highly polluting remote off-grid diesel generators – even as part of a hybrid solution – with matching reliability along with lower emissions and greater affordability.

Many Queenslanders would not be aware of just how versatile gaseous fuels can be, they are not just for home water heating or barbecues, but can also be used for a range of transport and stationary applications.

Given the Queensland Government's focus, not only on lower emissions but on protecting assets like the Great Barrier Reef, it is ironic that most of the electricity generation on its offshore islands and most of its shipping is powered by diesel and worse, bunker oil. In contrast, gaseous fuels cannot slick or sediment if spilled and are significantly lower emitting when burned.

The Queensland Government should consider a policy, similar to that proposed by the New South Wales Labor Opposition, whereby high sulphur fuels would be banned to



reduce air and water pollution. Without more stringent environmental controls on ships and ferries in our waterways, and the Great Barrier Reef, Queensland risks becoming the dumping ground for old technology clunkers.

Gas Energy Australia is already working with the New South Wales Government to highlight the tourism benefits and opportunities when using gaseous fuels to power cruise ships. Some of these benefits include less noise, lower emissions, improved air quality and no slicking or sediment in Sydney Harbour. Similarly, in Queensland, gaseous fuels can help to protect the Great Barrier Reef, as a transport fuel for ships and ferries also as electricity generation on offshore islands. Greater use of gaseous fuels in ships and ferries on the Great Barrier Reef will contribute to the Government's Great Barrier Reef Water Quality Protection Plan.

The gas industry recognises that it needs to do more to explain the benefits of Queensland sourced gas to our community, particularly as we need community support to facilitate a shift towards domestic gaseous fuels.

There is mutual benefit for the industry and government to work together to build awareness of the benefits of gaseous fuels, not just to communities, but to potential domestic purchasers, including the Government itself. In conjunction with supportive government policy settings that enable demand to rise, the industry can provide more focus on providing clear, unambiguous and consumer-friendly information about the benefits and applications of gaseous fuels.

The need for industry and government to work together to build community awareness is outlined in our *2030 Vision for Natural Gas Fuels* as Point 3 of our 10 Point Action Plan and in Point 1 of our 10 Point Action Plan in our *Vision for LPG Stationary Energy*.

*Benefits of Cleaner, Cheaper, Australian gaseous fuels include*

- Gaseous fuels are cheaper and will lower the cost of living
- Gaseous fuels are a Queensland fuel that support local jobs and a stronger Queensland economy
- Gaseous fuels are up to 50% less carbon polluting than coal [diesel comparison covered in table below]
- Gaseous fuels are Great Barrier Reef friendly
- Gaseous fuels are "now" fuels
- Gaseous fuels are safer for our children

## Natural gas fuels are cleaner and healthier

	DIESEL	NATURAL GAS
Carbon Dioxide (CO <sub>2</sub> )	✗	30% lower ↓
Nitrogen Dioxide (NO <sub>x</sub> )	✗	75% lower ↓
Particulate Emissions	✗	90% lower ↓
Sulfur Oxide (SO <sub>x</sub> )	✗	99% lower ↓

Source: Ferus, United States<sup>23</sup>

### What are Queensland's cleaner, cheaper gaseous fuels used for?

Domestic gaseous fuels, including CNG, LNG and LPG are sourced from abundant natural supplies across a range of sources and provide Australian specialist design, engineering, construction and production jobs. They can be used for a range of domestic, industrial and transport fuels including:

- Lower emitting fuel for reliable power generation, especially off-grid generation;
- Being used alone where renewables are not optimal or in hybrid technology along with renewables to ensure cleaner, continuous power;
- Domestic heating and water heating, including solar gas hybrids which are among the lowest emitting and most cost effective source of domestic hot water;
- Lower emitting and less polluting transport fuels as an alternative to increasingly imported, higher emitting and higher polluting oil based fuels;
- The only viable and lower polluting alternative for heavy transport applications such as large long haul trucks, freight trains and ships and ferries which are increasingly dependent on imported diesel and dirty bunker oil from some of the most dangerous places on earth. Indeed, there is no renewable energy likely to be suitable for these heavy transport tasks for the foreseeable future; and
- Helping reduce Australia's strategic oil reserve shortfall more cost effectively by diversifying some of Australia's domestic fuel needs and reducing imports.

In Queensland there are a number of examples and we have included a range of case studies and vignettes to assist.

### Gaseous fuels AND renewables, NOT gaseous fuels OR renewables

Gaseous fuels and renewables are not natural enemies. In fact, they are natural allies with a range of technologies able to bring together these complementary energy sources – including hybrid solar/gas applications to deliver the cleanest and most efficient around-the-clock energy.

Instead of diesel generators, the Queensland Government should be encouraging the use of gas and gas hybrids in conjunction with renewable hybrids which are cleaner and reduce particulate emissions to almost zero. It makes no sense for somewhere like

Thursday Island, Birdsville, Windorah and Doomadgee to be using diesel and renewables, when they could be using gas/renewable hybrids that are cleaner, cheaper and easily fuelled by virtual pipeline, without the need for expensive infrastructure.

Former Labor Governments and Labor Ministers have recognised the importance of gaseous fuels, with former Minister for Mines and Energy Geoff Wilson noting that “LPG, and gas generally, are destined to play a significant role in helping to meet the energy needs of our rapidly-growing population” and former Premier Anna Bligh stating that “LNG produces up to 25 per cent fewer emissions than diesel when used for transport and is a quieter, proven, safe alternative to other fossil fuels.”

#### **SELECTED SEEDS, Pittsworth**

Selected Seeds is an industry leader for tropical pastures, domestically and internationally, and until recently used a combination of diesel and solar energy for grain drying.

Initially, Selected Seeds used a solar/diesel hybrid, because through the renewable energy grant program, it was the cheapest option. However, they have now replaced the diesel component of the hybrid with LPG, because it is cleaner and improves energy efficiency during winter as well as saving 10% in costs.

In this instance, a government rebate facilitated the use of a diesel generator, instead of promoting cleaner LPG.

### ***Reform Idea 7: Improved capability and capacity of local suppliers to the gas sector***

BOC, a member of the Linde Group and a member of Gas Energy Australia, completed the construction of its Condamine Micro LNG plant in December 2014 and is proud to have used a range of inputs from local Queensland and Australian businesses.

In addition, a large number of our members and associates use locally-based companies, employ local residents and indirectly support local jobs through the customers that enjoy the benefits of cleaner, cheaper, gaseous fuels.

*Some of the jobs and skills created along the domestic gas value chain include:*

- Designing and building plants
- Builders and construction workers for plants
- Upstream gas development, processing and transmission
- Drivers, pipeline construction workers and engineers along the distribution chain
- Designing and manufacturing refuelling vessels and equipment
- Assembly jobs for containers
- Designing, manufacturing and assembling transportation containers
- Designing, building and operating refuelling stations
- Delivering, selling and supplying LPG for households and recreational use
- Manufacturing and converting vehicles to gaseous fuels
- Teachers in training facilities

#### **BOC MICRO LNG PLANT, Condamine**

Construction of the BOC Micro LNG Plant started in mid 2013 and was completed in late 2014, with up to 40 people employed during the construction phase and full time employees now based at the plant to oversee operations.

It is the first, and only, LNG plant dedicated to the transport industry.

BOC was proud to have significant Queensland involvement including from companies such as Murphy Pipe and Civil and ICD Asia Pacific.

BOC also contracted GLP and John Beaver Australia, both Victorian based companies, to work on the Condamine Plant. Given Queensland's desire, through initiatives such as Advance Queensland, to harness unique skills and opportunity, we should be fostering and welcoming expertise in the gas sector to Queensland with a strong domestic gaseous fuels industry.

Victoria traditionally hosted a range of gas technology players off the back of the long term development of Bass Strait's oil and gas. However, as the state where gas production has grown fastest in recent years, Queensland has the opportunity to attract a range of downstream gas players and jobs with the right policy settings. Ironically, there is a risk that in the post Curtis Island and upstream capital boom, Queensland could lose the opportunity to harness the skills and expertise accumulated during that period.

***Reform Idea 8: Improved pre-qualification and induction requirements for local suppliers to successfully tender for gas work***

In addition to reviewing tender requirements for gas work, the Queensland Government should lead the way in their own tender and procurement requirements, such as introducing procurement policies that require the purchase of low emissions gas vehicles, vessels and equipment.

For cleaner air and waterways and lower costs, the Queensland Government should make a strong commitment to adopt gaseous fuels for major bus, ferry and train services. In 2015, the ABS reported that in Australia we already have over 4,000 natural gas powered buses, but that is only the beginning - we still have over 90,000 buses on the road using higher polluting and imported fuels. Even when comparing natural gas powered engines to Euro VI diesel engines, natural gas engines perform better with less NOx, Sulphur Dioxide, Particulate Matter and Carbon Emissions (The Future of Gas – National Grid, 2016).

This commitment should also extend to remote power generation and power stations. Australia-wide, renewable energy sources only account for around 2 per cent of stationary electricity generation owing to its high costs and lack of reliability. The Bureau of Resources and Energy Economics (BREE) found that while there is potential for improvement in this area, technology will take some time to progress and in the interim, gaseous fuels provide the cleanest and most efficient alternative. Importantly, in its 2014 Australian Liquid Fuels Technology Assessment, BREE also found that natural gas fuels offer “the lowest LCOF (levelised cost of fuel) over most of the projection period and they remain cost competitive with the lower cost renewable technologies out to 2050.”

**NORA VALLEY FARM, Yandina**

Nora Valley farm at Yandina, uses LPG as heating for the green houses where they grow tomatoes. Since switching to cleaner, cheaper LPG, they have been able to lower their production costs and expand into new markets, doubling the size of their greenhouse in the last twelve months.

Using LPG means they can control the heat in the greenhouse and produce better quality tomatoes for Australian families. It also means they no longer have black soot from their diesel generators which land on the greenhouse roof, and stop direct sunlight coming through.

Nora Valley employs 60 people directly and indirectly and is a great Queensland small business.

***Reform Idea 9: Negotiate an agency memorandum of understanding (state and federal) to provide a framework for collaboration and cooperation across all regulatory functions, systems and reform initiatives***

As noted by the Federal Government's Strategic Framework for Alternative Transport Fuels, there is regulatory inconsistency between states and territories with respect to heavy vehicles.

CNG and LNG vehicles require larger fuel tanks to store enough energy to achieve a similar range to conventional heavy vehicles. To accommodate the large fuel tanks, gas-powered heavy vehicles can suffer a payload penalty (resulting in reduced transport carrying capacity) in order to meet dimension and mass requirements.

While approval for greater length or higher mass limits of heavy vehicles can be requested, network access regulations in the different states and territories vary to ensure important elements such as the structural integrity of bridges. This variation in regulation can result in multiple access permits being required for interstate transport routes, which increases costs and regulatory burden.

Working with industry, the Queensland Government should make recommendations to the Federal Government to harmonise these regulatory requirements so that they do not continue to act as a brake on gaseous fuels expansion.

Australia is not the only country that exports gas, but it is evident that Queensland businesses and customers, face more expensive gas prices domestically as a result of the export market. Given we have such abundant supplies of gaseous fuels available, it makes no sense for us to have such high energy prices. The Queensland Government should, through COAG and other forums, address this price irregularity and given the Government's focus on lowering the cost of electricity. The Queensland Government should be leading the way in the reform of the energy market.

***Reform Idea 12: Removal of obstacles to the market achieving economies of scale and commercially viable field development***

Gas Energy Australia welcomes the removal of obstacles to upstream development and notes that it is more aware of the downstream and local benefits for a vibrant gas technology industry; including direct jobs and supported jobs that help to build community acceptance.

Queensland Government policy should support all energy sources that can contribute to reducing our carbon emissions, regardless of the technology or source.

In considering the Government's agenda and policy objective of reducing electricity prices, the Government should consider removing obstacles that limit gaseous fuels from playing a major role in power generation, particularly in off-grid in remote and regional Queensland.

Ergon Energy has the highest proportion of Single Wire Earth Return (SWER) networks among all Australian Distribution Network Service Providers (DNSPs). According to a report from Ergon, SWER has poor outage performance and is susceptible to reliability issues as a result of conductor failure (How Ergon Energy Compares 2014).

In addition, Ergon has 33 remote power stations, 29 of which run on diesel and four are diesel/renewable hybrids (Ergon Energy – Network Management 2016). Gaseous fuels, not diesel, are the ideal way to supplement renewable power for regional and remote Queensland towns and islands. Giving these towns reliable 24 hour a day, lower cost and cleaner energy. Gaseous fuels are the only fuel that, at scale, can significantly reduce carbon emissions and even more when part of a renewable hybrid generator.

Even though gaseous fuels are one of the cleanest energy sources available, they are excluded from some government – state and federal - schemes which support specific technologies rather than supporting the best lower emissions technologies for particular applications.

All low emissions fuels should have equal access to green schemes. Government should focus on delivering the best environmental outcomes, rather than promoting particular technologies.

Given the significant environmental benefits of gaseous fuels as well as their ability to be easily accessed in rural and regional communities, these fuels should be provided the same support from governments as other competing technologies.

The Queensland Government should call on the Federal Government to implement a similar policy, that is technology neutral.

In addition, one of the major barriers to entry is a lack of consumer choice. The Queensland Government should support consumer choice for the right energy for their circumstances.

The Queensland Government should also consider providing community service obligation payments directly to consumers in regional and remote areas; thus allowing them to choose the cleanest and cheapest energy options for their circumstances.

As outlined in the Federal Government Energy White Paper, ‘consumers should have easy access to information to encourage the productive use of energy’, and that enable them to make informed choices about their energy use’.

It is not that regional communities should not get support, but the subsidies for regional communities should support the best choice of energy for their energy circumstances, not just the energy source a government has chosen to support.

As outlined in the discussion paper, Queensland is well placed to provide a strong foundation for gas production, including exporting it to New South Wales and Victoria, delivering economic benefits to Queenslanders in addition to the environment benefits of cleaner, cheaper gaseous fuels.

The Terms of Reference for the discussion paper notes that we need to ensure that Queensland capitalises on all possible demand opportunities and these start at home in the Queensland domestic market. Despite gas being the only fuel capable of helping Queensland transition away from diesel to a lower emissions energy future, market dysfunctions are creating barriers to entry.

***Reform Idea 14: Continuous improvement of regulatory processes***

The Queensland Government should work with industry to identify and remove regulations that hinder the use of gaseous fuels. For example, some regulations prevent LNG vehicles from having large fuel tanks to achieve similar ranges to conventional heavy-duty vehicles. State and territory procedures for issuing a permit to transport gaseous fuels across state and territory borders and procedures for registering pressure vehicles holding gaseous fuels should be standardised.

In addition, the Queensland Government, working with industry, should investigate the harmonisation of product and transport safety standards such as different state regulations for the transport and storage of LPG across state and territory borders. This should include the automatic acceptance of internationally approved appliances. Current red tape imposes significant costs of compliance and administration which are passed on to consumers.

Gas Energy Australia welcomes any steps taken by the Queensland Government to reduce red tape and highlight the high standards the industry sets and follows.

***Reform Idea 18: Validating and publishing geoscience, resource and production data***

GEA welcomes this reform idea from the Queensland Government as a first step. However, according to a recent report from the Office of the Chief Economist in the Federal Department of Industry, Innovation and Science, limited data exists on energy use and activity, particularly in the residential sector. This means that policy settings are often based on unsupported assumptions or political considerations, rather than good data. If implemented, the industry will work with the Queensland Governments to increase the data available on gaseous fuel usage in the home, commercial sector and rural and regional communities. Further, the industry will work with Government to collate and report the data to support policy development.

While more capture and publication of robust data is essential, GEA reiterates that highlighting local domestic use benefits is also critical to increasing familiarity and ultimately building stronger support for the supply and use of natural gas.

***Reform Idea 23: Enhanced international marketing of the gas sector***

Marketing of the gas sector should not be limited to the international market. In order to increase the use of cleaner and cheaper gaseous fuels locally, the Queensland Government should work with industry to promote the use of gaseous fuels and the broad range of benefits and opportunities it can provide locally.

Gas is the third largest energy resource available in Australia. A report by the Bureau of Resources and Energy Economics (2014) confirmed that Australia has more than enough gas to meet most of its domestic and export needs. This means that Queensland can have it all - royalties from exports while increasing domestic use to create jobs, harness skills, lower the cost of energy and improve the environment, including reducing carbon and toxic carcinogenic emissions.

### ***Reform Idea 26: Technology road map developed with an alternative funding and delivery model***

The gaseous fuels industry is encouraging Queensland expertise and innovation in gaseous fuels, which creates Queensland jobs and helps keep niche skills in Australia. The need to harness and retain these skills was recognised by the Bligh Government which launched a \$10 million LNG Industry Skills Fund to ensure Queenslanders were the best prepared and most qualified to take advantage of the then infant LNG industry.

In considering this reform idea, the Queensland Government should ensure that funding for innovation extends to all sectors that demonstrate new and more efficient methodologies.

The Queensland Government should be supporting innovation, R&D and manufacturing jobs in the development of specific gas technologies that Australia has a natural advantage in and specific need for. Including through the extension of job creating programmes such as Advance Queensland.

#### **INNOVATION IN GASEOUS FUELS, Intelligas - Caboolture**

Together with their partners, Queensland company Intelligas has developed technology to retro fit a range of mine vehicles including trucks, dozers and shovels with a “plug in plug out” tank and High Density Compressed Natural Gas (HDCNG) fuel system.

Fitting these vehicles with a HDCNG engine not only reduces carbon emissions by up to 25% but also largely eliminates cancer causing particulate emissions, improves the life of the engine and reduces engine noise.

It is also little known to most people that we operate some of the largest truck engines in the world. Ironically, because the rest of the world does not run things like road trains to the same extent as Australia, there is little demand elsewhere for things like a 15 litre truck engine which is no longer being made overseas. However, Australia and particularly Queensland, still needs such large engines because of our heavy freight applications which are an ideal platform for lower emitting gaseous fuels where renewables are not a feasible alternative. While Australia is unlikely to compete with automotive manufacture more generally, in these niche areas of large engines, mining applications, remote generation, off shore island applications, GEA believes that Australia, and Queensland in particular, has an opportunity for niche design, skills, construction and specialised manufacturing jobs on the back of its role as a leading gas producer.

This is consistent with Queensland’s focus on innovation, Mining, Equipment, Technology and Services (METS) and balancing its significant resource sector with its leadership in transition to a lower emissions economy.

As a state with vast gas reserves and production, Queensland is in the box seat to be a technology leader in gaseous fuels in areas with direct relevance to our economic needs and advantages and this ambitious goal should be supported by specific government policy.

### ***Reform Idea 28: Reform pipeline trading arrangements***

In addition to the fixed pipelines referred to in the discussion paper, virtual pipelines are able to transport gaseous fuels all over Queensland, anytime and anywhere, right now.

While we agree the Government needs to consider reforms to pipeline trading arrangements, the discussion paper fails to highlight or consider the huge benefits of virtual pipelines for a state the size of Queensland.

In a state as vast as Queensland, service delivery and the provision of everyday necessities such as water, electricity and telecommunications can be very expensive and logistically difficult to provide.

All Queenslanders, including those living in rural and regional towns, deserve easy access to cleaner, cheaper, Australian fuels – but they should not have to wait until the construction of fixed infrastructure. They can have access to cleaner, cheaper gaseous fuels right now, via virtual pipelines.

A virtual pipeline is an often cheaper and faster alternative to a fixed pipeline, and is the supply and transportation of gas by truck, instead of a physical pipeline infrastructure network.

Virtual pipelines do not require much permanent infrastructure and can change their route or destination immediately, based on community and business needs.

In areas where there are no gas networks, or when there is an issue with infrastructure, virtual pipelines can provide communities with a cleaner, cheaper source of secure and accessible energy.

For much of Queensland, virtual pipelines are more cost effective than expensive fixed pipelines.

#### **LPG IN DISASTER RECOVERY, Coopers Creek**

In February 2013, following ex-tropical Cyclone Oswald, a landslip cut off the road into Coopers Creek, leaving 140 residents without access to essentials. While the New South Wales SES helicopter was delivering food and medicine to residents, they were left without access to energy.

Working together, the local Elgas Branch Manager and the SES, arranged for LPG cylinders to be airlifted by helicopter to the residents of Coopers Creek including the local Coopers Creek School. The local Elgas supplier showed residents how to connect up the LPG cylinders to power their generators, refrigerators and cooking facilities.

No other source of energy is as easily accessible and as easy to be transported and cleaner and cheaper than gaseous fuels.

## **WHAT OTHERS HAVE SAID ABOUT GASEOUS FUELS**

- “Gas-fired generators have the advantage” because “you can switch them on and off really quickly, unlike coal, which you've got to ramp up and keep burning all the time”  
Hon Anthony Lynham MP, Minister for Natural Resources
- “LNG produces up to 25 per cent fewer emissions than diesel when used for transport and is a quieter, proven, safe alternative to other fossil fuels.”  
Anna Bligh, Former Premier of Queensland
- “Gas has half the carbon dioxide emissions of that produced by electricity from coal-fired power stations. Climate change is a global problem but each of us can make a difference by making small changes to the way we live and work.”  
Peter Beattie, Former Premier of Queensland
- Australia’s heavy reliance on imported fuel is a “*discussion we have to have*”.  
Professor Ian Chubb, former Chief Scientist of Australia
- “Australia has a natural gas advantage that should translate into a world leading natural gas industry and competitive advantage driving economic growth and local engineering, design and other jobs. Engineers Australia supports the need for a diverse domestic fuel market in Australia ensuring we are not 100% dependent on foreign fuel imports.” Dr Brent Jackson, Engineers Australia
- “This is a great opportunity to use our local expertise and natural resources to meet Australia growing vehicle fleet needs. We know that an over reliance on one fuel source has its limitations so why wouldn't we seek to maximise the use of a fuel that provides great economy for motorists and that also reduces CO2 emissions compared to petrol?” Geoff Gwilym, VACC Executive Director, commenting on the Victorian Government’s support for the LPG Vehicle Demand Study
- “Australia’s fuel self-sufficiency could be increased to 50 to 70% by 2030 through using natural gas as a transport fuel, compared to just 30 to 40% using current fuel sources.” Professor Robert Clark, University of New South Wales
- “Australia should explore and trial the use of CNG passenger cars and LNG in heavy vehicles to increase our utilisation of domestic energy sources”. Andrew McKellar, former Chief Executive, Australian Automobile Association
- In its 2014 Australian Liquid Fuels Technology Assessment, the Bureau of Resources and Energy Economics found that natural gas fuels offer “the lowest LCOF (levelised cost of fuel) over most of the projection period and they remain cost competitive with the lower cost renewable technologies out to 2050.”
- “Australian natural gas is a high quality, environmentally friendly fuel, that is cheaper than distillates and supports Australian jobs. In Tasmania, we were proud to be a first mover, designing the world’s first high speed LNG ferry. The experience of sourcing and using domestic gas on this world’s first vessel, proved to be very satisfactory, as the quality experienced is far greater than is available to our customers in other global markets.” Robert Clifford AM, Incat Group of Companies



## **CONCLUSION**

The Members and Associates of Gas Energy Australia want to continue to build on our long term relationship with Queensland.

We welcome and are encouraged that the Queensland Government recognises the opportunity and need for Queensland to ensure it has cleaner and more diverse fuel options for the future. Natural gas fuels are good for the environment and are good for Queensland skills and jobs.

It is the demonstration of the downstream jobs and skills created from the gaseous fuels industry that allows the industry to highlight to the community that the gaseous fuels industry uses Queensland's natural advantages and the vast benefits which result are not all destined for exports.

In order to do so, gaseous fuels must remain a part of Queensland's clean energy future and have access to the same range of policies and programmes as other fuel sources.

## **ABOUT GAS ENERGY AUSTRALIA**

Gas Energy Australia is the national peak body that represents the bulk of the downstream alternative gaseous fuels industry, which covers Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG).

The industry comprises major companies and small to medium businesses in the alternative gaseous fuels supply chain – refiners, fuel marketers, vehicle and equipment manufacturers, vehicle converters, consultants and other providers of services to the industry.

The Association's mission is to optimise the value and benefits of gaseous fuels for the benefit of Australia's national interest – to achieve energy security and economic prosperity in a lower carbon economy, and the Australian community in providing access to affordable energy.

The Association focuses on advocating the value and benefits of the fuels through engagement with the federal government, state authorities and the community.