The 2011 Clean Energy Bill legislative package

A summary of the key issues arising for the Australian LPG market

Presentation to:

The Federal Joint Standing Committee on The Clean Energy Bills

by:

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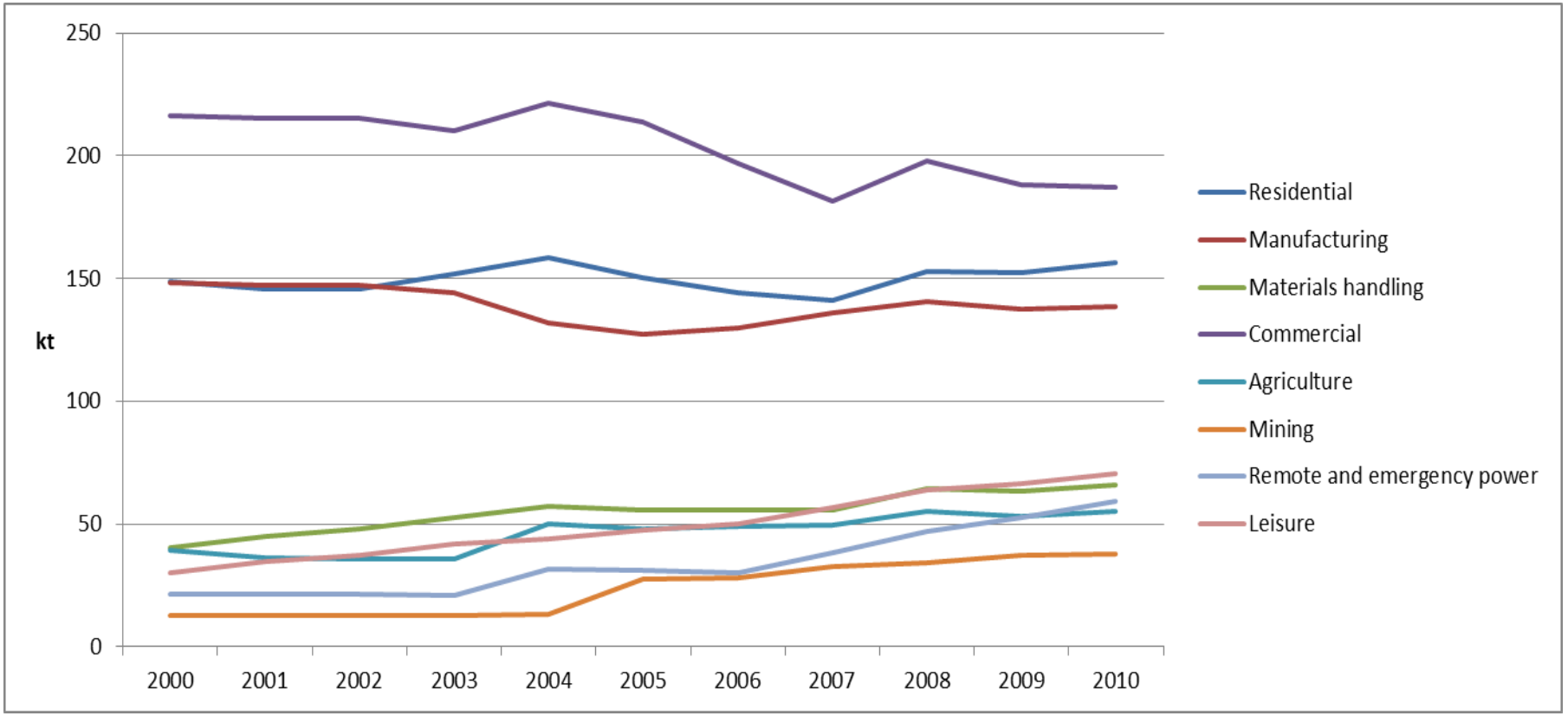
Introduction

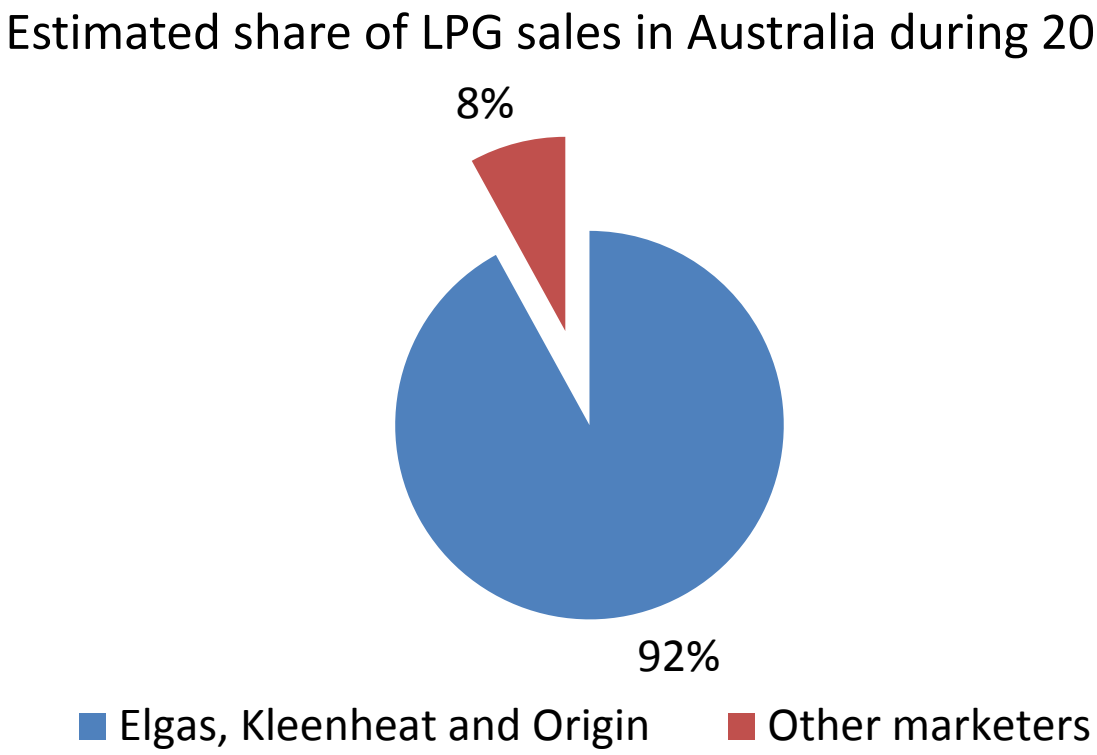
- In August 2011, LPG Australia commissioned a comprehensive review of the likely impact of the draft exposure Bill.
- The review was undertaken against the background of two strategic reviews completed by LPG Australia, namely:
  - 'Future directions 2030 – A roadmap for the Australian LPG vehicle industry' (December 2010)
  - 'LPG use in Australia to 2030 – A strategy for the future use of LPG in stationary energy applications in Australia' (August 2011).
- The review concluded that the proposed Clean Energy Bills have not adequately considered:
  - the fact that LPG is used extensively for non-transport applications in Australia and therefore must compete with electricity and natural gas for market share
  - the distortion in stationary energy market competition created by the exclusion of LPG from the future carbon trading mechanism.

LPG currently competes with electricity and natural gas for market share in eight key segments of the national stationary energy market



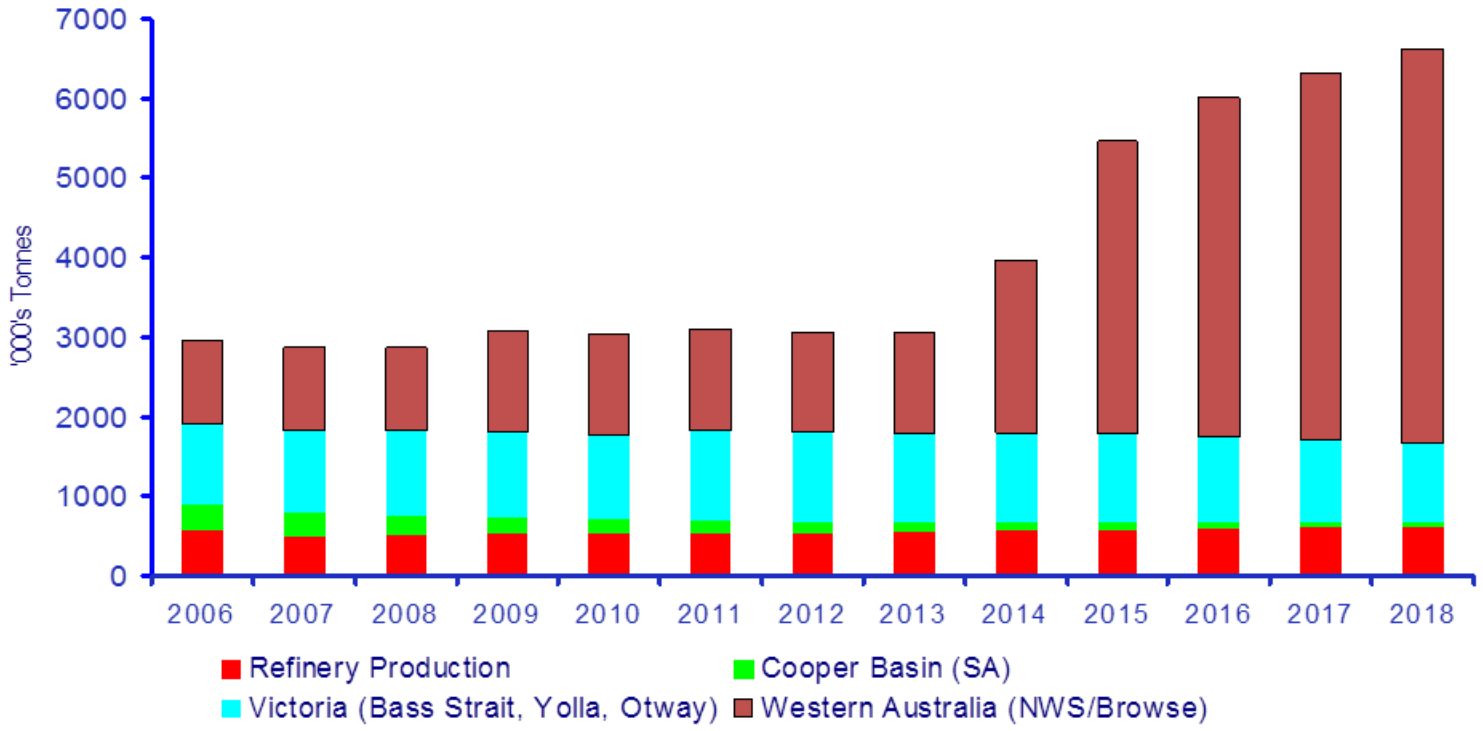
Source: LPGA (2011)

The LPG market is characterised by the dominance of three major LPG businesses and a handful (3 to 5) of smaller operators



Source: Australian Commodities (2008, 2009)

The domestic availability of LPG supply is set to increase in the near term with the majority being sourced from natural gas fields

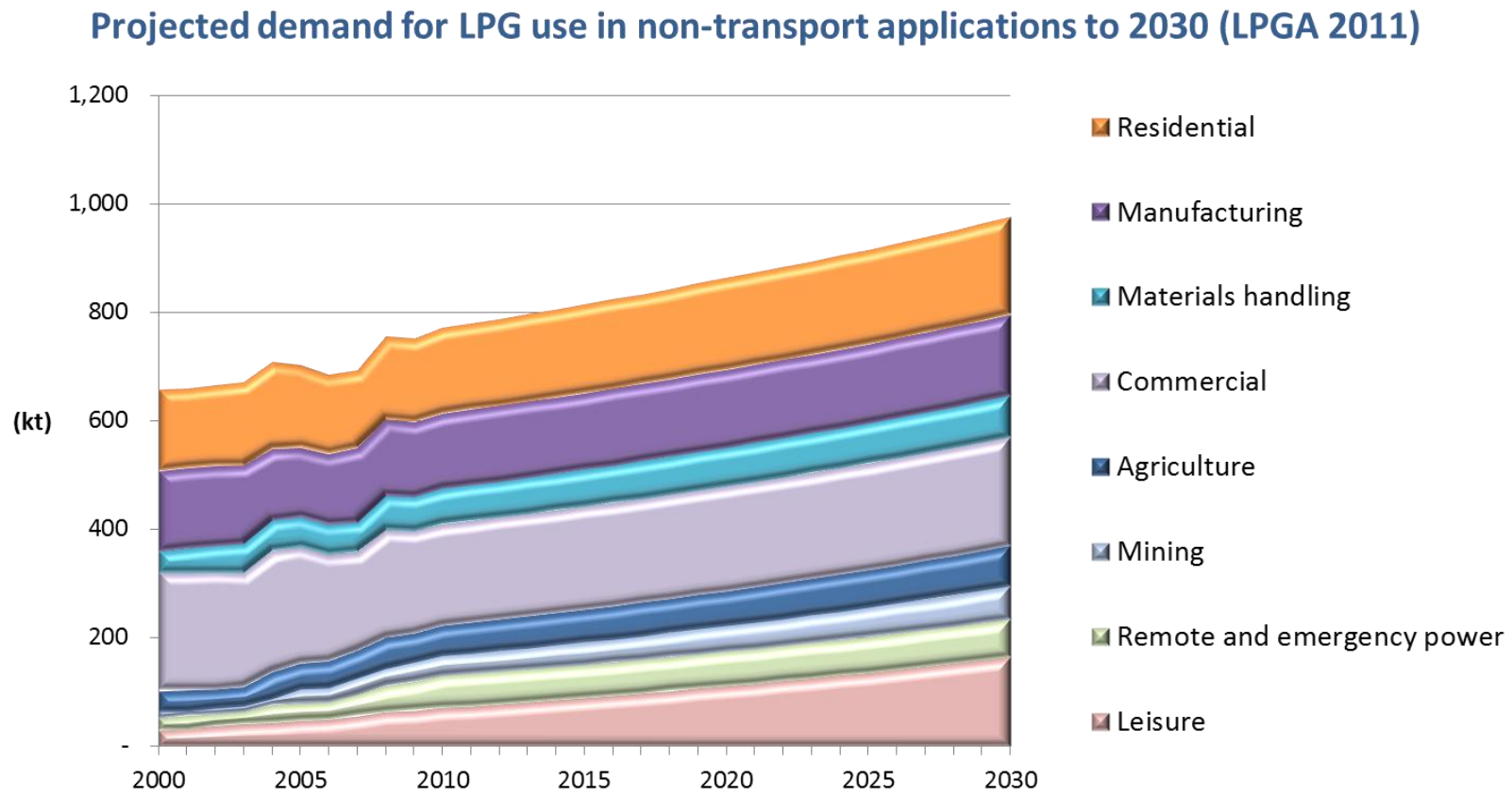


Note: On average, the life cycle GHG emissions of LPG sourced from natural gas fields are 10% lower for LPG sourced from petroleum refineries.

Source: Rare (2011b)

Source: Australian Commodities (2008 and 2009)

This increased domestic availability is expected to support continued growth in the use of stationary energy applications



Source: LPGA (2011)

The use of LPG in lieu of electricity will deliver GHG benefits in a variety of stationary energy applications for households, business and industry

- LPG assisted solar hot water represents the second most GHG positive option of the nine options assessed, being 88% less GHG intensive than electric storage systems. LPG storage systems provide an opportunity to reduce GHG emissions by 59% when compared to electric storage systems.
- When used for cooking, LPG is second only to natural gas as the most carbon competitive option. LPG cookers are approximately 65% less GHG intensive than conventional electric options.
- LPG heating systems provide the opportunity to reduce GHG emissions by 69% when compared to similar electric systems, or by 23% when compared to reverse-cycle electric heating systems.

Source: (Rare 2011b)

The use of LPG in lieu of electricity will deliver GHG benefits in a variety of stationary energy applications for households, business and industry

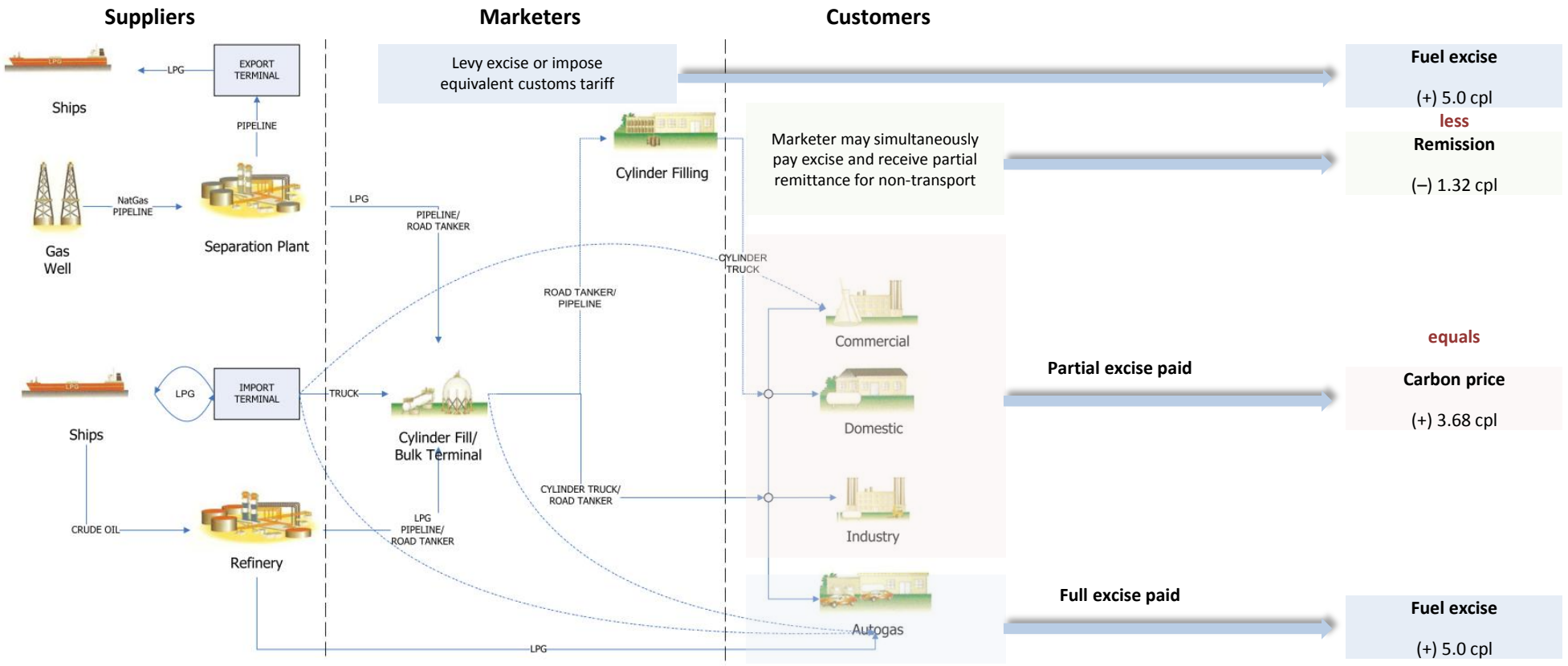
- When used in a material handling application, LPG fuelled forklifts provide an opportunity to reduce GHG emissions by 4% when compared with diesel equivalents. Electric forklifts may present a 15% GHG emissions saving compared with LPG, or a 12% GHG emissions penalty if charged rapidly.
- LPG fuelled remote power systems are 6% less GHG intensive when compared with diesel equivalents.
- For the generation of process heat in the manufacturing and agriculture sectors, LPG provides an opportunity to reduce GHG emissions by 29% when compared with fuel oil.
- **Based on the diversion of sales from electric hot water heaters by 2030, the use of LPG hot water systems could achieve up to 850,000 tonnes of greenhouse savings per year by 2030.**

Source: Rare (2011a)

The proposed exclusion of the LPG industry from the trading scheme is likely to distort competition in the stationary energy sector

- The collection of the carbon tax via the fuel tax mechanism essentially 'locks in' the costs of the carbon price component for the LPG and LNG industry by way of a price based on the rolling 6-month average carbon price in the domestic trading market.
- Conversely, competing higher carbon industry sectors such as conventional electricity generation will have the opportunity to reduce the cost of the carbon price component on their energy product via:
  - the use of selective purchasing and price hedging strategies for the purchase of carbon permits
  - the opportunity to purchase up to 50% of carbon credits via likely cheaper international carbon markets.
- In addition, the immediate nature of fuel tax payments compared with the annual retirement of carbon credits means that the LPG and LNG industry will be disadvantaged by an immediate adverse impact on operating cash flows compared with longer term impacts on the electricity and natural gas sectors.

Failure to extend the carbon trading scheme to LPG marketers creates a structural inconsistency (relative to excise for transport use), creating an unnecessary level of taxation complexity for industry



Source: Rare (2011b) *Adapted from LPGA (2008)*

Failure to take account of upstream emissions of fuels effectively penalises the use of LPG sourced from lower GHG emission sources (i.e. gas fields)

LPG supply chain – impact of $23/t CO_2-e

	LPG (refinery)	LPG (natural gas)
Upstream emissions (kg CO_2-e/L)	**0.34**	**0.16**
Potential carbon cost – upstream (cpl)	0.784	0.368
Expected compensation (%)	94.5	0
Expected carbon cost pass-through (cpl)[1]	0.043	0.368
Point of use emissions (kg CO_2-e/L)	**1.6**	**1.6**
Potential carbon cost – point of use (cpl)	3.68	3.68
Total expected carbon cost – LCA less compensation (cpl)	**3.72**	**4.065**

Source: Rare (2011b)

The Clean Energy Bills give rise to a number of additional issues that will adversely impact on the LPG industry despite LPG being GHG positive relative to electricity sourced from coal-fired generation

- Disproportionate adjustment costs for the LPG industry relative to the competing electricity and natural sector for LPG supplied for non-transport uses in Australia.
- Inconsistencies in the GHG intensity factors cited in the Clean Energy Bill with factors used in the National Greenhouse Accounts.
- Apparent failure to incentivise the adoption of low carbon fuels in lieu of coal-fired electricity in the various industry assistance programs that have been foreshadowed.
- Increased cost of LNG fuels for transport (lower GHG emissions) relative to diesel (higher GHG emissions) as a result of significant differences in the level of compensation afforded to conventional oil refineries and domestic LNG production facilities.

Summary of principal issues

1. INABILITY TO PARTICIPATE IN THE PROPOSED EMISSIONS TRADING SCHEME

   Unlike the approach proposed for the electricity industry, the gaseous fuels industry will not have the ability to purchase cheaper permits in overseas markets, nor will it have the opportunity to apply trading and hedging practices to reduce the inherent carbon cost component of gaseous fuels.

2. DISPROPORTIONATE ADJUSTMENT COSTS FOR THE GASEOUS FUELS INDUSTRY

   Locking the gaseous fuels industry out of an emissions trading scheme and collecting carbon tax by way of fuel tax will impose a transition burden on the gaseous fuels industry. This tax will be substantially higher than the tax for the electricity industry, which has the opportunity to defray the impact on operating cash flows by deferring purchase of permits until the surrender date.

3. INCREASED COST OF LNG FOR TRANSPORT RELATIVE TO DIESEL FUELS

   Whether or not a carbon tax will apply to diesel fuels used in on-road transport in the future, the carbon tax is expected to result in an increase in the price of LNG relative to diesel for heavy vehicle operation as a result of the different levels of compensation afforded.

Summary of principal issues (cont.)

4. INCREASED COST OF LOW CARBON SOURCES OF LPG

   The upstream GHG emissions intensity of LPG sourced from petroleum refineries is double that of LPG sourced from natural gas; however, the different levels of compensation afforded means that LPG from natural gas will have a carbon cost that is actually 9% higher than refinery-sourced LPG.

5. INCONSISTENCIES IN GHG EMISSIONS INTENSITIES CITED IN THE LEGISLATION

   The draft legislation applies GHG intensity factors for gaseous fuels that are different to the GHG factors used in the National Greenhouse Accounts. In fact the intensity factors are not only different but are also higher, resulting in a higher carbon cost than would otherwise be the case.

6. DISPROPORTIONATELY LOW EMPHASIS ON THE ADOPTION OF LOW CARBON FUELS AS A BASIS FOR NATIONAL GHG EMISSIONS REDUCTION

   While treatment of the electricity market is considered to be both comprehensive and appropriate, the treatment of alternative fuels is considered to be inappropriate. Given that gaseous fuels compete with electricity, the failure to place equal emphasis on availability of grant assistance has the potential to create a market distortion that will be detrimental to gaseous fuels in Australia.

Summary of Australian LPG industry on proposed Clean Energy legislation

- LPG use in stationary energy applications is significant and is forecast to increase to 2030. The lower GHG intensity of LPG in many stationary energy applications means that this increased use will support achievement of national GHG reduction goals.
- The exclusion of LPG marketers from the proposed carbon trading scheme will likely distort market competition in the stationary energy sector and increase the price of LPG, particularly in relation to the higher GHG intensity electricity derived from coal-fired power generation.
- This risk of market competition could be easily averted by the mandatory inclusion of LPG marketers in the proposed carbon trading scheme via the allocation of an obligation transfer number.
- The LPG industry is not seeking exclusion from the carbon trading scheme. The industry is merely asking to be treated in the same manner as other energy industries servicing the stationary energy market in Australia.

Source materials

Australian Commodities, AERA and ABARE (2008 and 2009), LPG Supply and Demand Study 2008 & 2009, March 2010 Australian Commodities & AERA, ABARE (modified by Elgas)

LPG Australia 2010, Future directions 2030 – A roadmap for the Australian LPG vehicle industry' LPG Australia, Canberra, December 2010

LPG Australia 2011, LPG use in Australia to 2030: A strategy for the future use of LPG for stationary energy applications, LPG Australia, Canberra, August 2011

Rare Consulting 2011a, GHG life cycle assessment of LPG in the Australian stationary energy market, Rare Consulting, August 2011

Rare Consulting 2011b, An assessment of the impact of proposed carbon tax legislation on the Australian LPG and LNG markets, Rare Consulting, September 2011