



**(Biofuels Research & Industry Development)**

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***Submission –Issues Brief***

**to**

**Senate Select Committee on Fuel & Energy**

## **Summary Issues Brief**

### **Renewable Fuels Australia (RFA – Biofuels Research & Industry Development)**

welcomes the public commitment of the Australian Government towards addressing Australian and Global transport energy security, and the National and Global challenges of Climate Change.

**A Global Financial Crisis** of previously unknown proportion has also intervened, and is ravishing confidence in the structure of the Australian and global economy.

**Each one** of these crises pose a major individual Australian and global threat, and will inevitably impact directly on the outcome of the other.

**By design** Australia and its economy are dependent on road transport and oil for industry – including agriculture and food production.

**There is no single fuel technology** in the visible future capable of replacing oil for transport or industrial use.

- Consensus is that this will have to be met by deployment of a mix of clean burning transition fuels – that will require significant infrastructure support.
- With the exception of Australia, many countries see biofuels (ethanol and biodiesel) as clean burning renewable fuels that produce major reductions in toxic vehicle emissions from petrol and diesel, and carbon emissions from the transport sector.
- Along with other cleaner burning alternative fuels, biofuels also have the capacity of stretching out Australia's existing oil reserves during future global oil crises.
- Biofuels are easily adapted to current petroleum storage and fuel infrastructure. Gaseous alternative fuels (LPG, CNG, LNG) will require significant infrastructure development to meet future transport requirements, .
- Since 1992, as a group, the foreign major oil companies in Australia have failed to meet all of their voluntary biofuels take-ups and supply commitments to Federal and State Government

**While the world** is engaged in intense debate on the future of oil supply, and the need to reduce dependence on oil imports, Australia remains totally reliant on the infallibility of the current and future global world oil supply chain, and OPEC claims of future oil reserves.

Beyond current refinery consumption, and terminal consumption cover, Australia maintains no emergency fuel stocks to address fuel crises.

Future domestic oil supply is also based on faith and belief of yet unfound future major oil discoveries on land or in Australian waters.

This remains a major barrier to the development of cleaner burning domestic fuels in Australia

20 years lapsed between the first commercial production from the Otway Basin (April 1986) and the first commercial commencement of production in the extended Bass Basin (offshore Victoria and Tasmania) in May 2006.

**Successive Governments** in Australia have shown reluctance to acknowledge or recognize the growing vulnerability of Australians in maintaining their life style and their economy in terms of transport and industrial energy.

**This represents a major barrier** in going forward with the national development of the Australia's abundant resources of cleaner burning alternative fuels.

**In the interest of the public and their State**, New South Wales has legislated the provision of choice for NSW consumers, and energy security, in the form of a mandate for the volumetric use of 10% ethanol and 5% biodiesel in transport fuels by 2011. QLD has also committed to the introduction of a 5% volumetric ethanol mandate by 2010.

**Major oil companies** such as BP and Shell, and General Motors (GM)<sup>1</sup> have openly acknowledged the uncertainty of predicting the future timetable of approaching oil crises, and the basic business necessity of moving to hybrid vehicles, biofuels and gaseous fuels for future vehicle propulsion.

**Client-like relations** between Government (including officials) and the petroleum sector in Australia, remain a barrier to recognition of the urgency for preparation of change from oil in transport by 2015 to 2025 to a mix of cleaner burning transition fuels.

- Current biofuel production capacity exceeds 2.86% of domestic road fuel use (36 billion litres per year) and gaseous alternative fuels (e.g. LPG) approaching 5% - a total potential capacity of close to 8% of available alternative fuel use in Australia
- Current fuel ethanol production capacity in Australia is 460 to 470 million litres (ML). Current biodiesel production capacity (included mothballed plants) is over 560 ML.
- With vision, a target of 25% to 35% of transition transport fuel could be produced in the form of cleaner burning biofuels and gaseous fuels by 2020, and 50% by 2030.

**International Energy Agency (IEA)**<sup>2</sup> policy is that while 1<sup>st</sup> Generation biofuels technology is limited in its ability to achieve oil product substitution targets, 2<sup>nd</sup> Gen technology could avoid many of these concerns, including offering greater cost- reduction potential in the longer term.

- IEA policies also support 1<sup>st</sup> & 2<sup>nd</sup> Gen biofuels as part of a comprehensive strategy to reduce CO2 emissions.

**The majority of OECD countries** have undertaken active biofuels programs with a goal of securing:

- Energy supply security;
- Reduction of oil imports.
- The potential for greenhouse gas (GHG) mitigation.
- Agricultural industries (e.g. food production) & rural communities.

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<sup>1</sup> BP President Speech, Perth, August 2005; CEO of Shell Email to all employees, January 2008; CEO General Motors Statement, January 2008.

<sup>2</sup> From 1<sup>st</sup> to 2<sup>nd</sup> Generation Biofuels Technologies Report, IEA, November 2008

**Several non-OECD countries** have developed their own biofuels industries to produce fuels for local use, export and economic development.

**Today**, over 35 countries have applied mandatory or regulated measures to provide consumers with the choice of ethanol, to reduce GHG emissions, and toxic tailpipe pollutants that pose a threat to both the environment and public health.

- Depending on the condition of the vehicle, LPG can reduce petrol GHG emissions by 10%. Based on current Australian industry and CSIRO data<sup>3</sup> the CO2 reduction capability of Biofuels ranges from 50% to 87% per litre.

**There are potential challenges** associated with unplanned biofuels industry growth.

**In 2007**, research by RIRDC and CSIRO Sustainable Ecosystems<sup>4</sup> determined that biofuels had no impact on food versus fuel and land use issues in Australia, and were unlikely to arise until biofuels began supplying 10-20% of domestic transport fuel requirements.

**During the transition from petrol and diesel**, ethanol, biodiesel, LPG and Hybrid (electric) fuel technologies will feature in domestic produced vehicles capable of operating on multiple transition fuels (e.g. petrol-ethanol-Hybrid and LPG) individually, or as a group. Thus bringing multiple choice and cleaner burning fuel price options to the consumer – together with significant reduction in carbon emissions.

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<sup>3</sup> Energy Strategies1996, QLD/EPA Peer Review of CSIRO 2001 'Comparison of Transport Fuels;' CSIRO Study Shows Ethanol a Clear winner for Australia, 2005 Press Release.

<sup>4</sup> Biofuels in Australia – Issues & Prospects, CSIRO & Rural Industries Research & Development Corp, 2007.