

AN RACQ POSITION PAPER

NOVEMBER 2009

BACKGROUND

Energy is a basic input into every aspect of personal and business activity. Pressure on petroleum supplies is greater now than ever before – population growth and newly industrialising economies including China and India have created unprecedented demand on the world's diminishing and harder to reach oil reserves.

Transport accounts for 14% of Australia's total greenhouse gas (GHG) emissions with 8% from passenger vehicles. Australia is also reliant on petrol and oil imports for 77% of its consumption. This is expected to increase as our domestic oil reserves continue to decline.

A broad suite of technologies will play a role in reducing transport emissions. Intelligent transport systems (ITS) have already changed the way we travel and have improved transport flows in most sectors including air, truck and rail transport. Further improvements are on the horizon in road and vehicle ITS, though many of them have significant hurdles before being commercialised.

Vehicles will also have a role in reducing transport emissions. New technologies to reduce fuel consumption and emissions in internal combustion engines will complement a future landscape of hybrid, electric and hydrogen vehicles.

Fuels technology must become greener and more efficient to reduce both emissions and the growing pressure on oil reserves. Further development of Ethanol, E10, diesel, coal to liquid, gas to liquid and shale oil provide a few examples of technological research that may yet provide solutions, though there are major carbon sequestration issues to address. We don't know which of the emerging solutions will gain primacy in research or the market.

What is clear is that the shape of this new landscape is still under development and some solutions are not even on the drawing board. Governments need to encourage research and development of innovations to reduce emissions and provide a regulatory environment that reduces barriers to implementation and supports a range of new initiatives. A low carbon fuel standard seeks to provide this future focussed framework.



WHAT IS A LOW CARBON FUEL STANDARD?

A Low Carbon Fuel Standard (LCFS) is a performance standard that measures CO₂ equivalent grams/unit of fuel energy, taking account of emissions across the entire energy pathway from well to wheel.

This enables regulation of fuel greenhouse gas emissions and the imposition of downward trends, while allowing industry and consumers to determine the most efficient means to achieve the desired outcomes. It also avoids perverse outcomes and inefficiencies associated with government “picking the winners” before any mature technology pathways are established.

Performance standards under a LCFS require the establishment of a benchmark and a methodology for determining the carbon intensity of fuels provided. California and the European Union are progressing toward international standards.

HOW COULD A LCFS WORK?

The LCFS regulates the total carbon impacts of fuel production and combustion. For example, a fuel producer aiming to meet a low carbon fuel standard can use any of the production, transport, storing and dispensing processes to reduce the carbon emissions. Manufacturers and consumers will respond to any changes in relative fuel prices by choosing different vehicle technologies such as renewable energy electric vehicles, flex-fuel (E85), CNG and LPG. Placing the requirement to reduce carbon emissions on the entire energy pathway provides the greatest opportunity for least cost, flexible solutions. A national approach is preferred to prevent shuffling across jurisdictions (i.e.: national companies selling or purchasing fuel in one state to avoid standards in others), though a state approach is feasible.

The steps for a LCFS may include:

- The LCFS is set by government and involves a targeted transport fuel standard;
- The standard must work across all fuel providers and across an average of all fuels from each provider;
- A carbon fuel trading scheme would allow fuel providers to buy and sell credits in order to reduce the total costs of achieving the reductions and to provide financial incentives for some producers to exceed the standards;
- Fuel standard pathways would be agreed between government and fuel providers. These pathways describe and measure the carbon lifecycle in production and combustion of various fuels and would enable benchmarking of the lifecycle carbon emissions of current fuels;



- Methodologies to modify the agreed pathways would be required when a fuel provider can demonstrate a more carbon-efficient fuel production, transport, storage and/or dispensing process;
- Methodologies to establish an entirely new fuel pathway (e.g. such as for emerging new technologies such as electric vehicles or bio-butanol) would also be required.

On April 23 2009, the Californian Air Resources Board approved the Californian Low Carbon Fuel Standard. The Californian LCFS requires fuel providers in California to ensure that the mix of fuel they sell into the California market meet, on average, a declining standard for GHG emissions measured in g CO₂-e per unit of energy sold. It is measured on a lifecycle basis, including upstream emissions. The LCFS is intended to become an international standard if possible, incorporating the “Renewable Fuel Obligations” emerging in Europe to replace their biofuel mandates.

WHAT ARE THE ADVANTAGES IN ADOPTING A LCFS?

Adoption of a LCFS provides a “one size fits all” approach to reducing carbon emissions from fuels. Instead of government “picking the winners” and providing significant support to one or two fuel providers, the market will examine emissions across the lifecycle and adopt innovative strategies to meet the standards.

A LCFS provides an opportunity for the market to plan and accommodate the necessary changes to provide for lower carbon content in fuels. Allowing the market to determine the most effective, compliant mix of fuels using the least cost methodology will reduce the impost on providers and consumers. Requiring the measurement of all emissions across the lifecycle, means that measurement takes account of all carbon emissions, including upstream feedstock extraction, fuel refining, and transport to market.

The use of a carbon fuel trading market will give benefits to new emerging technologies which have lower emissions, for example, electric vehicles that run on renewable energy. This can potentially address some of the affordability issues associated with new technologies while gaining market share. It would provide for a market-based incentive for consumers to use renewable energy.

A LCFS provides greater economic and environmental benefits than any more specified fuel regulation or mandate.



A LCFS IN THE CONTEXT OF CURRENT COMMONWEALTH POLICY

A LCFS fits within the framework of the Commonwealth Government's Carbon Pollution Reduction Scheme (CPRS). It seeks to meet the first objective, to achieve emission reduction targets in the most flexible and cost-effective way. While it proposes to add another cap and trade scheme to supplement the proposed CPRS, this is not inconsistent with the Mandatory Renewable Energy Target (MRET) and the trading of Renewable Energy Certificates (RECs).

Motorists in Australia are used to paying high rates for the energy in transport fuels due to the 38 cents per litre fuel excise. No similar government charges are levied on the stationary energy sector (gas and electricity). Carbon charges associated with the CPRS will therefore have only marginal impacts in the transport sector, even at prices that trigger massive changes to electricity production. If a reduction in the carbon intensity of transport fuels is the desired outcome, the CPRS will need to be supplemented by additional measures such as a LCFS.

HOW DOES A LCFS CONTRIBUTE TO TRANSPORT GHG REDUCTIONS?

The Queensland Government has made some important steps forward in the ClimateQ strategy by acknowledging the role of congestion in increasing transport emissions and by providing support for carbon offsetting.

RACQ believes there are a number of policy strategies to be addressed to reduce GHG emissions associated with passenger transport in Queensland. These are:

1. A LCFS to reduce carbon-intensity of fuel by 10% on average by 2020;
2. Vehicle fuel efficiency standards to further reduce the fleet average fuel/energy consumption by 10% by 2020;
3. EcoDrive and TravelSmart behaviour change programs to improve fuel-efficiency of driving and encourage walking, cycling and public transport; together achieving another 10% reduction in emissions;
4. Congestion pricing and traffic management to directly alter demand for road space particularly in congested areas in peak times and to encourage the use of alternative modes and off-peak travel;
5. Further transport initiatives around land use planning and infrastructure to position facilities closer to people, providing convenient access to employment, education and services. This in turn can accommodate population growth, reduce car trip lengths and facilitate more walking, cycling and public transport use.



WHY IS A LCFS BETTER THAN BIOFUEL MANDATES?

The RACQ is opposed to Ethanol mandating and believes the LCFS provides a more environmentally sustainable option. Mandating Ethanol involves government manipulating the market by supporting one fuel type at the expense of others. Once the first low-cost producers are established, there will be no incentives for research on new technologies with lower carbon intensity or improved environmental performance (e.g.: fertiliser run off to Great Barrier Reef). The RACQ position paper on the proposed Ethanol mandate can be found at www.racq.com.

RACQ POSITION ON A LOW CARBON FUEL STANDARD

National adoption of a LCFS provides a future focussed tool to support current car and energy manufacturers and infrastructure providers' moves towards more radical fuel alternatives such as E85, gas and electric. A LCFS would provide a flexible and responsive tool to encourage electric car use, with additional benefits in-built for those using renewable energy sources. Similarly, it would encourage other low carbon fuels and engine technologies such as E85 (85% Ethanol), flex-fuel cars and would ensure that any conversion of coal or gas into transport fuels is accompanied with carbon capture and sequestration.

At a state level, adopting a LCFS provides an opportunity for Queensland to lead the nation in a durable and comprehensive approach to alternative fuels, while addressing the climate change challenge associated with transport emissions.