17 November 2005

Mr Andrew Fraser MP
Chair
Impact of Petrol Pricing Select Committee
Parliament House
George Street
BRISBANE Q 4000

Dear Mr Fraser,

The Queensland Farmers' Federation (QFF) represents Queensland's intensive agriculture sector, which provides over half of Queensland's agricultural output and represents over 12,000 producers employing around 40,000 people.

Please find enclosed QFF's submission to the Select Parliamentary Committee on Petrol Prices.

Yours sincerely,

John Cherry
Executive Director

QUEENSLAND FARMERS' FEDERATION

QFF SUBMISSION TO THE SELECT PARLIAMENTARY COMMITTEE ON PETROL PRICES

NOVEMBER 2005

Level 6
Primary Producers House
183 North Quay
BRISBANE QLD 4003

PO Box 12009
GEORGE ST QLD 4003
Ph: 3837 4747
Fax: 3236 4100

QFF SUBMISSION TO THE SELECT PARLIAMENTARY COMMITTEE ON PETROL PRICES

1. Introduction:

The Queensland Farmers' Federation welcomes this Inquiry, particularly its emphasis on the impact of petrol price rises on regional Queensland and policy changes needed to ameliorate that impact. The Committee's terms of reference are:

(a) Consider the extent to which current petrol price increases the competitiveness of alternative fuel sources such as E-10;
(b) Identify the economic and financial consequences of current fuel prices with a particular emphasis on regional Queensland and outer metropolitan areas;
(c) Identify practical ways that consumers can reduce their petrol bills, including through considering whether existing information on the fuel efficiency of different makes of motor vehicles is sufficient;
(d) Consider the extent to which recent fuel increases could be moderated through enhanced domestic competition, including how the Australian Competition and Consumer Commission powers could be strengthened to deliver enhanced competition;
(e) Examine whether Queensland receives its fair share of road funding;
(f) Identify the capacity and benefits of the Federal Government reducing fuel excise to ameliorate the impact of high fuel prices on families and business.
(g) Identify whether Queensland motorists are receiving the full benefit of the 8.354 cents per litre subsidy and examine the efficiency of administration for the bulk end users scheme.'

This submission does not deal with all of the terms of reference, but focuses particularly on (a), (b), (d) and (f). It expands on (f) by also providing advice on how the State Government could act to ameliorate the impact of high fuel prices.

Queensland Farmers' Federation (QFF) is a federation of major intensive agriculture organisations and value-adders which unites nine of Queensland's major rural industry organisations, collectively representing over 12,000 primary producers. QFF members include:

- Australian Prawn Farmers Association
- CANEGROWERS
- Cotton Australia
- Growcom
- Nursery and Garden Industry Queensland
- Qld Chicken Growers Association
- Qld Dairyfarmers' Organisation
- Qld Irrigators Council Association Inc
- Qld Pork Producers Inc.

QFF's mission is to 'secure a sustainable future for Queensland primary producers within a favourable social, economic and political environment by representing the common interests of its member organisations'.

2. Intensive Agriculture and Farm Costs

Intensive agriculture makes a significant contribution to the regional, State and National economies, forecast to provide 58% of agricultural production in Queensland. In the five years to 2005/6, the value of intensive industries in Queensland rose by over $1 billion (24%) despite the impact of drought, while extensive industries rose by $300 million (7.7%). Leading the expansion of intensive industries have been amenity horticulture (up 75%), fruit (up 43%), poultry (up 44%), and vegetables (up 23%). Sugar cane has recovered somewhat from the earlier slump (up 30% on 2000/01), cotton had a good year in 2004/5 (up 40% on the previous year) but production is expected to fall this year due to drought. Similarly in milk, improved prices are expected to be offset by reduced production due to drought. Value of production from intensive agriculture will rise in 2004/05.[1]

QFF commodity members are impacted by cost structures and market forces which are impacting on the primary production sector as a whole. Information recently released by ABARE forecasts that farm costs will rise 4.2% faster than farm gate prices in 2005/06. Farmers will continue to be price takers rather than price dictators.

% Changes in prices received and costs paid by farmers

Item	Change 1996/7 to 2000/01	Change 2000/1 to 2004/5	TOTAL
Prices -			
Grains	+3.4	-0.5	+2.9
Beef	+55.1	+20.7	+87.2
Sugar	-29.6	+6.1	-25.3
Cotton	+2.9	-18.0	-15.6
Fruit	-6.9	+22.5	+14.0
Vegetables	+6.5	+19.9	+27.8
Milk	-6.2	+7.1	+0.5
Poultry	-16.0	+8.5	-8.8
Pigs	-7.8	+5.6	+2.5
Tot. Prices	**+6.8**	**+10.0**	**+17.5**
Tot. Costs	**+11.1**	**+11.3**	**+23.7**
- Fuel	+32.1	+6.1	+40.2
- Labour	+13.5	+13.1	+28.3
- Breeding stock	+41.0	+23.4	+73.9
- Insurance	+11.9	+21.5	+36.0
- Rates & taxes	+17.6	+11.0	+30.5

(Source: ABARE Australian Commodities Sep 2005)

[1] Prospects for Queensland's Primary Industries 2003-04 to 2004-05. Department of Primary Industries and Fisheries, September 2004

Rural producers have little influence over the prices they receive, and little capacity to pass on increased charges. What they can influence is total amount of production and the underlying costs structure. For decades, Australia's rural industries have maintained a reasonable standard of living for primary producers by containing costs and improving productivity. The cotton industry is a classic example. In 2004/5, the Australian cotton industry achieved world best practice yields, with yields per hectare in Queensland up 23% on the previous year despite below average rainfall. Yet, world cotton prices were down 13% on two years ago, and down 30% on ten years ago.

ABARE data shows that costs continue to rise faster than commodity prices for most Queensland rural industries. The attached table shows that over the last eight years, with the exception of beef and vegetables, cost increases have exceeded price increases for most Queensland rural industries. Indeed, ABARE data shows that total net farm income fell almost 10% in 2004/5, and will fall a further 23% in 2005/6 to $4.5 billion.

Fuel prices have been the fastest growing cost input for farmers. This is significant given farmers spend around $2.1 billion a year on fuel. Fuel price rises have added around $600 million to farm costs over the last three years.[2]. Fuel costs for farmers rose by 14% in 2003/4, 22% in 2004/5 and are forecast to rise by 20% in 2005/6. Farmers fuel bills this year are twice what they were just eight years ago.[3]

Interestingly, from a Government perspective, rates and taxes charged to the rural sector have risen twice as fast as prices in the same period. This should be of concern in developing the Blueprint for the Bush. Too often, Governments have imposed costs on the rural sector without proper consideration of the cumulative economic impact those costs have.

3. Movement in fuel prices

The Committee would be well aware of the substantial movement in fuel dating back to 2000/01, accelerating in recent years. According to ABARE, fuel prices as a farmers' input cost rose by 14% in 2003/4, 22% in 2004/5, and will rise by a further 20% in 2005/6. Fuel costs this year will be double what they were eight years, while farm revenues have risen by just a quarter.[4]

Farm fuel bills - 1998 - 2006

Year	1998/9	1999/0	2000/1	2001/2	2002/3	2003/4	2004/5	2005/6
Fuel cost $m	1250	1450	1671	1580	1520	1626	1765	2118
% total costs	5.1%	5.7%	6.3%	5.8%	5.5%	5.6%	5.9%	6.8%
% revenue	4.3%	5.0%	4.9%	4.0%	4.7%	4.4%	4.9%	5.9%

RACQ Price monitoring shows that diesel prices have risen faster than unleaded petrol:

[2] ABARE Australian Commodities Sep 2005 p.566
[3] Ibid p 565
[4] ABARE *Australian Commodities* 2005

Changes in fuel prices 2004-5

Town	Petrol Sep 04	Petrol Jul 05	% increase	Diesel Sep 04	Diesel Jul 05	% increase
Bowen	101.3	110.0	8.6%	103.4	119.5	15.6%
Brisbane	96.0	103.1	7.4%	101.6	116.1	14.3%
Bundaberg	96.2	105.6	9.8%	101.0	116.6	15.5%
Cairns	96.5	106.0	9.8%	101.4	115.4	13.8%
Caloundra	89.6	101.4	13.2%	99.00	114.8	16.0%
Charleville	107.0	117.6	9.9%	110.1	128.2	16.4%
Ch. Towers	102.2	111.3	8.9%	108.3	122.5	13.1%
Cunnamulla	105.3	114.1	8.4%	109.4	127.2	16.3%
Emerald	99.2	108.1	9.0%	102.4	118.5	15.7%
Goondiwindi	99.8	106.8	7.0%	103.8	118.2	13.8%
Kingaroy	97.4	104.9	7.7%	103.0	116.4	13.0%
Longreach	104.6	113.6	8.6%	109.3	116.4	6.5%
Mackay	99.1	107.0	8.0%	101.6	116.3	14.6%
Mt Isa	95.7	111.1	16.1%	100.5	120.2	19.6%
Normanton	113.8	119.7	5.2%	114.7	130.7	13.9%
Rockhampton	97.9	107.3	9.6%	102.1	116.9	14.5%
Roma	103.1	113.6	10.2%	106.8	123.9	16.0%
Toowoomba	98.2	111.1	13.1%	102.4	117.0	14.3%
Townsville	95.6	105.6	11.0%	100.3	115.8	15.5%
Warwick	94.5	102.9	8.9%	101.3	117.2	15.7%
Weipa	119.4	121.7	1.9%	119.1	128.7	5.8%

(Source: RACQ, Fueltrac)

In the ten months to July, diesel prices rose by 14-16% across Queensland, compared to a 7-10% rise in unleaded petrol. Diesel is now up to 10 cents a litre more expensive than unleaded petrol, a major change on a few years ago which major impacts on rural industries QFF is concerned that attitudes of the refiners towards diesel could be affecting the amount produced and hence the price. QFF would urge the Committee to investigate why such a large gap has opened up between petrol and diesel prices over the last year. Discussion with industry suggest three possible drivers for this trend:

1. Refinery upgrade costs. Because the lighter crudes are easier to refine, the refineries are giving petrol more priority over diesel in investment strategies;
2. Petrol and diesel come from a similar grade of crude oil and the rise in crude prices has made petrol more economically viable than crude, although this might now change somewhat;
3. Massive demand in China and India for industrial fuels, including diesel has changed the markets.

Recommendation 1:
That the Committee seek detailed information from the oil companies on the growing disparity between petrol and diesel prices and develop mechanisms to reduce the market imbalance.

Future price movements in oil prices look bleak. The IMF has recently upgraded its forecasts on oil prices, predicting large increases this year and next:

IMF Oil commodity prices – annual projections

2003	2004	2005	2006
15.8%	30.7%	43.6%	13.9%

IMF warns that very low spare production capacity in the oil industry could leave the industry supply insufficient to meet demand. The rise in long term futures for oil reflect growing industry concern about capacity constraints. Rising oil prices based on supply bottlenecks could impact on inflation and hence interest rates,[5] particularly given industry is very sensitive to even slight industry outages like Hurricane Katrina. Indeed, the futures markets imply a longer term oil price of $60 a barrel, and even as high as $80 a barrel. This compares to the 20-year average of around $21.73. The IMF, in increasing its forecast on oil prices in 2006 from $43.75 to $61.75 per barrel, warned:

> "These higher price forecasts reflect a growing consensus that recent levels of consumption are likely to be more persistent and will continue to tax available spare capacity, thereby amplifying the price effects of any exogenous supply shock. Though the impact of Hurricane Katrina on crude prices may bot be long lasting, it has clearly increased short-term risks. Moreover, terrorism and insurgent attacks in the Middle East remains a real concern. Based on option prices, the probability that the price of West Texas Intermediate will rise above $80 by December is now 20 per cent, compared with zero in early 2005."[6]

The IMF goes on to warn that the charges appear to be in fundamentals in the oil market, pointing to persistently strong demand in emerging economies like China and India, growing awareness that supply from non-OPEC economies might peak in 5-10 years, and limited upstream investment in countries where oil reserves are plentiful with implications for future productive capacity. The US Energy Information Administration forecasts increases in oil consumption over the next two decades. Oil prices are projected to fall from the 2005 high to reach around $31 a barrel in 2010, rising on the back of demand to $35 a barrel in 2025 (in 2003 dollars, $60 a barrel in nominal dollars). However, the EIA also suggests prices could go up to $48 per barrel by 2025.[7]

QFF is concerned that State and Federal Governments have failed to make the policy adjustments necessary to deal with the longer term implications of a permanent increase in fuel prices. After the oil shock of 1974, Governments around the world invested in a range of measures which dramatically increased the fuel efficiency of their economies, ultimately breaking the power of the OPEC cartel for two decades. However, such concerted Government efforts at State and Federal levels is sadly lacking at present.

[5] IMF *World Economic Outlook* Sep 2005 P.11
[6] Ibid p.60-1
[7] US Energy Information Administration " International Energy Outlook 2005" July 2005 p.28 at www.eia.doe.gov/oiaf/ieo/index.html

4. Australian domestic oil market

In 2002/3, Australia produced 25,816 Ml of crude oil and imported 27.958 Ml.[8] We have seven domestic refineries that can process roughly 100,000 barrels a day each, but this capacity is shrinking. Mobil has closed its Adelaide refinery and is likely to reduce capacity at its Melbourne refinery by 70% due to new fuel standards that come into effect in 2006. Newer refiners in Asia have a much larger capacity (over 600,000 barrels a day). Because Asia mostly consumes diesel (due to the lower number of cars), this produced a lot of cheaper gasoline available for export at relatively lower prices by independents. However, recent economic growth has slowed this market opportunity. The total amount of refined petroleum needs imported is expected to rise from around 15% to 25% by 2006. Oil companies will do most of the importing, as there will be no spare capacity for independent suppliers and they are login port access[9]

While port access should be an issue for the ACCC, given the Queensland Government owns all major Queensland ports, it can have a substantial influence on port access. Queensland has traditionally had a vibrant independent petrol sector, and the Queensland Government should take all necessary steps to ensure that continues.

Recommendation2:
That the Queensland Government and the ACCC take steps to ensure adequate port access and facilities are available for use by independent fuel suppliers

There continues to be great concern about the actions by oil companies and the manipulation of fuel prices in the so-called 'price cycle'. The ACCC has been hopelessly inadequate in dealing with these issues, although it is constrained by the weakness of the Federal Trade Practices Act. The ACCC has noted that oil companies are quick to put up prices (and hence increase margins) in response to shock and slow to reduce them in response to falls in world oil prices, but has taken no action.[10] Fuel companies tend to enjoy high margins when prices are high, but have not been adequately investing into new refining and production capacity. There has been too little Federal Government attention to oil industry planning, despite an Energy White Paper and other initiatives. The NRMA Motoring and Services Petrol Summit on August 22 concluded that the oil companies required greater scrutiny and accountability, particularly in terms of investment in exploration and refineries. The QFF endorses this sentiment, and recommends that the Queensland Government also needs to be proactive in ensuring sufficient refining capacity in Queensland to meet future needs.

Recommendation3:
That the Queensland Government lobby for an urgent strengthening of the Trade Practices Act to ensure a workable and effective section 46 preventing abuse of market power, together with enhanced powers of collective negotiation under the Act.

[8] ABARE Australian Commodities 2003
[9] Bowden R (2005) NSW Service Station Association report to NSW Farmers Association
[10] ACCC "Petrol Pricing Snapshot – 30 September 2005"

Recommendation 4:
That the Queensland Government insist that the ACCC and the Queensland Office of Fair Trading engage in formal price surveillance of fuel prices, with such information to assist in making formal reports on refining margins.

Recommendation 5:
That the Queensland Government urgently develop a long term Oil Investment Strategy to ensure that refining capacity and importing capacity in Queensland is sufficient to meet future energy needs.

5. Fuel taxes

The fuel excise for unleaded petrol (ULP) and diesel is set at 38.143 cents per litre since indexation was frozen in 2001. Queensland provides a rebate of around 9 cents a litre on fuel taxes, as Queensland was the only state without a State fuel tax prior to the GST. A full rebate is provided for most off road use under the Energy Grants Credit Scheme. The Federal Government has announced the phasing in of full rebates for all business off road fuel use (including petrol) between 2008 and 2012. Examples of additional activities to be covered from 2008 include" drying of crops/grains after harvest, vehicles under 2.5 tonnes used off road for business purposes (e.g. petrol utes and quad motorcycles), off road transport of livestock and diesel used for commercial electricity generation.

QFF believes that the Federal Government should bring forward these changes in off road fuel use, to apply from 2006 rather than 2008. With the Commonwealth enjoying surpluses of $8 billion or more a year, and given fuel excise collections have risen by more than $1 billion a year since 2001 despite the freezing of indexation[11], such a reform is clearly affordable and would help ease the fuel burden.

The 10% GST has applied to fuel (including on the excise on fuel) since 2000. This is fully rebated as an input tax credit for business use. The Fuel Sales Grants Scheme has allowed a rebate of 1 – 4 cents a litre for fuel sold in regional areas to offset the 'tax on a tax' aspect of the GST on petrol excise to ensure that the GST did not increase the gap between city and country petrol prices. This scheme runs out on 1 July 2006.

The increase in fuel prices since 2000 has dramatically increased the GST collections on fuel, all of which flow to the states, from around $2 billion in 2000 to around $4.3 billion now. Queensland, which receives 20.8% of GST revenues, will be receiving around $500 million extra in GST in fuels in 2005/6 than when the GST was first introduced.

Of particular concern is that a disproportionate amount of the $500 million in extra GST revenue has come from regional Queensland. This is because the dollar amount increase in regional fuel costs has been higher in regional areas than in city areas. As the RACQ/Fueltrac data shows, in the ten months to July 2005:

[11] Commonwealth Budget 2004-5 Budget Paper No 2 p. 5-34

Dollar increase in fuel prices – Sep 2004 – July 2005:

Town	ULP price rise	Diesel price rise
Brisbane	**7.1c**	**14.5c**
Goondiwindi	7.0c	14.4c
Kingaroy	7.5c	13.4c
Mackay	7.9c	14.7c
Warwick	8.4c	15.9c
Bowen	8.7c	16.1c
Emerald	8.9c	16.1c
Longreach	9.0c	7.1c
Rockhampton	9.4c	14.8c
Cairns	9.5c	14.5c
Bundaberg	9.6c	15.6c
Townsville	10.0c	15.5c
Roma	10.5c	17.1c
Charleville	10.6c	18.1c
Toowoomba	12.9c	14.6c
Mt Isa	15.4c	19.7c

(Source: RACQ/Fueltrac)

As a general rule, the rise in petrol prices has 2-3 cents higher in central and northern Queensland than in Brisbane in the past year. Diesel prices have generally risen 1-2 cents faster in regional Queensland than in Brisbane. This growing disparity also affects GST revenues, and adds to the case for the extension and expansion of the Retail Sales Grants Scheme to ensure that the gap between city and country prices does not widen further.

Recommendation6:
That the extension of Federal off road fuel rebates scheduled for 2008 be brought forward to 2006.

Recommendation7:
That the Retail Fuel Sales Grants Scheme be extended from 2006 to at least 2010.

Recommendation 8:
That the Queensland Government use its annual $500 million a year fuel GST windfall to supplement the Retial Fuel Sales Grants Scheme to further narrow the gap between city and country petrol prices, particularly if the Commonwealth ends the scheme..

6. Energy Efficiency

With fuel prices likely to stay high for the foreseeable future, Australia has no alternative but to get more serious about improving fuel efficiency. Government to date have paid only lip service to this issue, with a range of small scale incentive and demonstration programs designed to encourage fuel efficiency. However, with modern technology now available, it is possible for Governments with foresight to make a quantum leap in terms of promoting fuel efficiency in industry.

American energy policy specialist Amory Lovins, of the Rocky Mountain Institute, in his recent book "Winning the Oil Endgame," argues that energy efficiency should be part of a three prolonged national strategy to wean Americans off ever more expensive oil. While the program would be expensive in the short run, in the longer run the annual economic benefit to the US would be upwards of $130 billion gross a year. Lovins points out that the US has doubled its oil efficiency since 1975, and has the technology to do so again. The investment needed to save each barrel of oil will cost around $12, less than a quarter of the current price of that barrel. The key to energy efficiency he argues is recognising that up to three quarters of light vehicles fuel use is weight related, that 87% of the fuel energy in the average car never reaches the wheels. By utilising fully proven technology such as advanced carbon-fibre composites and lightweight steel material (typically now used in aircraft) fuel efficiency can be doubled. The vehicles total extra cost would be rapid in fuel savings in about three years. The changeover to super-efficient vehicles, he argues could be accelerated by:

- Combing fees on inefficient vehicles with rebates on efficient vehicles;
- A scrap and replace programs to lease or sell super-efficient cars to long income households while crapping clunkers;
- Military leadership of the R&D effort in the defence budget;
- Implementing small Government procurement and targeted technology acquisition for aggregated buyers to accelerate manufacturers conversion;
- Federal loan guarantees to help finance retooling of automotive plants;
- Research programs to spur demand for doubled-efficiency heavy trucks.[12]

Such visionary thinking is lacking in the Federal Government's 2004 Energy White Paper[13] and in the policies of the Queensland Government. That is not to say that some measures aren't being undertaken. Rather, the measures to encourage energy efficiency are not likely to achieve the acceleration in uptake that could provide Australia with a competitive advantage in an oil-hungry world.

The Australian Government has allocated just $27 million (over 4 years) to the Australian Greenhouse Office in the 2004/5 Budget for 'action' on energy efficiency. This is despite recognising that energy efficiency measures have the potential to increase GDP by $975 million a year and reduce greenhouse gas emission by 10%.[14] Such hesitant policy is unlikely to achieve the sorts of goals that Lovins regards as possible.

The QFF notes the positive work undertaken by the Sustainable Industries division of the State EPA in terms of assisting industry to improve energy efficiency. Measures include:

- Energy Advisory Service on energy efficiency and renewable energy'
- Energy audits for business, such as the EcoBiz program;
- Queensland Sustainable Energy Innovation Fund to provide small grants for project that promote innovation in energy efficiency and renewable energy technologies and practices. Projects are invited from business or the community to establish Queensland as a market leader in Sustainable Energy.

Rural industries have been key partners of the Sustainable Industries division in terms of identifying opportunities for eco-efficiency. Some examples include:

[12] Lovins A "Winning the Oil Endgame" Rocky Mountain Institute 2005 www.rmi.org
[13] Australian Government "Securing Australia's Energy Future" 2004
[14] Ibid p. 9

- Eco-efficiency audit of the chicken meat industry performed in conjunction with the Australian Chicken Growers Council, which identified several means of reducing energy consumption;
- Eco-efficiency audit of the dairy industry with the Queensland Dairyfarmers Organisation which identified potential energy and water savings on farm;
- Eco-efficiency audit of the Rocky Point prawn farm;
- Eco-efficiency audit of the Harvest Fresh Cuts food processing industry identify various water and energy saving opportunities in the plant;
- Development of more energy efficient condensers for sugar mills, reducing the energy needs for a mill by around 450MWh a year.

To date, the emphasis of energy efficiency programs have focused on electricity issues rather than fuel consumption. Given the increasing cost of fuel, this emphasis may need to change in the future. The EPA needs to become more pro-active in identifying and promoting opportunities for industry to reduce energy consumption in fuel as well as in electricity. Similarly, the Sustainable Energy Innovation Fund probably needs to be increased and provide some substantial start-up funding to get some fuel efficiency programs off the ground. Primary industries, as heavy users of fuel, should be an early priority for a program to encourage fuel efficiency.

The QFF declines at this stage to make extensive recommendations on the appropriate means of accelerating a move towards more fuel efficient vehicles. However, it is clear that clear Government policy directives will be needed to require car manufacturers to make the changes necessary to move in that direction. The Queensland Government could play a role through its procurement policies and through demonstration R&D projects in making this change. Reduced registration fees for super-efficient vehicles might be another means of encouraging the uptake of such vehicles by consumers baulking at the higher up-front cost. Nevertheless, most of the policy activity needed to accelerate the uptake of fuel efficient vehicles probably lies at the Federal level, and a meeting of all Government is probably needed to move forward on the agenda beyond the very tentative steps in the 2004 Energy White Paper.

Recommendation9:
The Queensland Government provide additional funding to the EPA for research and promotion into fuel efficiency projects, in close partnership with industry. Such a program should give particular priority to fuel efficiency in rural areas.

Recommendation 10:
The Queensland Government call for a national summit of Commonwealth and State ministers to map out a plan to accelerate the uptake of super-efficient fuel use technology in a manner that aims to reduce business costs in the longer term.

7. Ethanol

The terms of reference for this Inquiry expressly address the competitiveness of alternative fuels such as E10. The Queensland Government has been a strong supporter of developing an ethanol industry, recognising the significant economic benefits to regional areas and agriculture, as well as the clear environmental benefits from the replacement of petroleum with ethanol-blended fuels."[15]

The Commonwealth Biofuels Taskforce, while adopting a very conservative approach, acknowledged that E10 fuels reduce greenhouse gas emiision by 2-5% on a life-cycle basis and possibly as high as 8-12.5% (based on a more recent CSIRO study), reduce particulate emissions by around 40% but increased nitrous oxide emissions. Greenhouse gas emissions for E85 or E100 blends were more substantial (25-30%), but required modified engines and dedicated fuel storage and pumps. [16]

Current and proposed ethanol production capacity, 2004–05 to 2009–10 (ML)

Ethanol capacity	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10
Manildra	70	70	100	100	100	100
CSR	4	4	32	32	32	32
Rocky Point	1.2	1.2	16.2	16.2	16.2	16.2
Lemon Tree	0	0	67	67	67	67
Primary Energy	0	0	120	120	120	120
Australian Ethanol (Swan Hill)	0	0	90	90	90	90
Australian Ethanol (Colleambally)	0	0	0	0	0	100
Australian Ethanol (Lake Grace)	0	0	0	0	0	100
Dalby Biorefinery	0	0	80	80	80	80
Austcane, Ayr	0	0	100	100	100	100
SymGrain, Quirindi	0	0	0	0	0	100
Symgrain, Western Victoria	0	0	0	0	0	100
Total ethanol	**75.2**	**75.2**	**605.2**	**605.2**	**605.2**	**1005.2**

(Source: Dept of Industry, Science and Resources, cited in Biofuels Taskforce Report)

Currently, Australia's ethanol production capacity is around 75Ml, around 90% of this with Manildra's grain-fed plants, and the remainder with the sugar molasses-fed plants in Queensland (CSR Sarina, Rocky Point). This capacity however is set to expand, with investment proposals totalling up to 1000Ml by 2010. More likely, the expansion will be somewhat less than that, with Federal capital grants supporting a doubling of capacity.

[15] Queensland Government "Submission to the Prime Minister's Taskforce on Biofuels" June 2005 p.8
[16] Biofuels Taskforce Report Chapter 5

Actual production has fallen in recent years, and is currently running at less than a third of capacity at around 23 ML.[17]

In 2004, Federal Industry Minister Ian Macfarlane MP, announced the successful applicants under the Federal Biofuels Capital Grants Program. Queensland plants CSR Sarina ($4.16 million for 26 ML); Rocky Point Sugar Mill for an ethanol plant at Woongoolba, Queensland ($2.4 million for 15 ML and Lemon Tree Ethanol for an ethanol plant at Millmerran, Queensland ($5.85 million for 36.6 ML).

According to analysis by CANEGROWERS, current planning could see a further four grain-fed ethanol plants adding possibly 240Ml to production. The grain demand for these additional plants would amount to approximately 30% of the annual sorghum crop. Although feedstock costs per unit of ethanol are higher for grain, ethanal production produces a sealable by-product, distillers dry grain (DDG), which can be sold as a protein meal. CANEGROWERS analysis suggests ethanol from grain can be produced at around 65 cents per litre, ethanol from molasses at around 70 cents per litre and ethanol from low grade sugar streams at around 75-80 cents per litre.

The analysis suggests that a 2% biofuels target could be met from grains and molasses, for 65-70c a litre. But, to push out to a 10% target would push the cost up beyond 80 cents a litre. This compares with the production cost of petrol at around 55 cents a litre (assuming a $50/bbl and excluding excise). The analysis concludes that ethanol is competitive with petrol (at $50/bbl) with current excise exemptions, but would cease to be effective when the excise concessions are removed in 2011. Significantly, ethanol imported from Brazil could prove to be cheaper than Australian ethanol.[18]

ABARE analysis found that the long-term world price of oil would need to average US$42-47/bbl for a new ethanol producer to be viable post-2015, assuming a 0.65 exchange rate, and at US$30-35/bbl for a 0.75 exchange rate. While aspects of the ABARE analysis have been severely criticised by many commentators, the analysis does suggest further work is needed on the long term cost competitiveness of ethanol. With the IMF forecasting oil prices above $50/bbl in the short term and the US Energy Information Administration forecasting a long run price of $35-48/bbl, ethanol does look cost-competitive. Interestingly, the ABARE analysis found that ethanol production from sugar-based, molasses is now probably more cost effective than that from sorghum because of higher sorghum prices[19]:

The Federal Biofuels Taskforce also noted that if ethanol production was based on grain, this could cause an increase in grain prices in the short to medium term., increased feedstock costs for intensive animal production industries such as pork, poultry, dairy and feedlot cattle.[20] The Australian Dairyfarmers Federation warns that there have been several major shortages of feedgrain in Australia, where the domestic price rose well above the world price, exacerbated due to Australia's strict quarantine rules on grain imports. The ADF argues that providing subsidies to grain-based ethanol production in Australia will create a longer term deed grain

[17] Biofuels Taskforce Report Chapter 3
[18] Australian Canegrowers Council "Submission to the Taskforce on Biofuels" June 2005 p. 4-5
[19] Prime Ministers Biofuels Taskforce Report Sep 2005 p.108-111
[20] Biofuels Taskforce report p.9

supply shortage and a permanent disadvantage for diary farms in the international marketplace.[21] Modelling for Meat and Livestock Australia suggests that diverting 28 million tonnes of grain to ethanol production would have a major impact on prices and profits in animal industries[22] The grains ethanol production process produces a by-product of a high protein meal (distillers grain) suitable for use as an animal feed. However, distillers grain while high in protein, is low in energy, making it less suitable as a food source for feedlot cattle.[23]

Obviously, where one rural industry provides a raw product for another, Governments need to be careful in terms of balancing policy outcomes. From a rural production costs point of view, the 90% rise in fuel costs since 1999-2000 and the drought induced 76% rise in fodder and feedstocks over the same period need to be factored into any longer term policy response.[24] If fuel prices continue to be high, ethanol will be viable in the long run., But if ethanol production pushes up grains prices, then ethanol from grain will not be as viable and alternative feedstocks (such as sugar cane) might be preferred. Ultimately, the market will decide the most efficient use of resources.

Ethanol production could provide for a significant boost to many regional economies by with further value adding in the processing of crops like sugar cane and grains. A Queensland Government commissioned report suggests that if E10 blends could achieve a 30% market share in Queensland by 2010, local production could result in an extra 2038 jobs and $441 million in state product.[25] Research in the USA shows that each ethanol plant could create around 30 permanent new job, generate investment spending of around $80 million and operational spending of around $20 million.[26] If oil prices continue to rise, the development of a domestic ethanol industry could provide Australia and its rural producers some insurance against fuel bill increases.

The QFF supports the development of a sustainable and viable ethanol industry:

- **Ethanol provides the opportunity for value adding on agricultural produce and additional investment and employment opportunities in regional areas;**
- **Ethanol production will help some rural industries cope with price fluctuations though multiple product strategies (as Brazil has achieved);**
- **Ethanol production provides security against future rises in petrol prices as oil supplies become more scarce, as well as improving the balance of trade;**
- **Ethanol has substantial environmental, greenhouse and air quality benefits.**

QFF believes that the development of a domestic ethanol industry should be done in a balanced way that does not impede the growth of other rural industries. Ethanol as an infant industry faces enormous challenges, and Government intervention is needed to address that. But, ultimately the market should be allowed to determine the most cost effective use of resources, and, in the longer run, ethanol will need to be cost competitive.

---

[21] Australian Dairy Farmers Federation submission to the Biofuels Taskforce p.3
[22] CIE *Impact of ethanol policies on Feedgrain users in Australia* August 2005
[23] Stockfeed Manufacturers Council of Australia submission to the Biofuels Taskforce p.6
[24] ABARE ibid p. 565
[25] Barker G and Urbanchuk J "Economics of a Queensland Ethanol Industry" LECG/ANU May 2005
[26] CANEGROWERS submission to the Biofuels taskforce p.2

The key question for ethanol remains whether the industry can achieve substantial cost reductions in production as economies of scale are achieved. There is strong evidence that this has been achieved in Brazil, and to a lesser extent in the US. In Brazil, increasing ethanol production has pushed the cost down, with the export price of ethanol falling below the export price of gasoline for the first time in 2004 ($US213 per kilolitre for ethanol compared to $280 per kilolitre for gasoline), but longer run, oil prices are required to be above us$30/bbl for ethanol in Brazil to be viable.[27] Brazilian ethanol from sugar is produced at just 38% of the cost of European ethanol from beet, and 63% of the cost of American ethanol from corn.[28] However, some analysis suggests that the scope for further production cost reductions is limited as the technology is mature.[29]

Ethanol production from cellulose could provide the breakthrough needed to make ethanol more cost competitive. Research commissioned by US State Governors from the Energy Information Agency suggests that producing ethanol from biomass (i.e. cellulose) has great potential, with a substantially cheaper feedstock and greater energy efficiency. However, to be commercially viable, further technological development of cellulose conversion technology is required to reduce the cost of the enzymes needed in the enzymatic hydrolysis of cellulose in the conversion process. There are some encouraging technological developments in the US which suggest that the current cost of production could be halved,[30] and may be cheaper than grains-based production on a cost per tonne of greenhouse gas basis within a few years.[31]

Canada is a world leader in new technology to make ethanol from lignocellulosics. Iogen, a company with a background in enzyme technology, in partnership with Petro-Canada, a large Canadian oil companies, built a $30 million demonstration ethanol process. The plant handles 40 tonnes per day of feedstock, converting cellulose fibre into glucose, fermentation, and distillation to produce 3–4 ML of fuel annually. The company has plans for a full-scale, C$250 million commercial plant.[32]

Energy and rural think thank the Rocky Mountains Institute argues that ethanol from biomass would remove the three main objections from the ethanol from grain policy, making it cost competitive with gasoline without subsidies, not competing with food crops for land; and having a stronger positive energy balances. Biomass feedstocks have large energy and environmental advantages including:

- big biomass yields (10-15 dry tones/acre compared to 5 with corn);
- will require much less land to achieve the same energy yield;
- twice the ethanol yield of corn, at a lower capital cost with better bet energy yield;
- ability to use municipal and agricultural wastes as a feedstock;

[27] Prof. Emilio Lèbre La Rovere, Federal University of Rio de Janeiro, Brazil, paper to the International Conference for Renewable Energies, Bonn, June 2004
[28] www.ethanol_gec.org/information/brazilian
[29] Jospeh DiPardo "Outlook for Biomass Ethanol Production and Demand" US Energy Information Agency, Jan 2005, on the www.ethanol_gec.org website
[30] DiPardo J *"Outlook for Biomass Ethanol Production and Demand"* EIA Jan 2005 on www.ethanol_gec.org/infomration
[31] International Energy Agency/OECD, *Biofuels for Transport: An international perspective* (2004), p 68.
[32] Biofuels Taskforce Report 2005 Chapter 3

- possibility of using deep rooted perennials like switchgrass as an energy crop, promoting the re-vegetation of marginal open ranges.[33]

As such, an ethanol industry based on biomass could have substantial benefits for Australian agriculture, bringing into production currently marginal, largely unmanaged lands with the planting of deep rooted perennials. Queensland should be at the forefront of seeking to develop such technologies, building on our advanced research capacity in biotechnology and renewable energy.

QFF recognises that a market for ethanol needs to be built in Queensland, and continuing confidence building measures will be needed. The $ 7.3 million Queensland Ethanol Industry Action Plan 2005 – 2007 seeks to address this in part by raising public awareness of and confidence in ethanol blended fuels and assisting the development of retail and distribution networks. Debunking the myths surrounding ethanol is a priority of the Action Plan, a measure that is welcomed. However, there are still only a handful of sites selling E10 blends, and the website listing them is still difficult to find. QFF would encourage the Government to be more proactive in promoting where E10 can be purchased and in building confidence and hence demand for the product.

Recommendation 11:
QFF supports the development of an Australian ethanol industry that can be viable and sustainable in the longer term, and recognises that some balanced Government policy intervention will be necessary to help such an industry become established.

Recommendation 12
QFF supports increased measures by Government and industry to build consumer confidence in ethanol. For example, Governments and industries need to do more to advertise where E10 blends can be purchased.

Recommendation 13:
QFF believes the Governments can make a substantial contribution to reducing the long term cost of production of ethanol by a substantial strategic investment in R&D, particularly of the conversion of biomass cellulose to ethanol, building on Queensland's strengths in renewable energies and biotechnology.

Recommendation 14:
QFF views the State Government's Ethanol Industry Action Plan as too limited in scope and needing a more substantial R&D component focused on reducing the cost of production of ethanol in Queensland and building consumer confidence and demand.

[33] Glasgow N & Hansen L "Setting the record straight on ethanol" Rocky Mountain Institute 2005 www.rmi.org

8. Biodiesel

Biodiesel has great potential as a renewable fuel in rural areas, particularly given the large increase in diesel prices. Biodiesel is a renewable fuel made from vegetable oil (new or used) or animal fat (saturated oils/fat). It is an environmentally friendly replacement for, or additive to, diesel fuel. Some of the advantages are:

- No major engine modifications are needed to use biodiesel.
- Does not require special storage or fuel dispensing facilities.
- Reduced harmful exhaust emissions, almost no sulphur emission.
- Reduced hydrocarbons, carbon monoxide, aromatics and particulates emissions.
- Better engine lubrication than low-sulphur diesel fuel.
- Has better power rating than conventional diesel – is a better fuel.
- Excellent biodegradability characteristics, low toxicity and high flashpoint.
- Biodiesel is renewable. Carbon is recycled through plantations back into oil.
- Can be made easily and safely with small (backyard) and large scale equipment.[34]

Current and proposed biodiesel production capacity, 2004–05 to 2009–10 (ML)

Biodiesel capacity	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10
Biodiesel Industries Australia, Rutherford	0.5	20	20	20	20	20
Australian Biodiesel Group, Berkeley Vale NSW	15	40	45	45	45	45
Biodiesel Producers Australia	0	0	60.2	60.2	60.2	60.2
Australian Renewable Fuels, Adelaide SA	0	44.7	44.7	44.7	44.7	44.7
Riverina Biofuels	0	0	44.7	44.7	44.7	44.7
Australian Renewable Fuels, Picton WA	0	0	44.5	44.5	44.5	44.5
AJ Bush	0	0	60	60	60	60
Australian Biodiesel Group Queensland	0	0	40	40	40	40
Natural Fuels	0	0	150	150	150	150
South Australian Farmers Fuel	0	0	15	15	15	15
Total biodiesel	**15.5**	**104.7**	**524.1**	**524.1**	**524.1**	**524.1**
Total biofuels	**90.7**	**179.9**	**1129.3**	**1129.3**	**1129.3**	**1529.3**

Source: Information provided by biofuel industry participants and Renewable Fuels Australia. Biofuels Taskforce report

Production is Australia is currently limited to around 4 ML a year. By contrast, mandated fuel additive requirements in Europe have seen a rapid expansion of the biodiesel industry

[34] University of Western Australia http://www.sustainability.fm.uwa.edu.au/

across the EU. The bulk of biodiesel production in Australia is sold in blends of 20% or less with petroleum diesel. B5 is a blend of 5% biodiesel with 95% petroleum diesel, and B20 is a blend of 20% biodiesel with 80% petroleum diesel. Biodiesel can also be used neat as B100. A number of local governments have trialled biodiesel at B100 and B20 in garbage trucks and other diesel vehicles. The Biofuels Taskforce suggests that a key market for biodiesel may be through the sale of biodiesel blends in bulk to centrally fuelled fleets and straight biodiesel for use in sensitive marine and other areas. Internationally, most biodiesel is sold as blends.

Biodeisel generates even larger greenhouse gas reductions per energy than ethanol. The Biofuels Taskforce estimated the lifecycle reductions for biodiesels as 23% to 90% compared with straight diesel, depending on the fuel feedstock.[35] Biodiesel is also biodegradable and non-toxic, making B100 suitable for use in or near waterways and other environmentally sensitive places, or confined spaces. The Taskforce suggests that Government should look at options to encourgae B100 use in special such applications.

However, the production costs of biodiesel are such that is even further away from being economically viable than ethanol without substantial continuing subsidies or mandates. ABARE estimates that without subsidies, the estimated cost of producing biodiesel in new facilities using used cooking oil is 18c/L above, and using tallow is 24c/L above, the long-term energy equivalent benchmark price for biodiesel against petrol. To be commercially viable (and achieve a 7% return on capital) over the longer term, ABARE has identified that biodiesel produced from used cooking oil would require a fuel tax subsidy of 21c/L and tallow-based biodiesel would require a fuel tax subsidy of 32c/L in nominal terms over the longer term. These estimates compare with the current fuel tax subsidy of 19.1c/L.[36] Nevertheless, there are substantial plans in place to increase biodiesel capacity in Australia from the current level of 15.5ML to over 500ML: Grants under the Biofuels Capital Grants Scheme will support around 157ML of biodiesel production (twice that of ethanol) suggesting the Federal Government sees some real growth potential in the sector. But, the biodiesel industry faces some serious policy challenges to become established in Australia. A University of Western Australia information sheet describes these as:

> The oil companies appear to have successfully lobbied the Federal Government to hinder the progress of this industry in Australia: They have caused an excise to be imposed on biodiesel before the industry begins - natural gas has been excise free for the last 20 years to enable it to grab a sustainable share of the market place. They have introduced a licensing system that favors large corporations. They have written an Australian Standard that requires biodiesel to be a significantly better fuel than dinosaur diesel - which it easily meets. The standard requires a direct test of CTANE rating in a variable compression diesel engine - made only in Chicago, and at the time of writing the standard only approx. 24 existed on the planet and the only one in Australia was non-functional. Dinosaur diesel does not need to be directly tested in the standard whereas biodiesel must be.[37]

The NSW Farmers Association has pointed to the particular impediments in place for on-farm production of biodiesel, with a regulatory system designed around large fuel production rather

[35] Biofuels Report chapter 5
[36] Biofuels Report p.110
[37] University of Western Australia http://www.sustainability.fm.uwa.edu.au/

than small-scale production. Excise duty must be paid on all fuel produced, but biodiesel is not included as an eligible fuel for agricultural activities, particularly for private use. If excess fuel is to be sold to neighbours, registration as a fuel supplier with the ATO is required. Mandatory testing of fuel (at $3000 a test) is needed The NSW Farmers Association contrasts this very rigid and restrictive approach with the United States, where no excise duty is payable on production of biodiesel for private use. Transportation requirements are also very onerous.[38]

Yet, farm scale biodiesel production could be of great benefit to farmers. A farm scale plant using canola developed by a Wimmera-based canola grower Steven Hobbs was developed for around $20,000 and able to produce biodiesel at around 62 to 78 cents per litres (ignoring the costs of canola seeds or the revenue from the canola meal, glycerol or other by-products produced)., rising to around 78-94 cents when the opportunity cost of canola is added in.[39] A study by the WA Department of Agriculture showed somewhat higher costs of producing biodiesel from canola (approximately $2.13 per litre), with a quarter of that being the opportunity cost of not selling the canola and 15% being the labour cost. On the other hand, revenue was around $1.42 per litre, half coming from biodiesel and half from meal by-products. The model was extremely sensitive to canola and diesel prices. At current canola farm gate price ($317/t) and diesel on farm ($0.77/l), there was a loss of around $265 per hectare. Diesel prices would need to rise 70% to break even. If canola prices fell 20% (to their 1999/00 price level), biodiesel would break even at a diesel price of around $1.10 on farm.[40]

The list of plants that could be used to produce biodiesel is quite substantial, a workshop organised by the Australian Oilseeds Federation in August was told a wide range of crops could be possible sources of biodiesel, with palm oil probably the cheapest at this stage, but soy beans, mustard and canola the mostly commonly used..[41]

Potential Oil yields from various crops in the USA

Crop	Litres oil/ha
Cotton	325
Hemp	363
Soybean	446
Linseed	478
Pumpkin seed	534
Mustard seed	572
Camelina	583
Safflower	779
Sunflowers	952
Peanuts	1059
Rapeseed	1190
Olives	1212
Castor beans	1413

[38] NSW Farmers Association submission to Biofuels Taskforce 2005 p.9
[39] Ibid p.10-11
[40] Brad Plunkett, presentation to Australian Oilseeds Federation Aug 2005 http://www.australianoilseeds.com
[41] Margaret Campbell presentation to Australian Oilseeds Federation, August 2005 http://www.australianoilseeds.com/oilseeds_wa/biodiesel_workshop_august_2005

Jojoba	1818
Macadamia nuts	2246
Avocado	2638
Coconut	2689
Oil palm	5950

This list highlights that a wide range of crop suitable for growing in Queensland could be good sources of biodiesel, although viability is dependent on price and costs. Waste products can also be used for the production of biodiesel.

QFF is of the view that a great deal more could be done to develop and promote biodiesel in Queensland. On-farm production of biodiesel could provide long term fuel security for farmers and improved greenhouse gas emissions, provided Government polices were more supportive. Biodiesel also needs more emphasis in research, as to date there has been very little. The Queensland Government, under the QSEIF, has provided $129,000 to the Brisbane Coty Council to help evaluate the use of 100% biodiesel fuel (B100) and a 20% biodiesel/diesel mixture (B20) in five BCC council buses and two river ferries (including an assessment of air pollution emissions). However, this falls well short of the commitment of the South Australian Government, which in February, all metro trains and diesel buses will operate using 5% biodiesel, with the proportion to be increased progressively to 20%.

Recommendation 15:
That the Queensland Government establish a farm-scale biodiesel production trial, utilising a range of technologies and fuel feedstocks as part of an accelerated R&D effort on the potential of biodiesel.

Recommendation 16:
That the Federal Government establish a new excise and regulatory regime for on-farm production of biodiesel, with an excise exemption for private use and a more scale-appropriate regulation of local fuel sales and fuel transportation.

Recommendation 17:
That Federal and State Government review the fuel standard for biodiesel to ensure that that the standard does not impede the development of the industry, while protecting consumers.

Recommendation 18:
That the State Government move to expand the use of biodiesel in public transport and Government fleets, and push to expand the retailing infrastructure for biodiesel.