

**Australian Transport Council / Environment Protection and Heritage Council –  
Vehicle Fuel Efficiency Working Group**

**Vehicle Fuel Efficiency –  
Potential measures to encourage the uptake of more fuel efficient, low carbon  
emission vehicles.**

**Submission Template**

Name:

Company/Organisation:

Position:

Postal Address:	25 Jubilee Street South Perth WESTERN AUSTRALIA 6151
Phone number:	<input type="text" value="Mobile – 0418 947 590"/>
Fax number:	<input type="text" value="N/A"/>
Email address:	<input type="text" value="s.whitehouse@pe-international.com; n.whitehouse@pe-international.com"/>

Email:  
vfedpaper@environment.gov.au

Phone: (02) 6274 1774

Post: Vehicle Fuel Efficiency Secretariat  
Department of the Environment, Water, Heritage and the Arts  
Renewables and Energy Efficiency Division (REED)  
Energy Futures Branch  
Technology and Transport Section  
GPO Box 787  
CANBERRA ACT 2601

---

## General comments on a package of measures

---

1. Do you consider the actions of the type outlined in this paper are required, or are current arrangements sufficient?

New and additional actions are definitely warranted.  
Current arrangements are not sufficient

2. If you consider further actions may be required, which measures, or package of measures, offer the greatest potential to cost-effectively reduce greenhouse emissions from the road transport sector?

Measures must be multi-dimensional and not only focus on a single policy objective (**see comments below**)

Measures must be based in law and compliance obligatory (**see comments below**).

Measures must apply to Government, Business and the general community (**see comments below**)

3. In your view, are there particular combinations of measures that would enhance the potential benefits of the measures?

4. Are there barriers or challenges to the uptake of low emission transport technologies in Australia which have not been identified in this paper?

The major obstacle is the will of **all** Australian Governments to commit to clear and unequivocal policy objectives, and to implement them into obligatory policy tools.

The options are not complex and not difficult to either conceptualise or implement. "Rocket scientists" are not needed. Political will is.

5. Are there opportunities to improve vehicle fuel efficiency within the Australian road transport sector which have not been identified in this paper?

See comments below

6. Do you have views on possible social or economic impacts arising from measures outlined in this paper? How could these impacts best be managed?

See comments below

## 7. General Comments

## 1. Definition of Fuel Efficiency

The Paper has defined Fuel Efficiency in terms of “greenhouse gas emissions per kilometre travelled rather than fuel consumption” (P6).

This definition creates a priori a fundamental difficulty for the entire paper and results in, at best, a partial analysis, and therefore recommendations which can only offer a partial solution.

While greenhouse gas emissions are an extremely important element of the issue, they are definitely not the entire issue. Other major key elements which must be included in the analysis are, among others

- Energy security
- Energy independence
- Local availability Vs importation

Inclusion of these factors will lead to other principles being considered. For example

- it is likely that a future fuel scenario will be a menu of choices, rather than a single option such as we have essentially experienced in the last century
- future fuel choices are likely to involve trade-offs between competing and complementary objectives, and somewhat higher greenhouse emissions may be acceptable in order to achieve other energy objectives.

I believe that this view is supported by the analysis of Garnaut when he sees a future Australia driving fuel efficient vehicles, as well as using low emission fuels / energy sources – two separate but intimately related issues.

Because of this decision by the Working Group to adopt this rather partial definition of fuel efficiency, I believe that it has neither produced a balanced or comprehensive report, nor provided the Council or the community with the analysis that is needed.

## 2. Government/Business Vs Private analysis

The Discussion Paper provides a sound and accurate analysis and discussion on the divergence between the Government/Business and general public light vehicle fleets. It is clear that purchasers acquiring vehicles through a third party (Government agency or business), choose vehicles according to some other criteria than those they use when they are purchasing the vehicle out of their own money.

It is interesting and perhaps instructive from a policy framing perspective to speculate on the reasons for this divergence of behaviour. However it is not essential to arrive at a conclusion on motives before framing future policy on fuel efficiency. It is simply sufficient to know that individual behaviour, apparently when divorced from financial implications, leads to purchase of larger, more expensive, less fuel efficient vehicles.

This conclusion can then be weighed against policies, practices and outcomes of programmes put in place by various Governments in an apparent attempt to counter this behavioural divergence.

I am personally familiar with the data on the “4 Cylinder Vehicle Preference Policy” in the early part of this decade for the Western Australian Government vehicle fleet as I was closely involved in framing and implementing the early stages of the policy.

On initial announcement, I received phone calls from Government personnel stating various reasons that it could not work for them or their agency. These ranged from “4 cylinder vehicles have less power” to “4 cylinder vehicles have less comfortable seats” to “the Government doesn’t recognise that I need to be able to achieve speeds of up to 150 KPH [speed limit 110KPH] when passing road trains”.

The policy also excluded all senior staff [those who had remuneration determined through the Salaries and Allowances Tribunal]. This meant that effectively all CEOs were excluded while being given the power to determine if others could be excluded from being required to acquire 4 cylinder vehicles. The result was that many ridiculous reasons (“*I need a 6 cylinder car to get my Mother’s wheelchair in the back*” .... “*I drive in the country*”) as sufficient to enable exclusion.

While it must be said that the policy has been effective in shifting the culture and purchasing to some extent, it has **not** been at all effective in establishing principles or establishing a culture of leadership from the Government sector into the broader community. In fact many CEOs, including some who are specifically charged with establishing leadership in the public sector, steadfastly refuse to even consider more fuel efficient or less polluting vehicles.

The upshot of this analysis (and I have to say my experience), in the context of the analysis of the Working Group’s Discussion Paper, is that it is absolutely illogical and untenable for any future initiatives in the Government sector to be introduced on a voluntary basis.

This argument is extended below into other areas under consideration.

### **3. Range of Fuels**

As argued above, I believe that the Discussion Paper has provided itself with an extremely limited framework for analysis and recommendation by only considering fuel efficiency in terms of greenhouse emissions. The definition must be broadened.

Furthermore, I believe that it is absolutely paramount that any analysis and recommendations must be framed in the context of a **broader transport energy policy**. It is only by attacking the issue in this context that we can ensure that the broader issues are tackled holistically, and not partially.

From this perspective, I believe that is highly likely that transport energy in Australia and the rest of the world will be acquired from a “menu” of alternatives. While this “menu” is highly likely to include oil, I believe it is highly unlikely that we will in the foreseeable future have the past “luxury” of a single source, broad-scale fuel like oil.

Selection from the “menu” will depend on a range of issues, many of them quite specific to the individual global region, country and region within a country.

In this way a range of complex policy objectives will be able to addressed. While one of these is certain to include greenhouse emissions, it is not the only issue. This has been explicitly recognised by other regions and countries such as in the European Union and in particular, Germany.

Other Governments have recognised that the imperative of increased fuel efficiency is only partly the result of the need to reduce greenhouse emissions. Complementary policy objectives such as energy independence and energy security, diversity of supplies producing enhanced energy stability, have been addressed in their policies. As a result they have included fuels such as LNG, CNG, biofuels and LPG in their analysis. While recognising that these fuels are “interim” solutions towards emission free energy, these fuels are seen as practical transition solutions.

I believe this ‘practicality’ is also essential in the Australian context.

#### **3.1. Comments on specific fuels**

##### **3.1.1. Compressed Natural Gas (CNG)**

CNG is essentially dismissed by the Working Group Discussion Paper as a light vehicle fuel (pp 30-31). I believe that the comments are both illogical and internally inconsistent, as well

as resulting from the partial analysis of the issue. This latter comment is yet another example of the impact of the definition that the Working Group established at the beginning – greenhouse gas emissions.

The Discussion Paper notes that “*the potential emission of methane in the form of unburnt gasses in the exhaust can mean that these fuels **can** [my emphasis added] be considerably worse from a greenhouse perspective than conventional petrol and diesel.*” Despite this and the subsequent comments about cost of infrastructure establishment, the Discussion Paper goes on to say that CNG can be a “*viable fuel*” for transit buses. However CNG use “*will not guarantee an improvement in fuel efficiency or CO2 emissions*”.

These statements are internally inconsistent. If CNG cannot be recommended because of alleged methane emissions, how can they be recommended for buses?

Furthermore that are not sustainable in the face of the evidence. Furthermore, failing to consider CNG use in the light vehicle fleet in Australia is, I believe, a major oversight.

There have been numerous anecdotal observations about the impact of after-market conversions of light duty vehicles, particularly in Italy, to CNG use that have pointed out the poor quality of those conversions and apparently leaking methane. There have also been studies which have examined the methane and other emissions in the exhaust of these vehicles.

However, there are many thousands of **OEM supplied** CNG light duty vehicles and light commercial vehicles which are on the market in Europe, Japan and elsewhere in the world. **These all meet the same emission standards as petrol and diesel fuelled vehicles.**

Evidence of this compliance can be seen in the emission results for three vehicles – 2 representative of light passenger cars and one representative of light commercial vehicles.

#### Opel Safira

1.6 litre - Natural Gas engine – 69 kW – 138 g/km of CO2 emissions  
1.6 litre - Petrol engine - 77 kW – 172 g/km of CO2 emissions  
1.7 litre – Diesel CDI engine - 89 kW – 152 g/km of CO2 emissions

#### VW Golf Touran

2.0 litre - Natural Gas engine (EcoFuel) – 80 kW – 154 g/km of CO2 emissions  
1.6 litre - Petrol engine - 75 kW – 193 g/km of CO2 emissions  
1.4 litre - Petrol engine (TSI) - 103 kW – 176 g/km of CO2 emissions  
1.9 litre – Diesel TDI DPF engine - 77 kW – 157 g/km of CO2 emissions

#### Mercedes Sprinter Van

Natural Gas engine – 253 g/km of CO2 emissions – approx depending on engine  
Petrol engine – 310 g/km of CO2 emissions- approx depending on engine  
Diesel CDI engine – 255 g/km of CO2 emissions- approx depending on engine

Furthermore, a study published in 2004 (TNO, 03.OR.VM.055.1/PHE) comparing petrol, diesel, CNG and LPG in a broad range of impacts over their life cycles states that “*the gaseous fuels LPG and CNG show the best overall results, especially CNG shows (very) low impact potentials on almost all effects in all driver situations.*” (P5).

It is also instructive to note that in discussions with OEMs about the possible importation of CNG light vehicles into Australia, they have stated that they would only require something in the order of 100 to 200 annual vehicles sales to make this cost effective. This would include them participating in infrastructure establishment in large cities.

While I am not advocating a whole-scale switch to CNG fuelled cars and light commercials, it is important to consider them as part of a future “menu”. This is especially the case given

that Australia has some of the world's largest reserves of Natural Gas.

When analysing the issue in this context it becomes apparent that CNG light vehicles in Australia could play an extremely important future role in improving the fuel efficiency of the Australia vehicle fleet. Especially if the definition of fuel efficiency is broadened.

#### **Natural Gas from renewable resources**

This analysis becomes more interesting when initiatives such as that in Sweden is considered. In Stockholm much of the public transport bus fleet is run on **natural** gas i.e. on methane that is derived from biological inputs – human sewage, fish processing waste; forestry waste. The publicity on the side of their buses that proclaims “I fuel this bus!!” is very effective.

In the context of this discussion for Australia, this shows how the consideration of Natural Gas has the potential to play a much wider sustainability role in a future Australian transport fuel ‘menu’.

#### 3.1.2. Hydrogen

The Discussion Paper states (P31) that *“there is broad agreement that hydrogen as a transport fuel is only likely to be an option in the long term, if at all”*. There is no documentation about where this assessment comes from or who is in agreement.

This assessment by the Working Group is in stark contrast to a number of other countries, regions and major companies. These include Supra-Governments and Governments such as the European Union, USA, Germany, Japan, China, Korea and companies such as Daimler, UTC, Toyota, Honda Shell, and many, many more.

Evidence of their starkly different assessment is that the European Union launched the Joint Technology Initiative on Hydrogen and Fuel Cells on October 15<sup>th</sup> in Brussels with an investment in excess of \$1.5 billion AUD.

Germany has established its NOW programme with only a slightly smaller budget. The American Federal Transport Authority and notably the Californian Government are also pouring millions of dollars into research and development of Hydrogen as a transport fuel.

While I will agree that the future implementation of hydrogen as a broad scale transport fuel is not without its challenges, to blithely dismiss it as has been done in the Working Group Discussion Paper, is merely a reflection of lack of current involvement and knowledge.

#### 3.1.3. Biofuels

While I am not a strong advocate of biofuels, I do believe that they may well have a role in the future, particularly in relatively ‘niche’ situations. It is clear that biofuels have been and continue to be a major player in the fuel ‘menu’ of Brazil. They may well have a similar, but, in my view, much more limited role in Australia.

While I believe that much of the pressure for biofuels in Australia has often originated from the (unspoken) desire to provide another subsidy to the Agricultural industry, I believe that the Working Group Discussion Paper has not adequately considered them as part of a future ‘menu’ of fuels that will all play their part in improving the fuel efficiency (broadly defined) of the Australian vehicle fleet.

---

**Category 1 Measures to Increase the Supply of Low Emission Vehicles**

---

**1.1 CO<sub>2</sub> Emission Targets for New Light Vehicles**

---

1. Do you consider there is a case for tightened CO<sub>2</sub> standards for the light vehicle fleet in Australia?

Yes, and they must be compulsory on the OEMs

2. If you consider tightened standards are required, should they be voluntary or mandatory?

Mandatory

3. Do you have a view about the design of any system – for example do you agree that the standard should be a sales-weighted average? Do you agree with the European Union proposal to link the standard to vehicle weight, or should it be based on different parameters?

I believe that Australia should follow the European Union system.

4. Do you consider that CO<sub>2</sub> standards can effectively operate independently of other measures, or are other measures critical to their success?

Definitely not – other measures are imperative. See comment in general discussion above.

5. Do you consider that market pressures, such as rising fuel prices, will be sufficient to deliver significant CO<sub>2</sub> reductions from the light vehicle fleet, without the need for CO<sub>2</sub> standards?

No. I believe that there is ample evidence to say that this will not be sufficient either in the short, medium or long term and that mandatory standards are required.

6. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 2 Measures to Increase Demand for Low Emission Vehicles**

---

**2.1 Restructure State registration and stamp duty charges for light vehicles**

---

1. Would a stamp duty differential charging scheme be an effective means of encouraging consumers to purchase more fuel efficient vehicles?

It would play an important role. It would be a significant indicator of Government “will”, but of itself, not sufficient to produce the needed changes.

2. Would a registration differential charging scheme be an effective means of encouraging consumers to purchase more fuel efficient vehicles?

It would play an important role. It would be a significant indicator of Government “will”, but of itself, not sufficient to produce the needed changes.

3. Of the range of basic system models outlined in Measure 2.1 of the discussion paper, which would be the most effective at improving vehicle fuel efficiency and most understandable to the average motorist?

Simple stepped scales are likely to be easier and cheaper to implement and easier to understand.

4. What other considerations should be made in the design of any system?

It MUST only focus on new vehicles as to introduce it retrospectively would likely severely disadvantage lower socio-economic groups. However, measures to encourage regular maintenance of older vehicles and conversions to gas might be also useful.

5. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 2 Measures to Increase Demand for low emission vehicles**

---

**2.2 Provision of direct financial incentives/disincentives based on vehicle CO<sub>2</sub> emissions.**

---

1. Do you consider that direct rebate for low emission vehicles are an effective measure in reducing CO<sub>2</sub> emissions?

Yes. They are also again a major signal of Government will.

2. If so, do you consider that the cost of rebates should be offset with higher fees on high emitting vehicles (i.e. a feebate scheme)?

Yes - absolutely

3. Do you agree that any scheme should be based on CO<sub>2</sub> emissions and not linked to particular technologies?

Yes

4. If a scheme was to be introduced, would you support it being based on a single threshold, or do you support a range of "class" based thresholds? What do you consider are the advantages and disadvantages of such approaches?

While a threshold might be simpler politically to introduce, I believe that a range (perhaps 3 – 5) of classes would be more logical and more directly connected to what members of the community observe around them.

5. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 2 Measures to Increase Demand for Low Emission Vehicles**

---

**2.3 Develop fleet purchasing frameworks that incorporate greenhouse reduction objectives**

---

1. Do you consider fleet operators would be motivated to participate in a national fleet accreditation process to improve the fuel efficiency of their fleet?

Yes. But it will only be effective within the context of a mandatory framework for vehicle fuel efficiency and emission standards.

2. If you do, what benefits do you consider fleet operators would expect to result from participation in such a scheme?

Save money!!

3. Do you think that an accreditation scheme should have the sole goal of reducing CO<sub>2</sub> emissions? Should additional goals be considered (such as air quality)?

See all our comments in the general section at the head of this submission.

4. Are you aware of fleet fuel efficiency schemes operating within Australia or overseas? Has there been an analysis of the effectiveness of these schemes?

Please see comments about Western Australian Government Fleet scheme.

5. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 3      Measures to Improve Consumer Awareness**

---

**3.1      Including Fuel Consumption Data in Vehicle Advertisements**

---

1. Do you consider there is a case for including fuel consumption and CO<sub>2</sub> emissions data in vehicle advertising?

Yes – as is happening throughout Europe, including the provision of this information as a highlight at the unveiling of new car concepts and models at all the major Auto shows (Hannover, Frankfurt, Paris etc).

2. If so, what do you think would be the best way to implement it?

Mandatory compliance and perhaps some sort of generic “badging” similar to the star system for electrical appliances and for buildings.

3. Are there any matters not identified which would facilitate or impede the introduction of this measure? We are particularly interested in any published material you can point to.

This website shows the position of the European Commission and its various bodies. It clearly shows some of the road blocks as well as some of the results that can be achieved.

[http://ec.europa.eu/environment/air/transport/co2/co2\\_home.htm](http://ec.europa.eu/environment/air/transport/co2/co2_home.htm)

These websites show the industry lobby groups positions.

Automotive Industry (mainly European)-

[http://www.acea.be/index.php/news/category/co2\\_emissions/](http://www.acea.be/index.php/news/category/co2_emissions/)

Japanese Industry - [www.jama-english.jp/europe/news/2007/no\\_3/MrsOfogebu.pdf](http://www.jama-english.jp/europe/news/2007/no_3/MrsOfogebu.pdf)

Korean Industry - [www.jama-english.jp/europe/news/2007/no\\_3/MrsOfogebu.pdf](http://www.jama-english.jp/europe/news/2007/no_3/MrsOfogebu.pdf)

This article, especially the video, shows some of the pitfalls when simplistic solutions are proposed. This is especially the case when ‘silver bullets’ are sought.

<http://www.telegraph.co.uk/earth/main.jhtml?xml=/earth/2008/07/08/eabrown108.xml>

4. What do you consider are the costs and benefits of the measure, and their likely magnitude? What is the basis of your views on this question?

Costs would be limited to regulating compliance. However, car advertisers are well into this practice and would adopt it with ease.

5. Are you aware of any other countries implementing similar measures, and whether there has been any analysis of their effectiveness?

Europe – particularly the French car producers.

6. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 3 Measures to Improve Consumer Awareness**

---

**3.2 Standards / Labelling Requirements for Non-engine Components Which Impact on Fuel Consumption**

---

1. Do you consider that measures in relation to non-engine components are worth pursuing?

Limited but useful signal of will and involvement across the board. Eg Bridgestone tyre company activities.

2. Do you agree with the Working Group's assessment that Australia should move quickly to assess/establish within Australia any measures agreed to internationally?

Yes

3. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 3                      Measures to Improve Consumer Awareness**

---

**3.3    Heavy Vehicle Environmental Rating Scheme**

---

1. Do you consider there are gaps/inadequacies in the provision of heavy vehicle fuel efficiency data to business purchasers? Can you identify those deficiencies?

The European Commission's proposed Green Public Procurement policy directive offers an interesting and very effective partial solution.

[http://ec.europa.eu/environment/gpp/index\\_en.htm](http://ec.europa.eu/environment/gpp/index_en.htm)

2. If deficiencies exist, what do you consider is the most effective way to address these? Do you consider there is a case for web-based fleet management tools, and how should they be funded?

3. What do you think would be the most important areas for any tools to address?

4. Are you aware of any other countries implementing similar measures and whether there has been any analysis of their effectiveness?

5. Are there any additional matters that would facilitate or impede the introduction of fleet management tools? We are particularly interested in any published material you can point to.

6. Do you think the development of fuel efficiency guides for fleets would be a cost effective means to reduce fuel use of heavy vehicles?

7. Do you consider there is a case for development of a heavy vehicle environmental rating scheme similar to the light vehicle rating scheme? Do you agree with the assessment that any scheme should wait for the finalisation of international emission measurement standards?

8. What do you think would be the most important areas for any scheme to address?

9. General Comments

See general comments at start of submission. These comments mean that many of the questions posed need to be re-visited as they are based on assumptions from a partial analysis.

---

**Category 3 Measures to Improve Consumer Awareness**

---

**3.4 Establish a technology demonstration scheme for Australian road transport fleets linked to achievement of greenhouse outcomes**

---

1. Do you consider a subsidy scheme to support the development and trial of emerging low emission technologies is necessary to encourage innovation within the light commercial and heavy vehicle market segments? If so, is it an effective approach?

Not necessary but useful. There have been similar schemes and they have been adopted with limited success. At the end of the day the major impact will only come from compulsory implementation of technologies and systems which are already in place in many other parts of the world. eg European Union; California; Japan

2. Are there additional (non-financial) barriers to the adoption of proven and emerging low emission technologies within the light commercial and heavy vehicle segments?

Lack of coordination of the players (OEM's; Energy Companies; component suppliers; purchasers). Government has a pivotal role in facilitating better coordination and basically making it happen.

3. Are you aware of any other countries implementing similar measures and whether there has been an analysis of its effectiveness?

The EU has a comprehensive policy approach to Sustainable Energy...including detailed Sustainable Energy Technology (SET) Plans. They will be holding a technology summit in 2009 where the prime purpose will be to push towards achievement of their ambitious sustainable energy technology programme.