

On the road to greener motoring

Australian Automobile Association
climate change statement



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WORLD WIDE AFFILIATION THROUGH THE AIT AND FIA



The climate change challenge

There is strong scientific evidence that human activity is contributing to climate change.¹ Many of the activities that have driven Australia's economic growth and improved living standards emit a range of greenhouse gases that are damaging to the global environment. Without action, there are likely to be increasingly adverse economic, social and environmental consequences for future generations.²

Given this, it is not surprising that Australians are becoming increasingly aware of, and concerned about, environmental issues. Eight in ten motorists (79%) are concerned about the effect of motor vehicles on the environment.³

As Australia's leading motoring organisations, representing 6.5 million members, the Australian Automobile Association (AAA) clubs are in a unique position to help tackle the climate change challenge by assisting motorists to contribute to a cleaner, greener community.

As motoring advocates, we are also in a position to influence industry and government to take steps that reduce emissions and improve energy efficiency. We recognise that in advocating such a position, we too have a responsibility to improve our emissions performance and energy efficiency.

This statement is structured in three key sections. Following this introduction, which includes an examination of the role of the car in Australia's greenhouse gas emissions, a number of guiding principles that underpin the AAA clubs' standpoint on climate change are discussed. The final section sets out the AAA club's climate change objectives, and for each of these, key policy positions are described.

This climate change statement forms the framework for action on climate change by the AAA clubs.

Cars and climate change

Australia's annual greenhouse gas emissions are equivalent to around 559 million tonnes of CO₂⁴, which is approximately 1.5% of global emissions.⁵ According to the Australian Greenhouse Office, passenger cars generate around 8% of Australia's total greenhouse gas emissions, which is slightly more than half of the nation's transport sector emissions (including commercial vehicles, rail, sea and air travel), as shown in Figure 1.

It is estimated that by 2020, passenger car emissions will have grown to 39% above 1990 levels, whereas

¹ The Intergovernmental Panel on Climate Change (IPCC) *Fourth Assessment Report*, published in 2007, found that there is a greater than 90 per cent chance that most of the observed increase in globally averaged temperature since the mid-20th century is due to the observed increase in anthropogenic greenhouse gas levels.

² According to the IPCC, these consequences are expected to include higher temperatures, changes in rainfall patterns, more frequent and intense tropical cyclones, reductions in snow and ice cover, and an increase in sea levels.

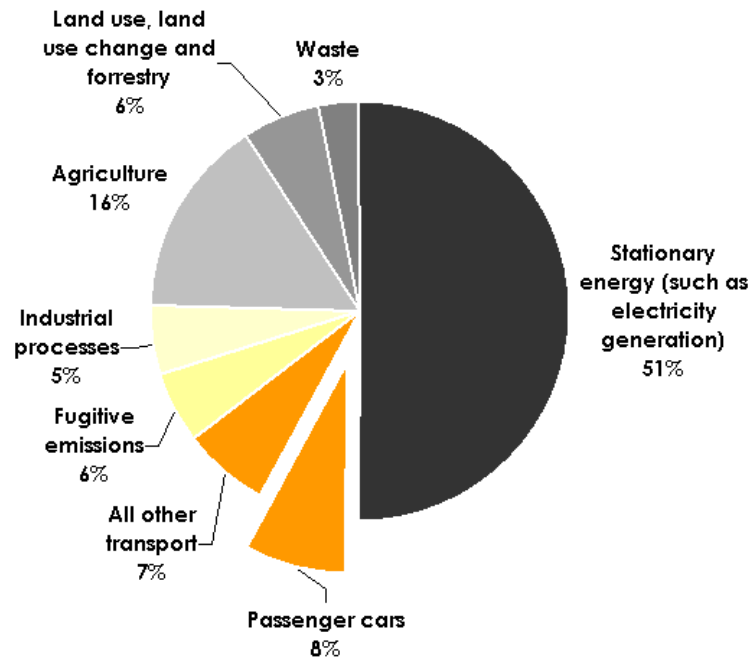
³ AAA National Survey of Motorists' Attitudes and Priorities, 2007.

⁴ There are six key greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆). CO₂ is the gas generated most by human activity and has a relatively long lifespan in the atmosphere, and therefore often the focus of general discussions on greenhouse gas emissions. The other greenhouse gases are also often referred to in terms of CO₂ equivalents.

⁵ Australian Greenhouse Office (AGO), *National Greenhouse Gas Inventory*, 2005; and UNFCCC 2007.

overall transport emissions will increase to around 62% above 1990 levels. The fastest growing emission sources within the transport sector include air travel and light commercial vehicles.⁶

Figure 1 Australia's greenhouse gas emissions by sector (2005)⁷



Motor vehicles have a track record of improvement. Better engine technologies and fuels have contributed to significant reductions in emissions of local air pollutants from new vehicles. New petrol vehicles that meet Euro 3 standards (which was mandated in Australia in 2006) emit at least 75% less CO, NOx and HC than the first unleaded petrol engine cars sold in Australia in 1986. New model petrol vehicles that meet Euro 4 standards (which will be mandated in Australia from 2008) emit around 50% fewer pollutants than the Euro 3 standard cars.⁸

AAA has for many years played a leading role in promoting cleaner, less carbon intensive, and more fuel efficient motoring through a range of initiatives including consumer testing, driver training and campaigns for legislative action for improved vehicle emission and fuel quality standards.

We intend to continue this lead role, by taking a proactive and pragmatic approach towards climate change; one that makes a positive contribution to reversing the global warming trend while balancing motorists' need for safe and affordable mobility.

⁶ AETF Consulting, 2007. *Impact of emission trading and a carbon tax alternative on Australian motorists*. Prepared for the Australian Automobile Association.

⁷ Australian Greenhouse Office (AGO), *National Greenhouse Gas Inventory*, 2005.

⁸ Australian Design Rules (ADR) 37/00, 79/01 and 79/02.

Guiding principles

Sustaining mobility

It is difficult to overstate the importance that the ability to travel, particularly by private motor vehicle, plays in the lives of all Australians. Transport networks permeate all aspects of our society and represent the major arteries of modern economic activity, playing a crucial role in our local, regional and national economies.

Public and private use of transport underpins our ability to participate in employment, shopping, recreation and social activities, making access to it not just of economic importance, but an important equity issue.

The need to reduce greenhouse gas emissions must therefore be balanced against the imperative to sustain Australians' mobility.

All sectors of all economies should take part in greenhouse gas abatement

The likelihood that Australia will be able to make the deep cuts in greenhouse gas emissions that are necessary to stabilise temperatures will be improved if efforts are shared across all sectors of the economy. For example, even if all passenger cars were taken off the road, 92% of Australia's greenhouse gas emission problem would remain.

Comprehensive efforts across all sectors of the economy will also help to ensure that abatement happens where it is least costly to do so, as some sectors may be in a position to reduce emissions at lower cost than others.

Moreover, responding to climate change is not just a national challenge, but a global challenge. Australia and many other countries are projected to experience an increase in emissions over the long term. Efforts to abate greenhouse gas emissions therefore need to cross all sectors of all economies around the world.

As members of the Fédération Internationale de l'Automobile (FIA), which represents the interests of more than 100 million members worldwide, the AAA clubs are well positioned to help make a positive contribution. The FIA has published a declaration, *Make Cars Green*, which responds to climate change challenge.

Governments, industry, organisations and individuals each have a role to play

Within the transport sector, Federal, State and Local Governments, oil companies, vehicle manufacturers and importers, freight and passenger transport businesses, motoring clubs, other organisations and individuals each have a moral imperative to find ways to cost-effectively reduce greenhouse gas emissions.

It also makes good business sense to act on climate change. Experience in government and industry has

consistently shown that current energy efficiency is extremely poor and cost-effective improvements in the order of 20% are often available with a payback on investment of one year.⁹

Measures to reduce the climate change effects caused by motoring need to be pursued in three key areas:

- promoting new vehicle, fuel and component technologies;
- improving road network design and management; and
- incentives and information to promote greener choices of travel, automotive technologies, and driving behaviours by the consumer.

Greenhouse gas abatement measures should complement other transport policy objectives

Measures to curb greenhouse gas emissions in the transport sector should be complementary to the minimisation of other negative impacts on the natural and built environments, like air pollution and smog, traffic congestion, and destruction of native flora and fauna. Further, greenhouse gas emission reductions should go together with improvements in road safety and energy security.

⁹ Pearman, G., 2007. *Warming up: what we know about climate change*. CEDA, Climate change: getting it right.

Driving reductions in emissions

AAA has identified four key climate change objectives, listed below. In this section of the climate change statement, we discuss important issues relating to each of the objectives as well as our policy positions.

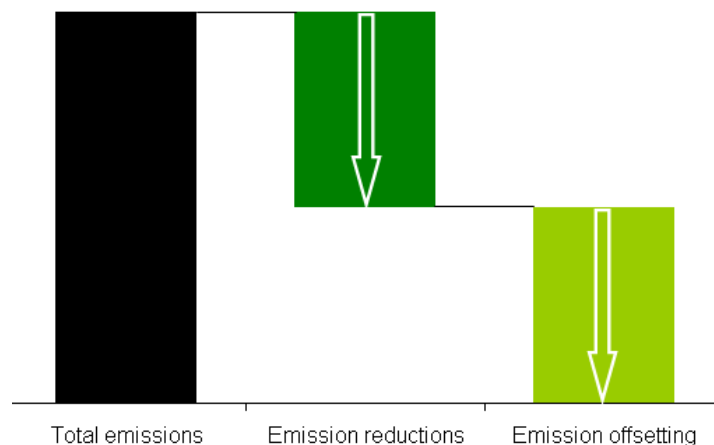
Climate change objectives

- 1. Assist and encourage members to reduce and offset their greenhouse gas emissions.**
- 2. Sustainable mobility for all.**
- 3. Minimise the emissions generated by the products and services we provide to our members.**
- 4. Participate with governments and industry to develop policies and initiatives that reduce greenhouse gas emissions.**

Objective 1 Assist and encourage members to reduce and offset their greenhouse gas emissions

In their choices about travel and destination, all motorists should take into consideration their impact on the environment. Abatement of greenhouse gas emissions can take two forms: reduction and offsetting. While AAA's priority is on reducing the emissions generated by motoring, carbon offsets provide a means of addressing those emissions that cannot be cut.

Figure 2 Total greenhouse emissions can be abated through reductions and offsetting



Policy 1.1 AAA can assist motorists to reduce their carbon 'footprint' by behavioural change

One of the most cost-effective means of reducing motoring emissions is through behavioural change, such as reducing the amount of driving by planning trip routes and using alternate modes of transport, taking more care over fuel consumption while driving, switching to cleaner fuels, buying more fuel efficient vehicles, and regularly checking tyre pressures.¹⁰ AAA is well placed to provide advice to motorists about how they can reduce their carbon 'footprint' — which may have the dual advantage of saving money.

This will be particularly important at the introduction of carbon emission trading, due to happen in Australia by 2010.¹¹ Emissions trading will create a price on greenhouse gas emissions, and therefore generate a further

¹⁰ For example, a recent European study found that "Fuel efficient driving, based on lessons and with or without the aid of Gear Shift Indicators, is a very cost-effective means of achieving one or two percent reduction of the CO₂ emissions of the European passenger car fleet." (TNO Science and Industry, IEEP - Institute for European Environmental Policy and Laboratory of Applied Thermodynamics, Review and analysis of the reduction potential and costs of technological and other measures to reduce CO₂-emissions from passenger cars, October, 2006).

¹¹ The Australian Labor Party has committed to establishing an emissions trading scheme by 2010. <http://www.labor.com.au/media/1107/msl00143.php>

incentive for motorists to reduce their emissions. The AAA clubs will play an important role in assisting motorists to make the transition to this 'carbon-constrained' world.

Policy 1.2 AAA can assist motorists in making sound investments in carbon offsets

It is possible for those remaining emissions that cannot be reduced to be offset by investing in emission reduction projects which have prevented or removed an equivalent amount of greenhouse emissions elsewhere. In Australia, the most common types of carbon offsets are generated from renewable energy, energy efficiency and forestry (known as bio-sequestration) projects.

However, the offset market is experiencing rapid growth and is somewhat fragmented, with little regulation and a variety of quality standards. Carbon prices also vary significantly.¹² There is a need for independent and authoritative advice for motorists on how to make a sound investment in carbon offsets, which the AAA clubs are in a position to provide. There may also be a role for the AAA clubs in providing offset programs for their members.

Policy 1.3 AAA can ensure the community has an accurate understanding of the facts

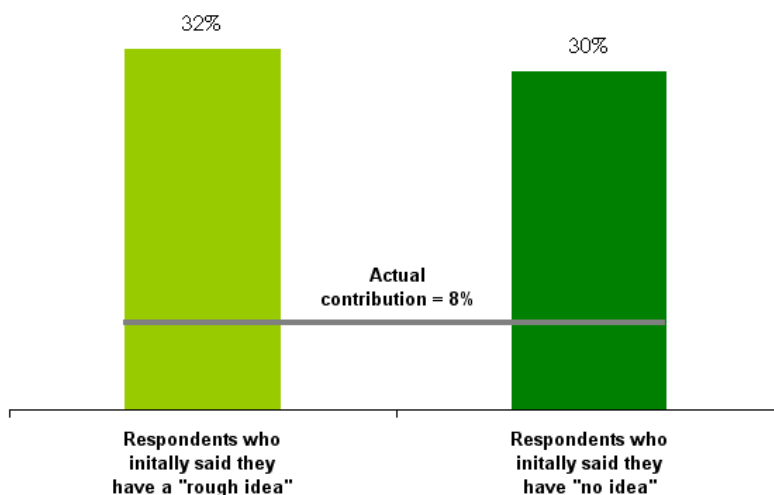
Currently the community does not have a strong understanding of the role of motor vehicles in climate change. When asked to estimate how much cars contribute to total greenhouse emissions in Australia, nearly half (46%) of all survey respondents believe that they have a rough idea — but their estimates turn out to be a significant overstatement of reality.

According to the Australian Greenhouse Office, passenger cars create 8% of Australia's greenhouse gas emissions, but more than 8 in 10 people overestimate the figure, with the average "guesstimate" being 32%.¹³ In fact, the guesstimates of those respondents who initially indicated that they have a rough idea of the car's contribution were actually less accurate than those respondents who initially said they have no idea (see Figure 3 below).

¹² Ribon, L. and Scott, H. *Carbon Offset Providers in Australia 2007*. Global Sustainability at RMIT University.

¹³ AAA National Survey of Motorists' Attitudes and Priorities, 2007; and Australian Greenhouse Office (AGO), *National Greenhouse Gas Inventory*, 2005.

Figure 3 Survey respondents' estimates of the car's contribution to Australia's total greenhouse gas emissions¹⁴



To be effective, policies and initiatives on climate change need to be based on accurate and reliable information and analysis. It would therefore be prudent for AAA to take a balanced approach to advising the community and decision makers about the realities of the motor car's contribution to greenhouse pollution. A community which has a more accurate understanding of the facts is likely to be more receptive to effective climate change initiatives proposed by government and industry.

¹⁴ AAA National Survey of Motorists' Attitudes and Priorities, 2007.

Objective 2 Sustainable mobility for all

Nine in ten motorists use their cars every or most days of the week, and in a period where the political debate in most states has centred around the desirability of more and better public transport, AAA's most recent national survey found only a marginal increase in public transport usage — with the number of respondents using public transport at least once a week edging up from just 11% in 1999 to 13% in 2007.

Many capital city public transport systems are already struggling to cope with recent patronage increases, despite these increases being relatively minor compared with the total transport task.

The car continues to be an integral component of the Australian lifestyle because of necessity, independence and convenience.¹⁵

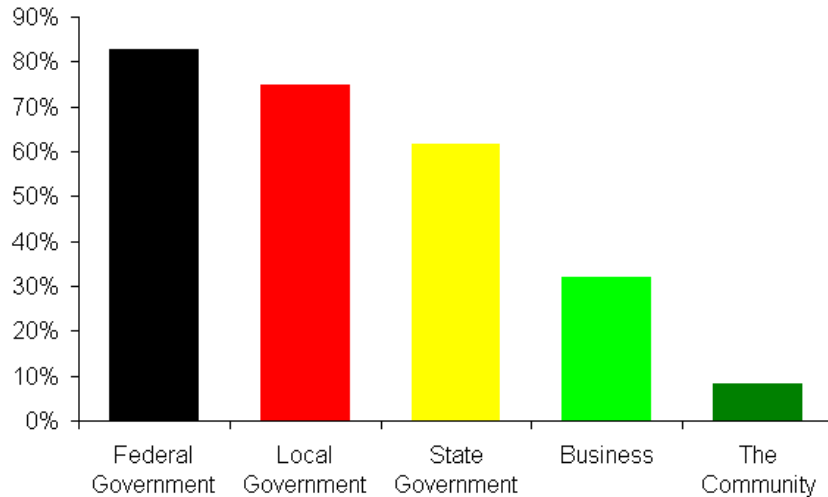
Policy 2.1 There needs to be a focus on investment in vehicle technology and design

When asked to nominate, unprompted, realistic solutions for reducing the impact that cars have on the environment, the community is quick to put its faith into the development of alternative cars. In response to the same question, public transport as a solution has remained stable at around 30%, alternative fuels has averaged a similar figure, but alternative cars as the answer has rocketed from 13% in 2003, to 27% in 2005 and to 43% in 2007. The community believes investment in vehicle technology and design should be the mechanisms for greenhouse gas reductions, ahead of curtailed driving behaviour.

In fact, industry data indicates that the community is putting this belief into practice and is well ahead of government in moving to greener motoring. The community, and to some extent business, have driven the shift towards smaller more fuel efficient vehicles, while government fleet buyers continue to dominate the larger, less economical car segment (see Figure 4 below).

¹⁵ AAA National Survey of Motorists' Attitudes and Priorities, 2007.

Figure 4 Large 6 cylinder cars as a proportion of government, business and the general community fleets¹⁶



Policy 2.2 Alternatives to the car need to be safe, reliable, affordable and efficient

Governments and policy makers must recognise that the scope for shift from road to other forms of transport is limited and reductions in greenhouse gas emissions low due, in particular, to the capacity constraints and limited geographic coverage of transport alternatives to the car, particularly in rural and regional Australia.

It is imperative that governments improve the coverage and frequency of public transport services to provide a viable alternative to the car.

If governments wish to encourage the public to use cars less, then they must ensure that alternatives — be it rail, bus, ferry, cycling or walking — are safe, reliable, affordable, convenient and efficient.

Policy 2.3 Measures to encourage use of alternatives to the car should be positive, not punitive

Measures to encourage the uptake of alternative forms of transport should reinforce positive behaviour rather than take a punitive approach. For example, changes to vehicle registration fees to give preferential treatment to more fuel efficient vehicles should be considered ahead of levies on metropolitan parking, which is a simplistic approach to demand management which penalises motorists.

Policy 2.4 Intelligent transport systems (ITS) can enhance consumer choice and mobility

Intelligent transport systems (ITS) can significantly contribute to improve the efficiency and compatibility of different forms of transport to enhance consumer choice and mobility. According to ITS Australia, the

¹⁶ Adapted from a presentation by Toyota, *Who is embracing the green motoring challenge?*

introduction of new ITS has the potential to reduce vehicle kilometres travelled by 14,171 million km per year thereby reducing greenhouse gas emissions by 6.55 million tonnes per year.¹⁷ ITS will be important in encouraging people to use public transport by making it more reliable and cost-effective. It will help to make trips that use more than one form of transport – by car and train, for example – hassle free. However, governments should ensure that this new technology is affordable for everyone in society.

¹⁷ Forecast benefit of new ITS by 2010. Intelligent Transport Systems Australia, *Annual Review*, 2004-05.

Objective 3 Minimise the emissions generated by the products and services we provide to our members

Collectively, the AAA clubs are involved in a broad range of environmental activities, including:

- 75% of the NRMA Motoring and Services fleet runs on Liquid Petroleum Gas (LPG) and this will increase to 95% by the end of 2008;¹⁸
- RACV has implemented the process to achieve Sustainability Victoria waste-wise accreditation, which has already resulted in a 12% reduction in paper use since 2004;
- RACQ enables motorists to learn how they can save fuel and reduce emissions using an interactive online Eco Car tool;
- RAASA has undertaken an energy audit of its metropolitan and regional office network and is implementing an action plan to reduce its energy use;
- RACWA moved into a new head office building in West Perth in 2005 which was purpose-designed to have a 4 star rating by the Australian Building Greenhouse Rating Scheme;
- RACT represented the interests of motorists in a parliamentary inquiry into alternative fuels; and
- nationally, AAA has supported the introduction of fuel consumption labelling on new cars and legislative change to improve fuel quality and emission standards.

Policy 3.1 AAA motoring clubs recognise they have a responsibility to assess and abate their direct and indirect carbon emissions

As large businesses, the AAA clubs recognise the responsibility to build on their existing environment initiatives with comprehensive carbon strategies, involving rigorous assessment of their direct and indirect carbon emissions, development of plans to avoid and reduce these emissions, and, for those emissions that cannot be reduced, investment in carbon offsets.

Policy 3.2 Green products and services have the potential to both reduce the emissions generated by consumers and engage them in the climate change issue

Green products and services for consumers potentially play an important role, by engaging people on climate change issues and assisting them to fight global warming by ensuring that their use of these products and services is not adding to Australia's greenhouse gas emissions.

The AAA clubs will therefore investigate options to market green products and services to members. These might include roadside assistance, insurance and travel bookings and packages. As discussed earlier, there

¹⁸ According to LPG Australia, LPG typically has around 20% less ozone forming potential (a measure of the tendency to generate photochemical smog), between 10 and 15% lower greenhouse gas emissions and only one fifth air toxics emissions compared to petrol. <http://www.lpgautogas.com.au/index.cfm?Action=Enviroment>

may also be a role for the AAA clubs in providing offset programs for their members.

Furthermore, the AAA clubs will also advocate for green products and services from external sources for our members.

Objective 4 Advocate that governments and industry adopt policies and initiatives that reduce greenhouse gas emissions

Throughout this and the last century, AAA clubs have been the voice of motorists. Governments, decision makers, politicians and numerous other groups and individuals have looked to AAA to help guide policy and shape the motoring agenda.

Governments

Policy 4.1 AAA prefers a market based emission trading system which imposes permit obligations on upstream petroleum refiners and importers, rather than a system of carbon taxes

The Federal Government has announced its intention to implement a carbon emissions trading scheme by 2010. AAA has been supportive of this approach, because a price on carbon creates incentives for households and businesses to explore low-cost ways to reduce greenhouse gas emissions. However, while AAA accepts that motorists should take responsibility for their emissions, they should be expected to bear no more than their fair share of the burden.

AAA prefers a market based emission trading system which imposes emission permit obligations on upstream petroleum refiners and importers, rather than a system of carbon taxes.

In principle, it would be preferable to make motorists the acquittal point for emissions trading permits so they can take the necessary action to reduce emissions. However, the sheer number and diversity of vehicles would make comprehensive coverage difficult and costly to achieve in practice. Apart from the costs involved in a large number of emitters being required to acquit permits, there are difficulties in locating, monitoring and attributing vehicles emissions back to their 'owners'. Hence, a better approach is to ensure that upstream petroleum refiners and importers are the point of acquittal for transport emission permits.

AAA also believes:

- a carbon emission trading scheme should include all industry sectors and all automotive fuels;
- a carbon emissions trading scheme should be tailored to Australia's needs and be compatible with international goals; and
- Federal Treasury should conduct and publish economic modelling on the effects of emissions trading.

Policy 4.2 Ahead of the implementation of emissions trading, fuel taxation needs to be reformed and a road pricing system implemented

A reformed fuel taxation and road pricing system would ensure there is transparency for consumers, maximise the potential for behavioural change and create a mechanism that ensures revenue is invested in

emission-reducing improvements to the transport network.

An ideal road user charge would have two components – an access charge and a user charge. The access charge would cover the costs of vehicle registration to enable monitoring for enforcement, security and consumer protection purposes. A user charge would encompass the costs of road wear, environmental impact and road crashes.

Furthermore, governments should ensure that broader taxation on motoring is consistent with climate change objectives. This would include a review of import tariff levels, Luxury Car Tax and Fringe Benefit Tax, to ensure they do not create perverse climate change outcomes.

Policy 4.3 Governments should use urban planning, network design and intelligence transport systems (ITS) to avoid congestion and improve mobility

Governments can promote fuel efficiency by actively using urban planning, network design and intelligence transport systems (ITS) to avoid congestion and improve traffic flow. For example, by enabling traffic to flow more freely in Melbourne's eastern suburbs, it is estimated that the EastLink motorway reduces fuel use by \$23 million a year — which translates into significant reductions in greenhouse gas emissions.¹⁹

Making certain that various forms of transport are integrated in both existing and new urban centres, as well as in regional areas, will be critical to ensure that the community has the opportunity for safe, reliable, convenient, affordable and efficient travel. For example, bus routes and schedules should be integrated and coordinated within the bus network and with rail services.

An important factor in this will be the uptake of ITS by planners, traffic managers and transport operators. According to ITS Australia, the introduction of new ITS technology has the potential to reduce transport related greenhouse gas emissions by 6.55 million tonnes a year.²⁰

Governments must also consider the need for construction and design standards to adapt to the changed environmental circumstances and weather conditions that will occur as a result of climate change. For example, coastal highways that are rarely subject to flooding today may be more susceptible to being submerged in decades to come.

Policy 4.4 Governments should buy more fuel efficient vehicles

Governments can promote greenhouse gas reductions by buying more fuel efficient vehicles.

In February 2003 the Government agreed on an environmental target covering approximately 8,000 vehicles within the Commonwealth Contract Fleet based upon Green Vehicle Guide ratings.²¹ The target aimed to increase the proportion of government vehicles with scores in the top half of the Green Vehicle Guide from 18% to 28% by

¹⁹ <http://www.labor.com.au/media/0907/spetran270.php>

²⁰ Intelligent Transport Systems Australia, *Annual Review*, 2004-05.

²¹ www.greenvehicleguide.gov.au

December 2005, while maintaining the Australian-made proportion of the fleet.²²

Disappointingly, this target was not achieved.

The Queensland Government announced at the end of 2007 its commitment to reduce emissions from the 14,000 vehicles in the fleet by 15% in 3 years and 50% in 10 years. This is welcome progress.

As discussed previously in the section "Sustainable mobility for all", the community is ahead of government in moving to greener motoring.

Policy 4.5 Governments should support provision of consumer information to encourage: the purchase of green vehicles and fuels; and fuel efficient driving

Governments, working together with AAA, should support the dissemination of consumer information that encourages:

- the purchase of clean and less carbon intensive vehicles, fuels and components; and
- fuel efficient driving for both private and public motorists. Efforts to promote 'EcoDriving' should be supported by the introduction of in-vehicle ITS devices, such as econometers and gear shift indicators, that assist motorists in sustaining fuel efficient driving.

Policy 4.6 Governments should adopt policies that encourage the use of a wide mix of power and fuel systems

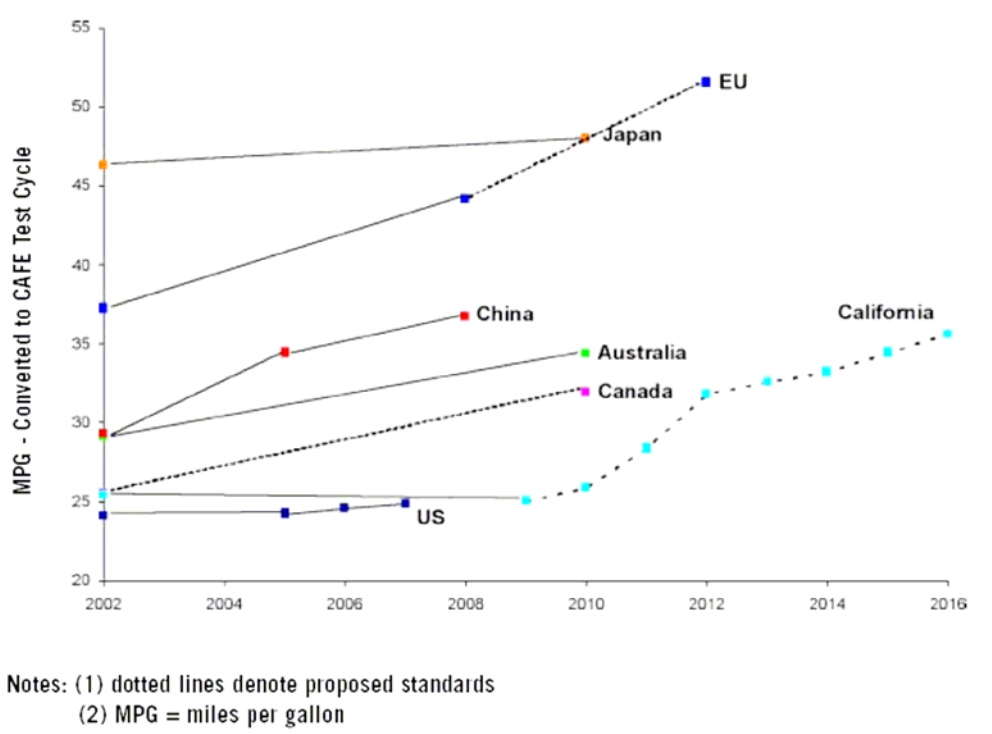
As new innovations and technologies become available to the market, governments should adopt policies that encourage the use of a wide mix of power and fuel systems to enhance consumer choice and gradually reduce dependence on fossil fuels.

Policy 4.7 Governments must ensure fuel consumption targets for new vehicles are met

Reducing the fuel consumption of new cars is a critical means of reducing greenhouse gas emissions. The Federal Chamber of Automotive Industries (FCAI) has introduced a Voluntary Code of Practice for reducing fuel consumption of new light vehicles. The Code, introduced in April 2003, commits the industry to a progressive reduction in national average fleet consumption of passenger cars to a target of 6.8 litre/100km by 2010. This represents a reduction of 18% over the decade. Notably, the Australian target is significantly less challenging than targets in Europe, Japan and China.

²² <http://www.greenhouse.gov.au/transport>

Figure 4 A comparison of fuel consumption and greenhouse gas emission standards (miles per gallon)²³



Although the Code commits the FCAI member companies to report annually on progress with the target, the figures are not readily available and so it is difficult to ascertain what improvements have taken place since 2003. The Federal Government should make public reporting against the target mandatory. Steps should also be taken by the Federal Government to progressively improve the target beyond 2010 to align with world's best practice.

Policy 4.8 Australian Competitiveness and Investment Scheme (ACIS) payments should be linked to improvements in fuel consumption

Under the Automotive Competitiveness and Investment Scheme (ACIS), the Federal Government will provide \$7 billion in assistance payments to the Australian automotive industry between 2001 and 2015.²⁴ To assure the community that production and use of locally made cars is not adding unnecessarily to Australia's greenhouse gas emissions, ACIS payments should be linked to improvements in fuel consumption as well as reductions in emissions generated by production, maintenance and disposal – that is, life-cycle emissions – of vehicles.

²³ Feng, A. and Sauer, A., 2004, *Comparison of Passenger Vehicle Fuel Economy and Greenhouse Gas Emission Standards Around the World*. Pew Centre on Global Climate Change. (Results in chart are normalised by CAFE-converted miles per gallon.)

²⁴ www.ausindustry.gov.au

Policy 4.9 Governments should not promote fuels that result in an increase in net carbon footprint

Although developing alternative and renewable fuels is one way of reducing greenhouse emissions, Governments should exercise caution in promoting fuels unless a full life cycle analysis ('well to wheels') is undertaken to show that net emissions (including emissions used in production of fuels, not just tailpipe emissions) are lower.

Vehicle manufacturers

Policy 4.10 Motor vehicle manufacturers should continue to invest in low carbon and cleaner automotive technologies

The motor vehicle manufacturing industry should continue to invest in cost-effective low carbon and cleaner automotive technologies across a range of vehicle characteristics, including aerodynamics, fuel efficiency, drive trains, driver information devices, energy recovery hybrids, rolling resistance and weight.

Estimates of life cycle greenhouse emissions indicate that between about 10% and 30% of a vehicle's total carbon footprint stems from its production, repair, maintenance and disposal. Manufacturers should therefore also invest in production materials, technologies and recycling to reduce the life cycle emissions of vehicles.

Policy 4.11 Motor vehicle manufacturers should achieve fuel consumption targets

As discussed in the "Government" section earlier, Australian vehicle manufacturers should ensure that they regularly report against, and achieve, their own target of an 18% reduction in the fuel consumption of new cars by 2010. Steps should also be taken to progressively improve the target beyond 2010 to align with world's best practice.

Oil companies

Policy 4.12 Oil companies should improve fuel quality and alternative fuels

In concert with improvement in vehicle technologies, oil companies should improve fuel quality and alternative fuels, including product development in natural gas and biofuels (provided the latter can become more cost-effective and not harmful to biodiversity and food production).

Policy 4.13 Oil companies should be responsible for emission trading permits

Given the sheer numbers of motor vehicles on the road, and difficulties in locating, monitoring and attributing vehicles emissions back to their 'owners', a practical approach to carbon emission trading would be to have upstream petroleum refiners and importers take responsibility for emission permit obligations for transport.

International

Policy 4.14 There needs to be a global framework for automotive emission control, fuel quality, and fuel economy

A comprehensive global framework for automotive emission control, fuel quality, and fuel economy based on harmonised world standards should be developed under United Nations Working Party 29 (UN WP29) to provide a basis for a coherent international strategy to reduce both the toxic emissions and the carbon intensity of cars worldwide.

Policy 4.15 Emissions standards and taxation should guide performance standards for all fuel types

Wherever possible emission standards, and the taxation systems based upon them, should guide the setting of performance standards that are the same for petrol, diesel or other fuels or propulsion systems.

Summary of AAA policies

Objective 1 Assist and encourage members to reduce and offset their greenhouse gas emissions

- Policy 1.1 AAA can assist motorists to reduce their carbon 'footprint' by behavioural change
- Policy 1.2 AAA can assist motorists in making sound investments in carbon offsets
- Policy 1.3 AAA can ensure the community has an accurate understanding of the facts

Objective 2 Sustainable mobility for all

- Policy 2.1 There needs to be a focus on investment in vehicle technology and design
- Policy 2.2 Alternatives to the car need to be safe, reliable, affordable and efficient
- Policy 2.3 Measures to encourage use of alternatives to the car should be positive, not punitive
- Policy 2.4 Intelligent transport systems (ITS) can enhance consumer choice and mobility

Objective 3 Minimise the emissions generated by the products and services we provide to our members

- Policy 3.1 AAA motoring clubs recognise they have a responsibility to assess and abate their direct and indirect carbon emissions
- Policy 3.2 Green products and services have the potential to both reduce the emissions generated by consumers and engage them in the climate change issue

Objective 4 Advocate that governments and industry adopt policies and initiatives that reduce greenhouse gas emissions

Governments

- Policy 4.1 AAA prefers a market based emission trading system which imposes permit obligations on upstream petroleum refiners and importers, rather than a system of carbon taxes
- Policy 4.2 Ahead of the implementation of emissions trading, fuel taxation needs to be reformed and a road pricing system implemented
- Policy 4.3 Governments should use urban planning, network design and intelligent transport systems (ITS) to avoid congestion and improve mobility
- Policy 4.4 Governments should buy more fuel efficient vehicles
- Policy 4.5 Governments should support provision of consumer information to encourage: the purchase of green vehicles and fuels; and fuel efficient driving
- Policy 4.6 Governments should adopt policies that encourage the use of a wide mix of power and fuel systems
- Policy 4.7 Governments must ensure fuel consumption targets for new vehicles are met
- Policy 4.8 Australian Competitiveness and Investment Scheme (ACIS) payments should be linked to improvements in fuel consumption
- Policy 4.9 Governments should not promote fuels that result in an increase in net carbon footprint

Vehicle manufacturers

- Policy 4.10 Motor vehicle manufacturers should continue to invest in low carbon and cleaner automotive technologies
- Policy 4.11 Motor vehicle manufacturers should achieve fuel consumption targets

Oil companies

- Policy 4.12 Oil companies should improve fuel quality and alternative fuels
- Policy 4.13 Oil companies should be responsible for emission trading permits

International

- Policy 4.14 There needs to be a global framework for automotive emission control, fuel quality, and fuel economy
- Policy 4.15 Emissions standards and taxation should guide performance standards for all fuel types