



energy efficiency
best practice

Energy efficiency opportunities in fleet management summary report



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Industry, Science and Resources
Energy Efficiency Best Practice Program

July 2000

A Commonwealth Government Initiative

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1. Introduction

In November 1997 the Prime Minister in *Safeguarding the Future: Australia's Response to Climate Change* announced a range of initiatives. One of those initiatives, the Energy Efficiency Best Practice Program, aims to contribute to greenhouse gas abatement through more efficient use of energy in Australian Industry. This program commenced in July 1998.

The Energy Efficiency Best Practice Program provides assistance to industry to identify cost-effective opportunities for continuous improvement in the efficient use of energy.

A key element of the Energy Efficiency Best Practice Program is a series of sector studies of selected industries with particular importance to the Australian economy.

The concept of the best practice study in the fleet management sector was developed in association with the Australasian Fleet Manager's Association (AfMA), who also participated in the Steering Committee for the project.

This report describes the results and outcomes from the Energy Efficiency Best Practice Study for the Fleet Management Sector. It provides a summary of the work originally identified for the project, an overview of findings and a description of the project outputs.

The Fleet Management Sector Study set out to:

- identify and characterise the sector, including any distinct subsectors;
- identify the different needs of subsectors in relation to the implementation of a best practice strategy;
- identify performance benchmarks for the sector;

- develop a suite of best practice materials; and
- develop a Strategy Implementation plan, based on the above research, which is designed to effectively relay best practice into the sector.

As this is a summary report, many finer details have been omitted. The reader is referred to the following reports for more detail:

- *Segmentation Analysis, Draft Initiatives and Study Plan*, September 1999
- *Research Report*, March 2000
- *Initiatives and Implementation Strategy*, March 2000
- *Best Practice Guides and Rating Methodology*, March 2000
- *Proposal: Pilot Implementation for Energy Efficiency Best Practice in Fleet Management*, March 2000.

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2. Summary of objectives and outcomes of study

2.1 Background

This study was commissioned by the Energy Efficiency Best Practice Program as a preliminary study to an operating energy efficiency best practice strategy, intended to relay best practice throughout the sector.

During the contract development phase, the objectives for the study were grouped under the following objectives, which broadly corresponded to separable items of work:

- Market segmentation analysis
- Industry drivers and performance study
- Initiative concept development study
- Program design and benchmark development study.

These are described in more detail in the following sections of the report.

2.2 Market segmentation

The Market segmentation analysis was intended to define the scope of the sector, identify potential stakeholders, identify subsectors and priority targets, and identify key decision-makers and influencers. The results are summarised in Section 3 of this report.

2.3 Industry motivators and performance study

The objectives of this component of the study were to:

- identify the existing practices in the industry which affect energy use;
- identify the effect of fleet management practices on energy efficiency;
- identify the barriers to saving energy;

- identify levels of interest in energy efficiency;
- identify indicators of performance;
- specify a database required to assess changes in performance.

Results from this component of the study are summarised in Sections 3, 4 and 5 of this report.

2.4 Initiative concept development study

This stage of the study encompassed the development of initiatives which take advantage of energy efficiency opportunities. This involved an international literature review to identify overseas initiatives that have relevance to the Australian market. The process of initiative development had needed to involve the Australian fleet management industry to gain their support in principle for the selected measures. Clear processes for the demonstration of energy efficiency improvements had needed to be integrated with the initiatives. The initiatives were required to address non-technical issues and be able to deliver long-term and sustained improvement in industry performance.

Results are summarised in Section 6 of this report.

2.5 Program design and benchmark development

The program design was required to provide an integrated Energy Efficiency Best Practice Implementation Strategy, Best Practice Guides, a Fleet Managers Energy Efficiency Best Practice Manual, a benchmarking database and web page versions of relevant materials.

Results are summarised in sections 6 and 7 of this report.

3. Overview of the light vehicle fleet sector

Based on the last available ABS statistics (1997) the estimated total number of cars and light commercial vehicles (LCVs, defined as commercial vehicles up to 3.5 tonnes) in Australia is shown in Table 1.

Table 1. Estimated total car and LCV fleet 1999

Cars	10.5m
LCVs	1.8m
Total	12.3m

3.1 Fleet vehicle market

Definition

The fleet market covered by this project was broadly defined in terms of cars and light commercial vehicles used for business purposes. The study has taken an inclusive definition of the market by including all vehicles operated in association with businesses. This is because there is no logical reason not to maintain a broad definition, as the potential benefits from the strategy are as applicable to two-car fleets as to thousand-car fleets.

It is noted that this sector is very different in its operation from the heavy road freight sector, which has been the subject of many other studies. This is because the light vehicle sector is characterised by personal and casual use of vehicles as opposed to the core-business, scheduled activities of freight operations.

The size of the market

The total number of cars and LCVs in fleet use is estimated to be approximately 1.3m. This estimate is derived from three sources:

- The number of vehicles sold each year (taken from Martec data), combined with the replacement periods that fleet managers report and the available data on fleet purchases, indicates a market size in the range 1.1–1.45m vehicles;
- A survey of fleet sizes for different fleet categories eg Federal Government, State Government, rentals, corporates, gives a total of 1.4m vehicles approximately; and
- Vehicle registrations, which can be denoted as business or private. In NSW, 11.1% registrations are for business use. If this is extrapolated to the whole market, as estimated in Table 1, the total fleet sector is approximately 1.35m. This aligns well with other estimates.

3.2 Fleet vehicle fuel consumption and potential impacts

ABS statistics show that the total distance travelled by cars and light commercial vehicles on business is 47 000m kilometres per annum. As the national average fuel economy is 11L/100km this gives a total annual fuel consumption for this sector of 5170m litres a year.

On the basis of a greenhouse coefficient of 2.44 kg/l, this equates to an annual greenhouse emission total of 12.6m tonnes of CO² equivalent per annum. If we assume that the strategy can achieve a 10% improvement in fuel efficiency amongst 10% of the total business fleet, then savings of 126 000 tonnes would arise from the strategy. A more aggressive estimate would indicate that 15%





savings are feasible, and that a paradigm shift in industry attitudes could cover nearer 50% of the market, in which case savings of 945 000 tonnes are possible. This is equivalent to taking 235 000 fleet vehicles off the road while achieving improved business outcomes.

3.3 Fleet subsectors

Based on our assessment of the number of businesses and vehicles in each category, we estimate that the light vehicle fleet market is composed as shown in Table 2.

This indicates that the market is dominated by smaller organisations running small to very small fleets. This is important, as these smaller fleets are also often the least well managed. However, they are arguably the least cost-effective group for an energy efficiency program to work with.

3.4 Type of operation

In our process of interviewing fleet managers, we found that cars and LCVs (light commercial vehicles) used by the fleet operators generally fell into one of three categories.

1. **Tools of trade vehicles** – Vehicles dedicated to a job such as plumbers' and electricians' vans: 71% of responses.
2. **User chooses** – Vehicles where the executive has a range of vehicles to choose from: 19% of responses.
3. **Pool vehicles** – Pool vehicles are vehicles that are generally driven by more than one driver: 10% of responses.

As the interview sample was biased in terms of respondent groups, the actual division of vehicle types has to be extrapolated from the

distribution of vehicle populations within individual sectors. On this basis, we estimate that the division of vehicle types is approximately:

Tools of Trade	30%
User Chooses	40%
Pool	30%

However there is some considerable uncertainty in these figures arising from the difficulty in gaining an accurate picture of the make-up of the small business sector. The relevant conclusion to be drawn is that all three vehicle types are important and should be considered in any best practice strategy.

3.5 Industry motivators

A combination of telephone surveys and focus group meetings were used to identify the factors that drive the Fleet Vehicle Industry. This research indicated the most productive areas for achieving change in the industry and the major barriers to implementation.

We have divided the issues identified by fleet managers into two groups, being those factors that we believe are fundamental to the operation of the industry, and those factors that are either secondary or potentially spurious. Often items in the second category were used to justify the fundamental prejudices and preferences listed in the first category.

Real industry motivators

The following issues are fundamental to the choices made in the operation of fleets:

- **The great Australian tradition.** There is a very strong tradition in the industry that a 'real' car is a 6-cylinder Holden or Ford.

This is an unavoidable cultural issue and in spite of its irrationality is not to be considered lightly.

- **Local discounts.** The favourable economics of producing large volumes for the local market mean that manufacturers are able to offer substantial discounts of up to 30% for local volume purchasers. This tends to act to entrench industry vehicle choices.
- **Insurance costs.** Insurance costs are a significant influence on the operation of some fleets, leading to some pressure for improvement in driver attitudes and driving practices. Savings in insurance costs far exceed the cost of putting drivers through courses to improve driver attitude.
- **Salary packaging.** The inclusion of vehicles in salary packages is routine for executives owing to the tax efficiencies that can be achieved.
- **Compliance.** Vehicles must comply with a number of requirements. Some examples are legislative requirements for weight carrying capacity, number of passengers, and union requirements for safety.
- **Fitness for purpose.** Vehicles selected for fleet use must be fit for their intended purpose. For example station wagons are likely to be necessary for salespeople carrying samples in the outback and small manoeuvrable cars are likely to be required for town deliveries.
- **Lease vehicles.** Leases have a number of negative effects on overall fuel economy. As condition of the vehicle is not seen as a substantial determinant of the vehicle residual (and in many cases the user does not carry this risk), there is little imperative to take care of the vehicle and drive economically. Furthermore, as lease

vehicles are replaced after a fixed number of kilometres, drivers are in effect encouraged to maximise vehicle use so that they can obtain a replacement vehicle sooner.

Challengeable industry motivators

The following issues were identified by fleet managers as being significant factors in fleet operations. However, most are at best secondary and many appear to be largely justifications for continuing adherence to the 'Great Australian Tradition' as noted above.

- **Local manufacturing policy.** Many government fleet managers argue that they are obliged to buy locally manufactured vehicles by government policy. However, it is noted that this policy only applies when the item is suited to the purpose, and it is difficult to find any other sector that gains such unconditional support.
- **Car care.** A number of respondents indicated that they could not use 4-cylinder vehicles in their fleet because employees abuse them and take less care, reducing the residual. This argument is significantly flawed as evidence from a vehicle auctioneer suggested that wear and tear reduced residuals only by \$200-\$500, which is scarcely significant. Furthermore, it is interesting that employee abuse of company property is accepted without challenge.
- **Personal use of vehicles.** For many executive vehicles, the private or personal use of the vehicle dictates both the type of





vehicle selected and the manner of use. This acts as an incentive to choose larger, more powerful and less economical vehicles, and to drive longer distances. Although this effect is inevitable while salary packaging remains a factor in the industry, the acceptance of the risk from this type of choice is irrational business behaviour.

- **Company environmental image and marketing.** It has been argued that companies with a green image would place an emphasis on vehicle fuel efficiency. We did not uncover any evidence of such behaviour in our investigations. The converse issue, that companies may choose cars to project a prestige image, is certainly true in some cases. However, the high degree of homogeneity in the fleet market indicates that the primary aim here is to achieve anonymity rather than distinction through vehicle choice.
- **Driver physique.** It has been argued that larger people need larger cars. There is certainly some truth in this, as heavier people find the width of small cars restrictive. However, the converse is also true and there is good anecdotal evidence to indicate that many smaller cars are actually better designed to cope with oversized people.
- **Whole-of-life costs.** Fleet managers questioned claimed larger cars tend to be

more sought-after in the after market and therefore have higher residuals making the whole of life costs of larger cars less than for smaller more fuel efficient cars.

Attempts to obtain a clear analysis demonstrating this were fruitless, partly because no-one had an analysis they were prepared to present, and partly because the analyses that were obtained tended to have strong bias factors in them, such as shorter life-spans for smaller vehicles.

3.6 Attitudes, needs and preferences

A number of different surveys were conducted during the course of the project to gain feedback from industry and to gauge attitudes, activities and opinions. These were supplemented by a series of focus group meetings. During these exercises a great deal was learnt about the attitudes, needs and preferences of the fleet industry. The following list summarises the major issues not covered elsewhere in this report:

- **Payment for fuel.** The vast majority of organisations pay for all or nearly all their vehicle fuel costs. This is significant given the widespread use of salary packaged vehicles for personal use (although it is not clear to what extent fuel costs were included within salary packages).
- **Attitudes to energy efficiency.** Energy efficiency is generally considered to be a means to an end in this case, achieving financial savings. The majority of fleets do

Table 2. Light vehicle fleet market

Category	Number of organisations	Number of vehicles
Small business	99%	71%
Business	0.2%	6%
Corporate	0.1%	9%
Local government	0.14%	7%
Government	0.1%	7%

little or nothing towards improving fuel economy. Of those who do, most perform basic measures only. A very small group was engaging in advanced energy efficiency measures such as financial driver incentives. There was not necessarily good agreement between peoples' declared affinity to energy efficiency and actual practice.

- **Interest in energy efficiency materials.** Fleet managers from all sectors were very interested in best practice procedures, energy benchmarks and practice benchmarks, and management support was seen as being important. There was lesser support for detailed technical information and generalised information. Support for energy benchmarks was to some extent conditional upon there being some means of normalising energy use figures to allow for the demands of different types of vehicle use, such as city vs. highway driving.
- **Passive vs. active attitudes.** Driver training and education was seen as being a key issue by most sectors. As there is no shortage of driver training programs available and only a very small proportion of fleets taking up the opportunity to use these courses there is a suggestion that respondents essentially saw energy efficiency as being something imposed from outside. Similarly, government measures such as banning inefficient vehicles received support from some sectors. Overall this indicates a tendency to see energy efficiency as something to be imposed from outside rather than an opportunity for personal action.
- **Practice vs. performance.** While energy benchmarks received some support, it was found that there was a degree of discomfort associated with energy

performance benchmarks for fleets. In effect, fleet managers felt able to control practices but were not comfortable with performance measures which may cast an unfair light on their performance due to issues outside their control. While normalisation goes some way to addressing this problem, the normalisation mechanism still needs to be trusted by fleet managers before it is considered to be valid. As a result, it was concluded that practice benchmarks have a strong role to play in the best practice strategy. This was confirmed by the positive response of focus group members when presented with a draft practice rating methodology.

- **Peer pressure mechanisms.** Although not covered in the surveys, it was noted during focus group meetings and in interview comments that there was a fairly strong level of peer pressure in operation. Thus when any one fleet manager stated that they were doing something new and unusual, other fleet managers tended to record this with great interest. This confirms the importance of practice benchmarks, as these can provide a general signal to industry on practice norms.
- **Industry coherence.** While certain groups of fleet managers appear to communicate well with each other through industry organisations such as AfMA (the Australasian Fleet Managers' Association), there is a large body of smaller fleets that are managed in isolation. Any measures that can make these operators aware of practices and activities elsewhere in the





sector is of significant value, as it tends to be this smaller fleet sector that has the greatest capacity for performance improvement.

- **The role of consultants.** The majority of industry participants viewed consultants, so defined, with some disdain. However, there are a wide number of industry organisations successfully providing consulting services to the industry, such as fleet card operators. Thus in the broader sense, consultants have a role to play in the industry.

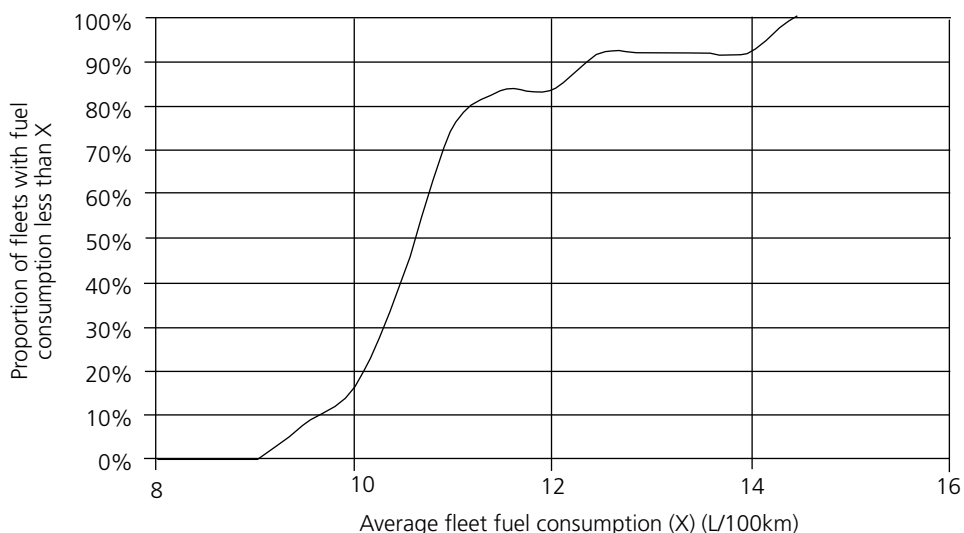
4. Energy performance

4.1 Fleet fuel performance

The study included an extensive review of energy performance data. Initially data was gained through the literature review and this included manufacturer data, government data such as the *Fuel Consumption Guide* released through the Australian Greenhouse Office, and the Commonwealth's fleet performance data. Later in the study recent detailed data for the South Australian government fleet was gained, as was data on a number of private companies through their fuel card systems.

Also carried out was an investigation into the accuracy of present data and the suitability of current data collection systems for collecting data for a national database on light vehicle fleet energy performance. Discussions with a number of companies including BP, Shell, and Fleet Systems indicated that there is a significant proportion of incorrect data generated in fuel card systems. This typically runs at about 20% of data and all data therefore needs to be edited before arriving at final fuel consumption figures. As a common error is to fail to record fuel purchases, the general bias on figures was towards over-reporting the achieved efficiency. This experience was confirmed by an examination of the raw fuel consumption data provided by participants in the study. Incorrect recoding of kilometres travelled adds a further complication to the data.

The average fuel consumption for light vehicles nationally is 11 L/100km. In the data obtained from the surveys, most data points fell in the range 9.6 L/100km to 12.5 L/100km.



The cumulative distribution curve is shown above.

Graph 1 was based on the comparatively small group of 12 fleets for which reasonably accurate fuel efficiency figures were available. There were a number of fleet managers reporting figures of 6–7 L/100km for fleets consisting entirely of 6-cylinder vehicles operating in cities. Such figures are clearly spurious, but their frequent appearance in quoted fuel use figures indicates a lack of knowledge and/or care in the industry regarding fleet fuel performance data. Clearly there is considerable room for improvement in the:

- design of the data collection systems;
- way the data collection systems operate;
- verification and validation of data; and
- effectiveness of the interpretation and use of the data.

In effect, the study has identified that accurate data collection at a fleet level is an ongoing issue for the operation of the strategy in the future, as the quality of current

industry data gathering is inadequate to provide reliable benchmarking. During the course of the study, approximately 200 fleet managers were contacted; 41 of which were asked for specific and accurate information on fuel efficiency. Of the 18 that provided figures, only six could provide figures that withstood basic examination. Data from personal contacts in association with the program was used to increase this number to 12. However the original figure of six out of 41 (15%) is a representative figure for the proportion of the industry currently maintaining adequate monitoring to be able to identify their current level of fuel-efficiency.

The inadequacy of existing data is one of a number of issues that led to the proposition of a pilot implementation study, as described in Section 7 of this report. Gathering improved data is vital for the pilot study.





4.2 Individual vehicle performance data

In contrast to the situation with fleet fuel data, there is good quality local data available of individual vehicle fuel performance. The *1996 DPIE/Dynamic Transport Management Fuel Consumption Project* provides a comprehensive study of fuel use of individual vehicles and derives correlations that account for vehicle mass, city vs. highway driving and a range of other factors. It also identifies correction factors that translate the *Fuel Consumption Guide* figures into realistic estimates of actual in-service fuel use.

The statistics from the *1996 DPIE/Dynamic Transport Management Fuel Consumption Project* were incorporated into the performance rating methodology produced from the study.

The key average results from the study, which make interesting reading in comparison with the fleet figures reported above, are summarised in Table 3.

4.3 International data

There is a reasonable body of international work being undertaken in this sector. However, it is difficult to make comparisons between international data and local data. For instance, the British fleets consist largely of smaller vehicles, and while it is possible to argue that there is no reason why Australian fleets should not be similar, in reality they are not. Similarly, American and Canadian data generally relate to larger vehicles. As a result

direct comparison of Australian benchmarking data with overseas data is not particularly accurate.

4.4 Best and worst practice

It is difficult to define the extremes of practice for the fleet sector, as there are many complicating issues relating to the reasons for which a fleet is used. Thus a four-wheel drive fleet driving around Cape York is inevitably going to have very poor efficiency; however, it would be unfair to label this as worst practice.

The poverty of quality data also makes it difficult to separate particular examples and highlight one as 'best' and another as 'worst'. However, if one considers a fleet doing an average mix of driving, the overall range of variation is approximately equal to the range of individual vehicle fuel consumption for acceptable vehicles plus about 15% above and below to allow for a range of poor (and good) driving practices. This margin allows for generally accepted savings levels associated with measures such as driver training (10–15%), tyre pressure (10%) and removal of extraneous weight and air drag (10%), not all of which would be applicable to every vehicle in any given fleet. Thus if one accepts that a particular fleet requirement could be met by anything from 1.8 litre vehicles through to 4 litre vehicles, then the overall range of variation between worst and best practice for this fleet is approximately 8–14.5 L/100km.

Table 3: Vehicle types and average fuel economy

Vehicle type	Engine size	Average fuel economy
Small	1.8	9.5 l/100km
Medium	2.2	10.4 l/100km
Large	3.8	12.6 l/100km

5. Opportunities to improve energy performance

5.1 Summary

The fleet sector is distinguished by the fact that the opportunities to improve energy efficiency are relatively easily defined and many cases are well understood. However, the uptake of opportunities is poor because of a range of non-technical factors.

As a result, the process for determining energy efficiency opportunities focussed not only on the measures themselves, but also on achieving an understanding of industry attitudes towards such measures. This led to a summary of opportunities and the manner in which they are presented. The process for achieving this consisted of:

- Establishing potential measures for improving energy efficiency based on in-house knowledge, a search of international literature on the subject and guidance from Shell, AfMA, AGO and other industry participants;
- Establishing a draft list of initiatives and concepts for implementation;
- Sounding these out with industry through:
 - a series of over 50 interviews with a cross section of the fleet industry
 - discussion of the issues with fleet industry focus groups
 - a fax-back survey circulated with the AfMA newsletter;
- Revision of the initiatives and implementation strategies;
- Second review of these strategies with industry; and
- Finalisation of strategies and testing of specific measures such as the rating scheme with over 40 fleet operators.

This section describes the major energy efficiency opportunities; the next section describes the structures within which are presented the opportunities to achieve maximum industry impact.

5.2 Key energy efficiency measures

The Study identified opportunities to save energy in areas discussed in the following sections.

Fleet management structure

Major savings were identified arising from:

- **Management support and awareness of fuel efficiency issues.** Fuel efficiency improvements are significantly assisted where management recognises fleet operation as a manageable business cost rather than a fixed overhead.
- **Co-ordination of vehicle purchasing arrangements.** This involves ensuring that vehicle purchases are co-ordinated within the organisation.
- **Co-ordination of vehicle operational and purchasing budgets.** This involves ensuring that all costs associated with the acquisition and operation of any one vehicle lies within a single budget.

Selection of vehicles

Fuel economy can be improved by:

- **Critically reviewing transport options.** This involves using a mix of transport modes to meet overall company transport needs, and the regular review of business practices to ensure that transport use is well matched to business needs.





- **Establishment of vehicle selection procedures.** This involves instituting a decision process for matching the most cost-effective vehicle to identified need. It also includes reviewing whether a requested vehicle is actually required. The critical review of vehicle needs has been shown to reduce fleet sizes by 25–50% in some cases.
- **Matching vehicles more closely to tasks.** This involves ensuring that, where pool vehicles are in use, vehicle choices are well matched to the needs of the journey.
- **Selecting the most efficient vehicle.** This involves using fuel efficiency as a selection criterion for vehicles that are otherwise equivalent.

Driving training, motivation and incentives

Research shows that significant fuel savings can be achieved by upgrading drivers' skills and changing attitudes to driving practices. Some of the changes in behaviour, which save fuel, are:

- **Providing incentives to save fuel and removing incentives to waste fuel.** This particularly applies to passing risks associated with personal use onto the vehicle user, but also includes the provision of direct financial incentives for fuel saving in business use.
- **Driver attitude training.** This includes a wide range of issues, including smoother and more defensive practices, trip planning and practical issues such as limiting air-conditioning use and removing excess weight and air-drag items. Driver attitude training has been assessed as saving over 10% in fuel use.
- **Driver safety incentives.** When drivers are encouraged to drive safely and within

speed limits, fuel economies inevitably occur. This is generally covered under driver training.

Vehicle maintenance

Vehicle maintenance was identified as being a lesser issue for many government and corporate fleets that have a short vehicle retention period. However, it is very significant for many smaller organisations that have long retention periods on vehicles, and for LCVs that are often driven to close to the end of their working life. Major opportunities are:

- **Regular maintenance.** All vehicles, particularly older vehicles, benefit from regular preventative maintenance.
- **Excess weight and air-drag removal.** Regular checking of vehicles for items of unnecessary weight and air-drag has significant benefits. For trade vehicles, careful management of vehicle-held stock inventory can have significant business benefits as well.
- **Tyre pressures.** Maintenance of tyres at or above the vehicle manufacturer's recommendations has significant benefits in terms of both fuel consumption and tyre wear, and more arguably safety.

Monitoring and benchmarking

Whilst monitoring and benchmarking does not in itself save fuel it is an essential tool in managing fuel consumption. Key measures include:

- **Fuel economy monitoring and feedback.** If drivers and business units are given timely information on fuel consumption and economy then it motivates and supports actions to improve efficiency.

- **Fuel economy benchmarks.** Setting of benchmark fuel consumption levels provides targets for drivers and business units to aim for, and also provides a means of gauging performance.
- **Accident and maintenance monitoring.** The monitoring of accidents and maintenance has a secondary spin-off effect for fuel efficiency, as safer and lower-stress driving practices associated with efficient driving tend to reduce maintenance and accident costs. This provides further financial incentives for improving fuel economy.

5.3 Example case studies

The following sections provide some examples of energy efficiency measures and problems.

Case study – work practice review

When Australia Post's vans pulled up to the docks to unload they also used to leave their engines idling. Turning the engines off not only saved an estimated 3% in fuel but also resulted in less exhaust pollution at the docks and more pleasant conditions for staff. The savings resulting from this action are estimated to be worth approximately \$12 000 pa, with no implementation costs.

Case study – perverse Incentives and Fringe Benefits Tax

The statutory method for calculating Fringe Benefits Tax can provide a significant perverse incentive when this cost is passed onto the employee. The method assigns different tax rates for different annual travel distances, with significant reductions in the tax rate between each bracket. Thus a driver running around 26 000 km per year just crosses into the third tax bracket and consequently pays

about \$5000 annual tax on the car – compared with almost \$10 000 for driving between 15 000 and 24 999 km.

The tax saving provides a strong incentive to drive more kilometres. It is not uncommon for employees to drive longer routes to and from work and even take specific long distance trips to ensure that the lowest tax brackets apply. If employers pay for fuel under such an arrangement, they will suffer a considerable cost for no business benefit.

Much of this can be avoided if the logbook method is used for assessment of FBT rather than the statutory method.

Case study – driver practices

Orica have an extensive program of driver training set up for their salespeople. The program involves one day courses for each new driver inducted and a one day course each time the driver changes to a new car. In between there are refresher courses every 6 months. Driver performance also forms part of the annual salary assessment.

Orica believe that the saving on fuel, vehicle damage repair, and insurance are significant. Although the fuel savings can be estimated only because of the possible effect of other changes they are believed to be in the region of \$300 000 pa. The cost of training is currently in the region of \$200 per driver per year. In addition there will be savings resulting from lower accident rates, reduced insurance costs and reduced work-time loss caused by accidents.





Case study: financial incentives for drivers to save fuel

NRMA have established benchmarks in consultation with their roadside repair drivers. Drivers' fuel consumption is then compared with the benchmark and drivers achieving savings over the benchmark receive half the difference in cash.

The system relates driver performance directly to cash incentives and is therefore expected to provide significant results.

Energex have a system based on the same principles in that employee bonuses (amounting to up to 20% of salary) are reduced in relation to the costs of accidents.

Mitsubishi use another approach based on similar principles in that they offer cars to staff on the basis that they pay for their own fuel.

Case study – tyre care

Sullivan and Nicholidis' transport section, Bradley Services, believed that higher inflation of tyres would save money both on tyres and fuel. To ensure that tyres were properly inflated they installed compressed air in the vehicle car park and pumped all tyres up once every two weeks. Their experience showed that the tyres on their cars (which are mainly Corollas, Lasers and Mitsubishis) lose about 1 psi per week so that inflating tyres once every two weeks keeps tyre pressures at a good level.

The results of these actions taken from records of fuel consumption showed that fuel savings averaged 7% saving the company approximately \$10 000pa. Additional savings were achieved from significantly improved

tyre life. Front wheel tyre life was increased from 15 000km to 27 000km resulting in savings of \$3500 pa.

5.4 The need for better data

As can be seen from the above examples, there is a fair amount of anecdotal evidence to support the efficacy of these measures.

However, as would be expected given the low quality of general monitoring conducted in the industry, there is little hard data.

This has been identified this as an issue for the implementation of the strategy, as there is a possible loss of credibility caused by the lack of supporting evidence. As part of the response to this, the Pilot Implementation has been proposed, as described in Section 7, which specifically targets each of the above key groups of energy efficiency opportunities with the aim of producing a credible, scientifically sound case study in each area.

6. Design of the energy efficiency best practice strategy for the vehicle fleet sector

6.1 Background: Models of program design

Arguably, the 'traditional' focus of energy efficiency programs has been overwhelmingly technical. This reflects the perception that industry lacks the facts and that provision of technical information to address these facts, plus an informed consulting community to assist, is all that is required to generate action.

More recent programs such as Greenhouse Challenge have adopted a very different approach, based on management commitment, program membership and corporate citizenship. This reflects a peer-group driven and essentially non-technical approach to energy management, effectively assuming that the knowledge to create efficiency within participating organisations is already available either in-house or via consultants. This change in focus reflects not only a change in 'style' but also a gradual shift in the maturity of community's relationship with energy efficiency.

In designing the best practice strategy for the fleet sector, extensive research has been conducted into the needs and views of the industry, as summarised in sections 3 to 5 of this report. From this it is clear that the industry is not interested in technical information but in how they might implement change in their organisation to facilitate implementation. A brief review of the key energy efficiency measures listed in Section 5 demonstrates that the problems are

overwhelmingly questions of management rather than technical practice.

Thus, at a corporate level, the key to achieving an impact on fleet management practices and performance is to motivate organisations to identify fleet energy efficiency as an area for improving overall corporate performance. Once this focus is achieved, improved practices and performance will follow.

Furthermore, at the level of the fleet manager, a key goal is to create a paradigm shift in what constitutes acceptable fleet practice. The mechanism to achieve this shift is to help fleet managers compare their practice and performance with other fleets. The wide range of practices currently in place means that cross comparison will always leave a fleet manager with the uncomfortable realisation that someone else in the industry is performing one or more functions better than they are.

The proposed best practice strategy therefore is strongly based around motivational mechanisms rather than technical information. In this sense it bears similarities to more recent initiatives such as the Greenhouse Challenge program. Unlike Greenhouse Challenge, however, the best practice strategy works directly with improvements in practices rather than just performance improvements. In this manner, the strategy is focussed on the operational realities of achieving improvements in a particular sector. Indeed the two programs are





quite complementary, as the strategy can be seen as a tool for an organisation to meet its Greenhouse Challenge commitments.

6.2 The best practice strategy

In order to achieve improvement in practices, a strategy is proposed that:

- Enables fleet managers to compare their practices against others. This is achieved through rating systems and an Internet based database of performance and practice information from across the industry.
- Identifies the advantages of improved practices in terms of fuel and other savings. This provides the business case to enable changes in practice to be adopted. This is achieved through case studies and peer group networking.
- Informs fleet managers as to the steps required to improve performance. This ensures that fleet managers have the information they need to be able to make effective changes. Best practice guides are being developed to provide this information.
- Provides means by which fleet managers and their organisations can achieve status, recognition and publicity for their achievements in improving fuel efficiency. The main route for involvement in the strategy is through membership, which is graded on the basis of the level of improvements committed to and linked to publicity benefits and opportunities.

The strategy is intended to operate as a complete program, with a Strategy Implementation Team co-ordinating technical and administrative activities and expanding the impact of the strategy through promotional activities. A final key factor in the

design of the strategy has been the need to design a structure that can be moved to a fully self-funding, industry operated platform.

The strategy has three basic areas of activity:

- The public information campaign, consisting of general information aimed at raising public awareness of the issues.
- The membership program, consisting of a range of activities and resources for organisations who join the strategy as members.
- The promotional campaign, promoting the strategy and the achievements of its members.

These are described in more detail in the sections below.

6.3 Public information campaign

The public information campaign is designed to provide the general sector with information and education as to the benefits of energy efficiency best practice without imposing a substantial burden on the operation of the strategy. The campaign has a three-fold purpose:

- It is a public face for the program, playing a key role in the process of capturing new participants.
- It provides a general industry and indeed general public benefit for those interested enough to act on low-level literature but not prepared to go further.
- It provides a means of handling the very large number of small business fleets, which otherwise might become an unmanageable burden on the strategy if full participation was the only option.

To this end, the activities in this category have been designed to be operable with minimum input from the Strategy Implementation Team.

Simple guide to energy efficiency best practice for fleet managers

The simple guide is a short summary of best practice concepts that enables an interested party to gain an overview of the potential opportunities. The guide is intended as a primary information medium for the large part of the fleet industry that is made up of small vehicle fleets.

This publication has a spin-off effect in that it is effectively applicable to the wider motoring market, including private vehicle owners. It will be freely available on the best practice strategy web site, but may also be made available in printed form at limited cost.

Public benchmarking database

The public benchmarking database is a public, limited access read-only interface to the strategy's internal database of monitoring information. Using this database, it is possible to access a limited range of inquiries that are responded to using the database. Security provisions will ensure that all data is anonymous to prevent any loss of confidentiality.

The provision of this data will allow end-users to compare their data against industry benchmarks without having to interact with strategy operators.

Performance and practice ratings

Integrated with the benchmarking database is the performance and practice rating system developed for the program. The practice ratings consist of a series of simple easily

answered questions that enable a fleet manager to quickly and simply understand the quality of their practices relative to other organisations.

The performance rating takes raw fuel economy figures and uses a range of correction factors covering city/highway driving, loading and special needs into account to reduce the majority of fleets to a common and inter-comparable scale.

The ratings are intentionally not overly precise, as they are designed to promote activity rather than become a focus in themselves. Simple three-point scales are used for practice rating and a five-point scale for performance ratings, which enforces a significant level of approximation in the answers.

Benchmark data derived from the ratings will be presented on the public database, so that users have the opportunity to assess their performance against well-established performance and practice benchmarks.

Membership promotion package

This is a short document overviewing the advantages and obligations of strategy membership. Assistance with membership enquiries will be available via a toll free number.

Best practice web site

The best practice web site will provide material from the general information





initiatives in a simple, semi-interactive format, linked to the public benchmarking database.

6.4 Membership program

The primary activities of the strategy will occur through the membership structure. This reflects the fact that motivation and peer-group mechanisms are central to the promulgation of the program. On a more pragmatic level, the key energy efficiency measures significantly focus on management structures and operations in relation to the fleet. Other measures, such as driver training, require a whole-of-organisation perspective to realise their full value. For such measures to be implemented successfully, a degree of management commitment is required to ensure that there is authority to instigate changes in current practices. This authority may be required either because of the need to change aspects of the wider organisational structure, or because up-front expenditure is required.

The membership structure also provides a process by which an organisation can achieve recognition for its achievements. The membership structure is quite specifically tailored to maximise the publicity benefits that members can achieve.

An associated issue is the need to direct the resources of the strategy to areas that will achieve greatest benefits to the strategy itself. By using a structure whereby the obligations of membership provide information that supports and validates the strategy, the strategy gains credibility both within government and industry. Such credibility is essential for the short and long term success and survival of the strategy.

Thus the membership initiatives have been structured to be the technical substance of the strategy in terms of providing the industry with a pathway to improved productivity. These initiatives are relatively high-maintenance, in that the level of interaction and industry support required is higher. Organisations can join at three different levels of membership, being Gold, Silver and Bronze. Each level of membership brings with it different levels of commitment requirement in terms of information provision or activities.

Bronze membership

Bronze members are required to provide basic fuel economy data to reasonable quality and annually perform practice and performance ratings. In return they have access to basic information from the strategy and an annual report assessing their performance against benchmarks.

Silver membership

Silver members are required to perform all obligations of bronze members, and achieve a measurable improvement in practice each year. In return they receive all the benefits of Bronze membership and access to the best practice guides, access to awards and some publicity opportunities in association with the program.

Gold membership

Gold members are required to perform all obligations of silver members, and achieve a measurable improvement in normalised fuel consumption parameters. In return they receive all the benefits of lower grades of membership but gain significant additional publicity opportunities.

Best practice guides

The best practice guides form the technical core of the strategy and are presented as a working manual rather than as a conventionally readable document.

Five guides have been produced, covering:

- Fleet management structure, including management systems, accounting structures and accountability structures to deliver the right environment for best practice.
- Vehicle selection, including structures and procedures for establishing vehicle criteria to meet the requirements of use.
- Driver training, Motivation and incentives, including driver involvement, behaviour and responsibility, fuel-efficient driving practices, monitoring and benchmarking at an individual driver level to provide feedback on driver performance, and feedback measures to driver training.
- Monitoring and benchmarking, including monitoring and benchmarking of the overall fleet fuel use to provide feedback on the effectiveness of measures on the total fuel cost and use for the organisation.
- Vehicle maintenance. Procedures and reporting systems for ensuring that vehicles are maintained to a best practice level.

Each guide follows a standard format. The relevant component of the practice-rating questionnaire is at the front of each guide, allowing readers to identify the areas where their performance is strong or weak. Having identified a weak area, the reader can then move to the section of the guide relevant to this area. At this point, there is a definition of what best practice in this area is, an example of a best practice solution, a discussion of

issues that might hinder improvement, and in some instances case studies of real-life problems and solutions.

Bureau help-desk assistance

The strategy will provide technical assistance through a pay by the minute telephone service. Ideally, this will be established using a number of organisations, each handling an area of speciality. This service has applications beyond the strategy and is expected to operate independently of strategy funding.

Best practice technical guides

The purpose of best practice technical guides is to disseminate specific technical information to members. The technical guides are not the same as best practice guides, in that they deal with a specific technical information that may form part of an overall strategy. Technical guides will be produced either by the Strategy Implementation Team or by industry parties in return for a small level of advertising.

Consultant accreditation

The Strategy Implementation Team will develop a list of accredited consultants. These consultants will be accredited to undertake performance and practice ratings of organisations. The consultants will be listed on the web site, and will be allowed to use strategy logos in advertising materials. It is expected that the many of the consultants will be drawn from current industry players, such as fuels suppliers and fuel card operators.





Training course and seminar accreditation

The Strategy Implementation Team will develop a list of approved training courses and seminars. These would then be listed on the web site and in other relevant materials, and would be allowed to use strategy logos in advertising materials.

Strategy newsletter

A bi-monthly newsletter will be produced, detailing upcoming events, news items and reports of successes. The newsletter distribution will include all members but should also be expanded to include potential membership groups, such as AfMA members. This would involve distribution of the newsletter with AfMA's own newsletter.

Best practice case studies

The Strategy Implementation Team will seek suitable projects upon which to base best practice case studies, prepare these and distribute them to members.

6.5 Promotional campaign

The success of the strategy is dependent upon the successful promotion of strategy membership as an item of net value to an organisation. This integrates well with the need to create industry 'ownership' of the strategy. The research conducted in the study indicates that the critical factors in achieving these goals are:

- working with existing industry bodies in a win-win relationship;
- maximising the penetration of the scheme across the sector;
- minimising the degree to which direct government funding is essential to the operation of the strategy. The strategy is

intended to be a long-term operation, in which case independence from government funding will inevitably become a necessity in time; and

- maximising the commercial opportunities for qualified and relevant organisations to participate in the implementation of the strategy, while protecting the integrity of the strategy.

On this basis the following general operational structure has been proposed for the promotional campaign:

- The strategy implementation team has overall responsibility for the implementation of the strategy. The strategy implementation team manages the project, accredits consultants to use the scheme branding and is ultimately responsible for demonstrating results. The strategy implementation team may include or subcontract industry bodies such as AfMA to manage aspects of the implementation directly.
- The accredited consultants are allowed to use scheme branding in sales materials but receive funding directly from the clients rather than from the Commonwealth. This creates a team of consultants who are eager to create and expand the new market but who are also obliged to work within the constraints of the strategy, and in particular are obliged to return data to the strategy implementation team. Accredited consultants may include consultancies or industry bodies such as leasing companies or fuel card companies.

Under the umbrella of the promotion campaign, a number of activities promoting best practice and the strategy will occur. These are described in the following sections:

Strategy promotion activities

There will be a number of tiers of promotional activity. These are described below:

- **Local steering committees.** Central to the achievement of industry 'ownership' of the scheme is the creation of local activity centres that are driven by the industry rather than the Strategy Implementation Team. These will be based in major centres of activity (typically major cities), and would preferably be convened in association with an industry association such as AfMA. The Strategy Implementation Team will assist and facilitate these committees. The committees will have the purpose of providing a local focus for activities and communications, and will also have a strong influence over the operation of the strategy in the surrounding area.
- **CEOs and senior management – foundation member scheme.** A small number of well-motivated CEOs will initially be targeted to commit to the scheme. These will be accorded the status of 'Foundation Members' in strategy documentation and publicity. Foundation members will be required to become silver or gold members, assist in securing new strategy members and facilitate local steering committees. In return they will have the opportunity to present their logos on strategy materials and will have a keynote role in presentations and editorials.
- **CEOs and senior management – breakfasts and lunches.** These will be based around short (max 1.5 hour) meetings timed to minimise disturbance to executive schedules. They will provide good reasons for attendance, such as ministerial presence or press opportunities.
- **Fleet managers – seminars.** Regular seminars will be held in major centres. Where possible, these will be co-ordinated with existing industry meetings to minimise additional effort required for attendance (and minimise operational costs). These will focus on strategy promotion and case studies.
- **General public – leaflets and brochures.** Short publicity brochures for the strategy will be developed for distribution in industry newsletters and magazines.
- **General public – press releases and editorial.** Quarterly press releases and editorial material in relevant industry journals will be produced, covering progress and development of the strategy. These will be directed at industry publications and feature sections of newspapers.
- **General public – advertisements.** The strategy will offer gold and silver members the opportunity to place their logo (at cost) in strategy advertisements in relevant journals and publications. The advertisements will be aimed at attracting new members and publicising successes.

Best practice awards

Three awards have been recommended to be established and operated in conjunction with the existing fleet manager's award scheme operated by AfMA. These awards will be open to gold and silver members only. The proposed awards are:





- Energy efficiency best practice innovator of the year award. This would be awarded to the organisation showing the greatest innovation in any aspect of energy efficiency best practice.
- Energy efficiency best practice improvement award. This would be awarded to the organisation with the most notable improvement in performance in one or more areas relating to energy efficiency best practice.
- Energy efficiency best practice performance award. This would be awarded to the organisation with the best overall energy efficiency performance, taking into account both practice and performance.

7. Pilot implementation

The following pilot implementation of the strategy has been proposed to:

- provide a mechanism for the development of bridging materials between the study and full implementation of the strategy;
- test and refine the communication and membership structures;
- conduct case studies that provide demonstrations of the financial and other benefits of the operation of best practice;
- gather verifiable, quality data on fuel economy and practice levels; and
- build on the momentum of industry support already gained.

The pilot is an almost complete implementation of the best practice strategy. It is an essential step towards ensuring that the full-scale launch of the strategy embodies a mature and complete program rather than untried and untested materials.

The key components of the pilot are:

- establishment of a project control group, consisting of industry representatives, Exergy Group as the pilot facilitator and ISR as the Chair;
- a membership drive, consisting initially of a small and select group for involvement in the pilot case studies and latterly including members recruited on a 'normal' basis;
- accreditation, covering the identification of courses and consultants permitted to use the strategy logo;
- best practice web site and database operation, on a fully public basis;
- best practice pilot case studies, involving comprehensive monitoring and reporting

of five examples of improved fleet management; and

- publicity materials, involving the development and testing of publicity materials and strategies.

The pilot is based in Brisbane and covers a number of fleet managers.

8. Summary

The light vehicle fleet sector is characterised by a lack of connection between fleet management goals and business goals. This means that there are good opportunities to enhance fleet fuel efficiency through encouraging organisations to rationalise vehicle use against their corporate objectives.

The *Energy Efficiency Best Practice Fleet Management Study* has produced a suite of technical materials, integrated into a coherent initiatives structure that has been tuned to industry needs. This in turn has been placed within an implementation structure that will provide the operating framework for a viable actual program.

It has been proposed to trial the overall implementation structure, along with the initiatives, on a pilot basis. This will allow communications and dissemination mechanisms to be tested while also gathering valuable industry performance data that is currently not available.

