

ANGLICAN DIOCESE OF CANBERRA AND GOULBURN

SUSTAINABLE VEHICLE POLICY

At its October 2007 meeting, Bishop in Council endorsed Synod's resolution to *shrink our environmental footprint* (1053/07). The resolution includes a 'request that the Environment Commission, reporting to Bishop in Council, specifically examine the means and financial implications of achieving:...(c) improving the energy efficiency by at least 20% by 2010 and 50% by 2020 of the Church's facilities and operations.'

This Diocesan Sustainable Vehicle Policy is one element aimed at achieving this goal. The policy seeks to shift the Diocesan car fleet to more fuel efficient and greenhouse friendly vehicles. In doing so it seeks to achieve a balance between the economic, environmental and social aspects of vehicle purchasing decisions and use.

Accordingly, Bishop in Council requires all vehicle purchases to follow the Diocesan Sustainable Vehicle Policy.

When **purchasing** a vehicle, purchasers must abide by the following process:

1. Unless approval is obtained from the relevant governing body to purchase an alternative, purchasers must select a vehicle that achieves a Greenhouse Rating of 7 or above from the *Green Vehicle Guide*.¹
2. If approval is obtained to purchase an alternative vehicle, a short statement setting out the purchaser's rationale should be provided to the Diocesan Registrar.
3. Consideration should be given to diesel and LPG models where available.

When **using** a vehicle, users are required to:

1. Drive in a manner that will minimise fuel consumption, for example drive smoothly and at moderate speeds.
2. Minimise vehicle use by choosing alternatives to private car travel for short trips and car-pooling or teleconference wherever possible.

To assist purchasers, the Registry will compile a list of compliant vehicles from which the Diocese are encouraged to purchase. The list would be compiled using the most current information available from authoritative sources relating to vehicle emission levels, fuel consumption etc and recommendations provided as to the best performers in relation to these criteria.

The Registry will also provide purchasers with access to the very best pricing for a range of highly fuel and greenhouse efficient vehicles, trade-in valuations, dealer discounts, specials on run-out models, and possible finance packaging. Information regarding the preferred time to sell will also be provided where possible.

The Environment Commission is investigating a Green Fund to support environmental initiatives across the Diocese. If implemented, it is envisaged that the fund would be accessible for purchases that improve on the greenhouse benchmark.

¹ See www.greenvehicleguide.gov.au

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The policy will be reviewed annually to ensure that the benchmark is set at an appropriate level and that the policy is achieving its desired outcome. Information will be gathered regarding vehicle purchases to assess the policy's effect on shrinking our environmental footprint.

Further practical and technical background information to assist vehicle purchasers and users is contained in the attached document and available from the Registry.

SUPPORTING INFORMATION

Introduction

Traditionally, Diocesan vehicles have been purchased primarily on the basis of past practice and financial cost. In some instances this has inadvertently led to the purchase of large, less fuel efficient vehicles which have not ideally suited the intended purpose as well as having a range of negative social and environmental impacts.

With growing awareness of the impacts that modern transport is having on our environment and communities, non-financial considerations of vehicle purchases are becoming more and more important.

The Diocese is committed to the development of a sustainable vehicle purchasing policy which better balances economic, environmental and social considerations. By adopting a sustainable vehicle purchasing policy there is a real opportunity for the Diocese to make significant progress towards sustainability and at the same time show strong leadership in this area.

In the medium term the Diocese should aim to have the most economically, environmentally and socially responsible vehicle fleet of any comparable organisation.

The Policy

The policy requires purchasers to select a vehicle that achieves a Greenhouse Rating of 7 or above from the *Green Vehicle Guide*, unless approval is obtained from the relevant governing body to purchase an alternative.

This approach will encourage purchasers to firstly consider whether a more fuel and greenhouse efficient vehicle will suit their needs. The policy is sufficiently flexible to allow purchasers to select an alternative vehicle that better suits their needs, by obtaining approval from their governing body to purchase an alternative. For instance a purchaser's specific requirements may dictate the purchase of a large high occupancy vehicle or a vehicle for off-road use or to move heavy loads.

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Practicalities

An underlying consideration must be that vehicles 'fit the purpose'. For example, will the vehicle be used mainly for: parish business and run about transport (in which case a small car would suffice)? to transport passengers (medium sized car)? tow heavy loads (larger car)? be used frequently on unsealed roads (medium to large vehicle)? does the user have particular safety requirements? These factors should dictate the general nature of the vehicle. However, within these broad vehicle classes a number of vehicles that achieve a greenhouse rating of 7 or better are available.

Within this 'fit for purpose' framework, purchasing a vehicle on a sustainable basis requires a range of economic, environmental and social considerations to be weighed and balanced. In many instances this balance will be best achieved by opting for the most fuel efficient model in the required class.

Support

The Registry offers a range of support mechanisms to assist vehicle purchasers.

For instance, the Registry will provide purchasers with access to the very best pricing for a range of highly fuel and greenhouse efficient vehicles, trade-in valuations, dealer discounts, specials on run-out models, and possible finance packaging. The Registry is also able facilitate competitive vehicle insurance rates through the Anglican National Insurance Programme.

To assist purchasers, the Registry will also compile a list of vehicles which meet a greenhouse rating of 7 or better from which the Diocese are encouraged to purchase. The list will be compiled using the most current information available from authoritative sources relating to vehicle emission levels, fuel consumption etc and recommendations provided as to the best performers in relation to these criteria.

Considerations

The economic, environmental and social considerations include:

- purchase or lease price, depreciation, interest, operating and maintenance costs (fuel, registration, insurance), resale or residual value
- greenhouse emissions, air quality, resource use and embodied energy
- health, safety and the public's perception of vehicle type and use

The following information provides a guide to assist purchasers in balancing these competing considerations.

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Economic considerations

There are likely to be significant financial savings resulting from the purchase of more fuel and greenhouse efficient vehicles. For example, The NRMA estimates an average saving of around \$5,000 per annum can be achieved by opting for a small vehicle over a large one (see further below).

Economic considerations should be based on 'whole of life costs' rather than simply the initial purchase price. Minimising the economic cost of diocesan vehicles will depend on a range of factors.

Purchase or lease price

The decision to purchase or lease a vehicle requires consideration of a number of factors including fleet discounts or special deals, tax incentives, expected length of ownership and depreciation or resale value. In comparing two vehicles, an appropriate interest rate should also be applied to the difference in price to take account of the 'opportunity cost' of the alternative outlays.

As noted above, through the Registry, purchasers have access to the very best pricing for fuel and greenhouse efficient vehicles, trade-in valuations, dealer discounts, specials on run-out models, and finance packaging.

Resale Value

Higher fuel prices are impacting car resale markets, with efficient vehicles typically retaining higher resale values compared to larger vehicles. Recent Registry analysis shows that buying a 7.5 greenhouse rating vehicle (5.0 litres/100km) and reselling at 20–25,000 km, will return 75 to 85% of its original purchase price. By comparison, a larger 6 cylinder vehicle is currently reselling for around 50–60% of its original purchase price at 20–25,000 km. In financial terms this equates to a saving of between \$5,000–8,000 by purchasing a more fuel and greenhouse efficient vehicle. The financial benefits of fuel efficient vehicles are illustrated in the following example.

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Comparative Resale Example

Fuel intensive model

The "list price" of a 6 cylinder 4.0L petrol powered vehicle, with a greenhouse rating of 5 and fuel consumption of 11.0 litres/100km, is \$37,500. Through special procurement arrangements available through the Registry, a parish can purchase a vehicle at a 20% fleet discount rate, so the actual purchase price is \$30,000. The trade-in value at 20–25,000km will be \$18,750 to \$20,000. At trade-in or resale the Parish has lost around \$10,000–11,250.

List price:	\$37,500
Less discount rate (20%):	-\$7,500
Discounted Purchase Price:	\$30,000
Trade-in or resale value at 20–25,000 km:	\$18,750 – \$20,000
Capital loss:	(\$10,000 – \$11,250)

Fuel efficient model

The "list price" of a 4 cylinder 2.0L diesel powered vehicle, with a greenhouse rating of 7.5 and fuel consumption of 5.0 litres/100km, is \$31,627. Through special procurement arrangements available through the Registry, a parish purchases a vehicle at a 10% fleet discount rate* so the actual purchase price is \$28,464. The trade-in value at 20–25,000 will be 75 to 80% of \$31,627 (\$23,720 to \$25,302). In this example the Parish is \$5,000–8,000 better off than in the fuel intensive example.

List price:	\$31,627
Less discount rate (10%):	-\$ 3,163
Discounted Purchase Price:	\$28,464
Trade-in or resale value at 20–25,000 km:	\$23,720 – \$25,302
Capital loss:	(\$3,162 – 4,744)

*Based upon the purchase of VW Golf. Australian Assembled and Manufactured vehicles attract a higher Fleet Discount Rates up to 20%.

Add to this the lower capital cost and around 40% lower operating cost.

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Operating costs

In addition to a vehicle's capital cost, its ongoing operating costs, such as fuel, maintenance, registration and insurance, all impact on the overall cost of the vehicle. Typically, more fuel and greenhouse efficient vehicles have lower operating costs than larger, less efficient vehicles. According to figures produced by the NRMA the annual operating costs of vehicles is largely a function of size. NRMA's average annual operating costs² for 2007 are:

- **\$7,478 for light cars** (range \$6,215– 12,251);³
- **\$9,079 for small cars** (range \$7,280–16,656);⁴
- **\$12,329 for medium cars** (range \$9,537–18,687);⁵
- **\$13,830 for large cars** (range \$10,481– 20,462);⁶
- **\$13,795 for people movers** (range \$11,308–18,302).

Four-wheel-drives typically cost around \$2,500 per annum more to operate than a similar sized on-road vehicle.

As fuel prices increase the financial savings of owning a smaller vehicle also increase. Similarly, financial savings will result when a greenhouse emissions trading system is introduced in 2010.

² These estimates are based on private vehicle travelling the average distance of 15,000 kilometres per annum over 5 years. Operating costs include depreciation and interest, registration and insurance, fuel use, maintenance and repairs. The following link from NRMA motoring and services provides over 500 vehicles in eight categories: www.mynrma.com.au/cps/rde/xchg/mynrma/hs.xsl/Operating_Costs.htm?

³ eg Ford Feista, Holden Barina, Honda Jazz, Hyundai Getz and Accent, Kia Rio, Mazda Neo, Mitsubishi Colt, Suzuki Swift, Toyota Yaris and Prius, VW Polo

⁴ eg Ford Focus, Holden Astra, Holden Viva and Astra, Honda Civic, Hyundai Elantra, Mazda Neo, Mitsubishi Lancer, Nissan Tiida, Subaru Impreza, Toyota Corolla, VW Golf

⁵ eg Holden Vectra, Honda Accord, Hyundai Sonata, Mazda 6, Subaru Liberty, Toyota Camry

⁶ eg Ford Falcon, Fairmont, Territory, Holden Berlina, Calais, Commodore, Hyundai Grandeur, Mitsubishi 380, Toyota Aurion

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Fuel prices

The rising price of fuel is making ongoing operating costs a far more important economic consideration in selecting a vehicle. Broadly speaking, fuel consumption will depend on engine size, distance travelled and the type of travel (city or highway).

The fuel cost for a vehicle that travels 15 000 km per annum can range from \$2400 (for larger vehicles, eg Holden Commodore or Ford Falcon) to \$1500 (for small vehicles, eg Toyota Corolla) to \$1000 (for hybrid or diesel vehicles). These figures are included in the operating costs listed above.

As fuel prices increase the cost of operation will increase. For every 10c rise in petrol prices the annual operating cost rise by around \$100 for light vehicles, around \$150–160 for small to medium vehicles and around \$200 for large vehicles.

Link: Fuel consumption guide: www.greenvehicleguide.gov.au

Minimising fuel consumption

There are many simple and practical ways to change driver behaviour and practices which will minimise fuel consumption:

- Minimise your vehicle use for example use public transport when possible and avoid short car trips (walk, cycle or combine trips)
- Keep car properly serviced
- Tyres correctly inflated
- Drive smoothly – both when accelerating and decelerating
- Drive at moderate speeds – cars use 25% more fuel at 110 km/h than at 90 km/h
- Don't leave the engine idling for long periods – turn it off
- Remove excess weight from car (50kg equates to 2% extra fuel) and minimise aerodynamic drag like roof racks
- Use air conditioner sparingly (air conditioners can use about 10% extra fuel when operating. However, at speeds of over 80 km/h, use of air conditioning is better for fuel consumption than an open window.)
- Put your car in Neutral when stationary for prolonged periods⁷

Link: Save money on your fuel costs: www.greenhouse.gov.au/fuelguide/tips.html

⁷ NRMA advise that: 'although we are not aware of any tests in this regard we believe that in the modern fuel injected, electronically managed engine the fuel consumption would be slightly higher in 'Drive' as the operation of the torque converter when in gear places a load on the engine.'

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Insurance

Often insuring larger, more powerful vehicles is more costly than for smaller vehicles. The Registry facilitates competitive vehicle insurance rates through the Anglican National Insurance Programme. Quotes can also be obtained from any of the major insurance companies.

Registration

In both the ACT and NSW registration fees for larger, heavier vehicles are higher than for smaller, lighter vehicles (in the order of \$100–150 per annum).

Links

ACT: www.rego.act.gov.au/registrations/regofee.htm

NSW: www.rta.nsw.gov.au/registration/registrationfees/index.html

ENVIRONMENTAL CONSIDERATIONS

Vehicle type

In general, opting for a smaller, more fuel-efficient vehicle that fits the purpose will lower the overall environmental impacts of the purchase.

There are also a number of next generation vehicles on the market which use a hybrid (petrol-electric) engine and regenerative brakes to maximise fuel efficiency and therefore environmental impact. The growing demand and new technologies associate with these vehicles means that they sell at a premium price.

Fuel type

The type of fuel used influences the environmental impacts of a vehicle. Higher octane fuels tend to provide greater fuel efficiency and therefore better environmental performance. BP's Ultimate™ fuel (a high octane fuel) is 100% greenhouse offset which means that BP has invested in a range of abatement projects equal to the emissions produced in its consumption.

Diesel vehicles typically outperform their petrol counterparts in greenhouse terms by around 15–20%. However they produce more air pollutants than petrol models which is an issue particularly in urban areas. Diesel fuel is generally more expensive than unleaded, currently by around 20c/litre (or around 14per cent).

Liquid Petroleum Gas (LPG) has around the same greenhouse emissions as a diesel vehicle and reduced air pollutants. The Federal Government is offering grants of \$2,000 for LPG conversions and \$1,000 for new vehicles with an LPG unit fitted (www.ausindustry.gov.au/content/azindex.cfm?Keyword=lpg%20vehicle%20scheme).

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Driving practises

The way a vehicle is driven will also influence its environmental performance (see minimising fuel consumption above).

Greenhouse

Greenhouse emissions from passenger vehicles account for around 60% of all road transport emissions and around 7% of national emissions. Because smaller vehicles use less fuel they emit around half the greenhouse gas emission of larger vehicles. The Green Vehicle Guide (www.greenvehicleguide.gov.au) provides a comprehensive listing of the greenhouse emissions of new passenger vehicles sold in Australia.

Organisations such as Greenfleet (www.greenfleet.com.au) allow a vehicle's greenhouse emissions to be fully offset through tree planting. Greenfleet is a non-profit organisation. Its program provides a simple way to reduce your car's impact on the environment. For \$40 (tax deductible), Greenfleet will plant 17 native trees on your behalf. These trees will absorb the greenhouse gases that your car produces in one year (based on 4.3 tonnes of CO₂ for the average car).

Air quality

Transport emissions are the major contributor to urban air pollution. Air quality emissions such as carbon monoxide, nitrogen oxides, particulate matter, volatile organic compounds and benzene are higher for larger vehicles. These pollutants can contribute to urban air quality problems, for example photochemical smog, as well as adversely affect human health and the health of other living organisms (see below). Typically smaller vehicles have improved air quality emissions over larger vehicles.

Resource use

A car is made out of many different kinds of materials, such as metals, plastics, and rubber. Cars greatly vary in size, and therefore in mass. A car's mass may vary in the range of 1,000–2,000 kg. A typical car may require more than 770 kilograms of steel, 180 kilograms of iron, 110 kilograms of plastics, 80 kilograms of aluminium, and 60 kilograms of rubber. Between 5–10% of a car's overall consumption of energy and emissions of greenhouse gases happens when the car is manufactured. Obviously, large cars consume more of these finite resources in their manufacture.

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SOCIAL CONSIDERATIONS

Safety

Vehicle safety is a major social consideration when purchasing a vehicle.

The NRMA and RACV review new models including a safety rating (www.mynrma.com.au/cps/rde/xchg/SID-3F5768EC-0D5F46E9/mynrma/hs.xsl/ancap.htm#

and

www.racv.com.au/wps/wcm/connect/Internet/Primary/my+car/car+safety/new+car+safety/).

The NRMA also produces a safety guide for used cars made up until 2004 (www.mynrma.com.au/used_safety_ratings.asp).

Health issues

Urban air pollution, which is largely the result of motor vehicle emissions, leads to a range of serious health effects. Air pollution has negative health effects, especially for vulnerable people, including those with allergic and respiratory conditions, such as asthma, hay fever and sinusitis, and respiratory and lung conditions commonly associated with the elderly. Research suggests that certain air pollutants (e.g. benzene) are carcinogenic. The health impacts of transport emissions in Australian capital cities have been estimated as costing around \$3.3 billion per year.

Perceptions

The perception created by Diocesan vehicle use is an important consideration for an organisation committed to promoting social justice issues. The use of large, powerful vehicles can give the impression amongst parishioners and the wider community that church funds are being inappropriately used. More modestly sized cars that fit their purpose should improve this perception.