



## DIESEL VS PETROL > WHITEPAPER

# Diesel vs Petrol – What is best for me?

## Vehicle factors for comparison

### Fuel Consumption

When comparing a vehicle with the same engine size, a diesel model will usually be more fuel efficient than a petrol alternative. The efficiency difference will vary depending on the real world usage but generally a diesel model will be 20–30% more fuel efficient than its petrol counterpart. This will vary according to your vehicle usage, with diesel models generally having better fuel efficiency when running at high speed and on highway travel. Smaller vehicles that travel at low speed and mostly inner city travel may be more fuel efficient in petrol variants but the cost difference will be much smaller.

### Purchase Price and Resale Value

Purchase prices are typically higher for diesel models. For a medium size passenger vehicle the difference is usually \$2,000–3,000. The higher upfront cost is usually counterbalanced by higher resale values but there is not always a direct correlation. Consult your fleet provider for information on how well your particular vehicle stacks up in terms of resale value.

### Engine Power and Torque

Petrol engines usually spin faster and as such, deliver more power at the higher engine revolutions. However diesel models deliver high torque at the low revolutions giving more low RPM power – this will usually give up to three to four times as much low-end “grunt”. This makes diesel engines better for towing and off road travel, particularly on loose surfaces such as mud and sand, whilst petrol engines perform much better once you get past 2000rpm.

### Safety

Diesel is less volatile than petrol and will usually only ignite at a higher temperature. Petrol on the other hand will always burn quickly and violently. This will usually not have any impact on your selection decision – however, if your drivers need to carry extra fuel in their vehicle or need to refuel from bowsers then it may be worth considering this.

### Emissions

Diesel engines usually have lower CO<sub>2</sub> emissions than petrol engines. This is the typical measure of a vehicle's pollution rate. As such, diesel models can often

be seen as more environmentally friendly. However, there are a variety of other emissions produced by diesel vehicles such as nitric oxide and nitrogen dioxide (NO<sub>x</sub>), hydrocarbons and particulates that can be damaging to the environment. Diesel vehicles have higher levels of particulates which can sometimes be seen as soot in the air. Whilst modern diesel vehicles use a particulate filter to eliminate most of these, the particulate rate is still higher than in petrol models.



## Maintenance

Maintenance costs will usually vary by manufacturer's service schedules and the vehicle model. Whilst diesel models have no spark plugs and are generally more efficient engines, standard servicing costs can be higher in some models due to the cost of diesel oil. Also if there is a fault with a diesel engine it is usually more expensive to fix.

Diesel vehicles also need to be run at higher speeds every so often. The diesel particulate filter can become clogged if the vehicle is only ever driven short distances. If this happens it can be expensive to remedy.

## Diesel vs Petrol – Trends

### Country Wide Trends – Retail and Fleet

Outside of heavy commercials and vans, petrol has historically been the fuel of choice for powering vehicles throughout Australia. This is still true today with petrol powered vehicles accounting for 78% of all Australian registrations, compared with 20% for diesel. However in the past decade there has been a shift in terms of buying attitudes and engine technology. The majority of passenger vehicles available in Australia now have some form of diesel variant available and many outsell their petrol counterparts. Over the five year period from 2010 to 2015, the number of passenger vehicles and light commercial vehicles registered with diesel fuel increased by 96.4% and 62.9% respectively.

### Fleet Specific Trends

For most commercial fleets operating in Australia, diesel powered vehicles are the most cost effective way to transport goods and people throughout the country due to their low fuel consumption. 83% of the light commercial vehicles managed by Custom Fleet are diesel and diesel vehicles made up 92% of all light commercial registrations in 2015.

Among passenger vehicles, the opposite is true with petrol variants making up 70% of the total managed fleet and 72% of all registrations in 2015, compared with 25% diesel.

As with any fleet decision, the choice between a petrol and diesel vehicle should be made after considering your operating environment, your vehicle usage and your people in order to determine what vehicle is right for your fleet.

## Fuel Consumption & Driver Behaviour – Policy Hint

Remember that fuel type is only one factor influencing fuel consumption. One of the biggest influences on fuel efficiency in any particular vehicle is driving style. A relaxed, considerate right foot means considerable savings in fuel compared to a driver who is habitually aggressive on the accelerator.

### *How do you make sure that a more fuel efficient approach is adopted?*

A good idea is to incentivise your drivers. Using the data that you gather from your fuel card or telematics system, you will be able to see their current L/100km performance and compare this against the fleet average for that make and model of vehicle, then set attainable but worthwhile targets and provide rewards for improvements.

Those who persistently use more fuel than their peers in similar vehicles on similar routes could be considered for driver training. The cost of a driver training course can be rapidly offset if even a conservative 10% improvement in fuel consumption is achieved.



## Summary description of the various factors involved

### Fuel Consumption

- On average, consumption is better for diesel models
- Diesel models are better when running at high speed and for highway travel
- Petrol models can be better when running low speed and for urban travel

### Purchase Price & Resale Value

- Purchase price is usually lower on petrol models
- On a medium size vehicle the difference is usually \$2,000–3,000, but can be much higher
- Diesel will usually have better resale values but varies by model

### Engine Power and Torque

- Diesel has more power at low RPM
- Petrol has more power at high RPM
- Diesel will usually be better for towing and off-road use

### Maintenance Costs

- Servicing costs vary by model, however faults with diesel engines can be very expensive to fix
- Diesel vehicles need to be run at high speed at regular intervals or the particulate filter can get clogged. This can be expensive to fix

### Emissions

- Diesel models usually have lower CO2 emissions than petrol equivalents
- However diesel models produce more particulates which can have other harmful effects and reduce air quality

### Safety

- Diesel is not as combustible as petrol so may be safer if you need to use open fuel or refuel from bowsers

