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| Fleet management |
| The cost-benefit of switching to hybrids |

# Introduction

There are financial and environmental benefits for switching from standard internal combustion engines to hybrids in hospital corporate fleets where operational requirements are met. This fact sheet provides advice on the cost-benefits of switching to hybrids, comparing moving from a small hatchback and large sedan to hybrid equivalents.

# Methodology and assumptions

VicFleet costs for standard vehicles and equivalent hybrids over a standard three-year lease term were anaylsed to provide a guide to potential cost savings. Costs for administration, delivery and motor vehicle duty were included in ‘fixed’ costs. The following assumptions were used in the assessment:

* Vehicles are replaced after three years at the end of the lease.
* Each hospital fleet has community benefit registration status and the $891 registration savings over three years are not applicable.
* Costs are based on 2018–19 value of vehicles (as per the VicFleet whole-of-life quotations) excluding GST.
* Vehicles travel an average of 10,000 kilometres per year, which is the standard distance travelled per car across all hospitals considered in the analysis.
* Fuel price is based on the average unleaded fuel price for Victoria for 2017–18 at $1.35 per litre and petrol pump and fuel card prices remain constant over the lease cycle.
* Premium unleaded fuel is required to maintain the manufacturer’s car warranty for some vehicles, including the medium-sized hybrid. This added 16 cents per litre to the petrol cost.

# Vehicle comparison

The small hybrid is marginally cheaper than the standard vehicle over three years but differs depending on which two cars were being compared. The hybrid reduces emissions by 1,249 kg CO2-e compared with the standard vehicle over the same period. The cost savings of the hybrid is due mostly to lower registration and ongoing costs (composed of maintenance and fuel costs). The savings from selecting the hybrid alternative increase if the vehicles travel 60,000 kilometres over the lease term.

There is no large car category hybrid on the VicFleet-approved vehicle list. A medium-hybrid was therefore used for analysis, noting that it may not be possible to switch large cars to a medium-sized hybrid for operational reasons (see Tables 1–3).

The medium-sized hybrid costs $6,905 less than a large standard vehicle over three years and reduces emissions by 2,428 kg CO2-e. In respect to the analysis, both vehicles assessed require premium unleaded fuel to maintain the manufacturer’s warranty and as such the fuel unit price does not affect the savings. The cost savings of the hybrid is due mostly to lower depreciation, maintenance and ongoing costs (maintenance and fuel costs).

Table 1: Comparison of hybrids to standard internal combustion engine vehicles of a similar size

| Vehicle attribute | Difference: small hybrid | Difference: medium hybrid |
| --- | --- | --- |
| Fuel efficiency (L/100 km) | 1.8 L/100 km more efficient | 3.5 L/100 km more efficient |
| ANCAP safety rating | 5 star rating | 5 star rating |

Table 2: Comparison of hybrids to standard internal combustion engine vehicles’ costs over three years

| Vehicle attribute | Difference: small hybrid | Difference: medium hybrid |
| --- | --- | --- |
| Fixed costs: administration, delivery | $0 | $0 |
| Depreciation | $549 | –$4,447 |
| Financing | $93 | –$197 |
| Maintenance | –$50 | –$675 |
| Fuel (30,000 km over 3 years) | –$729 | –$1,586 |
| **Subtotal of costs** | **–$137** | **–$6,905** |

Table 3: Comparison of hybrids to standard internal combustion engine vehicles’ environmental performance over three years

| Vehicle attribute | Difference: small hybrid | Difference: medium hybrid |
| --- | --- | --- |
| Total fuel used (kL)  | –540 | –1,050 |
| Total GHG emissions (kg CO2-e) | –1,249 | –2,428 |

Note: The small hybrid is compared with a small standard vehicle. The medium-hybrid is compared with a large standard vehicle.

# Conclusion

Given the financial and environmental savings, health services are strongly encouraged to actively investigate switching to hybrid vehicles in their corporate fleet where hybrids can meet operational requirements.

Health services required to make an emissions reduction pledge under the *Climate Change Act 2017* can count any emission savings from switching to hybrids as part of their pledge. The carbon savings noted above can be used as a reasonable estimate of savings for the purposes of making a pledge.

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