inside a plug-in electric vehicle

controller

rechargeable batteries

electric motor

charging port

electricity

at home

at recharge station 150 km / h

low ongoing maintenance costs almost completely silent

$40 000

up to 170 km

Varies from 30 min (quick charge) to

7.5 hours (normal charge) to 14 hours (trickle charge).

$4.33 (at electricity cost of 25 c / kWh)

**Plug-in electric vehicle**

compact car, 5 door hatchback, 2WD

electric motor, lithium ion batteries, regenerative braking

0

5 star overall rating greenhouse rating 10 / 10

air pollution rating 10 / 10

HHHHH

**Recharge time**

**Recharge cost (per 100 km)**

**Where to recharge**

**Top speed Maintenance Noise Purchase cost**

**Description Technology**

**Tailpipe CO2 emissions Green vehicle ratings**

**ANCAP safety rating (Australian New Car Assessment Program)**

**Range**

**Solar electric vehicle**

solar cells

electricity

charging port

rechargeable batteries

controller

electric motor

inside a solar electric vehicle

|  |  |
| --- | --- |
| **Description** | sports car, 2 doors, 2 seats, sleek aerodynamics, low centre of gravity, lightweight carbon fibre shell |
| **Technology** | electric motor, lithium ion batteries, C60 sun-power silicon (solar) cells on car body |
| **Tailpipe CO2 emissions** | 0 |
| **Green vehicle ratings** | not yet determined |
| **ANCAP safety rating (Australian New Car Assessment Program)** | not yet assessed |
| **Range** | over 800 km on a full battery charge and using solar cells; up to 500 km at night |

|  |  |
| --- | --- |
| **Recharge time (plug in)** | 8 hours on a 240 V connection |
| **Recharge cost (per 100 km)** | 20c (combined cost of battery use and solar panel recharge) |
| **Where to recharge** | at homeat recharge station on car |
| **Top speed** | 140 km / h |
| **Maintenance** | regular maintenance |
| **Noise** | almost completely silent |
| **Purchase cost** | $500 000 |

inside a plug-in hybrid electric vehicle

combustion

petrol tank engine

electric motor

controller

rechargeable batteries

charging port

electricity

petrol

5 hours on a 240 V connection

$3.35 (at an electricity cost of 25 c / kWh)

3 - 5 minutes

varies depending on use of energy source and driving conditions

1.9 L / 100 km at home

at recharge station

at petrol station

120 km / h in EV mode 170 km / h in petrol mode

regular maintenance

little engine noise in EV mode

$50 000

**Plug-in hybrid electric vehicle**

wagon, 5 seats, SUV, 4WD

electric motor and internal combustion engine, lithium ion batteries, regenerative braking

44 g CO2 / km

5 star overall rating greenhouse rating 10 / 10

air pollution rating 7.5 / 10

HHHHH

52 km in EV (electric vehicle) mode with fully charged batteries

897 km in hybrid driving mode with fully charged battery and full petrol tank (45 litre)

**Recharge time**

**Recharge cost (per 100 km)**

**Refuel time**

**Refuel cost (per 100 km)**

**Fuel consumption**

**Where to recharge/ refuel**

**Top speed**

**Maintenance Noise Purchase cost**

**Description Technology**

**Tailpipe CO2 emissions Green vehicle ratings**

**ANCAP safety rating (Australian New Car Assessment Program)**

**Range**

inside a petrol vehicle

combustion engine

petrol tank

petrol

894 km (51 litre tank)

3 - 5 minutes

$6.80 (when petrol is $1.20 per litre)

5.7 L / 100km at petrol station 170 km / h

regular maintenance

significant engine noise and vibrations

$25 000

**Petrol vehicle**

compact car, 4 door sedan, auto, 2WD internal combustion engine

134 g CO2 / km

4.5 star overall rating greenhouse rating 8 / 10 air pollution rating 7.5 / 10

HHHHH

**Refuel time**

**Refuel cost (per 100 km) Fuel consumption Where to refuel**

**Top speed Maintenance Noise**

**Purchase cost**

**Description Technology**

**Tailpipe CO2 emissions Green vehicle ratings**

**ANCAP safety rating (Australian New Car Assessment Program)**

**Range**

**Diesel vehicle**

3 - 5 minutes

$11.48 (when diesel is $1.40 per litre)

8.2 L / 100 km at petrol station 140 km / h

regular maintenance

significant engine noise and vibrations

$55 000

diesel

diesel tank

combustion engine

inside a diesel vehicle

**Refuel time**

**Refuel cost (per 100 km) Fuel consumption Where to refuel**

**Top speed Maintenance Noise**

**Purchase cost**

**Hydrogen fuel cell electric vehicle**

3 – 5 minutes

$11 (when hydrogen is $10 / kg)

1.07 kg / 100 km

hydrogen refuelling station at car dealerships

160 km / h

regular maintenance almost completely silent

$87 000

hydrogen

oxygen (air) water

hydrogen fuel tank

reactor

rechargeable batteries

controller

electric motor

inside a hydrogen fuel cell electric vehicle

**Refuel time**

**Refuel cost (per 100km) Fuel consumption Where to refuel**

**Top speed Maintenance Noise Purchase cost**

|  |  |
| --- | --- |
| **Description** | single cab ute, 2 seats, manual, 4WD |
| **Technology** | internal combustion engine, diesel turbo |
| **Tailpipe CO2 emissions** | 217 g CO2 / km |
| **Green vehicle ratings** | 2.5 stars overall rating greenhouse rating 6 / 10 air pollution rating 3 / 10 |
| **ANCAP safety rating (Australian New Car Assessment Program)** | HHHHH |
| **Range** | 927 km (76 litre tank) |

|  |  |
| --- | --- |
| **Description** | wagon, 5 seats, SUV, 2WD |
| **Technology** | electric motor, lithium polymer batteries, hydrogen fuel cells |
| **Tailpipe CO2 emissions** | 0 |
| **Green vehicle ratings** | not yet determined |
| **ANCAP safety rating (Australian New Car Assessment Program)** | Safety not yet assessed for Australia but already meets strictest global vehicle safety standards. |
| **Range** | 594 km (tank capacity 5.64 kg compressed hydrogen) |