



**Variables and constants:** D = diesel price, EV = EV consumption in kWh/100km, ICE = ICE consumption in L/100km, U = unit power cost, Eac = charging efficiency on AC (under \$0.40/unit), Edc = charging efficiency on DC (\$0.40/unit and above), \$eq = EV's \$ equivalent to 1 litre. Note, all charging losses are now rolled into EV consumption value.

**Formulae for Petrol:**

**No EV RUCs:**  $\$eq = [EV \times U] / [ICE \times (Eac \text{ or } Edc)]$

**With EV RUCs:**  $\$eq = [EV \times U + RUC/10] / [ICE \times (Eac \text{ or } Edc)]$

**Formulae for Diesel:**

**No EV RUCs:**  $\$eq = [EV \times U \times (ICE \times D + RUC/10)] / [100 \times D \times (Eac \text{ or } Edc)]$

**With EV RUCs:**  $\$eq = [(EV \times U + RUC/10) \times (ICE \times D + RUC/10)] / [100 \times D \times (Eac \text{ or } Edc)]$

Changelog:

- 3 Aug 2019, due to widely-varying charging efficiencies in practice, these are now set to 100%.
- EV consumption is now referenced back directly to charging kWh/100km based on Chargenet billing.
- This graph only for EV with RUC applied. See second graph for RUC not applied.

Blue region indicates petrol car economy range required to match DC fast charging over the range of \$0.60 to \$0.90/unit. Figure your equivalent cost/unit from your billing statement for .25+.25 type units.

Black line is for 0.40/unit fast charge units.

Green region indicates the same for for home charging.

**EV assumptions:**

RUC \$72 /1000km, included unless noted

EV consumption from charging energy 15.56 kWh/100km (as such, all charging losses incorporated into above value)

ICE assumptions: Diesel \$1.549 , petrol \$2.209,

RUC \$72 /1000km (from AA as of 1 July 2019).