



# Energy Usage

Lv13

It is very import to keep your total energy usage low. Implement strategies to reduce the cars energy usage.

## Goals Summary:

- Drive a distance of 1500 meters
- Avoid speeding tickets
- Finish the test drive in under 100 seconds
- Keep the total energy usage below 1000 Wh



# Calculate Total Energy Usage

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$\text{TotalEnergyUsage} = \text{Throttle (in Percent)} * \text{MaxEnginePower} + \text{PowerConsumers}$

$\text{PowerConsumers} = 1 \text{ kW}$  (for radio, heating, air conditioning,...)

$\text{MaxEnginePower} = 310 \text{ kW}$

e.x.

throttle = 100% for 3 seconds

$\text{TotalEnergyUsage} = 3\text{s} * (100\% * 310 \text{ kW} + 1 \text{ kW})$   
 $= 933 \text{ kW} = 259 \text{ Wh}$