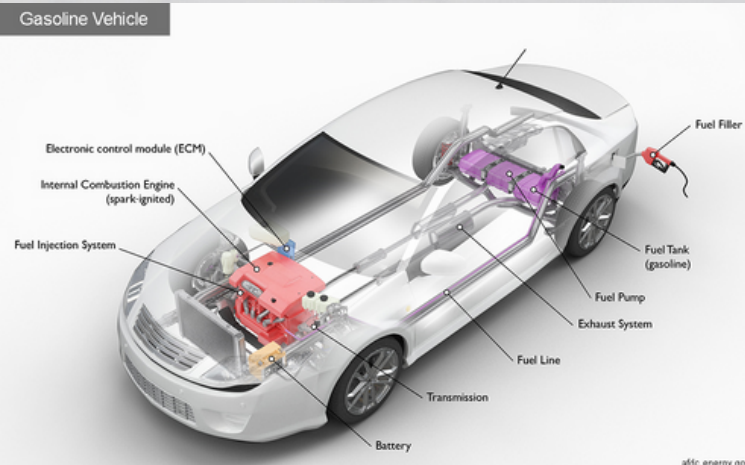


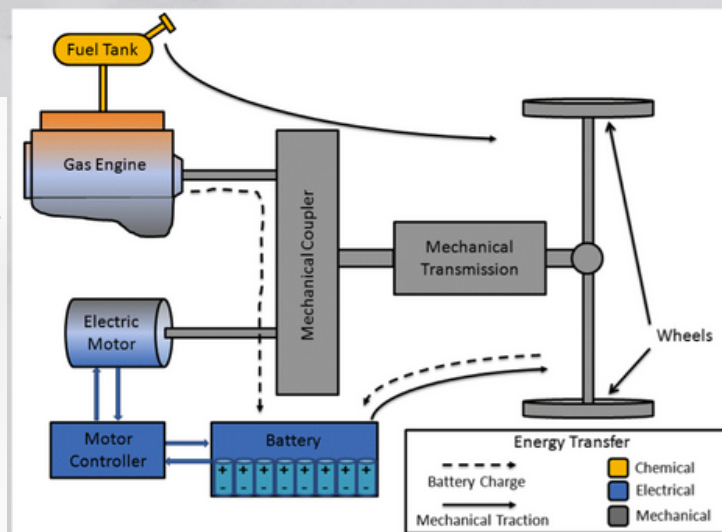
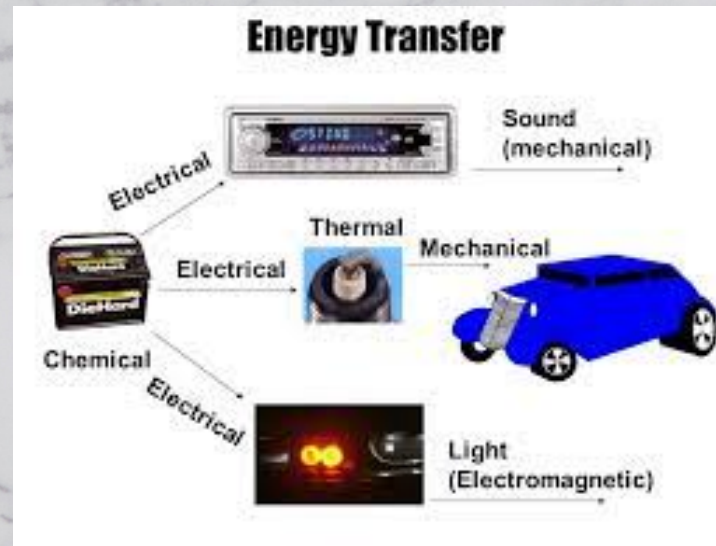
Conventional vs Electric Cars

Conventional Cars

A conventional car is one that uses an internal combustion engine to power it. Internal combustion engines use the heat generated from burning fuel to produce mechanical energy, or torque. The car moves by applying that torque to its wheels. Engines have pistons that oscillate up and down inside cylindrical metal tubes. Each minute, hundreds of small controlled explosions (caused by igniting a mixture of gasoline and oxygen) drive the pistons up and down. The mini-heat explosion's and expanding gases force the piston downward in the cylinder. The majority of the wasted energy is heat, but sound, electrical and chemical are too.

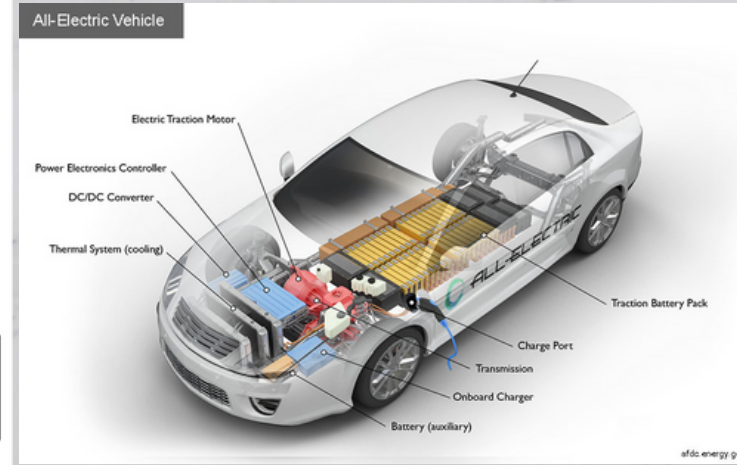


Energy Transformation Diagrams

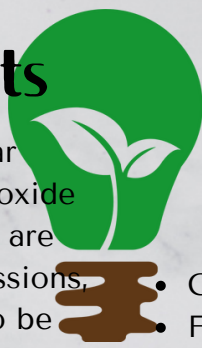


Electric Cars

Electric cars (EVs) have an electric motor rather than an internal combustion engine and a battery in place of a gas tank. The electric motor of the vehicle is powered by a big traction battery pack, which must be plugged into a wall socket or charging mechanism. Electric cars power the electric motor with electrical energy from within their battery packs. The main energy that is wasted is heat- this can be from charging the battery or driving. Sound is also wasted.



Environmental Impacts



The typical Australian conventional car contributes about 2.5 tonnes of carbon dioxide to the atmosphere. Cars and light trucks are responsible for 15% of Australia's CO2 emissions, which are directly related to fuel use. To be more specific, 1 litre of petrol produces 2.3 kilograms of CO2, LPG equals 1.6 kg of CO2 per litre and diesel has a CO2 equivalent of 2.7 kilos per litre. The atmosphere's primary greenhouse gas, CO2, traps solar heat and prevents it from being radiated back into space. The earth is liveable at natural CO2 levels, but as CO2 levels rise, the planet warms.

In Perth, cars are responsible for the majority of the nitrogen oxide (NOx) pollution and around 50% of the carbon monoxide (CO) pollution.

Since electric vehicles produce no harmful emissions when they are in motion, electric cars aid in lowering pollution. According to research, electric vehicles are more environmentally friendly. Compared to diesel or petrol cars, they release fewer greenhouse gas emissions and air pollutants. Also, this accounts for the electricity needed to maintain them through manufacturing.

Pros



Conventional

- Cheaper fuel- The cost is cheaper overall.
- Faster to fill the tank- The tank fills up quickly.
- Can travel further- The tank will last much longer than an electric vehicle.
- Fuel is more accessible- there are multiple places to fill up the tank



Electric cars

- Better for the environment- they don't emit any harmful gases.
- Energy efficient- Reduces air pollution and is less wasteful.
- Require low maintenance- Easy to look after

Cons



Conventional

- Pollute the environment- Emit massive amounts of carbon dioxide and greenhouse gases.
- Regular maintenance- costly services and need for checkups.
- Don't use renewable energy- Uses burnt fuel.

Electric cars

- Not many charging stations- It's hard to find somewhere to charge.
- Takes a long time to charge- You have to wait a while before you can drive.
- Can't travel as far between charging.- The battery life isn't that efficient and there are restrictions placed

