**ERT scaffolding 2016**

***Word limit 800 -1000 words only!***

Remember to in text reference your work and provide a bibliography (Correctly referenced).

Refer to the attached appendices throughout the body of the essay.

**Introduction**

Explain what statement is saying and pose a viewpoint

Background information (include tables and graphs to help illustrate the concepts involved):

* What is global warming?
* What causes global warming?
* What is the greenhouse effect?
* Name the greenhouse gases.
* What are the effects of Global warming
* What percentage of greenhouse gases is produced by transport in comparison to other sectors?
* Are there any authorities or legislation that tries to reduce vehicle emissions?

Include all relevant chemical equations.

**Main Body**

Write a set of dot points to help support the statement such as:

* Alternative sources of fuel also produce greenhouse gases
* Alternative sources are less efficient
* Reduction of standard of living
* Would cause an global economic recession
* Costs involved

Each dot point **will become a paragraph**. Explain how each point helps to support your viewpoint with regards to the statement and include all relevant chemistry. Illustrate concepts with a diagram, table or graph.

The following chemistry concepts need to be included somewhere in the main body of the report.

* Fully balanced chemical equation for combustion of petrol AND alternative sources (ethanol, biodiesel and/or hydrogen) with enthalpy of combustion and energy profile.
* A comparison between the efficiency petrol and alternative sources of fuel (all calculation should be put in the appendix).
* Moles of gases produced when 1 mole of octane undergoes combustion. **Convert this to mass** of gas produced (all calculations must be put in appendix)
* Calculation of the amount of gases released when 1L of petrol is burned.
* How many litres of petrol, on average, are used per 100km?
* How many kilometres, on average, do Australians travel per year? How much energy would be required and therefore how many litres would be used? How much gas does this equate to?
* Calculate the total mass of gases released per year by.
* Costs to businesses, societies and standards of living.

**Conclusion**

How can global warming be addressed (specific to vehicle emissions)? How effective are these measures? Do these measures reduce or reverse damage to the environment? Summarise your report.