**Comparing fossil fuels and biofuels**

For this task, you will be writing a report on fossil fuels and biofuels. While the topic has not been given to you, and you won’t see it until the assessment, some examples of previous topics (and topics you may receive) include:

**“Write a report about fossil fuels and biofuels, outlining how biofuels would be able to reduce the carbon footprint of current technologies”**

**“Write a comparative essay about fossil fuels and biofuels, indicating which we should use for electrical generation”**

**“Typical biofuels are simply a mimic of more commonly used fossil fuels. Discuss the differences between them, and assess if the new way of making these fuels comes at any costs”**

In all of these topics, you would be required to:

1. Give a brief run-down of the main components of a variety of fuels (see original task sheet for what fuels you would be expected to discuss). This includes giving their:
   1. Name
   2. Chemical composition and formula
   3. Structure
   4. Analogous biofuel/fossil fuel. For example, petrodiesel’s analogous biofuel is biodiesel
2. For any particular analogous pair, outline differences in production, refining, and manufacturing. In particular, considering effect to the planet
3. Compare the energy output of these fuels on a per gram and per mole basis – **you may need to calculate these yourself**. You won’t need to re-create these calculations in your extended response task, but you will need to discuss and use them to highlight any points you are trying to contend. The task sheet provides more information on what to do for complex mixtures, like petroleum.
4. Compare the carbon dioxide content of these fuels on a per gram and per mole basis – **again, you may need to calculate these yourself**. See the task sheet for more help
5. You should also be able to write full thermochemical equations that summarise the above two points

All information on your notes sheet should be referenced. They don’t need to be done with proper in-text references, but it should be clear where you got the information from by using an APA format. The references don’t need to be included in the actual validation, as long as they are on the notes sheet.

A rubric will also be provided to you on the day alongside your topic, so that you can see where marks are allocated and what information is vital for you to include. But, you can be rest assured that as long as all the above information is on your notes sheet, you will have more than enough information to get full marks. From there, your mark only depends on how well you put the information together to answer the prompt.