

DEFINITIONS

An important writing tool you will need, particularly if you are writing for non-specialists, is definition -- or more specifically, extended definition. An *extended definition* is one or more paragraphs that attempt to explain a complex term. Some terms may be so important in your text, there may be so much confusion about them, or they may be so difficult to understand that an extended discussion is vital for the success of your writing.

Types of definition

- 1 Parenthetical definition
- 2 Sentence definition
- 3 Extended definition

Extended definitions

Here is a list of common methods to amplify an extended definition:

1. **Analysis of parts** (*What are its parts? classes? types? categories?*)
2. **Operating principles** (*How does it work?*)
3. **Applications/examples** (*How is it used or applied?*)
4. **Analogy / Comparison** (*Is it similar to something already familiar?*)
5. **History** (*What is its origin and background?*)
6. **Advantages/disadvantages** (*What are the strengths or the weaknesses?*)
7. **Requirements** (*Materials or conditions needed to make it work?*)
8. **Physical appearance/ features** (*What does it look like? What are its characteristic features?*)

EXTENDED DEFINITION (METHODS OF AMPLIFICATION) (pp. 29-39)

Take a look at the excerpts (A-F) on the extended definition of biofuel. Which method (1-8) has been used in each?

Sentence definition: A **biofuel** is a transportation [fuel](#) that is derived from renewable sources, such as plant biomass and municipal wastes.

- A** Currently, the fossil resources are not regarded as sustainable and questionable from the economic, ecology and environmental point of views [\[3\]](#). The burning of fossil fuels is a big contributor to increasing the level of CO₂ in the atmosphere which is directly associated with global warming observed in recent decades [\[4\]](#). The adverse effects of greenhouse gas (GHG) emissions on the environment, together with declining petroleum reserves, have been realized. Therefore, the quest for sustainable and environmentally benign sources of energy for our industrial economies and consumer societies has become urgent in recent years [\[5\]](#). Consequently, there is renewed interest in the production and use of fuels from plants or organic waste.
- B** Biofuels are divided into two categories: first and second generation biofuels. First generation biofuels are made from the [sugars](#) and [vegetable oils](#) found in arable crops, which can be easily extracted using conventional technology. In comparison, second generation biofuels are made from [lignocellulosic biomass](#) or woody crops, agricultural residues or waste, which makes it harder to extract the required fuel.
- C** [Biodiesel](#) is the most common biofuel in Europe. It is produced from oils or fats using [transesterification](#) and is a liquid similar in composition to fossil/mineral diesel.
- D** [Biodiesel](#) can be used as a fuel for vehicles in its pure form, but it is usually used as a [diesel](#) additive to reduce levels of particulates, [carbon monoxide](#), and [hydrocarbons](#) from diesel-powered vehicles. Biodiesel is produced from oils or fats using [transesterification](#) and is the most common biofuel in Europe.
- E** Pure biodiesel (B100) currently reduces emissions with up to 60% compared to diesel [Second generation B100](#).
- F** The main disadvantage of first generation biofuels is the food-versus-fuel debate, one of the reasons for rising food prices is due to the increase in the production of these fuels [\[8\]](#). Additionally it is claimed that biodiesel is not a cost efficient emission abatement technology.

References:

[1] Wikipedia. Biofuel. Available at <http://en.wikipedia.org/wiki/Biofuel>. Retrieved 1st April, 2015.

[2] Naik, S.N., Goud, V.V., Rout, P.K & Dalai A.K. 2010. Production of first and second generation biofuels: a comprehensive review. *Renewable and Sustainable Energy Reviews*. Vol 14(2), 578–597.