Coal liquefaction is the process by which coal is converted into a liquid fuel (also known as CTL). The purpose of doing this is so that the liquid fuel can be used as an alternative to oil. Many different products can be produced during the conversion from coal to liquid, such as ultra-clean petroleum and diesel which is in high demand right across the globe. (Worldcoal.org, 2014c).

Coal that is still in the ground can also be used in the production of electricity generation, for industrial uses and the creation of natural gas and diesel fuel. This is done by converting coal that is still buried deep underground into combustible gas; this is called Underground Coal Gasification. The benefits of using the coal resource in this way is that it is making use of the coal deposits that we would otherwise be unable to access or use in any other way. The process doesn’t blight or affect the environment as much as traditional mining and is generally a very safe way of using the coal resource. It has become an economically viable process as techniques have evolved and energy use increased, to harvest a resource that would otherwise go unused. The products that can be produced by the Underground Coal Gasification method are of high value and include electrical power that will have a less damaging effect on the environment, liquid fuels such as petroleum and diesel, synthesis gas and fertilisers. (Worldcoal.org, 2014d).

Within the European Union the United Kingdom was the third largest consumer of coal in 2010, and 29% of the coal consumed was used within households and businesses. The main use for coal in households is for the heating of water. Around 2.5 million tonnes of coal was consumed by households in the UK during 2010. (Coals2u.co.uk, 2014b).