

M.W.G.G. visit to DRAX POWER STATION.

November 2013.

On 13th. November 31 of our group gathered at the entrance to Drax where we were duly met and escorted by coach to a meeting room where we were given coffee followed by an introductory talk and presentation on the method and principles of producing electricity which is then fed into the National Grid.



Drax is one of the few power stations trying to reduce its carbon emissions by using biomass fuels in addition to coal. Currently 2 of the units are now able to use this biomass fuel and a further conversion is planned for the future. The material used is either wood, crops grown for energy generation or by-products from agricultural sources and are used in conjunction with coal some of which is produced locally.

Briefly, the process of producing electricity is as follows :

Coal (and biomass fuel) is burnt to produce heat. The by-products of either pulverised fuel ash (PFA) or furnace bottom ash(FBA) are either sold to the building industry or used to landscape sites and grow crops. Gypsum is also a by-product and is sold for the manufacture of plaster board. The flue gases have 90% of their SO₂ removed by a process passing them through limestone before then being released into the atmosphere via a tall chimney.



Water is heated to produce steam at high pressure which in turn makes the turbine blades rotate .At Drax there are 6 turbine/generators each one capable of powering one million homes.

Electricity is produced in a giant electromagnet and the voltage is increased to 400,000 volts in the generator transformer for transmission along the National Grid.

After being kitted out in safety gear we were taken around the extensive site either by bus or for a part on foot to see the enormous electromagnets and generators. The bus then drove us past a Nature reserve which has been created on the site. We then returned to the meeting room for our lunch and a Q & A session and discussion on current options and trends for producing power for an ever increasingly hungry market.

