Visit to SELCHP Energy Recovery Facility

A group of 6 of us from TTK joined up with a group from Croydon and others to visit the SELCHP (pronounced “Sell-chup”) or South East London Combined Heat and Power plant in Bermondsey.

Once we had got through the security gates, we were taken to a boardroom where we were given a presentation on the technicalities of turning waste into energy and the highly controlled flue gas emissions filtration process, with ample opportunity for questions. Then we all donned hard hats and goggles and were taken on a tour of the facility. London apparently produces 4 million tonnes of waste per annum, and SELCHP deals with 420,000 tonnes of this. 4-5MW of the electricity produced is used to power the plant, and the remainder (approx 30MW) is sold into the London grid. The energy recovered can power 48,000 homes.

This plant is one that does no pre-sorting, and just relies on the local authorities providing the waste to have done this which, after seeing old car wheels and other large metal objects going into the incinerator, we found they hadn’t done all that well! Literally everything else goes into the furnace at 1000 C (150 C above the limit set by the Environment Agency), which is sufficient to destroy almost all the dioxins, the remaining 0.02ng/Nm3 being removed by the filtration process. Plants which pre-sort apparently need double the energy to run.

Residues are: some metals, which are sold as scrap; ash, which is used in building materials; toxic waste, which is taken away and used to stabilise acidic waste. Our guide compared emissions from the chimney to our breath on a cold day. All emissions are strictly in accordance with Environment Agency legislation, are monitored half-hourly and published. SELCHP’s are well below the permitted limits. I can email anyone interested a breakdown of these. (I wonder if anyone has done a comparison of the environmental impact of methane emitted from landfill sites, and the emissions from incinerators?)

The energy output of one tonne of waste is equivalent to 1/3 tonne of coal. Approximately 60% of the energy is derived from the combustion biomass, thus a proportion of the process is carbon neutral, which is not the case with any fossil fuel. The facility, therefore, has the potential to play a significant role in reducing dependence on fossil fuels, and meeting government and European targets. SELCHP, however, is not using the heat wastage. It would be 20% more efficient if it had the combined heat and power which was originally envisaged for the site.

The infrastructure is there; what is lacking is the will and the investment. The site is computer controlled and has low staffing levels.

The visit went well, and gave everyone food for thought on the whole issue of mass incineration plants versus those which include sorting and recycling.

Some ideas for inclusion in TTK's response to future consultations on the incinerator proposed for the South London Waste Partnership (SLWP)

To what extent will it contribute to an Energy Descent Plan for Kingston?

Unlike SELCHP, is combined heat & power/district heating feasible for us? If prohibitively expensive to retrofit, are there any new builds into which it could be incorporated?

SELCHP's local residents were involved at the outset, and are on the monitoring committee. This is essential. SELCHP funds local community projects with the charge made for tours of the site.

SELCHP processes more than double the quantity of waste sent to landfill by the SLWP, so our plant will be smaller and energy production correspondingly so. Will the actual site be smaller? It is apparently more cost and energy effective to have one large plant rather than several small ones.

SELCHP has the advantage of being located centrally to where the waste is produced, so there is no need for transfer stations, thus minimising vehicle mileage. Do we have such a central site within our boroughs? One of our proposed sites has a rail link. Is this relevant?

SELCHP is in an industrial area, with a wide low traffic volume access road. It does not impact on the residential area. Do we have such a site?

In this area where technology is constantly improving, we must ensure we have the latest available. It must not have a detrimental impact on the environment.