Leading UK Recycling and Renewable Energy Company Viridor has taken a market leading step in the procurement and installation of an STS Siloxane Monitor to help optimise their activated carbon filters at the Calne Landfill site in Wiltshire.

The Viridor site has 4 Jenbacher 320 engines generating over 4MW of energy (enough to power 7700 homes) and uses 2500m³ of landfill gas per hour. Three x 6m³ activated carbon filter towers are used to remove siloxanes from the gas before combustion. The challenge for Viridor was to optimise the filter change regime to maximise filter life, minimise expense and protect the engines from damage.

The installation of the STS unit has enabled site operators to see the siloxane loading in the filters on an hourly basis and to identify when breakthrough of the filter is likely to occur.

Previously filters would have been changed on a diarised basis but now the filter performance can be accurately monitored and where appropriate the length of service extended until the monitor indicates that the agreed saturation level has been reached. Optimising filter life by just 2 days can represent substantial savings, although since the installation of the STS Monitor filter life has been extended far beyond original expectations.

Incorrect management of filters can lead to coking of the engine combustion chamber, sudden build-up of oil contaminants, spark plug failure, frequent stoppages and costly replacements.

Tim Evans, Process Engineer for Viridor was integral in assessing and implementing the STS monitor at Calne and had this to say “This project has enabled us to have a better understanding of the contamination level inside the filters and getting the optimum life out of them. Obviously, changing them too quickly or on a time base could result in discarding them prematurely allowing operating costs to increase. Changing No1 filter too late allows the contaminant to build up and eventually reduces the life of all three filters. Clarifying this picture for optimum service periods depends upon the collection of data and interpreting it”

Following the successful installation at Calne, STS have installed a 2nd Monitor at their Broadpath site and are now working with Viridor to progress installation at other sites that would benefit from this innovative technology and which will reduce Opex costs for their site managers.

For further information on the STS Siloxane Monitor please visit our site at: www.siloxanemonitoring.com