

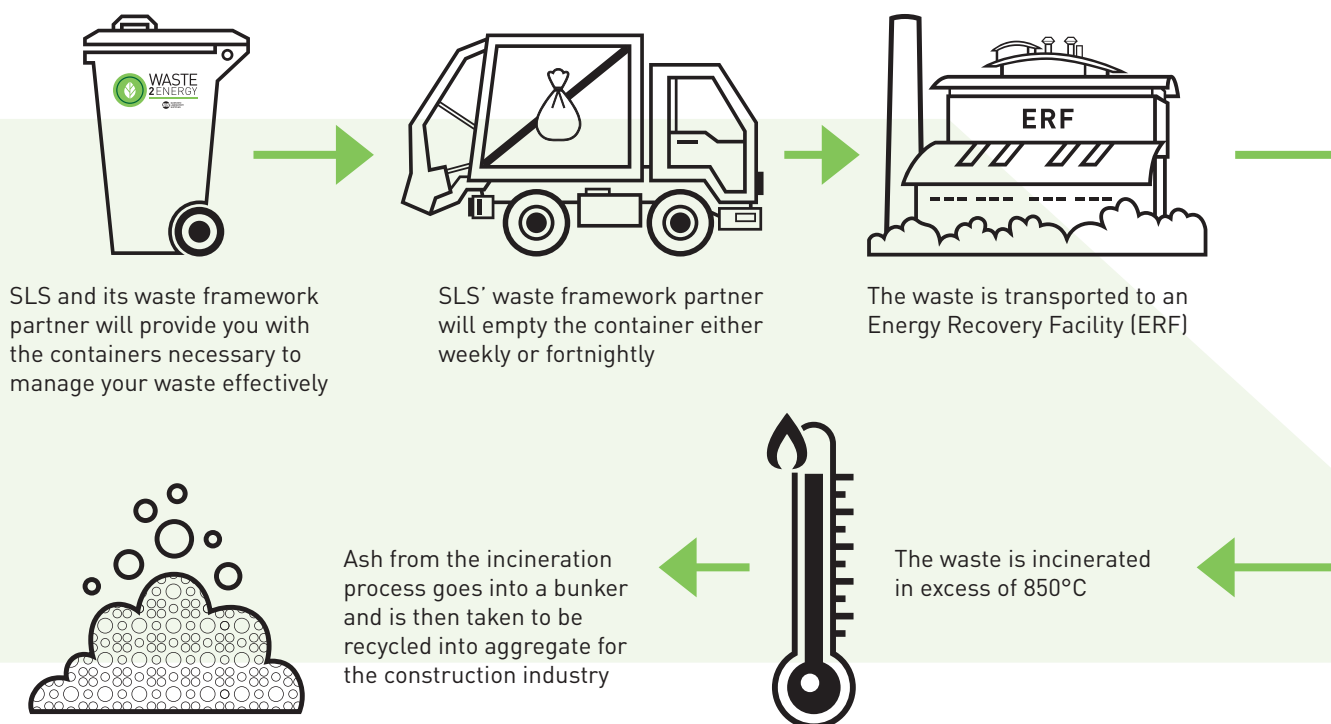
Managing Your Pipette Tip Packaging Waste

Scientific Laboratory Supplies (SLS) are fully aware of the amount of packaging your organisation will produce as a result of using pipette tips. We understand that the burden of managing this waste can have a negative effect on your organisation's operational efficiency and its impact upon the environment.

We're here to help...

As a valued customer who purchases pipette tips from us, we can manage your pipette tip packaging waste for you through our 'Waste 2 Energy' programme. This service is complimentary and is designed to help your organisation meet its environmental goals.

How does it work?



What does the waste framework partner do to further reduce the environmental impact when deploying the ERF?

- The cooled flue gases pass through a filter house where the amount of particulate (dust) within the gases is substantially reduced by the filter bags. Any particulate collected in this process is then stored in a silo for separate disposal later.
- To reduce NOx emissions urea is introduced to the furnace.
- Lime and activated carbon are also introduced to neutralise the acidity of the flue gas and absorb other pollutants.
- Cleaned gases are then released through the chimney. These gases are monitored to ensure they meet strict environmental regulations and legislation.

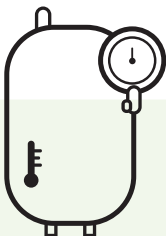
Managing Your Pipette Tip Packaging Waste

How does energy recovery occur?

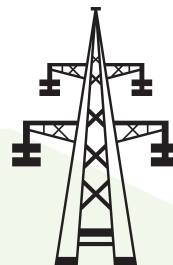
The steam is used to drive the turbine, generating electricity for the National Grid and producing hot water for the District Energy.



The steam heats water which heat local District Energy Networks



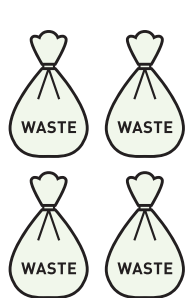
Above the incinerator is a large boiler where the superheated steam is generated



The steam drives a turbine, which generates electricity for the National Grid

So how much energy can be produced from pipette tip packaging waste?

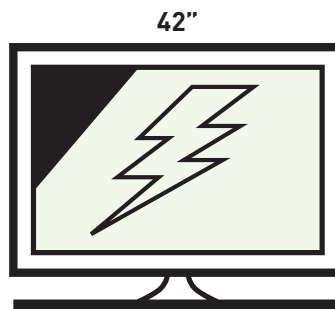
The steam is used to drive the turbine, generating electricity for the National Grid and producing hot water for the District Energy.



4 bags of pipette tip packaging waste fills a 240 litre wheelie bin



By incinerating 4 bags of pipette tip packaging waste through the 'Waste 2 Energy' programme, enough electricity is generated to power a 42 inch LED television for a year!#



Why can't the pipette tip packaging waste be recycled?

Prior to China banning the import of recyclable waste in early 2018, the UK were exporting upwards of 500,000 tonnes of plastic to China each year. The UK do not have the facilities to process waste plastic to this degree and as a result, the only viable options are landfill and incineration.

Doesn't incineration cause major carbon emissions?

Taking into account the fact that the power and heat supplied to the national grid and district energy networks would otherwise be produced by burning fossil fuels, just one of the ERF's operated by our waste framework partner can reduce carbon emissions by 2.5 tonnes EVERY HOUR!

How much does it cost to be part of the Waste 2 Energy programme?

The service is totally free!*

- Based on 4 hours of use per day, 80 kWh of electricity is sufficient to power a 42" LED TV for a year. 80kWh is the total amount of electricity obtained from incinerating 4 bags of polypropylene (10kg total weight) with a calorific value of 44MJ/Kg as part of the energy recovery process, allowing for an incineration efficiency of 60%. The calculation does not consider the effect of other waste types being incinerated at the same time.

Sources

- <https://www.ofoenergy.com/guides/energy-guides/how-much-electricity-does-a-home-use.html>
- Chemik 2014, 68, 12, 1056-1073 (<http://www.chemikinternational.com/wp-content/uploads/2014/12/3.pdf>)
- Demetra A. Tsiamis and Marco J. Castaldi - Determining accurate heating values of non-recycled plastics (nrp) - (<https://plastics.americanchemistry.com/energy-values-non-recycled-plastics.pdf>)

* Pipette tips must be supplied by SLS. Pipette tip waste from other suppliers cannot be included within the 'Waste 2 Energy' programme.