

# Environment Scrutiny Commission

Tuesday 8 February 2022

7.00 pm

Ground Floor Meeting Room G02A - 160 Tooley Street, London SE1  
2QH

## Supplemental Agenda

### List of Contents

Item No.	Title	Page No.
----------	-------	----------

- |    |   |        |
|----|---|--------|
| 5. | <b>South East London Combined Heat and Power (SELCHP)</b> | 1 - 11 |
|----|---|--------|

This item will look at the current provision of heat to Southwark, the potential to expand heat networks, and the management of air quality. A report from SELCHP is enclosed.

SELCHP representatives attending to present will be Neil Brothers (Head of ERF Operations) and Thomas Folliard (General Manager - SELCHP Energy Recovery Facility).

The Environment Agency and Southwark officers will also contribute to the item.

Distribution List 2021/22

### Contact

Julie Timbrell on 020 7525 0514 or email: [julie.timbrell@southwark.gov.uk](mailto:julie.timbrell@southwark.gov.uk)

Date: 1 February 2022

# SELCHP Air Quality Report

## January 2022

FOR SOUTHWARK ENVIRONMENT SCRUTINY COMMISSION







## Introduction

South East London Combined Heat and Power (SELCHP) is a public and private sector joint venture between Veolia (50% share), iCON Infrastructure (49.78% share), LB Greenwich (0.074% share), LB Lewisham (0.074% share) and RL Design Solutions (0.074% share).

The purpose of this report is to assist members of Southwark Council's Environment Scrutiny Commission better understand SELCHP with respect to the existing London Borough of Southwark District Heating Network, which was installed in 2014 to initially supply 2,500 homes.

## SELCHP an Overview

SELCHP Energy Recovery Facility (ERF) was constructed and commissioned in 1994 and operates in line with an Environmental Permit as set out and regulated by The Environment Agency. SELCHP recovers heat energy from the combustion of non-hazardous waste to raise steam to generate electricity from a steam turbine which is then exported to the National Grid. Steam is extracted from the process and used to heat a district heating network, which supplies heat for domestic heating and hot water to local residents. Strict environmental controls and proven operating experience ensure that SELCHP remains consistently compliant with environmental permitting regulations.

The main purpose of the activity at SELCHP is to divert non-hazardous municipal waste from landfill, and as a by-product, to recover energy in the form of steam for both the export of heat via a district heating network and as electricity for export to the National Grid.

Waste is delivered both directly to site by refuse collection vehicles and various other waste vehicles. Waste delivered to site is discharged into the waste storage bunker. Oversized and unsuitable wastes are rejected and removed.



The waste is then charged into two furnaces by dedicated grab cranes. Hydraulic ram feeders control the charging rate of the waste to the furnace grate. Waste is incinerated on a reverse acting stoker grate with combustion air supplied in a controlled manner to ensure efficient combustion.

The production of Oxides of Nitrogen (NO<sub>x</sub>) by combustion is mitigated by the injection of ammonia solution into the furnace by a process of Selective Non-Catalytic Reduction (SNCR). Bottom ash from the grate is quenched in a water bath to prevent the release of dust and provide a gas seal at the ash discharger outlet. Ferrous metal is recovered from the ash by a drum magnet. Residual ash is recovered and sent to a recycling facility in Greenwich, London.

Pollution abatement techniques are employed to reduce all flue gas emissions below the permitted emission limit values (ELVs). SELCHP operates an Environmental Management system accredited to ISO 14001.

The hot gases from the combustion process are passed through a boiler to raise steam, which is then forwarded to a steam turbine to generate up to 32 MW of electricity for export to the National Grid, enough to power 48,000 homes. Also, 40 Gwh of heat is extracted for export annually, heating 2,650 homes in the London Borough of Southwark.

## **Environmental Position Statement**

Please see a copy of the SELCHP [Environmental Position Statement](#) available to download from the SELCHP website.

## **Future Changes to Emissions Profile**

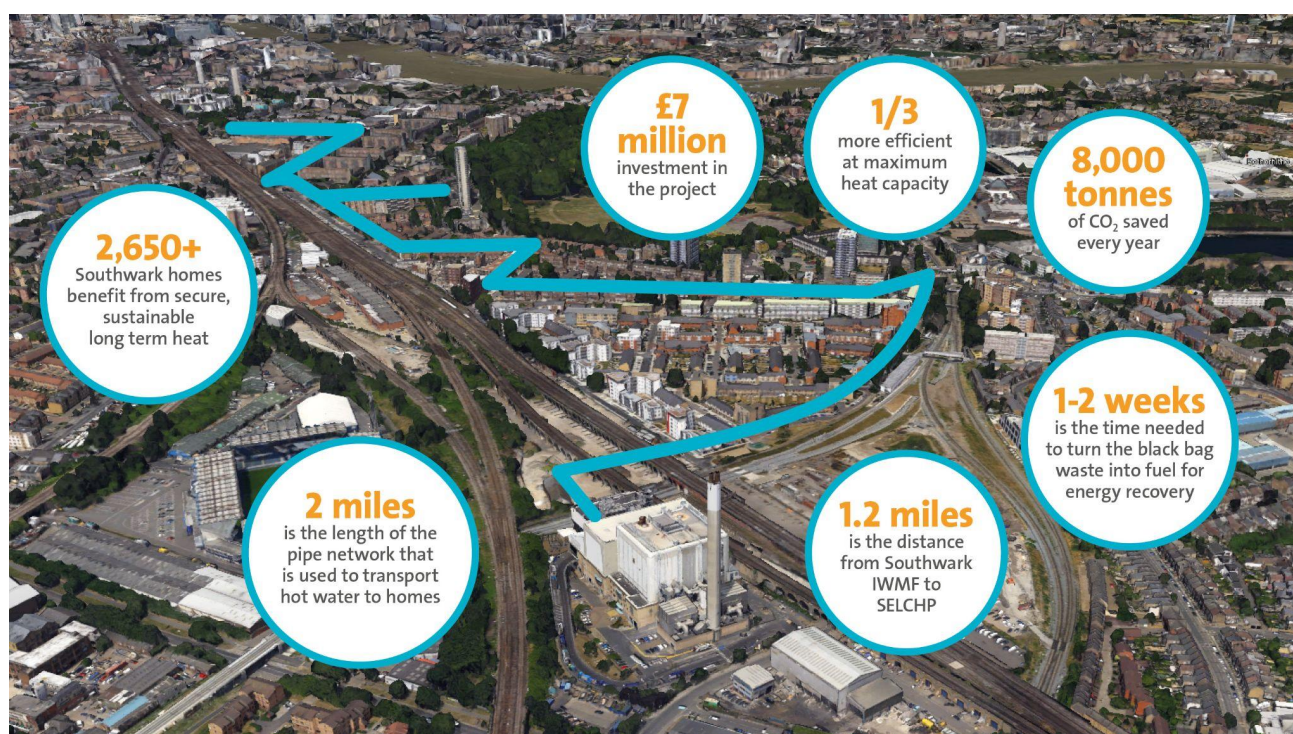
In line with the new Waste Incineration BREF (Best Available Techniques Reference Document) coming into effect in 2023, the Permit emission limits for the facility will reduce for each parameter between 10-50%.

## How connecting to SELCHP DH reduces total emissions and improves London's air quality

SELCHP is operated within its design waste throughput capacity with the resulting energy exported as either electricity or heat, depending on heat demand. There are energy losses in the cycle with greater energy efficiency achieved through heat export.

The direct emissions from the SELCHP plant do not change in respect to the amount of heat exported from the facility, though any heat exported replaces the need for an alternative heat source, such as gas boiler houses (GBH); and therefore increasing the heat export from SELCHP reduces the gross emissions in the local area.

The graphic below gives an overview of the benefits of the existing Southwark District Heating network.



South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

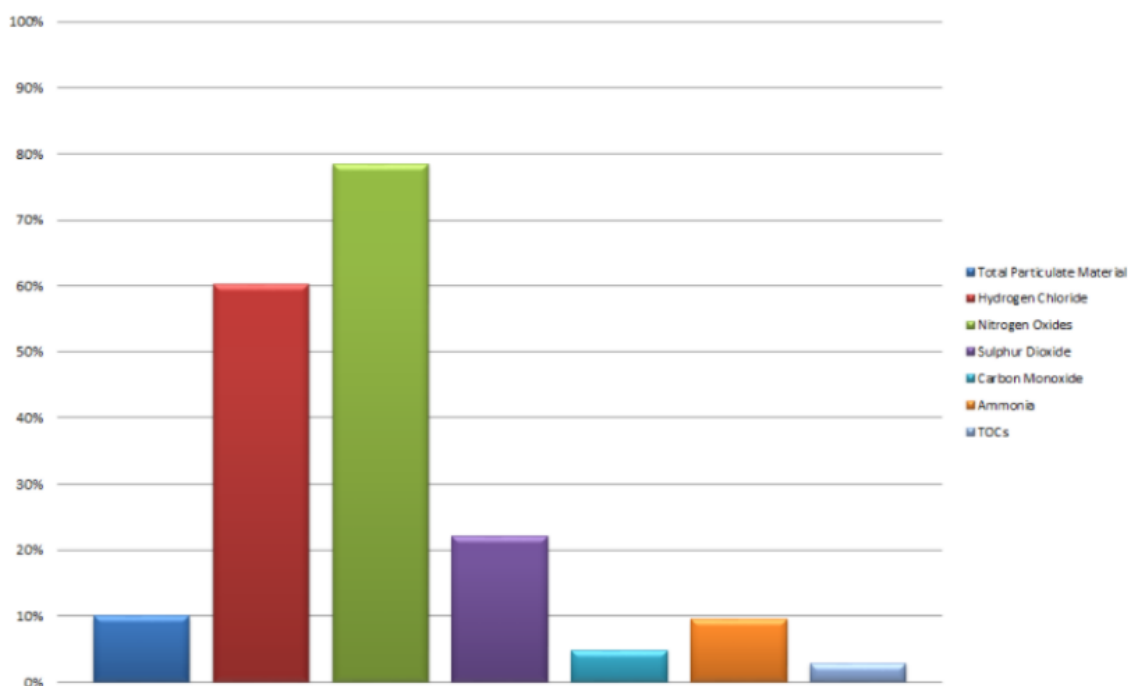
Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)

## Last 12 months of Emissions Charts

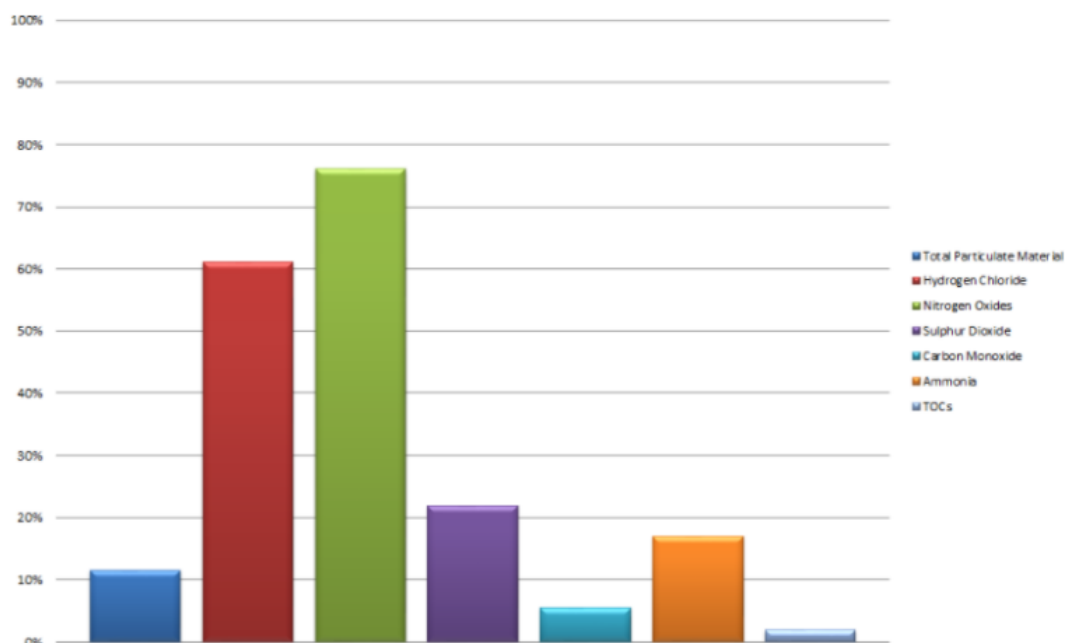
Flue gas emissions are measured by a continuous emissions monitoring system (CEMS) according to BS EN 14181 at the concentration inside the flue. The gases are then dispersed and diluted in the atmosphere upon exiting the flue and do not correlate to the concentration levels in ambient air.

Emissions in the charts below are represented as a percentage of the respective Emissions Limit Values (ELV) of each gas, as outlined in the Industrial Emissions Directive (IED). This data is published each month on the [SELCHP website](http://www.selchp.com).

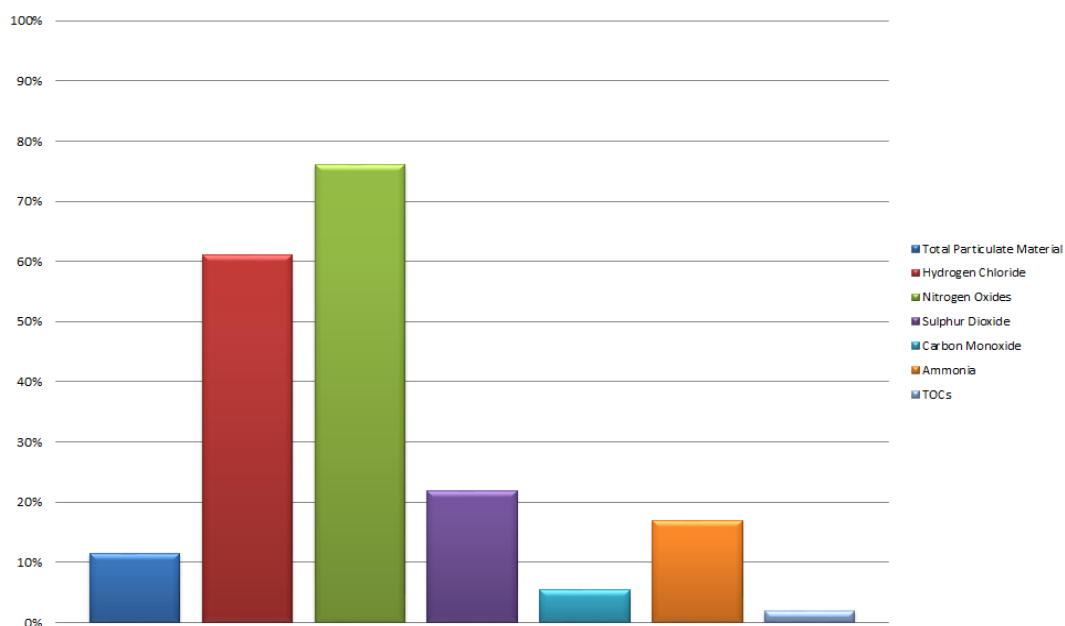
### Average Emissions as a Percentage of ELV - January 2021



## Average Emissions as a Percentage of ELV - February 2021



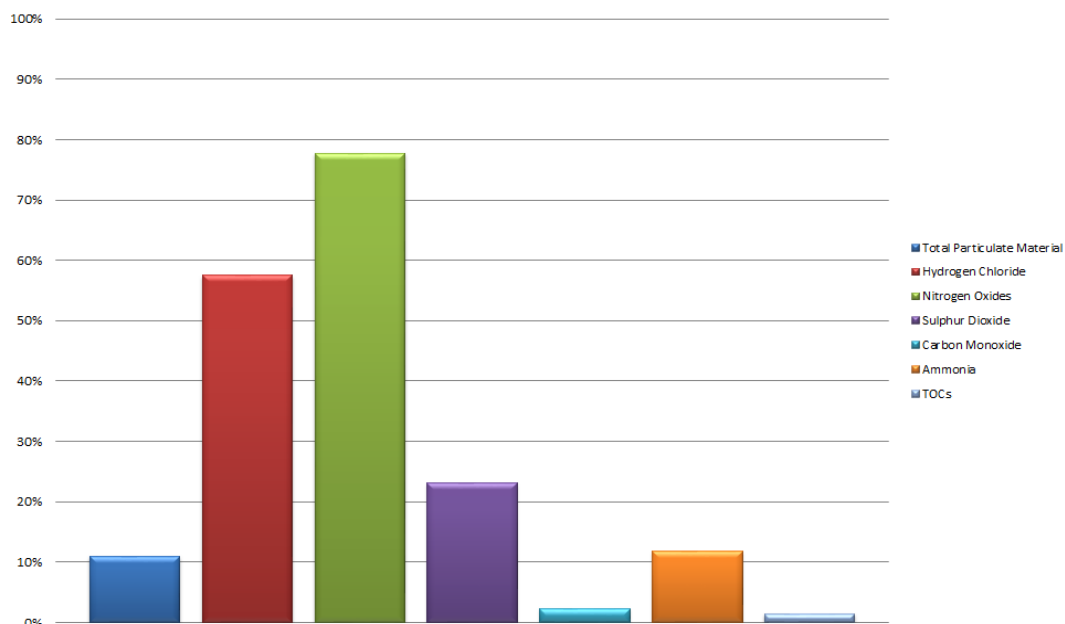
## Average Emissions as a Percentage of ELV - March 2021



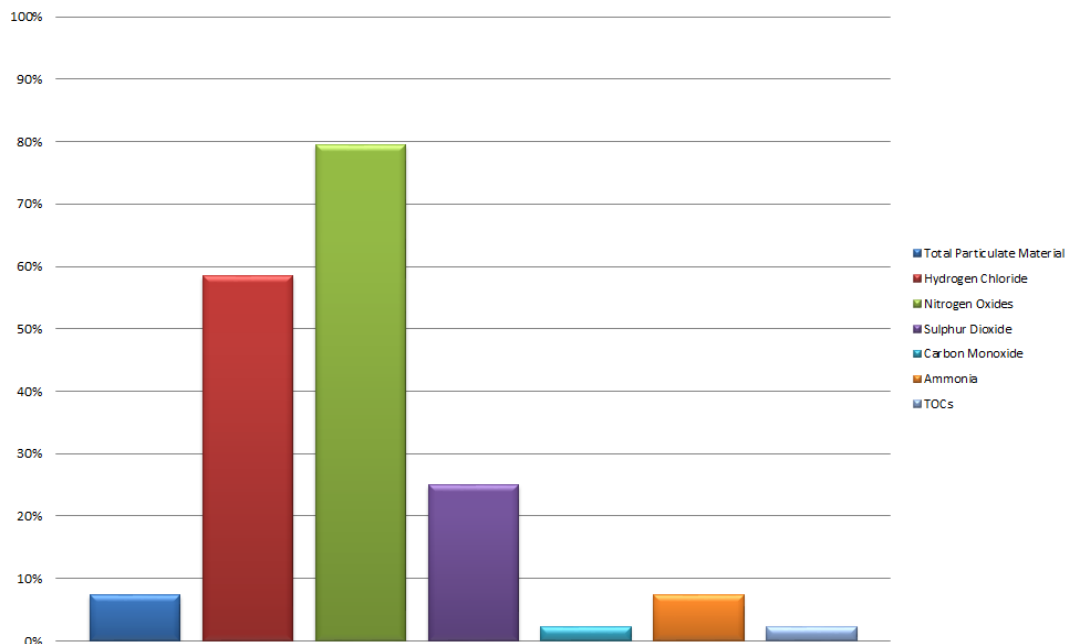
South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)

### Average Emissions as a Percentage of ELV - April 2021



### Average Emissions as a Percentage of ELV - May 2021

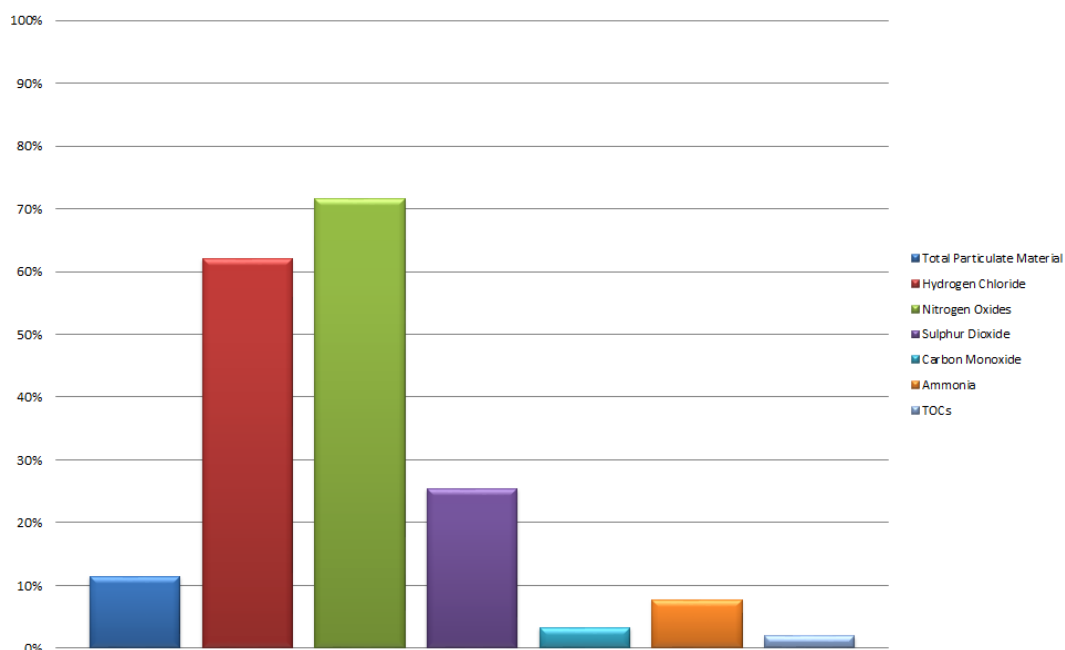


South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

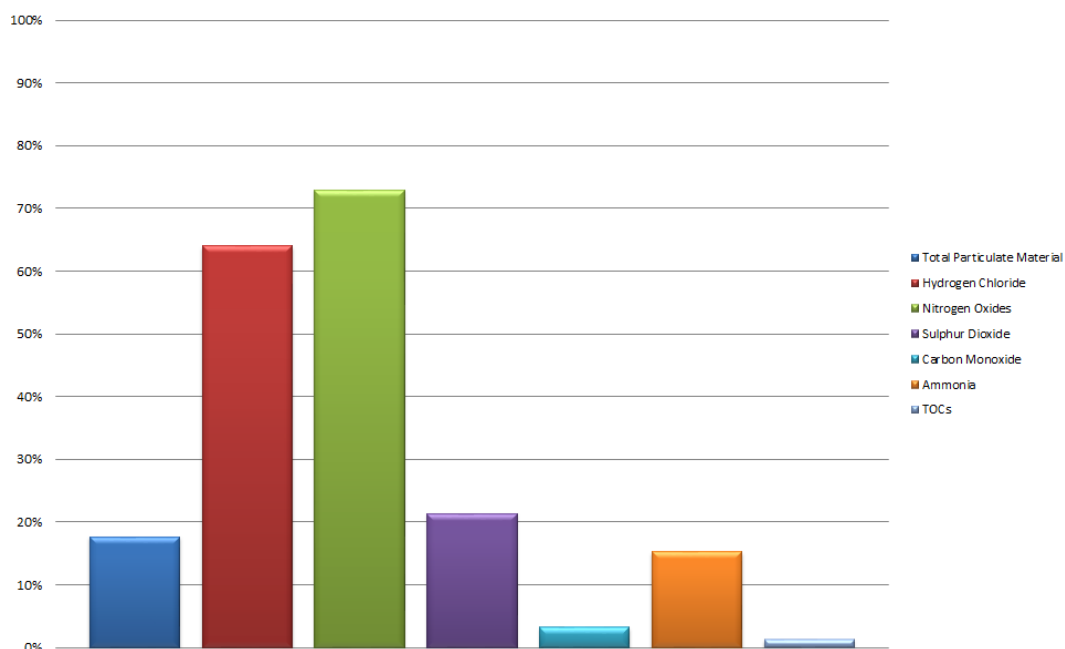
Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)



## Average Emissions as a Percentage of ELV - June 2021



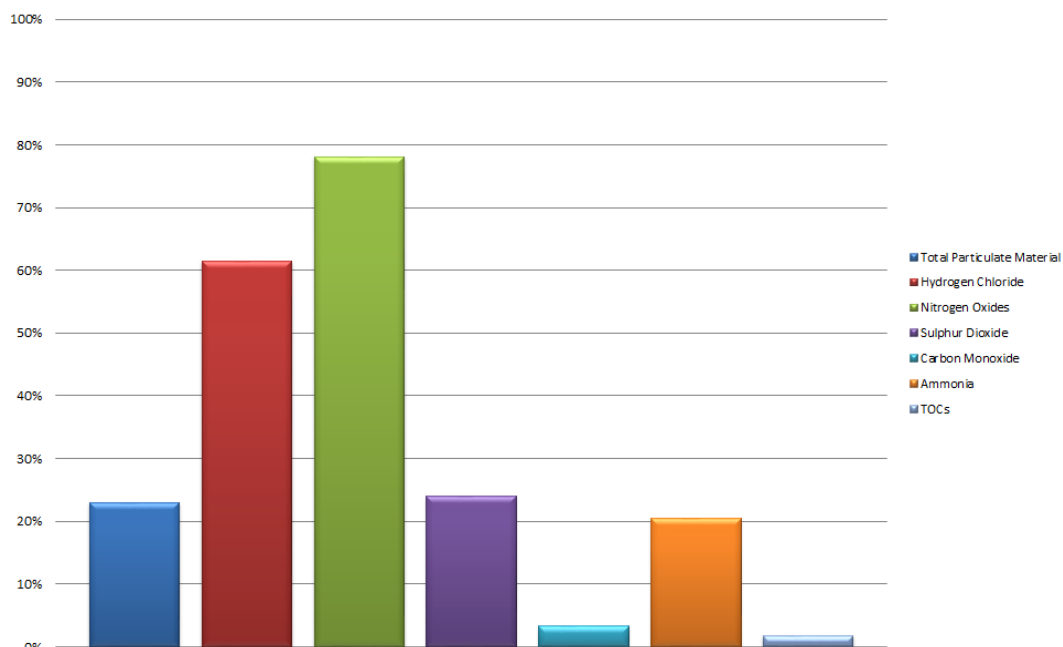
## Average Emissions as a Percentage of ELV - July 2021



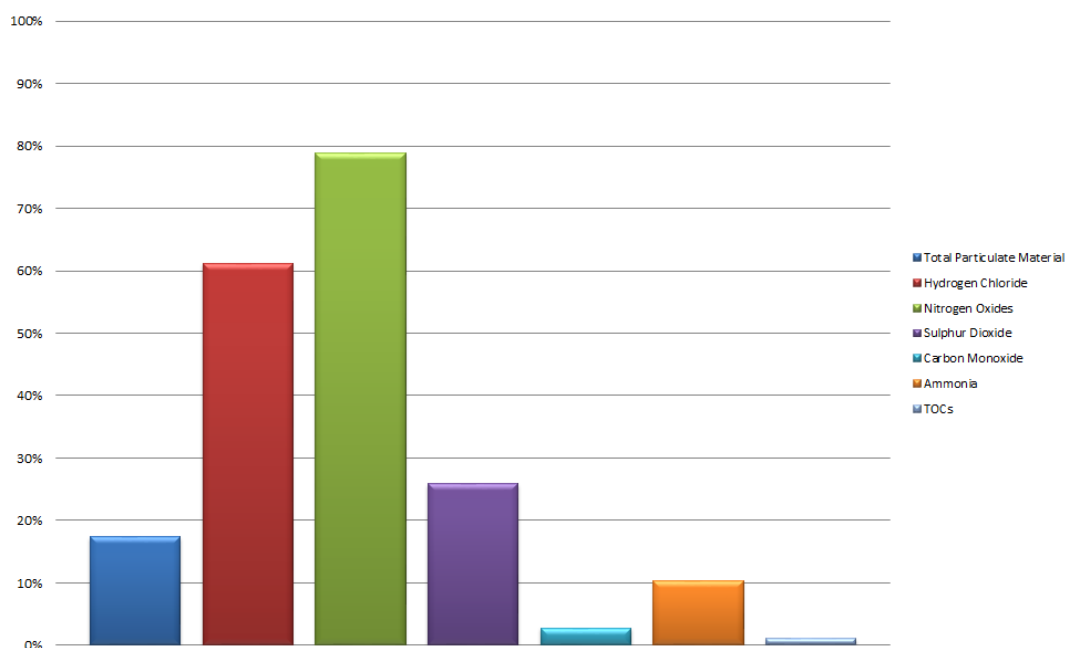
South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)

## Average Emissions as a Percentage of ELV - August 2021



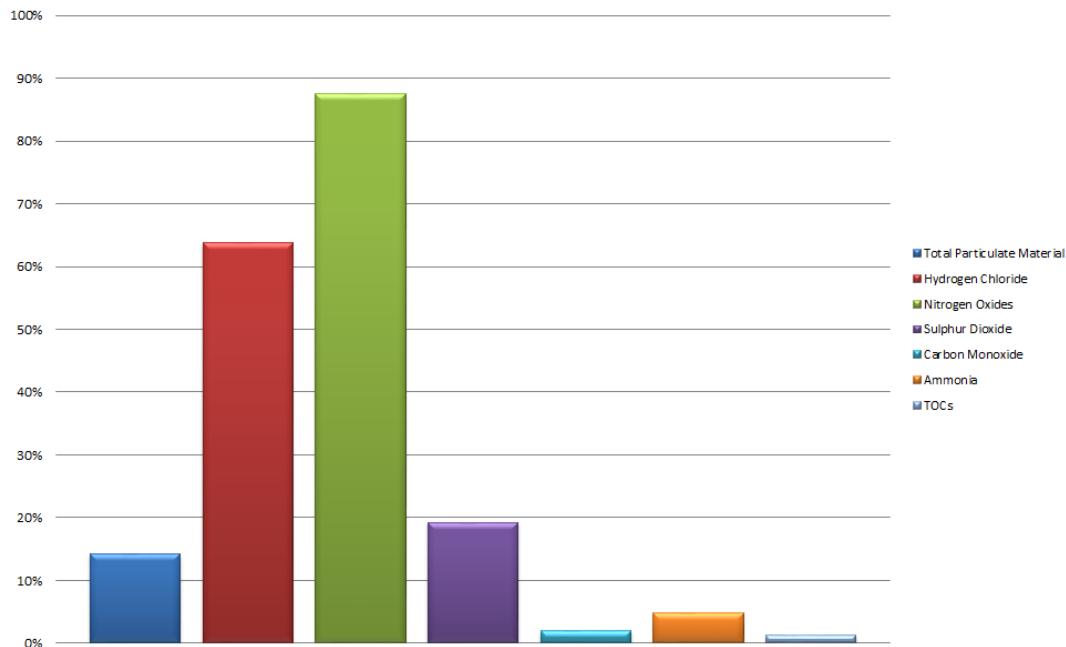
## Average Emissions as a Percentage of ELV - September 2021



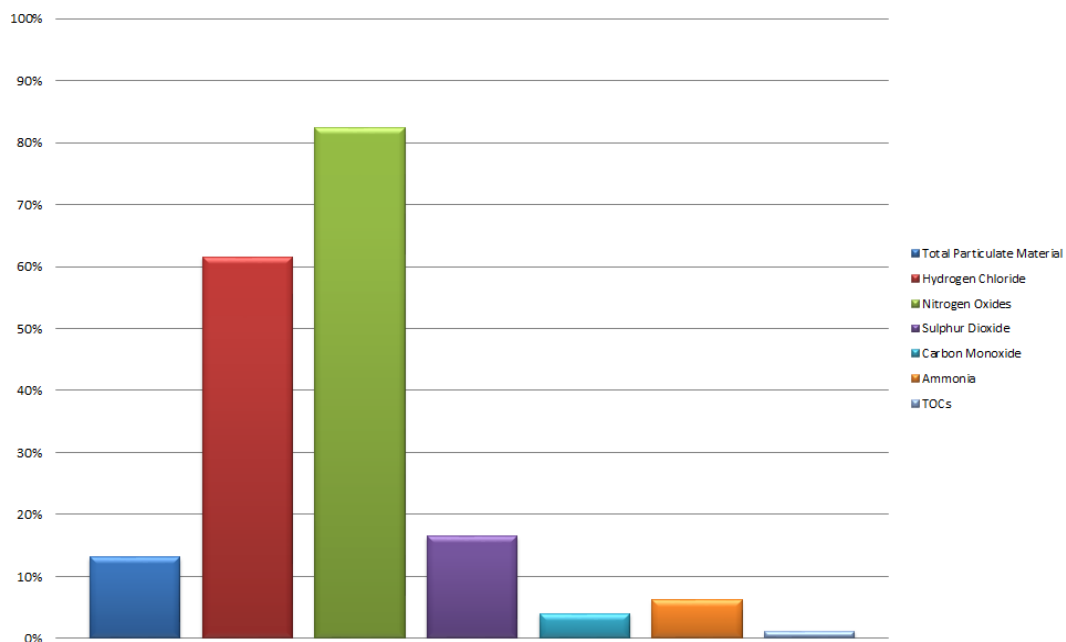
South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)

## Average Emissions as a Percentage of ELV - October 2021



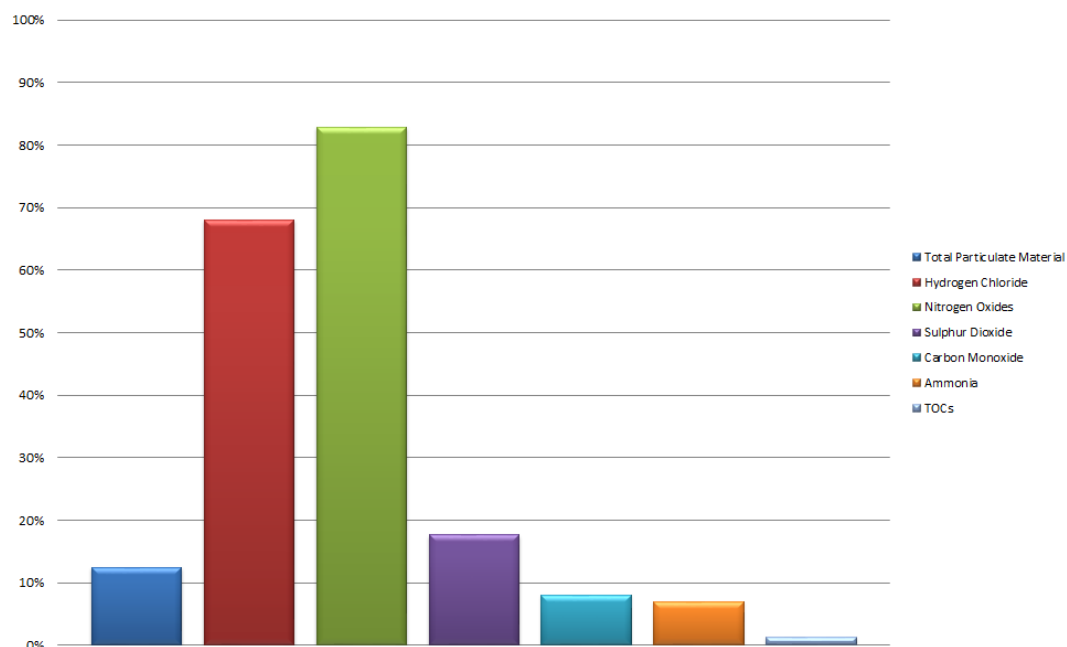
## Average Emissions as a Percentage of ELV - November 2021



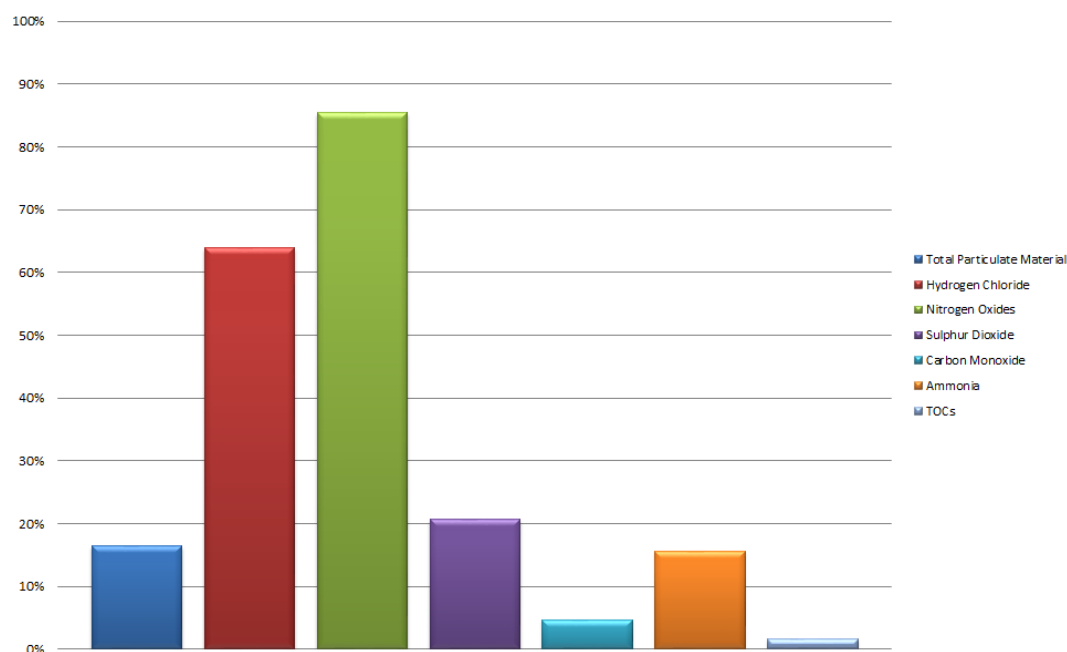
South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)

## Average Emissions as a Percentage of ELV - December 2021



## Average Emissions as a Percentage of ELV - January 2022



South East London Combined Heat and Power Ltd  
SELCHP Energy Recovery Facility, Landmann Way, Off Surrey Canal Road, London SE14 5RS

Tel 0203 567 6162  
E-mail [enquiries@selchp.com](mailto:enquiries@selchp.com)  
[www.selchp.com](http://www.selchp.com)





**Environment Scrutiny Commission****MUNICIPAL YEAR 2021-22****AGENDA DISTRIBUTION LIST (OPEN)****NOTE:** Original held by Scrutiny Team; all amendments/queries to Fitzroy Williams Tel: 020 7525 7102

Name	No of copies	Name	No of copies
Councillor Margy Newens	1	Julie Timbrell, Scrutiny Team SPARES	10
		<b>External</b>	
<b>Electronic Copy</b>  <b>Members</b>  <u>Councillors:</u>  Councillor Adele Morris Councillor Tom Flynn Councillor James Coldwell Councillor Graham Neale Councillor Leo Pollak Councillor Leanne Werner  <u>Coopted member:</u>  Jon Bootland  <b>Reserves Members</b>  Councillor Peter Babudu Councillor Jack Buck Councillor Maggie Browning Councillor Richard Leeming Councillor Vikki Mills Councillor Damian O'Brien Councillor Daniel Whitehead		<b>Total: 11</b>  <b>Dated: January 2022</b>	