

# South East London Combined Heat & Power Facility (SELCHP)

## Background issues on potential expansion of District Heating Network

### Background

This note is provided to the council's Overview and Scrutiny Commission as part of the review into the implications of potential projects to expand the current District Heating Network (DHN) which currently provides heating and hot water to around 2,500 homes in Southwark. It is assumed that the reader will have a basic understanding of the existing DHN arrangements between the council and SELCHP, and current waste treatment and disposals, and this is not further covered here in the interests of brevity.

This note is not intended to give specific professional advice on the air pollution and public health impacts of SELCHP and future projects related to it, nor does it give an evaluation of the costs or benefits of any potential projects to expand the current DHN. These will need to be reviewed with relevant expert input, and may need separate projects to evaluate issues and provide a full response. The purpose of this note is to summarise key background issues; set out some key principles to offer a framework for discussion; and provide further sources of information that the Commission may wish to consider in its discussions.

There are three linked questions that may be relevant for the Commission's consideration, and these are discussed in the following sections of this report. These are:

1. What level and type of emissions are produced by SELCHP, and what policy implications do these emissions have for the council?
2. How can the energy potential of SELCHP, as an existing facility, best be utilised within the aims of the council's existing Climate Emergency policies?
3. What waste management options does the council have for treatment, recovery and disposal of residual waste?

In practice these are entirely separate questions, although it is expected that the answers that the Commission seeks to reach will ensure a consistent approach across all three questions. But whether or not the council use SELCHP for management of residual waste, the facility will continue to operate in Lewisham; and whether or not an expansion of the existing DHN takes place, the same amount of waste is likely to be sent for combustion in the facility.

Because this note is intended to provide a framework for discussion and further investigation of these issues by the commission, no recommendations or conclusions are presented.

### 1. Levels and types of emissions from SELCHP

SELCHP is regulated by the Environment Agency as an industrial installation, with an environment permit that controls operating methods and emissions. Exhaust gases from combustion of waste are subject to stringent pollution control measures, and details of emissions are published on SELCHP's [website](#). The council has some responsibility for pollution control and air quality, and can investigate complaints within the Southwark area, but as SELCHP is within Lewisham, the council has no direct regulatory role in respect of SELCHP. Any detailed questions on the current level of emissions, and the controls in place for emissions from SELCHP, will need to be addressed to the Environment Agency.

The permit sets conditions and limits for a range of pollutants, including nitrogen oxides, hydrogen chloride, sulphur compounds, organic carbon compounds etc. It should be noted that emissions of these compounds are not exclusive to Municipal Waste Incinerators (MWIs) – these pollutants are roughly analogous to those emitted for any combustion process, including traffic emissions. However, while emissions from SELCHP may contain many similar pollutants to traffic emissions, the main difference is obviously that traffic levels vary throughout the day as they are from mobile sources, whereas SELCHP is a fixed and ongoing emissions source around the clock.

Much of the current opposition to incinerators tends to be based on the following factors:

- The belief that the emissions represent a hazard to health. Impartial studies of modern incinerators have not supported this conclusion, although studies have acknowledged that a small but unquantified risk of impacts on human health cannot be entirely excluded.
- That the presence of MWIs in communities represent a blight on the local amenity value in terms of visual impact and traffic impacts (there is obviously a high level of heavy traffic carrying waste in the vicinity of a MWI).

Part of the underlying argument is that MWIs tend to be located in areas of higher deprivation, with any impacts of incineration representing a greater impact on the poorest communities. There is no doubt that this is factually true, and it is also true of almost all industrial facilities. The poorest communities are often located closer to areas of industrial development which are considered suitable in planning terms for location of MWIs and other industrial installations. This is the result of both land and development costs and the planning process. This question is probably therefore as much political as technical, although technical issues will no doubt form a part of that discussion.

But not having incinerators in principle means landfill disposal instead, requiring more landfill sites, which are substantially more damaging environmentally, and are *also* located in areas of higher deprivation. The practical reality is that choices on waste recovery and disposal must be made from limited options – with MWIs generally being seen as the ‘least bad’ of the realistically available options for managing general waste (although near neighbours of any waste facility might disagree).

There are a number of authoritative studies on the impacts of MWIs on air quality and health, and two are indicated below. If further advice is sought on health impacts of emissions, this should be raised with the relevant public health bodies for expert advice:

- There was a review of evidence and research literature by [Public Health England](#) in 2019 on MWIs. This found that the studies reviewed “...found no evidence of an increased risk of infant mortality for children living close to MWIs...”.
- A further report commissioned by the [GLA](#) in 2020, reviewed the evidence and concluded that “...well-managed modern EfW/MSWIs are unlikely to pose a significant health risk...”.

## 2. Optimum use of the SELCHP energy potential

Any projects to expand the existing DHN, would seek ways of using the existing heat load that is already being generated by SELCHP. There is an annual throughput of roughly 440,000 tonnes of waste in SELCHP now, from a range of municipal and commercial sources. This is unlikely to change whatever decision is made by the council. The combustion of this waste is used now to power a turbine to generate electricity that is added back into the electricity grid alongside other sources of generation. There is a substantial amount of heat produced, that would otherwise be waste heat, and some of this heat is already recovered and used by the existing DHN.

An expansion of the DHN would seek to recover more of this wasted heat, and use it within a heat main to provide heat and hot water to more homes and/or businesses. This energy used would avoid the use of energy otherwise generated by combustion of fossil fuels (eg individual gas boilers), by making use of heat that would otherwise be wasted. This expansion would not increase the amount or type of waste combusted by the facility, it would not affect local traffic around SELCHP, nor would it affect the emissions. The impact would be only to recover heat that would otherwise be lost to the atmosphere.

SELCHP is operated by Veolia as a commercial facility, and while a number of councils have contracted for parts of its capacity, it is not subject to the control, contractually, of any council. The facility is located within Lewisham, and regulated by the Environment Agency. Southwark has no control over the facility or its operations, and does not regulate any aspect of SELCHP.

Veolia, as the operator of SELCHP, could choose to not undertake further expansion of the DHN; to reach a contractual agreement with the council for the expansion of the existing DHN; or to undertake a project with an entirely different council or heat user (such as a developer) for a separate DHN. Government policy may encourage (and partially fund) DHN expansion, and Southwark may be able to facilitate the development of a project, but for a successful project to happen, the council and Veolia will need to agree a technically viable project on mutually agreeable commercial terms. In the long term (eg over a 25 year+ horizon), there is no realistic prospect that waste levels would reduce to the level where there would be insufficient waste in local area for SELCHP to generate energy. The council has no contractual obligation to provide a minimum tonnage of general waste for recovery or disposal, so there is no reason to consider that a possible DHN expansion would have any adverse impact on recycling rates, or be at future risk due to a lack of waste fuels.

### **3. Future waste management options**

The council currently has an integrated contract for provision of waste management services that operates under the Private Finance Initiative programme. This is a long term contract that expires in 2033. Under the terms of the contract, residual waste is treated in the Mechanical & Biological Treatment facility within the facility at Devon Street, with some recyclables extracted, to produce a range of solid fuels to be used for energy generation. Some of these fuels are used in industrial processes such as cement kilns, but most is used for energy generation in MWI facilities.

Currently, most of the output fuel from Southwark's waste is sent to SELCHP, although this is not a requirement of the contract. Veolia may choose to use any other suitably regulated facility for energy recovery from this waste, and about 25% of Southwark's fuel outputs are combusted in other facilities (which are similar in nature to SELCHP, although not generally as energy efficient) elsewhere in the UK. It is unlikely that the council could realistically change the current residual waste management arrangements significantly until after the current Waste PFI contract expires in 2033.

Beyond that time, the council could seek to:

- Make other arrangements when the current contract expires to seek an alternative treatment method for residual waste, but in practice, if the combustion of waste residues is ruled out (whether combusted in SELCHP or elsewhere), the council would have no realistic alternative other than to landfill all residues. This approach alone is unlikely to meet minimum legal requirements for disposal of waste.
- Actively seek to reduce the amount of residual waste generated by both waste minimisation, and increased recycling of waste by producers. This would have the effect of reducing the environmental impacts of the council's waste, and maximising the recovery of value from waste through a more 'circular economy' approach – which would be consistent with the Climate Emergency action plan.
- Increase waste reduction and a circular economy approach within the next Waste Strategy review which is due to commence in the next year. This does form part of the current strategy, although requires improvement for the next strategy, to take account of changes in the law. Any element of waste reduction will require long term changes in behaviour by residents, and may require changes of policy, such as the introduction of compulsory recycling by residents, or other service requirements, that ensure general waste for disposal is minimised. This may reduce the requirement for waste disposal from Southwark, but some management via MWIs – or landfills - will still be required.