

# Subject: Waste Management: Energy from Waste

Report to: Environment Committee

Report of: Executive Director of Secretariat

Date: 7 December 2017

This report will be considered in public

## 1. Summary

- 1.1 This is the final of three meetings dedicated to the waste management investigation. The first meeting focussed on the circular economy and the second on recycling collections in London. This meeting will focus on energy from waste.

## 2. Recommendations

- 2.1 **That the Committee notes the report as background to putting questions to invited guests on Energy from Waste, and notes the subsequent discussion.**
- 2.2 **The Committee delegates authority to the Chair, in consultation with Party Group Lead Members, to agree any output arising from the discussion.**

## 3. Background

- 3.1 The term energy from waste (EfW) or energy recovery covers a range of different processes and technologies used to generate a useable form of energy whilst reducing the solid volume of residual waste. This energy can be in the form of electricity, heating and/or cooling, or conversion of the waste into a fuel. EfW stands second to the bottom on the waste hierarchy, above disposal, for example by landfill or by incineration without energy recovery.
- 3.2 In London, nearly half of waste is sent to energy recovery, a figure that is increasing due to the rising of cost of landfill. London has several large EfW facilities, with another currently under construction. Collectively these can treat around two million tonnes of waste per year. Excess residual waste is also shipped to plants outside of London and the UK. The destination of London's waste includes the Netherlands and Germany, where incineration capacity and recycling rates are high and local residual waste is low.
- 3.3 London's EfW facilities currently have the potential to generate enough electricity to power over 500,000 homes and, according to the GLA, at least a further 50,000 homes could be provided with heat if these facilities were upgraded to operate in combined heat and power mode.

## 4. Issues for Consideration

- 4.1 The Mayor's aim is for London to be a zero-waste city by 2026. This is to mean that no biodegradable or recyclable waste will be sent to landfill by boroughs, but there is yet to be clear direction on how this affects the EfW sector. However, even if the Mayor's target for 65% of London's municipal waste to be recycled is met, EfW will continue. If the target is not met, it could increase. Increasing recycling may be challenging for boroughs and businesses – because many have made a zero-landfill commitment and have come to rely on energy from waste as a method of disposal, EfW looks set to continue.
- 4.2 Compared with landfill, energy from waste is better for the environment, hence its position in the waste hierarchy. Landfill produces carbon dioxide and methane in roughly equal proportions whereas energy from waste produces carbon dioxide only. The net carbon impact of EfW is affected by how much usable energy can be recovered, and the carbon that would be emitted by producing this energy from other sources. The EfW plant's efficiency in converting waste into energy therefore makes a significant difference, and this can be affected by plant design, and also by the type of waste used as fuel, including how much organic waste it contains. The draft Environment Strategy includes a proposal that waste authorities must demonstrate how solutions generating energy from waste meet the carbon intensity floor (CIF), or put in place demonstrable steps to meet it in the short-term.
- 4.3 Eunomia argues that if the UK is to continue decarbonising the grid, then the carbon benefits represented by energy recovery will decline over time. Other challenges can include; matching supply and demand, large up-front capital costs and addressing local community acceptance and approval of generation capacity.
- 4.4 Higher still up the waste hierarchy are recycling, re-use and waste reduction. When the environmental costs of new materials are considered these are preferable to energy recovery, and form part of the 'circular economy' which is the long-term future of materials management. Committing to too much energy from waste may prove a barrier to increasing these higher levels of the hierarchy. Burning used man-made materials destroys their value and is not part of the circular economy.
- 4.5 Health issues are also a major focus of the debate around energy from waste. Public Health England (PHE) says that modern, well managed incinerators make only a small contribution to local concentrations of air pollutants that impact on health. A recent PHE report found that 'very low' concentrations of incinerator-related particulates (PM10) were recorded within 10km of plants studied. However, other research has found that EfW plants cause significant harmful effects on the mental, physical and emotion health of local residents.
- 4.6 Refuse-derived fuel (RDF) exports from the UK to the EU have seen a dramatic rise over the past five years but this could be affected by Brexit. RDF is fuel produced from various types of waste and is used to fuel EfW plants. An exit from the single market, could subject RDF to new trade agreements, which could prove prohibitively expensive.

4.7 The Committee has invited guests from the Greater London Authority (GLA) Group and beyond to discuss these issues. Guests expected include:

- Doug Simpson, Principal Policy & Programme Officer, GLA
- Julian Walker, Chief Operating Officer, Cory Riverside Energy
- Professor Darryl Newport, University of East London and Institute of Civil Engineers representative
- Tim Rotheray, Director, The Association for Decentralised Energy
- Angela Murphy, Sustainability Strategy Team Leader, Camden Council
- Shlomo Downen, National Coordinator, United Kingdom Without Incineration Network (UKWIN)
- Dan Cooke, Director of Regulatory Affairs, Viridor

## 5. Legal Implications

5.1 The Committee has the power to do what is recommended in the report.

## 6. Financial Implications

6.1 There is no financial implication to the Greater London Authority arising from this report.

---

### List of appendices to this report:

None

<b>Local Government (Access to Information) Act 1985</b>
List of Background Papers: None
Contact Officer: Grace Loseby, Assistant Scrutiny Manager Telephone: 020 7983 4299 E-mail: <a href="mailto:grace.loseby@london.gov.uk">grace.loseby@london.gov.uk</a>