Riverside Resource Recovery Facility

Riverside Optimisation Project

Planning Statement

April 2021 |

CORY
RIVERSIDE ENERGY

Contents

1. Introduction

1.1 The Application

1.1.1 This Planning Statement has been prepared as part of an application made by Riverside Resource Recovery Limited (trading as Cory Riverside Energy) ('Cory' or 'the Applicant') submitted in respect of Riverside Resource Recovery Facility ('RRRF') located at Norman Road, Belvedere, within the London Borough of Bexley ('LBB') which Cory operates.

1.1.2 The application is made under section 36C of the Electricity Act 1989 to:

- amend the power generation description of RRRF in the 2015 s.36 Variation[1] to change the energy generation limit from 'up to 72MW' to 'up to '80.5MW';
- request that the Secretary of State then gives a direction under section 90(2) of the Town and Country Planning Act 1990 ('TCPA 1990') varying the conditions attached to the 2017 Permission[2], to increase the maximum waste throughput from 785,000 tonnes per annum ('tpa') to 850,000 tpa; and
- amend the s.36 Variation and to incorporate into the new deemed planning permission the amendments authorised by the Secretary of State in the REP DCO[3] regarding the ash storage area for RRRF and use of the jetty by both RRRF and REP.

1.1.3 This is the extent of the development proposed and within this Planning Statement is called the Riverside Optimisation Project, or 'ROP'.

1.1.4 This Planning Statement is accompanied by:

- the Riverside Optimisation Project, Environmental Impact Assessment Report, Stantec, March 2021 ('ROP EIA Report') which incorporates the Site Location Plan at Figure 1 (Appendix A.1); and
- the Riverside Optimisation Project, Shadow Habitats Regulations Assessment, Stantec, March 2021 ('ROP Shadow HRA Report').

1.1.5 Together these documents form the submitted application for the proposed development.

1.1.6 This Planning Statement has been prepared to address all relevant planning matters and is set out in the following order:

- Section 1 - Introduction, presenting the application and the applicant
- Section 2 - Development Site, describing the Application Site within its wider context
- Section 3 - Project Description, describing the project and its planning context

[1] A variation made under section 36C of the Electricity Act 1989 to the Original s.36 Consent (Application reference: GDBC/003/00001C-06) and described in more detail at section 2.2
[2]Application reference 16/02167/FUL and described in more detail at section 2.2
[3] The Riverside Energy Park Generating Station Order and described in more detail at section 2.2

- Section 4 - Principle of Development, addressing policy relevant to the core principle of the proposed development, recovering renewable/low carbon energy from residual wastes
- Section 5 - Development Management, addressing policy relevant to the key development management matters with reference to the technical assessments that have been undertaken
- Section 6 - Conclusions
- Annex A - the London Waste Strategy Assessment ('LWSA')

1.1.7 This application has been prepared following the Scoping Opinion received from the Department for Business, Energy & Industrial Strategy ('BEIS') and consultation responses received to the ROP EIA Scoping Report[4].

1.2 The Applicant

1.2.1 Riverside Resource Recovery Limited ('RRRL') is the Applicant. RRRL forms part of the Cory Riverside Energy ('Cory') group. Cory has provided essential services and infrastructure to the people of London, and has operated barges along the River Thames, since the late 1800s. Today, the company provides a wide range of resource management services to a number of different clients, including waste transfer, sorting for recycling, and energy recovery, and uses barges to transport waste and ash. These services are provided across a number of key sites: the materials recycling facility located at Wandsworth; there are a number of river-based transfer stations; and energy recovery takes place at RRRF.

1.2.2 Cory has partnered with Vattenfall, with the aim of developing one of the largest district heating networks in the UK. The district heating network proposals were recently granted funding through the BEIS Heat Networks Investment Scheme ('HNIS') and will connect RRRF with residential, commercial, retail and industry properties in the London Borough of Bexley and the Royal Borough of Greenwich. Over the long term, the scheme has the potential to deliver low to zero carbon heat supply to a network of up to 30km and with a heat scale equivalent of 75,000 homes.

1.2.3 Cory is actively seeking to optimise the use of land at its Riverside site in Belvedere. In April 2020, Cory was granted a Development Consent Order to construct and operate Riverside Energy Park, adjacent to RRRF (more details at section 2.2). In addition, Cory has been working with partners to gain approval of detailed matters relevant to the London Belvedere Data Centre (more details at section 2.2) and is seeking the consents necessary to install the private wire infrastructure required to connect the Data Centre and RRRF (application reference 20/3209/FUL).

1.2.4 New batteries are the next stage of RRRF's evolution; in order to provide resilience to the existing facility and help to ease pressure on the National Grid by storing electricity and providing it at times of peak demand. A planning application has been submitted for the

[4] Riverside Optimisation Project, Environmental Impact Assessment, Scoping Report, Stantec, December 2020

installation, operation and maintenance of a battery energy storage system (application reference 20/3208/FUL).

1.2.5 Cory is firmly rooted in its history of service to London and continues to look ahead in order to maintain its role as a vital part of the City's future.

1.2.6 More details about Cory are available at the company website: https://www.coryenergy.com.

2. Development Site

2.1 Site Description

Riverside Resource Recovery Facility (RRRF)

2.1.1 RRRF is located at the northern end of Norman Road, Belvedere, on the south bank of the River Thames in the London Borough of Bexley.

2.1.2 To the north of RRRF lies the River Thames; into which the purpose built Middleton Jetty extends. To the east the land is characterised by industrial and distribution uses in Isis Reach and the Belvedere Industrial Area. To the south and west is open land, including the adjoining Crossness Nature Reserve. The closest residential properties are situated in apartment blocks on Clydesdale Way, nearly 850m to the south. The Travelodge Belvedere and a public house form part of that development. Further to the west is the Crossness Sewage Treatment Works and Thames Water sewage sludge incinerator.

2.1.3 Vehicular and pedestrian access to RRRF is gained via Norman Road, a public highway that leads north from a roundabout junction with the A2016 (Eastern Way).

2.1.4 RRRF occupies a total site area of approximately 6 hectares set in a broadly rectangular shape. The energy recovery facility is located to the east of the site, with ancillary equipment, service roads and parking situated on the western side of the plant. Further west is the site of the recently consented, but yet to be constructed, Riverside Energy Park.

2.1.5 RRRF is enclosed by green palisade fencing, which allows relatively open views into the site.

2.1.6 The River Thames Path runs along the northern boundary of RRRF, with another public right of way running along the eastern perimeter, joining up with Norman Road (at a point approximately 55m south of the energy from waste facility). Other footpaths run to the west and south of the site, including cutting across the Crossness Nature Reserve.

2.1.7 A more detailed site description and explanation of the current operations is provided within chapter 2 of the ROP EIA Report.

2.2 Planning History

Riverside Resource Recovery Facility (RRRF)

2.2.1 The Secretary of State for the Department of Trade and Industry granted consent for RRRF on 15 June 2006, under section 36 of the Electricity Act 1989 ('the Original s.36Consent')[5], accompanied by a Direction under section 90(2) of the TCPA 1990 ('the Original Deemed Planning Permission' or 'ODPP').

2.2.2 The Original s.36 Consent granted consent for the construction and operation of an energy facility generating 72MW of electricity with a maximum throughput of 670,000 tonnes of waste per year.

[5] Application reference: GDBC/003/00001C-06

2.2.3 Both the Original s.36 Consent and condition 4 of the ODPP imposed a restriction on waste inputs to the facility of 670,000 tpa reflecting design assumptions adopted at that time relating to the net calorific value of the waste and the number of days per annum over which the facility was anticipated to operate. The accompanying environmental statement considered a worst-case scenario, to assess the likely impact of a throughput of 835,000 tpa of waste.

2.2.4 In November 2007 an application (07/11615/FUL) was made to the London Borough of Bexley ('LBB') under Section 73 of the TCPA 1990 to vary condition 40 of the ODPP to allow improvements to Norman Road to run in parallel with the construction of RRRF. This planning permission was granted by the LBB on 11 January 2008 with all other conditions remaining as per the ODPP.

2.2.5 On 13 March 2015, the Secretary of State for the Department of Energy and Climate Change approved the following two variations to the Original s.36 Consent:

- an increase in the annual waste throughput from 670,000 to 785,000 tpa; and
- the transfer of waste by river from the Port of Tilbury in addition to the riparian waste transfer stations in Greater London.

2.2.6 These changes were consented through:

- a variation under section 36C of the Electricity Act 1989 to the Original s.36 Consent ('the 2015 s.36 Variation'); and
- a direction under section 90(2) of the TCPA 1990 ('the 2015 Deemed Permission').

2.2.7 On 4 October 2017, LBB granted planning permission under section 73 of the TCPA 1990 ('the 2017 Permission')[6], which varied various conditions attached to the 2015 Deemed Permission.

2.2.8 The 2017 Permission added the following conditions to the 2015 Deemed Permission:

- not more than 195,000 tonnes by road, and not more than 85,000 tonnes of waste from outside Greater London by road - except in case of jetty outage (condition 26); and
- maximum of 90 two-way HGV movements to site per day – except in case of jetty outage or with agreement of LBB (condition 28).

2.2.9 Currently, RRRF operates under the 2015 s.36 Variation and the 2017 Permission, by which RRRF can process 785,000 tonnes per annum of waste and can produce a maximum power output of 72MW. It should be noted that the Riverside Energy Park Generating Station Order 2020 made some minor modifications to the 2015 s.36 Variation and the 2017 Permission in order to provide for the co-existence of both RRRF and REP (see below).

2.2.10 In December 2020, two planning applications were submitted to LBB under section 70 of the TCPA 1990:

- 20/03208/FUL - Installation, operation and maintenance of a battery energy storage system on land at Riverside Resource Recovery Facility, Norman Road, Belvedere ('BESS').

[6] Application reference 16/02167/FUL

- 20/03209/FUL - Installation, operation and maintenance of private wire connection and associated electrical infrastructure on land at and immediately adjoining, Riverside Resource Recovery Facility, Norman Road, Belvedere ('Private Wire').

2.2.11 These applications are currently under consideration by LBB with no objections received. They have no impact on ROP.

Riverside Energy Park (REP)

2.2.12 On 9 April 2020, the Secretary of State for Business, Energy and Industrial Strategy granted a Development Consent Order, under the Planning Act 2008, for REP. The Riverside Energy Park Generating Station Order 2020 approves the construction, operation and maintenance of:

- an energy recovery facility;
- an anaerobic digestion facility;
- enabling infrastructure for CHP;
- solar voltaic panels;
- a battery storage facility; and
- associated development.

2.2.13 REP is located on land adjacent to RRRF (to the west). Work has commenced to discharge the Requirements of the REP DCO in order that construction can commence in 2022.

2.2.14 More information is available at https://riversideenergypark.com.

2.2.15 Also included in this application is a request that the amendments made by the Secretary of State in the REP DCO to the s.36 Variation and the 2017 Permission are carried through into any new s.36 variation and deemed planning permission that the Secretary of State may grant having considered this application.

2.2.16 Article 6(3) of the REP DCO provides that the s.36 Variation and the 2017 Permission '*are to be amended for the purposes of this Order only as set out in Schedule 13 (modifications to the section 36 consent and RRRF planning permission).'* On a strict interpretation of this Article, the amendments provided for in Schedule 13 to the REP DCO have not been made in a general sense, rather they have only been authorised in the context of the REP DCO. Given the nature of the amendments in Schedule 13, there is no reason why those amendments should not be made directly into any new s.36 variation and deemed planning permission that the Secretary of State may grant.

2.2.17 The REP DCO authorised amendments in relation to two maters: ash storage and use of the jetty.

Ash storage

2.2.18 When RRRF was applied for, the operating assumption was that there may be a requirement for bottom ash to be stored in both RRRF's bunker plus above ground in containers. For this reason, the plans (principally drawings numbered D2.4A and D1.2 as appended to the EIA Report as Appendix A5 and A6 respectively) identified a location for the above ground storage area and it formed part of the description of development on the s.36 Variation. However, since first operation, RRRF has operated by storing the bottom ash (before it is

transported from RRRF) solely in its dedicated bunker. It was confirmed in the Examination to the REP DCO (see, for example, the Applicant's response to comments on the draft Development Consent Order (Examination Library reference REP5-025) that RRRF's bunker has the capacity to hold up to approximately 7 days' worth of ash and that no separate storage area has ever been used or required. As a result, the unused above ground ash storage area for RRRF formed part of the Order limits for REP, which has now been approved by the Secretary of State. With the above ground storage area being a redundant part of the s.36 Variation and the 2017 Permission, as has already been accepted by the Secretary of State in his determination of the REP DCO, the following amendments were authorised by the Secretary of State in the REP DCO to the s.36 Variation and the 2017 Permission (as shown on Sheet 2 of the Works Plans and appended to the application letter).

2.2.19 It is requested that these same amendments be made to any new s.36 variation and deemed planning permission that the Secretary of State may grant, being:

a. Delete '*associated open storage areas for ash container storage'* in paragraph 2(f) of the s.36 Variation;

b. For condition 23 in the 2017 Permission, substitute new condition 23 as follows '*23. Bottom ash shall only be stored in the bunkers to the development hereby approved.*'

2.2.20 These amendments were authorised through Article 6(3) of the REP DCO. Given the fact that these amendments simply reflect how RRRF currently operates, is an environmental improvement on what was originally assessed in the environmental statement to RRRF as the new condition 23 restricts the storage of bottom ash to the bunkers only, and the REP DCO authorises REP to be constructed on what would have been the area for above ground ash storage, it is considered entirely appropriate for the Secretary of State to incorporate these amendments into any new s.36 variation and deemed planning permission that the Secretary of State may grant. Failure to do so, would be to grant a new s.36 variation and deemed planning permission that is inconsistent with the current operations of RRRF and the extant planning position of the site.

Use of the Jetty

2.2.21 Condition 7 of the 2017 Permission states:

'*Except during periods of jetty outage or emergency the jetty and pier shall remain available at all times for tugs and barges transporting waste, residual materials following incineration, and consumables necessary for the operation of the development and for no other purpose unless with the prior written consent of the Council.*' (our emphasis)

2.2.22 To make it clear, at the request of the London Borough of Bexley during the Examination into the REP DCO, that the words underlined would not prevent the use of the jetty by REP, the REP DCO amends Condition 7 of the 2017 Permission to make it clear that the restriction excludes REP. Article 6(3) of the REP DCO therefore amends condition 7 by inserting the words *'(except for the development authorised by the Riverside Energy Park Order 2020)'* after the words '*for no other purpose*.'

2.2.23 As the REP DCO has been made by the Secretary of State on the basis of an environmental assessment that assessed the use of the jetty by both RRRF and REP, it is requested in this

application that the same amendment be made in any new deemed planning permission given that would reflect the extant planning position of the site.

London Belvedere Data Centre

2.2.24 On 11 July 2016, outline planning permission was granted for the construction of a data centre (Use Class B8), sub-stations, formation of new access, car parking and landscaping (reference 15/02926/OUTM) on Land Part Of Borax Works, Norman Road. This site is located to the south of RRRF.

2.2.25 Detailed design approval of the Data Centre has also now been approved.

2.2.26 It is proposed that RRRF will provide electricity to the data centre through a private wire connection. The Private Wire planning application has been submitted to LBB for this connection (see paragraph 2.2.10).

3. Project Description

3.1 The Proposed Development

Overview

3.1.1 RRRF is an energy recovery facility ('ERF') that has been operational since 2011. In 2020, RRRF was fitted internally with an upgraded operational control system that enables a more consistent level of operation. This technology enables RRRF to be operated more efficiently than its original design when first built.

3.1.2 In order to realise this increased efficiency in operations (recovering more energy from more residual waste) the terms of the relevant extant permissions need to be amended.

3.1.3 The application is made under section 36C of the Electricity Act 1989, is to:

- amend the power generation description of RRRF in paragraph 2 of the 2015 s.36 Variation to change the energy generation limit from 'up to 72MW' to 'up to '80.5MW'; and
- request that the Secretary of State then gives a direction under section 90(2) of the TCPA 1990 varying the conditions attached to the 2017 Permission, to increase the maximum waste throughput from 785,000 tpa to 850,000 tpa; and
- amend the s.36 Variation and to incorporate into the new deemed planning permission the amendments authorised by the Secretary of State in the REP DCO[7] regarding the ash storage area for RRRF and use of the jetty by both RRRF and REP (see section 2.2 above).

Key elements

3.1.4 There is no built form proposed in the application. ROP will not alter the physical built footprint or give rise to any additional physical development of RRRF.

3.1.5 The proposed development does seek an increase in energy output (of 8.5 megawatts or 'MW') and an increase (of up to 65,000 tonnes per annum, approximately the equivalent of 8% of current permitted throughput) in the volume of waste throughput processed annually at the RRRF.

3.1.6 However, operations would follow the same procedures and would remain fundamentally unchanged after ROP. This includes vehicle movements, for which no change to the existing limitations is sought.

3.1.7 The amendments sought as a result of the REP DCO are not considered further in this report given they simply reflect the current operating procedures of RRRF (in respect of ash storage) and enables the use of the existing jetty by both RRRF and REP (as already authorised by the Secretary of State).

[7] The Riverside Energy Park Generating Station Order and described in more detail at section 2.2

3.2 EIA and HRA

Environmental Impact Assessment

3.2.1 Whilst ROP does not involve any physical development, the proposed increase to the generating capacity and the increase in volume of waste throughput represent a change to or extension of a generating station. It is therefore considered that ROP falls within Schedule 2, Part 3(a) of the Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 (as amended) ('the EIA Regulations').

3.2.2 ROP is consequently considered to be EIA development, and therefore under the EIA Regulations, any formal application must be accompanied by an EIA report ('EIA Report') prepared in accordance with these regulations.

3.2.3 A Scoping Report was submitted to BEIS in December 2020 and made available by the Department for consultation to statutory parties. BEIS issued its Scoping Opinion on 18 February 2021, and this has informed preparation of the ROP EIA Report and this Planning Statement.

Habitats Regulations Assessment

3.2.4 Under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), an HRA is required for all plans and projects which may have likely significant effects on European sites of nature conservation importance ('Habitat Directive Sites')[8] and are not directly connected with or necessary to the management of the European site.

3.2.5 The Habitats Regulations set out a consenting procedure requiring all competent authorities to carry out an appropriate assessment of a plan or project if it is likely to have a significant effect on Habitat Directive Sites or a Ramsar site. This is often known as a Habitats Regulations Assessment (HRA).

3.2.6 Deciding if an aspect of a plan or project is likely to have a significant effect acts as a screening stage in an HRA. It removes from the rest of the HRA process aspects of a plan or project which clearly have no ecological connectivity to a site's qualifying interests, or those where it is very obvious that whilst connected, the conservation objectives for a site's qualifying interests will not be undermined.

3.2.7 The ROP Shadow HRA Report concludes (at paragraphs 4.1.1 to 4.1.3):

'4.1.1 One European site, Epping Forest SAC, has been identified within the ecological zone of influence of the Project (defined as 15km). The potential for effects on Epping Forest SAC were identified as those arising from emissions / deposition of pollutants from the Project.

4.1.2 Based on the results of air quality modelling, none of the process contributions are above the 1% annual screening threshold of the critical level or load (or 10% for short-term

[8] Special Areas of Conservation (SACs) designated under European Council Directive 92/43/EEC(a) on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive) and Special Protection Areas (SPAs) designated under the European Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive).

emissions) where the critical level or load is exceeded. In most cases increases are more than an order of magnitude lower than the screening thresholds, and in some cases the Project results in a marginal reduction of pollutants received at the SAC.

4.1.3 Given these findings, no Likely Significant Effects to Epping Forest SAC have been identified either alone, or in combination with other plans or projects and no further specific avoidance or mitigation measures have been proposed. As a result, the Project does not require further consideration at Stage 2 Appropriate Assessment.'

3.2.8 This pre-screening concludes that that an HRA assessment is not required.

Community Infrastructure Levy

3.2.9 There are two Community Infrastructure Levy (CIL) arrangements that apply in Bexley: the London Borough of Bexley CIL, which helps support development in Bexley; and the Mayor of London's CIL, which helps support Crossrail.

3.2.10 The proposed development does not create any floorspace and consequently CIL is considered not to apply.

3.3 Policy Consideration

Introduction

3.3.1 Under section 38(6) of the Planning and Compensation Act 2004, applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise. This principle also applies to directions to be given under section 9092) of the TCPA 1990.

3.3.2 The development plan for this project comprises:

- Bexley Core Strategy, February 2012 ('Core Strategy')[9];
- Saved Policies, as at 2012, of the Bexley Unitary Development Plan, adopted 2004 ('Bexley UDP')[10]; and
- The London Plan, The Spatial Development Strategy for Greater London, adopted March 2021 ('London Plan')[11].

3.3.3 In addition, the following documents are considered to be material considerations and consequently are also addressed:

National

- Overarching National Policy Statement for Energy, Department of Energy and Climate Change, July 2011 ('NPS EN-1')[12];

[9] https://www.bexley.gov.uk/sites/default/files/2020-05/Bexley-Core-Strategy.pdf
[10] http://udp.bexley.gov.uk/bexleyudp.asp?mode=preview
[11] https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf
[12] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

- National Policy Statement for Renewable Energy Infrastructure, Department of Energy and Climate Change, July 2011 ('NPS EN-3')[13];
- National Planning Policy Framework, Ministry of Housing, Communities and Local Government, February 2019 ('NPPF')[14] and Planning Policy Guidance ('PPG')[15];
- National Planning Policy for Waste, Department for Communities and Local Government, October 2014 ('NPPW')[16];
- Waste Management Plan for England, Department for Environment and Rural Affairs, January 2021 ('WMPE')[17];
- Our Waste, Our Resources: A Strategy for England, Department for Environment and Rural Affairs, December 2018 ('RWS' or 'Resources and Waste Strategy')[18];
- The Waste (England and Wales) Regulations 2011(as amended)[19] ('Waste Regulations 2011');
- Government Review of Waste Policy in England 2011[20], Defra, 2011 (Waste Policy Review 2011);
- Committee on Climate Change's 2020 Progress Report to Parliament 'Reducing UK emissions'[21] ('CCC 2020');
- Energy from Waste, A guide to the debate, DECC, February 2014[22] ('EfW Debate Guide');
- RCE-13, The Impact on Health of Emissions to Air from Municipal Waste Incinerators, Health Protection Agency, 2009[23] ('RCE-13');

Regional

- London Environment Strategy, Greater London Authority, May 2018 ('LES')[24];

---

13 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47856/1940-nps-renewable-energy-en3.pdf

14 https://www.gov.uk/government/publications/national-planning-policy-framework

15 https://www.gov.uk/government/collections/planning-practice-guidance.

16 https://www.gov.uk/government/publications/national-planning-policy-for-waste

17 https://www.gov.uk/government/publications/waste-management-plan-for-england-2021

18 https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england

19 https://www.legislation.gov.uk/uksi/2011/988/introduction

20 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69401/pb13540-waste-policy-review110614.pdf

21 https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/

22 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

23 https://www.gov.uk/government/publications/municipal-waste-incinerators-emissions-impact-on-health

24 https://www.london.gov.uk/what-we-do/environment/london-environment-strategy

- The Mayor's Economic Development Strategy for London, December 2018 ('EDS')[25];
- Health Effects due to Emissions from Energy from Waste Plant in London, Air Quality Consultants, May 2020[26] ('GLA EfW Health Effects Report');

Local

- Preferred approaches to planning policies and land-use designations - Regulation 18 stage consultation paper, London Borough of Bexley, February 2019 ('Draft Bexley Plan')[27]; and
- London Borough of Bexley Energy Masterplan, October 2015 ('BEMP')[28].

3.3.4 On 21 December 2020, just days after the ROP EIA Scoping Report was submitted to BEIS, the Greater London Authority wrote to the Secretary of State for Housing, Communities and Local Government to submit the Publication London Plan. This document, the Publication London Plan, consequently superseded the Draft London Plan referenced in the ROP EIS Scoping Report.

3.3.5 The Secretary of State formally responded (on 29 January 2021) that the Publication London Plan '*contains the modifications necessary to conform with all the previously issued directions under section 337 of the GLA Act 1999*.

3.3.6 Consequently, on 2 March 2021, the Mayor of London formally adopted the New London Plan and it is this document that is referenced throughout this Planning Statement.

Format of policy consideration

3.3.7 The principle behind ROP is to achieve the efficient recovery of renewable/low carbon energy from the treatment of residual waste at an appropriate installation. These topics, underpinning sustainable development policy in London, are considered first, in the next section (section 1).

3.3.8 ROP has the potential for some consequent effects, with each addressed in turn in section 1, as follows:

- section 5.1: Carbon, recognising that achieving net zero carbon is a key policy priority;
- section 5.2: Air Quality and Human Health, recognising that emissions from ROP have the potential to impact on land, humans and biodiversity beyond the application site;
- section 5.3: Ecology and Biodiversity, recognising that emissions from ROP have the potential to impact upon designated sites; and
- section 5.4: Other Material Considerations, to address any other relevant effects, including optimal use of the site and accidents and disasters.

[25] https://www.london.gov.uk/sites/default/files/economic-development-strategy-2018_1.pdf
[26] https://www.london.gov.uk/sites/default/files/gla_efw_study_final_may2020.pdf
[27] https://www.bexley.gov.uk/sites/default/files/2020-07/BLP-Reg-18-Consultation-Paper-for-Publication-February2019.pdf
[28] https://www.london.gov.uk/sites/default/files/bem-14-002-bexley_energy_masterplan_r4.pdf

4. Principle of development

4.1 Introduction

4.1.1 The ROP is one operational, technological, element within RRRF, a successfully operating facility that recovers energy from residual wastes that would otherwise be destined for disposal to landfill.

4.1.2 This section considers the policy imperatives that drive the delivery of decentralised renewable/low carbon energy and the sustainable management of waste.

Key policy and material considerations

4.1.3 Relevant development plan policies considered are as follows:

- Core Strategy: CS01; CS03; CS09; and CS20.
- Bexley UDP: G1; and G32.
- London Plan: GG6; SI3; SI7; and SI8

4.1.4 Relevant material consideration documents considered are as follows:

- NPS EN1, particularly paragraphs: 1.2.1; 2.1.2; 2.2.20, 2.2.27; and sections: 3.1; 3.3; 3.4.
- NPS EN3, particularly paragraphs: 1.2.3; 1.8.1; and section: 2.5.
- NPPF paragraphs: 151; 153; and 154.
- NPPW:, particularly paragraph 7.
- LES: particularly policy 7.2.1a and the Evidence Base.
- Draft Bexley Plan: DP6; DP19; SP10; and SP13.
- RWS: particularly pages 20 and 77.
- Waste Regulations 2011: particularly Regulation 12; Part 6 and Schedule 1, Part 1.
- Waste Policy Review: particularly paragraph 214.
- EfW Debate Guide, particularly pages: 1 to 3; 6; 19 to 26; 43; 44; 47 and 55 to 62.
- BEMP, which is focussed on the area around RRRF.
- CCC 2020: particularly pages 53/ 54, 108 and 110.

4.2 How policy is met – recovery of renewable/low carbon energy

The policy drive for renewable/low carbon energy

4.2.1 The key objective of the Bexley Core Strategy is to encourage development that '*promotes social inclusion, addresses local social and economic needs and provides a better environment.*' The first three spatial objectives, intended to support the vision, are to:

1. *Take account of the impacts of climate change, and reduce flood risk to and from existing and new development, and seek to reduce carbon dioxide emissions, increase energy efficiency, and increase the use of renewable energy sources.*

2. *Maximise the efficiency of all resources and utilities and maintain the highest standards of water quality for drinking and recreation.*

3. *Protect and improve the natural environment, public health and safety, and amenity for both current and future generations of Bexley residents through policies to minimise noise, air and water pollution, and promote the reclamation of contaminated land.*

(Bexley Core Strategy, page 11, section 2)

4.2.2 These objectives are incorporated into key policy of both the Core Strategy and London Plan, with Core Strategy policy CS03 recognising the growth and development opportunities within Belvedere to provide improved infrastructure, including a decentralised heat and power network. It is notable that Belvedere Riverside, where RRRF is located, remains an allocated Opportunity Area in the London Plan and Draft Bexley Plan.

4.2.3 Core Strategy policy CS01 requires all developers to address the sustainable development principles set out, which include:

a. *adapting to and mitigating the effects of climate change, including sustainably retrofitting existing building stock where possible;*

b. *maximising the effective and efficient use of natural and physical resources, including land, water and energy, whilst addressing pollution issues, such as contamination, noise and air quality, to contribute to the health and well being of the community and the environment; ...'*

4.2.4 The EDS recognises that meeting the target '*for net zero carbon by 2050 will require considerable investment in ... London's energy supply system to exploit opportunities for using local and renewable energy sources as part of a creating a smart integrated energy system that can deliver secure, low carbon and affordable energy to London's citizens and businesses. More localised and renewable energy resources will need to be exploited and developed to create a smarter, more integrated, energy system capable of supplying low, and ultimately zero, carbon energy to London's homes and businesses in a reliable, secure, clean and affordable way.*' (page 131)

4.2.5 ROP is a clear example of private investment updating an existing asset to maximise the effective and efficient use of residual waste to recover renewable/low carbon energy. ROP is new equipment installed into an existing energy recovery facility, so optimising operations on site to achieve net carbon benefits (discussed further at section 5.1).

4.2.6 '*The vast majority of London's energy demand (approximately 94 per cent) is currently sourced from outside of the city'* (page 209, LES). Consequently, London Plan policy GG6 intends to make London '*a more efficient and resilient city*', which will require development to deliver energy efficiency and to contribute to achieving a zero-carbon London by 2050. The proposed development will increase the efficiency of energy generated from a low carbon/renewable source using innovative technology to reduce the use of fossil fuels and carbon emissions. ROP wholly delivers the Mayor's aspirations for London's future energy infrastructure.

4.2.7 As recognised in the London Plan:

'*London is part of a national energy system and currently sources approximately 95 per cent of its energy from outside the GLA boundary. Meeting the Mayor's zero-carbon target by 2050 requires changes to the way we use and supply energy so that power and heat for our buildings and transport is generated from local clean, low-carbon and renewable sources. London will need to shift from its reliance on using natural gas as its main energy source to a more diverse range of low and zero-carbon sources, including renewable energy and secondary heat sources. Decentralised energy and local secondary heat sources will become an increasingly important element of London's energy supply and will help London become more self-sufficient and resilient in relation to its energy needs..*' (paragraph 9.3.2)

4.2.8 At policy G1, the Bexley UDP seeks to '*protect, maintain and improve the quality of the built and natural environment … whilst making efficient and effective use of the borough's land resources'*. Core Strategy policy CS09 also concerns the sustainable use of Bexley's resources, seeking development that will '*maximise the effective and efficient use of natural and physical resources, while contributing to the health and well-being of the community and the environment…',* which includes '*making best use of existing physical infrastructure*'.

4.2.9 Development plan policy priorities align with those at the national level. NPS EN-1 makes clear (paragraph 2.1.2) that '*energy is vital to economic prosperity and social well-being and so it is important to ensure that the UK has secure and affordable energy'*.

Security of supply

4.2.10 NPS EN-1 paragraph 2.2.20 presents the identified responses to managing the risks of achieving security of supply:

'*It is critical that the UK continues to have secure and reliable supplies of electricity as we make the transition to a low carbon economy. To manage the risks to achieving securing of supply we need:*

- *sufficient electricity capacity (including a greater proportion of low carbon generation) to meet demand at all times. …;*
- *reliable associated supply chains (for example fuel for power stations) to meet demand as it arises;*
- *a diverse mix of technologies and fuels …*'

4.2.11 The policy is clear that nationally significant infrastructure is required to deliver energy, from a diverse range of sources, and with a focus on renewable/low carbon supply.

4.2.12 At paragraph 2.2.27 NPS EN-1 confirms the delivery of energy infrastructure is a key element of well-functioning places:

'*The Government's wider objectives for energy infrastructure include contributing to sustainable development and ensuring that our energy infrastructure is safe. Sustainable development is relevant not just in terms of addressing climate change, but because the way energy infrastructure is deployed affects the well-being of society and the economy. For example, the availability of appropriate infrastructure supports the efficient working of the market so as to ensure competitive prices for consumers. The regulatory framework also encourages the energy industry to protect the more vulnerable*.'

4.2.13 In Part 3, NPS EN-1 sets out the significant level of need for new energy infrastructure both to:

- accommodate the growing demand for electricity and forecast power station closures; and
- decarbonise the energy sector.

4.2.14 Paragraphs 3.3.14-3.3.15 recognise that even with major improvements in overall energy efficiency, demand for electricity will increase. Paragraph 3.3.15 states that:

'*In order to secure energy supplies that enable us to meet our obligations for 2050, there is an urgent need for new (and particularly low carbon) energy NSIPs to be brought forward as soon as possible, and certainly in the next 10 to 15 years, given the crucial role of electricity as the UK decarbonises its energy sector*.'

4.2.15 Paragraph 3.3.22 identifies a need for new build generating capacity of at least 59 GW, around 33 GW of which would need to come from renewable sources to meet renewable energy commitments. It is for the industry to determine the mix of the remaining 26GW of required new electricity capacity, '*acting within the strategic framework set by the Government'*.

4.2.16 In 2019, the most recent full year of statistics available, UK electricity generation was 346 TWh '*a decrease of 2.4 per cent compared to 2018 and the lowest value in more than twenty years. As well as lower demand, this was linked to higher net imports of electricity, up 11 per cent compared to 2018*.' (DUKES 2020[29], Chapter 5, Key points, page 77)

4.2.17 Paragraph 5.48 of DUKES 2020 confirms that '*Electricity generation capacity is the maximum power available to the UK at any one time*.' This is followed by Chart 5.7 that illustrates the overall reduction in electricity generating capacity in the UK; which at 2019 saw a total reduction of 13GW since 2010.

4.2.18 The UK's increasing reliance on imported electricity and decrease in indigenous capacity demonstrates the extent of the challenge set in NPS EN-1 to build new generating capacity of at least 59 GW.

4.2.19 That an additional 59 GW is a minimum level of need is made clear in NPS EN-1 at paragraph 3.3.24, confirming that Government has no intention to set targets or limits on any new generating infrastructure to be consented in accordance with the National Policy Statements: it '*is not the Government's intention in presenting the above figures to set targets or limits on any new generating infrastructure to be consented in accordance with the energy NPSs. It is not the IPC's role to deliver specific amounts of generating capacity for each technology type*.'

4.2.20 At paragraph 3.4.1, NPS EN-1 confirms the UK's commitment to sourcing 15% of total energy from renewable sources by 2020, stating that '*new projects need to come forward urgently to ensure that we meet this target.*' Chapter 6 of DUKES 2020 states that in 2019:

'*12.3 per cent of total energy consumption came from renewable sources (Table 6.7); up from 11.2 per cent in 2018 (revised). On a RED* [Renewable Energy Directive] *basis, renewable electricity represented 35 per cent of total electricity generation; renewable heat 7.9 per cent*

[29] Digest of United Kingdom Energy Statistics 2020 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/924591/DUKES_2020_MASTER.pdf

of overall heat; and renewables in transport, 8.8 per cent.' (DUKES 2020, Chapter 6, Key points, page 106).

4.2.21 This is some level of success, but there remains a substantial amount of new electricity generating capacity required in order to meet more recent commitments to reach net zero emissions by 2050 and to recover the economy in light of the effects caused by the Covid-19 pandemic through a resurgence of green energy technology.

4.2.22 The increased energy output is a clear benefit of ROP, one that can be achieved at an existing facility and without significant detrimental impact to the environment.

Residual waste as an appropriate fuel

4.2.23 RRRF is properly described as a source of renewable/low carbon energy. NPS EN-3, the technology specific policy for renewable energy infrastructure, expressly includes energy from waste. RRRF is therefore recognised in national policy as a renewable energy generating station, and consequently as achieving a positive carbon outcome.

4.2.24 At paragraph 2.5.10, NPS EN-3 states that a proportion of biodegradable waste may be classified as renewable for the purposes of Renewable Obligation Certificates ('ROCs')[30]. Whilst the decision maker is advised that this is not an issue of relevance to them, it is worth clarifying the position in terms of explicitly understanding the benefits of RRRF, as a renewable/low carbon energy supply.

4.2.25 The EfW Debate Guide advises (at pages 1 and 2):

'*Only the energy generated from the recently grown materials in the mixture is considered renewable. Energy from residual waste is therefore a partially renewable energy source, sometime referred to as a low carbon energy*'.

4.2.26 At paragraph 39, the EfW Debate Guide indicates a level of specificity as to the proportion '*of the waste in our typical black bag, currently somewhere between one half and two thirds will contain biogenic carbon*'. The Renewable Energy Action Plan[31] estimates that municipal waste is 62.5% biodegradable content (see footnote on page 140). Waste composition analysis undertaken for RRRF shows a biogenic fraction of around 50%.

4.2.27 Modern plant are required to meet targets for recovery established through the Waste Framework Directive 2008[32]; they are designed to recover electricity efficiently with several also connecting to a district heat network. This level of efficiency is regulated and monitored

[30] The Renewables Obligation (RO) was introduced by the Government in England, Wales and Scotland in 2002, to encourage the deployment of large-scale renewable electricity in the UK. The RO requires licensed UK electricity suppliers to source a specified proportion of the electricity they provide to customers from eligible renewable sources. ROCs are essentially the green certificates issued to electricity generators and bought by suppliers to show that they have fulfilled the RO. Government has recently undertaken a transition from ROCs to Contract for Difference (CfD) with the RO closing to new capacity on 31 March 2017.

[31] National Renewable Energy Action Plan for the United Kingdom, Article 4 of the Renewable Energy Directive 2009/28/EC.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47871/25-nat-ren-energy-action-plan.pdf

[32] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. https://ec.europa.eu/environment/waste/framework

by the Environment Agency through an initial assessment and annual review to confirm the recovery (R1) status of a facility. RRRF has already achieved R1 status. The WMPE states '*We also want to work closely with industry to secure a substantial increase in the number of energy from waste plants that are formally recognised as achieving recovery (R1) status, and to ensure all future energy from waste plants achieve recovery status*.' (page 12)

4.2.28 As technology improvements are integrated into energy recovery facilities, the modern plants are able to operate more effectively and efficiently, continuously minimising emissions. There is consequently a benefit to be gained from operating more modern energy recovery facilities. ROP is an example of an existing facility that already has R1 status, being upgraded to benefit from further efficiencies in operation.

4.2.29 As is made clear in the EfW Debate Guide (page 3):

'*Energy from waste is not just about waste management:*

- *The energy it produces is a valuable domestic energy source contributing to energy security.*
- *As a partially renewable energy source it can also contribute to our renewable energy targets which are aimed at decarbonising energy generation.*
- *It has the added advantage that it is non-intermittent, so it can complement other renewable energy sources such as wind or solar*.'

4.2.30 London Plan policy SI3 promotes energy infrastructure, including heat from energy from waste plants and '*opportunities to maximise renewable electricity generation*'. CCC 2020 makes clear the ongoing priority for renewable/low carbon energy supply:

'*Reaching net-zero emissions in the UK will require all energy to be delivered to consumers in zero-carbon forms (i.e. electricity, hydrogen, hot water in heat networks) and come from low carbon sources (i.e. renewables and nuclear, plus bioenergy and any fossil fuels being combined with CCS).*' (page 53)

'*Extensive electrification, particularly of transport and heating, supported by a major expansion of renewable and other low-carbon power generation. The scenarios involve around a doubling of today's annual electricity demand, with all power produced from lowcarbon sources (compared to around 55% today). …*

– A switch to low-carbon heating. From 2025, all new build homes will need to be built with low-carbon heating. The UK's 29m existing residential dwellings, and all commercial and public buildings, will need to switch away from fossil fuelled boilers towards low-carbon heating sources.' (page 54)

4.2.31 These themes are developed in the Sixth Carbon Budget, the UK's path to Net Zero[33], which also recognises the role of energy from waste in contributing to supply of renewable/low carbon energy, whilst proposing that new built facilities are fitted with carbon capture and storage ('CCS') technology by 2050.

[33] https://www.theccc.org.uk/publication/sixth-carbon-budget/ It is recognised this is currently a recommendation and Government has until summer 2021 to respond.

4.2.32 Emissions from waste account for about 4% of the UK total carbon emissions; with the vast majority of this being emitted as methane from the decomposition of biodegradable waste in landfill (70% in 2018)[34]. It is clear from CCC 2020 and the Government's response to it[35] ('Government Response 2020') that the key policy milestone to ban the landfill of biodegradable wastes (as set out in RWS) remains to be met and necessarily remains a priority.

4.2.33 To achieve this outcome, food waste reduction and more efficient treatment, alongside increased municipal waste recycling (up to 70% by 2030 in England (page 183)) are two measures proposed by CCC 2020. Within the report, the role of energy from waste facilities remains relevant with careful consideration given to emissions output.

4.2.34 The ROP EIA Report gives careful consideration to the emissions output from ROP, with negligible adverse effects and a net benefit in carbon emissions predicted. This outcome is entirely consistent with the priority proposals set out in CCC 2020 and the Government Response 2020:

'*The Resources and Waste Strategy committed to working towards eliminating all biodegradable waste to landfill by 2030, and we are currently considering the feasibility of bringing this target forwards to 2025. … Remaining waste will increasingly be treated by alternatives to landfill, such as energy from waste plants and waste-to-transport fuels.*' (page 93)

The potential for combined heat and power

4.2.35 On page 19, Government Response 2020 makes clear that '*There is widespread acceptance that biomass, including bioenergy with CSS and energy from waste, has a key role to play in achieving net zero. The question is where and how biomass is best used to deliver on our targets – whether that is for generating electricity or other purposes.*' (page 19)

4.2.36 On pages 12 and 13, WMPE states '*We have committed in the Resources and Waste Strategy to drive greater efficiency of energy from waste plants by encouraging use of the heat the plants produce. … To deliver net zero virtually all heat will need to be decarbonised and heat networks will form a vital component of this. Energy from waste has a role to play in supplying this heat, but currently only around a quarter of energy from waste plants operate in combined heat and power mode, despite most being enabled to do so. We want to see this number increase.*'

4.2.37 In its response to the ROP Scoping Report, the GLA suggested that Cory has not taken forward any plans to deliver a heat network. This is incorrect.

4.2.38 As the GLA will be aware the BEMP identifies RRRF to be a potential source of heat for a district heating network. Cory co-funded the 2015 BEMP and is a key member of the Bexley District Heating Partnership Board (which had its inaugural meeting on 4 June 2018). The applicant continues to engage actively with the relevant stakeholders to deliver this network including the London Borough of Bexley, the Royal Borough of Greenwich, and the Greater

[34] CCC 2020, page 108 and Table 4.1, page 110

[35] https://www.gov.uk/government/collections/government-responses-to-the-committee-on-climate-change-ccc-annual-progress-reports

London Authority's Heat Team (the latter of which provided funding support for detailed studies). These studies follow on from the initial work and opportunities outlined in the BEMP.

4.2.39 In addition, Cory has been proactively working with Vattenfall with the aim of developing one of the largest heat networks in the UK, and has just been awarded UK Government funding to develop the heat network. The funding is the catalyst needed for Cory and Vattenfall to deliver on a vision that over the long term has the potential to deliver low to zero carbon heat supply to a network of up to 30km and with a heat scale equivalent of 75,000 homes.

4.2.40 Vattenfall is the largest operator of district heating networks in western Europe, providing the infrastructure for low-carbon heat to 1.7 million households across Sweden, Germany, and the Netherlands[36]. On the company's website Adriana Rodriguez Cobas, Regional Director, South for Vattenfall Heat UK, said:

"*This is a landmark moment not only for Vattenfall Heat UK, but also for the drive to cut emissions from homes.*

We're very proud to have been appointed by Cory Riverside Energy to capture the waste heat from their plant. We can use that heat to help local households keep warm without having to worry about the size of their energy bill, or whether they're damaging the planet if they turn the heating up.

This opportunity extends beyond the first phase of housing earmarked for development in Bexley. Vattenfall's expertise means we can design the system so that future homes and business properties can also be linked up to the same heat network, without needing to go through the disruption and lengthy process of designing a bespoke network for a separate construction project. This is exactly the kind of long-term vision that Vattenfall has for district heating in the UK, and shows the potential of what can be achieved when multiple partners work together towards shared goals."

Conclusion

4.2.41 ROP will enable the existing infrastructure at RRRF to be optimised, leading to improved efficiency of operations that will achieve the effective use of residual wastes to deliver net zero priorities. By optimising RRRF through ROP, RRRF will also assist in optimising the potential for district heating.

4.2.42 As is demonstrated by the analysis above, ROP meets all policy relevant to delivering supply of renewable/low carbon energy.

4.3 How policy is met – sustainable treatment of residual waste

Waste hierarchy - Overview

4.3.1 The waste hierarchy is a well-established policy principle, delivering objectives of both the Waste Framework Directive 2008 and Landfill Directive 1999 seeking to prevent or reduce the negative effects on the environment and people from waste management. The focus is rightly

[36] https://group.vattenfall.com/uk/newsroom/pressreleases/2020/vattenfall-partners-with-cory-riverside-energy-to-offer-low-carbon-heating-for-east-london-homes

placed on higher levels of the waste hierarchy, reducing the amount of waste produced and looking to re-use or recycle this resource.

4.3.2 However, not all waste can be managed in this way and consequently the Government supports the efficient recovery of residual waste. The EfW Debate Guide confirms this approach, recognising that:

'*In future we are aiming to prevent, reuse and recycle more of our waste, so the amount of residual waste should go down. However, energy from waste will remain important.*

To maintain the energy output from less residual waste resource we will need to:

- *divert more of the residual waste that does still exist away from landfill and capture the renewable energy*
- *continue the drive towards better, higher-efficiency energy from waste solutions.' (page 2)*

4.3.3 Recovering energy from residual waste, the role delivered by RRRF, is a core element of the waste hierarchy, supported by European, national and local policy. London Plan policy SI7 actively seeks to '*ensure that there is zero biodegradable or recyclable waste to landfill by 2026*.

4.3.4 What is also clear, most recently from the CCC 2020 the Government Response 2020 is recognition of the important role that energy from waste facilities (such as RRRF) play working alongside waste minimisation initiatives and waste recycling facilities. The accumulation of *all* of these elements needs to be delivered in order to achieve the waste hierarchy.

4.3.5 RRRF is an important element of the infrastructure required to deliver the waste hierarchy in London and the South East.

4.3.1 The NPPF encourages a positive approach to development that delivers renewable/low carbon energy supply (particularly at paragraphs 149 and 151) advising that demonstrating a market need for the energy recovered should not be required. A similar approach is applied to waste projects, in NPPW at paragraph 7:

'*When determining waste planning applications, waste planning authorities should:*

- *only expect applicants to demonstrate the quantitative or market need for new or enhanced waste management facilities where proposals are not consistent with an up-to-date Local Plan. In such cases, waste planning authorities should consider the extent to which the capacity of existing operational facilities would satisfy any identified need;...'*

4.3.2 This integrated approach of delivering waste treatment facilities alongside other development to deliver sustainable communities is a consistent theme throughout NPPW. Not least, the opening paragraph confirms that waste management makes a positive contribution to sustainable communities, sustainable development and resource efficiency:

'Positive planning plays a pivotal role in delivering this country's waste ambitions through:

- delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy (see Appendix A);

- ensuring that waste management is considered alongside other spatial planning concerns, such as housing and transport, recognising the positive contribution that waste management can make to the development of sustainable communities;

- providing a framework in which communities and businesses are engaged with and take more responsibility for their own waste, including by enabling waste to be disposed of or, in the case of mixed municipal waste from households, recovered, in line with the proximity principle;

- helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment; and

- ensuring the design and layout of new residential and commercial development and other infrastructure (such as safe and reliable transport links) complements sustainable waste management, including the provision of appropriate storage and segregation facilities to facilitate high quality collections of waste.'

Waste hierarchy – in London

4.3.1 In its response (dated 29 January 2021) to the ROP Scoping Report the GLA stated:

'*Our modelling shows that additional incineration capacity in London is not needed and will jeopardise the achievement of the Mayor's recycling targets. If London's targets to reduce food waste and associated packaging waste by 50 per cent per head and reach 65 per cent recycling by 2030 are met, new incineration capacity in London will not be needed. Achieving these targets is our focus and boroughs and all Londoners will need to play their part to cut waste and increase recycling*.'

4.3.2 This statement is not correct, and was addressed by Cory in the REP DCO application, which included, *inter alia*, The Project and its Benefits Report (the 'PBR', document reference 4.2[37]) to which was annexed the London Waste Strategy Assessment (the 'LWSA', Annex A to this Planning Statement).

4.3.3 The LWSA directly addresses the GLA's future waste strategy at section 3.3:

'*3.3.1 Whilst planning policy should be aspirational, it also needs to be realistic, fully justified and deliverable, taking into account relevant market signals.[16] Reference to the evidence base of the LES suggests that the recycling levels presented in the aLP are unlikely to be achieved.*

3.3.2 The evidence base to the LES concludes (on page 112) that the highest performing combination scenario of recycling options considered within London would achieve a 42% household recycling rate, with the second best performing combination achieving a 40% recycling rate. This conclusion is based on a detailed analysis undertaken by WRAP.'

4.3.4 At paragraphs 3.3.3 and 3.3.4, the LWSA explains who and what WRAP[38] is and confirms its credibility to undertake such an analysis. The section continues:

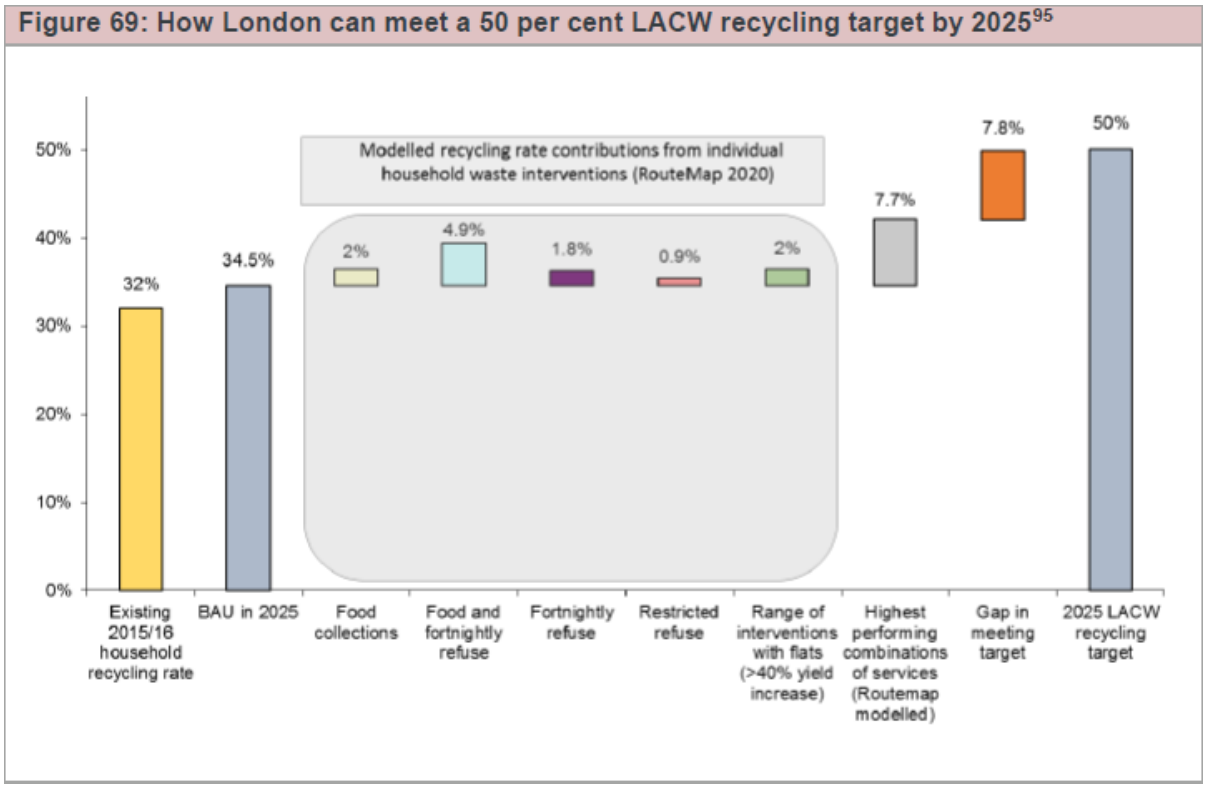
[37] The previous version of the Publication London Plan that was available at the time of preparing the LWSA. The policy targets and relevant data associated with it has not changed in the London Plan adopted March 2021.

[38] Waste and Resources Action Programme. Formerly a central government advisory service, now a registered UK charity. Its mission is to accelerate the move to a sustainable, resource-efficient economy.

'*3.3.5 Consequently, LES Policy 7.2.1.a states an intention to 'achieve a 50 per cent LACW* [Local Authority Collected Waste] *recycling target by 2025 and aspire to achieve: a 45 per cent household waste recycling rate by 2025; and a 50 per cent household waste recycling rate by 2030' (page 313). Current household recycling rates across London are ~33% and have changed little over the past five years. The reduced recycling rates within the LES still represent a significant step change in performance which is considered extremely challenging given the context of increased pressure on local authority services and funding.*

3.3.6 Indeed, Figure 69 of the LES Evidence Base presents the actions to be undertaken to meet that target, and includes recognition of a 7.8% gap. Figure 69 of the LES Evidence Base is reproduced below, in Figure 3.1.'

Figure 3.1: Reproduction of Figure 69 from London Environment Strategy: Evidence Base, Waste



4.3.5 The GLA's modelling demonstrates that there remains a gap in waste treatment capacity to meet its own targets. This simple fact can be seen from its own modelling, regardless of whether the stated targets are actually met. The GLA's strategy leaves a gap in capacity, whatever form that capacity may take. This does not provide a robust platform for the GLA to assert that no new energy from waste capacity is required in London.

4.3.6 As is recognised within the London Plan, in '*2015, London managed 7.5mt of its own waste and exported 11.4mt of waste. … Some 32 per cent of London's waste that was biodegradable or recyclable was sent to landfill.*' (paragraphs 9.8.1 and 9.8.2)

4.3.7 In 2017, some 400,000 tpa[39] of London's waste was exported out of the city to energy recovery capacity. The Mayor has aspirational targets for London to be 100% self-sufficient and for zero biodegradable or recyclable waste to landfill by 2026 (London Plan policies SI7 and SI8). ROP has a very real role to play in delivering these fast approaching targets; it is available to be deployed forthwith

4.3.8 As is demonstrated through this Planning Statement, ROP is consistent with the development plan; it is consequently not necessary to demonstrate a quantitative or market need for the proposed development. In any event, the proposed increase in waste throughput is comparatively modest, just 65,000 tpa; 8% of current permitted RRRF throughput, and requires no external change to RRRF.

Waste hierarchy – demonstrated through the LWSA

4.3.9 The LWSA was prepared to accompany the REP DCO application, but remains useful and relevant to ROP. Using the policy targets presented by the GLA in the former London Plan[40], the Draft London Plan[41] and the LES the LWSA considers a number of scenarios. The LWSA demonstrates that REP will not disadvantage recycling in London (particularly at chapter 5) and that it is a very necessary part of the infrastructure required to achieve the waste management, energy supply and circular economy priorities set out in the relevant strategies and plans.

4.3.10 Through the analysis presented, the LWSA demonstrates that should London meet its core waste strategy targets of reduced waste arisings, increased waste recycling, all treatment of London's waste in London, there remains a need for c.1 million tpa of residual waste management capacity within London.

4.3.11 This outcome is important to ROP because the nominal capacity for REP is 655,000 tpa. The demonstrated need for an additional c.1 million tpa residual waste management capacity both exceeds the throughput aligned to REP and the additional throughput proposed through ROP (65,000 tpa).

4.3.12 This outcome is presented in Figure 4.1, which reproduces Figure 6.1 of the PBR. It is important to remember that Figure 6.1 of the PBR refers to the 'London Plan' as was adopted at the time[42] and the 'Draft London Plan' is the document that has subsequently been adopted. Data relevant to waste has not changed from the 'Draft London Plan' as considered in the LWSA and the London Plan as adopted on 2 March 2021 and referenced in this Planning Statement.

[39] Agreed with the GLA during the REP DCO Examination and included in the London+ scenario of the LWSA.

[40] The contemporaneous London Plan at the time of preparing the LWSA; The London Plan, The Spatial Development Strategy for London, Consolidated with alterations since 2011, adopted March 2016 and updated January 2017.

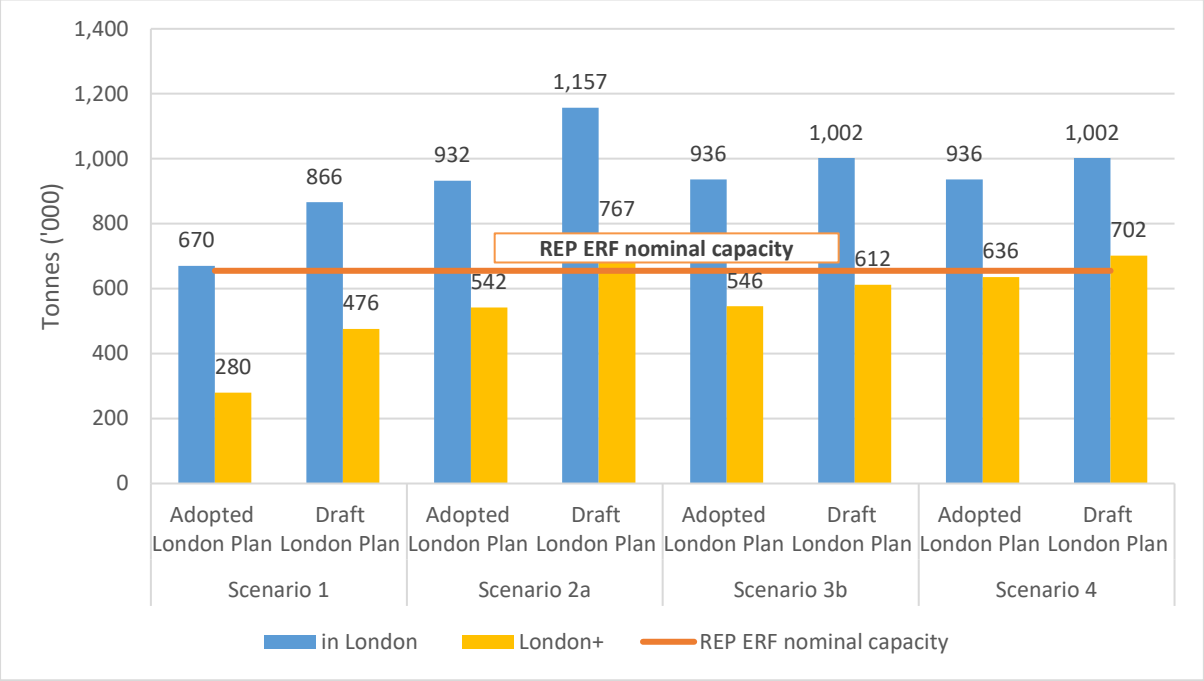
[41] The previous version of the Publication London Plan that was available at the time of preparing the LWSA. The policy targets and relevant data associated with it has not changed in the London Plan adopted March 2021.

[42] The London Plan, The Spatial Development Strategy for London consolidated with alterations since 2011, March 2016, updated at January 2017.

4.3.13 In Figure 4.1 (Figure 6.1 of the PBR) the 'in London' scenarios assume that, as sought by the then adopted London Plan (policy 5.16) and the then draft London Plan (policy SI8), London is wholly self-sufficient and does not use any of the energy recovery capacity that is currently contracted to take London's waste but is located outside of the Capital.

4.3.14 The 'London +' scenarios incorporate the c.400,000 tonnes of capacity that is currently exported to facilities located outside of London, but does not include the c.1.5 million tonnes of residual waste that arises in authorities close to London and that could be readily managed at both RRRF and REP, consequently avoiding its disposal to landfill.

Figure 4.1 Reproduction of Figure 6.1 of the PBR: Scenarios 1, 2a, 3b and 4 of the London Waste Strategy Assessment, at 2026



4.3.15 At paragraph 4.9, the Secretary of State concurred with the Examining Authority to conclude that '*the Applicant's projections took into account the Mayor of London's policies on reducing waste arising and increased recycling and reuse rates [ER 5.2.34], and the issue of whether or not the volume of waste fuel stock available will allow the Applicant to make use of the total capacity of the Development is a commercial matter for the Applicant [ER 5.2.37]*.

4.3.16 This conclusion demonstrates that the LWSA presents a reasonable assessment of future residual waste management requirements, and ROP falls within this level of expectation.

4.3.17 CCC 2020 proposes a municipal waste recycling rate of 70%. On pages 93 and 94, the Government Response 2020 advises

'*Our current evidence indicates that a 70% municipal recycling rate target by 2030 is highly challenging to meet. In the Resources and Waste Strategy, we committed to meeting a 65% municipal recycling rate target by 2035. …*

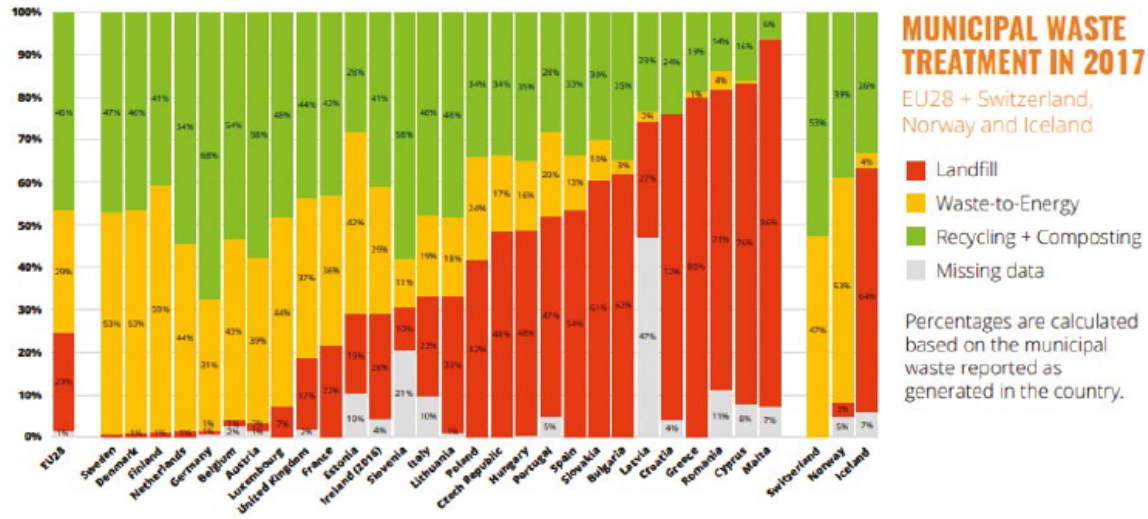
Our existing level of ambition for the municipal recycling rate in part reflects a large degree of uncertainty in the size of the Commercial and Industrial component of municipal waste, and in the proportion of that waste which is recyclable. Confidently making a more ambitious recycling target first requires improvements in C&I waste data; we are working to achieve such improved data in the coming years through our Waste Tracking programme.'

4.3.18 The LWSA included a scenario to consider C&I (commercial and industrial) waste recycling at 80%. This level of recycling was assumed to test the impact of future waste management initiatives as it is higher than that required in policy and higher than is currently believed to be achieved. This also demonstrated a need for new residual waste treatment capacity.

4.3.19 On page 20, the RWS advises: '*Growth in energy from waste and alternative residual waste treatment infrastructure will divert further waste from landfill'*. On page 67 it recognises that '*No matter what we do, we will generate waste … Even those materials that can be given a new lease of life by reuse or reprocessing will eventually reach a point of such little value that they need to be disposed of…*'

4.3.20 Report titled 'No Time to Waste'[43] was published in July 2020 by the think tank Policy Connect. This cross-party supported report addresses the perceived conflict between recovery and recycling head on:

'*There are often claims that EfW inhibits recycling rates, however this inquiry found no evidence to support this. Conversely, countries with higher reliance on EfW than landfill, often provide evidence that EfW goes hand in hand with the best recycling performances. The below graph visualises the proportion of waste sent to either landfill, EfW, or recycled, by European countries in 2017. In contrast to claims that EfW hampers recycling, the below shows that the countries with the highest and above average recycling rates, are the ones with more EfW and less landfill.*



Municipal waste treatment in 2017. CEWEP graph based on Eurostat figures, 2019

Parts of the UK have replicated this trend albeit at a more localised scale. Buckinghamshire achieves well above average recycling rates (57% in 2014/15, compared to a national average

[43] https://www.policyconnect.org.uk/research/no-time-waste-resources-recovery-road-net-zero

of 43.7%), and this is alongside a move to EfW reliance for their residual waste, and the associated cost savings.' (page 17 and 18)

4.3.21 This trend is also reflected locally. Since 2008/09, LBB has achieved the highest household recycling rate of all the boroughs in London, consistently achieving over 51%[44]. LBB's residual wastes are sent to RRRF for treatment, demonstrating that high recycling and energy recovery work well together in London.

4.3.22 Regulation of the waste hierarchy falls to the Environment Agency. Regulation 12 of the Waste Regulations 2011 establishes the duty in relation to the waste hierarchy. The duty is placed on an *'establishment or undertaking which imports, produces, collects, transports, recovers or disposes of waste, or which as a dealer or broker has control of waste must, on the transfer of waste, take all such measures available to it as are reasonable in the circumstances to apply the following waste hierarchy as a priority order*.'

4.3.23 The transfer of waste is monitored (and regulated) by the Environment Agency though a system of waste transfer notes; with the receiving facilities limited in the type of waste that can be received and the type of operation that can be undertaken through the Environmental Permit.

4.3.24 Part 6 of the Waste Regulations 2011 contains the duties of planning authorities, with Regulation 18 specifying that:

'*A planning authority must have regard to the following provisions of the Waste Framework Directive when exercising its planning functions to the extent that those functions relate to waste management—*

(a) Article 13;

(b) the first paragraph of Article 16(1), ignoring the words "in cooperation with other Member States where this is necessary or advisable" and "taking into account best available techniques";

(c) Article 16(2) and (3).'

4.3.25 The waste hierarchy is presented at Article 4 of the Waste Framework Directive. Consequently, it is not a matter that must be considered by the planning authority in its role of determining planning applications.

4.3.26 RRRF is not currently required to demonstrate the waste hierarchy within a planning condition of that facility. This is correct and a position that should be maintained. RRRF is just one element of the overall waste management infrastructure network in London and it is not reasonable or appropriate to place the burden of increased recycling activities on such facilities. This is a matter for the regulator, the Environment Agency, rather than the applicant and the planning system.

Self-sufficiency

4.3.27 Policy recognises the waste hierarchy is delivered through a network of infrastructure. Accordingly, RRRF, and ROP, is just one element of the overall waste management

[44] Household Waste Recycling Rates, Borough, Department for Environment, Food and Rural Affairshttps://data.london.gov.uk/dataset/household-waste-recycling-rates-borough

infrastructure network required in London. It is not reasonable or appropriate (nor a correct interpretation of policy) to place the burden of increased recycling activities on facilities such as RRRF. The LWSA demonstrates that the delivery of development plan policy requires new residual waste treatment capacity, facilities that divert residual waste from landfill to the recovery of renewable/low carbon energy.

4.3.28 Also, delivering London Plan and local plan policy expectations, ROP presents an appropriate intensification of an existing use, that will deliver self-sufficiency objectives for London's waste. It is also true that RRRF is well located to accept waste from outside of London. The European Waste Framework Directive[45], at Article 16(3) requires that:

'*The network shall enable waste to be disposed of or waste referred to in paragraph 1 to be recovered in one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health'*.

4.3.29 The wording '*recovered in one of the nearest appropriate installations*' is important. The concept involves elements other than just distance: the installation chosen for any tonne of waste may be one of several; and it cannot be any installation, it needs to be an appropriate installation.

4.3.30 Energy recovery facilities, such as RRRF, are not required to be the, only, closest installation to the waste; they are required to be '***one of*** *the* ***nearest appropriate*** *installations'* (added emphasis).

4.3.31 RRRF is already demonstrated to be an appropriate installation: it operates at the right level of the waste hierarchy; diverts waste from landfill; and presents London with a supply of renewable/low carbon energy from an efficient recovery facility that is demonstrated to achieve R1 status. Located in London, with its own jetty on the River Thames, it is also one of the nearest such installations, both for waste arisings within London and beyond.

4.3.32 The policy aspiration for London to be self-sufficient is eminently sensible. Having its own network of waste management facilities means London can benefit from economic investment as well as environmental gain and societal benefits. However, this does not mean that RRRF should be constrained to taking only waste arising within London; not least, those same benefits will be gained wherever the source of waste lies.

4.3.33 The Waste Regulations 2011 also confirm (at Schedule 1, Part 1, paragraph 4) that the network sought is to enable the United Kingdom as a whole to be self-sufficient. Further, that the full range of final recovery facilities does not need to be located in England or Wales, either separately or jointly.

'*There is nothing in the legislation or the proximity principle that says accepting waste from another council, city or region is a bad thing and indeed in many cases it may be the best economic and environmental solution and/or be the outcome most consistent with the proximity principle*' (EfW Debate Guide, page 6).

4.3.34 All waste arisings, of any type or composition, require management. Generally, it is impracticable, and potentially harmful, for that management to occur at the point of arising.

[45] https://ec.europa.eu/environment/waste/framework/guidance.htm

Therefore, waste will need to travel to re-use, recycling, composting, recovery, or disposal facilities with both appropriate consent and available capacity.

4.3.35 Consequently, for the operator of the waste management facility, gaining that waste (whether for treatment or disposal) is a commercial matter between the producer and the service provider, and one that is affected by market demands.

4.3.36 The EfW Debate Guide recognises the importance of optimising residual waste as a fuel, and ensuring that energy from waste plants are able to respond to change over time. Concerns about the need to 'feed' the plant are readily addressed through building in flexibility and enabling facilities to seek out waste from a range of sources, which may be beyond the boundary of the administrative authority in which they are located (paragraph 230).

'*Moving forward, Government continues to put significant resources into overcoming barriers to delivering further market-driven investment aimed at optimising the role of energy from waste in the hierarchy.*'
(page 47)

4.3.37 At page 77, RWS states its intention '*to secure a substantial increase in the number of EfW plants that are formally recognised as achieving recovery status, and will ensure that all future EfW plants achieve recovery status.*'

4.3.38 RRRF is already formally recognised as a recovery facility. ROP is proposed as an optimisation of RRRF, a facility already operating successfully and in response to a clear demand from within and beyond London.

4.3.39 This approach is wholly in line with the Waste Framework Directive, the Waste Regulations and advice of the EfW Debate Guide.

4.3.40 The export of residual waste from, and import into, London, for treatment delivers the proximity principle. RRRF is '*one of the nearest appropriate installations*' at which these wastes can be sustainable used to recover renewable/low carbon energy. ROP would enable this to occur with greater efficiency. Enabling more residual waste (i.e. that which remains after reuse and recycling) to be diverted from landfill delivers the waste hierarchy at an appropriate installation and underpins the ability of ROP to achieve the improved carbon effects, which are considered in the next section.

4.3.41 As is demonstrated by the analysis above, ROP meets all policy relevant to sustainable waste management.

4.4 Conclusions

4.4.1 The Waste Policy Review states that:

'*Energy recovery is an excellent use of many wastes that cannot be recycled and could otherwise go to landfill. It can contribute secure, renewable energy to the UK demand for transport, heat, biomethane and electricity and is generally the best source of feedstocks for UK bio-energy needs. Our horizon scanning work up to 2020, and beyond to 2030 and 2050 indicates that even with the expected improvements in prevention, re-use and recycling, sufficient residual waste feedstock will be available through diversion from landfill to support significant growth in this area, without conflicting with the drive to move waste further up the*

hierarchy. Maximising the potential for growth in continuous generation available from energy from waste will require both better use of the available residual waste and development of high efficiency flexible infrastructure'
(paragraph 214).

4.4.2 Despite being made ten years ago, this statement demonstrably remains relevant today, not least as it is echoed in the Government Response 2020 (as stated at section 4.2.1 above).

4.4.3 National policy recognises the important role that the recovery of energy from residual wastes will play in delivering net zero targets.

4.4.4 Development plan policy prioritises this role, seeking to deliver a global leading, net zero carbon capital city that is self-sufficient in its waste treatment, integrated in its energy supply and so able to sustain communities underpinned by affordable, reliable, decentralised energy.

4.4.5 RRRF is a successfully operating plant, formally recognised as an energy recovery facility. Instead of coal, gas or virgin biomass, the fuel for this plant is residual wastes that have been diverted from landfill. ROP enables RRRF to be operated even more efficiently, reducing emissions and optimising use of the site.

4.4.1 The WMPE is the most recent statement from government on the role of recovery facilities such as RRRF in delivering sustainable waste management, and using residual waste as a resource. It states the following:

'*Residual waste generally refers to the waste collected from households or businesses in a black bag or wheelie bin. The government supports efficient energy recovery from residual waste – energy from waste is generally the best management option for waste that cannot be reused or recycled in terms of environmental impact and getting value from the waste as a resource*.' (page 17)

4.4.2 Policy relevant to the principle of the proposed development is therefore met.

5. Development Management

5.1 Carbon

5.1.1 Positive carbon outcomes are key stepping stones to the UK achieving the 2050 net zero carbon target set by the Climate Change Act 2008 (2050 Target Amendment) Order 2019:

'*As we set out below, there are good reasons why resource management and improving resource efficiency has been a central theme throughout a wealth of recent legislation. Our inquiry concludes that EfW has an important role to play in the transition ahead of us: both as the lowest carbon solution for managing residual waste, but also by providing low carbon heat and supporting other sectors' decarbonisation efforts*.'
(No Time to Waste, Executive Summary)

5.1.2 This section demonstrates how ROP will enable efficient operations at RRRF to be optimised, not least through the diversion of waste from landfill.

Key policy and material considerations

5.1.3 Relevant development plan policies considered are as follows:

- Core Strategy: CS01; and CS08.
- Bexley UDP: ENV59.
- London Plan: GG6; SI2; and SI8.

5.1.4 Relevant material consideration documents considered are as follows:

- NPPF paragraphs: 8/c; 148; 151; and 154.
- Draft Bexley Plan: SP13; and DP35.
- RWS, particularly pages 45, 77 and 78.

How policy is met

5.1.5 Core Strategy policy CS01 seeks to achieve sustainable development, not least through adapting and mitigating for climate change, including through retrofitting existing building stock and maximising the effective and efficient use of natural and physical resources. Core Strategy policy CS08 requires development '*to contribute to the delivery of sustainable development by planning, adapting to, and mitigating the impacts of climate change, by reducing carbon emissions*' associated with the development. It makes reference to the Mayor's energy hierarchy (London Plan policy SI2). Core Strategy paragraph 4.2.9 recognises that the provision of decentralised energy will be '*the focus of much of the borough's growth over the next 15 years. It is anticipated that the provision of decentralised energy networks will facilitate the future provision of zero carbon developments.'* London Plan paragraph 1.48 recognises climate change mitigation to include energy efficiency and decentralised energy.

5.1.6 London Plan policy GG6 seeks to increase efficiency and resilience, driving London's transition to a zero carbon economy, using new infrastructure to secure sustainable growth and development. Paragraph 1.6.2 confirms that the Plan will '*require developments to contribute to London's ambitious target to become zero carbon by 2050 by increasing energy efficiency,*

including through the use of smart technologies, and utilising low carbon energy sources. Creating a low carbon circular economy, in which the greatest possible value is extracted from resources before they become waste, is not only socially and environmentally responsible, but will save money and limit the likelihood of environmental threats affecting London's future.'

5.1.7 Paragraph 1.6.7 makes clear the Mayor's approach that '*Good planning can make London more resilient against the threats of the modern world, while improving the city's impact on the environment. The approaches set out in this Plan will ensure that London remains a safe and prosperous place to live for many decades to come*.'

5.1.8 London Plan policy SI2 actively seeks to minimise greenhouse gas emissions, requiring major development proposals to be net zero-carbon. The proposed development is major development in so far as it is for operations at a waste facility. RRRF is already compliant with the energy hierarchy set out at London Plan policy SI2:

- Be Lean – RRRF is already self-reliant in energy demand during normal operations. Additionally, ROP will enable the facility to operate more efficiently and the application for the BESS application currently being considered by LBB, see paragraphs 1.2.4and 2.2.10) will enable Cory to continue to power the plant during power outages without recourse to external sources of energy.
- Be Clean - Local energy resources, in the form of residual waste, are being used as the fuel for RRRF, enabling the facility to recover renewable/low carbon energy for use elsewhere across London. As is demonstrated in this section, ROP will enable a reduction in carbon and greenhouse gas emissions.
- Be Green – RRRF is a facility for the recovery of energy from residual wastes; ROP will enable the energy recovery operations to be maximised delivering policy priorities.
- Be Seen – monitor, verify and report on energy performance – RRRF is annually monitored by the EA to confirm its R1 status. This demonstrates its ongoing ability to be properly recognised as an efficient facility, and as recovery, not disposal, in the waste hierarchy.

5.1.9 London Plan paragraph 9.2.1 makes clear that the '*Mayor is committed to London becoming a zero-carbon city*.' Paragraph 9.2.3 seeks '*to ensure that all development maximise opportunities for on-site electricity and heat production*' including through the use of smart technologies. ROP will enable RRRF to be optimised, maximising the opportunities for on-site electricity and heat production.

5.1.10 Paragraph 9.2.7 states that '*Developments are expected to achieve carbon reductions beyond Part L* [of the Building Regulations] *from energy efficiency measures alone to reduce energy demand as far as possible*.' ROP does not constitute any built development and consequently the Building Regulations do not appropriate apply, however material carbon savings are achieved through ROP, as set out in the ROP EIA Report.

5.1.11 ROP EIA Report Chapter 7 presents the climate change assessment that has been undertaken, relying on technical analysis presented at Appendix D. Table 7.4 presents the Base Case Carbon results, demonstrating a net benefit of nearly 30,000 tonnes of carbon dioxide equivalent avoided. Paragraph 7.7.2 states that:

'*Another way to express the benefit of ROP is to consider the additional power generated by RRRF following the implementation of ROP as compared to the landfill counterfactual and calculate the effective net carbon emissions per MWh of additional electricity exported. This is referred to as the effective carbon intensity and is calculated to be -0.043 tCO2e/MWh. These calculations are displayed in further detail within the Carbon Assessment (Technical Appendix D.1). Hence, it can be seen that the overall effect of the increased waste throughput at RRRF would be to generate an additional 70,302 MWh of power with an effective carbon intensity below zero*.'

5.1.12 Even when a series of sensitivities are considered, the ROP EIA Report is still able to conclude that:

'*there is a benefit for all LFG* [landfill gas] *capture rate and grid displacement factor combinations.'* (paragraph 7.7.5); and

'*there is a net benefit of processing additional waste in all cases*' (paragraph 7.7.8)

confirming the carbon benefit of ROP.

5.1.13 One way that carbon reductions are achieved is through the London specific carbon intensity floor ('CIF') performance indicator, set out at London Plan policy SI8/E/3. Paragraph 9.8.14 explains:

'*To support the shift towards a low-carbon circular economy, all facilities generating energy from waste should meet, or demonstrate that they can meet in future, a measure of minimum greenhouse gas performance known as the carbon intensity floor (CIF). The CIF is set at 400g of CO2 equivalent generated per kilowatt hour (kwh) of electricity generated. The GLA's free on-line ready reckoner tool can assist boroughs and applicants in measuring and determining performance against the CIF. Achieving the CIF effectively rules out traditional mass burn incineration techniques generating electricity only. Instead, it supports techniques where both heat and power generated are used, and technologies are able to achieve high efficiencies, such as when linked with gas engines and hydrogen fuel cells. More information on how the CIF has been developed and how to meet it can be found in the London Environment Strategy*.'

5.1.14 The CIF value is also considered within Chapter 8 of the ROP EIA Report, through three scenarios (paragraph 7.7.12 and Table 7.7) as summarised below in Table 5.1.

Table 5.1 Summary of CIF Calculations

Reference and description		**CIF value**
a.	RRRF, the current operational plant	454
b.	RRRF, optimised plant after ROP	446
c.	A nominal EfW plant which processes the additional waste and generates the additional electricity as a result of the optimisation	396

5.1.15 ROP does not enable RRRF to meet the set CIF value sought at London Plan policy SI8/E/3. However, it is important to remember that RRRF was in approved in June 2006, five years before the CIF was introduced in the Mayor's Municipal Waste Management Strategy,

'London's Wasted Resource'[46] of November 2011. It is evident that ROP brings a reduction in the CIF value of RRRF, an existing facility that has confirmed R1 status. Further, ROP is clearly demonstrated to deliver the level of efficiency sought in policy and the additional power generated from the additional waste achieves a CIF value of 396, exceeding the target set in policy SI8.

5.1.16 The RWS states '*We cannot increase resource efficiency without the right waste infrastructure*.' (page 78) On page 77 the RWS makes clear that this is to be achieved through *'securing a substantial increase in the number of EfW plants that are formally recognised as achieving recovery status, and will ensure that all future EfW plants achieve recovery status*.'

5.1.17 RRRF is already confirmed as achieving recovery status; ROP enables the facility to operate even more efficiently. Increased efficiency and the consequent carbon reductions achieved through ROP are exactly the outcomes sought to be achieved in policy, most recently confirmed in the WMPE:

'*The Resources and Waste Strategy promotes efficient energy recovery from residual waste, but the government does not express a preference for one technology over another, since local circumstances differ. Efficient energy recovery from residual waste which can deliver environmental benefits, reduce carbon impacts and provide economic opportunities, and innovative technologies which improve the environmental outcome for the treatment of residual waste are welcomed*.

…

Any given technology is more beneficial if both heat and electricity can be recovered. Particular attention should therefore be given to the location of the plant to maximise opportunities for heat use.'

(page 45).

5.1.18 It is consequently material that the CIF calculation presented in the ROP EIA Report does not consider heat. RRRF is CHP ready and as explained at section 4.2 of this Planning Statement, Cory has active partnerships with relevant organisations to deliver an extensive heat distribution network. The implementation of this scheme would enable RRRF to substantially exceed the stated CIF target and deliver all net zero carbon policy priorities.

5.1.19 London Plan paragraph 9.8.16 sets out the '*demonstrable steps'* required under policy SI8/E. These too are met by ROP:

- *'A commitment to source truly residual waste – waste with as little recyclable material as possible*
  This is addressed in section 4.3 above. The LWSA demonstrates that ROP delivers the policy aspirations to divert residual waste from landfill and will not detract from recycling targets. In addition, the Environmental Permit for RRRF already explicitly states the specific European Waste Catalogue codes that can be accepted and requires that waste shall only be accepted if: (a) it is of a type and quantity listed in the relevant schedule; and (b) it conforms to the description in the documentation supplied by the producer or

[46] https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/mayors-waste-management-strategies

holder; and if having been separately collected for recycling, it is subsequently unsuitable for recovery by recycling. This is the correct mechanism for controlling the source of waste to RRRF and delivering the waste hierarchy.

- *A commitment (via a Section 106 obligation) to deliver the necessary means for infrastructure to meet the minimum CO2 standard, for example investment in the development of a heat distribution network to the site boundary, or technology modifications that improve plant efficiency.*
  Chapter 8 of the ROP EIA Report demonstrates that a facility which processes the additional waste and generates the additional electricity as a result of ROP achieves a CIF value of 396, exceeding policy expectations. Assessed as an electricity only facility, ROP does not enable RRRF as a whole to meet the value. However, as demonstrated at section 4.2 of this Planning Statement, Cory is already working to deliver an extensive heat distribution network, the delivery of which would mean that RRRF would meet, and substantially exceed, the minimum CO2 standard.
  - *An agreed timeframe (via a Section 106 agreement) as to when proposed measures will be delivered.*
    As explained above, a facility which processes the additional waste and generates the additional electricity as a result of ROP achieves a CIF value of 396, exceeding policy expectations. Further, the Applicant is already progressing a district heat network scheme with reputable partners.
  - *The establishment of a working group to progress the agreed steps and monitor and report performance to the consenting authority.*
    As explained at section 4.2, Cory co-funded the 2015 BEMP and is a key member of the Bexley District Heating Partnership Board (which had its inaugural meeting on 4 June 2018). A working group is already established and BEIS funding through the HNIS has been gained. The project is demonstrated to be on the road to delivery.

5.1.20 ROP will enable RRRF, an energy recovery facility already formally recognised to be operating efficiently, to be optimised. It is a demonstration of private investment by Cory to ensure their facilities remain up to date and make an appropriate contribution to net zero carbon policy priorities. On page 11, No Time to Waste confirms that, '*This inquiry has found EfW to be the lowest carbon option for managing residual waste, avoiding 200kg of CO2 for every tonne of waste diverted away from landfill.*'

5.1.21 As is demonstrated by the analysis above, ROP meets all policy relevant to carbon and reduction of greenhouse gas emissions.

5.2 Air Quality and Human Health

5.2.1 RRRF is a modern energy recovery facility, a technology for which evidence suggests is unlikely to pose any significant health risk. As with all UK EfW facilities, RRRF is highly regulated and subject to strict emission limits on a wide range of parameters; many of which are monitored on a continuous basis.

5.2.2 However, it is recognised that emissions are released from the facility and will continue to be so under ROP. This section considers the potential effect of the proposed development in terms of air quality.

Key policy

5.2.3 Relevant development plan policies considered are as follows:

- Core Strategy: CS01; and CS09.
- London Plan: GG3/F; and SI1.

5.2.4 Relevant material consideration documents considered are as follows:

- NPPF paragraphs: 181.
- GLA EfW Health Effects Report, particularly pages 2 and 3; and paragraph 2.14, 3.39 and 3.40.
- RCE-13 and later studies commissioned by Public Health Authority.

How policy is met

5.2.5 Core Strategy policy CS01 seeks to achieve sustainable development, not least through addressing pollution issues including air quality. Policy CS09 seeks to ensure that Bexley's resources are used sustainably, including to maximise '*the opportunities to improve health of the environment (e.g. air … quality) and reducing pollution and conflicts between adjoining land uses …*'. (Policy CS09/e)

5.2.6 London Plan policy GG3 intends to create a healthy city and seeks '*to improve London's air quality, reduce public exposure to poor air quality and minimise inequalities in levels of exposure to air pollution*.' (Policy GG3/F) London Plan policy SI1 is focussed on improving air quality within London, with sub paragraph B setting out the following criteria to be addressed:

'*1) Development proposals should not:*

a) lead to further deterioration of existing poor air quality

b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits

c) create unacceptable risk of high levels of exposure to poor air quality.

Air Quality

5.2.7 Part 2 of policy SI1/B requires that development proposals must be at least Air Quality Neutral. Paragraph 9.1.3 explains:

'*The aim of this policy is to ensure that new developments are designed and built, as far as is possible, to improve local air quality and reduce the extent to which the public are exposed to poor air quality. This means that new developments, as a minimum, must not cause new exceedances of legal air quality standards, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits. Where limit values are already met, or are predicted to be met at the time of completion, new developments must endeavour to maintain the best ambient air quality compatible with sustainable development principles*.'

5.2.8 This element of ROP has been considered through Chapter 5 of the ROP EIA Report which concludes:

'*5.12.4 In relation to the change in predicted impacts due to the Proposed Changes, for all pollutants and averaging periods assessed, these are classified as Negligible in accordance with the IAQM methodology based on the low additional (or reduction) in impacts.*

5.12.5 It is therefore considered that the effect of the Proposed Changes on Air Quality can be classified as Not Significant.

5.12.6 In relation to the overall predicted impacts of RRRF post ROP, for a majority of the pollutants and averaging periods assessed, the maximum impacts or those at receptor locations are classified as Negligible in accordance with the IAQM methodology. This is due to either the low contribution of the emissions compared to the EAL and/or the baseline air quality being well below the EAL.

5.12.7 Whilst for some metals (arsenic, chromium VI and nickel) the predicted impact is not classified as Negligible at all locations, this is based on conservative assumptions as to their emissions and the magnitude and extent of the impacts are not considered to be Significant.

5.12.8 It is therefore considered that the effect of the emissions associated with RRRF post ROP on air quality can be classified as Not Significant.'

5.2.9 These conclusions hold true even when the potential for cumulative effects is considered.

5.2.10 Consequently, it is demonstrated that ROP will not have a material adverse effect in terms of air quality. This has been achieved through a number of embedded mitigation measures delivered through ROP; including the commitment to early adoption of the enhanced standards to be introduced by the Environmental Permitting Regulations.

Human health

5.2.11 Human health has been scoped out of the ROP EIA Report as a standalone topic; however it has been considered as part of the air quality assessment and is relevant to address in policy terms.

5.2.12 The GLA EfW Health Effects Report presents both a literature review and an assessment of the effects of NOx and $PM_{2.5}$.

5.2.13 In terms of the literature review, the Executive Summary of the GLA EfW Health Effects Report states that:

'*The reviewed evidence suggests that well-managed modern EfW/MSWIs* [energy from waste /municipal waste incinerators] *are unlikely to pose a significant health risk (i.e. cancer, non-cancer, pregnancy, birth and neonatal health) in the UK under the current stringent regulatory regime.*' (page 2)

'*On the basis of this literature review, it is concluded that any potential health risks associated with direct emissions from modern, effectively managed and regulated EfWs in London are exceedingly low.*' (page 3)

5.2.14 In relation to the consideration of NOx and $PM_{2.5,}$ the Executive Summary states (page 3) that:

'*The contribution of the facilities to annual mean concentrations of nitrogen dioxide and particulate matter is greatest close to the facilities.*

5.2.15 It also states that a total of '*15 deaths of London residents per year are calculated to be attributable to emissions of nitrogen oxides and particulate matter from the five EfW facilities'* and to confirm that the '*study only covers the effects within London that are attributable to the five EfW facilities identified for this study, and excludes facilities peripheral to London.*'

5.2.16 Both of these pollutants (NOx and $PM_{2.5}$) are assessed in Chapter 5 of the ROP EIA Report, which incorporates the relevant air quality and consequent human health standards, including those that are due to be implemented in the future:

'*The 2019 Clean Air Strategy includes a commitment to set a "new, ambitious, long-term target to reduce people's exposure to PM2.5" which the proposed Environment Bill 2019-2021 commits the Secretary of State to setting. Additionally, the Mayor of London has committed to meeting the World Health organisation (WHO) guideline of 10 µg/m3 by 2030. The implications of potential future changes to the applicable standard for PM2.5 has been considered in this ES.*' (paragraph 5.2.49)

5.2.17 The ROP EIA Report demonstrates that there is no significant detrimental effect in terms of air quality, including for those pollutants with the greatest potential to cause harm to human health. Even considering the cumulative PM10 and PM2.5 impacts from both RRRF post-ROP and REP, '*The overall cumulative PC for nitrogen dioxide (NO2) at discrete receptors ranges from 0.2% to 2.5% of the annual EAL. Once background concentrations are considered, the PEC does not exceed 75% of the EAL and based on the IAQM significance criteria the cumulative impacts are classified as* ***Negligible*** *at all receptors.* ' (paragraph 5.8.6)

'In terms of cumulative PM_{10} and $PM_{2.5}$ impacts, the overall PC at discrete receptors is below 0.5% of the relevant EAL at all receptors, total concentrations are well below the EAL. In relation to the WHO guideline value for PM2.5 (of 10 µg/m3), the cumulative PC at receptors locations would be <0.5% of this guideline. Therefore based on the IAQM significance criteria the cumulative impacts are classified as ***Negligible a****t all receptors*. (paragraph 5.8.7)

5.2.18 Consequently, it is demonstrated that ROP will not have a material detrimental effect on human health.

5.2.19 This outcome is not surprising. As set out in the Note on Public Health and Evidence (ROP EIA Report, Appendix B.4) Public Health England ('PHE') relying on RCE-13[47] advises that:

'*… While it is not possible to rule out adverse health effects from modern, well regulated municipal waste incinerators with complete certainty, any potential damage to the health of those living close-by is likely to be very small, if detectable. …'.* (extract from Summary, page 1)

5.2.20 Research commissioned by PHE in 2018 and 2019[48] shows that there is no evidence that living close to an energy recovery facility is associated with increased infant mortality or other infant

[47] RCE-13 was prepared and published by the Health Protection Agency whose role has now been taken over by PHE.

[48] PHE commissioned the Small Area Health Statistics Unit (SAHSU), which is based at Imperial College London and Kings College London. Details of the study can be found at https://www.sahsu.org/content/incinerators-study.

health risks; and that abatement systems in place for particulate matter in such facilities are very effective at avoiding emissions of ultrafine particles.

5.2.21 The papers referred to above considered UK energy recovery facilities operating under the same regulatory regime that would apply to RRRF (with and without) ROP and operating to current standards. Accordingly, this independent research and evidence is the most comprehensive and relevant research available. Given that neither paper found any evidence of an association of energy recovery facilities with the health outcomes considered, and that RRRF post-ROP would actually operate to tighter standards (described further at paragraph 5.2.23) the Applicant is confident that the conclusions are directly relevant and support PHE's position statement.

Conclusions

5.2.22 As explained in the ROP EIA Report (from paragraph 5.2.21) the Environmental Permitting Regulations 2010 require that the design and operation of all thermal treatment plants must ensure compliance with limits that are set out in the relevant BREF (Waste Incineration Best Available Techniques Reference). This document sets out current Best Available Techniques (BAT) for reducing pollution from waste incineration plants and includes a number of BAT-AELs (emission levels associated with the best available techniques).

5.2.23 New, more stringent, BAT-AELS are due to come into force in England from November 2023 (unless a derogation is granted). However, the Applicant has committed to early adoption of the BREF BAT-AELS both as proposed through the Environmental Permit Variation application that is being determined in parallel to this application and relied upon within the ROP EIA Report. This early adoption of more stringent standards delivers London Plan policy and reduces the maximum permitted emissions of many pollutants.

5.2.24 It is also material that the assessment undertaken has incorporated a worst-case parameter; assuming '*that there are no maintenance or shut down periods and the source is emitting for 100% of the time*.' (ROP EIA Report, paragraph 5.4.27)

5.2.25 In addition to considering the potential impact on air quality and human health, the ROP EIA Report also presents an assessment of air quality impacts on terrestrial biodiversity. This is considered in more detail in section 5.3 below, but in short, the ROP EIA Report concludes that:

'*For all Terrestrial Biodiversity Receptors, the change in annual average impacts resulting from the Proposed Changes is <1% of the relevant critical levels or loads (or 10% of the short-term critical levels) and therefore considered Negligible*.' (paragraph 6.12.8)

5.2.26 As is demonstrated by the analysis above, ROP would not have a material adverse effect in terms of air quality or human health and relevant policy is met.

5.3 Biodiversity

5.3.1 There is no physical external change resulting from ROP and consequently there are no direct effects on biodiversity. However, it is recognised that there is the potential for indirect effects as a result of a change in emissions levels from RRRF.

5.3.2 This section considers the potential effect of the proposed development in terms of ecology and biodiversity.

Key policy

5.3.3 Relevant development plan policies considered are as follows:

- Core Strategy: CS18.
- Bexley UDP: TS15.
- London Plan: G6

5.3.4 Relevant material consideration documents considered are as follows:

- NPPF paragraph: 170/d.
- Draft Bexley Plan: SP12; and DP31.

How policy is met

5.3.5 Core Strategy policy CS18 and London Plan policy G6 both seek to protect biodiversity assets. London Plan policy G6/D and the Draft Bexley Plan include a request for ecological data and seek to ensure that:

'*Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process*.'

5.3.6 Bexley UDP policy TS15 seeks to promote the protection and improvement of wildlife that is Thames-side. The NPPF also provides specific instruction, at paragraph 170/d, requiring decisions *to contribute to and enhance the natural and local environment by*:

minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...'.

5.3.7 It is clear that ROP will have no direct effect on biodiversity assets. Locally, the Friends of Crossness Nature Reserve confirm (in their consultation response to the ROP Scoping Report) that they foresee no significant impact on the terrestrial biodiversity of that site.

5.3.8 ROP EIA Report Chapter 6 considers the potential impact of ROP on biodiversity. It relies upon the outcomes of the air quality modelling which demonstrates that '*whilst some of the designated areas currently exceed critical loads or critical levels, changes in PCs* [process contributions] *due to ROP when compared to the existing baseline, are less than 1% of the annual average critical loads or levels for all modelled pollutants, or less than 10% for the short-term average*.' (paragraph 6.7.3)

'*Therefore, predicted effects from ROP through contribution of pollutants to the designated areas considered within this assessment are* ***Not Significant.***' (ROP EIA Report, paragraph 6.7.6)

5.3.9 The cumulative effect of RRRF with ROP alongside REP is also considered, with nine designated sites scoped into this further assessment:

- Inner Thames Marshes/Rainham Marshes;
- Ingrebourne Marshes SSSI;

- Lesnes Abbey Wood;
- Frank Parks;
- Wennington, Aveley and Rainham Marshes;
- Crossway Park and Tump 52;
- The Ridgeway;
- Lesnes Abbey Woods and Boarstall Woods; and
- Thamesview Golf Course.

5.3.10 Considering the habitat and condition assessment of each site, the relevant pollutant with the potential to cause an impact and the contribution made by the accumulation of the energy recovery facilities, the assessment concludes that the predicted effects are not significant across all nine sites.

5.3.11 The residual effects are concluded to be not significant (negligible) demonstrating that there are no unacceptable adverse impacts on biodiversity from the proposed development. Consequently, impacts on biodiversity are appropriately managed and deliver the aims of policy.

5.3.12 ROP does not involve any external physical change to the environment and is demonstrated to not have a material adverse effect indirectly. Consequently, no new physical biodiversity elements are included in the proposed development.

5.3.13 The screening undertaken in the ROP Shadow HRA Report concludes that there are no Likely Significant Effects to the Epping Forest SAC identified either alone, or in combination with other plans or projects. As a result, ROP does not require further consideration at Stage 2 Appropriate Assessment

5.3.14 As is demonstrated by the analysis above, ROP would not have a material adverse effect in terms of biodiversity and relevant policy is met.

5.4 Other Material Considerations

5.4.1 The key topics relevant to the proposed development have been considered above in some detail. This section of the Planning Statement addresses any other potential effects.

5.4.2 The matters considered in this section are:

- Optimised land use;
- Transport;
- Accidents and Disasters; and
- Flood Risk.

Key policy

5.4.3 Relevant development plan policies considered are as follows:

- Core Strategy: CS08; CS12; and CS15.

- Bexley UDP: ENV39; E1; and T6.
- London Plan: GG2; D3; D12 E4; E5; E8; T4; SI9; and SI12.

5.4.4 Relevant material consideration documents considered are as follows:

- NPPF paragraphs: 38; 80; 109; 117; 118/a & d; and 160 to 162; and planning practice and guidance Tables 1 and 2[49] ('PPG Tables 1 and 2') .
- Draft Bexley Plan: SP2/3; SP4/2b; DP6/1; DP16; and DP22.
- Thames Estuary Plan TE2100, Environment Agency, November 2012 and as updated (TE2100 Plan).
- EDS, particularly pages 101, 131 and 132.

How policy is met

Optimised land use

5.4.5 Core Strategy policy CS12/a states a commitment to promoting sustained economic and employment development through '*making the most efficient use of Bexley's land, ensuring a balance between the needs of business and industry and other land-uses* …'. Draft Bexley Plan policy SP2 develops this theme, supporting the growth of new economic sectors integrated with existing uses. London Plan policy GG2 explicitly seeks to '*create successful sustainable mixed-use places that make the best use of land … proactively explor[ing] the potential to intensify the use of land to support additional … workspaces …* '. London Plan policy D3/A requires that '*all development must make the best use of land by following a design-led approach that optimises the capacity of sites* … '. London Plan policy E4/A/4 makes a commitment to providing '*a sufficient supply of land and premises in different parts of London to meet current and future demands for industrial and related functions*' making '*provision for the varied operational requirements of utilities infrastructure (such as energy and water)*'. The NPPF (at paragraphs 117 and 118) makes clear that these principles should be promoted in planning decisions.

5.4.6 ROP makes no change to the external appearance of RRRF and would have very little effect on operations on site. It will optimise the use of the site through the use of new technology that will improve efficiency of the established energy recovery facility, diverting more residual waste from landfill and increasing energy supply. It would not result in a mixed-use development; it is simply upgraded plant and machinery enabling the facility to function more efficiently and effectively.

5.4.7 The Application Site is a Strategic Industrial Location, as identified by London Plan policy E5/A, being managed proactively to futureproof operations such that they '*support the functioning of London's economy*'. As is made clear in London Plan policies E5/C and E8/A & B, and Draft Bexley Plan DP6/1 such proposals, should be maximised and supported.

5.4.8 London Plan policy SI9/A states a clear intention that '*existing waste sites should be safeguarded and retained in waste management use*.' As discussed further below ROP is required so that the current consents the facility operates under are amended such that the technological improvements made in recent years can be fully realised and the facility can

[49] https://www.gov.uk/guidance/flood-risk-and-coastal-change#flood-zone-and-flood-risk-tables

operate as efficiently as possible. This enables the facility to be remain efficient and effective into the future and safeguarding its important role in terms of both waste management and energy supply within London.

5.4.9 It is therefore demonstrated that policy concerning optimal land use is met.

Transport

5.4.10 Core Strategy policy CS15/k, Bexley UDP policy T6, and London Plan policy T4/F all seek to ensure that highway network flow and safety is maintained. Draft Bexley Plan policy DP16 extends this objective to include seeking no significant negative impact on the public transport system or local amenity. The NPPF makes clear that:

'*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe*.' (paragraph 109)

5.4.11 ROP requires no physical external change and creates no construction vehicle movements.

5.4.12 The proposed increase in waste throughput as part of ROP will consequently increase the amount of air pollution control residues ('APCR') that will need to be removed from site, potentially resulting in more vehicles on the local road network. It is anticipated that movements required to remove the additional APCR would equate to approximately 90 vehicle movements a year (or roughly 2 movements a week).

5.4.13 There would be no additional tug movements on the River Thames required to transport the additional waste and incinerator bottom ash ('IBA'). One additional barge would be used, that is anticipated to result in an additional five barge movements per week. There is capacity at the relevant wharves for this movement to occur appropriately.

5.4.14 Conditions 26 and 28 of the 2017 Permission, the current, extant consent, restrict road movements as follows:

Condition 26

'Except in the case of jetty outage:

(a) not more than 195,000 tonnes of waste shall be delivered to the development by road in any calendar year; and

(b) no more than 85,000 tonnes of the waste transported to the development by road in any calendar year shall be transported from outside Greater London.

Reason: To limit the amount of traffic using the highway network in the vicinity of the site.'

Condition 28

'Except in the case of jetty outage or with the prior written consent of the Council, the number of two-way vehicle movements (one vehicle in and one vehicle out) made by heavy commercial vehicles delivering waste to the plant shall be limited to a maximum of 90 per day.

Reason: To limit the amount of traffic using the highway network in the vicinity of the site.'

5.4.15 Neither condition is proposed to be amended as part of ROP. A jetty outage has not occurred in the lifetime of RRRF to date; it has been operation for over ten years.

5.4.16 In its consultation response to the Scoping Report, the London Borough of Tower Hamlets raised concerns about the impact of an increase in traffic movements through the borough as a result of ROP. The Applicant confirms that the limit on road vehicle movements will not change as a result of ROP and there will be no consequent detrimental impact on traffic movements or air quality within the London Borough of Tower Hamlets. The ROP EIA Report concludes (at paragraph 5.12.2) that there are not considered to be any potentially significant air quality effects resulting from minor changes to vehicle movements or odour from waste handling associated with ROP.

5.4.17 The limited number of additional road movements is not considered to result in material effects to the local road network. Similarly, it is not considered that the nominal increase in barge movements would result in any material effect to the navigational safety of the River Thames, and they can be readily accommodated at the relevant wharves.

5.4.18 This conclusion is supported by both Highways England's and the Port of London Authority's consultation responses to the ROP Scoping Report, which conclude that the proposed development is unlikely to have a negative or significant impact.

5.4.19 ROP will result in a modest incremental change in vehicle numbers, but they remain within the limitations imposed by the 2017 Permission and consequently result in no change to the consented development. Those additional movements that are required will have a negligible impact on the highway network; the flow and safety of these routes will not be affected by the proposed development. Finally, there will be no effect on the public transport system.

5.4.20 It is therefore demonstrated that policy concerning transport is met.

Accidents and Disasters

5.4.21 London Plan policy D12/A seeks to ensure that all development proposals '*achieve the highest standards of fire safety*' including that they '*are designed to incorporate features which reduce the risk to life and the risk of serious injury in the event of a fire*.'

5.4.22 In its consultation response to the ROP Scoping Report, LBB raised a concern that the equipment comprising RRRF may be being pushed beyond its original design criteria. This section of the Planning Statement seeks to assure both London Borough of Bexley and BEIS that this is not a credible concern.

5.4.23 In order to define the level of waste inputs for RRRF and enable a proper consideration of the potential environmental effects, an estimate was made at the time of submitting the Original s.36 Consent application about how much waste would be required to achieve the energy output of 72MW. This estimate was calculated using assumptions about both the total number of days in any one year over which RRRF would operate and the net calorific value ('NCV') of the fuel (residual waste).

5.4.24 Three different throughput tonnages were considered at the time:

- a plant lifetime average of 585,000 tpa – assuming plant availability of 85.5% with a fuel NCV of 11MJ/kg;
- an early year peak of 670,000 tpa – assuming plant availability of 89% with a fuel NCV of 10.2MJ/kg; and

- a maximum throughput of 835,000 tpa – assuming plant availability of 100% with a fuel NCV of 9MJ/kg.

5.4.25 Consequently, the Original s.36 Consent (paragraph 2e) and the ODPP (condition 4) limited waste throughput to 670,000 tpa (the early peak year scenario).

5.4.26 The subsequent detailed technical design and construction of RRRF made use of advances in technology to maximise plant availability. It was these factors, and the enhanced reliability of the plant, that underpinned the 2015 s.36 Variation and the 2015 Deemed Permission.

5.4.27 Consequently, RRRF is currently operated under the 2015 s.36 Variation and the 2017 Permission, processing a maximum fuel throughput of 785,000 tpa.

5.4.28 The proposed development is seeking to increase the permitted waste throughput by up to 65,000 tpa (approximately 8% of current permitted throughput) reflecting the operational efficiencies capable of being achieved at RRRF.

5.4.29 ROP is another example of the Applicant making a positive investment in its plant, enabling further optimisation. It is an equipment upgrade that, not least, ensures constant steam production even with varying waste composition, thus allowing the boiler to increase steam throughput. Consequently, ROP does not mean that the original facility is being pushed beyond its limits; but that it is being serviced and upgraded with the latest equipment so that it can continue to operate efficiently and effectively.

5.4.30 This increase in efficiency means that RRRF can, safely, both process more fuel and recover more energy.

5.4.31 ROP is a safe system; it would not be in the Applicant's interests to operate RRRF in an unsafe or inefficient manner. In any event, Cory has a statutory duty to operate the facility to comply with relevant health and safety legislation and the Environmental Permit.

5.4.32 ROP EIA Report Chapter 8 addresses LBB's concerns from the other perspective; considering potential effects deriving from the vulnerability of ROP to accidents and disasters. The assessment considers a wide range of potential events including: major outage caused by catastrophic equipment failure; severe weather; transport incidents; poor air quality events; terrorist incidents; fires and explosions; and contamination. The conclusion of the ROP EIA Report is as follows:

'It is considered that given the limited changes proposed by ROP and the existing measures and protocol in place as part of the RRRF (including Environmental Permit) are being updated to account for the Proposed Changes, it is not anticipated that ROP would result in a likely significant effect in relation to accidents and disasters.' (ROP EIA Report, paragraph 8.12.7)

5.4.33 This conclusion recognises that there are already well-established protocols in place at RRRF for such unlikely events, including a range of environmental, health and safety policies and procedures and the Environmental Permit. RRRF is a fully functioning site with trained fire staff and well-established procedures to follow in the event of a fire. Relevant policies, procedures and permits will all be reviewed and updated as necessary to account for ROP.

5.4.34 The site is already enclosed with palisade fencing and located at least 850m from the nearest residential properties. This will remain in place after ROP and has been found to be satisfactory in maintaining security at the site, whilst allowing views into and across it. The

proposed development is not considered to have a detrimental impact on the potential for crime or on the users of the local footpaths.

5.4.35 It is therefore demonstrated that ROP satisfies policy in relation to site safety and local amenity.

Flood Risk

5.4.36 Development plan policy seeks to achieve sustainable development through appropriate flood risk management, informed by an appropriate flood risk assessment, and having regard to the Bexley Strategic Flood Risk Assessment and measures proposed in the TE2100 Plan.

5.4.37 The Application Site is located in Flood Zone 3a and measures more than 1 hectare. However the proposed development comprises no external physical change or land take.

5.4.38 The potential risk of flooding is considered within ROP EIA Report Chapter 8, which concludes that there is no change to the risk of flooding or impacts from storms, and no likely significant effects are predicted. ROP will not detrimentally impact floodplain storage or flow routes and raises no greater risk of harm to human life than RRRF as currently operating.

5.4.39 The flood zone classification ignores the presence of the River Thames tidal flood defences, which protect the site and surrounding area to the 1 in 1000 (0.1%) annual probability standard, allowing for climate change to year 2120. In addition, the TE2100 Plan recommends increasing the crest level of flood defences throughout London to keep up with climate change and land use change so that flood risk does not increase. As such, it is extremely unlikely that the flood defences would not be upgraded to future changes in flood levels as a result of climate change. Consequently, the risk of flooding from all relevant sources is concluded to be low.

5.4.40 The proposals for ROP constitute an 'Essential Infrastructure' land use, which is considered appropriate within Flood Zone 3 subject to passing the Sequential and Exception Test (NPPF PPG Tables 2 and 3). The site lies within a designated growth area allocated in the development plan through the Sequential Test such that, in accordance with Paragraph 162 of the NPPF, it is not necessary to apply the Test.

5.4.41 At paragraph 160, the NPPF states:

'*For the Exception Test to be passed it should be demonstrated that:*

the development would provide wider sustainability benefits to the community that outweigh flood risk; and

the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.'

5.4.42 ROP is proposed as an integral part of RRRF, installed to upgrade that important piece of infrastructure to enable it to function effectively and optimise the use of the site.

5.4.43 The first part of the Exception Test is addressed by the significant sustainability benefits provided by RRRF, which include:

- diverting waste from landfill and therefore moving it up the waste hierarchy;
- supporting the drive for waste self-sufficiency within London;

- producing renewable and low carbon electricity;
- CHP ready with scope to support heat demand associated with regeneration within the Thameside area; and
- using sustainable transport (delivered through predominantly using existing river freight infrastructure).

5.4.44 The details provided within the ROP EIA Report and this section of the Planning Statement address the second part of the Exception Test and demonstrate that RRRF, with ROP, is safe for its lifetime. The Exception Test has been applied and it is concluded that the proposals accord with the requirements of the NPPF.

5.4.45 It is therefore demonstrated that ROP satisfies policy in relation to flood risk.

Overview

5.4.46 The NPPF (paragraph 38) requires local planning authorities to '*approach decisions on proposed development in a positive and creative way.*' Paragraph 80 requires that:

'*Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. The approach taken should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation, and in areas with high levels of productivity, which should be able to capitalise on their performance and potential.*'

5.4.47 ROP is a key example of how Cory proposes to invest in its assets to expand and optimise the capability of the site and address the challenges of the future. ROP will improve the existing RRRF through optimising both waste throughput and energy output, made possible through existing technological advancements, without causing any material adverse effects to the environment.

5.4.48 Bexley UPD policy E1 sets out a number of conditions to be met, which are also reflected in policy ENV39. In response, this application has demonstrated that they are all delivered by ROP:

- there are no material adverse effects on the health, safety or amenities of the occupants of local residential areas and neighbouring properties;
- RRRF is an existing, operational facility that has already been determined to be satisfactory in terms of design, scale and layout in relation to adjoining uses and buildings, and ROP makes no change to this outcome;
- ROP satisfies the requirements of Policy T6 with regard to effects on the local highway network and makes not change to the availability of public transport or site access;
- RRRF is an existing, operational facility that has already been determined to make adequate provision for vehicle parking in accordance with the Council's current standards and there is adequate turning and manoeuvring space. ROP would have no impact on this provision;

- RRRF is an existing, operational facility that has already been determined to be compatible with the character of the surrounding area and to result in no significant adverse impact on biodiversity; and
- ROP is appropriately designed to operate efficiently and effectively, with appropriate safeguards against accidents and disasters and presents no change to flood risk.

5.4.49 Sustainable growth requires providing attractive places to live underpinned by well-designed infrastructure; this is a key theme of the EDS.

5.4.50 In terms of infrastructure, a recognised key condition for growth in the EDS is '*ensuring London has the digital connectivity, water, energy, waste and green infrastructure it needs to grow and support the transition to an inclusive, low carbon circular economy.*' (page 101, bullet point 3)

5.4.51 This theme is continued from page 131, where it is recognised that meeting the target '*for net zero carbon by 2050 will require considerable investment in … London's energy supply system to exploit opportunities for using local and renewable energy sources as part of a creating a smart integrated energy system that can deliver secure, low carbon and affordable energy to London's citizens and businesses. More localised and renewable energy resources will need to be exploited and developed to create a smarter, more integrated, energy system capable of supplying low, and ultimately zero, carbon energy to London's homes and businesses in a reliable, secure, clean and affordable way.*'

5.4.52 In light of the overview above, it is demonstrated that ROP complies with all relevant development plan policy.

6. Conclusions

Introduction

6.1.1 The determination of any application requires consideration of the development plan as a whole, and any other material considerations, so as to draw a reasonable planning balance.

6.1.2 The proposed development will not require any built form or even any external physical change to an existing consent. Instead, it is seeking permission to amend the consents that RRRF currently operates under in order to realise improved efficiency that can be achieved through utilising technological upgrades. The proposed development is simply:

- to amend the power generation description of RRRF in the 2015 s.36 Variation to change the energy generation limit from 'up to 72MW' to 'up to '80.5MW';
- to request that the Secretary of State then gives a direction under section 90(2) of the TCPA 1990 varying the conditions attached to the 2017 Permission, to increase the maximum waste throughput from 785,000 tpa to 850,000 tpa; and
- amend the s.36 Variation and to incorporate into the new deemed planning permission the amendments authorised by the Secretary of State in the REP DCO[50] regarding the ash storage area for RRRF and use of the jetty by both RRRF and REP.

In principle benefits of ROP

6.1.3 The principle of the proposed development is the optimised operation of RRRF, realised through an increased annual fuel input and increased energy output.

6.1.4 In its Environmental Sustainability Strategy of 2011, London Borough of Bexley set out its commitment to implementing '*international, national and regional strategies for the mitigation of and adaptation to climate change; and moving to a low carbon economy through energy efficiency and the use of renewable energy*'. ROP will help deliver that commitment.

6.1.5 More recently, these commitments have been incorporated into an energy hierarchy approach that developers are expected to follow:

- Be lean, use less energy and manage demand during construction and operation.
- Be clean, exploit local energy resources (such as secondary heat) and supply energy efficiently and cleanly.
- Be green, generate, store and use renewable energy on site.

(LES, page 254; also reflected in the London Plan, policy SI2)

6.1.6 Government remains committed to meeting the legislative target to achieve net zero carbon emissions by 2050 as set out in the Climate Change Act 2008 commitments (as amended), recognising energy from waste as an important element of the infrastructure that will be

[50] The Riverside Energy Park Generating Station Order and described in more detail at section 2.2

required to meet those net zero carbon policy priorities. Recognising severe constraints on public expenditure, the focus remains on the market to provide the infrastructure necessary to meet these commitments (NPS EN-1, paragraphs 2.2.1 and 2.2.2).

6.1.7 Even with substantial change across the energy sector, increased efficiencies in energy supply, and a dramatic decrease in greenhouse gas emissions associated with the UK's former reliance on coal, there remains an urgent and significant demand for more renewable/low carbon electricity supply, and preferably plant that can also supply a heat network.

6.1.8 ROP is a demonstration of private investment seeking to optimise a proven decentralised electricity generating station. RRRF will continue to accept a range of residual waste materials (a reliable supply of fuel) from which will recover both renewable/low carbon energy and secondary materials. Due to the ongoing work and partnerships forged by the Applicant, On site development aspirations include battery storage, enabling energy resilience and flexibility. The National Policy Statements establish the nationally important, and urgent, need for new energy infrastructure, and the weight that should be granted to them. ROP will enable those policy priorities to be realised at a site already in operation and demonstrated to bring net-benefits in carbon terms.

6.1.9 Fundamentally, ROP fully meets the policy objectives of both the development plan and National Policy Statements: it will deliver new energy capacity, from a renewable/low carbon source; it will accord with the waste hierarchy, diverting waste from landfill and achieving a net carbon benefit; and it will deliver societal benefit through aiding the transition to a low carbon economy.

Sustainability benefits of ROP

6.1.10 ROP delivers against all the policy priorities of integrated waste management, energy supply and carbon benefits.

6.1.11 It is demonstrated to sit at the correct level of the waste hierarchy; it is a recovery operation, not disposal and therefore sits above landfill. ROP consequently diverts residual waste from landfill, the likely destination for such wastes after practicable opportunities for recycling. Evidence submitted to the REP DCO examination and discussed at section 4.3 of this Planning Statement shows that, even following consent for REP, there remains a policy driven need for new residual waste management capacity to sustainably manage those wastes that remain after high recycling targets are assumed to have been met.

6.1.12 The most recent government policy and public statements recognise the role that energy recovery from residual waste should play in both sustainable waste management and the delivery of a renewable/low carbon supply of energy.

6.1.13 ROP will enable London's waste strategy to be realised and will also enable an increased output of energy. RRRF is an energy generating station; a decentralised supply of renewable/low carbon energy. This is exactly the type of infrastructure required to achieve energy priorities and to deliver sustainable communities.

6.1.14 Primarily this energy will be in the form of electricity, operating at a level of efficiency that is confirmed to meet R1 status. ROP of itself meets the London specific CIF target, and enables RRRF to perform well against this measure in electricity only mode. However RRRF is CHP ready and the Applicant has established a partnership with Vattenfall to deliver a heat

distribution network across Thameside. The delivery of heat and power from RRRF will exceed the expectations of the CIF target and deliver economic and societal benefit to local communities though access to sustainable energy supply and reduced energy bills.

6.1.15 RRRF is demonstrated to be a part of the net-zero energy infrastructure urgently sought to meet climate change policy priorities.

6.1.16 ROP will make a significant contribution to enabling London to be self-sufficient, taking its waste out of landfill and into energy recovery, keeping those wastes at their highest value within the waste hierarchy for as long as possible. In addition to energy recovery, secondary materials (including metals and construction aggregates) are recovered at RRRF, reducing the need for raw supply and avoiding the associated burdens of the extraction industries.

6.1.17 RRRF, already successfully operating, will be even more efficient following the implementation of ROP and will continue to provide London with a decentralised energy source and a reduction in the city's carbon emissions.

Optimising use of the site

6.1.18 The enhanced operational efficiencies described above will be achieved without any additional land take and without material adverse effects.

6.1.19 The ROP EIA Report presents a series of comprehensive assessments undertaken to consider those topics for which the potential for significant environmental effects had been identified through the scoping process. These assessments are confirmed to have been undertaken by competent experts in accordance with Regulation 17 of the Electricity Works (Environmental Impact Assessment) Regulations 2017 (as amended).

6.1.20 The topics considered are air quality (including human health); biodiversity; climate change; and accidents and disasters. None of the predicted effects, either alone or cumulatively, are concluded to be significant; there is no significant adverse environmental impact identified as a result of ROP.

6.1.21 Of key importance to the Government's 2050 net zero carbon target is the assessment of climate change within the ROP EIA Report. The assessment shows that ROP would lead to the release of 10,331 tCO2e per year but would avoid the release of 39,477 tCO2e per year from landfill. Hence, the net benefit of ROP would be a reduction in greenhouse gas emissions of 29,146 tCO2e per year. The sensitivity of this result to changes in waste composition, landfill operation and the type of electricity displaced has been assessed in the ROP EIA Report and ROP continues to have a net benefit under all scenarios.

6.1.22 The net benefit of ROP has been compared with current UK and London carbon emissions and the carbon budgets set by the UK government and the GLA. While there is a benefit, this benefit is less than 1% of the carbon budgets and consequently the benefit is considered to be of minor significance.

Planning Balance

6.1.23 The planning balance in this application is demonstrably in favour of approving the proposed development.

6.1.24 London is currently substantially exporting its residual wastes and importing energy supply. RRRF with ROP enables an important contribution to be made to change this approach, delivering the world leading, self-sufficient, net zero carbon city that policy seeks to achieve.

6.1.25 ROP delivers the policy objective of creating '*an energy system capable of meeting that demand in a timely and sustainable way, enabling development to happen at the required pace. … One where heat, power, storage and smart technologies combine together at both the national and city level to allow the most effective use of energy resources*.' (EDS, page 131)

6.1.26 ROP is a key example of how Cory proposes to invest in its assets to optimise the capability of the site and address the challenges of the future. It will deliver supply of renewable/low carbon energy, with net benefits for carbon, and sustainable waste management. To be considered alongside this demonstrated achievement of key policy priorities is the potential for a limited number of not significant, adverse effects.

6.1.27 Having regard to the assessment presented in this Planning Statement, ROP meets all relevant development plan policy and material consideration objectives.

Riverside Energy Park

The Project and its Benefits Report

ANNEX:

A

PLANNING INSPECTORATE REFERENCE NUMBER:

EN010093

DOCUMENT REFERENCE:

LONDON WASTE STRATEGY ASSESSMENT

November 2018 | Revision 0 | APFP Regulation 5(2)(q)

Planning Act 2008 | Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

CORY
RIVERSIDE ENERGY

Contents

Tables

Figures

1. Introduction

1.1 Purpose of the London Waste Strategy Assessment

1.1.1 NPS EN-3 paragraph 2.5.64 makes clear that waste combustion generating stations '*need not disadvantage reuse or recycling initiatives where the proposed development accords with the waste hierarchy*.'

1.1.2 Having established that principle, NPS EN-3 sets out what is expected in an applicant's assessment:

> *'An assessment of the proposed waste combustion generating station should be undertaken that examines the conformity of the scheme with the waste hierarchy and the effect of the scheme on the relevant waste plan or plans where a proposal is likely to involve more than one local authority.*
>
> *The application should set out the extent to which the generating station and capacity proposed contributes to the recovery targets set out in relevant strategies and plans, taking into account existing capacity.'* (Paragraphs 2.5.66 and 2.5.67)

1.1.3 This document, the London Waste Strategy Assessment ('this Assessment'), has been prepared to consider and present the effect of the Proposed Development on the relevant waste strategy for London, setting out the extent to which Riverside Energy Park ('REP') contributes to meeting the recovery targets set out in the London Plans (the adopted London Plan and the draft London Plan), and taking into account existing capacity.

1.1.4 It sets out the calculations undertaken to explore the extent of demand for new residual waste management capacity within London and provides the relevant context to the assumptions used within those calculations.

1.1.5 As the principle element of REP, this Assessment focusses on the Energy Recovery Facility ('ERF'). However, it is pertinent to note that the Anaerobic Digestion Facility within REP will also contribute to both London's aspirational recycling and recovery targets.

1.2 Existing Capacity

1.2.1 There are, essentially, four steps to understanding future demand for residual waste management infrastructure:

i. Understand the baseline, how much waste is currently being generated;

ii. Consider growth rates, to review how the baseline might change in the future;

iii. Consider management routes, how much recycling/recovery/landfill might be achieved; and

iv. Subtract existing capacity to identify the remaining level of demand.

1.2.2 **Sections 3 and 4** of this Assessment will consider the first three steps, to undertake separate assessments for each of the adopted London Plan and draft London Plan. Whilst the last step in the calculations, existing capacity, is introduced first, in the following text, as it is generally held constant throughout the Assessment.

1.2.3 Existing capacity should be considered as only that which is already operational, or in the very least, for which there is a more than reasonable prospect that it will become operational. NPS EN-1 makes clear (at footnote 36 on page 22) that energy projects that have gained consent but have not as yet started to be built cannot be relied upon; '*Government considers that it would not be prudent to consider these numbers for the purposes of determining the planning policy in this NPS.*'

1.2.4 Consequently, the same approach is used in this Assessment; only those recovery facilities that are operating or for which construction has started, are considered to be 'existing capacity', with one exception for the North London Heat and Power Project ('NLHPP').

1.2.5 At August 2018, there are three energy recovery facilities operating within London providing a total permitted capacity of 1,948,000 tonnes per annum (tpa):

- Edmonton EcoPark: 675,000 tpa;
- South East London Combined Heat & Power Energy Recovery Facility (SELCHP): 488,000 tpa; and
- Riverside Resource Recovery Facility (RRRF): 785,000 tpa.

1.2.6 In addition, the Beddington Energy Recovery Facility (ERF) is due to complete construction and commissioning, to be fully operational by the end of 2018. The Beddington ERF has a permitted capacity of 275,000 tpa.

1.2.7 This gives a total of 2,223,000 tpa of permitted capacity at the start of 2019.

1.2.8 The NLHPP Development Consent Order came into force on 18 March 2017. The NLHPP is intended to manage the residual wastes of the North London Waste Authority and would replace the Edmonton EcoPark. Whilst construction of the NLHPP has not yet started, this Assessment makes a positive assumption that it will become operational, replacing the contribution made by the Edmonton EcoPark. The NLHPP DCO permits the facility to accept up to 700,000 tpa.

1.2.9 Consequently, existing capacity 'in London' assumed within this Assessment is 2,248,000 tpa.

1.2.10 In addition, there are three energy recovery facilities operating outside of London that are contracted to provide capacity for London's local authority collected waste. Recognising that these facilities are not necessarily wholly committed to managing London's residual waste, their contribution to meeting London's needs has been researched from documents in the public domain:

- Lakeside Energy Recovery Facility (ERF): permitted capacity of 400,000 tpa, London contract (West London Waste Authority) for 90,000 tpa[1];
- Severnside Energy Recovery Centre (ERC): permitted capacity of 400,000 tpa, London contract (West London Waste Authority) for up to 300,000 tpa[2]; and
- Greatmoor Energy from Waste (EfW) Facility: permitted capacity of 300,000 tpa, London contract (North London Waste Authority) for 80,000 tpa[3].

1.2.11 This Assessment also assumes that the 80,000 tpa of North London Waste Authority waste currently sent to the Greatmoor EfW Facility will instead be managed within the NLHPP. However, the recovery capacity provided by Lakeside ERF and Severnside ERC is included.

1.2.12 Consequently, existing capacity 'London+' assumed within this Assessment is 2,638,000 tpa.

1.2.13 These are considered to be reasonable assumptions, not least because they are consistent with the energy from waste capacity presented in the evidence base to the London Environment Strategy.

'London has three large Energy From Waste (EFW) facilities, with a fourth being built in Sutton. Collectively, these can treat around two million tonnes of waste per year, with the potential to generate enough electricity to power 500,000 homes' (London Environment Strategy, Appendix A, page 100).

1.2.14 Further, generally less than the capacity stated in an Environmental Permit[4] (the 'permitted capacity') for an energy recovery facility is actually used. The actual waste throughput is often different than the design throughput, principally due to both planning and unplanned maintenance and shut down periods, but also in response to the calorific value of the waste received; in

[1] West London Waste Authority Business Plan 2016- 2019, October 2016. http://westlondonwaste.gov.uk/wp-content/uploads/WLWA-Business-Plan-2016-19.pdf

[2] West London Waste website news, December 2013. http://westlondonwaste.gov.uk/wlwa-signs-long-term-contract-sita-consortium-end-landfilling-waste/

[3] Paragraph 3.20.2, Proof of Evidence of Gillian E Sinclair, June 2017. http://www.hwa.uk.com/site/wp-content/uploads/2017/04/2017_06_15-Gillian-Sinclair.pdf

[4] An Environmental Permit is gained from the Environment Agency for many activities that use, recycle, treat, store or dispose of waste. The Environment Permit can be for activities at one site or for mobile plant that can be used at many sites.

simple terms, the higher the calorific value, then generally the lower the tonnage to be combusted.

1.2.15 The permitted capacity of each of the energy recovery facilities featuring in this Assessment is presented in **Table 1.1**. **Table 1.1** also shows the actual input tonnage of each facility over the past five years where it is available. Both sets of information have been gained from the Environment Agency's waste datasets[5]. **Table 1.1** also identifies the contribution made to meeting London's needs by those facilities located outside the capital.

1.2.16 **Table 1.1** shows that in 2017, whilst operational permitted capacity was 3,048,000 tonnes[6], input waste was only 2,791,421 tonnes; a difference of 260,000 tonnes (in round numbers). Permitted capacity was significantly more than input tonnage, even accounting for Lakeside ERF that consistently accepts more than the design capacity.

1.2.17 The Environment Agency's waste datasets also indicates that the North London Waste Authority contract with Greatmoor EfW Facility may be winding down. In 2017, the Greatmoor EfW Facility accepted just under 48,000 tonnes of waste from London and just under 26,000 in 2016; this is significantly less waste than the 80,000 tpa suggested in the reference document.

[5] https://www.gov.uk/government/publications/waste-management-for-england-2016

[6] This total is gained across the operational facilities of: Edmonton EcoPark; SELCHP; RRRF; Lakeside ERF; Severnside ERC; and Greatmoor EfW Facility. Neither NLHPP, nor Beddingon ERF, are included as they are not operational ('n/o').

Table 1.1: Identifying the amount of existing capacity operating 'inLondon' and beyond, 'London+'

Facility	Permitted Capacity (tonnes)	Actual Input (tonnes)					'Existing Capacity' (tonnes)
		2013	**2014**	**2015**	**2016**	**2017**	
Edmonton EcoPark	675,000	516,581	558,205	542,429	547,721	511,266	**0**
Capacity usage		77%	83%	80%	81%	76%	Replaced by NLHPP
SELCHP	488,000	444,186	438,578	457,119	448,235	446,363	**488,000**
Capacity usage		91%	90%	94%	92%	91%	Total capacity
RRRF	785,000	699,614	669,861	700,138	752,839	746,326	**785,000**
Capacity usage		89%	85%	89%	96%	95%	Total capacity
Beddington ERF	275,000	n/o	n/o	n/o	n/o	n/o	**275,000**
Capacity usage							Total capacity
NLHPP	700,000	n/o	n/o	n/o	n/o	n/o	**700,000**
Capacity usage							Total capacity
Lakeside ERF	400,000	433,209	453,552	432,138	435,844	455,692	**90,000**
Capacity usage		108%	113%	108%	109%	114%	Contracted for London

Facility	Permitted Capacity (tonnes)	Actual Input (tonnes)					'Existing Capacity' (tonnes)
		2013	**2014**	**2015**	**2016**	**2017**	
Severnside ERC	400,000	n/o	n/o	n/o	132,500	340,422	**300,000**
Capacity usage					33%	85%	Contracted for London
Greatmoor EfW	300,000	n/o	n/o	272,733	267,479	291,352	**0**
Capacity usage				91%	89%	97%	Replaced by NLHPP
Total	3,048,000			2,404,557	2,584,618	2,791,421	
Existing capacity assumed within the Assessment, 'inLondon'							**2,248,000**
Existing capacity assumed within the Assessment, 'London+'							**2,638,000**

1.3 Key Features of this Assessment

Structure

1.3.1 This document has sought to address the tests set through NPS EN-3 in a comprehensive manner, addressing both planning policy requirements and exploring the context to future waste management demands.

1.3.2 The London Waste Strategy Assessment is structured as follows:

- **Section 1** – Introduction, which explains the purpose of the Assessment and establishes the existing capacity assumptions used within the Assessment;
- **Section 2** – London's Waste Strategy, which establishes the plans and policies that comprise the strategy against which the Proposed Development should be assessed;
- **Section 3** – Adopted London Plan, which considers the ERF against the expectations of the adopted London Plan;
- **Section 4** – Draft London Plan, which considers the ERF against the expectations of the draft London Plan;
- **Section 5** – Context for Waste Management in London, which considers the factors that affect the waste management demands and infrastructure available for London; and
- **Section 6** – Conclusions.

Glossary of key terms

1.3.3 There are four key terms that are relevant to this Assessment. It is important that their meaning, and the abbreviations used for them, are understood from the start.

- **Municipal waste** - Previously the term 'municipal waste' as used in the UK was used in waste policies and nationally reported data to refer to waste collected by local authorities. In fact the definition of municipal waste as described in the Landfill Directive includes both household waste and that from other sources (principally the C&I waste stream) which is similar in nature and composition; this includes a significant proportion of waste generated by businesses and not collected by local authorities.
- **Local authority collected waste (LACW**) – All waste collected by the local authority, including both municipal and non-municipal, including construction and demolition wastes. LACW is the definition that is used by Defra in statistical publications.

- **Commercial and industrial waste (C&I waste)** – Commercial waste is waste generated from premises used wholly or mainly for the purposes of a trade or business, whilst industrial waste is essentially that produced by industrial processes or activity. These wastes are generally collected and managed by the private sector, but can be processed as LACW.

- **Household waste (HH) and non-household waste (nHH)** – Schedule 1 of the Controlled Waste (England and Wales) Regulations 2012 defines wastes arising from household, industrial and commercial sources. In relation to this Assessment, it is important in relation to the way that waste forecasts are reported in the London Plans, which rely upon household (HH) waste rather than LACW. This is explained further at the relevant point of the Assessment.

2. London's Waste Strategy

2.1 Introduction

2.1.1 In addressing the test set out in NPS EN-3, it is first appropriate to consider what constitutes the relevant strategies and plans to be considered within the Applicant's assessment; to identify what constitutes the 'London Waste Strategy'.

2.1.2 NPS EN-3 refers to the '*waste combustion generating station*', which is the ERF within REP. Whilst the Application Boundary extends beyond Greater London at its fullest extent, the ERF is located within the London Borough of Bexley, within London.

2.1.3 In this location, there are five documents appropriate to consider in establishing the local waste management targets that should be assessed:

- London's Wasted Resource, the Mayor's Municipal Waste Management Strategy, 2011[7];
- London Environment Strategy, May 2018 ('LES');
- Adopted London Plan, January 2017 ('aLP');
- Draft New London Plan showing Minor Suggested Changes, August 2018 ('dLP'); and
- Bexley Core Strategy, February 2012.

London's Wasted Resource

'Waste lends itself well to decentralised energy systems, due to the flexibility of the fuel that can be produced from it. Waste-derived gases from technologies such as anaerobic digestion and gasification, once cleaned, can be piped to local energy centres or to the national gas grid, or can be used directly in gas engines or reformed and used in hydrogen fuel cells, producing electricity and heat where it is required.

London's dense urban and built up environment provides good opportunities for generating energy locally from its non-recycled waste and making use of CHP and heat networks. Its mixed building types and uses and high building densities provide the high and diverse energy demands that allow CHP systems to be run efficiently, as well as the high heat demand densities that make heat network deployment more cost-effective' (London's Wasted Resource, pages 118 and 119).

[7] This title relies upon the historic use of the term municipal waste; the Strategy applies to LACW across London.

2.1.4 London's Wasted Resource sets policies for the management of London's municipal waste up to 2031, not least recognising that London's non-recycled municipal waste, used as a low carbon fuel, will play an important role in delivering the Mayor's decentralised energy targets.

'The Mayor expects London's incinerators to continue playing an important role in managing London's non-recycled waste, and is keen to work with incinerator operators to explore opportunities for making these facilities more efficient. Generating efficient, low carbon energy from London's non-recycled waste will play an important role [sic] in helping to achieve the Mayor's CO_2 reduction targets …' (page 34).

2.1.5 This is not surprising as research commissioned by the Greater London Authority showed that '*incinerators generating energy from untreated waste, and operating in CHP mode, are carbon neutral in that they create only as much carbon dioxide through the combustion process as they avoid through energy generation*' (page 120).

2.1.6 The Mayor's key targets for the management of London's municipal waste include:

- To achieve zero municipal waste direct to landfill by 2025;
- To recycle/compost: 45% by 2015; 50% by 2020; and 60% by 2031 (Policy 4.1);
- To cut London's greenhouse gas emissions through the management of London's municipal waste; and
- To generate as much energy as practicable from London's organic and non-recycled waste in a way that is no more polluting in carbon terms than the energy source it is replacing.

2.1.7 Whilst London's Wasted Resource does not foresee the need for additional energy recovery capacity for municipal waste/LACW, it recognises the positive role that such facilities play in delivering the integrated infrastructure necessary for London to meet all its objectives.

London Environment Strategy ('LES')

2.1.8 The LES was published in May 2018, addressing matters of air quality, green infrastructure, climate change mitigation and energy, and adapting to climate change alongside waste and the transition to a low carbon circular economy.

2.1.9 The overarching aim for waste is that:

'London will be a zero waste city. By 2026 no biodegradable or recyclable waste will be sent to landfill, and by 2036 65 percent of London's municipal waste will be recycled' (page276).

2.1.10 On page 277, LES recognises that a number of benefits can be gained from recovering value from waste, including '*the creation of jobs and apprenticeships, the development of secondary materials and the provision of affordable low carbon energy*.' As part of the new approach set out in the Strategy, policy seeks to maximise both the recycling of materials and the '*value of truly non-recyclable waste by generating low carbon energy from it to limit the environmental impact, and leave very little waste going to landfill*' (page 278).

2.1.11 The LES advises that in year 2016/17, London recycled 41% of its municipal waste, which is recognised as significantly lower than the previously estimates and less than the average across England. The Strategy identifies numerous challenges to London achieving a greater level of recycling, including: different waste and recycling collection services; a high proportion of the population living in flats; a highly transient and diverse population; and unprecedented cuts to local authority budgets.

2.1.12 Proposal 7.2.1a states that the Mayor expects waste authorities collectively to increase household waste (not all local authority collected waste) recycling rates across London to:

- 45% by 2025; and
- 50% by 2030.

2.1.13 This would be achieved by all properties with kerbside recycling also receiving a separate weekly food waste collection and for all properties to receive a minimum collection of six dry recyclables.

2.1.14 Objective 7.4 seeks to ensure London has sufficient infrastructure to manage all the waste it produces. To achieve both the reduction/recycling and self-sufficiency targets, London will require significant new recycling capacity, in the order of 1.4 million tonnes (Mt).

2.1.15 Also in 2016/17, the LES advises (page 284) that approximately 2 Mt of London's local authority collected waste was incinerated. However, on page 322, the LES advises that 'Modelling shows that if London achieves a 65 per cent recycling target by 2030, no additional EFW facilities (other than those already granted planning permission) will be required in London to manage municipal waste' (page 322).

2.1.16 This conclusion of the LES is based on the assumptions that:

- RRRF and SELCHP will keep operating;
- NLHPP will replace the Edmonton EcoPark and provide 780,000 tpa, the DCO consent allows up to 700,000 tpa; and
- Beddington ERF will provide 280,000 tonnes, it is permitted for 275,000.

2.1.17 The LES also recognises the extent of the challenges that London must counter in order to meet the 65% recycling target for municipal waste. These include: severe austerity measures affecting all the London Boroughs; a lack of any other funding after 2020; and limited powers attributed to the Mayor. In addition, the 65% recycling target for municipal waste relies upon achieving 50% across LACW. This is going to be both difficult and costly to achieve, not least modelling undertaken for the LES concludes that 'the highest performing combination scenario … achieving a 42 per cent household recycling rate, would bring a cumulative cost of £129m in addition to business as usual costs' (page 112, LES Evidence Base, Waste).

Adopted London Plan

2.1.18 The aLP was adopted in its current form in March 2016, subsequent to London's Wasted Resource. It continues many of the themes of London's Wasted Resource, including key objectives to: reduce greenhouse gas emissions; divert waste from landfill; increase supply of decentralised, renewable/low carbon energy; and increase recycling/composting.

2.1.19 The policies of the aLP that are directly relevant to this Assessment (principally those that establish waste management recycling targets) are:

- 5.16A/c, work towards zero biodegradable or recyclable waste to landfill by 2026;
- 5.16B/c, exceeding recycling/composting levels in local authority collected waste of 45% by 2015, 50% by 2020, and aspiring to achieve 60% by 2031;
- 5.16B/d, exceeding recycling/composting levels in commercial and industrial waste of 70% by 2020; and
- 5.17B/c and B/d, that planning decisions will be evaluated against the nature of activity proposed and its scale, and minimising waste and achieving high reuse and recycling performance.

2.1.20 The adopted London Plan is a development plan document.

Draft London Plan

2.1.21 The dLP is a new, broad plan to shape the way London develops over the next 20-25 years. It is yet to be adopted, but is at an advanced stage of preparation and subject to Examination in Public over Winter 2018/2019. It provides an indication of future expectations for waste management, with policies that further extend the principles established in the aLP. Upon its adoption, it will form part of the local development plan.

2.1.22 The policies of the dLP that are directly relevant to this Assessment (principally those that establish waste management recycling targets) are:

- SI7A/1, promoting a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible;

- SI7A/3, ensuring that there is zero biodegradable or recyclable waste to landfill by 2026; and

- SI7A/4, meeting or exceeding the recycling targets for each of the following waste streams and generating low-carbon energy in London from suitable remaining waste:

  a) municipal waste[8] – 65% by 2030.

Bexley Core Strategy, Waste Management Strategy and Environmental Sustainability Strategy

2.1.23 The Bexley Core Strategy was adopted in 2012, providing the spatial planning framework for the borough until 2025. Paragraph 4.11.1 states:

2.1.24 '*Bexley's residents have achieved one of the highest levels of recycling in the country, the highest in London, and the Council has also achieved beacon status for waste management*.'

2.1.25 Whilst policy CS20 makes a commitment to meeting its waste apportionments and other requirements, including meeting the Mayor's recycling/composting targets, the policy sets no new policy requirements. Policy CS20 also refers to the Waste Management Strategy, which is an old document and no longer relevant. To replace it, the London Borough of Bexley has prepared a series of policies and targets seeking to slow down, stabilise and reverse the rate of waste growth in the Borough, incorporating measures such as increasing information to residents on reducing waste, and providing information to schools and local businesses on waste reduction and reuse techniques.[9]

2.1.26 Waste minimisation and management is included, as Theme 7, in the Environmental Sustainability Strategy. Paragraph 8.4 of the Environmental Sustainability Strategy identifies a key challenge as the need '*to find a solution to treat residual waste: the Council aims to recover energy from as much residual waste as possible. The Strategy is therefore designed to minimise the amount of waste sent to landfill and impact of Landfill Tax*.'

2.2 Defining the 'London Waste Strategy' for the Assessment

2.2.1 It would be unwieldly and repetitive to assess the effect of the ERF on each of the above documents. The principal aims and policies of London's

[8] Footnote 127 of the draft London Plan confirms that the term 'municipal waste' is '*based on the EU definition of municipal waste being household waste and other waste similar in composition to household waste. This includes local authority collected waste and waste collected by the private sector*.'

[p] Perscomm. Rebecca Goodwin, Waste Minimisation and Recycling Officer, London Borough of Bexley, 01 November 2018.

Wasted Resource are carried through into the aLP, which is also an extant development plan document relevant to the Proposed Development. The dLP is not adopted, but is an emerging development plan document that provides an indication of future waste management expectations within London. The Bexley Core Strategy is also an adopted development plan document, but along with the Borough's waste management policies and Environmental Sustainability Strategy, does not provide any additional detail or policy requirement. Whilst the LES is a recent Mayoral document, it is not an element of the local development plan.

2.2.2 Consequently, for this Assessment, the London Waste Strategy is considered to be most appropriately represented by the development plan policies contained within the aLP and dLP policies. However, reference is also made to the LES, as a strategy published by the Mayor which seeks to direct waste management within London.

2.2.3 Using policies of the aLP and dLP, and referring to the evidence base for them and the LES as required, this Assessment will set out the extent to which REP contributes to achieving London's policy priorities for waste management, taking into account existing capacity.

2.2.4 This approach enables the effect of the Proposed Development to be understood and demonstrates that it is of an appropriate type and scale so as not to prejudice the achievement of local waste management targets.

2.2.5 Of course, it must also not be forgotten that whilst REP is located in London, and therefore at the local level the development plan comprises (for the ERF) the London Plan and the LBB Local Plan, it must be remembered that the location of REP, on the banks of the River Thames and on the border with authorities outside of London, means that REP must be viewed at the strategic level. This complements its status as a NSIP, and justifies National Policy Statements taking precedence over local development plan policies.

3. Adopted London Plan

3.1 Just the aLP

Introduction

3.1.1 Table 5.2 of the aLP presents the projected household and commercial/industrial waste arisings, at five-year intervals, from 2016 to 2036. Policies 5.16B/c and B/d state the recycling targets for both local authority collected waste (LACW) and commercial and industrial (C&I) waste. Policy 5.16A/c commits to zero biodegradable or recyclable waste to landfill by 2026.

Scenario 1, aLP: aLP Arisings, with aLP Recycling

3.1.2 **Table 3.1** presents all of this information, such that the amount of waste to be diverted away from landfill, passing through a residual waste treatment facility, such as the ERF, can be calculated.

3.1.3 In Scenario 1, aLP, which is an absolute application of aLP data and policy, just over 2.9Mt of recovery capacity is required by 2026 (see row m). This need is largely maintained over the following 10 years, decreasing slightly to 2.85Mt by 2036.

3.1.4 Whilst these tonnages are substantial, London+ existing capacity can potentially manage a significant proportion of it, although there remains 280,000 tonnes to be diverted from landfill at 2026 and nearly 218,000 by 2036 (see row o). At least a third of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

3.1.5 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases, at least to nearly 608,000 tonnes at 2036 (see row s). In this scenario, all of the nominal throughput offered by the ERF is required for London to achieve its waste management aspirations (see row u).

Table 3.1: Scenario 1, aLP: aLP Arisings, with aLP Recycling (60%^{HH} and 70%$^{C\&I}$)

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Table 5.2, aLP						
Household	3,115,000	3,226,000	3,387,000	3,492,000	3,589,000	*a*
C&I	4,654,000	4,637,000	4,647,000	4,681,000	4,734,000	*b*
Total	7,769,000	7,863,000	8,034,000	8,173,000	8,323,000	*c*
Recycling (per cent)						
LACW[10]	45%	50%	55%	60%	60%	*d*
C&I[11]	0%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
Household	1,401,750	1,613,000	1,862,850	2,095,200	2,153,400	*f*
C&I	-	3,245,900	3,252,900	3,276,700	3,313,800	*g*
Total	1,401,750	4,858,900	5,115,750	5,371,900	5,467,200	*h*
Recovery (per cent) Calculated from recycling per cent & policy 5.16A/c aLP						
LACW	55%	50%	45%	40%	40%	*i*
C&I	100%	30%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
Household	1,713,250	1,613,000	1,524,150	1,396,800	1,435,600	*k*

[10] Policy 5.16B/c, adopted London Plan

[11] Policy 5.16B/d, adopted London Plan

Year	**2016**	**2021**	**2026**	**2031**	**2036**	
C&I	4,654,000	1,391,100	1,394,100	1,404,300	1,420,200	*l*
Total	6,367,250	3,004,100	2,918,250	2,801,100	2,855,800	m
Demand for REP ERF			**2026**	**2031**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**280,250**	**163,100**	**217,800**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**43%**	**25%**	**33%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**670,250**	**553,100**	**607,800**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**102%**	**84%**	**93%**	*u*

3.2 Review of Waste Arisings

Introduction

3.2.1 Whilst policy 5.16B/c applies to local authority collected waste ('LACW'), **Table 5.2** of the aLP accounts only for household waste, not all wastes collected by local authorities. In 2016/17 (the latest complete data available at the time of preparing this Assessment) London generated 3,697,000 tonnes of LACW. There is a difference of 582,000 tonnes between the forecast household waste arisings set out in Table 5.2 of the aLP and the actual LACW arisings for 2016/17.

Scenario 2a, aLP: 2016/17 LACW and aLP C&I Arisings, with aLP Recycling

3.2.2 **Table 3.2** simply updates **Table 3.1** with the actual tonnage of LACW collected in 2016/17. Each household waste forecast is increased by 582,000 tonnes, with no other growth assumed; rows a, f, and k are renamed LACW. No other changes are made, the C&I waste arisings remain as stated in the aLP, as do the recycling targets.

3.2.3 Updating the LACW arisings leads to a need for just over 3Mt of recovery capacity at 2026. This need is largely maintained over the following 10 years, decreasing slightly by 2036.

3.2.4 When London+ existing capacity is subtracted, there remains a need for new recovery capacity to divert wastes from landfill: 542,000 tonnes at 2026; and nearly 451,000 tonnes by 2036. Nearly 70% of the nominal throughput proposed for the ERF is required to divert London's waste from landfill by 2036.

3.2.5 This level of need increases to nearly 130% by 2036 if facilities located outside of London are not used.

Table 3.2: Scenario 2a,aLP: 2016/17 LACW and aLP C&I Arisings, with aLP Recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Table 5.2, aLP, with actual 2016/17 LACW						
LACW	3,697,000	3,808,000	3,969,000	4,074,000	4,171,000	*a*
C&I	4,654,000	4,637,000	4,647,000	4,681,000	4,734,000	*b*
Total	8,351,000	8,445,000	8,616,000	8,755,000	8,905,000	*c*
Recycling (per cent)						
LACW[12]	45%	50%	55%	60%	60%	*d*
C&I[13]	0%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,663,650	1,904,000	2,182,950	2,444,400	2,502,600	*f*
C&I	-	3,245,900	3,252,900	3,276,700	3,313,800	*g*
Total	1,663,650	5,149,900	5,435,850	5,721,100	5,816,400	*h*
Recovery (per cent) Calculated from recycling per cent & policy 5.16A/c aLP						
LACW	55%	50%	45%	40%	40%	*i*
C&I	100%	30%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	2,033,350	1,904,000	1,786,050	1,629,600	1,668,400	*k*

[12] Policy 5.16B/c, adopted London Plan

[13] Policy 5.16B/d, adopted London Plan

Year	2016	2021	2026	2031	2036	
C&I	4,654,000	1,391,100	1,394,100	1,404,300	1,420,200	*l*
Total	6,687,350	3,295,100	3,180,150	3,033,900	3,088,600	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**542,150**	**395,900**	**450,600**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**83%**	**60%**	**69%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**932,150**	**785,900**	**840,600**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**142%**	**120%**	**128%**	*u*

Scenario 2b: 2016/17 LACW and Reduced C&I Arisings, with aLP Recycling

3.2.6 Household waste comprised 3,049,000 tonnes of total LACW, with an additional 648,000 tonnes of non-household waste. It may be considered that simply updating the household waste arisings with total LACW will result in double counting, because the non-household LACW should be assumed to be accounted for within the C&I waste tonnages. A reasonable response to this challenge would be that the C&I wastes forecast within the aLP are based on a survey that is now ten years old and which has been subjected to manipulation through modelling. The risk of a double counting error being significant is negligible.

3.2.7 However, **Table 3.3** has been prepared, to update **Table 3.1** and address these considerations. In **Table 3.3** the household waste row is again updated to reflect total LACW. In addition, the non-household waste arisings recorded in 2016/17 are subtracted from the C&I waste arisings (row b, which is also renamed). Recycling rates remain unchanged.

3.2.8 In Scenario 2b, just over 2.9 Mt of recovery capacity is required by 2026 (see row m). Again, this need is largely maintained over the following 10 years, decreasing slightly to 2.85Mt by 2036.

3.2.9 Whilst these tonnages are substantial, 'London+' existing capacity can potentially manage a significant proportion of it, although there remains 345,000 tonnes to be diverted from landfill at 2026 and nearly 260,000 by 2036 (see row o). At least 40% of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

3.2.10 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases, at least to nearly 645,000 tonnes at 2036 (see row s). Again, in this scenario, all of the nominal throughput offered by the ERF is required for London to achieve its waste management aspirations (see row u).

Table 3.3: Scenario 2b, aLP: 2016/17 LACW and Reduced C&I Arisings, with aLP recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Table 5.2, aLP, with actual 2016/17 LACW and consequently reduced C&I						
LACW	3,697,000	3,808,000	3,969,000	4,074,000	4,171,000	*a*
C&I -nHH	4,006,000	3,989,000	3,999,000	4,033,000	4,086,000	*b*
Total	7,703,000	7,797,000	7,968,000	8,107,000	8,257,000	*c*
Recycling (per cent)						
LACW[14]	45%	50%	55%	60%	60%	*d*
C&I[15]	0%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,663,650	1,904,000	2,182,950	2,444,400	2,502,600	*f*
C&I	-	2,792,300	2,799,300	2,823,100	2,860,200	*g*
Total	1,663,650	4,696,300	4,982,250	5,267,500	5,362,800	*h*
Recovery (per cent) Calculated from recycling per cent & policy 5.16A/c aLP						
LACW	55%	50%	45%	40%	40%	*i*
C&I	100%	30%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	2,033,350	1,904,000	1,786,050	1,629,600	1,668,400	*k*

[14] Policy 5.16B/c, adopted London Plan

[15] Policy 5.16B/d, adopted London Plan

Year	**2016**	**2021**	**2026**	**2031**	**2036**	
C&I	4,006,000	1,196,700	1,199,700	1,209,900	1,225,800	*l*
Total	6,039,350	3,100,700	2,985,750	2,839,500	2,894,200	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**347,750**	**201,500**	**256,200**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**53%**	**31%**	**39%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**737,750**	**591,500**	**646,200**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**113%**	**90%**	**99%**	*u*

3.2.11 It should be noted that this is a conservative approach. The London Plan C&I figures are based on a survey that is over 10 years old and figures that have been subject to manipulation through modelling.

3.2.12 To inform its own understanding of the commercial viability of the Proposed Development, the Applicant commissioned Tolvik Consulting Ltd (Tolvik) to undertake an assessment of the residual waste market. . Tolvik is an independent provider of commercial due diligence and market analysis services to the European waste and bioenergy sectors, this is the first of three reports that have been prepared by Tolvik that are referenced in this Assessment, and is hereafter referred to as the 'Tolvik REP Market Assessment'. The Tolvik REP Market Assessment forecasts an additional 1.2 to 2.4Mt of C&I waste arising between the years 2026 and 2036, when compared with the aLP data, without including those similar wastes collected by local authorities.

3.3 Review of Recycling Targets

3.3.1 Whilst planning policy should be aspirational, it also needs to be realistic, fully justified and deliverable, taking into account relevant market signals.[16] Reference to the evidence base of the LES suggests that the recycling levels presented in the aLP are unlikely to be achieved.

3.3.2 The evidence base to the LES concludes (on page 112) that the highest performing combination scenario of recycling options considered within London would achieve a 42% household recycling rate, with the second best performing combination achieving a 40% recycling rate. This conclusion is based on a detailed analysis undertaken by WRAP.

3.3.3 Formerly a central government advisory service, the Waste and Resources Action Programme (which operates as WRAP) is now a registered UK charity. Its mission is to accelerate the move to a sustainable, resource-efficient economy by:

- Re-inventing how we design, produce and sell products;
- Re-thinking how we use and consume products; and
- Re-defining what is possible through re-use and recycling.

3.3.4 WRAP is a self-declared world leader in helping organisations achieve greater resource efficiency and has a demonstrated record of success. 'Between 2010 and 2015 in England alone, WRAP initiatives reduced greenhouse gas emissions by nearly 50 Mt, which is equivalent to the annual carbon dioxide emissions of Portugal.'17

[16] National Planning Policy Framework, Ministry of Housing, Communities & Local Government, July 2018, paragraph 30

[17] Statement from WRAP website. http://www.wrap.org.uk/about-us/about

3.3.5 Consequently, LES Policy 7.2.1.a states an intention to 'achieve a 50 per cent LACW recycling target by 2025 and aspire to achieve: a 45 per cent household waste recycling rate by 2025; and a 50 per cent household waste recycling rate by 2030' (page 313). Current household recycling rates across London are ~33% and have changed little over the past five years. The reduced recycling rates within the LES still represent a significant step change in performance which is considered extremely challenging given the context of increased pressure on local authority services and funding.

3.3.6 Indeed, Figure 69 of the LES Evidence Base presents the actions to be undertaken to meet that target, and includes recognition of a 7.8% gap. Figure 69 of the LES Evidence Base is reproduced below, in **Figure 3.1**.

Figure 69: How London can meet a 50 per cent LACW recycling target by 2025[95]

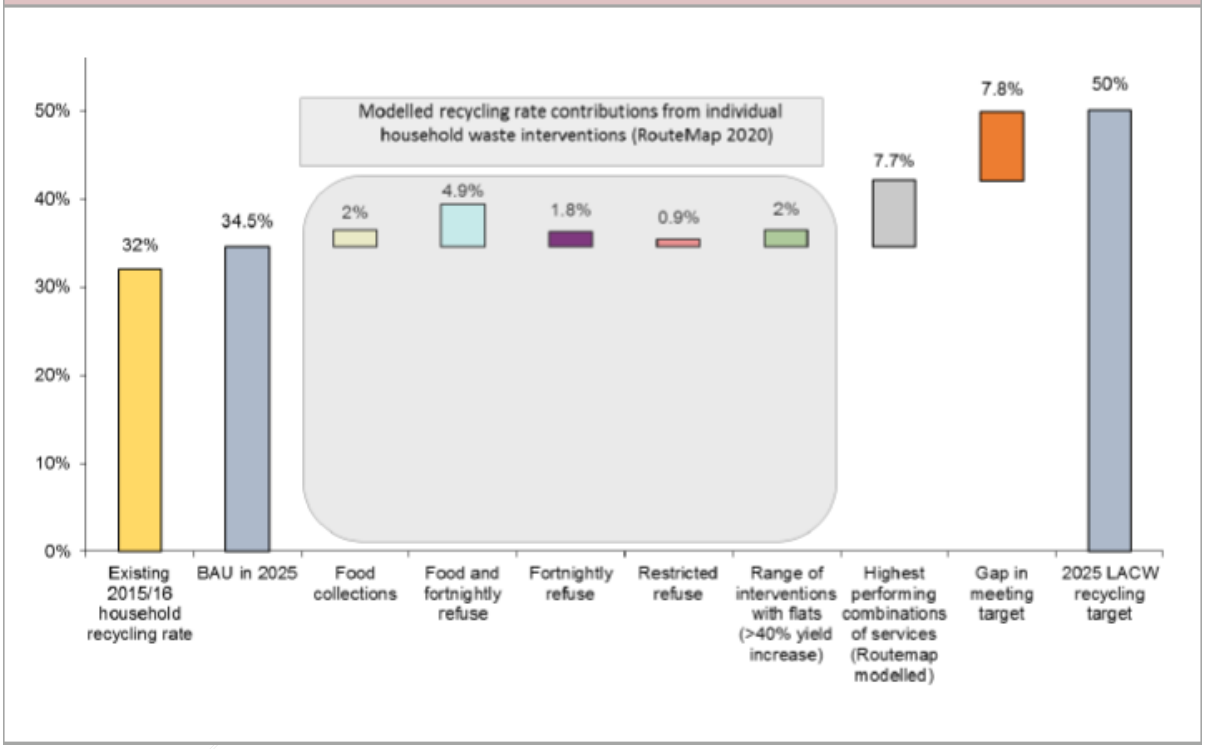


Figure 3.1: Reproduction of Figure 69 from London Environment Strategy: Evidence Base, Waste

Scenario 3a, aLP: 2016/17 LACW Arisings, with LES Recycling and Reduced C&I with aLP Recycling

3.3.7 **Table 3.4** updates **Table 3.3** applying the LES 50% recycling target to total LACW and retaining aLP recycling targets for the C&I waste stream. This leads to a need for just over 3.1 Mt of recovery capacity at 2026, which increases to just over 3.3 Mt by 2036.

3.3.8 When 'London+' existing capacity is subtracted, there is demonstrated to remain a need for new recovery capacity to divert wastes from landfill: nearly 550,000 tonnes at 2026; and 673,000 tonnes by 2036. All of the nominal throughput proposed for the ERF is demonstrated to be necessary to divert London's waste from landfill from 2031.

3.3.9 This level of need increases to over 160% by 2036 if facilities located outside of London are not used.

Table 3.4: Scenario 3a, aLP: 2016/17 LACW Arisings, with LES Recycling and reduced C&I with aLP recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Table 5.2, aLP, with actual 2016/17 LACW and consequently reduced C&I						
LACW	3,697,000	3,808,000	3,969,000	4,074,000	4,171,000	*a*
C&I -nHH	4,006,000	3,989,000	3,999,000	4,033,000	4,086,000	*b*
Total	7,703,000	7,797,000	7,968,000	8,107,000	8,257,000	*c*
Recycling (per cent)						
LACW[18]	45%		50%	50%	50%	*d*
C&I[19]	0%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,663,650	1,713,600	1,984,500	2,037,000	2,085,500	*f*
C&I	-	2,792,300	2,799,300	2,823,100	2,860,200	*g*
Total	1,663,650	4,505,900	4,783,800	4,860,100	4,945,700	*h*
Recovery (per cent) Calculated from recycling per cent						
LACW	47%	48%	50%	50%	50%	*i*
C&I	100%	30%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	1,737,590	1,827,840	1,984,500	2,037,000	2,085,500	*k*

[18] Policy 7.2.1.a, London Environment Strategy

[19] Policy 5.16B/d, adopted London Plan

Year	**2016**	**2021**	**2026**	**2031**	**2036**	
C&I	4,006,000	1,196,700	1,199,700	1,209,900	1,225,800	*l*
Total	5,743,590	3,024,540	3,184,200	3,246,900	3,311,300	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**546,200**	**608,900**	**673,300**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**83%**	**93%**	**103%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**936,200**	**998,900**	**1,063,300**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**143%**	**153%**	**162%**	*u*

Scenario 3b, aLP: 2016/17 LACW Arisings and Reduced C&I, with LES Recycling

3.3.10 In Objective 7.2 and Table 2, the LES places an expectation that the C&I waste stream will achieve a minimum of 75% recycling, in order to achieve 65% across municipal waste as a whole. This target is not justified, and no mechanisms have been implemented to instigate such a change, it is simply an expectation placed on businesses in order to balance the reduced recycling expectations of local authorities; nor is it actually stated under LES Policy 7.2.2.

3.3.11 However, an outcome of 75% recycling in the C&I waste stream is considered in **Table 3.5**, along with an assumption that 80% recycling is achieved by 2036, which would be the actual level required to meet 65% overall.

3.3.12 In Scenario 3b, nearly 3.2 Mt of recovery capacity is required by 2026 (see row m). Again, this need is largely maintained over the following 10 years, decreasing slightly to just over 3.1 Mt by 2036.

3.3.13 Whilst these tonnages are substantial, 'London+' existing capacity can potentially manage a significant proportion of it, although there remains over 546,000 tonnes to be diverted from landfill at 2026 and nearly 265,000 by 2036, even if 80% recycling is achieved in the C&I waste stream (see row o). At least 40% of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

3.3.14 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, then that demand increases by 2036, requiring 100% of the ERF nominal capacity even if 80% recycling of the C&I waste stream is achieved (see row u).

Table 3.5: Scenario 3b, aLP: 2016/17 LACW and Reduced C&I, with LES Recycling (50%^{LACW} and 75% and 80%$^{C\&I}$)

Year	2016	2021	2026	2031	2036	2036	
Arisings (tonnes) Table 5.2, aLP, with actual 2016/17 LACW and consequently reduced C&I							
LACW	3,697,000	3,808,000	3,969,000	4,074,000	4,171,000	4,171,000	*a*
C&I -nHH	4,006,000	3,989,000	3,999,000	4,033,000	4,086,000	4,086,000	*b*
Total	7,703,000	7,797,000	7,968,000	8,107,000	8,257,000	8,257,000	*c*
Recycling (per cent)							
LACW[20]	45%	45%	50%	50%	50%	50%	*d*
C&I[21]	0%	70%	70%	75%	75%	80%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings							
LACW	1,663,650	1,713,600	1,984,500	2,037,000	2,085,500	2,085,500	*f*
C&I	-	2,792,300	2,799,300	3,024,750	3,064,500	3,268,800	*g*
Total	1,663,650	4,505,900	4,783,800	5,061,750	5,150,000	5,354,300	*h*
Recovery (per cent) Calculated from recycling per cent & LES							
LACW	47%	48%	50%	50%	50%	50%	*i*
C&I	100%	30%	30%	25%	25%	20%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings							
LACW	1,737,590	1,827,840	1,984,500	2,037,000	2,085,500	2,085,500	*k*

[20] Policy 7.2.1.a, London Environment Strategy

[21] Objective 7.2, London Environment Strategy

Year	2016	2021	2026	2031	2036	2036	
C&I	4,006,000	1,196,700	1,199,700	1,008,250	1,021,500	817,200	*l*
Total	5,743,590	3,024,540	3,184,200	3,045,250	3,107,000	2,902,700	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**546,200**	**407,250**	**469,000**	**264,700**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**83%**	**62%**	**72%**	**40%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**936,200**	**797,250**	**859,000**	**654,700**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**143%**	**122%**	**131%**	**100%**	*u*

3.4 Review of Available Capacity

3.4.1 So far, this Assessment has been undertaken relying upon an assumed maximum input tonnage of 2,638,000 for 'London+' existing capacity, and 2,248,000 for 'inLondon' existing capacity. However, within the foreseeable future, these assumptions may be an overestimation, not least because energy recovery facilities generally operate below the permitted capacity and those considered are not exclusively used for waste from London. In addition, the identified facilities may simply cease to operate within the foreseeable future.

3.4.2 In June 2018, the Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England, was published.[22] Paragraph 3.46 reports that the Heathrow Northwest Runway '*is capable of being delivered by 2026*'; whilst paragraph 5.139 recognises that the Heathrow Northwest Runway scheme would involve the removal of the Lakeside ERF. Paragraph 5.144 states:

> *'The Government recognises the role of the Lakeside Energy from Waste plant in local waste management plans. The applicant should make reasonable endeavours to ensure that sufficient provision is made to address the reduction in waste treatment capacity caused by the loss of the Lakeside Energy from Waste plant.'*

3.4.3 The loss of the Lakeside ERF would reduce the recovery capacity currently used by London, under a LACW contract, by 90,000 tonnes; but the loss to London generally is substantial higher. The Environment Agency waste datasets advise that in 2016 the Lakeside ERF accepted a total of 162,628 tonnes from London, increasing to 183,894 tonnes in 2017. The additional tonnage will be made up from C&I wastes arising in London that will need to be treated elsewhere if they are to avoid disposal to landfill.

3.4.4 It is not unreasonable, though it would be unfortunate, to expect the Lakeside ERF to cease operating, and Scenario 4 assumes that this will happen as stated in the Airports National Policy Statement, by 2026. This outcome would not affect the 'in London' existing capacity, but reduces the 'London+' existing capacity to 2,548,000 tonnes.

3.4.5 This is just one example of the level of uncertainty that should be accommodated in delivering sustainable infrastructure. It does not start to consider the impact that Brexit might have on the UK practice of sending wastes to Europe for treatment, a practice that reached c.3 Mt in 2017, with almost half of that exported from the south-east of England.

[22] Airports National Policy Statement: new runway capacity and infrastructure at airports in the South East of England. Presented to Parliament pursuant to Section 9(8) of the Planning Act 2008. Moving Britain Ahead, Department for Transport, June 2018. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/714106/airports-nps-new-runway-capacity-and-infrastructure-at-airports-in-the-south-east-of-england-web-version.pdf

Scenario 4, aLP: 2016/17 LACW and Reduced C&I, with LES Recycling and Lost Capacity

3.4.6 Scenario 4, presented in **Table 3.6** updates **Table 3.5** to incorporate the reduced available capacity should Lakeside ERF cease to operate.

3.4.7 In Scenario 4, the demand for recovery capacity is around 3.1Mt over the years 2026 to 2036 (see row m).

3.4.8 The tonnages are substantial and even whilst the 'London+' existing capacity can potentially manage some of it, there remains nearly 640,000 tonnes to be diverted from landfill at 2026 and over 350,000 by 2036, even if 80% recycling is achieved in the C&I waste stream (see row o). Even with the assumed very high levels of recycling, most of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill from 2026.

3.4.9 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, then that demand increases again. Even if 80% recycling is achieved for C&I waste, all of the ERF's nominal capacity is required; and nearly one and half facilities offering the nominal capacity of the ERF will be required from 2026 if the other assumed very high recycling rates are achieved.

Table 3.6: Scenario 4, aLP: 2016/17 LACW and Reduced C&I Arisings, with LES Recycling, and Lakeside ERF ceasing to operate by 2026

Year	2016	2021	2026	2031	2036	2036	
Arisings (tonnes) Table 5.2, aLP, with actual 2016/17 LACW and consequently reduced C&I							
LACW	3,697,000	3,808,000	3,969,000	4,074,000	4,171,000	4,171,000	*a*
C&I -nHH	4,006,000	3,989,000	3,999,000	4,033,000	4,086,000	4,086,000	*b*
Total	7,703,000	7,797,000	7,968,000	8,107,000	8,257,000	8,257,000	*c*
Recycling (per cent)							
LACW[23]	45%	45%	50%	50%	50%	50%	*d*
C&I[24]	0%	70%	70%	75%	75%	80%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings							
LACW	1,663,650	1,713,600	1,984,500	2,037,000	2,085,500	2,085,500	*f*
C&I	-	2,792,300	2,799,300	3,024,750	3,064,500	3,268,800	*g*
Total	1,663,650	4,505,900	4,783,800	5,061,750	5,150,000	5,354,300	*h*
Recovery (per cent) Calculated from recycling per cent & LES							
LACW	47%	48%	50%	50%	50%	50%	*i*
C&I	100%	30%	30%	25%	25%	20%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings							
LACW	1,737,590	1,827,840	1,984,500	2,037,000	2,085,500	2,085,500	*k*

[23] Policy 7.2.1.a, London Environment Strategy

[24] Objective 7.2, London Environment Strategy

Year	2016	2021	2026	2031	2036	2036	
C&I	4,006,000	1,196,700	1,199,700	1,008,250	1,021,500	817,200	*l*
Total	5,743,590	3,024,540	3,184,200	3,045,250	3,107,000	2,902,700	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	**2036**	
Existing capacity, **'London+'** (Lakeside ERF ceased operating)			2,548,000	2,548,000	2,548,000	2,548,000	*n*
Remaining waste to be diverted from landfill			**636,200**	**497,250**	**559,000**	**354,700**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**97%**	**76%**	**85%**	**54%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**936,200**	**797,250**	**859,000**	**654,700**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**143%**	**122%**	**131%**	**100%**	*u*

3.5 Summary of the adopted London Plan Assessment

3.5.1 A strict application of aLP policy, one that relies upon the conservative future estimates of waste arisings and aspirational recycling targets, demonstrates that, even if these outcomes are achieved, there remains a need for residual waste management capacity.

3.5.2 In order for London to achieve its waste management and renewable energy aspirations, as set out in development plan policy, at least a third of the nominal throughput for the ERF will be required, far into the foreseeable future.

3.5.3 That conclusion is based on London continuing to use all of the current contracted capacity, including that which lies outside of the capital. In the event that London achieves its net self-sufficiency aspirations, as per the Mayor's policy, then the need for additional recovery capacity increases to require, at least, all of the nominal throughput offered by the REP ERF.

3.5.4 By simply reviewing either or both those forecast waste arisings and recycling aspirations set out in policy, with up to date and proportionate data, demonstrates that the need for recovery capacity within London is likely to be very much greater.

3.5.5 There is widely recognised a substantial level of progress necessary to achieve the aspirational outcomes of aLP policy. Not least, reference to the aLP identifies that '*around 30% of waste goes into landfill sites that are located largely outside London.*' (paragraph 5.69). This position is little changed in the dLP, which states that '*some 32 per cent of London's waste that was biodegradable or recyclable was sent to landfill.*' (paragraph 9.8.2)

3.5.6 The LES identifies a need for 1.4 Mt of recycling capacity in order to meet aspirational waste management targets. REP incorporates both recycling and recovery capacity, effectively diverting wastes from landfill and recovering renewable/low carbon supplies of energy.

3.5.7 REP also provides the resilience that London needs to deliver its policy aspirations in an uncertain and ever changing future. This Assessment considers the reasonable prospect of Lakeside ERF ceasing to operate within the foreseeable future. In this future, there remains more than a clear need for the ERF, even in the event that extraordinary recycling levels of the LACW (50%) and C&I (80%) waste streams are assumed to be achieved.

3.5.8 REP is demonstrated to be compliant with development plan policy set out in the aLP, providing the additional capacity required to enable London to be self-sufficient, avoid sending wastes to landfill and to benefit from the recovery of renewable/low carbon energy. Even with aspirational recycling targets, the ERF is demonstrated not to prejudice the London Waste Strategy; instead REP provides the flexibility that London needs to underpin the development of its sustainable communities and to reach its objective of being a zero carbon city.

4. Draft London Plan

4.1 Just the dLP

Introduction

4.1.1 The dLP does not state household or commercial/industrial waste arisings; consequently reference needs to be made to the Plan's evidence base, specifically Appendix A to the document reporting Task 3 – Strategic Waste Data[25] (the Task 3 Report). This document also presents the levels of recycling expected to be achieved across both household and C&I wastes, providing more detail than policies SI7A/3 and 4.

Scenario 1, dLP: dLP Arisings, with dLP Recycling

4.1.2 **Table 4.1** presents all of this information, such that the amount of waste to be diverted from landfill, passing through a residual waste management treatment facility, such as REP can be calculated.

4.1.3 In Scenario 1, dLP, which is an absolute application of dLP data and policy, just over 3Mt of recovery capacity is required by 2026. This need is largely maintained over the following 10 years, decreasing slightly to just over 2.9 Mt by 2036.

4.1.4 Whilst these tonnages are substantial, 'London+' existing capacity can potentially manage a significant proportion of it, although there remains over 475,000 tonnes to be diverted from landfill at 2026 and over 270,000 by 2036 (see row o). At least 40% of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

4.1.5 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases, at least to nearly 662,000 tonnes at 2036 (see row s). In this scenario, all of the nominal throughput offered by the ERF is required for London to achieve its waste management aspirations (see row u).

[25] London Plan Waste Forecasts and Apportionment, Task 3 – Strategic Waste Data, SLR, May 2017. https://www.london.gov.uk/sites/default/files/task_3_-_strategic_waste_data.pdf

Table 4.1: Scenario 1, dLP: dLP Arisings, with dLP Recycling (60%^{HH} and 70%$^{C\&I}$)

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data						
HH	3,103,000	3,207,000	3,287,000	3,348,000	3,453,000	*a*
C&I	5,015,000	5,009,000	5,012,000	5,021,000	5,097,000	*b*
Total	8,118,000	8,216,000	8,299,000	8,369,000	8,550,000	*c*
Recycling (per cent) Appendix A, Task 3 – Strategic Waste Data						
HH	34%	43%	51%	60%	60%	*d*
C&I	63%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
HH	1,055,020	1,379,010	1,676,370	2,008,800	2,071,800	*f*
C&I	3,159,450	3,506,300	3,508,400	3,514,700	3,567,900	*g*
Total	4,214,470	4,885,310	5,184,770	5,523,500	5,639,700	*h*
Recovery (per cent) Calculated from recycling per cent						
HH	47%	48%	49%	40%	40%	*i*
C&I	19%	21%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
HH	1,458,410	1,539,360	1,610,630	1,339,200	1,381,200	*k*
C&I	952,850	1,051,890	1,503,600	1,506,300	1,529,100	*l*
Total	2,411,260	2,591,250	3,114,230	2,845,500	2,910,300	*m*

Demand for REP ERF	2026	2031	2036	
Existing capacity, **'London+'**	2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill	**476,230**	**207,500**	**272,300**	*o*
REP ERF nominal capacity	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London	**73%**	**32%**	**42%**	*q*
Existing capacity, **'inLondon'**	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill	**866,230**	**597,500**	**662,300**	*s*
REP ERF nominal capacity	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London	**132%**	**91%**	**101%**	*u*

4.2 Review of Waste Arisings

4.2.1 Appendix A of the Task 3 Report also only accounts for household waste, not all wastes collected by local authorities; yet policy SI7A/4a applies to all municipal waste.

4.2.2 In 2016/17 London generated 3,697,000 tonnes of LACW. There is a difference of 594,000 tonnes between the forecast household arisings set out in Appendix A of the Task 3 Report and the actual LACW arisings for 2016/17.

Scenario 2a, dLP: 2016/17 LACW and dLP C&I Arisings, with dLP Recycling

4.2.3 **Table 4.2** simply updates **Table 4.1** with the actual tonnage of LACW collected in 2016/17. Each household waste forecast is increased by 594,000 tonnes, with no other growth assumed; rows a, f, and k in the table below, are renamed LACW. No other changes are made, the C&I waste arisings remain the same, as do the recycling targets.

4.2.4 Updating the LACW arisings leads to a need for 3.4Mt of recovery capacity at 2026. This need is largely maintained over the following 10 years, decreasing to just over 3Mt by 2036.

4.2.5 When 'London+' existing capacity is subtracted, there remains a need for new recovery capacity to divert wastes from landfill: over 767,000 tonnes at 2026; and nearly 510,000 tonnes by 2036. Nearly 80% of the nominal throughput proposed for the ERF is required to divert London's waste from landfill by 2036.

4.2.6 This level of need increases to nearly 140% by 2036 if facilities located outside of London are not used.

Table 4.2: Scenario 2a, dLP: 2016/17 LACW and dLP C&I Arisings, with dLP Recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data, with actual 2016/17 LACW						
LACW	3,697,000	3,801 ,000	3,881,000	3,942,000	4,047,000	*a*
C&I	5,015,000	5,009,000	5,012,000	5,021,000	5,097,000	*b*
Total	8,712,000	8,810,000	8,893,000	8,963,000	9,144,000	*c*
Recycling (per cent) Appendix A, Task 3 – Strategic Waste Data						
HH	34%	43%	51%	60%	60%	*d*
C&I	63%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,256,980	1,634,430	1,979,310	2,365,200	2,428,200	*f*
C&I	3,159,450	3,506,300	3,508,400	3,514,700	3,567,900	*g*
Total	4,416,430	5,140,730	5,487,710	5,879,900	5,996,100	*h*
Recovery (per cent) Calculated from recycling per cent						
HH	47%	48%	49%	40%	40%	*i*
C&I	19%	21%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	1,737,590	1,824,480	1,901,690	1,576,800	1,618,800	*k*
C&I	952,850	1,051,890	1,503,600	1,506,300	1,529,100	*l*
Total	2,690,440	2,876,370	3,405,290	3,083,100	3,147,900	*m*

Demand for REP ERF	2026	2031	2036	
Existing capacity, **'London+'**	2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill	**767,290**	**445,100**	**509,900**	*o*
REP ERF nominal capacity	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London	**117%**	**68%**	**78%**	*q*
Existing capacity, **'inLondon'**	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill	**1,157,290**	**835,100**	**899,900**	*s*
REP ERF nominal capacity	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London	**177%**	**127%**	**137%**	*u*

Scenario 2b, dLP: 2016/17 LACW and Reduced C&I Arisings, with dLP Recycling

4.2.8 As reported previously, 2016/17 LACW arisings for London was 3,697,000 tonnes, comprising: 3,049,000 tonnes of household waste; and 648,000 tonnes of non-household waste.

4.2.9 Reference to another evidence base document of the dLP, Task 1 – GLA Waste Arisings Model Critical Friend Review[26] (the Task 1 Report) advises that this is believed, but not confirmed, to be accounted for in the C&I waste stream data. The first entry in Table 2-1 of the Task 1 Report, under SLR comment, states:

> *'We believe the borough tonnages currently included for 2015/16 may be local authority collected waste, rather than household waste. Tonnages therefore currently include non-household waste collected by local authorities (largely local authority trade waste collections), overestimating the household waste tonnage.*
>
> *We understand that Defra's commercial and industrial waste survey includes all C&I waste, including local authority trade waste. To avoid double counting, it may therefore be appropriate to consider only borough household waste tonnages (London total 3.1Mt in 2015/16) as opposed to local authority collected waste in totality (London total 3.7Mtpa in 2015/16).'*

4.2.10 To address these considerations **Table 4.3** updates **Table 4.1** to avoid the potential for double-counting. In **Table 4.3** the household waste row is again updated to reflect total LACW. In addition, the non-household waste arisings recorded in 2016/17 are subtracted from the C&I waste arisings (row b, which is also renamed). Recycling rates remain unchanged.

4.2.11 In Scenario 2b, just over 3 Mt of recovery capacity is required by 2026 (see row m). Again, this need is largely maintained over the following 10 years, decreasing slightly to 2.95 Mt by 2036.

4.2.12 Whilst these tonnages are substantial, 'London+' existing capacity can potentially manage a significant proportion of it, although there remains nearly 573,000 tonnes to be diverted from landfill at 2026 and 315,500 by 2036 (see row o). At least nearly 50% of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

4.2.13 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases, at least to nearly 705,500 tonnes at 2036 (see row s). Again, in this scenario, all of the nominal throughput

[26] London Plan Waste Forecast and Apportionments, Task 1 – GLA Waste Arisings Model Critical Friend Review, SLR, March 2017. https://www.london.gov.uk/sites/default/files/forecasts_for_household_and_commercial_industrial_waste_report_1_-_gla_waste_arisings_model.pdf

offered by the ERF is required for London to achieve its waste management aspirations (see *row u*).

Table 4.3: Scenario 2b,dLP: 2016/17 LACW and Reduced C&I Arisings, with dLP Recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data, with actual 2016/17 LACW						
LACW	3,697,000	3,801 ,000	3,881,000	3,942,000	4,047,000	*a*
C&I -nHH	4,367,000	4,361,000	4,364,000	4,373,000	4,449,000	*b*
Total	8,064,000	8,162,000	8,245,000	8,315,000	8,496,000	*c*
Recycling (per cent) Appendix A, Task 3 – Strategic Waste Data						
HH	34%	43%	51%	60%	60%	*d*
C&I	63%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,256,980	1,634,430	1,979,310	2,365,200	2,428,200	*f*
C&I	2,751,210	3,052,700	3,054,800	3,061,100	3,114,300	*g*
Total	4,008,190	4,687,130	5,034,110	5,426,300	5,542,500	*h*
Recovery (per cent) Calculated from recycling per cent						
HH	47%	48%	49%	40%	40%	*i*
C&I	19%	21%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	1,737,590	1,824,480	1,901,690	1,576,800	1,618,800	*k*
C&I	829,730	915,810	1,309,200	1,311,900	1,334,700	*l*
Total	2,567,320	2,740,290	3,210,890	2,888,700	2,953,500	*m*

Demand for REP ERF	2026	2031	2036	
Existing capacity, **'London+'**	2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill	**572,890**	**250,700**	**315,500**	*o*
REP ERF nominal capacity	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London	**87%**	**38%**	**48%**	*q*
Existing capacity, **'inLondon'**	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill	**962,890**	**640,700**	**705,500**	*s*
REP ERF nominal capacity	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London	**147%**	**98%**	**108%**	*u*

4.2.14 Again, this is believed to be a conservative approach. The Tolvik REP Market Assessment forecasts an additional 1.0 to 2.0 Mt of C&I waste arising between the years 2026 and 2036, when compared with the dLP data, without including those similar wastes collected by local authorities.

4.3 Review of Recycling Targets

4.3.1 At the time of undertaking this Assessment, the dLP had yet to undergo the independent examination. It is observed that, whilst being a plan currently being prepared, the household waste recycling targets assumed within the modelling for the dLP appear to be unachievable when reference is made to the evidence base to the LES.

Scenario 3a, dLP: 2016/17 LACW, with LES Recycling and Reduced C&I with dLP Recycling

4.3.2 **Table 4.4** updates **Table 4.3** applying the LES 50% recycling target to total LACW (renaming rows d and i) and retaining dLP recycling targets for the C&I waste stream. This leads to a need for just over 3.2 Mt of recovery capacity at 2026, which increases to just over 3.3 Mt by 2036.

4.3.3 When 'London+' existing capacity is subtracted, there is demonstrated to remain a need for new recovery capacity to divert wastes from landfill: nearly 612,000 tonnes at 2026; and 720,000 tonnes by 2036. All of the nominal throughput proposed for the ERF is demonstrated to be necessary to divert London's waste from landfill from 2031.

4.3.4 This level of need increases to nearly 170% by 2036 if facilities located outside of London are not used.

Table 4.4: Scenario 3a, dLP: 2016/17 LACW, with LES Recycling and Reduced C&I, with dLP Recycling

Year	2016	2021	2026	2031	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data, with actual 2016/17 LACW						
LACW	3,697,000	3,801 ,000	3,881,000	3,942,000	4,047,000	*a*
C&I -nHH	4,367,000	4,361,000	4,364,000	4,373,000	4,449,000	*b*
Total	8,064,000	8,162,000	8,245,000	8,315,000	8,496,000	*c*
Recycling (per cent)						
LACW[27]	34%	43%	50%	50%	50%	*d*
C&I[28]	63%	70%	70%	70%	70%	*e*
Recycling (tonnes) Calculated by applying recycling per cent to waste arisings						
LACW	1,256,980	1,634,430	1,940,500	1,971,000	2,023,500	*f*
C&I	2,751,210	3,052,700	3,054,800	3,061,100	3,114,300	*g*
Total	4,008,190	4,687,130	4,995,300	5,032,100	5,137,800	*h*
Recovery (per cent) Calculated from recycling per cent						
LACW	47%	48%	50%	50%	50%	*i*
C&I	19%	21%	30%	30%	30%	*j*
Recovery (tonnes) Calculated by applying recovery per cent to waste arisings						
LACW	1,737,590	1,824,480	1,940,500	1,971,000	2,023,500	*k*

[27] Policy 7.2.1.a, London Environment Strategy

[28] Appendix A, Task 3 – Strategic Waste Data

Year	2016	2021	2026	2031	2036	
C&I	829,730	915,810	1,309,200	1,311,900	1,334,700	*l*
Total	2,567,320	2,740,290	3,249,700	3,282,900	3,358,200	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**611,700**	**644,900**	**720,200**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**93%**	**98%**	**110%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**1,001,700**	**1,034,900**	**1,110,200**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**153%**	**158%**	**169%**	*u*

Scenario 3b, dLP: 2016/17 LACW and Reduced C&I Arisings, with LES Recycling

4.3.5 The dLP policy SI7A/4/a actually seeks to achieve a level of 65% recycling across the municipal waste stream. This objective is repeated in the LES, which expects it to be delivered through achieving a minimum of 75% recycling in the C&I waste stream (Objective 7.2).

4.3.6 This outcome is considered in **Table 4.5**, along with an assumption that 80% recycling is achieved within the C&I waste stream by 2036, as required to meet 65% overall.

4.3.7 In Scenario 3b, over 3.2 Mt of recovery capacity is required by 2026 (see row m). Again, this need is largely maintained over the following 10 years, decreasing slightly to just over 3.1 Mt by 2036.

4.3.8 Whilst these tonnages are substantial, 'London+' existing capacity can potentially manage a significant proportion of it, although there remains nearly 612,000 tonnes to be diverted from landfill at 2026 and over 275,000 by 2036, even if 80% recycling is achieved in the C&I waste stream (see row o). At least 40% of the nominal throughput proposed for the ERF is required to divert London's waste away from landfill (see row q).

4.3.9 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases by 2036, requiring 100% of the ERF nominal capacity even if 80% recycling of the C&I waste stream is achieved (see row u).

Table 4.5: Scenario 3b, dLP: 2016/17 LACW and Reduced C&I, with LES Recycling (50%[LACW] and 75% and 80%[C&I])

Year	2016	2021	2026	2031	2036	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data, with actual 2016/17 LACW							
LACW	3,697,000	3,801,000	3,881,000	3,942,000	4,047,000	4,047,000	*a*
C&I -nHH	4,367,000	4,361,000	4,364,000	4,373,000	4,449,000	4,449,000	*b*
Total	8,064,000	8,162,000	8,245,000	8,315,000	8,496,000	8,496,000	*c*
Recycling (per cent)							
LACW[29]	34%	43%	50%	50%	50%	50%	*d*
C&I[30]	63%	70%	70%	75%	75%	80%	*e*
Recycling (tonnes) Calculated by applying recycling percent to waste arisings							
LACW	1,256,980	1,634,430	1,940,500	1,971,000	2,023,500	2,023,500	*f*
C&I	2,751,210	3,052,700	3,054,800	3,279,750	3,336,750	3,559,200	*g*
Total	4,008,190	4,687,130	4,995,300	5,250,750	5,360,250	5,582,700	*h*
Recovery (per cent) Calculated from recycling percent & LES							
LACW	47%	48%	50%	50%	50%	50%	*i*
C&I	19%	21%	30%	25%	25%	20%	*j*
Recovery (tonnes) Calculated by applying recovery percent to waste arisings							
LACW	1,737,590	1,824,480	1,940,500	1,971,000	2,023,500	2,023,500	*k*

[29] Policy 7.2.1.a, London Environment Strategy

[30] Objective 7.2, London Environment Strategy

Year	2016	2021	2026	2031	2036	2036	
C&I	4,367,000	915,810	1,309,200	1,093,250	1,112,250	889,800	*l*
Total	6,104,590	2,740,290	3,249,700	3,064,250	3,135,750	2,913,300	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	**2036**	
Existing capacity, **'London+'**			2,638,000	2,638,000	2,638,000	2,638,000	*n*
Remaining waste to be diverted from landfill			**611,700**	**426,250**	**497,750**	**275,300**	*o*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**93%**	**65%**	**76%**	**42%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**1,001,700**	**816,250**	**887,750**	**665,300**	*s*
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**153%**	**125%**	**136%**	**102%**	*u*

4.4 Review of Available Capacity

4.4.1 As when considering the aLP, this section of the Assessment considers the impact of lost capacity on the waste treatment infrastructure available to manage London's residual waste in line with the waste hierarchy.

4.4.2 The same assumption is applied, that the Lakeside ERF will cease to operate in 2025, reducing the 'London+' existing capacity figure to 2,548,000.

Scenario 4, dLP: 2016/17 LACW and Reduced C&I, with LES Recycling and Lost Capacity

4.4.3 Scenario 4, presented in **Table 4.6** updates **Table 4.5** to incorporate the reduced available capacity should Lakeside ERF cease to operate. The NLHPP remains to be assumed to be delivered.

4.4.4 In Scenario 4, the demand for recovery capacity is over 3.2 Mt at 2026, reducing to just under 3 Mt by 2036, if 80% recycling of the C&I waste stream is achieved (see row m).

4.4.5 The tonnages are substantial and even whilst the 'London+' existing capacity can potentially manage some of it, there remains over 700,000 tonnes to be diverted from landfill at 2026 and over 360,000 tonnes by 2036, even if 80% recycling is achieved in the C&I waste stream (see row o).

4.4.6 If London were to achieve net self-sufficiency, and consequently cease to require energy recovery facilities located outside of the capital, as per the Mayor's policy, then that demand increases again. Over 1Mt of residual wastes remain to be diverted from landfill by 2026, requiring at least one and half facilities offering the nominal capacity of the ERF.

4.4.7 Even if 80% C&I recycling is achieved, all of the nominal capacity offered by REP ERF is required (see row u).

Table 4.6: Scenario 4, dLP: 2016/17 LACW and Reduced C&I, with LES Recycling and Lost Capacity

Year	2016	2021	2026	2031	2036	2036	
Arisings (tonnes) Appendix A, Task 3 – Strategic Waste Data, with actual 2016/17 LACW							
LACW	3,697,000	3,801,000	3,881,000	3,942,000	4,047,000	4,047,000	*a*
C&I -nHH	4,367,000	4,361,000	4,364,000	4,373,000	4,449,000	4,449,000	*b*
Total	8,064,000	8,162,000	8,245,000	8,315,000	8,496,000	8,496,000	*c*
Recycling (per cent)							
LACW[31]	34%	43%	50%	50%	50%	50%	*d*
C&I[32]	63%	70%	70%	75%	75%	80%	*e*
Recycling (tonnes) Calculated by applying recycling percent to waste arisings							
LACW	1,256,980	1,634,430	1,940,500	1,971,000	2,023,500	2,023,500	*f*
C&I	2,751,210	3,052,700	3,054,800	3,279,750	3,336,750	3,559,200	*g*
Total	4,008,190	4,687,130	4,995,300	5,250,750	5,360,250	5,582,700	*h*
Recovery (per cent) Calculated from recycling percent & LES							
LACW	47%	48%	50%	50%	50%	50%	*i*
C&I	19%	21%	30%	25%	25%	20%	*j*
Recovery (tonnes) Calculated by applying recovery percent to waste arisings							
LACW	1,737,590	1,824,480	1,940,500	1,971,000	2,023,500	2,023,500	*k*

[31] Policy 7.2.1.a, London Environment Strategy

[32] Objective 7.2, London Environment Strategy

Year	**2016**	**2021**	**2026**	**2031**	**2036**	**2036**	
C&I	4,367,000	915,810	1,309,200	1,093,250	1,112,250	889,800	*l*
Total	6,104,590	2,740,290	3,249,700	3,064,250	3,135,750	2,913,300	*m*
Demand for REP ERF			**2026**	**2031**	**2036**	**2036**	
Existing capacity, **'London+'** (Lakeside ERF ceased operating)			2,548,000	2,548,000	2,548,000	2,548,000	*n*
Remaining waste to be diverted from landfill			**701,700**	**516,250**	**587,750**	**365,300**	***o***
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*p*
Proportion of REP ERF used by London			**107%**	**79%**	**90%**	**56%**	*q*
Existing capacity, **'inLondon'**			2,248,000	2,248,000	2,248,000	2,248,000	*r*
Remaining waste to be diverted from landfill			**1,001,700**	**816,250**	**887,750**	**665,300**	***s***
REP ERF nominal capacity			665,000	665,000	665,000	665,000	*t*
Proportion of REP ERF used by London			**153%**	**125%**	**136%**	**102%**	*u*

4.5 Summary of draft London Plan Assessment

4.5.1 Again, there is demonstrated to be a consistent demand for capacity to divert residual waste from landfill.

4.5.2 A strict application of dLP policy, one that relies upon the conservative future estimates of waste arisings and aspirational recycling targets, demonstrates that even if these outcomes are achieved there remains a need for residual waste management capacity. In order for London to achieve its diversion from landfill, self-sufficiency and renewable energy aspirations, at least 40% of the nominal throughput for the ERF will be required, far into the foreseeable future.

4.5.3 That conclusion is based on London continuing to use all of the current contracted capacity, including that which lies outside the capital. In the event that London achieves its net self-sufficiency aspirations, as per the Mayor's policy, then the need for additional recovery capacity increases to require, at least, all of the nominal throughput offered by the REP ERF.

4.5.4 By simply reviewing either or both the forecast waste arisings and recycling aspirations set out in policy, with an up to date and proportionate data set, demonstrates that the need for recovery capacity to divert London's wastes from landfill is likely to be very much greater.

4.5.5 REP also provides the resilience that London needs to deliver its future policy aspirations in an uncertain and ever changing world.

4.5.6 This Assessment also considers the reasonable prospect of Lakeside ERF SELCHP ceasing to operate in the foreseeable future. In this future, there remains more than the clear need for the ERF, even in the event that extraordinary recycling levels of the LACW (50%) and C&I (80%) waste streams are assumed to be achieved.

4.5.7 REP is demonstrated to be compliant with emerging dLP policy, providing the additional capacity required to enable London to be self-sufficient, avoid sending wastes to landfill and to benefit from the recovery of renewable/low carbon energy.

4.5.8 The ERF is demonstrated not to prejudice the London Waste Strategy; instead REP provides the flexibility that London needs to underpin the development of its sustainable communities and to reach its objective of being a zero carbon city.

5. The Waste Management Context

5.1 Modelling Assumptions

5.1.1 There is a myriad of different assumptions and methods that may be used to forecast demand, whatever future event is being considered. However, key to waste planning (not least as noted in NPPW, at page 3) is using a proportionate evidence base and avoiding spurious precision. A range of outcomes should be explored so that their outcomes are properly understood and an optimal solution, which builds in deliverability and flexibility, is achieved. This is the approach used in this Assessment.

5.1.2 It is also the approach used by the Environmental Services Association (ESA) in undertaking its own review of future residual waste treatment demand. The ESA recognised that during 2016/17 a number of reports were published by third parties which forecast different levels of need for residual waste treatment capacity in the UK. Consequently, the ESA commissioned Tolvik to undertake an independent review of these forecasts, reported in document titled 'UK Residual Waste: 2030 Market Review'.[33]

5.1.3 One of the key conclusions relevant to this Assessment is that the amount of residual waste predicted at 2030 varied greatly across the six reports reviewed. All the reports were prepared by organisations active within the waste industry, which demonstrates the level of uncertainty in relation to forecasting waste arisings.

> '*Whilst the 2016 baseline Residual Waste tonnages vary relatively modestly, the effect of the differing assumptions underpinning the scenarios in the reports is significant. By 2030 the projected tonnage of Residual Waste ranges from a low of 15.9 Mt to a high of 31.7 Mt*.
>
> *It is worth noting that not all of the scenarios within the reports are necessarily regarded by report authors as a likely outcome; some scenarios have been developed specifically to illustrate the effects of changing assumptions and/or for the purpose of sensitivity testing'* (UK Residual Waste: 2030 Market Review, Section 4.1, Page 17).

5.1.4 Another is that, despite assuming high levels of recycling, and substantially greater than are currently achieved in London, there generally remains a future forecast need for substantial new residual waste treatment capacity. A potential future surplus of capacity is only achieved when: very high recycling rates are assumed; all potential future capacity is included, even when it is not yet operational; and it is assumed that the UK will still be exporting 2.5 Mt to mainland Europe for treatment.

[33] UK Residual Waste: 2030 Market Review, Tolvik Consulting, November 2017. http://www.esauk.org/application/files/6015/3589/6453/UK_Residual_Waste_Capacity_Gap_Analysis.pdf

5.2 Current Waste Management in London

Recycling and Recovery within London

5.2.1 This Assessment has already addressed much of the policy and context relevant to London's recycling and recovery, both as current practice and future aspirations. One element that has not been considered is the level of success that has already been achieved.

5.2.2 The LES estimates (page 281) that in 2017/18 a municipal waste recycling rate of 41% was achieved in London. Whilst improvements to this level of recycling are sought in both the London Plans and the LES, it is also recognised that London performs well when compared against other major cities.

5.2.3 The LES: Evidence Base, Waste advises that London sits '6th behind Seoul (67%); Adelaide (54 percent); Los Angeles (50 per cent); San Francisco (48 percent) and Melbourne (48 percent)' (Page 96).

5.2.4 **Figure 5.1** demonstrates that, even just looking at the LACW recycling rate, London still performs well against many major European cities.

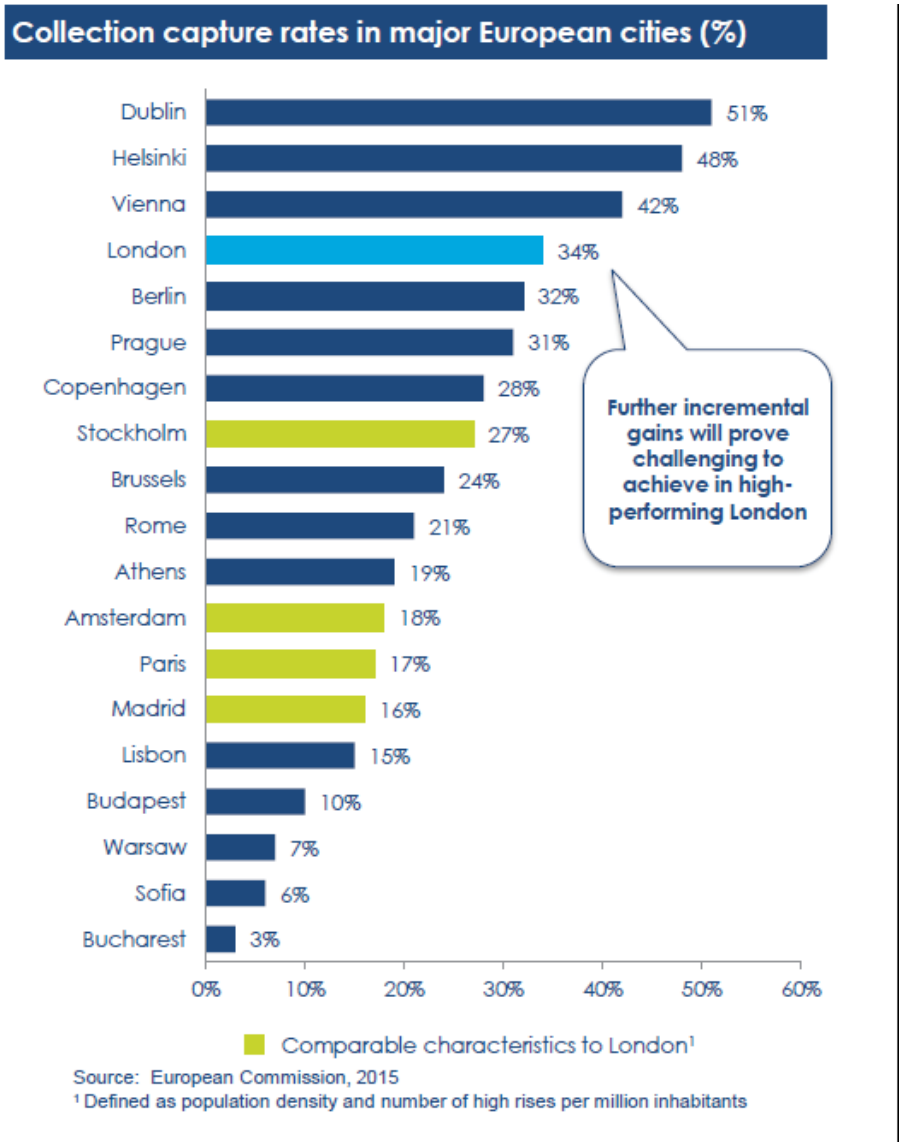


Figure 5.1: Collection capture rates in major European cities

5.2.5 It is widely understood that making material progress on a good level of performance is very much more difficult to achieve than gaining improvements from a low starting point. Further, the LES recognises the very real challenges within London of meeting such targets, not least the absence of any direct means of delivery and a lack of funding.

5.2.6 The Applicant currently provides recycling services, and will enable further increase in recycling capacity through the Anaerobic Digestion Facility. The ERF is another important part of the sustainable waste treatment infrastructure required within London.

Export to Landfill

5.2.7 At paragraphs 9.8.1 and 9.8.2, the dLP advises:

> '*In 2015, London managed 7.5mt of its own waste and exported 11.4mt of waste. London also imported 3.6mt of waste. This gives London a current waste net self-sufficiency figure of approximately 60 per cent. Around 5mt (49 per cent) of waste exported from London went to the East of England and 4.2mt (42 per cent) to the South East. The bulk of this waste is CD&E waste. Approximately 1.3mt of waste was exported overseas. The term net self-sufficiency is meant to apply to all waste streams, with the exception of excavation waste. …*
>
> *In 2015, 2.9mt of the waste sent to the East of England went to landfill and 2.2mt went to landfill in the South East. Some 32 percent of London's waste that was biodegradable or recyclable was sent to landfill. The Mayor is committed to sending zero biodegradable or recyclable waste to landfill by 2026 (see Table 9.3).'*

5.2.8 On page 325, the LES states:

> *'In 2015 London managed around half the waste it produced within London. Most exported waste goes to landfill mainly in the south east, and, along with it goes the economic value of recovered materials for reuse, recycling or energy generation. Although waste to landfill has declined by 70 per cent since 2005, London still landfills around 1 million tonnes of waste each year, costing around £100 million. Landfills accepting London's wastes are expected to close by 2026 and no new capacity is planned. To deal with this London needs to firstly reduce waste produced and secondly to ensure it has access to sufficient capacity to recover value from more of its waste and remove any reliance on landfill.'*

5.2.9 The difference in the tonnages is believed to be because the LES is focussing on municipal waste, whilst the dLP addresses all waste streams. Using either reference, it is clear, that London currently exports a substantial proportion of its waste and a substantial proportion of that is disposed of to landfill.

5.2.10 Both the dLP and the LES are right to identify that disposal to landfill is unattractive, it is also correct to identify that this landfill capacity is becoming increasingly unavailable. **Figure 5.2** shows the eight commonly used landfills currently used to dispose of London's waste and that six of them are due to close by 2025, in just seven years.

5.2.11 REP is demonstrated as the appropriate and sustainable management option for London's residual waste, recovering energy from non-recyclable wastes and avoid their disposal to landfill.

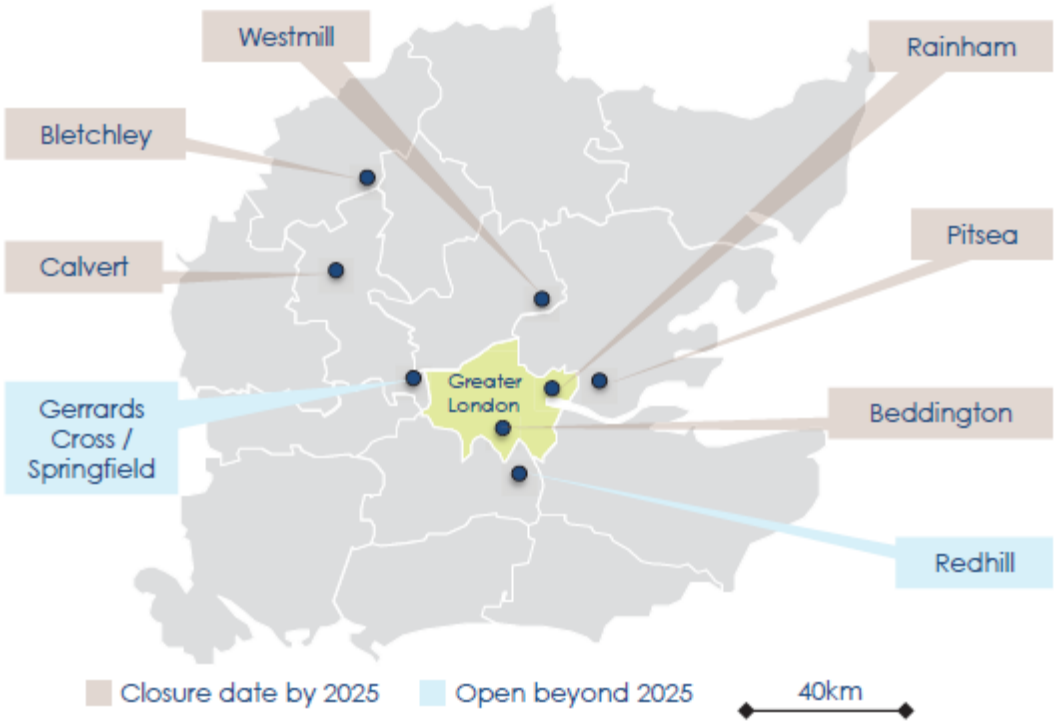


Figure 5.2: Landfill facilities commonly used to dispose of London's waste

Export to Europe

5.2.12 In addition to exporting waste to landfill, residual wastes are exported to energy recovery facilities on mainland Europe. In 2017, just over 3 Mt of residual waste was exported to Europe from England for recovery/incineration[34]. Around 50% of all UK export of RDF and solid recovered fuel originated in the south east[35].

5.2.13 Technically, this movement complies with European policy and is currently a cost-effective, short-term solution; but it fails to give either the UK, or London, resilience in either waste management or energy supply infrastructure and means our communities miss out on the demonstrated benefits; principally renewable/low carbon energy but also inward investment and jobs. There are also risks of greater regulatory constraints and increased costs associated with this management route as the UK leaves the European Union.

5.2.14 This is sub-optimal solution for London's residual waste. Instead, REP delivers the development plan policy aspirations to treat London's waste within London, recovering both materials and a supply of renewable/low carbon energy.

[34] https://data.gov.uk/dataset/international-waste-shipments-exported-to-england https://ea.sharefile.com/share/view/sc1791badb1e4024a

[35] Mind the gap 2017 – 2030, UK residual waste infrastructure capacity requirements, Suez, 2017. http://www.sita.co.uk/wp-content/uploads/2017/09/MindTheGap20172030-1709-web.pdf

5.3 Residual Waste Beyond London

5.3.1 Whilst the Mayor has consistently expressed an objective to be net self-sufficient by 2026, waste is not constrained by administrative boundaries and it will continue to move in and out of London. In order to achieve net self-sufficiency, London will need to ensure it has sufficient capacity to manage all of its waste arisings.

5.3.2 What is also clear, is that there are substantial amounts of residual waste arising in counties across the south and east of England that policy also seeks to divert from landfill. REP is a multi-technology development, proposed to receive wastes predominantly by river freight. The movement of wastes into London from outside would have no unacceptable adverse impacts and would provide flexibility to the Proposed Development, ensuring it is able to adapt over time to only accepting non-recyclable wastes.

5.3.3 The geographical location of REP presents the opportunity to accept wastes from local authorities, particularly within the south and east of England. A review of the policy documents prepared by the county councils (the waste planning authorities) of: Essex; Hertfordshire; Kent, Norfolk; Suffolk; and Surrey has been undertaken and is presented in **Appendix A**.

5.3.4 There is over 2 Mt of residual wastes arising in those authorities close to London that should be diverted from landfill. The ERF would be one of the nearest appropriate installations for that waste to be treated within.

5.3.5 REP's location is strategically important and its operations must therefore be viewed strategically. Its location on the edge of London and adjacent to the River, means that it can, and should, play an important role in serving both London and the surrounding administrative areas in achieving the waste hierarchy.

5.4 Real World Market Research

5.4.1 This Assessment has focussed on the relevant waste strategy within London; it is underpinned by the adopted and emerging policy of the London Plans, with reference also to the LES.

5.4.2 The Assessment demonstrates that even if all the policies are achieved in full, there remains a need for REP. However, the enormity of the challenge for London to meet all of its policy targets is widely recognised and should not be underestimated.

5.4.3 Policy is the appropriate tool to direct change to happen over time; however it is also appropriate to consider the real world context, to understand what is actually happening.

5.4.4 The third Tolvik report referenced in this Assessment was published in October 2018, titled ‘Residual Waste in London and the South East. Where is it going

to go …?'[36] (the Tolvik Report). The Tolvik Report was prepared by that company to consider the future management options for residual wastes arising in London and the south east of England.

5.4.5 The Tolvik Report takes a focussed approach to defining 'residual waste' limiting it to '*non-hazardous, solid and combustible mixed waste which remains after recycling activities and is capable of being processed alongside Residual Household Waste*' (page 2). The analysis has been undertaken using data from the Environment Agency, discussions with waste management companies, and Tolvik's own knowledge, which includes its review of third party residual waste assessment reports undertaken on behalf of the ESA (and referenced in Section 5.1 above). The Tolvik Report is informed by a number of different representatives of the waste management industry.

5.4.6 Three different scenarios are used within the Tolvik Report to estimate future residual waste tonnages: Limited Intervention; Central; and CE Target (using recycling targets of the Circular Economy package agreed within European Union). In the Central scenario, the assumed growth in waste arisings is largely offset by the assumed level of recycling, such that the projected tonnage of residual waste remains broadly unchanged at 2025, from the baseline year of 2017. '*Meanwhile, a modest rise in Residual Waste is projected in the Limited Intervention scenario and an 8% decline in the CE Target scenario*' (page 5). Under the Central scenario, the one considered most likely, the Tolvik Report estimates 9.9 Mt of residual waste in 2025.

5.4.7 Having forecast future waste tonnages, the Tolvik Report considers waste management options, starting with energy recovery. The Tolvik Report looks at how much waste, generated in London and the South East, is currently sent for energy recovery (4.19 Mt in 2017), how much operating capacity is available to treat these wastes (5.21 Mt) and how much additional capacity might be available in the future (1.09 Mt to 2.06 Mt). These figures include REP at 650,000 tonnes.

5.4.8 Other treatment options considered in the Tolvik Report are:

- **Export of refuse derived fuel (RDF) to Europe** – In 2017, approximately 1.7 Mt of RDF was exported from London and the South East, around 54% of the 3.35 Mt exported from England. Primarily because of Brexit, the future for this practice to continue is uncertain, but it is expected to become more difficult and more expensive;

- **Mechanical biological treatment (MBT)** – 'In 2017 total inputs to MBT facilities in London and the South East are estimated to have been around 1.33 Mt and outputs were 1.07Mt; the corresponding "effect" of MBT on the Residual Waste market in 2017 is therefore estimated to

[36] Residual Waste in London and the South East. Where is it going to go …? Tolvik Consulting Ltd, October 2018http://www.tolvik.com/reports/

have been c 0.26 Mt.' (page 9). The use of MBT is not expected to increase;

- **Co-incineration** – *'In 2017 it is estimated that 0.13Mt of Residual Waste was sent to cement kilns in London and the South East*' (page 10). Whilst there is potential for this practice to increase, in recent years the use of alternative fuels in cement kilns has decreased. The use of co-incineration is also not expected to increase.

5.4.9 Finally, the Tolvik Report considers the future for disposal to landfill. '*In 2017 3.58 Mt of Residual Waste generated in London and the South East was sent to landfill of which 3.38 Mt was landfilled locally and just 0.20 Mt transported to landfills outside London and the South East*' (page 13).

5.4.10 As at December 2016, the consented capacity for non-hazardous landfill void was 71.9 million cubic metres (Mm3). The available space (void) at a landfill facility is finite, with every tonne of waste deposited there is a reduction in the amount of space that remains; consequently, landfill facilities have a declining ability to accept waste over time.

5.4.11 Landfill void in London and the South East is being reduced through: the disposal of a wide range of residual wastes; the disposal of inert wastes; and site specifics, particularly early closure due to commercial pressures or planning requirements. The Tolvik Report considers each in some detail, concluding that there is a potential capacity gap in landfill availability before 2025.

5.4.12 In addition, the Tolvik Report identifies that landfill facilities are distributed unevenly across the study area, leaving those authorities located toward the south particularly vulnerable to a deficit of availability. There does not appear to be a clear strategy to change this outcome. Tolvik reviewed the planning policy documents for the relevant authorities to find that they generally do not make provision for significant future landfill development.

5.4.13 The Tolvik Report concludes that in the Central scenario, '*it is projected that by 2025 there could be a cumulative shortfall of 4.66 Mt in Non-Hazardous Landfill capacity across London and the South East*' (page 23). The options identified to address this shortfall are (pages 23 and 24):

- **Increase recycling** – 'A 2025 Household Waste recycling rate 5% higher than that modelled in the Central scenario would reduce the cumulative shortfall in landfill capacity by 1.87Mt (or 40% of the projected shortfall)';

- **Increase exports of RDF to Europe** – However, this practice is subject to a number of uncertainties that make it difficult to understand its role in either the short or long term;

- **Transport the waste to somewhere else in the UK** – Road transport could create significant additional movements on an already busy road network and add a cost of £10 - £20 per tonne;

- **Carefully manage existing landfill capacity** – This might include measures such as accepting less inert waste. However, this waste also needs to be appropriately managed;

- **Deliver additional landfill capacity** – The planning policy landscape suggests there is limited potential for such development; most waste planning authorities seek to encourage waste management higher up the hierarchy;

- **Develop additional energy recovery capacity** – '*Consider, for example, if there was a "zero landfill" policy across London and the South East in which no Residual Waste is to be landfilled by 2025 (similar to the current Greater London Authority's policy of working towards not sending any biodegradable waste to landfill by 2026). In the Central scenario 4.7 Mt of EfW capacity over and above that currently operational in London and the South East would need to be available. Whilst some of this capacity could potentially continue to be met by RDF export to Europe, any shortfall would need to be through the construction of new EfWs in London and the South East. The modelling in the Low Tonnage scenario assumes a maximum of 2.06 Mt of "Additional" EfW capacity by 2025 – less than half that required for a "zero landfill" scenario – putting into context deliverability of such a solution*.'

5.4.14 Through the analysis of data relevant to actual waste management practice in London and the South East, the Tolvik Report presents quite a stark picture. Understanding the real-world context to waste management confirms the urgent and substantial level of need for new residual waste treatment capacity.

6. Conclusions

6.1.1 In a pre-application meeting held on 5 June 2018, the GLA supported REP, recognising that the Proposed Development supported the Mayor's ambition to reduce the export of waste and to divert waste from landfill. Unfortunately, by 30 July 2018, the GLA stated in its response to the section 42 consultation, that its position had changed, stating that the Proposed Development '*cannot be supported*' because, inter alia, it was felt that '*there is no need for further energy from waste facilities as it will not contribute to the circular economy and will likely supress recycling rates in the capital*'.

6.1.2 **Table 6.1** presents a summary of the scenarios considered within this Assessment, using those that are most closely aligned to policy, relying upon the C&I waste forecasts of the London Plans (aLP and dLP), although these may be a significant underestimation.

6.1.3 Even in the most conservative assessment, using the lowest waste arisings and the aspirational policy expectations regarding waste management, at least one third of the nominal throughput of the ERF is required to sustainably manage London's waste.

6.1.4 A more realistic need, calculated through applying recycling objectives of the LES, is for all, if not more, of that nominal throughput. Incorporating a reasonable expectation that some existing capacity will be lost over the period to 2031, results in a need of over 1.1 Mt of recovery capacity to ensure London's waste can be managed within the capital and achieving sustainability priorities.

6.1.5 A definitive understanding of how much waste will be produced in the future and how it will be managed is not possible to be achieved. Instead, a reasonable range of likely outcomes should be considered such that a flexible and robust network of infrastructure can be put in place.

6.1.6 **Figure 6.1** highlights that if total LACW is updated to reflect actual arisings, as a minimum more than two-thirds of the ERF' nominal capacity would be needed to achieve policy of the London Plans (aLP and dLP).

6.1.7 The LES recognises the extent of the challenges that need to be overcome in order to achieve the aspirational recycling targets set within policy. Even if the Mayor's recycling aspirations are fully achieved, and this is considered highly unlikely, there remains a need for the ERF. The Proposed Development incorporates use of the river to transport both wastes into the site and incinerator bottom ash out. It is ideally located to assist in diverting the 2 million plus tonnes of residual wastes arising in nearby counties.

6.1.8 If the Applicant's commercial understanding of residual C&I wastes generated within London is correct, then this need increases again, by up to 500,000 tonnes.

6.1.9 Reference to the real-world context of waste management in London and the south east (not least as presented in the independent Tolvik Report) confirms the urgent and substantial need for new residual waste treatment capacity.

6.1.10 NPS EN-3 paragraph 2.5.64 makes clear that waste combustion generating stations '*need not disadvantage reuse or recycling initiatives where the proposed development accords with the waste hierarchy and asks the application to set out how the capacity 'contributes to the recovery targets set out in relevant strategies and plans, taking into account existing capacity*.'

6.1.11 This Assessment demonstrates that the ERF will not disadvantage recycling rates in the capital and that it is a very necessary part of the infrastructure needed to achieve both the waste management and energy recovery targets set out in the relevant strategies and plans.

Table 6.1: Summary of Assessments Undertaken

	Scenario 1 LP Arisings, with LP Recycling				Scenario 2a Updated LACW and LP C&I Waste, with LP Recycling				Scenario 3b Updated LACW and Reduced C&I Waste, with LES Recycling				Scenario 4 Updated LACW and Reduced C&I Waste, with LES Recycling and lost capacity				
	Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		
	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	
Arisings (thousand tonnes)																	
HH/LACW	3,387	3,589	3,287	3,453	3,969	4,171	3,881	4,047	3,969	4,171	3,881	4,047	3,969	4,171	3,881	4,047	*a*
C&I	4,647	4,734	5,012	5,097	4,647	4,734	5,012	5,097	3,999	4,086	4,364	4,449	3,999	4,086	4,364	4,449	*b*
Total	8,034	8,323	8,299	8,550	8,616	8,905	8,893	9,144	7,968	8,257	8,245	8,496	7,968	8,257	8,245	8,496	*c*
Recycling (per cent)																	
HH/LACW	55	60	51	60	55	60	51	60	50	50	50	50	50	50	50	50	*d*
C&I	70	70	70	70	70	70	70	70	70	75	70	75	70	75	70	75	*e*
Recycling (thousand tonnes)																	
HH/LACW	1,862	2,153	1,676	2,071	2,182	2,502	1,979	2,428	1,984	2,085	1,940	2,023	1,984	2,085	1,940	2,023	*f*
C&I	3,252	3,313	3,508	3,567	3,252	3,313	3,508	3,567	2,799	3,064	3,055	3,337	2,799	3,064	3,055	3,337	*g*
Total	5,115	5,467	5,184	5,639	5,435	5,816	5,487	5,996	4,784	5,150	4,995	5,360	4,784	5,150	4,995	5,360	*h*
Recovery (per cent)																	

	Scenario 1 LP Arisings, with LP Recycling				Scenario 2a Updated LACW and LP C&I Waste, with LP Recycling				Scenario 3b Updated LACW and Reduced C&I Waste, with LES Recycling				Scenario 4 Updated LACW and Reduced C&I Waste, with LES Recycling and lost capacity				
	Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		
	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	
HH/LACW	45	40	49	40	45	40	49	40	50	50	50	50	50	50	50	50	*i*
C&I	30	30	30	30	30	30	30	30	30	25	30	25	30	25	30	25	*j*
Residual Waste to be diverted from landfill (thousand tonnes)																	
HH/LACW	1,524	1,435	1,610	1,381	1,786	1,668	1,901	1,618	1,984	2,085	1,940	2,023	1,984	2,085	1,940	2,023	*k*
C&I	1,394	1,420	1,503	1,529	1,394	1,420	1,503	1,529	1,199	1,021	1,309	1,112	1,199	1,021	1,309	1,112	*l*
Total	**2,918**	**2,855**	**3,114**	**2,910**	**3,180**	**3,088**	**3,405**	**3,147**	**3,184**	**3,107**	**3,250**	**3,136**	**3,184**	**3,107**	**3,250**	**3,136**	***m***
Demand for REP ERF assuming 'London+' existing capacity (thousand tonnes)																	
Existing Capacity	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,638	2,548	2,548	2,548	2,548	*n*
Residual Waste	**280**	**218**	**476**	**272**	**542**	**451**	**767**	**510**	**546**	**469**	**612**	**498**	**636**	**559**	**702**	**588**	*o*
ERF	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	*p*
% of ERF	**43%**	**33%**	**73%**	**42%**	**83%**	**69%**	**117%**	**78%**	**83%**	**72%**	**93%**	**76%**	**97%**	**85%**	**107%**	**90%**	*q*
Demand for REP ERF assuming 'inLondon' existing capacity (thousand tonnes)																	

	Scenario 1 LP Arisings, with LP Recycling				Scenario 2a Updated LACW and LP C&I Waste, with LP Recycling				Scenario 3b Updated LACW and Reduced C&I Waste, with LES Recycling				Scenario 4 Updated LACW and Reduced C&I Waste, with LES Recycling and lost capacity				
	Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		Adopted London Plan		Draft London Plan		
	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	2026	2036	
Existing Capacity	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	2,248	*r*
Residual Waste	**670**	**608**	**866**	**662**	**932**	**841**	**1,157**	**900**	**936**	**859**	**1,002**	**888**	**936**	**859**	**1,002**	**888**	*s*
ERF	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	655	*t*
% of ERF	**102%**	**93%**	**132%**	**101%**	**142%**	**128%**	**177%**	**137%**	**143%**	**131%**	**153%**	**136%**	**143%**	**131%**	**153%**	**136%**	*v*

Note: Some numbers within Table 6.1 may differ from the original table within the LWSA due to rounding

Figure 6.1: Scenarios 1, 2a, 3b and 4 of the London Waste Strategy Assessment, at 2026