



# **Recommendations for a Value for Money (VfM) review of the NLWA's Edmonton incinerator replacement project**

***May 2020***



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# RECOMMENDATIONS

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Given the scale of the Edmonton incinerator rebuild project and the many significant changes that have arisen since the project was first proposed, it would be prudent for a comprehensive Value for Money (VfM) review to be undertaken as a matter of urgency.

The following recommendations should inform the scope and approach to be taken with respect to any meaningful VfM review of the Edmonton incinerator rebuild project:

- RECOMMENDATION #1: Given the growing discrepancy between forecast and actual waste arisings, and taking account of the trends between 2013/14 and 2018/19, there is a need for a fundamental review of forecast waste arisings in North London. This review should consider the latest waste data as well as current and anticipated local and national economic, legislative, social and policy drivers that could reduce overall and residual waste arisings, alongside assessing risks associated with incineration overcapacity and stranded assets.
- RECOMMENDATION #2: Competition for feedstock could undermine the business case for a replacement Edmonton incinerator. As such, there is a need to assess current and anticipated residual waste treatment capacity in and around London in light of increases in capacity, the potential for even further increases in capacity in the near future, and the potential for increased recycling and other factors to give rise to spare capacity at existing and emerging facilities, and increased competition for feedstock that could lower anticipated gate fees.

The VfM review should assess and quantify potential cost increases associated with:

- RECOMMENDATION #3: Brexit, e.g. as the result of increased labour costs and difficulties recruiting skilled and semi-skilled workers and the imposition of tariffs and other trade barriers that in turn could push up the cost of construction materials and components.
- RECOMMENDATION #4: Unfavourable changes in currency exchange rates.
- RECOMMENDATION #5: Covid-19.
- RECOMMENDATION #6: Inclusion of incineration within an incineration tax, carbon emissions tax and/or emissions trading scheme.
- RECOMMENDATION #7: Potential regulatory changes, e.g. a requirement to remove recyclates prior to incineration, requirements to increase the range of materials collected at the kerbside, the introduction of stricter emissions controls, and/or increased regulation of District Heating Schemes.

Furthermore, the VfM review should consider:

- RECOMMENDATION #8: The cost of treating North London's residual waste through a combination of methods other than incineration.
- RECOMMENDATION #9: The impact of investing in preventing material from entering the residual waste stream.
- RECOMMENDATION #10: The wider benefits of moving away from incineration and towards a low-carbon circular zero waste economy; the indirect costs and burdens of incineration; and the need for any review to be credible in the eyes of the community.

### **Acknowledgements**

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## BACKGROUND

The North London Waste Authority (NLWA) is made up of seven north London boroughs (Barnet, Camden, Enfield, Hackney, Haringey, Islington and Waltham Forest). More than two million residents live in the NLWA area. The NLWA describes its primary function as follows: *"to arrange for the transport and disposal of waste collected by these seven boroughs and to promote waste minimisation and recycling...Waste disposal services are mostly delivered through a contract with LondonEnergy Ltd - a company which is wholly owned by NLWA"*.<sup>1</sup>

According to the NLWA's most recent Annual Monitoring Report, which examined the extent to which the Authority had progressed towards achieving the ambitions set out in the February 2009 North London Joint Waste Strategy (NLJWS), *"When the NLJWS was published it was envisaged that an increasing population would produce an increase in the amount of waste arising which in turn would require a combination of an increase in the waste treatment capacity provided and intensification in the use of the existing facilities. Unexpectedly, the amount of waste produced between 2006/07 and 2012/13 fell despite the increase in population and dwelling stock, as shown in the below chart and it would appear to be related to the economic downturn during this period. 2013/14 saw a return to increasing waste volumes but this has not been sustained and the waste produced in the north London area has decreased again in 2018/19"*.<sup>2</sup>

**Chart from the North London Waste Authority Annual Monitoring Report 2018/19 showing increasing population (in red) and decreasing waste arisings (in blue)**



<sup>1</sup> See: <http://www.nlwa.gov.uk/about/north-london-waste-authority/>

<sup>2</sup> See page 7 of the NLWA Annual Monitoring Report 2018/19, available from: [http://www.nlwa.gov.uk/media/2799/annual-monitoring-report-2018\\_19-final-v2.pdf](http://www.nlwa.gov.uk/media/2799/annual-monitoring-report-2018_19-final-v2.pdf)

Despite lower than anticipated volumes of waste arising, the NLWA is progressing plans to replace the existing Edmonton incinerator with an even larger incinerator that would be capable of processing 700,000 tonnes of material each year. Residents and others have raised concerns about the Edmonton incinerator rebuild scheme, which is part of the NLWA's North London Heat and Power Project (NLHPP).

The Edmonton incinerator rebuild scheme is already having an adverse impact on the availability of composting facilities at the Edmonton EcoPark. The NLWA's own Annual Monitoring Report states that: *"With the closure of an In-Vessel Compost Plant (IVC) at Edmonton EcoPark in 2018, Enfield compost is no longer produced locally so is no longer available free-of-charge to north London residents"* and: *"In 2018, the In-Vessel Compost Plant (IVC) at Edmonton was decommissioned in preparation for the new energy from waste facility. This meant that food and garden waste was processed off site at third party facilities and was unable to be returned due to space restrictions..."*.<sup>3</sup>

In 2019 a group of families who live near the existing Edmonton incinerator joined forces with concerned residents across North London and established a campaign for a greener, cleaner London. The Stop the Edmonton Incinerator Now campaign is calling for a stop and think approach", noting how: *"Six of the seven boroughs have declared a climate emergency. If these declarations are to mean anything, the councils will have to develop a better waste treatment plan. The first step is to acknowledge that an incinerator is not the right way forward. Incineration goes directly against the EU's circular economy goals, which call for all plastic to be recyclable or compostable by 2030. It is part of the linear economy — 'make, use, dispose'..."*<sup>4</sup>

The Stop the Edmonton Incinerator Now campaign has done much over the past year to raise awareness of the NLWA's rebuild scheme and the urgent need to develop an alternative approach that is consistent with both the climate emergency and the move towards a circular economy. Campaigners have found that many of their fellow residents, including many local Councillors, were unaware of the intention to rebuild the Edmonton incinerator and were seriously concerned about the potential adverse air quality impacts of NLWA's proposal.

In response to many of the fundamental changes that have occurred in the decade since the NLWA first came up with the North London Heat and Power Project plan to rebuild the Edmonton incinerator, Stop the Edmonton Incinerator Now commissioned this study to begin to identify some of the factors that would need to be considered in any exploration of the question about whether or not the North London Heat and Power Project, in its current form, would be expected to provide Value for Money for residents of North London.

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<sup>3</sup> See pages 13 and 41 of the NLWA Annual Monitoring Report 2018/19, available from: [http://www.nlwa.gov.uk/media/2799/annual-monitoring-report-2018\\_19-final-v2.pdf](http://www.nlwa.gov.uk/media/2799/annual-monitoring-report-2018_19-final-v2.pdf)

<sup>4</sup> See: <https://stop-edmonton-incinerator.org/fag/> - in particular the answer to the question: "How can we oppose the incinerator rebuild without a fully-fledged alternative plan in place?"

# FEEDSTOCK AVAILABILITY / DEMAND RISK

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## *Need to avoid incineration overcapacity and stranded assets*

It is important for the North London Waste Authority (NLWA) to keep the question about whether they need to rebuild the Edmonton incinerator under review, as well as questions about whether the intended level of capacity is too high given anticipated future levels of waste arisings, ambitions for recycling, the anticipated availability of nearby residual waste treatment capacity, and the anticipated lifetime of the facility.

In 2008 the Audit Commission warned that incineration overcapacity can raise economic issues in addition to environmental issues, stating: *"Waste Disposal Authorities might buy too much disposal infrastructure if they: overestimate future volumes of waste arising (including other authorities' waste or trade waste). They may also achieve a worse environmental solution if, by building large disposal facilities, they reduce their own financial incentive to pursue waste reduction or recycling initiatives"*.<sup>5</sup>

In 2017 the European Commission warned of the risk of incinerators becoming 'stranded assets' as we move towards a more circular economy<sup>6</sup>, stating that:

- ▶ *"The transition towards a circular economy requires striking the right balance when it comes to waste-to-energy capacity for the treatment of non-recyclable waste. This is critical to avoid potential economic losses or the creation of infrastructural barriers to the achievement of higher recycling rates. Previous experience in some Member States shows the risk of stranded assets is real."*
- ▶ *"...the statistics show that some individual Member States are excessively reliant on incineration of municipal waste...such high rates of incineration are inconsistent with more ambitious recycling targets."*
- ▶ *"...the role of waste incineration...needs to be redefined to ensure that increases in recycling and reuse are not hampered and that overcapacities for residual waste treatment are averted..."*

In 2018 the National Infrastructure Commission (NIC) warned that overreliance on incineration can increase costs, stating that: *"Reducing the waste sent to energy from waste plants (incinerators) by recycling more plastic and converting more food waste into biogas can also help reduce overall emissions...The successful delivery of a low cost, low carbon energy and waste system requires...encouraging more recycling, and less waste incineration"*.<sup>7</sup>

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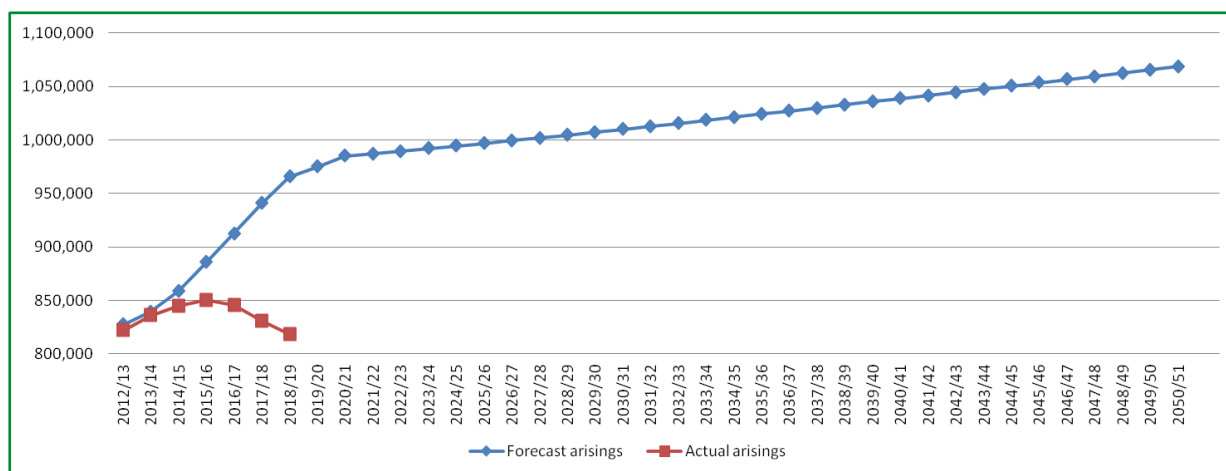
<sup>5</sup> Well Disposed. Audit Commission, September 2008. Available from: <https://web.archive.org/web/20090610012220/http://www.audit-commission.gov.uk/nationalstudies/localgov/Pages/welldisposed.aspx>

<sup>6</sup> The European Commission's Communication on 'The role of waste-to-energy in the circular economy' from 26<sup>th</sup> January 2017. Available from: <http://ec.europa.eu/environment/waste/waste-to-energy.pdf>

<sup>7</sup> Pages 33-34 of the National Infrastructure Assessment (NIC, July 2018), available from [https://www.nic.org.uk/wp-content/uploads/CCS001\\_CCS0618917350-001\\_NIC-NIA\\_Accessible.pdf](https://www.nic.org.uk/wp-content/uploads/CCS001_CCS0618917350-001_NIC-NIA_Accessible.pdf)

## Need to review forecasts of Local Authority Collected Waste (LACW) arisings in North London

### Discrepancy between 2014 forecast for NLWA's Local Authority Collected Waste (LACW) arisings and actual arisings as reported by Defra



|                                | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| <b>Forecast LACW arisings</b>  | 839,397 | 858,761 | 885,513 | 912,498 | 940,781 | 965,755 |
| <b>Actual LACW arisings</b>    | 836,052 | 845,043 | 850,296 | 845,776 | 830,955 | 818,285 |
| <b>Discrepancy (in tonnes)</b> | 3,345   | 13,718  | 35,217  | 66,722  | 109,826 | 147,470 |

In 2014, the North London Waste Authority published waste tonnage projections for North London to "ensure that the best information is used for the North London Heat and Power Project".<sup>8</sup> The detailed figures are included as part of a 'technical spreadsheet model' which includes a central forecast for Local Authority Collected Waste (LACW) arising from 2012/13 to 2050/51.<sup>9</sup>

Due to the passage of time we are now in a position to assess the accuracy of the model for 2013/14 - 2018/19 by comparing the forecast levels of LACW with the actual LACW figures reported by Defra.<sup>10</sup>

As depicted in the chart above, the actual levels of waste arising to date in North London have been significantly below the levels forecast by the NLWA back in 2014. For example, the NLWA's model over-estimated waste arisings for 2018/19 by 147,470 tonnes.

Additionally, there appears to be a significant difference between the trend anticipated for 2016/17 and 2018/19 and the actual trend, with the NLWA's 2014 forecast assuming waste would rise when it actually fell. Compounded over the proposed life of the replacement Edmonton incinerator the difference in trends could be significant.

<sup>8</sup> <http://www.nlwa.gov.uk/about/authority-strategies/waste-analysis-documents/>

<sup>9</sup> [http://www.nlwa.gov.uk/media/1770/eunomia\\_nlwa\\_waste\\_forecast\\_model\\_v8\\_final\\_version\\_for\\_publication.xlsm](http://www.nlwa.gov.uk/media/1770/eunomia_nlwa_waste_forecast_model_v8_final_version_for_publication.xlsm)

<sup>10</sup> <https://www.gov.uk/government/statistical-data-sets/env18-local-authority-collected-waste-annual-results-tables>

Furthermore, there are numerous legislative, economic, policy and social drivers that have been introduced or announced over the past few years that could serve to reduce overall and residual waste arisings within and beyond North London. These drivers include:

- ▶ The Resources and Waste Strategy for England (December 2018)<sup>11</sup> and the Environment Bill 2019-21.<sup>12</sup>

As the Government noted in February 2020: *"...the measures in the resources and waste strategy and the Environment Bill will enable a paradigm shift, in relation to reducing, reusing and recycling our waste, that should limit the amount that ever has to go to incineration and landfill. I hope that...hon. Members understand what is happening, the direction that the Government are absolutely committed to, and the move to a circular economy"*.<sup>13</sup>

Proposed measures include the transposition of the Circular Economy Package into UK law; extended producer responsibility for packaging to come into force from 2023; weekly separate collection of food waste from 2023; 75% recycling rate for packaging by 2030; and improving recycling rates by ensuring a consistent set of dry recyclable materials is collected from all households and businesses, and a goal for at least 65% of municipal waste by weight to be recycled by 2035.

- ▶ The 25 Year Plan for the Environment (January 2018),<sup>14</sup> which includes the goal of eliminating all avoidable plastic waste by the end of 2042 and all avoidable waste by 2050.
- ▶ The 2020 Citizen Food Waste Prevention and Value From Food Waste grants.<sup>15</sup>
- ▶ The Mayor's August 2018 C40 Advancing Towards Zero Waste Declaration: *"We pledge to advance towards zero waste cities by: (1) reducing the municipal solid waste generation per capita by at least 15% by 2030 compared to 2015; and (2) reducing the amount of municipal solid waste disposed to landfill and incineration by at least 50% by 2030 compared to 2015, and increase the diversion rate away from landfill and incineration to at least 70% by 2030."*<sup>16</sup>
- ▶ The Mayor's London Environment Strategy (May 2018), including its target that 65% of London's municipal waste will be recycled by 2030.<sup>17</sup>

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<sup>11</sup> <https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england>

<sup>12</sup> <https://services.parliament.uk/bills/2019-21/environment.html>

<sup>13</sup> Rebecca Pow, Parliamentary Under-Secretary of State for Environment, Food and Rural Affairs. Hansard. (UK Parliament, 12 February 2020). Available from: <https://hansard.parliament.uk/Commons/2020-01-28/debates/9209AD6A-6C6B-47CB-A460-5147EC43131F/IndustrialAndCommercialWasteIncineration>

<sup>14</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

<sup>15</sup> <https://www.gov.uk/government/news/over-1m-to-fund-food-waste-fight>

<sup>16</sup> <https://www.c40.org/other/zero-waste-declaration>

<sup>17</sup> <https://www.london.gov.uk/what-we-do/environment/london-environment-strategy>

There are a number of additional factors that could result in waste arisings being significantly lower than previously forecast, such as:

- ▶ Reduced economic activity due to the Coronavirus
- ▶ Reduced immigration into North London due to Brexit and the Coronavirus
- ▶ Actions being taken by businesses and consumers to move towards a more circular economy, including increased awareness of the adverse impacts of single use plastics

Reviews of the business case for the rebuild will need to take account of the current risks of incineration overcapacity and stranded assets within the facility's intended operational lifetime. Given that any replacement facility would be highly unlikely to commence full operations before 2025, the facility could be expected to be intended for use well beyond the 2050 target date for eliminating all avoidable waste.

➤ **RECOMMENDATION #1:** Given the growing discrepancy between forecast and actual waste arisings, and taking account of the trends between 2013/14 and 2018/19, there is a need for a fundamental review of forecast waste arisings in North London. This review should consider the latest waste data as well as current and anticipated local and national economic, legislative, social and policy drivers that could reduce overall and residual waste arisings, alongside assessing risks associated with incineration overcapacity and stranded assets.

## ***Need to consider anticipated residual waste treatment capacity in and near London***

The extent to which a replacement for the Edmonton incinerator could 'top up' with residual waste from neighbouring local authorities depends upon the level of residual waste treatment capacity available to those neighbouring authorities. The greater the capacity within and around London the greater the competition for feedstock, and the lower the level of gate fee that could be charged to process that material. Such considerations have the potential to impact upon the business case used to justify the construction of a replacement incineration facility in North London.

In the years since the North London replacement incinerator was first conceived additional residual waste treatment capacity has either been built or granted planning consent. For example, in April 2020 a Development Consent Order for Riverside Energy Park was issued. The associated energy recovery facility is intended to provide an additional waste throughput capacity of more than 800,000 tonnes per annum.<sup>18</sup>

This additional residual waste treatment capacity for London comes on top of the additional capacity to be provided for London's waste by the emerging energy from waste facility in Swindon. Planning permission for the Swindon facility was granted in June 2019<sup>19</sup>, based on evidence that the developers will install a rail service that "will see a minimum of 50,000 tonnes of waste feedstock moved by rail per annum from Neasden in North London to the Keypoint Rail Terminal at Swindon for a period of no less than 10 years, with the option to extend beyond that period".<sup>20</sup>

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<sup>18</sup> See BEIS letter of 9<sup>th</sup> April 2020, available from: <https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010093/EN010093-001388-Final%20Decision%20Letter%20-%20Riverside%20Energy%20Park%20PA08%20Application.pdf>

<sup>19</sup> Appeal Decision for PINS Ref: APP/U3935/W/18/3197964, available from: <https://acp.planninginspectorate.gov.uk/ViewDocument.aspx?fileid=32730120>

<sup>20</sup> PINS Ref: APP/U3935/W/18/3197964 Appendices to Planning Proof of Evidence, Paul Burrell BSc (Hons) Dip UP MRTPI (December 2018)

### Incineration Capacity Within and Around London (Excluding Edmonton)

| Location                                               | Operator            | Capacity (tpa)        | Status        |
|--------------------------------------------------------|---------------------|-----------------------|---------------|
| Riverside Energy Park, Bexley, South East London       | Cory                | 805,920               | Consented     |
| Riverside (Belvedere), Bexley, South East London       | Cory                | 785,000               | Operational   |
| Sittingbourne, Kent                                    | Wheelabrator        | 657,000               | Commissioning |
| Tilbury Energy Recovery Facility, Tilbury Docks, Essex | Tilbury Green Power | 650,000, inc. biomass | Consented     |
| Rivenhall, Essex                                       | Gent Fairhead       | 595,000               | Construction  |
| Stewartby, Bedfordshire                                | Covanta / Veolia    | 585,000               | Consented     |
| Allington, Maidstone                                   | FCC                 | 560,000               | Operational   |
| Lewisham (SELCHP), South East London                   | Veolia              | 488,000               | Operational   |
| Colnbrook (Lakeside), Slough                           | Viridor             | 450,000               | Operational   |
| Greatmoor, Buckinghamshire                             | FCC                 | 345,000               | Operational   |
| Ardley, Oxfordshire                                    | Viridor             | 326,300               | Operational   |
| Sutton, South London                                   | Viridor             | 302,500               | Operational   |
| Thames Gateway                                         | Chinook             | 200,000               | Commissioning |
| Former Brickworks, Horsham                             | Britaniacrest       | 180,000               | Consented     |
| Keypoint, Swindon                                      | Rolton Kilbride     | 150,000               | Consented     |
| Hoddesdon, Hertfordshire                               | Hoddesdon Energy    | 113,000               | Commissioning |
| Chineham, Hampshire                                    | Veolia              | 110,000               | Operational   |
| Milton Keynes                                          | AmeyCespa           | 93,600                | Operational   |
| Shepperton, Surrey                                     | Suez                | 60,000                | Commissioning |

| Incineration Capacity Totals (excluding Edmonton) |                                   |
|---------------------------------------------------|-----------------------------------|
| Operational capacity in and around London         | 3,460,400 tonnes per annum        |
| In commissioning                                  | 1,030,000 tonnes per annum        |
| Under construction                                | 595,000 tonnes per annum          |
| <b>TOTAL EXISTING INCINERATION CAPACITY</b>       | <b>5,085,400 tonnes per annum</b> |
|                                                   |                                   |
| Consented, but not yet under construction         | 2,370,920 tonnes per annum        |
| <b>TOTAL EXISTING AND EMERGING CAPACITY</b>       | <b>7,456,320 tonnes per annum</b> |

There are a number of factors to be considered when assessing residual waste treatment capacity in and around London, such as:

- ▶ The more than 5m tonnes of combustion capacity that currently exists in and around London;
- ▶ The more than 2m tonnes of combustion capacity that has been granted planning consent, but where construction had not yet been reported as having commenced;
- ▶ The residual waste treatment capacity located in and around London that is utilising methods other than combustion, e.g. mechanical and biological treatment (MBT), production of refuse derived fuels (RDF), production of solid recovered fuel (SRF), use of waste as fuel for cement kilns, etc.;
- ▶ The fact that combustion facilities can process RDF and SRF, coupled with the fact that 1 tonne of RDF/SRF requires more than 1 tonne of mixed waste to produce due to dewatering and recyclate removal;
- ▶ The spare capacity at existing and emerging facilities that could become available due to the drivers and other factors set out in the previous sub-section, including the achievement of recycling targets and the increased separate collection of food waste; and
- ▶ The potential for existing facilities to increase their capacity, e.g. due to reductions in the calorific value of feedstock and reduced downtime as a result of improvements in site operations and/or the use of more reliable equipment.

➤ **RECOMMENDATION #2: Competition for feedstock could undermine the business case for a replacement Edmonton incinerator. As such, there is a need to assess current and anticipated residual waste treatment capacity in and around London in light of increases in capacity, the potential for even further increases in capacity in the near future, and the potential for increased recycling and other factors to give rise to spare capacity at existing and emerging facilities, and increased competition for feedstock that could lower anticipated gate fees.**

**NOTE: The Stop the Edmonton Incinerator Now campaign group supports calls for a moratorium on new waste incineration capacity anywhere in the UK, in addition to stopping the building of the proposed replacement incinerator in Edmonton. As such, the campaign group wishes to stress that it is highly disappointed in the recent granting of planning permission to new incinerators, including the permission for yet another South London incinerator recently issued by the Business Secretary. The Edmonton campaign stands in solidarity with affected communities opposed to these projects.**

# RISK OF INCREASES IN CONSTRUCTION COST

## *Need to keep construction costs under review*

It is important for the North London Waste Authority (NLWA) to keep under review the risks associated with the potential for increases in construction costs with respect to the current arrangements for the rebuilding of the Edmonton incinerator.

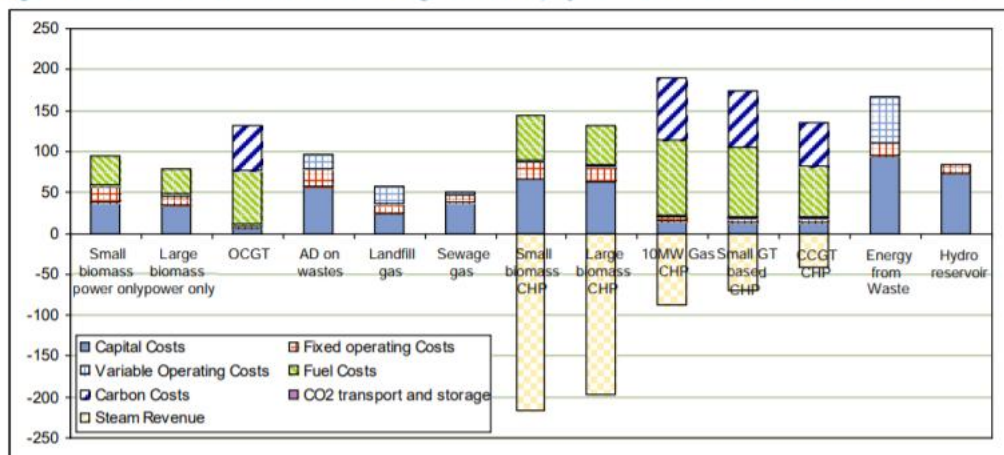
It should also be noted that capital expenses for waste incinerators, including construction costs, are already comparatively high. According to the June 2010 'UK Electricity Generation Costs Update'<sup>21</sup>, Energy from Waste is associated with the highest capital costs of any of the 13 'minor' technologies used to generate electricity, alongside being identified as the technology with the highest variable operating costs. This is depicted in the Figure overleaf, taken from the 'UK Electricity Generation Costs Update'.

As can be seen from Figure C.2 of the 'UK Electricity Generation Costs Update', Energy from Waste (incineration) is associated with the highest capital costs of any of the 13 'minor' technologies used to generate electricity in the UK. It is also worth noting that Energy from Waste (incineration) is also associated with the highest relative variable operating costs.

UK Electricity Generation Costs Update



Figure C.2: Levelised costs of minor technologies for 2023 project start, 10% discount rate, all NOAK: £/MWh



Source: Mott MacDonald

There are a range of factors that, separately or in combination, could give rise to significant increases in construction costs. In the case of the proposed Edmonton incinerator rebuild, it is expected that increases in construction costs would result in increased costs to the NLWA.

<sup>21</sup> The 'UK Electricity Generation Costs Update', commissioned by the Department of Energy and Climate Change and undertaken by Mott MacDonald during October 2009 to March 2010, is available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/65716/71-uk-electricity-generation-costs-update-.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/65716/71-uk-electricity-generation-costs-update-.pdf)

According to the Programme Director's 23<sup>rd</sup> December 2019 'North London Heat and Power Project - Risk Management Strategy' report, one of the top ten programme risks was: *"Uncertainty regarding Brexit and subsequent political and economic decisions may negatively impact NLHPP".*<sup>22</sup> The Appendix B 'Current Status' column notes that: *"The terms of the UK's departure from the EU - looking over the whole life of the project - is uncertain. Some risks relate to the construction sector as whole (eg availability of labour and range of sectors with major projects)...There could be more project-specific impacts, such as tariffs on imported equipment and materials. These are beyond the ability of the project to estimate at this stage but are likely to impact on cost rather than on deliverability of the project. While cost pressures are not welcome, they are not expected to give rise to concerns of overall affordability of NLHPP".*

## **Need to consider potential cost increases from Brexit**

With respect to the potential for Brexit to increase construction costs, consideration should be given to the prospect of a 'no-deal Brexit' ushering in a range of tariffs and other blockages to the types of free trade available when the Edmonton rebuild project was initially envisaged. We are already witnessing changes to immigration rules, with Government plans to make it far more difficult for labour to be brought in for construction projects. Such barriers apply to manual labourers, and may also prove to be barriers to the importation of parts, and the use of technical experts. Such barriers, even if they do not prevent the rebuild, would be expected to add to construction costs.

As part of the Government's post-Brexit immigration rules *"non-UK nationals will need to earn a minimum of £25,600, have a job offer and speak English to a high standard in order to qualify for a UK Tier 2 work visa"*<sup>23</sup> and: *"Most newly arriving EU workers after Brexit transition would not meet requirements According to estimates, approximately 70% of the current EU workforce in the UK if arriving after the Brexit transitional period would be unable to satisfy the criteria of the new UK skilled worker visa system"*<sup>24</sup>, and: *"Power system engineer, control engineer or...engineer in the electricity transmission and distribution industry [would be required to have a minimum salary of]: £34,500".*<sup>25</sup>

In response to the Government issuing details of the new immigration system, the Director-General of the Confederation of British Industry (CBI), Carolyn Fairbairn warned how *"...in some sectors firms will be left wondering how they will recruit the people needed to run their businesses. With already low unemployment, firms in care, construction, hospitality, food and drink could be most affected. Firms know that hiring from overseas and investing in the skills of their workforce and new technologies is not an 'either or' choice - both are needed to drive the economy forward".*<sup>26</sup>

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<sup>22</sup> See: <http://www.nlwa.gov.uk/media/2795/08-risk-management-strategy.pdf>

<sup>23</sup> See: <https://workpermit.com/news/post-brexit-uk-visa-key-worker-controversy-during-coronavirus-20200413>

<sup>24</sup> See: <https://workpermit.com/news/new-uk-visa-and-immigration-points-based-system-unveiled-20200220>

<sup>25</sup> See: <https://workpermit.com/immigration/united-kingdom/uk-tier-2-shortage-occupation-list>

<sup>26</sup> See: <https://www.cbi.org.uk/media-centre/articles/cbi-responds-to-details-of-new-uk-immigration-system/>

Elsewhere, the CBI points out how: *"Half of London's construction workforce are not from the UK, according to industry surveys...Without international labour, the UK can't...deliver on critical infrastructure projects...[What is required is] access to overseas workers to fill roles ranging from manual labourers, to tradespeople with vocational skills, through to graduate engineers and architects...Overseas workers fill roles across the full range of skill levels within the construction industry – from general labourers (40%), to technical and vocational skilled tradespeople like carpenters (11%), plant and machine operatives (7%) and bricklayers (8%), through to graduate level roles including architects (16%) and civil engineers. All of these roles are needed for the delivery of a construction project...If the UK is to...deliver critical infrastructure projects...then the construction industry will require continued access to EU workers to plug core skills gaps and fill labour shortages".*<sup>27</sup>

On the Government website (GOV.UK), in their Policy paper on 'The UK's points-based immigration system: policy statement'<sup>28</sup>, published on 19<sup>th</sup> February 2020, we read how the Government *"...will replace free movement with the UK's points-based system to cater for the most highly skilled workers, skilled workers, students and a range of other specialist work routes including routes for global leaders and innovators. We will not introduce a general low-skilled or temporary work route. We need to shift the focus of our economy away from a reliance on cheap labour from Europe and instead concentrate on investment in technology and automation. Employers will need to adjust..."*

Government advice continues as follows: *"As part of the significant changes we are making to the operation of the border and immigration system, we are delivering on our manifesto commitment to reduce overall migration numbers. We will therefore end free movement and not implement a route for lower-skilled workers. We have reached this conclusion based on a number of factors set out in this paper...UK businesses will need to adapt and adjust to the end of free movement, and we will not seek to recreate the outcomes from free movement within the points-based system. As such, it is important that employers move away from a reliance on the UK's immigration system as an alternative to investment in staff retention, productivity, and wider investment in technology and automation".*

Similarly, with respect to the prospect of tariffs being introduced post-Brexit we read: *"You will need to have the correct procedures in place to deal with Customs and Tariffs issues. These are likely to become critical areas after Brexit, even if an agreement is reached to remain in the EU Customs Union".*<sup>29</sup> Such tariffs, by their very nature, can be expected to push up construction costs.

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<sup>27</sup> See: <https://www.cbi.org.uk/media/1230/open-and-controlled.pdf>

<sup>28</sup> See: <https://www.gov.uk/government/publications/the-uks-points-based-immigration-system-policy-statement/the-uks-points-based-immigration-system-policy-statement>

<sup>29</sup> See: <https://readyforbrexit.co.uk/customs-tariffs/>

According to the 'Cost model: Energy from waste' produced by construction consultancy Davis Langdon, now part of AECOM: *"In terms of operating costs, the main areas of risk involve throughput, energy prices, the operating and maintenance regime and the costs of disposal of waste products. Replacement cost of plant also has to be factored into the model. The implication of lower than expected throughput is increased unit costs"*.<sup>30</sup>

Each of these factors can be associated with the risk of further cost increases, and of lower income generating opportunities. For example, if UK energy prices are lower, then the anticipated income / cost benefits of generating electricity would also reduce, and as such these risks require revisiting in light of Brexit.

In an article entitled 'The challenges of EfW facilities in the UK'<sup>31</sup>, published in 2017, it was noted by waste management consultants Kathryn Warren and Mark Terrell from Ricardo Energy & Environment, that even then: *"...Brexit is already driving up the cost of developing EfW facilities in the UK. This is due to a number of factors, including increasing costs due to exchange rates, and higher specialised construction labour costs. However, the main reason is the purchase of boilers and other key components of EfW plant / equipment from outside of the UK. The exchange rate has simply made the purchase of an EfW plant more expensive..."*

➤ **RECOMMENDATION #3:** The VfM review should assess the risks associated with Brexit, e.g. as the result of increased labour costs and difficulties recruiting skilled and semi-skilled workers and the imposition of tariffs and other trade barriers that in turn could push up the cost of construction materials and components.

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<sup>30</sup> Available from: <https://www.building.co.uk/data/cost-model-energy-from-waste/3162156.article>

<sup>31</sup> See: <https://www.recyclingwasteworld.co.uk/in-depth-article/uk-challenges-of-efw-facilities/157645/>

## Need to consider potential cost increases from exchange rate changes

In addition to other factors driving up the cost of construction beyond the levels that might otherwise have been anticipated when the Edmonton rebuild project was first mooted, changes in the exchange rates can be expected to contribute to further uncertainties and cost increases.

According to the chart<sup>32</sup> reproduced below, over the past 5 years the British Pound (GBP) has varied in value relative to the Euro from a high of around €1.44 to a low of around €1.06. When one considers the very large sums of money involved in financing the proposed Edmonton rebuild, these variations could become significant.

23 May 2015 00:00 UTC - 21 May 2020 12:42 UTC **GBP/EUR** close:1.11213 low:1.06078 high:1.44072



When one considers the situation over the past 5 years it becomes obvious that the Pound has not returned to the more favourable exchange rates enjoyed prior to 2016, when the Pound was typically valued at around €1.30 - €1.44. For each £1m, the difference between an exchange rate of €1.05 to the Pound and an exchange rate of €1.40 per Pound, for example, is €350,000, which equates to a difference of €35m for each £100m in costs that entail trading with our European neighbours.

> **RECOMMENDATION #4:** The VfM review should assess the cost increases associated with unfavourable changes in currency exchange rates.

<sup>32</sup> See: <https://www.xe.com/currencycharts/?from=GBP&to=EUR&view=5Y>

## Need to consider potential cost increases from Covid-19

Increases in construction costs could arise from the fallout associated with the coronavirus crisis, for example due to any or all of the following:

- ▶ Project partners and/or suppliers becoming bankrupt or otherwise being rendered unable to deliver a normal service;
- ▶ Construction companies becoming bankrupt, meaning the market shrinks, thereby reducing competitiveness (and availability) and driving costs higher;
- ▶ Immigration and mobility issues;
- ▶ Rules and regulations with respect to working conditions, e.g. social distancing requirements, causing delays and availability issues that impact on costs.

According to the 11<sup>th</sup> May 2020 North London Waste Authority Programme Director Report (which was signed on 28<sup>th</sup> April 2020): *"The situation concerning Coronavirus and the need to protect the safety of the workforce and others will have an impact on the overall programme and cost which is currently being assessed..."*

*"The potential impact of Coronavirus, which will take time to be realised, is the most significant risk. Another key risk to delivery to the baseline programme remains the Northern Area Clearance project which involves the eventual relocation of LEL's [LondonEnergy Ltd's] current operations at the north of the EcoPark into the RRF [Resource Recovery Facility], and demolition of existing structures to release the footprint of the ERF for start of construction in early 2023..."*

*"The next stage for the NLHPP team is to fully develop the understanding of potential impacts of the pandemic, incorporating cost and schedule analysis while also considering effects on decision-making, consents and permits, governance and our stakeholders."*<sup>33</sup>

➤ **RECOMMENDATION #5:** The VfM review should assess the cost increases associated with Covid-19.

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<sup>33</sup> See: <http://www.nlwa.gov.uk/media/2843/01-nlhpp-update-and-reports.pdf>

# RISK OF ADDITIONAL TAXES AND CHARGES

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Increasing the costs of incineration would both impact upon the financial costs of the NLWA sending waste to the incinerator and would increase costs for other parties to send waste to the incinerator. This could result in the lowering of the gate fees that the rebuilt incinerator could be expected of being able to charge for the sale of spare capacity and could result in additional spare capacity at other incinerators, increasing competition and making it more difficult to sell spare capacity. All of this will impact upon the relative cost of building a large incinerator compared to measures which would minimise long-term reliance on residual waste treatment capacity.

As Government moves towards their ambition of meeting Net Zero 2050 and realising other ambitions, such as the move towards a more circular economy, there is a realistic prospect of additional taxes and charges being levied and these could directly or indirectly impact upon the economies of waste incineration. The specific focus of this section relates to changes with the potential to directly increase the cost of incinerating waste. Broader impacts of regulatory changes that could increase waste incineration costs or decrease availability of incinerator feedstock (e.g. by promoting reduction, re-use and recycling) are explored in other sections.

## **Potential for the introduction of an incineration tax to encourage recycling**

On 19<sup>th</sup> May 2018 an article entitled 'Incineration tax could boost plastic recycling' appeared in The Times. This article reported that: *"A new tax on waste incineration is being considered by the government to help increase recycling of plastic and reduce the amount that ends up in the ocean"*. The Times article quotes Robert Jenrick MP, then the exchequer secretary, as stating that: *"There is an argument for changing the incentives to discourage putting further waste to incineration. We [at the Treasury] would like to see less plastic incinerated, sent to landfill or exported and more recycled"*.<sup>34</sup>

In August 2018 the Government published 'Tackling the plastic problem: summary of responses to the call for evidence' which stated: *"Certain respondents suggested that the uptake of incineration as a form of residual waste treatment was a key barrier to driving waste up the waste hierarchy... Respondents from across the supply chain have suggested a tax on the incineration of waste. This could be done based on input tonnages or the material composition of waste, or using some form of emissions metric..."*.<sup>35</sup>

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<sup>34</sup> See: <https://www.thetimes.co.uk/article/incineration-tax-could-boost-plastic-recycling-b26njp3xk>

<sup>35</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/734837/Plastics\\_call\\_for\\_evidence\\_summary\\_of\\_responses\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/734837/Plastics_call_for_evidence_summary_of_responses_web.pdf)

As part of the Government's response to this section of the consultation, the aforementioned document stated: *"The government is committed to working with industry and other stakeholders as it examines this proposal in more depth: using tax to ensure that the right incentives are in place to encourage greater recycling of waste that is currently incinerated"*.

The Treasury's subsequent October 2018 Budget Report stated that: *"...the government wants to maximise the amount of waste sent to recycling instead of incineration and landfill. Should wider policies not deliver the government's waste ambitions in the future, it will consider the introduction of a tax on the incineration of waste, in conjunction with landfill tax, taking account of the possible impacts on local authorities."*

The Government's preparedness to consider an incineration tax has subsequently been repeated numerous times by various Government ministers, with the prospect of the tax frequently tied to the assessment on progress towards reducing waste arisings and increasing recycling rates. Modelling which assumes that the Government's current waste minimisation and recycling ambitions may not be achieved therefore needs to take account of the Government's indication that if their currently proposed policies do not appear sufficient to meet those ambitions then this would significantly increase the prospect of an incineration tax.

Furthermore, there is also the prospect that an incineration tax could be introduced as an additional measure even if other measures are working in the event that a future government wants to increase their recycling and circular economy ambitions. Within the context of an incinerator which will not be operational for a number of years and could then be operational for 25-30+ years there is a realistic prospect of an incineration tax being introduced that could impact upon the economics of having built a 700ktpa incinerator.

There are various ways that an incineration tax could be priced, including being based on input tonnage and on the material composition of the waste. The Government has not provided any indication of the potential pricing level of an incineration tax, but it would presumably be designed to be high enough to serve its purpose of incentivising efforts to divert waste up the Waste Hierarchy away from incineration.

As set out below, there is also the prospect of a tax on incineration to encourage the use of Carbon Capture technology.

## Potential for inclusion of incineration in a Carbon Emissions Tax

In 2011 Defra acknowledged a market failure in relation to waste incineration, stating that: *"The emissions from waste combustion of non-biogenic material (via any technology including mass-burn incineration) are also not comprehensively reflected in the price of disposal. Unless the installation in question is in the ETS [Emissions Trading Scheme] (municipal solid waste incinerators are excluded) a negative externality persists – such installations are creating GHG emissions without paying the relevant price"*.<sup>36</sup>

This acknowledged market failure could be rectified either through the inclusion of incineration as part of any successor to the Emissions Trading Scheme (ETS), or as part of a broader carbon tax, or through a dedicated incineration tax. Such a move would be consistent with the Government's statement in their 25 Year Environment Plan that the Polluter Pays principle was a key principle underlying policy.<sup>37</sup>

The Government's 'Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal', and more specifically the March 2019 'Data tables 1 to 19: supporting the toolkit and the guidance',<sup>38</sup> set out the Government's assumed costs for traded and non-traded carbon, expressed in 2018£, based on BEIS modelling.

If incineration is taxed based on the fossil CO<sub>2</sub> emitted by the facility then this would represent around half a tonne of fossil CO<sub>2</sub> per tonne of waste incinerated. According to Ramboll's report 'North London Heat and Power Project Carbon impact screening Edmonton ERF October, 2019 (Version 2)' produced for the NLWA<sup>39</sup> the 700,000 tonnes of waste expected to be incinerated at Edmonton every year is expected to release around 682,000 tonnes of CO<sub>2</sub> of which around 306,900 tonnes is fossil CO<sub>2</sub>.<sup>40</sup>

For 2023 the central traded carbon price would cost £10.4m for Edmonton's anticipated fossil CO<sub>2</sub>, or £22.3m based on the non-traded carbon price. The Government figures increase to £24.8m in 2030, £47.8m in 2040, £70.9m in 2050 and £94.3m in 2060. If the cost of this carbon was passed on in full or in part to incinerator operators then it could significantly change the economics of operating an incinerator. If the cost were passed on to producers or consumers then it could significantly change production and/or consumption behaviour, significantly lowering the quantities of residual waste arising.

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<sup>36</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69500/pb13548-economic-principles-wr110613.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69500/pb13548-economic-principles-wr110613.pdf)

<sup>37</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/693158/25-year-environment-plan.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf)

<sup>38</sup>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/793632/data-tables-1-19.xlsx](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/793632/data-tables-1-19.xlsx)

<sup>39</sup>

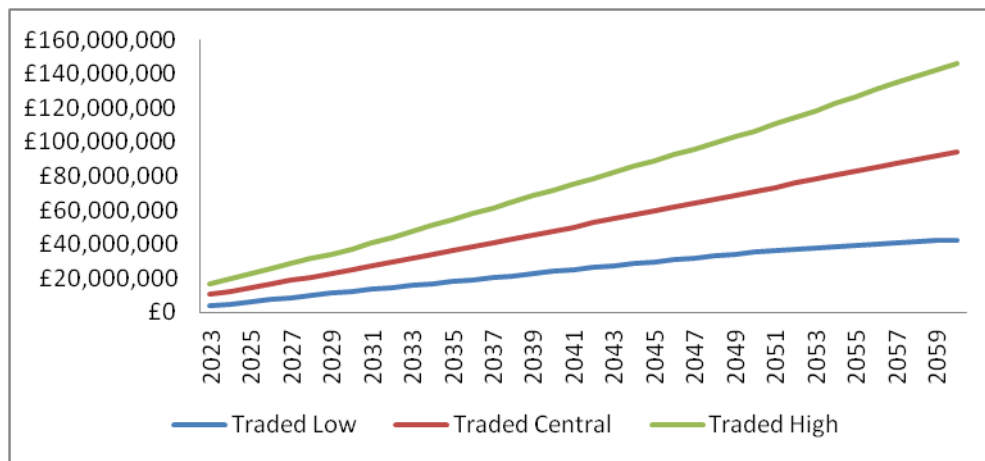
<http://northlondonheatandpower.london/media/udfapcyh/nlwa-carbon-impact-study-report-ver-2-f.pdf>

<sup>40</sup> This can be calculated based on the 45% assumed fossil carbon percentage (based on a range of 35% - 55%) stated in Section 3.4.1 and the 26.6% carbon/186,000 tonnes of carbon assumption in Section 4.2. Carbon is converted to CO<sub>2</sub> by multiplying it by 44/12.

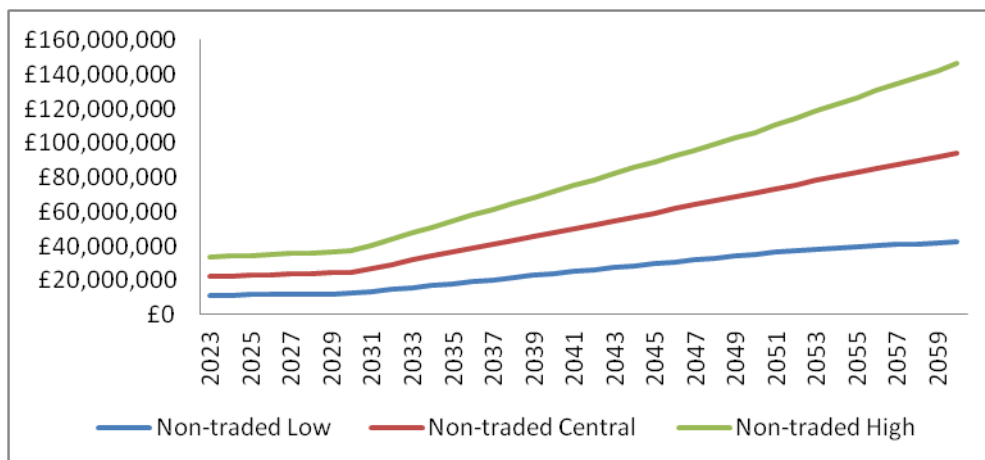
**Carbon cost of emitting 306,900 tonnes of fossil CO<sub>2</sub> at Edmonton,  
Government Carbon Prices, 2018£, 2030-2060**

| Year                   | Low Carbon Price<br>£t/CO <sub>2</sub> e | Central Carbon Price<br>£t/CO <sub>2</sub> e | High Carbon Price<br>£t/CO <sub>2</sub> e | Low Carbon Cost for<br>Edmonton | Central Carbon Cost for<br>Edmonton | High Carbon Cost for<br>Edmonton |
|------------------------|------------------------------------------|----------------------------------------------|-------------------------------------------|---------------------------------|-------------------------------------|----------------------------------|
| <b>2023 Traded</b>     | £12                                      | £34                                          | £56                                       | £3,720,783                      | £10,415,754                         | £17,110,724                      |
| <b>2023 Non-traded</b> | £36                                      | £73                                          | £109                                      | £11,162,350                     | £22,324,701                         | £33,487,051                      |
| <b>2030</b>            | £40                                      | £81                                          | £121                                      | £12,402,612                     | £24,805,223                         | £37,207,835                      |
| <b>2040</b>            | £78                                      | £156                                         | £234                                      | £23,919,322                     | £47,838,645                         | £71,757,967                      |
| <b>2050</b>            | £115                                     | £231                                         | £346                                      | £35,436,033                     | £70,872,066                         | £106,308,099                     |
| <b>2060</b>            | £138                                     | £307                                         | £476                                      | £42,432,452                     | £94,294,337                         | £146,156,223                     |

**Annual carbon cost of Edmonton, assuming 307ktpa of fossil CO<sub>2</sub>,  
Government Traded Carbon Prices for 2023-2060, in 2018£**



**Annual carbon cost of Edmonton, assuming 307ktpa of fossil CO<sub>2</sub>,  
Government Non-Traded Carbon Prices for 2023-2060, in 2018£**



## Potential for the introduction of an incineration tax to incentivise Carbon Capture

The report 'Energy from Waste Plants with Carbon Capture: A Preliminary Assessment of Their Potential Value to the Decarbonisation of the UK' (May 2020)<sup>41</sup> considers the potential for the use of Carbon Capture, Utilisation and Storage (CCUS) with respect to waste incineration. The report states that: *"A preliminary assessment of the potential impact of EfW with CCUS plants on an optimised UK energy transition pathway has been performed using ESC's [Energy Systems Catapult's] 'ESME' [Energy System Modelling Environment] whole energy system model. The ESME model contains techno-economic descriptions of all energy production and conversion technologies, starting with primary energy sources (wind, coal, gas etc) and converting these to end user level applications such as transportation, heat in buildings and homes, and electricity. It is a lowest cost optimiser with the objective function to minimise the overall cost of the UK energy system transition in line with meeting our GHG reduction commitments. It searches for the lowest cost combinations of technologies that deliver the lowest-cost energy system transition pathway (including meeting interim carbon budgets) in five-yearly time steps out to 2050."*

The report talks about running ESME Version 4.4 to determine the environmental impact of incineration with and without CCUS. On page 15 the report states that: *"Without CCUS being available on EfW facilities, ESME deploys incineration (about 1 GWe, utilising under half the available dry waste) until the 2020s, and then closes down all power generation from waste by 2040. This is a direct consequence of the tightening carbon budgets limiting the applicability of EfW facilities due to their relatively high carbon footprint"*.

Potential options to encourage the uptake of CCUS explored within the report include a carrot and stick approach that includes both taxing incinerator emissions of fossil CO<sub>2</sub> at £45/tonne and rewarding carbon capture of biogenic CO<sub>2</sub> at £45/tonne, or alternatively having an even higher rate of taxation for the incineration of fossil CO<sub>2</sub> of £90/tonne.

Such considerations are made all the more pressing in light of the recent legal decision associated with the proposed Heathrow Airport Expansion<sup>42</sup> which highlights the need for all aspects of government policy to take proper account of the urgent need to address climate change. The legal implications and relevance of the Heathrow decision to the Edmonton incinerator rebuild project falls outside the scope of this report.

➤ **RECOMMENDATION #6:** The VfM review should assess the cost increases associated with the inclusion of incineration within an incineration tax, a carbon emissions tax and/or an emissions trading scheme.

<sup>41</sup> <https://es.catapult.org.uk/reports/energy-from-waste-plants-with-carbon-capture/>

<sup>42</sup> England and Wales Court of Appeals decision [2020] EWCA Civ 214

# RISK OF REGULATORY CHANGES

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The potential for regulatory changes need to be considered because they can impact the cost of running an incinerator as well as the relative costs of building large scale incineration capacity compared to investing in other treatment options. Some degree of regulatory change appear to be almost inevitable within the lifetime of any new incinerator, while other potential changes are likely enough and/or significant enough to be worth considering as a plausible option that the current UK Government or a future government may take.

Some of these matters have already been discussed within the context of feedstock availability / demand risk (e.g. the Environment Bill and Resources and Waste Strategy) or in the risk of additional taxes and charges.

## **Requirement to remove recyclates prior to incineration**

The Waste (Scotland) Regulations 2012 requires that: *"All new incinerators must ensure that metals and dense plastics have been removed from residual municipal waste prior to incineration"*.<sup>43</sup> If England imposes requirements for the removal of recyclates prior to incineration that it could increase the costs of incineration if this is not already being done and it could reduce residual waste arisings.

## **Requirement to increase the range of materials collected at the kerbside**

The Government's view on the significance of the Environment Bill 2019-21 is set out earlier. The Bill would increase the range of materials collected at the kerbside, including ensuring households have a weekly separate food waste collection; ensure businesses and public bodies present recyclable materials for separate collection and arrange for its separate collection; and states that the recyclable waste streams to be collected separately from other household waste are glass, metal, plastic, paper and card, food waste and garden waste. Such requirements could be further expanded in the future. For example, the Bill also: *"allows the Secretary of State, if certain conditions are met, to extend the duties to additional recyclable waste streams, for example separate collection of textiles"*.<sup>44</sup>

## **Recycling targets**

As noted above, the Government has already adopted a goal for at least 65% of municipal waste by weight to be recycled by 2035, the elimination of all avoidable plastic waste by the end of 2042 and the elimination of all avoidable waste by 2050. It is possible that further targets and goals will be adopted within the lifetime of any rebuild Edmonton incinerator.

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<sup>43</sup> <https://www.sepa.org.uk/environment/waste/zero-waste/>

<sup>44</sup> <https://publications.parliament.uk/pa/bills/cbill/58-01/0009/en/20009en.pdf>

## Emissions control

The Environment Agency are currently working on implementing the latest BAT Conclusions with respect to waste incineration. It is possible that, as emissions monitoring and abatement technologies improve, expectations of incinerator operators will increase. This could include, for example:

- ▶ Requirements to configure Continuous Emissions Monitoring Systems (CEMS) to allow for more accurate reporting on CO<sub>2</sub> emissions;
- ▶ Stricter Emissions Limit Values (ELVs) or levels of acceptable levels of air quality;
- ▶ The use of Carbon Capture, Storage and Utilisation systems (see above).

## Cost of falling cost of heat and any District Heating Scheme

The April 2017 'Not Fit for Purpose' report explains that: *"Ruth London and FPA [Fuel Poverty Action] have been actively supporting MFN [Myatts Field North] and OQ [Oval Quarter] residents over the past year to seek redress over the district heating due to clear evidence that it has created or worsened fuel poverty for many households".*<sup>45</sup>

As the BBC reported on 30<sup>th</sup> April 2017: *"district heating is currently largely unregulated".*<sup>46</sup> This is resonant with the article published in The Guardian newspaper in February 2017, entitled: *"Energy customers locked into a costly scheme who have no right to switch".*<sup>47</sup>

Measures from the Government to address this under-regulation could increase the risk to the NLWA that falling prices for heating more broadly would have to be passed onto consumers even if that was not associated with corresponding costs in the production of heat from the incinerator.

Even without increased regulation, it might be necessary to promise householders that they will not be financially worse off for joining a District Heating Scheme. This would similarly result in the risk of broader cost falls in heating becoming a project risk.

➤ **RECOMMENDATION #7:** The VfM review should assess the cost increases associated with potential regulatory changes including a requirement to remove recyclates prior to incineration, requirements to increase the range of materials collected at the kerbside, the introduction of stricter emissions controls, and/or increased regulation of District Heating Schemes.

<sup>45</sup> See: [http://www.fuelpovertyaction.org.uk/wp-content/uploads/2017/04/MFN\\_OQ\\_EON\\_28-4-17\\_FINAL.pdf](http://www.fuelpovertyaction.org.uk/wp-content/uploads/2017/04/MFN_OQ_EON_28-4-17_FINAL.pdf)

<sup>46</sup> See: <http://www.bbc.co.uk/news/business-39736010>

<sup>47</sup> Available from: <https://www.theguardian.com/money/2017/feb/05/district-heating-fuel-bill-regulation>

## OPPORTUNITY COSTS / ALTERNATIVES

In addition to the range of factors set out above, there are a variety of other considerations that should be taken into account as part of any Value for Money review of the Edmonton incinerator rebuild project that fall outside the scheme of this report. For example, the potential to treat North London's residual waste through a combination of other methods could indicate how money could be saved and/or better spent.

Investing in the construction and operation of a new incinerator is inevitably accompanied by 'opportunity costs', and such costs can be quantified. Calculations can be made to compare the Value for Money offered by investing in any or all of a number of alternative waste treatment methods, such as:

- ▶ Ensuring all biodegradable material is diverted from incineration to composting or anaerobic digestion;
- ▶ Deploying one or more form of Mechanical and/or Biological Treatment;
- ▶ Using the genuinely residual combustible material to produce solid recovered fuel (SRF) or refuse derived fuel (RDF)

In addition to the examples outlined above there are many other measures that the North London Waste Authority could adopt, including those set out in:

- ▶ 'A Circular Economy / Zero Waste Strategy for Derry City and Strabane District Council' produced by Eunomia for Derry City and Strabane District Council and Zero Waste North West<sup>48</sup>
- ▶ Bristol's February 2020 'One City Climate Strategy'<sup>49</sup> and the associated 'Bristol Net Zero by 2030 Evidence Base'<sup>50</sup>
- ▶ Relevant zero waste case studies, including those available from the Zero Waste Europe website<sup>51</sup>

Some of all of these alternatives may be able to offer enhanced environmental outcomes whilst providing relatively better Value for Money when compared to the current default arrangement, i.e. incinerating potentially useful and valuable material.

➤ **RECOMMENDATION #8:** The cost of treating North London's residual waste through a combination of methods other than incineration should be revisited, and savings relative to incineration should be quantified.

<sup>48</sup> See: <http://derryair.eu/zerowaste/wp-content/uploads/2018/01/AZeroWasteCircularEconomyforDerryandStrabane.pdf>

<sup>49</sup> See: <https://www.bristolonecity.com/wp-content/uploads/2020/02/one-city-climate-strategy.pdf>

<sup>50</sup> See: <https://www.bristolonecity.com/wp-content/uploads/2020/02/Bristol-net-zero-for-direct-emissions.pdf>

<sup>51</sup> See: <https://zerowasteurope.eu/case-studies/>

A further consideration that falls outside the scope of this report, but that deserves a place within any comprehensive evaluation of the opportunity costs associated with rebuilding the Edmonton incinerator relates to the potential cost savings that could arise from substantial investment in providing the education, support and physical infrastructure required to bring about a substantial reduction in residual waste arising.

Such an undertaking could include investing in the widespread provision of multi-lingual and multi-generational information, advice, and guidance to facilitate the shift to more environmentally sustainable consumer habits and more circular resource management. Such investment could encompass not only awareness-raising campaigns, but also re-use centres, repair shops, item exchanges (e.g. clothing swaps), toy libraries, etc.

➤ **RECOMMENDATION #9:** The impact of investing in preventing material from entering the residual waste stream should be considered as part of the investigation into the opportunity costs of investing in rebuilding the Edmonton incinerator.

## OTHER RISKS AND CONSIDERATIONS

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For any Value for Money (VfM) review to be both useful for the NLWA and credible in the eyes of residents living in North London, in addition to matters set out above there other risks and considerations should be taken into account, including:

- ▶ The wider environmental, social and economic benefits to North London of minimising waste incineration and instead investing more in moving towards a low-carbon circular zero waste economy.
- ▶ Adverse health outcomes for local residents and associated costs to local health and social services arising from the incinerator's emissions of air pollution that would be avoided through alternative options.
- ▶ The potential that by investing money in incineration that would then not be available for investment in the higher tiers of the waste hierarchy, the decision to go ahead with the incinerator could be responsible for the NLWA and its constituent boroughs missing national and local recycling targets.
- ▶ Potential adverse impact of the rebuilt incinerator on house prices and on council tax banding and associated revenue.
- ▶ The need for any Value for Money review to be carried out in an open and transparently manner, and involving the local community to help identify what matters need to be considered in any VfM review and drawing on local knowledge and expertise to help inform the consideration of VfM.

➤ **RECOMMENDATION #10:** The VfM review should be informed by the wider benefits of moving away from incineration and towards a low-carbon circular zero waste economy; the indirect costs and burdens of incineration; and the need for any review to be credible in the eyes of the community through transparency and genuine community engagement at all stages of the VfM review process.