Response to Phase 2 Edmonton Consultation

Summary

This submission to the Phase 2 Consultation develops points outlined in my Phase 1 Consultation input. In particular that insufficient – indeed any – quantification has been given to the cost / benefit / risk issues of alternate capacity sizes for the proposed incinerator.

Such analysis should also include a cost / benefit / risk analysis of a stepped approach to building capacity should, and only if, experience deeper into a three decade plus plan proves such a requirement is both necessary and cost effective at that time.

It re-seeks answers to numerous unanswered points put forward as Phase 1 input, many of which raise issues of over-capacity assumptions written into the underlying modelling which inflate the desired capacity; and goes on to raise further issues from answers supplied to overall Phase 1 input.

It points out that the underlying modelling no longer uses the most up to date data (so significantly contradicting the NLWA Needs Assessment of May 2015 page 139). The effect of using official data is a noticeable reduction in the required plant capacity. It highlights that the desired capacity of 700k tpa is substantially above what this data warrants. A figure closer to 400k tpa is derived.

It questions why the Apportionment, that element of London's overall self-sufficiency target allocated to the NLWA area, is ignored and instead a higher target is simply assumed without rationale nor relative costings and associated risk assessment. (See Chart A which follows below.)

All this assumes the ERF plant based at Edmonton is an appropriate piece of North London's Waste Resource Strategy jigsaw. Despite the scale and permanency of plant envisaged, it is evident no such strategy exists. This in turn makes supporting calculations, such as overall comparative climate impacts, comparison of waste journeys, and more crucially, comparison of complete strategic options, impossible to determine. There are no comparative options, neither of plant type nor plant scale to the stated path.

The Mayors aspiration for higher recycling levels is ignored by London's largest WDA for a three decade plus period, despite the NLWA representing approximately one quarter of London's total population and area. There has to be a large question mark over management's Waste Hierarchy satisfying ambition. London surely deserves better.

A £500m investment based substantially on a forecasted 2051 outcome of a new, untested metric; additionally underwritten in one waste stream by an acknowledged highly wobbly data set; and with inherent inflationary numeric assumptions below the surface; all before adding large extra capacity on top, is a very big, highly questionable, and therefore very risky bet for taxpayers. Is a smaller, less costly, bet a better bet? NLWA should first be required to find out and so prove their case before seeking agreement to the current concept.

The challenge is the waste hierarchy and a cost effective solution for taxpayers. Both remain inadequately addressed.

KB June 2015

Chart A

NLWA Eunomia Modelling (pre added headroom) vs GLA London Plan Requirement

The Apportionment is that element of London's waste self-sufficiency requirement allocated to the individual Boroughs. It is based on an analysis of their ability to deliver a proportion of the London total and reflects many factors. The seven Boroughs which make up the NLWA sub region, roughly one quarter of London's total area and population, pool their individual Apportionments to produce a single Apportionment figure for the NLWA.

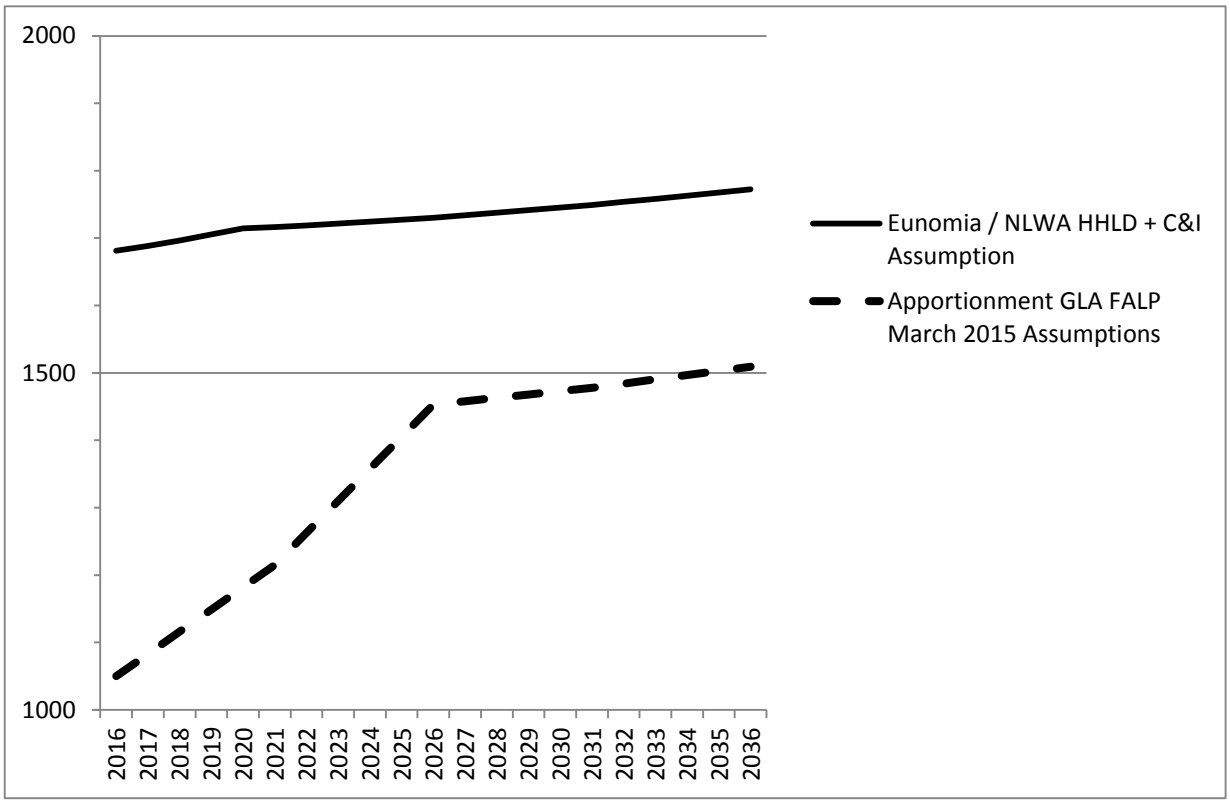
Achieving the waste processing levels of the Apportionment would mean the NLWA has fulfilled its part of London's self-sufficiency requirement. The Apportionment is up to date (Last issued March 2015.)

The dotted line shows the NLWA waste processing Apportionment requirement out to 2036. Waste levels above the Apportionment can be **exported**.

The solid line shows the NLWA / Eunomia baseline calculation before adding desired extra capacity headroom on top. It also excludes additional, smaller waste streams not included in the Apportionment. Much of the extra capacity desired is planned to be filled with **imported** waste.

Is it not reasonable to expect the NLWA to cost and risk assess the Apportionment route?

Differing views of NLWA sub regional waste objectives (thousand tonnes per annum)



The remainder of this submission is then as follows

Overview

Phase 1 Response.

Phase 1 Report.

Specific Areas of Concern

- Air Quality
- Environment –Climate Change / Transport
- Need – Forecasts
    1. HHLD
    2. C&I
- Need – Alternate Viewpoint
    - Scenarios
    - Scenario A
    - Scenario B

Appendix A – Phase 1 input resubmission

Appendix B – Phase I issues resulting from response to consultees input

Overview

The present proposal starts from the premise that a sub regionally located ERF is the appropriate solution for North London's residual waste. The time period addressed then appears to be related more to the expected lifetime of the plant and / or available financing than addressing a strategic period and what may be the future waste operating environment being contemplated.

Beyond a straight line extrapolation of waste forecasts reaching into a three decade plus future, no analysis of potential risk / benefit of future waste drivers has been included in reaching the plant conclusion. Examples could include eg the significant waste in manufacturing changes made by Unilever and anticipated to spread widely; the growth of a collaborative economy; a heightened awareness and intent towards circular economy principles; plus technological, legal, material and regulatory possibilities. Their absence and associated assessment for possible implication stands as a significant weakness behind such a planned long term, fixed investment.

Assuming both an ERF solution and an unbroken extrapolation of waste levels are actually valid, the proposal then proceeds towards a capacity appropriate to rising waste expectations three decades plus hence; that scale is planned to be available in year one and, in this case, with considerable extra capacity headroom then added on top (18%).

Planning for overcapacity is both a risk and a cost to local taxpayers. Neither are analysed for size nor for any possible alternative mitigating approaches which may (or may not) be appropriate and / or cheaper. Certainly the analysis should be undertaken and be available as part of an options process.

In this, "build big and build now" approach, it is easy to see a mirror with the NLWA's earlier, but very different approach for dealing with North London's anticipated residual waste, eventually described as being the wrong strategy and £900m over-priced. It is difficult to think of any equivalent "build big and build now" investment approach taken in any sector, be it public or private, particularly one with such a degree of future uncertainty.

The latest strategy crucially depends on accurate waste forecasting, since once invested and built there is no unwinding the £500m plant. There certainly is doubt about the waste forecasts, some of which follow; others were highlighted, unanswered, in my Phase 1 input.

It does not seem credible for the NLWA to invest taxpayer's money with no possible exit route pending realistic concerns being adequately addressed.

There are fresh, specific issues which follow. The central theme, as with Phase 1 input, is one of: IF an ERF, THEN right-size it.

The absence of a strategy and subsequent alternate options of scale for an ERF plant, costed by £ / COE, remain major shortcomings.

Phase 1 Response

It is disappointing that no communication arrived to indicate commentary on Phase 1 input was available to consultees. Equally disappointing was the absence of a note of the opening of the Phase 2 Consultation to Phase 1 consultees. Assuming I am not unique, and despite being a wiling consultee, then the failed issuance of both points to what was evidently a very small pool of community based Phase 1 respondents stands as poor practice.

To the contrary, the NLWP have recently sent communication to indicate both thanks for inputting as a consultee, prompt notification that a document is available, and more generally communicate progress via occasional newsletters.

Having actually reviewed the Authority's response to the Phase I input (Phase 1 Consultation Feedback Report May 2015) it would appear that regard has not been given to all items raised. As one example from my own input, there is no reference to CV risk regarding the two-line solution being proposed. There are others, several of which are focused on potentially substantial cost / risk issues of the proposal.

I would request a "best practice" approach is now undertaken and a report completed and re circulated in a manner such as recently undertaken by The NLWP: in responding to the Scoping Report for the new NLWP all submissions are listed with each point specifically addressed. As additional depth, such as in the Launch Report the NLWP include appendices showing every input made sectioned by question and additionally every input shown in its totality. My own Borough has done likewise in listing and addressing all points independently during consultations.

Conversely from the NLWA there is less than full transparency, rather a reliance on subjective bundling of broad themes often met with generic answers. Nor is there evidence that all points made as consultee input have actually been considered and addressed. It is hard to see how due regard can be adequately discharged when such obvious gaps remain.

I am therefore resubmitting my own Phase 1 submission as part of my Phase 2 input and ask that all points raised be clearly and transparently addressed. This can be found marked as Appendix 1.

Phase 1 Report

The NLWA response to Phase 1 input, the Phase 1 Consultation Feedback Report May 2015, as well as being incomplete (see above) raises several further questions. These are attached for answering as Appendix B to this submission.

Specific Areas of Concern

There are a number of broad areas within the documentation requiring attention. For ease these are bundled numerically to match the numbering used in the Phase 1 Consultation Feedback Report May 2015.

3.4 Environment – Air Quality

Concerns about Air Quality risk are evidently widely spread amongst consultees and are only likely to increase given powerful campaigns now operative in the major London and national press. The recent ruling of the UK Supreme Court on the subject (NO_X focused) adds to rapidly increasing public awareness and concerns.

Worldwide research is at a young stage but is quickly developing and is already highlighting fresh, major health aspects which have the potential to make air quality the number one public health issue in the UK within the very near future.

Rather than looking back with a reliance on eg existing EA metrics, against this rapidly emerging issue the NLWA should look forward towards potential changes and include any reasonably projected ramifications in their present assessments.

London hosts some of the world's leading researchers in this field as well as related Government Health and Science bodies focused on the subject. It would seem lapse in such a rapidly developing scenario were NLWA not to approach them for support in developing a forward risk assessment and possible issues / solutions related to the current proposal.

3.4 Environment – Climate Change / Transport

CO_2 is one significant feature of worldwide climate change arguments. Phase 1 Consultation response 3.4.45 indicated that it was "not practical" to undertake climate change analysis on any alternatives. (In the world of this proposal no alternative options were considered as other text highlights, but assuming such a basic planning flaw is resolved as an immediately required next step, the following becomes highly relevant.)

> FALP 5.74 highlights that the carbon outcome of any <u>treatment method and transportation</u> are to be given greater consideration in assessing proposals for waste facilities; while
>
> FALP Policy 5.17B part g highlights that <u>full end to end</u> process issues be assessed in determining the carbon outcome of a waste management proposal; and
>
> FALP Policy 5.17 g indicates that, Proposals for waste management should be evaluated against the following criteria: the <u>full transport and environmental impact</u>

of all collection, transfer and disposal movements and, in particular, the scope to maximise the use of rail and water transport using the Blue Ribbon Network.

(Author underlining)

It is therefore entirely reasonable to expect the proposal addresses this issue thoroughly.

As was pointed out in Phase 1 Consultation input, there are required carbon-related transport assessment issues. These in turn require knowledge of from where, and by what comparative means, waste and waste processing output is transferred to / from. This relates both to the proposed Edmonton plant and its various on-site facilities but additionally as a consequence of Edmonton being one element of the wider North London waste collection and disposal processes; part of what most would see as a major element of a Waste Resource Strategy.

Collection by the various WCA's would be expected to be influenced by disposal decisions, all of which will have potentially differing climate effects. Edmonton does not stand alone and therefore neither can it be assessed alone for impact(s).

This assessment should include alternatives relating to scale of plant options. This latter point takes on added significance with the expectation on the desired capacity that waste will be transported into Edmonton from areas far outside the NLWA sub region.

This Phase 2 clarification that substantial waste will be imported from a potentially distant area confirms that such climate change factors stand out to be clearly highlighted and assessed. The London Plan is specific on this point:-

FALP 5.84 "…the Mayor has a preference for waste processing technologies achieving the greatest efficiencies but is keen that proposals for new facilities are evaluated by carbon outcome (end-to-end) to ensure the best possible environmental impact. "

FALP Policy 5.1 Climate Change Mitigation Section A (Strategic). The Mayor seeks to achieve an overall reduction in London's carbon dioxide emissions of 60 per cent (below 1990 levels) by 2025. It is expected that the GLA Group, London boroughs and other organisations will contribute to meeting this strategic reduction target, and the GLA will monitor progress towards its achievement annually.

FALP Paragraph 5.15 - The strategic target in Policy 5.1 will be extremely challenging but it will be achievable with the full commitment and collaboration of all stakeholders,

(Author underlining)

"Not practical" hardly stands as an appropriate response to such a pressing global issue, high on pretty much every agenda including the recent G7 heads of Government meeting in Berlin, the Holy Father's recent encyclical dedicated to the environment, as well as London's

own Plan. Nor is incinerator CO_2 output alone, nor CO_2 vs Kwh power generation, a sufficient measure satisfying such a health related requirement.

NLWA should be reasonably expected to exhibit this "full commitment" practically in undertaking supporting and comparative analysis for their chosen path. It is already an extremely important UK / Global issue and the trend-line of its relative importance is rather obvious.

3.5 Need – Forecasts

Many issues relating to the forecasts were included in the Phase 1 Consultation input. These have been resubmitted to be answered. (Appendix A)

One aspect covered in Phase 1 input was the apparent extent of capacity enhancing assumptions appearing across waste stream calculations. Cumulatively these had the effect of adding substantially to the apparent base capacity desired. These assumptions, which certainly can be challenged, will inevitably have cost to local tax payers. As such they should be thoroughly justified.

Of the two main waste streams there are additional comments:

1. HHLD / LACW / MSW

ie the household element of waste collected by the WCA's.

The forecast does not rely on Apportionment projections, instead has been based on a future correlation with a single metric – GDHI – given a relatively successful regression analysis working.

A simple growth metric is highly unlikely to be definitive in a complex waste future (see other comments earlier re waste drivers' overlay) but equally it cannot be dismissed as an unworkable guide given its clear association with some acknowledged waste related influences. To assist with giving their forecast the necessary supporting robustness, the NLWA should now take two further steps:

I) Confirm the regression work by considering GDHI (or local proxy equivalents) with waste in similar style western economies to the UK, and specifically to large western cities of a size and complexity comparable with London

II) Develop a Situational Analysis of likely future trends in areas such as technology, corporate behaviour, material intensity, circular economy, economic conditions, demographics and so forth and overlay them to what is presently little more than a crude straight line projection over more than three decades. At the simplest level, three decades plus without a recession, as is assumed, would be seen as being unlikely by most commentators.

2. C&I Waste

C&I figures are widely acknowledged as being of limited accuracy. Even the CIWM themselves in their 2013 report on C&I waste has, if anything, included a greater strength of caveats than the weight given to forecasting uncertainty by Eunomia in submitting their own work to the NLWA. (See Appendix A, Addendum 1 for a selection of Eunomia's extreme doubts and caveats.)

> The CIWM in their report say, "Unreliable C&I waste data" while also pointing out in the largest font, "…C&I waste data….does not, on the whole, provide a robust picture of the waste stream. Overall, the reliability, representativeness and accuracy of available data is highly uncertain". And hence it needs to be tackled with extreme caution in application.
>
> CIWM C&I Report 2013

However, the real risks inherent in forecasting from such an unsteady base are not brought out, never mind assessed, in the proposal. The implication for strategic assessment, as part of wider waste planning, must be clearly highlighted and subsequently assessed for impact.

> The CIWM go as far as to say that the inherent qualities of C&I as a waste stream undermine any modelling.
>
> CIWM C&I Report 2013

A £500m investment based on a 2051 forecasted outcome of a new, untested metric, while being also underwritten by acknowledged highly wobbly numbers, is a very big, highly questionable, and therefore very risky bet.

It is therefore reasonable to address any forecast with extreme caution and go on to only plan for additional / surplus capacity if the reasons behind it are clear and justifiable. Eunomia's treatment in instances as part of their modelling work – as outlined in Phase 1 input – does not always fall into this category.

More relevant is Eunomia's use of C&I data when modelling which is now out of date.

The data used in the FALP March 2015 (Paragraph 5.78A and associated) are indicated as being "**considered to be the most current and best available**". The Eunomia model does not utilise this data, rather works on figures roughly 50% greater and then goes on to make further capacity inflationary assumptions in their assessment and reporting.

As a minimum the Eunomia modelling – with its implications for overall plant capacity – should be rerun with the latest and most accurate data.

3.5 Need – An Alternative Viewpoint

While certainly not proposing to be definitive, the following general calculations generate ball park scenarios which challenge the large capacity desired by the NLWA. In either scenario, a capacity in the range of 400 – 500k tpa - and more towards the former - is suggested rather than the 700k desired within the proposal.

It should be noted that figures quoted in the Needs report (2.3.11) are not those used by Eunomia when actually modelling the need, ie "Words and figures differ." Neither are the modelled numbers the most up to date as is stated. Up to date official figures (FALP March 2015) are utilised in the approximate scaling calculations below.

Scenarios

Consider 2031, a mid-term point still arguably too distant to plan accurately but certainly after which waste level forecasting becomes little more than guessing: Upward drivers, in particular demographics, should they proceed to develop as currently envisaged, could be balanced, exceeded or dwarfed by drag factors such as material intensity improvements, new legal powers, and circular and sharing economy factors. 2031 can be assumed to represent 2051 for most purposes given the huge uncertainties.

A 2031 scenario with a waste reduction / recycling centric NLWA could well look like:

Scenario A

LACW	252k tpa	Based on FALP March 2015 and achieving the Mayor's aspiration recycling target
C&I	85k tpa	Based on continuation of the 2012/13 (latest) NLWA share of the LP Figure applied to the 2031 FALP, ie assuming no increase in NLWA C&I share (Reasonable in a smaller, competitive market, where the NLWA is an acknowledged failure.)
Other	35k tpa	Based on the flat Eunomia assumption but allowing for minor progress in areas such as fly-tipping where large fines now look likely.
	28k tpa	Swing headroom
Required Capacity Implied	400 k tpa	

Additional requirements found necessary after this time could be either exported, as is acknowledged as an option in the FALP, or if likely to be a permanent feature, then be the subject of considering a new process line or alternative technology / plant option available at that future date.

Scenario B -

LACW	315k tpa	Based on FALP March 2015 and no improvement beyond 50% recycling target achievement
C&I	176k tpa	Based on Eunomia's 20.7% assumed NLWA share and using FALP March 2015 as the base data. (But see commentary below.)
Other	35k tpa	Based on the flat Eunomia assumption but allowing for minor progress in areas such as fly-tipping where large fines is now looking likely.
Required Capacity Implied	525 k tpa	But see following commentary

However, Eunomia's assumption of C&I share for NLWA has serious associated issues.

Looking at the latest FALP for 2031 (for ease of understanding a single year is considered here). This highlights a NLWA C&I Apportionment requirement of 848k t. Recycling is expected to be long since achieving its London 70% target levels. That leaves a residual C&I waste total of 254k to be processed. Eunomia figures reveal NLWA will be processing 204k t of C&I waste at this time, therefore an 80% share. In earlier years that NLWA share exceeds 100%. The model could be questioned on such a basis.

NLWA start from a current share of a little over 10%. While they say, "Forecasting C&I waste volumes for future years is notoriously difficult", these figures – 80 to 100% plus share - look somewhat toppy against a current 10% baseline.

Added to that is the underlying position within the OBC (and assumed to remain) that the seven Boroughs will achieve between 10 and 15% market share of all C&I recyclables by 2020. How NLWA turn from acknowledged failure in the C&I market to the dominant player in recyclate and residual waste is not explained.

It is also noted that when assuming a substantial increase in C&I market share from its current baseline to return to 2009 levels by 2016 (ex Islington which has a higher share assumption for some unstated reason) that this is based on an near fixed level of such

waste, ie the share increase has to be to the detriment of others. How this is achievable in the competitive market outlined, one where NLWA is headlined as failing relatively is not specified. It has to be questioned. (Indeed was in Phase 1 and remains unanswered.)

This assumption (Needs report 3.3.40) that C&I market share will revert to previous levels post-recession, ie double, is based on no facts or plans at all. Perhaps, alternatively, the current share will half. The latter is more supportable by the brief market analysis in paragraph 3.343 of the same report which reveals a very poor NLWA relative market performance in a very competitive segment.

> Waste management firms have a strong presence in north London
> The incentive for private waste management firms to collect C&I waste is significant.
> Local authorities struggle to compete with these firms
> There are multiple reasons why local authorities have not flourished in the business waste market
> Private firms are typically more agile

But despite this analysis the working assumption is the current baseline figure will double (see also my Phase 1 input which addresses a similar issue.)

Certainly the NLWA's immensely aggressive intentions in the C&I market appear in marked contrast to its lacklustre ambitions in the municipal waste stream segment.

Much remains unanswered and £500m should not be invested on management hope alone.

KB June 2015

Appendix A

Summary and Conclusions (Phase 1 Input, mostly unanswered – resubmitted)

The proposal is in the revised direction implied at the time of the failed Procurement but at this stage there is no evidence that the suggested ERF plant is the appropriate financial option for taxpayers. Such a justification will necessarily incorporate an analysis of how it is envisaged to sit within the overall waste collection and disposal processes, and associated assets, of the sub Region.

There are powerful indications that the proposal is one of capacity overprovision: building in cost, various future risk and pressure on London's resources. That would not sit well with taxpayers facing many future years of budget related service pressures.

The proposal rests on an assumed recycling rate in 2051which falls far below the agreed target three decades earlier (2020). That suggests the current NLWA organisation may not be suitably focused on its day to day operational requirement.

The significant residual waste capacity sought may impact income opportunities from the resource management of recyclate. Waste Authorities, even were they not financially constrained, should be committing themselves to maximising the employment and business opportunities from closed and open loop recycling in preference to forms of incineration.

Such aspects, together with any alternate options, need to be fully addressed and proven before any call is made for public money. Taxpayer's value and need, not the ideal requirements for NLWA / LWL management, must be shown to be paramount.

Specifically, before moving to seek investment, an appropriate proposal would require NLWA to:

- Develop a comprehensive future waste resources strategy for the sub Region
    - To include all waste processes, particularly transport / site related
        - An ERF proposal would be one element of that strategy
- Develop more than the current single waste forecast for the next three decades
    - The scenarios should include a reducing waste future
- Develop what-if scenarios based on differing waste forecast and recycling assumptions
    - The scenarios should be financially assessed for best value and strategically assessed for risk
- Develop and assess for best value smaller capacity ERF plant options
- Develop and assess for best value smaller capacity scenarios which could be expanded, if required, over time

NLWA should ideally work with NLWP planners to develop a seamless set of assumptions and options which impact on the needs of the WDA and the emerging North London Waste Plan.

Strategic Issues Relating to the ERF Proposal

Strategic Positioning of the ERF Plant Proposal

There is no agreed strategy in place to underpin a Business Case for the proposed ERF plant.

The documentation indicates "waste management use of this site is therefore incorporated into the Authority's strategic planning for future waste services". What that strategy actually is remains opaque. That is not satisfactory and serves to undermine any investment requirement.

The proposal endeavours to fall-back to the Joint Waste Strategy (NLJWS) as its strategic justification. This suffers on two major counts:

- Firstly that the NLJWS expires in 2020 whereas the proposal looks forward three decades beyond that date and will not even commence its build for several years after the expiry of the NLJWS; and
- Secondly, that its focus is purely on municipal waste, only one element, albeit the largest, of the proposal.

The proposal focuses strategically on one of the very lowest ranking elements of the Waste Hierarchy. As the (only?) recipient of NLWA strategic resource, the chosen positioning is thus disappointing. It risks sending an inappropriate message to the roughly 2m residents and businesses of North London.

The need for a long-term, holistic, waste resource strategy for North London – being in line with the requirements of the Waste Hierarchy - remains an unanswered priority.

Strategy and the Necessary Supporting Processes

The proposal states that in total, fewer waste processes will take place at the Edmonton EcoPark compared to today. This has implications but these are unspecified and hence unaddressed.

Managing processes out altogether, eg via process reengineering, would typically be expected to increase productivity / reduce costs; however outsourcing processes from the current Edmonton site to an alternate(s) location would have implications for land, capex, travel, carbon and several other factors.

- There is no indication of which situation is expected to apply, hence no analysis of the resulting implication(s).
- Neither is there sufficient evidence to determine conformity or otherwise with the documented position of the eight Partner Authorities to the co-location of facilities to reduce land take (NLJWS 4.2.4).

The type, associated cost, land requirements and transport requirements of strategy-linked processes will be fundamental elements of a Business Case for the proposed plant.

Fit with NLJWS Approval

The proposed route would not seem to have been agreed as part of the NLJWS, nor fit with its assessment under SEA Regulations.

The failed Procurement Strategy was deemed to be the (very narrowly) second cheapest of five NLJWS options. Under challenge it was found to be c£900m more expensive than the current ERF proposal. Since the four higher price options fell within a £1bn banding of the cheapest, (NLJWS figures to 2045 and based on 2006 prices), it has to be assumed this proposal is a fresh, sixth, option.

As a sixth option it is unclear how this has been formally assessed and agreed by the other seven Partner Authorities within the context of the approved NLJWS. Stated NLJWS options were, for example, assessed under a SEA process which in turn was linked to the SEA of the NLJWS itself.

- As one example of the conformity issues this could raise; the agreed SEA position included a view that none of the (NLJWS) scenarios would be realistic … unless they achieved the new national …. target of 50% recycling …. by 2020.
    - The ERF proposal now being assessed is based on achieving only a 40% recycling target by 2051, three decades later.

It should be clear and factual that the eight Partner Authorities have agreed the current proposal as part of their common strategy and fulfilled all its associated requirements.

Strategic Fit with NLJWS

There are other signs of a proposal developed outside of the agreed direction for municipal waste in North London to 2020.

The proposal appears to most reflect the Minimum Compliance Scenario of the NLJWS, or, "the worst performing option" as the same document concluded.

The NLJWS commits the eight Partner Authorities to "undertake to achieve individually the statutory recycling and composting standards set by Government and to exceed these standards wherever practical".

- However, an implied recycling rate peaking at only 35%, (based on plant capacity for residual waste versus projected waste levels out to 2051) and a proposal which is driven by the assumption of achieving a recycling level ("Low Scenario") which fails to meet even the 2020 target by 2051, does not suggest a core planning assumption supportive of the NLJWS's intent.

The NLJWS also includes a high level Objective: To maximise recycling and composting rates.

- The current proposal would clearly fail any related test with its assumption of flat, sub-target, recycling levels.

Indicating this proposal meets with key objectives of the NLJWS is therefore, at best, highly debatable.

Strategic Implementation

The NLJWS Implementation Objectives, included in revised form as part of its final sign-off process may need to be reviewed following the decision not to follow the SRF Procurement route.

> *NLJWS 6.B: The best option for North London will involve achievement of 50% household waste recycling and composting rates by 2020, with treatment of the residual waste not being landfilled provided initially through the existing Energy from Waste incineration facility, and later through processing capacity, giving preference to advanced conversion technologies, especially where the products of waste treatment could be used as fuels.*

What was added late to support the PFI / DEFRA / SRF path no longer underpins the fresh direction.

Capacity Issues Relating to the ERF Proposal

Capacity

The desired plant capacity is determined by one significant unknown – waste forecasting – and one major variable capable of management influence - recycling levels. It is specifically based on a "worst case" 2051 outcome. Despite that, it is planned to be invested for and implemented fully in the present.

> A case for the current route has not yet been proven. Forecasts, even the best, have a habit of being incorrect and the implication of error(s) should be assessed in advance of such a significant investment. As an example:-
>
> - HMG published a "Low Case" for the price of oil as recently as October 2014. Oil is a globally traded, heavily researched, well understood commodity with advanced, liquid markets. Within three months the price was 20% below even HMG's Low Case scenario and has since continued to fall. There are related implications, some good and some bad, some short term and some long term.

North London Taxpayers need not be placed in the same vacuum with regard to incorrect waste / recycling forecasts. The current waste forecast and recycling assumption will be wrong; when and by how much cannot be currently determined. However, the implications of being wrong can be modelled; implications for taxpayers and the proposal assessed; and contingency arrangements, or even an alternate strategy, contemplated.

One Waste Forecast and a Low Recycling estimate for 2051 drives the investment in 2025

A Low Recycling scenario is being assumed to determine capacity.

> There is no financial or strategic assessment of plant implications of the single waste forecast versus the alternate Central and High Recycling scenarios.
>
> With only a single waste forecast, neither is the effect of lower (or higher) waste levels assessed versus the Low Recycling scenario.
>
> - By extension, neither the effects of differing waste forecasts on Central or High Recycling scenarios.

Such a presentation (and resulting analysis) is weak. No viable Business Case could be justifiably presented with such a singly focused viewpoint. Certainly, there is no history of successful forecasting to make such a non-risk-assessed bet with public money on what may well to be an over-sized plant based on soft assumptions.

Capacity Identified as Needed vs Contingency Planning

Setting fixed term capex against long term waste and recycling forecasts comes with noticeable risks. Seeking to assess (and invest considerably for) a position near 40 years out when at times 4 months has proven too long of a forecasting period for North London's waste sector looks ambitious.

> The option(s) for a more modest phase one ERF capacity with the potential to increase capacity if required some decade(s) into the future should be developed and considered, strategically and from a taxpayer's cost / benefit perspective.
>
> - Total costs of such an option may prove to be higher, or potentially lower on a discounted basis, or much lower if the additional capacity is ultimately not required.

Such an approach of fully assessing differing options and related scenarios is basic management practice and the necessary path when contemplating such scale and permanent forms of investment.

Recycling Issues Relating to the ERF Proposal

Recycling Targets

The accepted 2020 recycling target for household waste is 50% yet a key assumption at the heart of the ERF proposal is that recycling levels go no higher than 40%.

Accepting the waste forecast out to 2051 sees the plant's capacity being capable of processing 65% of anticipated waste at that time. (This plant is said to necessarily run at full capacity – and with high calorific feedstock - for viability.)

- This implies a recycling level of only 35%, in the absence of other factors.
- This implied recycling rate of only 35% would be even lower in preceding years when absolute waste levels are expected to be smaller but the full ERF plant capacity is employed.

In a similar vein, at its proposed 700k tpa capacity, the new plant would be capable of processing above 100% of the 2036 HHLD Apportionment and an even higher percentage in earlier years.

The NLJWS commits the (eight) partner Authorities to "undertake to achieve individually the statutory recycling and composting standards set by Government and to exceed these standards wherever practical". Some justification or otherwise detail, perhaps of factors not yet highlighted, as to why this commitment is no longer assumed to apply is appropriate.

Recycling – C&I

The forecast Low / Central / High recycling levels for C&I waste of 15%, 25% and 25% rising to 35% respectively are very low compared with national C&I targets. (The Mayor's key target for business waste is to achieve 70% reuse, recycling and composting of C&I waste by 2020, maintaining these levels to 2031.) The levels are also low when compared directly to HHLD recycling levels

When modelling, the same growth rate as that for household recycling was applied to the business waste arisings to predict future tonnages of business recycling. If a below target recycling assumption is to be used then this is an actual recycling rate, equivalent to that for HHLD, rather than one based on equivalent rates of change.

- In addition, the absolute start point volume appears low.

One major consequence of such low recycling assumptions is to introduce incremental residual capacity requirements, ie they drive an apparent need for larger capacity in the ERF plant.

Recycling - Other Waste

The assumption, in the absence of any other rationale, to maintain levels of Other Waste eg fly tipping, highways waste, and asbestos appears reasonable.

The assumption is all such waste, circa 50k tpa, is slated for the ERF, ie an implied zero recycling level. This compares with a CDE target, reasonably applicable to a large majority of this material, to achieve 95% reuse, recycling and composting by 2020, with those level being maintained out to 2031.

- It may be that the c 50k tpa is intended to represent the residual 5% of an achieved target met by all other CDE parties across North London.
    - Or maybe not.

One major consequence of low / zero recycling assumptions is to introduce incremental residual capacity requirements, ie they drive a need for larger capacity in the ERF plant.

Waste Forecasting and Overprovision Issues Relating to the ERF Proposal

Waste Forecast Scenarios

Seven Partner Authorities recently produced nine integrated waste / recycling scenarios for the following 15 years for the North London Waste Plan {NLWP(2)}. This plan has no associated investment requirement from the public purse. The same Authority grouping, now with the addition of the NLWA, propose a single waste scenario overlain with three recycling outcomes for close to 40 years on which to base a substantial investment proposal.

- The relative balance of analysis is clearly out of kilter.

As a minimum, an assessment of the implications of the alternate bodies' derived set of scenarios on their own plan should be expected of each grouping of Authorities; but far better would be to see an integration and agreement of assumptions wherever there is overlap between these Authorities' plans.

These bodies have previously committed to working together as part of the NLJWS, a document which in turn highlights the partnership between waste collection and disposal. It should be seen to be acted upon.

Overprovision – A Strategic Choice

It has already been pointed out that there are fundamental issues relating to the level of capacity sought which requires financial justification to show how it is the best value option for taxpayers. There is a further level of assumption, to date unchallenged, which also needs to be addressed as part of any final ERF proposal. (An equivalent position applies to the required wider waste resource strategy).

London Boroughs have been set an Apportionment target based on need and their perceived ability to support the all London target. NLWA operates a pooled Apportionment for seven Boroughs within this total.

There is considerable difference between following the requirements of the Apportionment and seeking sub-Regional self-sufficiency in waste.

- There is neither strategic nor any available financial assessment of the apparent acceptance that the latter should prevail.

The NLWA has then gone further in this proposal and moved beyond Apportionment, and then beyond self-sufficiency requirements, to seek to become an implied provider of waste services to a wider area.

- At an on-target 50% recycling rate the total waste implied would be 1.4m tpa rather than the 1.05m shown as being generated by the sub Region in 2051.
    - That suggests potentially c350k tpa of unexplained, additional, waste being brought into the sub Region

- The alternate viewpoint is that only 350k of North London's waste would be available for recycling / reuse at that time.
    - That would represent a relatively small increase in recyclate from 230K tpa over a 40 year period during which time total waste levels are projected to increase by close to 400k tonnes.
        - Hardly suggesting effective waste resource management

- Again, there is neither strategic nor any available financial assessment of the assumption that such a route should prevail. Its value for money remains unaddressed.

North London appears to have enough pressure on its various resources without seeking more. If it is sought to do so then a case should be made that it is necessary and in tax payer's interests.

<u>Overprovision – NLWP(2) vs NLWA Proposal</u>

Comparing recent waste forecasts from North London's waste bodies shows a difference of circa 100,000 tonnes pa with associated – major - capacity planning implications.

The seven partner authorities currently developing the NLWP(2) had confirmed a waste growth assumptions of 0.5%pa based on their expectation of the house building programme, general economic conditions and waste minimisation initiatives. From a 2013 base of 810ktpa LACW in their recent background work that suggests a waste total in the order of 980k tpa by 2051.

NLWA now propose an equivalent 2051 figure of 1070k tpa. The difference of circa 100,000 tonnes would build in significant capacity to the assessment of required ERF plant size.

The position is shown in Chart 1. Gradients of the two forecasts are relatively similar with the main difference being down to a NLWA assumption of considerable growth rates in the earlier years.

- A 10% difference between two forecasts based on compounded rates of growth 30 years out is not surprising but it becomes a critical issue when the higher level is taken as the silver bullet to determine substantial capex spend in the present.
    - Any overcapacity would be employed over the full three decade period with all its related implications.

Chart 1 also highlights two bounding scenarios prepared by acting consultants for the NLWP(2). The forecast has been extended out to 2051 from 2031 at the same applicable rate. While capturing a greater range of waste, the difference between the NLWP(2)'s own scenarios is revealed as a substantial 400k tonnes per annum by 2051.

- Comparing these equally-recent, also consultant prepared, waste projections for the NLWP(2) highlights the risks associated in assuming any single scenario is the / an accurate one when determining present day capex spend.

Of particular relevance are the various differences in gradients (rates of growth) across the four curves ranging from flat, to moderate to relatively high. It is also apparent there is no reducing waste option.

- It is reasonable to ask which gradient, if any of these, would taxpayer's choose to put their money on when noting investment made here is investment not available for elsewhere.

As with numerous other aspects of the proposal, a full analysis of the financial implications resulting from the chosen scenario versus other possibilities is critical. Any set of scenarios should include the possibility of waste levels actually falling. In this case of this chart, it clearly highlights the need to consider more than a single forecast for waste and the need to develop associated "what-if" analysis.

Overprovision – An Underlying Intent in the Waste Forecast

The current waste forecast is the latest example of the "hockey stick" charts[1] which have littered every North London centred waste report over recent years. What is expected to make the difference on direction and speed of travel of such "hockey-stick" trends is inevitably unanswered.

Some 3 million tonnes of waste have been added to the overall proposal total in one example of unsubstantiated mathematical modelling when considering NLWA's share of business waste in the waste forecasting model:

> *"…… In 2012/13 that proportion was around 10% decreasing from 16% in 2009/10. The overall proportion was assumed to increase to approximately 20% by 2018/19 and was held constant for the remainder of the study period*

In a market segment where NLWA has previously acknowledged their ongoing loss of business versus merchants, what are their plans to not only reverse that trend but go on to double their current share of that business?

- Will that be harder or easier in a declining market if historic trends continue?
- Are there implications for other waste businesses?
- What reactions to new NLWA tactics are expected from merchants and how, in turn, will those be countered to ensure the assumption remains valid?
- Are there sufficient maturing contracts to enable such a volume to be achieved or is NLWA intending to break contracts?

[1] A "hockey stick" is a phrase commonly used to describe a chart which reveals a reducing trend of Actual data over a number of years only to see the Forecast data revealed as an ever increasing positive incline.

- If so, using what levers?
- If the approach is primarily price based, what are the wider implications for other stakeholders?
- Is cost effective?

And so forth. The case for investment should be able to answer such questions, and more.

It would also be reasonable to expect to have explained in the proposal why no further change (improved share) is expected or planned once the substantial capital investment is live post 2025.

The addition to the total waste level as a result of this assumption is circa 100 000 tpa, or circa 3 million tonnes in Business Case terms.

Overprovision - LAC C&I Waste

C&I waste data is an acknowledged black hole with industry commentators suggesting it should not be used for forecasting purposes. Such doubts are compounded by some of the NLWA's own assumptions.

Many trends will be impacting the volume of LAC C&I waste, eg costs to the waste producer, material intensification and better packaging techniques, digitisation of previously tangible materials and so forth.

- Such drivers may well be used to explain the actual tonnage reduction highlighted of 2006/7 (217k tonnes) falling to 2012/13 (102 k tonnes).

What is unspecified, and hence questionable, is the forecast doubling of this latter figure over the following six years before it is assumed to stabilise for the next two decades.

- As a result a fresh 100k tpa has been introduced into the waste mix with its implications for plant capacity. It is entirely reasonable to ask why.
- It is also reasonable to ask why if both the All London and NLWA C&I waste levels are assumed to be falling over the same six year period, why the LACW element of the NLWA sub Region is anticipated to show completely counter attributes and go on to double in volume.

Not only are NLWA assuming WCA's are going to collect such increased levels of waste; as is pointed out earlier, the NLWA's underlying strategy (assumption) to see a doubling in their take of C&I waste is without foundation. Just what is planned and how it will be undertaken to secure collection of the assumed higher levels is a mystery in the current proposal.

Such assumptions impact significantly on driving a higher ERF plant capacity – without apparent supporting justification.

Overprovision – OBC / Procurement Comparison

One item all parties now seem to agree on is the reduced expectation of waste levels both during and subsequent to the failed OBC / Procurement project. (see Chart 2.)

That the current capacity proposed to treat residual waste is larger than that proposed in the OBC is therefore surprising.

Overprovision / Underachievement Assumption

"Waste forecast for the future show that the amount of waste we create will increase in north London. We also need to divert waste currently sent to landfill. As a result, the proposed facility would need to manage up to 700,000 tonne a year at a peak, even if we reach our 50% recycling target." *(Author underlining.)*

Based on the 2051 expectation of 1,068,462 tonnes of waste, reaching the 50% recycling target suggests a need for a little over 500 000 tonne residual waste capacity – and only at that time.

- There is always the risk of exaggerating a chosen requirement, as another part of the documentation managed perfectly: "In north London only 32% of the waste from households in the area is reused, recycled or composted. This leaves 78% that must be disposed in some way."
    - Or 68% perhaps?

Note also the reference to "even if we reach our 50%" as if it is not expected to do so.

- Elsewhere the proposal states the position previously set, that "NLWA and the seven boroughs in the area have agreed a joint target for north London to aim for at least 50 per cent of its waste to be recycled by 2020". *(Author underlining.)*
    - Or a sub target 40% recycling level in 2051 on which the proposal actually rests.

NLWA management would appear to need greater focus.

Waste Forecasts - Viability

The waste forecast figures themselves used to underpin the proposal are suspect. It is difficult to imagine any author issuing a stronger set of worded guidance that the data are very soft and certainly should not be used for long term decision making.

Excerpts from such Eunomia's very strong warnings are highlighted in Addendum 1.

Or, as the NLWA's over-arching document alternatively chooses to put it, "The model was developed based on …. a robust analysis of historical trends and a robust set of assumptions about what will happen to these trends in the future."

- The NLWA statement, in seeking to turn water into wine, brings little confidence to their understanding of the more subtle aspects of the baseline work.

It is imperative that work is exhibited to show the implications if (when) this latest forecast is proven incorrect and what steps could be taken now, or planned as a future contingency, to mitigate the associated impact(s) on taxpayers.

Waste Forecast – Credibility

Recent data from the eight Partner Authorities plus the GLA / London Plan combine to indicate a possible 50% difference between highest and lowest forecasts in 2051.

Chart 3 repeats the Eunomia / NLWA and NLWP Partner "0.5%" growth scenarios previously revealed.

It additionally takes the bounding scenarios of NLWP(2) – "No Growth" and "Growth" – for LACW plus C&I waste from their consultants' derived Baseline data. These bounding scenarios are then adjusted with Eunomia / London Plan data to be revealed on an equivalence basis.

- This is achieved by stripping out the assumed fixed percentage element of the non LAC part of C&I waste (100 less 21.08%) of the total NLWA share of LAC C&I waste indicated in the London Plan forecasts.

- One consequence is the removal of the assumption of a NLWA C&I related growth spurt in waste in the earlier years of the plan

Of more importance is the 50% difference by 2051 revealed between the highest and lowest outcomes from the Waste Authority / Waste Collecting Authorities' consultants / London Plan / Eunomia data.

Whether it's the assumption of the 8 Partner Authorities, either from the 7 Partner Authorities, or that from NLWA / Eunomia; which is the better forecast is less important at this stage than looking to bet the house on only one of them without contemplating the implications on the proposal of the others (as a minimum).

Waste Forecasts – Volatility

Waste forecasts have been highly volatile over a very small number of years as Chart 2 reveals.

It reflects the significant swings in official Apportionment and NLWP / NLWA forecasts over the very recent past. On its own, and certainly when combined with Eunomia's powerful warnings on data integrity, it is sensible to ask if it suggests confidence in a present day c£0.5bn investment based on a three decade plus view of the expected future.

Waste Forecasts – Authenticating the Underlying Assumption of GDHI

After applying adjustments to ensure good fit with (limited) historic data, the sole waste forecast ultimately reverts to a direct, tempered, correlation with GDHI.

NLWA have claimed a linear relationship between waste produced and waste drivers which has eluded forecasting to date. Such a result is likely to be of interest to the wider waste industry.

The importance being placed on this linkage suggests that before any decision is taken NLWA should convince itself, and others, via equivalent regression / correlation studies between GDHI (or national equivalents) and waste levels in other parts of the UK, the EU and North America that such data is indeed viable.

Waste Forecasts – GDHI Economically

Eunomia, in commenting on waste forecasting, point out the risks associated with over-complicating matters with spurious levels of detail; the detail in this case is based on relatively high-level sampling and assumptions.

> With GDHI projected out to 2051 and then overlain with a Low Recycling assumption which stands unchanged for some two decades, the NLWA has chosen to do exactly this in choosing a unique view of 2051's household waste.
>
> - Far too much reliance has been placed on a single, naturally questionable, statistic subject to uncertain overlays to best fit what is undoubtedly a historically unique business cycle – still being played out with a very uncertain outlook - and then ultimately projected onward to determine plant capacity.
>
> The amount of household waste that arises in a year depends on economic, social and policy drivers, combined with behavioural factors, issues such as the absolute number and relative sizes of households plus their incumbent numbers to determine consumption and thereafter its linked recycling and disposal. The underlying model, after its early year's complication, takes a simplistic approach, assuming a single measure, GDHI, ultimately determines such household waste output. That is highly unlikely.
>
> - Over the long run GDP and consumption grow at about the same rate but over shorter term cycles, consumption expenditure fluctuates less than GDP. In essence, Eunomia have sought to approximate this latter trend through the 2008+ downturn /ongoing-recovery and project findings forward through a three decade period of steady growth. One approximation undoubtedly, but surely not the only one.
>
> - The long rise in asset prices—first of stocks, then of houses—raised consumers' net worth and made saving seem less necessary. And borrowing became easier, thanks

to financial innovation and lenders' relaxed underwriting. This itself was based on the supposedly reliable collateral of ever-more-valuable houses. Savings ratios fell as confidence increased, and with it the marginal rate of consumption moved.

- Then came a major economic collapse.

The cycle now is characterised by extraordinarily high levels of QE. Asset prices as a result are higher than would otherwise be expected; interest rates lower; inflation lower; confidence levels influenced; savings rates affected.

NLWA has to question if there really is sufficient confidence that tempered GDHI captures such issues, even in the short term, when economists have no idea how QE unwinding alone, one of several current macro geopolitical factors, will play out.

Risk Issues of a 700k tpa ERF Plant Proposal

Risk is being inbuilt, potentially considerable risk, with no counter position being exhibited.

By the analysis of strategic options and the considered financial benefit of say, two 350k vs two 300k vs two 250k tpa lines, or even a possible alternate of three smaller lines, each possibly time staggered to implementation need, risks need to be identified and costed.

Importing Feedstock

One risk of over-capacity is in requiring the importing of feedstock into the sub Region. Feedstock may not be available, or available at an acceptable price, or be subject to extended transport issues.

CV

A significant risk of a 350k tpa processing line being sought is that it requires only high relative calorific value (CV) feedstock to be viable.

This latter position becomes amplified in a period when EU wide recycling is expected to increase. This risks the further removal of higher CV items such as paper, card, textiles and plastics from the waste streams. In turn this risks a reduction in the overall CV. That is something which cannot be allowed to occur with the proposed lines.

Use of Residual Waste as Feedstock

One solution to maintaining required feedstock levels, experienced elsewhere in the UK, was to utilise recyclate to make up for shortfalls in residual waste.

- The earlier section, “Overprovision – A Strategic Choice”, highlights the unusually small growth in recyclate assumed over the period of the proposal.

A reader will be left to wonder if the need to maintain volumes and CV of residual waste is a reason why the high-capacity proposal is premised on a sub text of a low, sub-target, recycling level.

There is no risk assessment and financial implication of such reasonably likely and seemingly high risk scenarios. High probability / High Impact cells are exactly the scenario categories where risk analysis and any counter responses should focus.

Implications for Protected Waste-Allocated Land

Any overprovision in one waste plant will have implications for the total waste allocated land requirement being considered in parallel under the NLWP(2).

> NLWA's intention within the proposal is to retain the existing WTS's in Islington and Hendon. NLWP(2) has already indicated that the latter will close in 2020 and be replaced by an earmarked site within Barnet.
>
> Moreover, it will be impossible for NLWP (2) to make a reasoned and reasonable assessment of required land and ideal location(s) without clarity on waste processes planned in / outside of the new Edmonton site.

NLWP(2), as with this proposal, requires a clear waste resource strategy in place to be effectively developed.

Sustainable Transport

Sustainable Transport- Water

The NLJWS is extremely strong in its intent to utilise water based transport. This intent similarly permeated the NLWP. Cost, and a consideration of CO2e, being only one aspect of noxious air borne externalities, has seemingly brought this desire to early end.

> Particulates and Nitrous Oxides are claimed killers of many thousands of Londoners and impact the health of many more.
>
> - No assessment, or plans to minimise these externalities appear to have been considered.
>
> The assessment appears to have been at least partly based on the successful diversion of 700k tpa of waste from landfill and the resultant CO2e implications. However, as is stated, "the Authority is working towards sending no waste direct to landfill, and expects to be in this position before 2025".
>
> - With no waste to divert, the premise of such a calculation becomes dubious.
>
> The anticipated total waste arisings in the north London area for 2025/2026 are 822,384 tonnes, of which approximately 50% will be recycled – hence a suggested maximum 411k tpa would be available for landfill, a little over half the 700k figure
>
> Less than 200k actual residual LACW arisings were sent to landfill in 2012/13, again far below the 700k figure
>
> - The 700k diversion does not appear to be a calculable basis for valid comparison.

Capacity availability is not a valid CO2e opportunity proxy for calculation purposes; rather a full lifetime comparison of water borne costs versus alternates should be presented to determine the appropriate option(s). No such detail has been provided in the current data.

> - CO2e, particulate pollution impacts and all other externalities should be assessed in parallel in coming to any conclusion.

Without specifics of processes and locations, any road based comparator would be impossible to develop, less assess, as has apparently been undertaken in ruling out water as a valid full, or part, transport option.

Sustainable Transport- Rail

The alternative investment position to that now put forward for water was put forward by the NLWA in responding to the NLWP(2). This was that a rail-based sustainable transport option was promoted as future-desirable.

This was despite the acceptance of considerable investment being required to achieve it; no site having been identified; no rail line in mind, indeed nothing beyond a desire to be able to spend considerable sums on rail based transport at some future date.

- There is an apparent absence of rail in the current proposal.

Sustainable Transport - General

EcoPark is intended to provide a solution to the whole of north London's waste left over after recycling. This implies a significant transport issue as well as single hub point opportunity, or alternatively risk.

It would be appropriate to see a more detailed appraisal of the long running water borne trials and a greater capture of all related issues in assessing the means of sustainable transfer into and out of any proposed plants, Edmonton EcoPark and others planned as part of the required waste resource strategy.

London Plan Policy 5.17 suggests no less is required:–

Proposals for waste management should be evaluated against the following criteria:

"the full transport and environmental impact of all collection, transfer and disposal movements and, in particular, the scope to maximise the use of rail and water transport using the Blue Ribbon Network"

Air Pollution

The commitment of the NLWA to improving air quality in north London, in particular the management and technical stretch implied in saying that the new facility will set a benchmark for similar projects in the UK and across Europe, has to be welcomed.

When assessing air pollution impacts the proposal would therefore best be compared to the WHO derived levels which are based on being non-detrimental to public health rather than the less stringent EC / EU requirements quoted which are not necessarily health protecting but did to a EU wide political need.

Beyond the proposed plant, the impact on air pollution across the sub Region as a consequence of the full waste resource strategy implementation, to cover CO2e as well as harmful aspects such as particulates and nitrous oxides, should be identified, assessed and targeted to be reduced from present day levels as part of any implementation.

KB Jan 2015

Addendum 1

Eunomia's extreme reservations

Eunomia's extreme reservations concerning the usability of the data and their associated analysis as a basis for forecasting (and hence investment) could not realistically be any stronger:

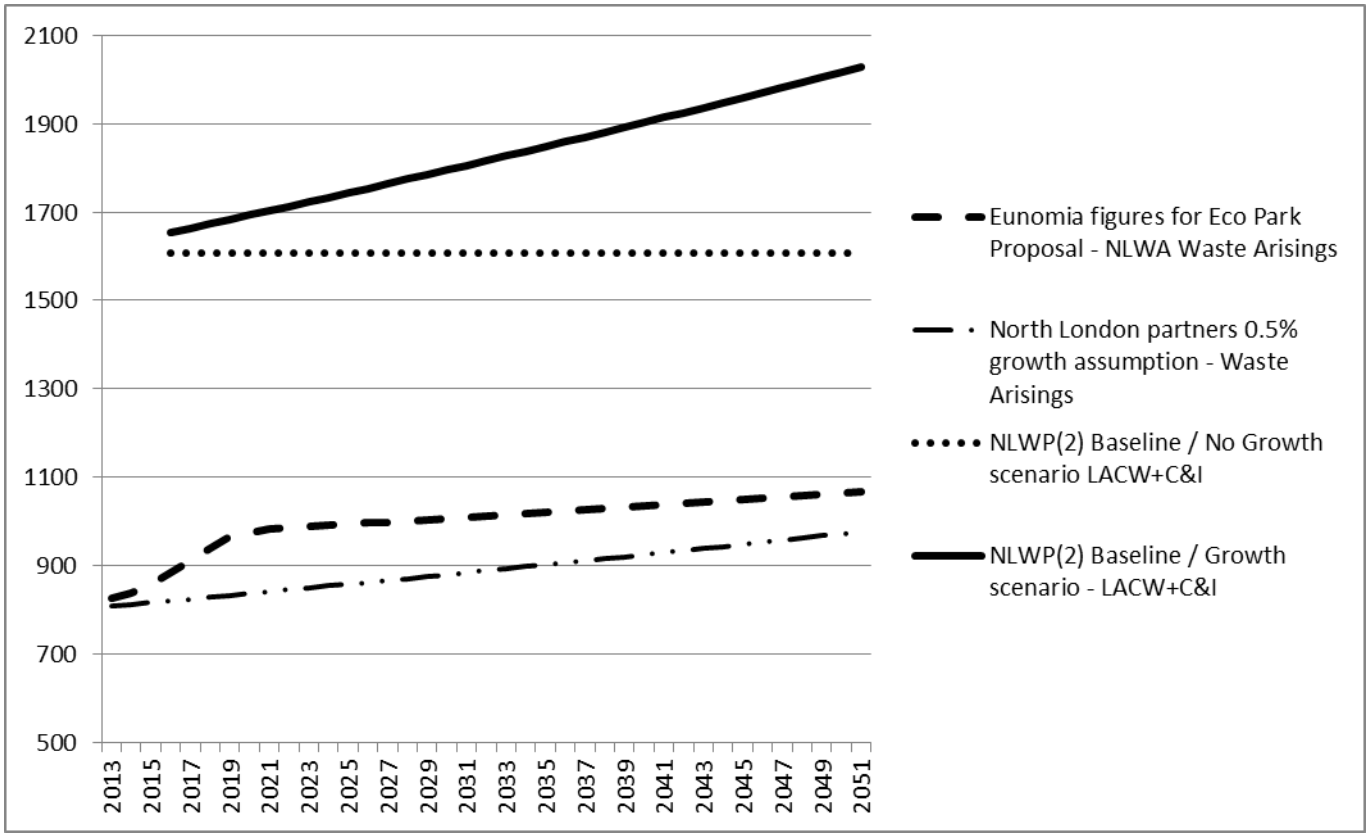
- *Providing forecasts of waste arisings for over thirty years in the future is extremely difficult … in essence it is unknowable*
- *It is worth re-emphasising, however, that given the paucity of historical data there is limited scope for making accurate predictions,*
- *We would not normally advise forecasting for more than a very small number of years into the future on this basis. The use of this type of analysis for long-term projections remains questionable and open to challenge*
- *One limitation of this type of analysis is the number of historical data points which are available*
- *Although the quality of data has been steadily improving since 2000 (although vagaries remain), the time series for the datasets used are relatively short and the quality of data in the early years is questionable.*
- *There is also a danger in over-complicating matters with spurious levels of detail; detail which in and of itself is based on relatively high-level sampling and assumptions.*
- *to account for what we would speculate is the cumulative effect of waste prevention and minimisation measures*
- *Forecasting C&I waste volumes for future years is notoriously difficult due to the distinct lack of data on historic and current volumes.*
- *the analysis of a number of alternative scenarios show that waste arisings could vary significantly depending on the assumption made*

Or as the main paper highlights, the NLWA conclude: "The model was developed based on …. a robust analysis of historical trends and a robust set of assumptions about what will happen to these trends in the future."

That requires some leap of imagination.

Chart 1

Recent Waste Forecasts from the Partner Authorities (000's tpa)



The lower curves eventually reveal relatively similar rates of waste growth. This compares the GDHI based forecast of NLWA /Eunomia with the Authorities 0.5%pa growth assumption.

The Eunomia curve reveals the expectation of a burst of waste generation in the latter part of this decade

The higher curves show the outliers of nine scenarios of the NLWP(2) projected out to 2051 at the rates applicable to 2031. This data additionally includes business waste which explains its higher volume. The uncertainty evident between a flat scenario and a growth scenario is clear.

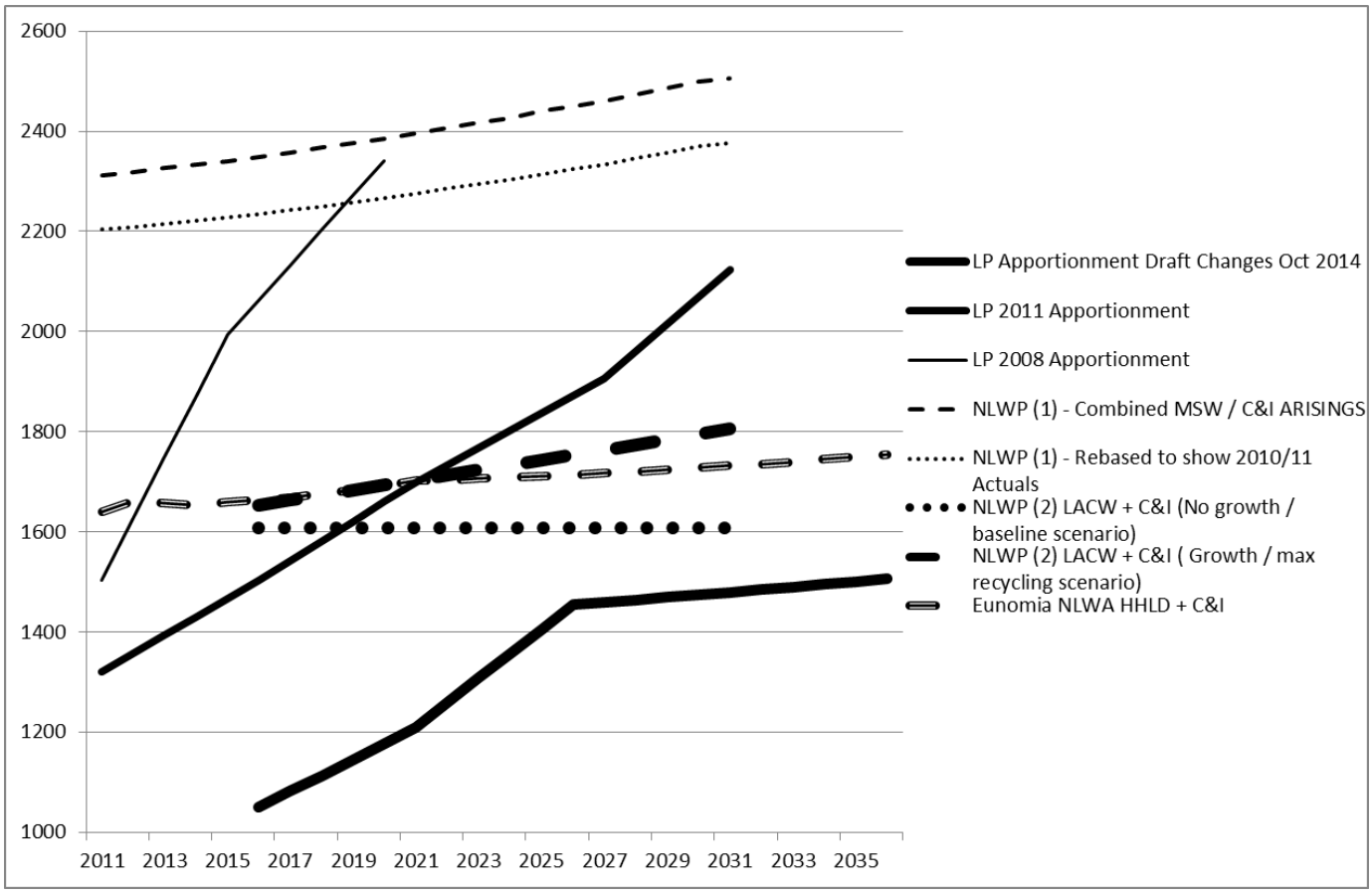
The differences in the rates of assumed growth between all four scenarios is evident.

There is no falling waste scenario.

Chart 2

London Plan Apportionment and North London Waste Plan: Changing Forecasts (000's tpa)

As time has moved on, waste forecasts have consistently fallen to reflect reality



The need to account for actual levels of ever falling waste in fresh forecasts as time has progressed is clearly revealed.

The three steeply sloping lines reveal how the constant fall in actual waste levels required changes to the absolute start point and future requirements of the London Apportionment. Over a brief number of years it can be seen that the expectation / requirement has moved from almost vertical (ie high growth) to towards horizontal (ie no growth) in gradient - an extraordinarily high level of change in planning assumption.

The top, near parallel curves shows the original waste forecast of NLWP(1) and how it was necessary to reduce it as Actual waste level data came forward.

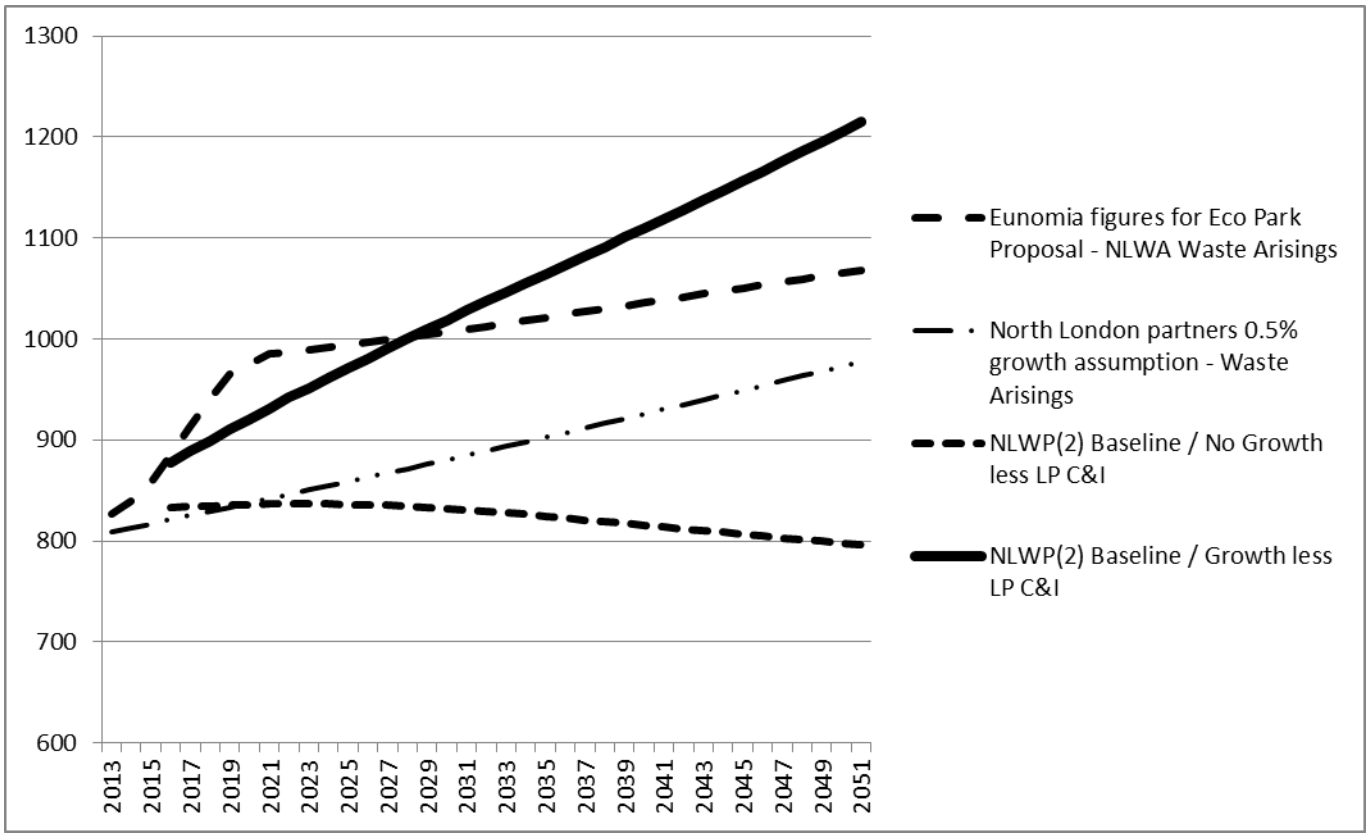
The fresh approach to NLWP(2), only a few years later, revealed in the central cone shaped curves reduces these earlier NLWP(1) forecasts – substantially. The difference between the highest and lowest forecasts of the NLWP is shown to be almost one million tonnes pa after only 15 years.

The NLWA / Eunomia forecast is shown only as far as 2036 in this chart.

Chart 3

Equivalent Forecasts Reveal the Risks and Difficulties of Accurate Modelling (000's tpa)

Same waste, 50% difference between highest and lowest by 2051



The central two curves repeat those seen in Chart 1.

The steep rising and falling outer curves reflect equivalent NLWP(2) forecasts extended out to 2051 based on continuation of the same rates of growth. The curves, seen in Chart 1 where they include LACW plus C&I waste, have been adjusted to remove the element of C&I waste highlighted in the Eunomia modelling data as not LAC.

The 2051 differences, being in the order of 50%, and hence the highlighted implications for ERF plant capacity if purchased now, are immense.

END

Appendix B

Further Issues raised from the Phase 1 Consultation Feedback Report May 2015

There are questions resulting from commentary in the feedback report. Some are possibly related to my own input, some to others. Due to the approach taken by the NLWA it is essentially impossible to tell.

(Numbers indicate the reference methodology used by the NLWA in the feedback report)

3. 4.35 States: The environmental impact assessment will assess the environmental effects associated with the scheme development including effects on air quality and odour (which will examine the impacts of the plant against UK and European Air Quality Standards that are largely based on WHO proposals)

> Question: Please supply details of the WHO's position on air pollution levels being non-detrimental to human health and show a comparison with the figures anticipated for the proposed plant.

----- 0 -----

3.4.35 States: Based on our assessment, we considered that an ERF is the most suitable technology to manage North London's residual waste.

> Question: Is this the same "we" who until recently argued powerfully that a SRF plant was the most suitable technology to manage London's residual waste?
>
> If so, what technological changes have occurred since late 2013 to have resulted in the altered view?
>
> If not, who does the "we" refer to?

----- 0 -----

3.4.35 States: "It is not practical to undertake climate change analysis on all alternatives."

> Question: Why not?
>
> Question: Would climate change not be expected to be one of a number of fundamental factors considered when coming to a balanced decision on what is the most appropriate technology, operational and spacial route to follow in dealing with North London's waste for the following three plus decades?
>
> > Note that G7 leaders no less at their most recent Berlin conference have placed climate change in the vanguard of their future actions.

----- 0 -----

3.5.13 Input by a consultee, welcomed by the NLWA, stated, “Support because more waste will be managed closer to source. This in turn would minimise travel.”

Question: Is the Authority able to produce data underpinning their support for this statement, particularly in the light of the planned overcapacity requiring imported waste from an identified 50 mile radius of the proposed new plant?

Does the “more” refer to a comparison with the present incinerator? If so could the supporting data comparison be supplied?

If the reference is to some other matter, could this be outlined?

----- 0 -----

3.5.17 “The need case is based on the central recycling scenario of 50%, which is considered to be an appropriate target for modelling purposes”

Follow on Question: Why does the UK’s second largest WDA and London’s largest WDA which represents roughly one quarter of London by population and land mass, not focus its future planning on achieving the Mayors long standing aspirational objective of achieving a 60% recycling level?

London Plan Policy 5.16 Part B section c (March 2015 FALP)

“……exceeding recycling/composting levels in local authority collected waste (LACW) of 45 per cent by 2015, 50 per cent by 2020 and aspiring to achieve 60 per cent by 2031.”

FALP Paragraph 5.70: “This performance level is supported by research undertaken by WRAP showing that 85 per cent of household waste is recyclable (including composting)”

A degree of management “ambition” in the three planned three decade period post 2020 would not seem amiss.

Why is there no aspiration within NLWA management?

----- 0 -----

3.5.17 A 50% recycling target is said to be “consistent with existing strategy”.

Question: Which existing – and agreed - strategy for the period of planned operation does this comment refer to?

Can the NLWA go on to highlight areas of conformity between the present proposal and this existing strategy?

Are there any conflicts or contradictions?

Reference can be made to the NLJWS (A Municipal Waste Strategy) p 86 – "It is important to note, as already mentioned, that the original four scenarios in the Strategy were not originally developed beyond 2020."

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3.5.20 States. To fail to plan for a facility of sufficient size to deal with the estimates of residual waste collected by the NLWA boroughs in the future would not be in the interests of the local community due to the risk that this waste would have to treated or diverted to landfill outside the area in contravention of the Mayor's plan for net self-sufficiency in the treatment of London's waste by 2026.

Question: would the NLWA agree that based on their own figures a smaller plant would satisfactorily satisfy this statement?

Question: what cost of risk has the NLWA calculated would apply for differing levels of diverted waste were there to be a capacity shortfall on a smaller plant?

Question: What probability of occurrence was assumed?

Question: How does this analysis compare with the calculated cost of the chosen option?

Question: the Mayor seeks achievement of the Apportionment to ensure Regional net self-sufficiency. Why has the NLWA planned to process more waste?

Question: FALP 5.79A "…expects that non apportioned waste will be exported." How have the NLWA determined their desired approach to build in (significant and permanent) overcapacity to the extent that waste is fully anticipated to be imported, contrary to London's self-sufficiency Apportionment levels, and which would appear to stand in direct contradiction to FALP?

Question: what is the cost to local taxpayers as a consequence of this FALP denying approach?

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3.5.24 Question point raised during Phase 1 Consultation: It is not clear how the proposal has been formally assessed by the partner authorities.

Answer supplied: Decisions are made by NLWA which is made up of 14 councillors, two from each of the seven constituent boroughs.

Comment: As the NLWA will know from its Standing Orders these 14 Councillors are from but do not represent the seven host Councils when addressing NLWA business.

The original question remains to be answered.

Answer supplied: In developing this scheme, NLWA has been working with the seven boroughs as its partners.

Comment and Question: working with WCA's in a unified strategy is sensible and one crucial part of a future approach to waste resource management. How and under what grouping and procedural arrangements has the NLWA been working with the partner authorities - as is highlighted - to develop and agree the current proposal?

The NLWA is pointed towards the NLJWS and its working requirements between the 8 Partner Authorities.

The approach to waste in North London is subject to a formal, agreed position between the eight partner Authorities. It is unclear how the current proposal has been formally assessed by the partner authorities.

The original question remains unaddressed.

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3.5.29 States that, "..should there be spare capacity"

Comment: The proposal at Phase 2 stage is very clear in that (permanent) overcapacity is built in and is expected to occur at considerable levels - well into double digit percentages - from 2025 to as far ahead as 2051 (and reasonably assumed beyond that date based on supplied trends).

Question: has anything changed in the underlying forecasts between Phase 1 and Phase 2 stages to account for this change of position?

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3.5.30 Answer, "Based on our assessment the ERF is the optimum size taking into account the forecast waste arisings and NLWA's obligation to put in place arrangements to deal with residual waste collected in its area without being able to be certain about how much there would be."

Please supply the alternatives and supporting calculations made to support the statement of optimum size. In particular any alternative sizes with their associated costed risk, and any models based on duration based capacity changes, again costed for risk. This is particularly important in the light of the stated uncertainty made about future waste levels both here, in other paperwork, as well as by the supporting consultants.

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3.5.36 States: The NLWA's Outline Business Case (OBC) identified ERF/EFW as the most cost effective option for the treatment of North London's residual waste.

Can this statement be referenced?

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3.9.9 States: We agree that communication and transparency are important.

Question: Are there any reasons for, or instances of the NLWA being other than fully transparent?

END