

NORTH LONDON WASTE AUTHORITY

REPORT TITLE: APPROACH TO DIGITAL, DATA AND TECHNOLOGY

REPORT OF: DIRECTOR OF CORPORATE SERVICES

FOR SUBMISSION TO: AUTHORITY MEETING


DATE: 25 APRIL 2024

SUMMARY OF REPORT:

This report provides an overview on the Authority's approach to digital, data and technology and the initiatives being delivered.

RECOMMENDATIONS:

The Authority is recommended to note this report.

SIGNED:  Director of Corporate Services

DATE: 15 April 2024

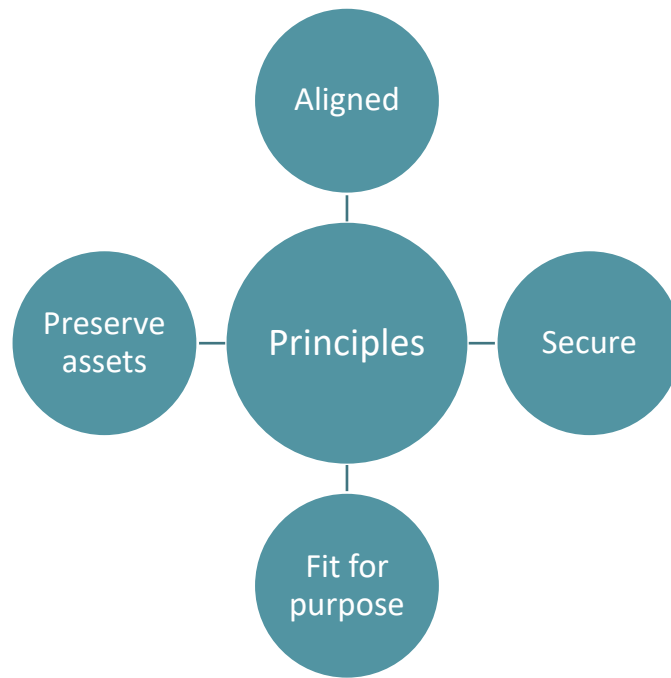
1. INTRODUCTION

- 1.1. 2024 is a year of profound change for the Authority and its operations. It is beginning a journey towards a data-driven future which will radically change how it manages its operations. The Authority is also taking ownership of its first asset – the Resource Recovery Facility – delivered by the North London Heat and Power Project (NLHPP).
- 1.2. The Authority needs to be a technology-enabled organisation. Officers are working to upgrade its software and processes, as well as enabling its staff to ensure its organisation is fit for the future. Furthermore, officers are embracing change at an institutional level. Every part of the organisation must be able to produce and consume data – and then make decisions based on evidence, not assumptions. The Authority also needs to be able to be flexible and collaborative across institutional boundaries.
- 1.3. Officers anticipate that improved data will help the Authority better forecast its cost requirements. Defra's funding related to new regulatory requirements will depend on regional demographics and the evidence the Authority can present using its data. Provision of clear supporting data will put the Authority in a better position to get more from schemes like Extended Producer Responsibility¹.
- 1.4. Modern software and technology approaches will enhance the Authority's work. It will need to have software which can produce data to set expectations with regulators and the government. This will require investment in anticipation of future changes. By avoiding a "big bang" change, the Authority can incrementally adapt to the future and ensure staff feel supported.
- 1.5. This report sets out the key principles and scope that will take NLWA into a data-driven world, and the ongoing efforts to change our ways of working. They are necessary if we are to meet the challenges of the future.

2. STRATEGIC PRINCIPLES

- 2.1. The Authority's approach follows core strategic principles which drive officers' approach to technology. The strategic principles are:

¹ Information available at: <https://www.gov.uk/guidance/extended-producer-responsibility-for-packaging-who-is-affected-and-what-to-do>

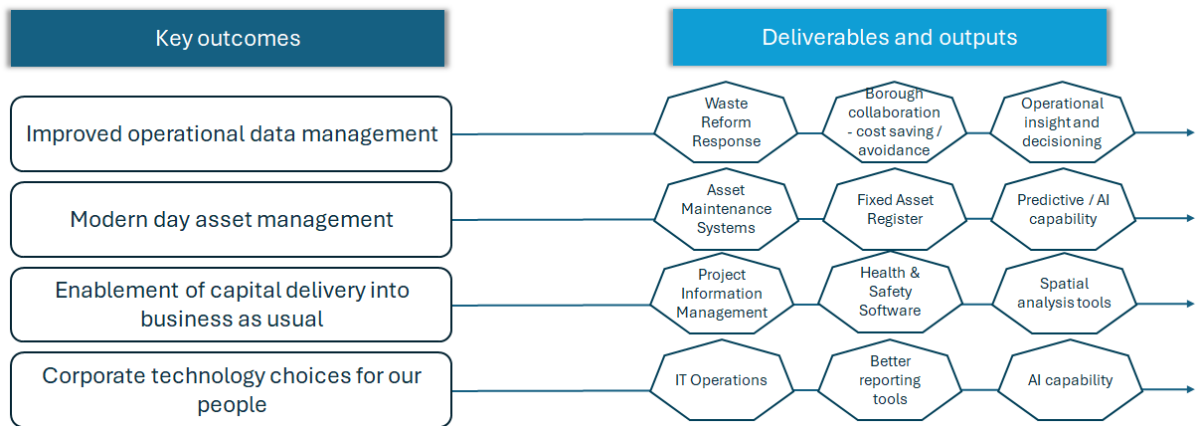


- 2.2. **Aligned:** The Authority has multiple partners like LondonEnergy Limited (LEL) – its wholly owned subsidiary – and constituent boroughs. It is imperative that the Authority’s technology choices allow it to work as smoothly as possible across boundaries. This will become increasingly important as the Energy Recovery Facility (ERF) comes online to ensure the Authority can maximise the longevity of its investment. It will need to understand through data how the ERF is performing, its long-term costs and maintenance trends.
- 2.3. **Secure:** The Authority and LEL must deal with cybersecurity as a real possibility. An attack on power generation is not out of the ordinary today. There is a cost to implementing an appropriate level of cybersecurity, although it is expected to be substantially less than the cost of dealing with a successful attack. As well as the monetary cost from repairing and restoring systems, there is a reputational cost if the Authority is seen as incapable or incompetent. New software will come online as part of the ERF and there will be rigorous due diligence in relation to security issues. Some of this will mean undergoing regular upgrades in the future as new vulnerabilities are found.
- 2.4. **Fit for purpose, flexible, and future-proof:** It is not known what technology will be available to the Authority in the future. International standards may change, regulations will evolve, and expectations of staff and stakeholders are expected to be higher. With that in mind, the Authority’s approach to technology must be flexible enough to meet future requirements. When regulations change, including upcoming waste reforms such as the Emissions Trading Scheme, the Authority will have to ensure that it has the technological capability to adapt.
- 2.5. **Preserve assets for the future:** The Authority is building new assets that will last for generations. Its focus must be on ensuring these assets remain in good working

order. As the Authority gets more data on operational issues, maintenance issues and security flaws, LEL will begin to perform predictive maintenance. The use of data and artificial intelligence (AI) will allow officers and LEL to address problems before they arise. The Authority’s data analytics will enable it – and future generations – to have a corpus of operational data which can be used to model the operation of all its strategic assets.

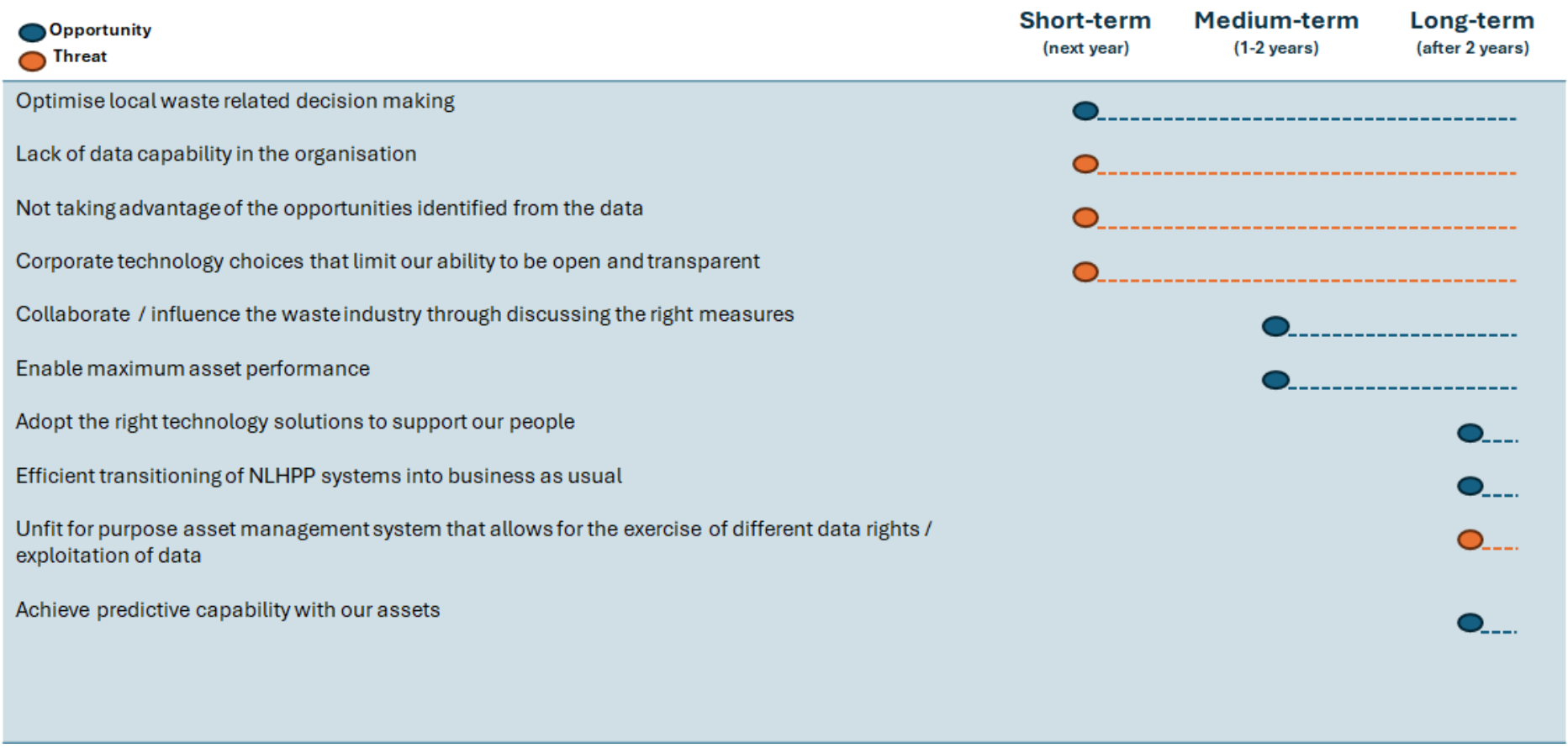
3. KEY OUTCOMES, DELIVERABLES AND OUTPUTS

- 3.1. Officers have scoped out the key outcomes, deliverables and outputs required to become a technology-enabled organisation and are progressing these outcomes with different levels of maturity.
- 3.2. The following is what is proposed as our approach to digital, data and technology.



4. KEY RISKS

- 4.1. Officers have identified the following key opportunities and threats in the short, medium and long term.

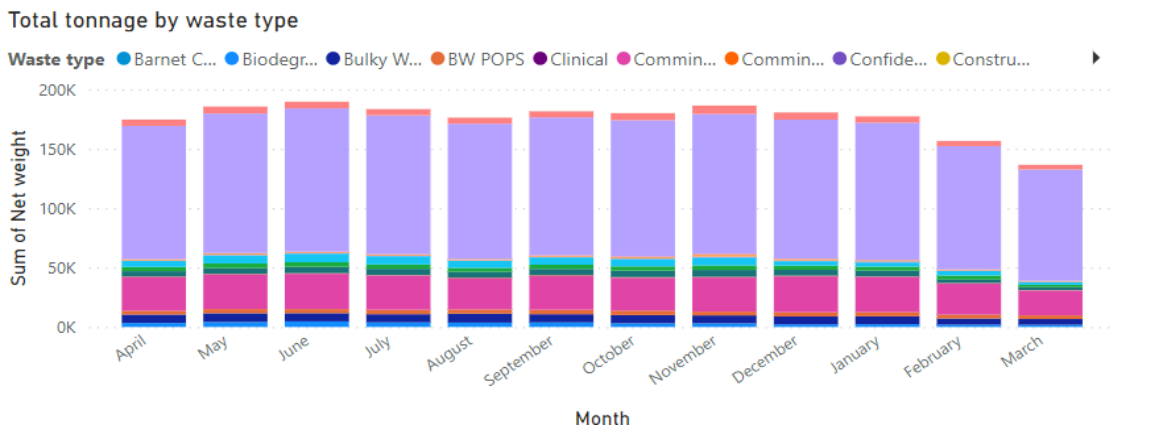
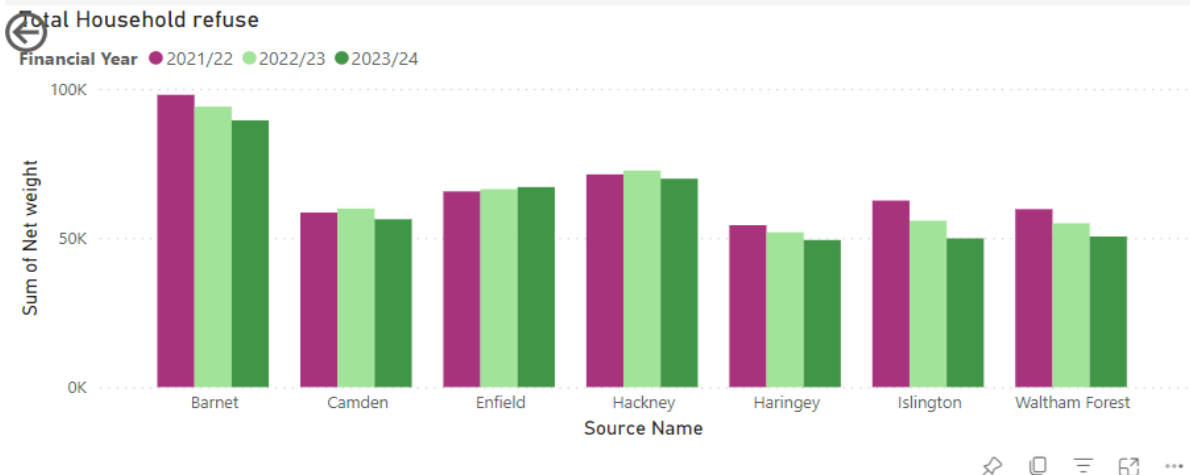


● Opportunity
● Threat

5. IMPROVING OPERATIONAL DATA MANAGEMENT AND SYSTEMS

- 5.1. The key strategic aim of upgrading the Authority's Waste Data Management System (WDMS) was to have data with a high degree of accuracy available consistently to the constituent boroughs. By providing high-quality, automated and timely data to the boroughs, the Authority can enhance waste-related decision making.
- 5.2. The Authority has already accumulated 10 years of historic waste data. This enables the Authority to take advantage of future developments in AI and machine learning to increasing its understanding of how the environment has changed, and help predict what changes are in store.
- 5.3. To create automated pipelines and visualisations, officers are integrating Microsoft Power BI and creating interactive dashboards which display data in an easy-to-understand manner. The operating system will mean reduced human error.
- 5.4. Officers will work with the Authority's Information Technology (IT) partners, Haringey Council, to better communicate its operational data on Power BI. The goal is for stakeholders to have a live view, allowing boroughs to make better waste-related local decisions and giving them the capability to become more responsive to local needs.

Example Graphs and Dashboard items



All residual - by borough

Financial Year	April	May	June	July	August	September	October	November	December	January	February	March
2023/24	43,368.54	48,882.90	47,815.91	46,095.75	46,048.75	45,682.32	47,509.63	47,398.90	46,958.99	47,498.05	40,761.66	16,000.00
Barnet	8,170.09	9,335.87	9,147.67	8,690.30	8,719.34	8,716.95	8,776.77	8,973.79	8,556.36	9,230.91	8,199.38	
Camden	5,271.85	6,002.49	5,970.26	5,943.37	5,737.44	5,788.36	5,981.30	6,031.75	5,948.46	5,548.14	5,264.82	
Enfield	7,021.38	8,149.85	7,727.71	7,625.32	7,646.90	7,342.80	7,890.20	7,554.16	7,825.24	8,078.99	6,328.80	
Hackney	6,851.12	7,435.58	7,348.24	7,127.88	6,982.34	7,009.18	7,328.49	7,168.00	7,235.43	7,133.10	6,614.27	
Haringey	5,611.63	6,059.51	6,153.80	5,729.55	5,649.51	5,826.88	5,994.38	5,930.15	5,906.32	5,815.20	4,627.93	
Islington	5,218.00	5,858.25	5,808.47	5,619.36	5,614.93	5,619.16	5,904.51	6,230.77	5,978.69	5,792.59	5,048.08	
Waltham Forest	5,224.46	6,041.35	5,659.76	5,359.97	5,698.29	5,378.98	5,633.97	5,510.28	5,508.49	5,899.12	4,678.38	
Total	43,368.54	48,882.90	47,815.91	46,095.75	46,048.75	45,682.32	47,509.63	47,398.90	46,958.99	47,498.05	40,761.66	16,000.00

Financial Year: 2023/24

- Select all
- 2023/24
- 2022/23
- 2021/22
- 2020/21
- 2019/20
- 2018/19



6. MODERN DAY ASSET MANAGEMENT

6.1. The Computerised Maintenance Management System (CMMS) is a suite of tools which allow for the more efficient management of the new ERF, through capturing maintenance and repairs data. This will initially allow officers and LEL to track the maintenance of all the Authority's assets, from boilers to solar panels to doors, and

ensure that they are being serviced when required, faults and repairs are logged, and that LEL's staff are performing their duties to the highest standards.

- 6.2. The CMMS will help the Authority and LEL move to a more automated and preventative way of working. By creating a virtual copy of the Authority's assets, officers will be able to achieve a holistic view of what has been done, what needs to be done and what problems may occur in the future. The CMMS is a key part of the Authority's strategy and will revolutionise the way officers and LEL use digital and data to manage the new assets delivered by the NLHPP.
- 6.3. The CMMS will be delivered by Acciona as part of their contractual obligations. However, the Authority's officers and LEL's staff are working together to ensure Acciona understands the user needs and have embedded those needs in the design of the CMMS – especially in relation to security and integration with LEL's systems. Understanding and mitigating security threats will be ongoing work and a new security governance framework will be developed as we progress with the ERF build.
- 6.4. We have invested in a new Fixed Asset Register to ensure accurate and efficient financial accounting, which includes an automated process to capture changes to the assets.

7. ENABLEMENT OF CAPITAL DELIVERY INTO BUSINESS AS USUAL

- 7.1. The Authority has a responsibility to spend its budget wisely, which requires the software used on the NLHPP to appropriately enable delivery all the way into transitioning into business as usual.
- 7.2. Officers expect that the eight key software products in use on the NLHPP will ultimately be retired. Their intention is to keep all the data they have generated and ensure that it is available if required. This will become part of the Authority's long-term data governance process across the Authority and LEL. It is important that all of this data is accessible to anyone who needs it. A historic library of data is just as valuable as recent and real-time data sources. For example, a Building Information Modelling (BIM) visual of an asset during construction would aid asset maintenance and replacement in the future, after delivery of the NLHPP.
- 7.3. It is important to realise that the Authority's approach is not new and untested. The continual iteration and improvement of technical systems is a key part of other major organisations like the UK's National Policing Digital Strategy² and the NHS

² Information available at: <https://pds.police.uk/wp-content/uploads/2020/01/National-Policing-Digital-Strategy-2020-2030.pdf>

Digital Strategy³. Officers are following the tried and tested practices of the Authority's peers in government.

8. CORPORATE TECHNOLOGY CHOICES

- 8.1. The Authority has a diverse and complex set of corporate needs. It needs to respect that each organisation has different goals and constraints – therefore there will always be interface issues with partnering organisations.
- 8.2. While NLWA's officers are employed by Camden Council and use Camden's purchase to pay and accounting systems, the majority of NLWA's IT supplies and services comes from Haringey Council (for example, Office 365, Power BI, Azure hosting). This means that the Authority has multi-organisation challenges with its IT infrastructure.
- 8.3. Appropriate collaboration will be the solution to achieving a successful IT infrastructure for the Authority. By leveraging the experience in all the Authority's partner organisations, officers will be able to share the knowledge required to adopt the best-of-breed systems. The Authority has agreed, understood and documented service arrangements with both Haringey and Camden.
- 8.4. It is also important for the Authority to be open to change. The corporate technology choice for the Authority will be partly dependent on its corporate accommodation review. The physical location of the Authority's offices and IT infrastructure provision will help determine who is best placed to provide future services to the Authority.
- 8.5. One of the Authority's strategic principles is "Fit for purpose, flexible, and future-proof". Officers intend to reflect this in the technologies chosen. This is important to enable a collaborative and open way of working, with many stakeholders both inside and outside the Authority. The Authority's technology choices need to enable that way of working.

9. INITIATIVES TAKEN

- 9.1. Officers have already made progress to make this approach a reality. They have:
 - 9.1.1. Upgraded the Waste Data Management System and hired a dedicated product manager to iterate it and ensure its data integrity long into the future.
 - 9.1.2. Enabled Power BI through working with Haringey Council. Automated and visualised data to then help establish key insights in due course.

³ Information available at: <https://transform.england.nhs.uk/digitise-connect-transform/our-strategy-to-digitise-connect-and-transform/>

- 9.1.3. Established a joint digital strategy with LEL to enable better coordination across data, security and technology.
- 9.1.4. Initiated an accommodation review, which will also consider the Authority's technology options.
- 9.1.5. Integrated the Digital and Information Management teams and functions from the NLHPP into the Authority, enabling officers to efficiently enable the delivery of the NLHPP all the way into business as usual.
- 9.1.6. Procured a Fixed Asset Register system as EcoPark South facilities come into operation.
- 9.1.7. Consulted with other waste authorities on their approaches to data and technology, building better understanding of the waste sector through future consideration of better operational waste metrics for London and beyond.

10. EQUALITIES IMPLICATIONS

- 10.1. When choosing and configuring digital products and services, officers endeavour to make them as accessible as possible, for example following the Web Content Accessibility Guidelines as published by the World Wide Web Consortium⁴.

11. COMMENTS OF THE LEGAL ADVISER

- 11.1. The Legal Adviser has been consulted in the preparation of this report and comments have been incorporated.

12. COMMENTS OF THE FINANCIAL ADVISER

- 12.1. The Financial Adviser has been consulted in the preparation of this report and comments have been incorporated.

List of documents used:

None

⁴ Information available at: <https://www.w3.org/WAI/standards-guidelines/wcag/>

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