

NORTH LONDON WASTE AUTHORITY

REPORT TITLE: APPROACH TO DIGITAL, DATA AND TECHNOLOGY

REPORT OF: DIRECTOR OF CORPORATE SERVICES

FOR SUBMISSION TO: AUTHORITY MEETING

DATE: 4 DECEMBER 2025


SUMMARY OF REPORT:

This report provides an overview of the Authority's approach to digital, data and technology workstreams being delivered alongside future initiatives. It includes progress updates on financial reporting and asset register implementation, the transition of NLWA's managed IT services from the London Borough of Haringey to LondonEnergy Ltd and previews of future opportunities in the transformation pipeline such as the Artificial Intelligence (AI) strategy and use cases.

RECOMMENDATIONS:

The Authority is recommended to:

- A. Note the content of this report.
- B. Approve a two-year programme, with spend up to £450K to build an AI enabled mobile phone app for residents to contribute with other initiatives to improving recycling rates

SIGNED:  Director of Corporate Services

DATE: 24 November 2025

1. INTRODUCTION

- 1.1. Officers have continued to deliver to the plan outlined at the April 2025 Authority meeting. Key achievements include the ongoing delivery of waste data reporting and steady progress on the transition of NLWA's IT services from the London Borough of (LB) Haringey to LondonEnergy Ltd (LEL).
- 1.2. To support the Authority's financial reporting and auditing requirements, a workshop was held to align people and processes for the implementation of the fixed asset register. This marks a significant step toward improving financial data governance and transparency.
- 1.3. Looking ahead, 2026 is set to be an important year, with several technology-driven innovations planned across the Authority's operations. Since strengthening the priority of being a data-driven organisation, officers have launched a range of initiatives to strengthen its data strategy and governance. While acknowledging the promise as well as the limitations of using Artificial Intelligence (AI), officers aim to harness AI to enhance productivity and embed data-driven decision-making across its operations.
- 1.4. Officers are evaluating multiple initiatives for feasibility and value including tools to improve back-office efficiency; enhanced forecasting and predictive capabilities for North London Heat and Power Project (NLHPP); and a potential resident-facing app. These initiatives are underpinned by the need for clear data governance and strategy initiatives by collaborating with multiple stakeholders to ensure confidence in accuracy of data.
- 1.5. Officers continue to work closely with borough officers on waste data management and operational alignment. Collaboration with LEL remains central to ensuring consistent data governance, stewardship and quality especially as LEL has operational responsibility for EcoPark South. Harmonisation of data across the two organisations is essential for future projects including the new Energy Recovery Facility as part of the NLHPP delivery.
- 1.6. This report provides an update of current workstreams and sets out potential future initiatives for the current digital transformation pipeline.

2. STRATEGIC PRINCIPLES

2.1. The Authority's approach follows four core strategic principles.

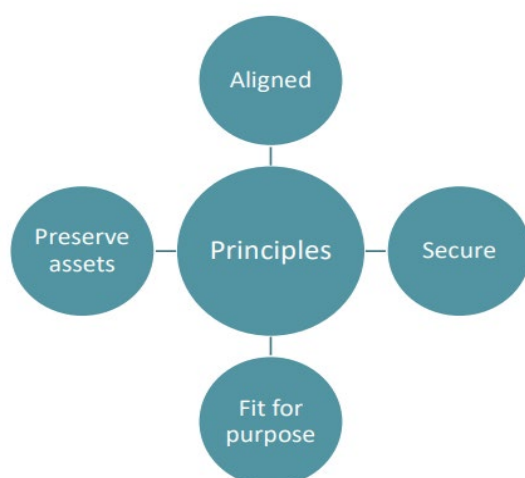


Table 1: The Authority's strategic principles and examples of work undertaken

Principle	Description	Examples of work
Aligned	The Authority's technology choices must allow it to work smoothly across organisational boundaries, for example with LEL and officers from the seven north London boroughs.	<ul style="list-style-type: none">• Waste tonnage data dashboards for Authority and borough officers• Gateway for automated dashboard refreshes
Secure	The Authority and LEL must treat cybersecurity incidents as a real possibility and take proactive measures to mitigate the operational, financial and reputational risks associated with a successful attack.	<ul style="list-style-type: none">• Continued alignment with LEL on governance in relation to security
Fit for purpose, flexible and future-proof	The Authority's technology must enable it to deliver its core functions and strategic objectives. The Authority must also have the capability to engage with the opportunities presented by future technologies as well as challenges from regulatory changes and the evolving needs of its stakeholders.	<ul style="list-style-type: none">• Transition of managed IT services from LB Haringey to LEL• Consideration of potential use cases for AI
Preserve assets for the future	The Authority must ensure that the new assets it is building through the NLHPP remain in good working order to deliver benefits to the residents of north London for as long as possible.	<ul style="list-style-type: none">• Work with LEL and the contractor for the energy recovery facility on the tools and data standards needed for management of asset data

3. KEY OUTCOMES, DELIVERABLES AND OUTPUTS

3.1. The previous report detailed outcomes across the following areas:

Outcome	Deliverables and outputs
Improving operational data management and systems	Data gateway set-up for direct connection between our waste data system and Power BI dashboards for automated refresh
Data for modern day asset management	Asset financial management system configured and ready to go live in Quarter 4
Enablement of the NLHPP capital delivery	Programme Insight Manager (PIM) already set up for cost, risk and change management. Configuration done to include schedule information to provide single source of truth across the programme
Corporate technology choices	Transition of corporate IT from LB Haringey to LEL on schedule for delivery in Quarter 4. This will provide the Authority the flexibility to deliver technology solutions to its wider stakeholder base.

3.2. The following sections give an overview of activity in these areas, including achievements to date and current and future work. It also includes a new section on the work being undertaken to assess use cases for AI.

4. IMPROVING OPERATIONAL DATA MANAGEMENT AND SYSTEMS

- 4.1. Data on the waste operations of the seven north London boroughs and the Authority is collated and shared using a set of reporting dashboards. These dashboards are an important source of data for borough and Authority decision making, financial processes and reporting, including statutory reports to the government on waste treatment.
- 4.2. Having delivered the first iterations of the dashboards, officers are beginning work on enhancements to improve their stability and performance. This includes optimisations for more efficient drawdowns of data from the Authority's waste data management system and resolution of issues caused by edge cases.
- 4.3. Officers from the Authority and LB Haringey have also been working together to deliver a solution to automate the process of refreshing the dashboards with up-to-date data. These refreshes have to date been a manual process. Automating them will allow them to happen more regularly, meaning updates to the data will be reflected on the dashboards more quickly.

5. DATA FOR MODERN DAY ASSET MANAGEMENT

- 5.1. Last year the Authority took ownership of new waste management facilities at the Edmonton EcoPark, including a new Resource Recovery Facility (RRF) and EcoPark House.

- 5.2. The Authority received asset data from the principal contractor (Taylor Woodrow) for the facilities, which adhere to the Authority's asset data standard. To enable financial reporting on the Authority's new facilities, officers are implementing the fixed asset register system.

6. ENABLEMENT OF NLHPP CAPITAL DELIVERY

- 6.1. The NLHPP's primary focus this year has been on contractual discussions on the Energy Recovery Facility's (ERF) delivery. Officers have continued to update product strategies and implement incremental improvements across the tools. These enhancements are positioning the Authority well to reflect any agreed programme and effectively track progress against it.
- 6.2. The NLHPP's programme data tool, PIM (Programme Insights Manager), combines data for cost, schedule and risk, serving as the single source of truth. It is also used for change management.
- 6.3. Officers have continued to improve the NLHPP information management arrangements working closely with users. Introducing automated Power BI solutions has been particularly beneficial and efficient.

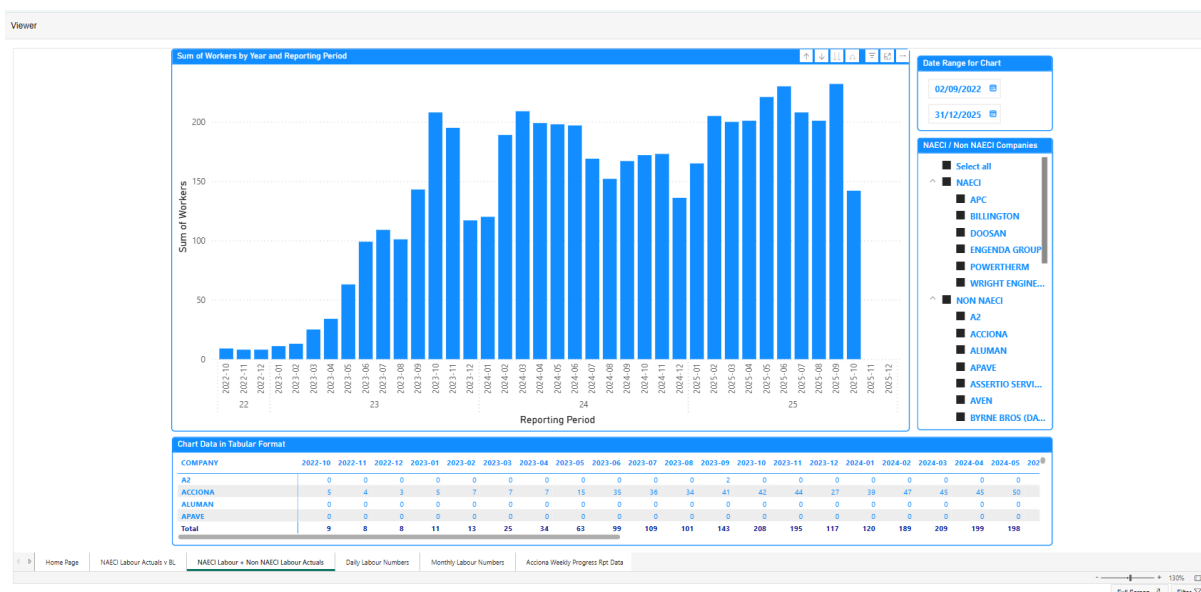


Figure 1: A tab of the onsite labour dashboard hosted on PIM

- 6.4. Officers are supporting users to complete user acceptance testing of the schedule data from an external system to PIM. Upon completion, it will streamline the process of ingesting and reporting on schedule data and remove reliance on the 3rd party system.
- 6.5. Officers are currently exploring a digital mapping site tool for NLHPP. The tool will support visual documentation, BIM integration, and long-term data access, aligning with Building Safety Act requirements and broader project assurance needs.

7. CORPORATE TECHNOLOGY CHOICES

- 7.1. At the Authority meeting in April 2025, Members agreed that the Authority would transition away from LB Haringey as its supplier of managed IT services in favour of having the services provided by LEL. Doing so will enable the Authority to establish systems and policies that are fit for the Authority's needs without adding unwanted complexity to LB Haringey's administration of its own infrastructure.
- 7.2. The transition project was commenced in May, when the Authority served a one-year notice on LB Haringey in line with the service agreement. Officers at NLWA and LB Haringey have since been working closely together to map out the systems, services and data that will be migrated. This work is substantially completed and has given officers a clearer understanding of the scope of the transition.
- 7.3. This scope has provided the foundation for officers to engage third-party suppliers that specialise in data migrations between instances of Microsoft infrastructure. The use of such a supplier will help to de-risk the transition, which is planned to take place in the second half of February 2026. The timing of the transition will allow for detailed planning of the transition activities, as well as reducing disruption by scheduling it after the Authority's yearly budgeting processes and shortly before the pre-election period.
- 7.4. Officers are also working with colleagues from LEL to develop the approach to the transition as well as a service agreement that will be used to manage the services on the other side of it. Haringey uses cloud-based infrastructure provided by Microsoft, and officers plan to establish the Authority's own infrastructure using the same services so they can transition to a like-for-like environment. The new infrastructure will be managed on the Authority's behalf by LEL.

8. ARTIFICIAL INTELLIGENCE (AI)

- 8.1. Recent advances in generative AI based on large language models have prompted officers to explore potential applications across key areas of the Authority's work. Officers are also drafting an AI Strategy which would be kicked off upon completion of the organisation's IT transition to LEL.
- 8.2. The strategy builds on the progress made in 2024 on the Authority's digital transformation, including the integration of Waste Data Management System (WDMS) data and the development of Power BI dashboards for enhanced reporting. It supports smarter, data-driven decision-making across NLWA, LEL, and NLHPP, ensuring that insights are accessible and actionable. Furthermore, the approach aligns with NLWA's IT principles, reinforcing consistency, transparency, and strategic use of technology across the organisation.

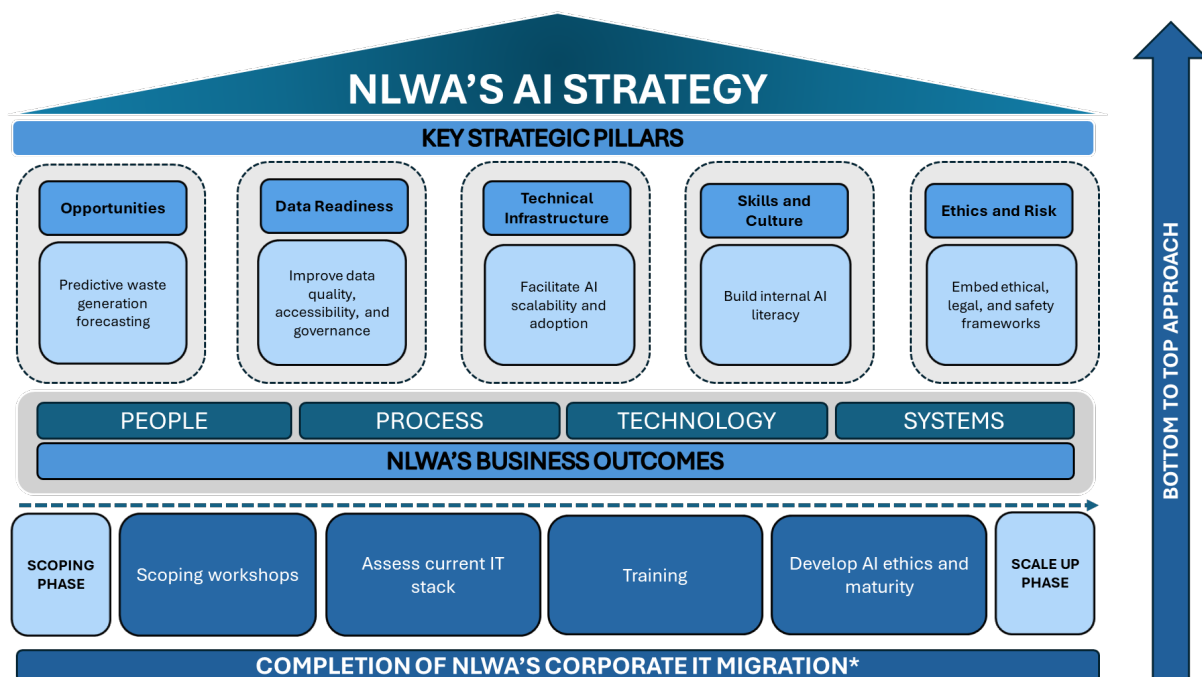


Figure 2: NLWA's Approach to AI

- 8.3. While AI is an exciting technology full of promise, officers are also cognizant of the fact that it is still new, formative and evolving. The strategy aims to exploit the benefits promise while being careful and cautious of the hype and making sure that the Authority gets substantive and sustainable benefits. To that end, the Authority's AI strategy is built on the following pillars:
- 8.3.1. Opportunities – Officers will look for opportunities where AI can add value to its organisational goals of circular economy, service delivery, decision making and/ or corporate excellence.
 - 8.3.2. Data readiness – At its heart, AI is about data. A successful AI model is dependent on a large amount of high-quality data. Improving data quality, accessibility and governance is, therefore, a core principle of the strategy.
 - 8.3.3. Technical infrastructure – Officers will look to exploit cloud-based infrastructure for its scalability and lower set-up costs.
 - 8.3.4. Skills and culture – Having a skillset of AI literacy spread broadly across officers will help ensure the Authority gets the full benefits from this technology. Officers will create training and communication, so the knowledge becomes embedded in the Authority.
 - 8.3.5. Ethics and Risk – AI model outputs are driven by the data they get trained on. There is a risk of bias, inaccuracies and ethical challenges if the AI model has not been trained on the right data set, or with the right

parameters. Officers consider it a key pillar to ensure that AI can deliver value within ethical, legal and safety frameworks.

8.4. Possible applications for AI include:

- 8.4.1. modelling waste data alongside other available data to surface less obvious trends, which could enhance forecasting accuracy and support more responsive service planning
- 8.4.2. improving resident engagement through education tools that help households better understand what materials can be recycled
- 8.4.3. improving the efficiency of construction progress tracking and project controls for the NLHPP.

8.5. Officers will report further on how AI could enhance the Authority's services at future meetings.

9. EPR – DRIVING THE CIRCULAR ECONOMY

9.1. Officers have identified digital solutions to help drive the circular economy. This is complementary to initiatives set out in the parallel paper to this meeting. The objective of this initiative is to nudge residents' behaviour towards increasing recycling.

- 9.1.1. 96% of UK population now have a mobile device. Officers plan to create a mobile device interface to engage with those residents that predominantly use mobile devices
- 9.1.2. In addition to static information about recycling, it would also have dynamic content like dashboards with recycling rates to help drive engagement and improve recycling rates
- 9.1.3. The system would use advanced AI technology to answer user queries on whether an item can be recycled. The NLWA website is already harnessing large language model (LLM) technology for text-based queries. Officers will build on it to enable queries based on pictures/images. The app will analyse the image to provide them the answer. The answer would include details of whether the item can be recycled. If it can be recycled, could it go with their kerbside recycling collection, the date of next collection; or if it needs to be taken to a recycling centre, and where the nearest recycling centre is
- 9.1.4. Similar apps using AI technology exist in other countries. In the UK, there is an app (Scrapp) that identifies items by scanning the bar code of the item. It does not use AI to identify the items, which limits its usage considerably.

Officers plan to create a UK centric app that will provide residents the ability to scan the bar code or, just take a picture if there is no bar code on the item and advise the resident if the item can be recycled

9.1.5. The app will be developed using an extensible architecture so that the underlying engine can be used by any Waste Collection Authority or Waste Disposal Authority nationally

9.1.6. Additionally, officers aim to pilot use of AI capabilities in office environment to improve access to information, decision support, and productivity

9.2. Officers request use of £450K funding over 2026/27 and 2027/28 from EPR income. Officers aim to deliver these initiatives over the next 2 years. Progress will be reported to enable the development of the initiative to be reviewed.

10. RISKS

10.1. The table below sets out the highest priority risks on the digital team's register and how they are being approached.

Table 2: Highest rated risks on the digital team's register

Risk Description	Mitigation
The complexity of the waste data Power BI reports and the extent to which manual processes are required to maintain them cause delays in reporting or publication of incorrect data, resulting in loss of borough confidence in the Authority's ability to manage its waste data function.	Iterate on the existing reports to improve their stability and performance. Once Corporate IT infrastructure moved to NLWA's own tenant, work with partners like LEL, Biffa, to automate data feeds and re-platform Power BI reports.
A lack of data analysis and Power BI capability owing to staff turnover means we may be unable to maintain and expand the scope of our waste data dashboards, resulting in disruption to our services to boroughs and other teams and failure to make the best use of our data.	A Power BI analyst is being recruited in the team. The team will also be upskilled to be able to provide cover and support.
Restrictions imposed by LB Haringey owing to different organisational needs limit our ability to collaborate and share data, leading to less efficient work with partner organisations.	Project to transition from LB Haringey's infrastructure to NLWA's infrastructure managed by LEL is underway. It is planned to deliver by end of Q4
Improper delivery of the asset management system for the facilities delivered by the NLHPP mean it is unfit for purpose or improperly integrated with LEL's systems,	Work closely with NLHPP, colleagues in asset management, LEL, and the ERF contractor to ensure that the approach to

Risk Description	Mitigation
leading to reduced effectiveness of the system and/or additional costs to rectify.	the system is agreed and data standards are aligned.
A zero day or other vulnerability leads to a successful cyberattack on the Authority's corporate IT infrastructure, leading to operational disruption, data loss, data breaches, and possible action from the Information Commissioner.	Use industry best practices to secure our infrastructure and carry out regular audits and penetration tests to assess our arrangements.
The AI technology is still evolving and does not deliver expected benefits	All use of AI will be governed by AI strategy. A pilot evaluation will be done before committing bigger funding.

11. EQUALITIES IMPLICATIONS

11.1. There are no equalities implications arising from this report.

12. COMMENTS OF THE LEGAL ADVISER

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

13. COMMENTS OF THE FINANCIAL ADVISER

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

Contact officer:

Atul Khetarpal
Heat of Digital, Data and Technology
Unit 1b Berol House
25 Ashley Road
London N17 9LJ