

National Energy & Environment Data Specification

E. Ongoing Use

July 2026

Version 001

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The report is provided for the purposes of knowledge transfer across the public sector. It aims to raise awareness of good practice approaches to delivering projects that support the net zero agenda. The **North West Net Zero Hub** is not liable for any decisions adopted by organisations based on the recommendations contained in this report.

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Term	Description
AI	Artificial Intelligence
API	Application Programming Interface
CCS	Crown Commercial Services
DNO	Distribution Network Operator
DSO	Distribution System Operator
DSA	Data Sharing Agreement
DT	Digital Twin
ESC	Energy System Catapult
EST	Energy Saving Trust
EV	Electric Vehicle
GIS	Geospatial Information System
HN	Heat Network
HNZ	Heat Network Zoning
IES	Integrated Environmental Solutions
ITT	Invitation to Tender
KML	Keyhole Markup Language
KPI	Key Performance Indicator
LAEP	Local Area Energy Plan
LSOA	Lower layer Super Output Area
MAGIC	Multi-Agency Geographic Information for the Countryside
ML	Machine Learning
NESO	National Energy System Operator
NEVIS	National EV Insights & Strategy
NEEDS	National Energy Environment Data Specification
PEAT	Portfolio Energy Assessment Tool
RESP	Regional Energy Strategic Plan
UPRN	Unique Property Reference Number

Introduction

The way outputs are defined and requested in the Invitation to Tender (ITT) will shape how they can be **used beyond the initial study**. Considerations should be taken to ensure outputs are suitable for future modelling, visualisation, and project portfolio development. This guidance expands on previous guidance documents (Commissioning decisions, Ongoing use) in the provided guidance pack which have already covered aspects such as data, stakeholder engagement and considerations during commissioning. Its aim is simply to consolidate and point to the key considerations. Outputs can be considered in the context of:

1. **Modelling requirements:** any modelling expected to be done post-project. This can help outline requirements for data structure and input formats, ensuring models can be integrated into wider strategic planning.
2. **Data outputs:** defines required formats, inclusion of spatial identifiers, assumptions log, metadata standards, support compatibility with internal and external stakeholder schemas, platforms and systems used for ongoing analysis and decision making (e.g. Geospatial Information System [GIS] platforms, dashboards, and other systems used for post-project).
3. **Reporting and dissemination:** outlines how outputs should be packaged for different audiences (e.g. technical teams, stakeholders, public facing materials), ensuring that the information can be used post-project in the most impactful way.

Figure 1 shows the considerations for ongoing use, split into the following focus areas:

- Key enablers of ongoing use
- Strategic delivery and action plan.

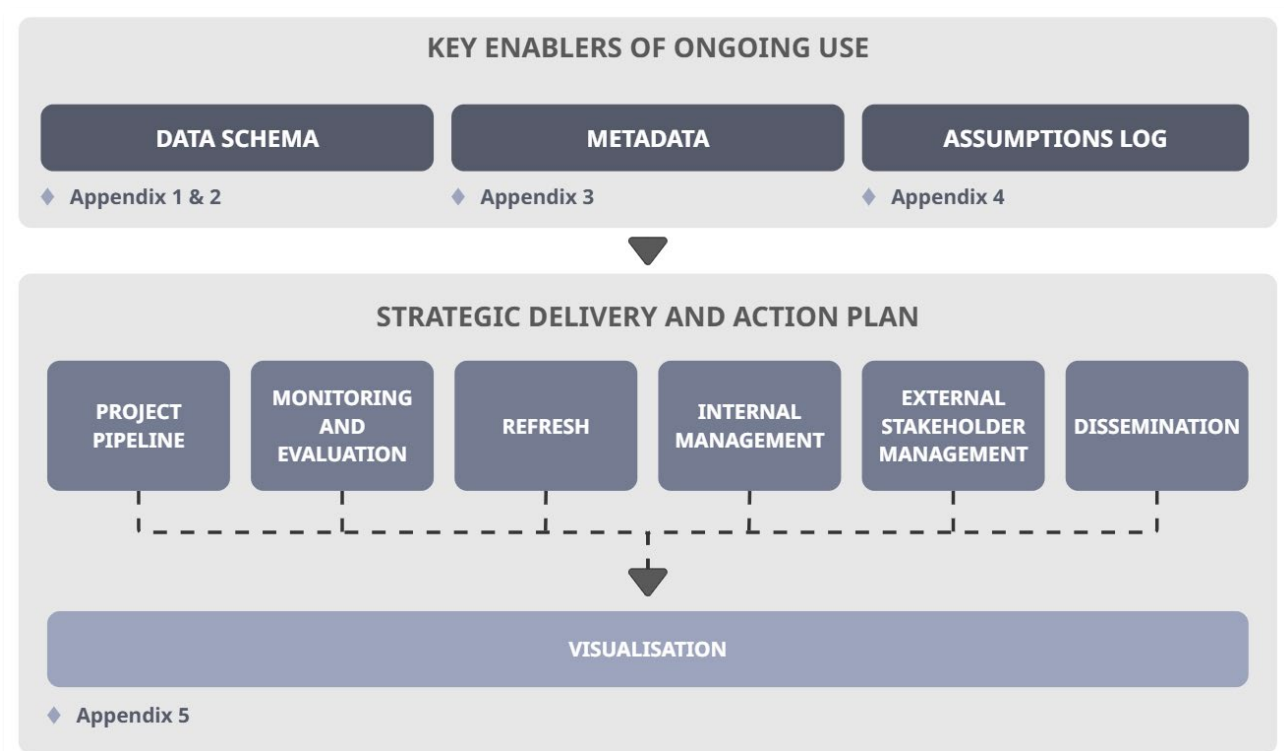


FIGURE 1: CONSIDERATIONS FOR ONGOING DEPLOYMENT AND MANAGEMENT OF PLAN

Key enablers and ongoing use

The ITT should be clear on the enablers required and ongoing use cases so that the appropriate preparation can be made. The three key areas are:

Data schema

Schemas provide a consistent structure for data. Including a schema in the ITT helps define the data outputs and formats. Provision of a data schema ensures that all required data is captured accurately and in a consistent way consistently. Standardised formats eases data ingestion, both into a local authority's own systems, and key stakeholder systems (such as Distribution Network Operators). Some examples are included in Appendix 1 and 2.

Case examples

Greater London Authorities (GLA) data schema for Local Area Energy Plans (LAEPs)

Greater London Authorities (GLA) have created a data schema to standardise the output data from Local Area Energy Plans (LAEPs) across the boroughs. The schema consists of a standardised format for energy vectors and considers:

- Uniform descriptors
- Current status
- Scenarios.

The schema aims to create a standardised set of outputs, enabling organisations to understand the LAEP, which supports action post-project.

Integration into Distribution System Operator (DSO)

UK Power Networks have created a data schema to standardise the ingestion of output data from LAEPs. Once ingested into internal systems, LAEP output data is essential for updating the Distribution Future Energy Scenarios (DFES).

Note: the ITT must specify that a data schema from the DSO must be populated if this is expected.

Metadata

Metadata is defined simply as data that provides information about other data. It helps to provide a structured way to reference and sort data. By requesting metadata, the organisation maintains a clear, auditable trail of data usage - it also supports data refresh.

Case example: GLA Metadata

GLA set up a metadata for the subregional LAEP to collect information about the data that was used during the project. Attributes which were established in the metadata were:

- Data input: name of data set
- Description: description of data set
- Temporal coverage: time period which the data relates to
- Geometry: defines spatial feature
- Spatial resolution: finest level of detail for spatial identifier
- Format source: data type
- Source link: link to dataset
- Date of harvest: date which the dataset was downloaded
- Update frequency: how frequently the dataset is updated at its source
- Access: information related to if the dataset is open or requires certain license agreements
- Source attribution statement: statement to acknowledge the provider or rights of use which the data is shared under
- Corresponding workflow diagram: tag to identify which part of the modelling that used the data.

Assumptions log

Many assumptions are made in LAEPs (and similar projects), which can be related to multiple factors including technology costs, policy impacts and funding availability or assumptions behind the scenario configuration and pathway selection. Some of these may be lost in time if not captured coherently during the planning process, risking losing cohesion on how the plan was developed.

Including an assumptions log as an appendix item is important to consider in the specification, as it is not unreasonable for assumptions to change after project completion. An example log is provided in Appendix 4.

Strategic delivery and action plan

The strategic level delivery aspects of plan, as well as the need for an action plan, are well defined in the Energy Systems Catapult (ESC) LAEP guidance document when considering LAEPs. But this could be applied to other forms of planning. Outlining this as a specific requirement is useful in the ITT providing guidance on what is expected to be issued and to what extent the planning process is to be delivered.

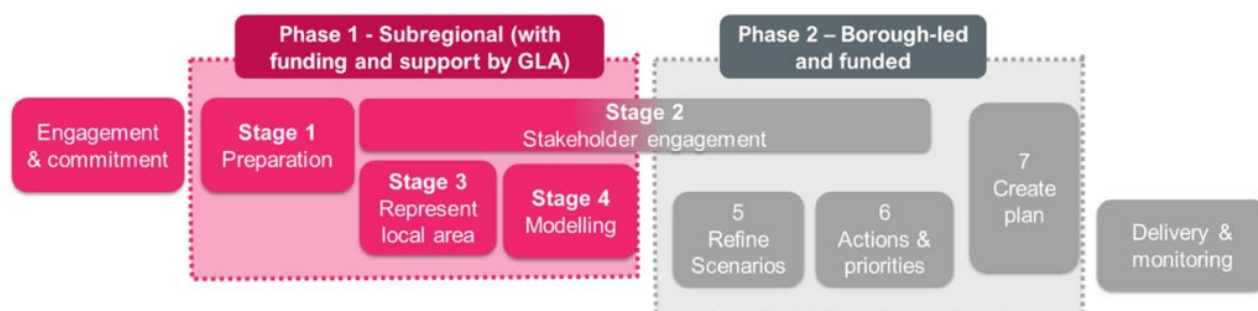


FIGURE 2 TWO-PHASE ROADMAP FROM PLANNING TO DELIVERY

Example – Buro Happold was commissioned to deliver the GLA’s subregional local area energy plan. It was clearly stated which areas this would cover and that it would go up to Stage 4 in accordance with the ESC guidelines and should be in a form that can be adopted by London Boroughs for onward planning in Stages 5-7.

Project pipeline

Often digital plans will be aimed at identifying discrete portfolios of potentially viable projects, known as the project pipeline. Inevitably this process requires more focus on accuracy, commercial models, funding alignment and presenting in a form that key stakeholders, potentially including investors, could take forward for further analysis.

A NEEDS survey found that project pipeline was the considered the most important LAEP output for local authorities that had previous experience completing a LAEP, as shown in Figure 2.

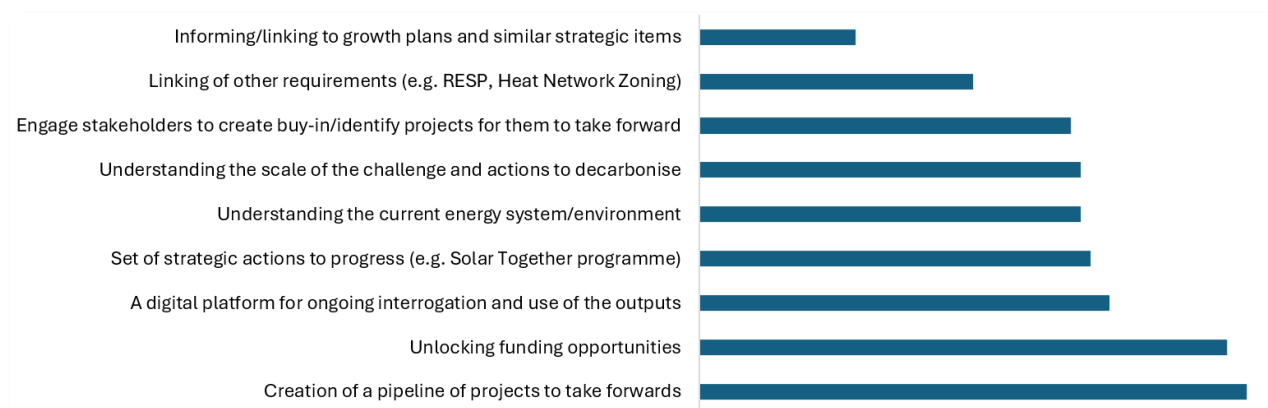


FIGURE 3: OVERVIEW OF RELATIVE IMPORTANCE OF DIFFERENT LAEP OUTPUTS TO LOCAL AND REGIONAL AUTHORITIES WHO HAVE COMPLETED A LAEP.

The second most important aspect identified is unlocking funding opportunities, where the outputs should be aligned with potential funding streams and business model structures.

Case example

Pipeline considerations for LAEP stage 1-4

If the focus of a commission is on a LAEP stage 1-4, it is important to consider if the lack of pipeline fulfils project requirements. If it does not, the need for a project pipeline should be addressed. It is also important to ensure the data is detailed enough to generate a project pipeline afterwards. The NEEDS Data Mapping Tool helps to define a suitable data resolution for this.

Typical Pipeline items in ITTs to consider include:

- Development of a long list e.g. 50 projects and which vectors/sectors these should ideally cover or whether they should be aligned to a specific pathway or scenario and KPIs.
- Details of which funding models and business models each project may align too
- Development of a short list of projects recommended to take forward based on their strengths
- The basis of prioritisation and selection of projects (e.g. requesting a multi-criteria analysis process)
- A summary or investor prospectus of each project identified which should consider aspects such as:
 - CAPEX
 - OPEX
 - Carbon reduction
 - Rate of deployment
 - Technology
 - Target market
 - Funding available
 - If possible, an indicative IRR

Monitoring and evaluation

Monitoring and evaluation refers to the mechanisms for tracking progress in delivering the plan and evaluating changes once the project is complete. This is an area often missed out of commissions, but which warrants a particular focus in enabling deployment.

Consideration should be given to development of an M&E framework which will:

- Establish the user requirements, reporting structures e.g. public and internal reporting outputs
- Embedding a process of learning and adaption with periodic reviews
- Defining Key Performance Indicators (KPIs) the local authority intends to track after the project, the ITT should specify these, as this will shape the modelling and output of the data. KPIs can also be defined as part of the plan, but this should be outlined in the specification
- Identifying key data sources for informing the metrics (e.g. rate of growth, number of installations, carbon saved)
- Implementation of a governance structure to manage data, information, and embed dissemination requirements
- Considering rates of refresh of data (see below).

Data Refresh

The data in the plan may require periodic refreshing if it is deemed critical to the planning outputs.

Examples include:

- Current and planned progress, which may deviate from the plan
- Change in policy and regulatory changes, which may impact key drivers and scenarios
- Stakeholder feedback, both internal and external which require adjustment to the plan
- Data improvements, which may impact assumptions and outputs
- Building stock changes, new projects, or demographic changes in an area.

Identifying triggers early on for refresh is highly recommended, considering aspects such as:

- How often the source data changes
- The extent of the change
- The influence on the plan and modelling process.

Internal management

For projects to be successful after completion it is important to create internal ownership within the local authority. This includes capacity building where needed. Items to consider in the specification would include:

- Creation of training sessions and materials
- Requirement for handover session to a relevant team within the Council – generally this would be the GIS team
- Linking the action plan and overall strategy to named departments or specific stakeholders within the Council. These should be agreed upon during the reporting process
- Regular engagement sessions by key stakeholders during the planning process
- Data and planning information in a suitable structure for ongoing management.

External stakeholder management

Identification of key external stakeholders and their engagement should form a major part of the LAEP process. Defining stakeholders critical to success of delivery and implementation of the plan is critical.

Some external stakeholders such as National Energy System Operator (NESO) or the Distribution Network Operator (DNO)/DSO may require formal engagement. The needs of these stakeholders should be considered in the tender and in relation to the final outputs.

If the commissioning organisation intends to share the data with third parties, there may be specific fields and data type requirements. It is not always possible to share data at a finer resolution with third parties so **managing expectations early on is key**. The governance guidance provides details of items to consider with onward sharing of data.

It should be considered whether a follow-on stage should be included as an option in the ITT to enable the team to continue engagement post plan and what structure this engagement may take.

The following items should also be considered:

- Map of key stakeholders for ongoing delivery and management:
- Specific data requirements including requirements for data updates to DSOs/DNOs/NESO. This is important as translation into any different data schemas has associated costs. (**Note:** the required formats are evolving so regular engagement with such parties is recommended)
- The format and structure of information including tools and templates to be used.

Dissemination

Dissemination relates to how the outputs are communicated; target audience should be considered, to ensure that outputs are meaningful and engaging.

Items that could be considered in the specification could include:

- Specification of report length and what it should focus on. Some ITTs specify a short report with a more detailed technical appendix
- Possible consideration of creation of two executive summaries, one for internal organisational use and one which is more focused as an external document
- Define any accessibility requirements
- Define any engagement activity and the number of events expected at the end of the project
- Consider data licensing and communication. This can be a complex item and requires extensive consideration; the Governance and Data guidance documents provide more detail of the key elements to consider in this context.

Visualisation is a key part of dissemination and considered in its own section below.

Visualisation

There are several options for visualising data. Commonly static GIS maps are included in LAEP reports. Interactive visualisation solutions are becoming increasingly popular in the LAEP and related spaces, including using visualisation platforms and digital twins (DTs). These are defined as follows:

- A visualisation platform ~~to~~ presents data interactively, often through the use of maps. This allows users to explore a range of datasets, view different scenarios and communicate findings. These platforms are generally static, and focus is on displaying information
- A DT provides dynamic solutions and can integrate live data to update systems real time.

A summary of tools with visualisation capabilities, that can be used for interactive output of LAEPs, is included in Appendix 5. This is not exhaustive, particularly in terms of platform providers, but provides an overview of the different typologies of LAEP visualisation tools.

The ITT should specify whether outputs should be disseminated in a digital or visualisation platform and outline the requirements in terms of access to the platform post-project, including governance and licensing terms. And as outlined above they can have can vary in terms of platform provider and is therefore not prescribed. Two examples are provided below:

Case Examples

Calderdale Council LAEP – a DT by Integrated Environmental Solutions (IES)¹

For the Calderdale LAEP, a digital twin was developed to represent the borough in an intuitive way. This dynamic 3D model maps every building and visualises key attributes (e.g. energy usage, heating type, and fabric information) through interactive dashboards and colour coded layers. Physics-based energy simulations were conducted to identify potential reductions in energy consumption and carbon emissions. The model also incorporates visualisation of renewable energy generation, transport, and power infrastructure.

There were complexities with licensing and sharing information at different levels of detail.

Note: Exclusive arrangement through IES is required. This means that you cannot name IES by name as a preferred solution in your ITT.

LAEP Lens Visualisation tool²

For the Leicestershire LAEP, the LAEP Lens Visualisation tool was used to present and explore the outputs. Built on ArcGIS, the tool provides open access to priority project opportunities, which are colour coded based on themes (e.g. local renewables, domestic fabric upgrades, low carbon heating, EV infrastructure, networks). Each opportunity includes a summary with supporting graphs for easy interpretation.

Customised views area available for key stakeholders:

- Local government
- Community energy group
- DNO
- Investors.

A summary of visualisation of existing datasets which can be used for particular applications is included in Appendix 6. This is not exhaustive, particularly in terms of platform providers. Many platforms allow users to export their data, but there may not be options for uploading data. In cases where it is possible to upload data, considerations should be taken to ensure that uploading of data is compliant.

¹ <https://www.iesve.com/services/projects/48826/calderdale-council-laep>

² [LAEP Lens Visualisation Tool | Greener Future](#)

Appendices

Appendix 1: Introduction for LAEP Data Schema used by GLA

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Overview

Workbook A key example is being able to explore early opportunities such as clusters of buildings for decarbonisation. The completed version of this is seen as a final output of a LAEP. It is suggested that when commissioning a LAEP this document could be included as an appendix in the ITT, to ensure that the winning bidder will provide data in a useable and detailed enough format for the local authority to continue to use after the LAEP commission is completed.

In some instances, not all fields will be applicable for completion (e.g. some heat networks will be new so not have any information relating to their status). Additionally, the level of detail may not be generated or required in all instances and would be left blank.

Data can be presented at different levels:

- With the domestic and non-domestic building stock this is considered most suitable at a property/building level. With transport this will generally be more applicable at the LSOA level (or similar combined scale), although large densities such as car parks could be presented at a precise location
- For heat networks most of the property level information is captured in the domestic or non-domestic level data, the data captured is thus more a summary of the heat network as a whole
- With rooftop PV the potential is captured at the domestic/non-domestic level, for the dedicated tab this is considered at an aggregated level as typically at a relatively fine scale of resolution an LAEP is somewhat neutral over which houses have PV deployed
- Large scale renewable opportunities are also captured; these should be tied to precise locations (i.e. x/y coordinates)
- Costs tend to be aggregated, due to issues like GDPR and commercial sensitivity as well as confidence levels. Indicatively LSOA is provided - this aligns to strategies like DNO future energy scenarios.

TABLE 1 INFORMATION TAB

1. Domestic	Contains uniform spatial outputs, non-technical descriptors, information relating to heating systems building fabric and building performance.
2. Non-domestic	Contains uniform spatial outputs, use description, information relating to heating systems building fabric and building performance.
3. Transport	Information relating to all vehicles which require charging infrastructure and vehicle use. Active travel is not captured as standard output and trains are excluded (being more suited to regional/national data capture).
4. Heat networks	Standard naming and ID categorisation of heat networks with information relating to demand (split by space heating and cooling as well as hot water) and heating technology and any waste heat sources.
5. Rooftop solar PV	Provides the option to provide information at UPRN or TOID or at summary level (indicatively LSOA). Information captured by generation and installed capacity.
6. Large scale renewables	Information relating to location (unlikely to be building linked), technology, ownership (focusing on public land), installed capacity and annual generation are also captured.
7. Costs	Cost data for different LAEP, indicatively this is at LSOA level rather than property/ building, but alternative geographies can and should be considered (e.g. primary substation for electrical infrastructure).

Appendix 2 : Domestic and non-domestic buildings uniform descriptors as part of LAEP Data Schema used by GLA

Data description	Data description	Data description	Property level output
Local Authority (Use GSS code)	11LA	String	
UPRN	11UPRN	Numeric (integer)	
TOID	11TOID	String	
X coordinate	11X	Numeric (integer 1m)	
Y coordinate	11Y	Numeric (integer 1m)	
LSOA code (Use GSS code)	11LSOA	String	
Ward (Use GSS code)	11Ward	String	
Property type	11Property	Drop-down	
Listed Building Status	11LB	Drop-down	
Conservation Area Status	11CA	Drop-down	
Tenure	11Tenure	Drop-down	
Fuel poverty likelihood (%)	11FPL	Numeric (integer)	
Age band	11AB	Drop-down	
Floor area (m2)	11GFA	Numeric (integer)	
Primary substation code	11pSC	String	
Tenure	11LA	String	
Fuel poverty likelihood (%)	11UPRN	Numeric (integer)	
Age band	11TOID	String	
Floor area (m2)	11X	Numeric (integer 1m)	
Primary substation code	11Y	Numeric (integer 1m)	

Appendix 3: Metadata example for a LAEP (file-level and including inputs and outputs)³

This schema is designed to record file-level metadata for all datasets used during the undertaken LAEP Phase 1 work and should include all inputs and outputs. Not all attributes are mandatory or may be applicable to all datasets.

Attribute Name	Description	Example value(s)	Data Type
Dataset Identifier	Unique numeric identifier for dataset.	01, 02, 03	numeric
Dataset Classification	Identifies if the dataset is an input, intermediate or output dataset. A transport sector example: - input: Department for Transport vehicles mileage statistics at local authority level - output: baseline or scenario assumptions applied, and vehicle mileage and energy demand modelled.	input, output	text string
Dataset Class & identifier	Concatenation of the dataset identifier and classification attribute	input_01	text string
Dataset Name	A short summary of dataset.	Primary Substation Demand Headroom, Conservation Areas	text string
Description	A detailed description of dataset.	Demand Headroom at UKPN Primary Substations	text string
Data Format	The file type format of the dataset.	.csv, .xlsx, .shp	text string
File name	Title of file name(s).	lbsm_v2.0_Oct2024.csv	text string
File location	Location of specific file(s) could be a SharePoint drive location or equivalent.	d:/data/input_datasets/buildings/	text string
Data Owner	The original data owner (completed for input datasets only).	UKPN	text string
Source URL	The website URL to where the data can be accessed (completed	https://www.ukpowernetworks.co.uk/our-company/open-data-portal	text string

³ <https://laep-datahub-alpha-cityhall.hub.arcgis.com/documents/f72dcbbe30c643de9f310085fbe3f1b8/about>

Attribute Name	Description	Example value(s)	Data Type
	for input datasets only).		
Download URL	The specific URL that hosts the data, if available, the Application Programming Interface (API) endpoint.	https://ukpowernetworks.opendatasoft.com/api/explore/v2.1/catalog/datasets/ukpn-open-streetworks/records?limit=20	text string
Date of Harvest	The date(s) of when the data was harvested/downloaded from the source for the purpose of this project (completed for input datasets only).	1012025	Date (ddmmyyyy)
Temporal Coverage	The date(s) of the period the whole dataset covers, include specific dates of values selected (e.g.Q1 2024) where appropriate.	01012024 to 31122024	text string
Date Last Modified	The date the dataset was last edited/updated by the data owner.	1012025	Date (ddmmyyyy)
Data Refresh Frequency	How frequently the source data is updated (completed for input datasets only).	annual, quarterly, daily	text string
Spatial resolution	How frequently the source data is updated (completed for input datasets only).	London Borough, substation supply area	text string
Spatial geometry type	The geometry type of the dataset.	point, line, polygon	text string
Dataset Attribution Statement(s)	The source data attribution statement, this represents the text that needs to be reproduced to appropriately reference the dataset to a third party.	Ordnance Survey © Crown copyright and database right, 2024.	text string
Data licence details	Details of the licence conditions of the dataset. If public but has conditions	public data; restricted to use by PGSA members only.	text string

Attribute Name	Description	Example value(s)	Data Type
	attached, please state here. If not public, details of the licensing requirements should be recorded here.		
Data sensitivity	Where a dataset is not public, details of the nature of the restrictions in place.	attributes x/y/z to be redacted before sharing with stakeholders; data needs to be aggregated to LSOA level before making publicly available; can be shared with PGSA members.	text string
Comments	Any additional information that may be useful to the reader.	Source	text string
Entry Owner	Name of individual who shared the data and added the entry to the catalogue.	Sadiq Khan	text string
Date of Entry	Date entry was added to the catalogue.	1012025	Date (ddmmyyyy)
Received from	Name and contact of individual who provided the original dataset.	mayor@london.gov.uk	text string

Appendix 4: Assumption log example

ID	Theme	Category	Assumption	Originator	Detailed comment (if applicable)
1					
2					
3					
4					
5					
6					
7					

Appendix 5: Visualisation options for LAEPs

Visualisation for LAEP	Platform provider	Description	Cost consideration
Digital Twin	Varies – IES have one of the most mature examples, with a case study provided.	Dynamic solutions which provide a data-driven visualisation of a real-world system or environment. In the context of LAEPs this relates to a whole system view and can be linked to retrofit options, energy systems, infrastructure, and behaviours over time. Integration of live data and real time updates is possible.	Cost will have to be considered as part of the ITT and will vary depending on requested functionality. Costs for different stakeholders with different access as well as ongoing use of the platform should be considered.
LAEP+	Advance Infrastructure	Visualisation solution tailored to LAEPs which hold a range of different datasets for a whole system modelling.	LAEP+ is available for organisations through G-Cloud14 which is delivered through Crown Commercial Services (CCS).⁴ Some organisations can access the tool and datasets for free through their DNO. Note: sharing data with practitioner will incur a cost. This should be considered if the ask in the ITT is for practitioners to integrate data from the LAEP+ platform into their modelling.
Cadence⁵	City Science	Visualisation of open datasets with possibility to ingest spatial datasets from a LAEP. Creation of interactive map stories can be made in the tool.	Monthly cost which is tiered based on number of projects and enhancements. ⁶
ArcGIS⁷	ESRI	ArcGIS relates to ESRI's GIS software products and allows for creation, management, mapping and sharing of geospatial data. Story maps can be set up, and it allows for visualisation of outputs with a 3D setup for buildings.	Platform can be used through licensing, which most organisations and local authorities already have access. Data mapping and story maps can be set up by practitioners and be part of

⁴ <https://www.advanced-infrastructure.co.uk/g-cloud14>

⁵ <https://cadence360.cityscience.com/>

⁶ <https://cadence.cityscience.com/plans/>

⁷ <https://www.arcgis.com/index.html>

Visualisation for LAEP	Platform provider	Description	Cost consideration
			a LAEP. It also has increasing compatibility with Power BI, which can improve the outputs.
QGIS⁸	QGIS	Tool which is free to use and is used for modelling of LAEP. Outputs can be packaged up in a way so that the organisation can ingest the data into their platform.	Tool which is free to use and is used for modelling of LAEP. Outputs can be packaged up in a way so that the organisation can ingest the data into their platform.
Power BI⁹	Microsoft	Visualisation of data outputs, primarily in relation to graphs.	Platform can be used through licensing, which most organisations already have access to. Upskilling however may be needed, which can be included in the ITT for ongoing use.
Google Maps Platform¹⁰	Google	Platform which allows users to use data from Application Programming Interfaces (APIs) and visualise datasets by Artificial Intelligence (AI) prompts to create maps. Data is frequently updated to reflect real-world changes.	Pay-as-you-go or tiered monthly costs, depending on desired functionality ¹¹
Google Earth¹²	Google	If datasets are provided or converted into Keyhole Markup Language (KML) files, these can be taken into Google Earth to visualise outputs.	Uploading files directly into google earth to view layers is free of charge.

⁸ <https://qgis.org/>

⁹ <https://www.microsoft.com/en-us/power-platform/products/power-bi>

¹⁰ <https://mapsplatform.google.com/>

¹¹ <https://mapsplatform.google.com/pricing/>

¹² <https://earth.google.com/web>

Appendix 6: Companies and tools that offer visualisation of key LAEP datasets – this is not an exhaustive list

Visualisation Tool	Organisation	Theme	Ingesting	Cost consideration
Portfolio Energy Assessment Tool (PEAT) ¹³	Energy Saving Trust (EST)	Buildings	Visualisation of EST's building stock data which allows building of potential retrofit scenarios. Applications support retrofit pipeline studies. Tool can be used to assess applications related to the building stock but does not consider other energy vectors in a LAEP. It is not possible to ingest spatial datasets into the tool.	There will be a cost related to accessing the data and the tool.
Pathways ¹⁴	Cotality (previously Parity Projects)	Buildings	Visualisation of Cotality's building stock data, in combination with collated data from the organisation. Modelling gives insights to SAP CO2 and fabric performance. It is not possible to ingest spatial datasets into the tool.	There will be a cost related to accessing the data and the tool.
uZero ¹⁵	Urban Tide	Buildings, Place and community	AI and data insights platforms which integrates anonymised smart meter data in real time, provide fuel poverty prediction, and potential carbon savings.	There will be a cost related to accessing the data and the tool.
VU.CITY ¹⁶	VU.CITY	Buildings	Interactive 3D visualisation of buildings across UK, with the primary use case relating to local planning.	Cost depends on functionality requirement and number of licenses.

¹³ <https://energysavingtrust.org.uk/service/home-analytics/>

¹⁴ <https://www.cotality.com/uk/products/pathways#features>

¹⁵ <https://urbantide.com/uzero>

¹⁶ <https://www.vu.city/>

Visualisation Tool	Organisation	Theme	Ingesting	Cost consideration
Fairer Warmth ¹⁷	Centre for Energy Equality	Buildings, Place and community	Interactive platform designed for a range of users (e.g. individuals, organisations and communities, energy champions). The tool facilitates data collection for communities, which is visualised through interactive maps and dashboards, and combined with a range of other datasets to provide richer insights. Depending on the use case, it is available as both a web and mobile application.	There will be a cost related to collecting and accessing data and the tool.
PropertyView ¹⁸	Geospatial Insights	Buildings, Generation and storage	Visualisation of building information, including building characteristics, dimensions, solar potential, and conservation status.	There will likely be a cost related to accessing the data and the tool.
Compass: Energy ¹⁹	SimAnalytica	Whole System	Visualisation and analysis of whole system planning. Further information and demo required to understand capabilities and limitations.	There will likely be a cost related to accessing the data and the tool.
uMove ²⁰	UrbanTide	Transport	AI and data insights platforms which integrate integrates real time and historic transport data, to support understanding of travelling patterns. The platform validates data, allows for bespoke reporting, and allows for data sharing. It is possible to ingest spatial datasets, but caution should be taken	There will be a cost related to accessing the data and the tool.

¹⁷ <https://www.fairerwarmth.com/>

¹⁸ <https://geospatial-insight.com/solutions/propertyview-uk/>

¹⁹ <https://simanalytica.com/applications#Contact>

²⁰ <https://urbantide.com/umove>

Visualisation Tool	Organisation	Theme	Ingesting	Cost consideration
			so this is compliant with DSA.	
Compass: Transport ²¹	SimAnalytica	Transport	Visualise transport data, scenario modelling, network impact assessment. Platform allows existing data to be viewed and can be exported from the tool.	There will likely be a cost related to accessing the data and the tool.
National EV Insights & Strategy (NEVIS) ²²	CENEX	Transport	Toolkit to view and interact with NEVIS datasets in a Power BI interface as well as geospatial map view of some datasets. The tool allows users to download datasets.	Some datasets are available free of charge whereas some requires to be purchased.
LOCATE EV ²³	Geospatial Insights	Transport	Visualisation of Electric Vehicle (EV) related datasets to facilitate EV charge point network planning.	There will likely be a cost related to accessing the data and the tool.
LOCATE PV ²⁴	Geospatial Insights	Generation and storage	Visualisation of existing rooftop solar across UK, which has been modelled by using Machine Learning (ML) to identify solar arrays.	There will likely be a cost related to accessing the data and the tool.
LOCATE SOLAR ²⁵	Geospatial Insights	Generation and storage	Visualisation of a national rooftop solar suitability database. Supports in the identification of identification and deployment locations.	There will likely be a cost related to accessing the data and the tool.
Google Solar API ²⁶	Google	Generation and storage	Visualisation of tool which estimates rooftop solar potential based on rooftop imagery and ML	Pay-as-you-go or tiered monthly cost. ²⁷

²¹ <https://simanalytica.com/applications#Contact>

²² <https://nevis.cenex.co.uk/>

²³ <https://geospatial-insight.com/solutions/ev-infrastructure-planning-platform-locate-ev/>

²⁴ <https://geospatial-insight.com/solutions/locate-pv/>

²⁵ <https://geospatial-insight.com/solutions/rooftop-solar-suitability-database/>

²⁶ <https://gmp-environmental-solar.web.app/#intro>

²⁷ <https://mapsplatform.google.com/pricing/>

Visualisation Tool	Organisation	Theme	Ingesting	Cost consideration
			to predict rooftop solar potential.	
Multi-Agency Geographic Information for the Countryside (MAGIC) Map²⁸	Natural England	Built and natural environment	Visualisation of geographic information related to the natural environment from across government (i.e. rural, urban, coastal, and marine environments). Over 300 datasets are available. It is possible to ingest spatial datasets, but caution should be taken so this is compliant with Data Sharing Agreements (DSA).	Free and open access.
Compass: Climate²⁹	SimAnalytica	Built and natural environment	Visualise environmental data and assess climate change risk. Analyse impact of interventions.	There will likely be a cost related to accessing the data and the tool.

²⁸ <https://magic.defra.gov.uk/>

²⁹ <https://simanalytica.com/applications#Contact>