

National Energy & Environment Data Specification

A. Commissioning considerations

July 2026

Version 001

This report has sponsored by the **Local Net Zero Hubs** and has been published by the **North West Net Zero Hub** supported with funding from the **Department of Energy Security and Net Zero**.

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.

Funded by:

Commissioned by:



Delivered by:



The logo for BURO HAPPOLD, featuring the text "BURO HAPPOLD" in a bold, black, sans-serif font, centered between two horizontal yellow lines.



Contents

Purpose of Commissioning Considerations	5
Expertise and resource.....	6
Alignment	8
Focus areas	12
Ongoing use and end users	13
Digital Twins	14

Acronym/Term	Description
AZP	Advanced Zoning Programme
DFES	Distributed Future Energy Scenarios
DNO	Distribution Network Operator
DSA	Data Sharing Agreement
DSO	Distribution System Operator
DT	Digital Twin
EPC	Energy Performance Rating
EV	Electric Vehicles
FTE	Full Time Equivalent
BLA	Greater London Authorities
GIS	Geospatial Information System
GNO	Gas Network Operator
HN	Heat Network
HNZ	Heat Network Zoning
HP	Heat Pump
ITT	Invitation To Tender
LSOA	Lower layer Super Output Area
NEEDS	National Energy Environment Data Specification
NESO	National Energy System Operator
RESP	Regional Energy Strategic Planning
RFI	Request for Information
Schema	A blueprint that defines the structure and organisation of data
UKPN	UK Power Networks
UPRN	Unique Property Reference Number

Purpose of Commissioning Considerations

This section is designed to supplement the Briefing Document and provide guidance on the wide number of considerations when developing a procurement specification and setting out a strategy. It is aligned with the National Energy Environment Data Specification (NEEDS) steps (more detail is provided in the NEEDS Briefing document) summarised in Figure 1 which provides the workflow for developing a plan.

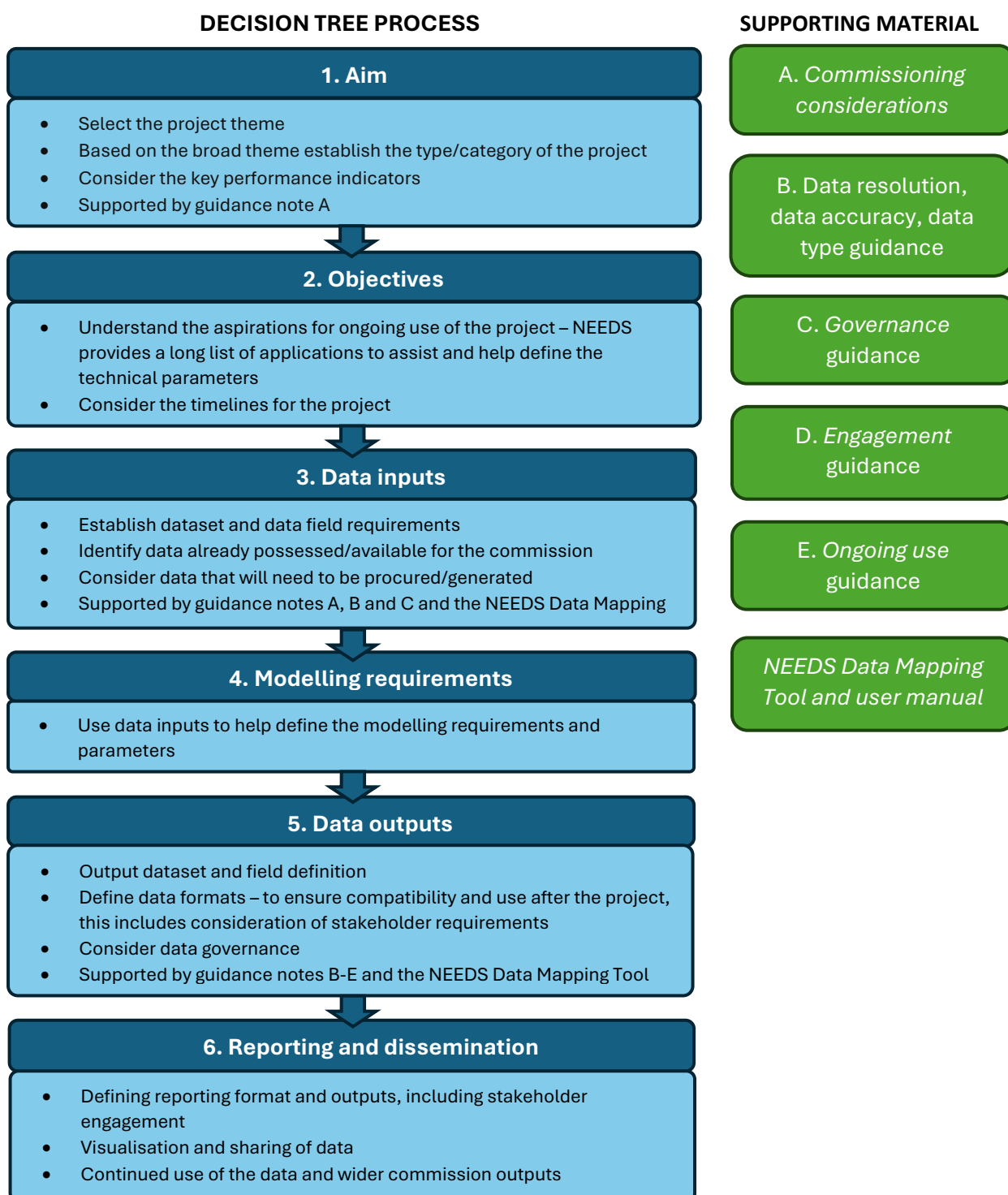


FIGURE 1: OVERVIEW OF THE DECISION TREE PROCESS AND DOCUMENTS THAT SUPPORT IT

Figure 2 summarises the 4 key areas of consideration when determining the strategy and what is required from the commission:

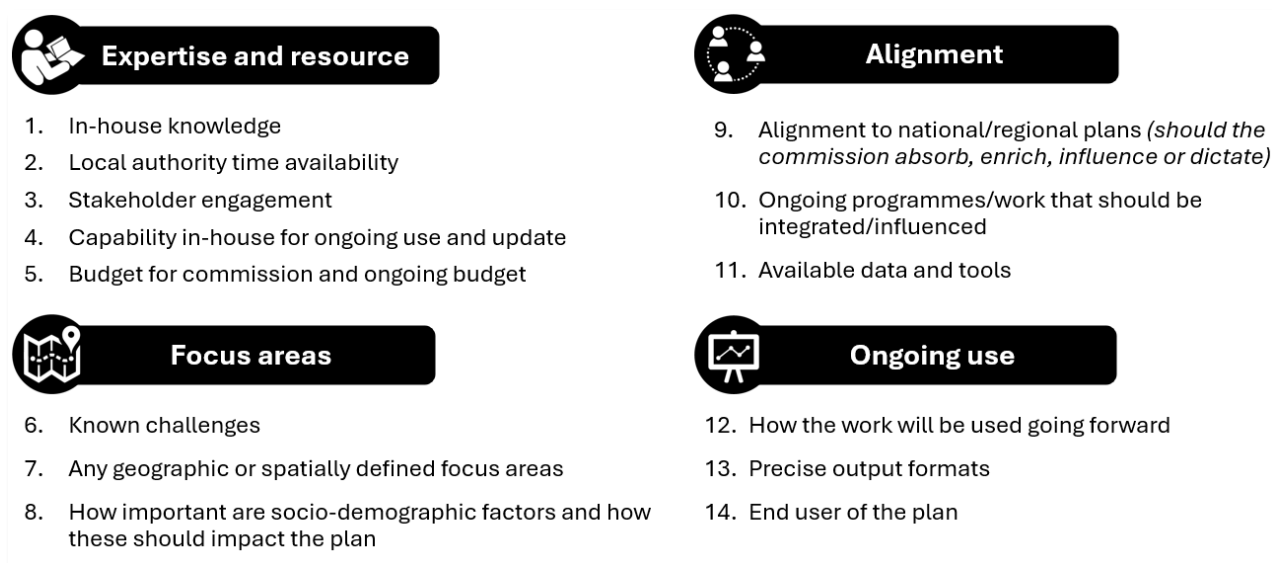


FIGURE 2 FRAMING QUESTIONS FOR NEEDS

This guidance looks at each one of these areas and summarises the key considerations.

Expertise and Resource

Local authorities have varying degrees of in-house knowledge and expertise when developing energy and decarbonisation strategies. By carefully considering the current capability and aspiration for developing capability a strategy can be developed which informs the information to be provided by the local authority, the skill sets needed from the delivery party and the strategy for capacity building.

TABLE 1 EXAMPLES OF EXPERTISE AND RESOURCE CONSIDERATIONS

Options	Description	Outcome
Resource with relevant knowledge assessment and specialisms	Consider skill sets across: • GIS • Data • Energy domain • Buildings • Transport • Smart systems • Heat decarbonisation • Commercial deployment • Funding • Modelling.	Gap assessment of skills required to be procured and capacity development requirements to be included in the commission.

Options	Description	Outcome
Governance maturity	Governance is critical to data management in particular sensitive and licenced data. Immature systems may lead to issues in holding and managing data. Solutions should be considered including digital twins, GIS, IT structures.	Identify governance structures required and either implement internally or select a third-party system that mitigates requirements. Further details can be found in the governance guidance document ¹ .
Legacy work done	Identify previous work done that will be useful and feed into the plan. This will avoid duplication and add value by leveraging previous work.	Make specific reference to work done that can be used and compile a package of work or point to relevant links.
Data and information	Assess any existing data that will be useful for the plan this could include for example existing retrofit decarbonisation plans, building consumption data, demographic information, funding allocation and current projects.	Accelerates baselining and ensures far more accuracy in planning.
Time and resource	Consider how much resource is needed and can be pre allocated and team structure. The depth and scale of planning will have different requirements on FTE support including project management, internal team specialist support and senior stakeholder reviews and sign off.	Developed resource plan and clear expectations set on resourcing requirements from third parties. Time allocated to team specialists, legal, comms, finance, energy, environment, planning, transport departments etc.
Stakeholder engagement	Refer to Guidance Section D “Engagement”. A stakeholder engagement plan should consider all parties that will provide value, input to the plan, review the planning process and receive the outputs; the level of engagement and who will be engaged and how the engagement will be carried out.	Developed stakeholder engagement strategy with identified stakeholder classification and clear definition of requirements in the specification with appropriate budget allocated.
Budget allocation	Budget will determine the depth volume and quality of outputs as well as the digital medium for holding and dissemination of the plan, Consideration needs to be given to following: • Resource required • Stakeholder engagement events and method • Data licensing and procurement • Whether a third-party digital twin is to be procured • Ongoing support post plan including licensing, O&M platform costs	Budget established with is commensurate with market rates for the type of plan to be commissioned.

¹ C_Governance Guidance

Options	Description	Outcome
	Post planning activities including feasibility assessment, dissemination events and follow on stages.	
In house capacity for management	In addition to the resource evaluation to determine requirements to deliver the plan, post plan management needs to be considered. This includes skill sets such as: - Ability to manage GIS data, licensing and governance - Dedicated individuals to communicate the plan internally - Ongoing maintenance and refreshes - Monitoring and evaluation of progress.	Post planning resource assessment and strategy.

Alignment

Aligning the plan to other strategies and developments will be key to success. The wider environment is currently seeing lots of change and activity in this respect, examples being Advanced Zoning Programmes (AZP), Ofgem ED3 submissions for DNO network investment, RESP local strategies, GB Energy Local Power Plan and central government funding initiatives. There may also be a wide range of local plans underway including transport and growth plans. The key steps in considering these are summarised as:



FIGURE 3 CONSIDERATIONS FOR ENGAGEMENT ON NATIONAL AND REGIONAL PLANS

Examples of how National, local and regional plans could be relevant are summarised in Table 2 .

TABLE 2 EXAMPLES FOR ALIGNMENT TO NATIONAL/REGIONAL PLANS

Options	Description
HNZ	If HNZ has been completed, output should be absorbed into the plan. If not, the commission can support in identifying priority zones and influence future HNZ. Note that HNZ uses building-level analysis, while LAEPs and detailed <i>applications</i> often use property-level data. This difference should be accounted for in planning.
AZP	AZPs are currently in pilot phase and offer more granular insights than HNZ. AZP covers areas agreed by DESNZ as focus opportunities to progress large heat networks. If an AZP has been carried out in your area, its outputs can be absorbed into the plan to strengthen elements, such as heat network proposals, and secure future funding. Ideally, Geopackages or Shapefiles can be provided.
DFES	The output of the LAEP can enrich the DFES by providing detailed, location-specific insights into future energy demand and technology uptake. LAEPs help influence and dictate where strategic investment is needed across the network. Risk: DSOs typically require data in a data schema. Ensure the ITT explicitly requests that practitioners populate these data schemas so that the DSO can absorb the data.
NESO	Strategic planning is in the process of being finalised at a national level. The organisation should remain engaged with NESO developments to ensure LAEPs and similar strategic studies are positioned to influence and align with emerging whole-system strategies.
RESP	RESP is a new framework led by NESO to integrate regional energy needs into national planning. LAEPs will influence RESP and inform investment decisions. The organisation should engage early to enrich RESP with local priorities and influence its direction. Over time, RESP may dictate how regional infrastructure is planned and delivered.
Regional Plans/growth strategies	It is important that any project is cogent when considered alongside wider strategy in area. This is similar to the importance of consider the Local Plan team, outlined in section 2.
Other Sectors	Whilst the focus is on energy related alignment, other sectors should be considered early to ensure alignment where possible and that there aren't any missed opportunities. Regional Transport plans will have related infrastructure requirements. Water is also becoming increasingly linked to energy, the rise in demand from data centres to provide cooling or the importance of water in any hydrolysis related hydrogen production being two examples.
Local policy and strategy	This may include local growth plans and strategic planning frameworks that are currently required by Government as part of devolution agenda, and locally developed policies on infrastructure, climate, environment, and industrial strategy for example.
Retrofit programmes	This may include interventions and typologies, current programme status, and funding allocation. These can be absorbed into the plans to support decarbonisation strategies and provide a clear understanding current standpoint.

Options	Description
Costs and deployment rates	Practitioners commonly use benchmarks and national guidance to assess, and cost interventions (e.g. retrofit). However, if the organisation holds cost and deployment rate data which better reflect the local context or for other reasons are preferred to use, it is worth to highlight this in the ITT. This ensures that the plan is based on realistic assumptions for the area and strengthens plans.
Planned infrastructure	Includes any planned heat network, energy, transport or utility infrastructure projects. Depending on the progress, these plans can be absorbed into the project <i>application</i> but also influence the planned infrastructure project. Whole-system plans can help maximise efficiency and minimise disruption, particularly where coordination and shared investment are possible (e.g. aligning heat network routing with scheduled roadworks).
Cross political boundary	E.g. heat networks which cross administrative boundaries, which is commonly seen if the heat density and heat source are in close proximity but in different administrative areas.
Specific technical focus areas	Any areas where a specific focus already has been undertaken e.g. deployment of data centres, heat pumps, renewable generation
Any ongoing commissions/ studies	Existing strategy studies e.g. transport infrastructure plans which should be absorbed
New developments/ growth plans	Any information which the organisation holds relating to new developments and growth plans and associated timelines as well as related infrastructure.

Available data from these various plans and any others identified should be explored and if deemed relevant obtained in a structure for inclusion or made reference to if the requirement is for the procured party to do this (and are able to).

Internally for a whole system commission, it is likely that data sits across several teams in the organisation. Team structure and the data they hold, differs between organisations. An example of which teams are likely to hold relevant data, is shown in Figure 4.

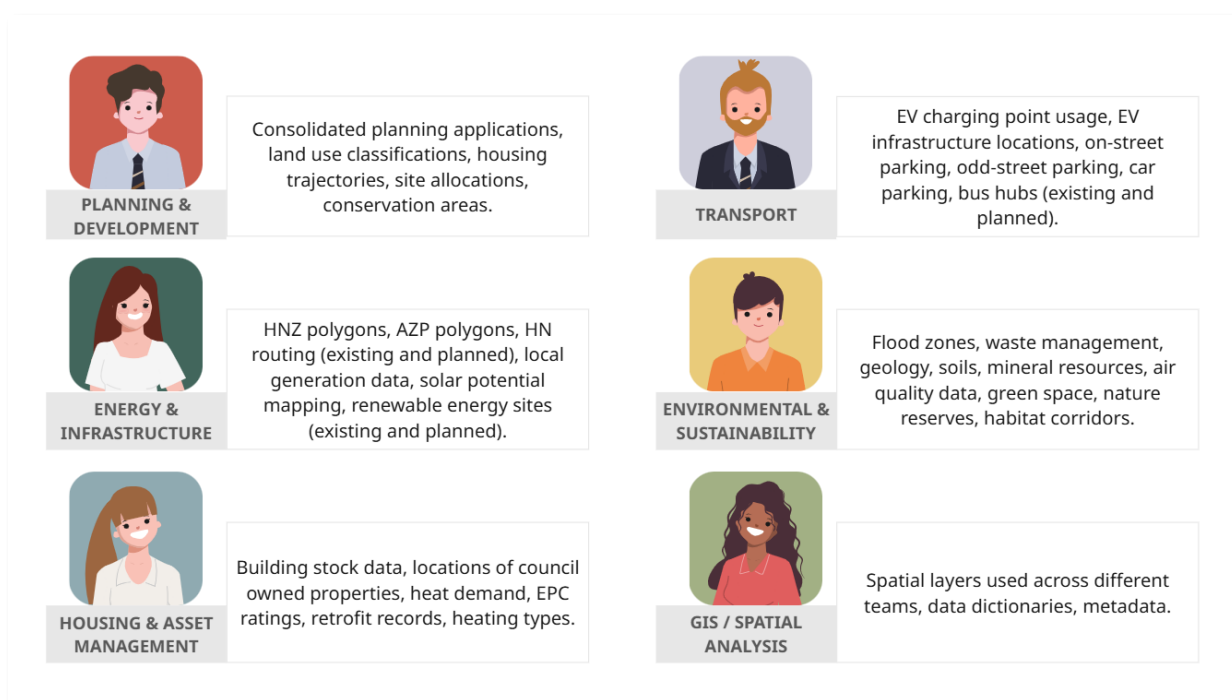


FIGURE 4: TEAMS WHICH ARE LIKELY TO HOLD THE DATA WITHIN THE ORGANISATION

Data Quality and completeness of the data which the organisation holds can vary significantly and should be carefully considered before determining whether it should be included. **Permissions** should also be validated to ensure not only that the data can be used in the planning process but also that the outputs derived from it can be released. This is particularly relevant where third party data is being considered. The following table summarises some of the key considerations. Across all the available datasets it is important to consider if it is possible to use the data for the study. Considerations are outlined in Table 3.

TABLE 3 EXAMPLES FOR CONSIDERATIONS WHICH RELATE TO DATA

Options	Description
Governance	See guidance ² for detailed summary.
Licencing considerations	Carefully assess the licensing provisions and terms for each data set to ensure relevant permissions are in place.
Confidence and validation assessment	Assess the quality and confidence in the data and its relevant to the planning process – will it add value?

² C_ Governance guidance

Focus Areas

There may be a range of local and regional aspects that the local authority wishes to be considered in the plan that may set local context or are relevant to other plans and strategies being developed. These items are always worth bring to the attention of prospective delivery parties. Examples of known areas typically raised in LAEPs are summarised in Table 4.

TABLE 4 EXAMPLES OF KNOWN CHALLENGES

Options	Description
Supply chain	Known restrictions in the area that may impact projected deployment rates will be impacted. Opportunities for green jobs in the area and growth in the area.
Ability to respond to funding opportunities	Alignment of pathway and pipeline outputs to current funding availability to be able to implement near term projects quickly.
Funding gaps	Funding gaps known that may present barriers to project pipeline deployment.
Capacity building	Capacity building requirements to ensure a successful delivery programme post plan.
Grid constraints in the area	Consideration of electricity grid constraints, current and projected in the future that may hinder deployment of low carbon technologies at scale. Identifying opportunities for flexibility through smart systems.
Legacy items	Known historic issues which the organisation have faced or areas where the organisation have been hindered before – e.g. infrastructure, planning, environmental issues or community resistance to change.
Senior buy-in	Evidence required for senior buy in and support.
Growth and redevelopment	Areas of planned growth, such as housing or commercial sites, including areas for regeneration,
Ownership	Consideration to land and building ownerships e.g. significant landlords in the area that should be consulted or large industrial stakeholders.
Geographic concentration	Areas where there the geographic context and density provide a natural focus area (e.g. high density of buildings, energy demand, fuel poverty, commercial zones etc).
Heritage and conservation areas	Areas where sensitive approaches may need to be taken due to planning restrictions
Land classifications	Areas defined by agricultural land grade or other classification which may affect development potential, planning permission or energy infrastructure suitability.
Demographics and community	Specific focus areas e.g. fuel poverty alleviation, ethnic considerations, access to transport systems (and transport poverty), targeted able to pay solutions, health and wellbeing, skills and training. Diversity, Equality and Inclusion.

Ongoing Use and End Users

Ongoing use and management of the plan post-delivery needs careful consideration including any specific requirements to be put in place during the planning process. This may directly influence the capability to be procured and the tasks to be delivered. A summary of considerations is below in Table 4.

TABLE 5 EXAMPLES OF ONGOING USE AND END USER CONSIDERATIONS

Options	Description
Standalone one-off plan	Consider how the plan will be stored, retained and communicated. There is low cost of onward management and maintenance.
Kept live and used for context across multiple other programmes	Considerations of refresh periods, data update mechanism and version control are important. Precise definition of output format and structure is needed to support ongoing use required.
Input to next stage LAEPs	If early stage (e.g. Stage 1-4) LAEP commissioned, then consider the data structures, platform and dissemination process to deliver to a party for the next stages.
To inform funding calls	Precise consideration of output required to ensure they align with specific requirements and expectation for relevant funding opportunities.
Stakeholder engagement	Based on the stakeholder engagement plan consider the formats, media and data dissemination processes required including the use of third-party digital platforms
Output formats	Consider data structures, report structure, visualisation techniques and messaging. Consider alignment with current internal processes, IT systems and departmental reporting structures. Factor in aspects such as whether a GIS platform is needed, shapefiles are to be delivered, tabulated data, and what resolution and scaling outputs should be in to be able to be used by different parties.
Output components	Consider the use of a report and its structure, the version control, headings, level of detail. Whether maps should be included, their format, colouring, resolution. Should tools such as Power BI or ESRI be specified? Digital twin tools? Outline business case documents?
End users	There may be a wide range of end users for the plan, and their needs should be carefully considered from the outset to ensure there are no issues with the associated formatting and output components. A dissemination strategy should also be considered e.g. communications, issuing of the report or even setting up a digital platform for wider access and promotion. Example end users include: Other local authorities and other departments within the local authority, RESP, DNOs, housing authorities, community groups, investors, consultants, landlords, industrial cluster owners.

Digital Twins

Special consideration is given to digital twins. The term digital twin is a broad term often referring to digital visualisation platforms rather than operational digital twins used in industry. There are a variety of offerings now on the market which could be seen to greatly enhance the experience of working with the plan.

Advantages: Digital twins can be used to distribute plans in a highly visual way without disclosing background data. This mitigates the need to distribute source data and manage it with third parties whilst enabling wider dissemination and collaboration. They may also be used to define the planning process and in some cases are free to access for local authorities

Considerations: the ongoing cost should be carefully considered, including whether there are any license restrictions in using the data or giving access to third parties. Longevity and maintenance support will be key for long term management.