



Energy
and Low
Carbon
Heat

LHEES Capacity Building Workshop

Delivery Plan Support – part 02

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Riaghaltas na h-Alba
gov.scot

Delivery Plan and Delivery Area

- **LHEES Delivery Plan**

An LHEES Delivery Plan is a document setting out how a local authority **proposes** to **support implementation** of its Local Heat and Energy Efficiency Strategy.

- **Delivery Area**

Delivery areas are at a higher granularity than Strategic Zones. These **spatial zones** should set out clusters of buildings within a Strategic Zone or across the whole local authority that **identify potential solution(s)** at a delivery level. They will be an important **starting point** for identifying a range of projects, regulation and actions that are within the competence of the Scottish Government, local authorities and wider partners (**included as actions** to be developed in the LHEES **Delivery Plan**).

Zero Waste Scotland Capacity Building Services

LHEES Delivery Area Identification

Outline and purpose of support pack

Introduction

This support pack aims to provide practical guidance to enable local authorities to identify and prioritise any initial **Delivery Areas (DAs)** by considering local and stakeholder priorities, policy, funding and/or regulation, as well as the Strategic Zoning completed at Stage 3 and the Delivery Area GIS analysis completed at Stage 4 of the LHEES process.

This support pack will cover the following:

- Show an example delivery area identification framework, which is able to use criteria to interrogate the LHEES GIS analysis to identify and prioritise key initial DAs in a consistent, structured and strategic manner (covered as part of LHEES).
- Present a snapshot of what each stage of the DA identification could look like in practice, what DAs may look like if finalised, and what they are used for (covered as part of LHEES).
- Present steps beyond the scope of LHEES that start to consider project development and delivery (post LHEES publication).



DA Identification in LHEES Process

- Delivery Area identification comes after development of the LHEES Strategy and Delivery Plan. These will feed into identification and prioritisation of Delivery Areas and onwards project delivery.
- LHEES Strategy:
 - The LHEES Strategy can highlight areas to focus on for delivery, such as Strategic Zones (showing opportunities across heat decarbonisation and energy efficiency measures) and Heat Network Zones (showing opportunities for HNs).
 - The LHEES Strategy also sets out the policy and strategy context alongside local considerations and targets, which are important to consider when identifying the Delivery Areas; and potentially, existing funding and regulation.
- LHEES Delivery Plan:
 - The LHEES Delivery Plan is an ongoing document which can both feed into and be informed by Delivery Area identification.
 - Consideration of existing programmes of work or funding highlighted in the Delivery Plan can help prioritise Delivery Areas.
 - Actions then identified from the prioritised Delivery Areas can be added to the Delivery Plan.

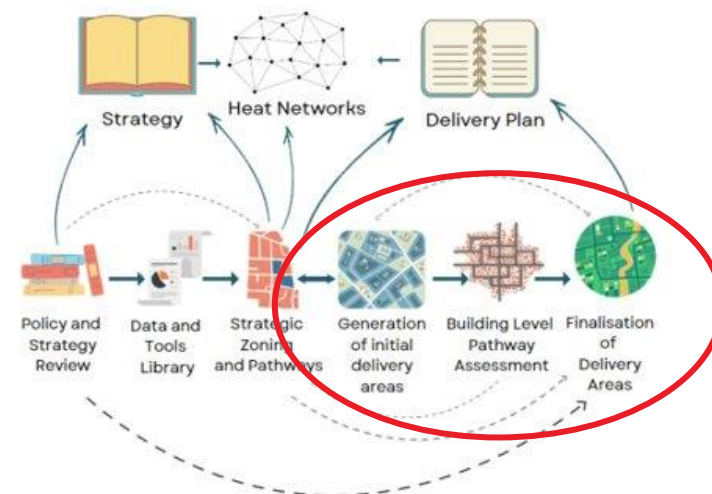


Figure 1: LHEES Process Diagram

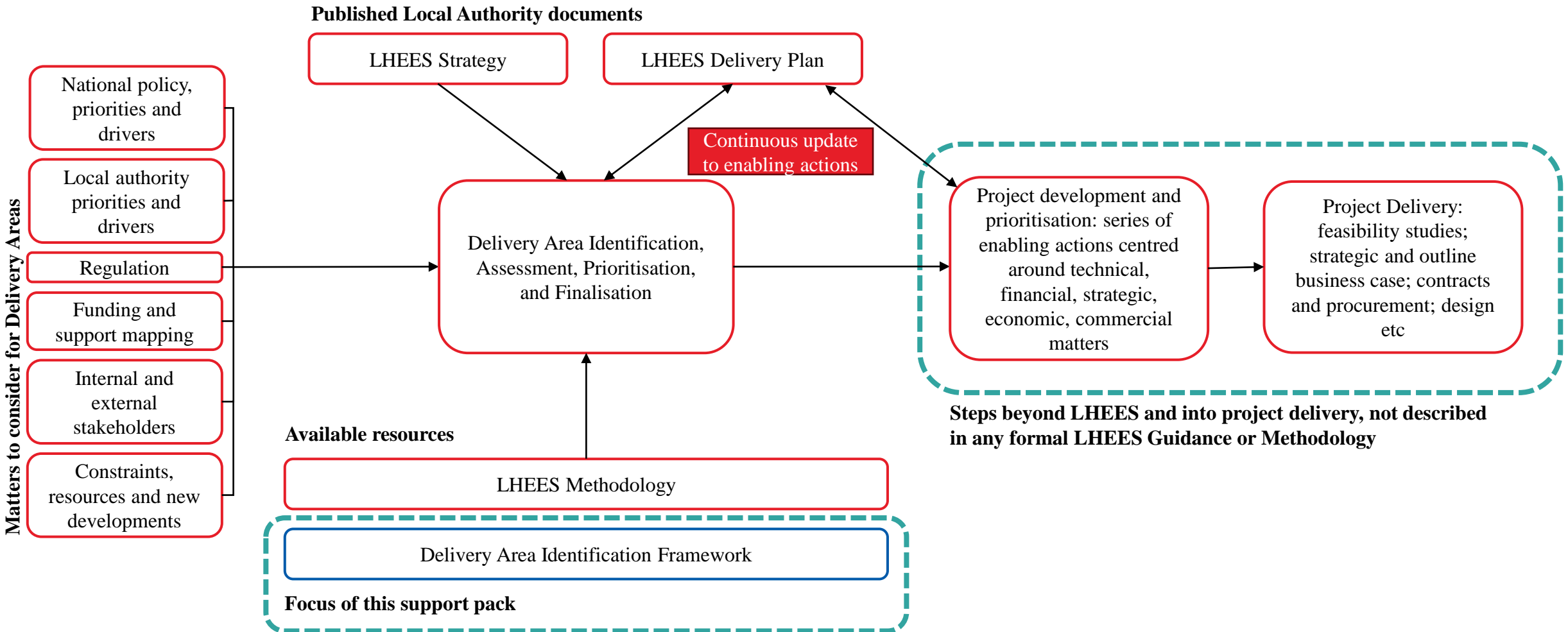
Scope and use of this support pack

- Whilst some local authorities may complete and finalise LHEES Stages 4-6 as part of preparing and publishing their initial LHEES, it is likely that Delivery Area identification, assessment, prioritisation and finalisation will be an ongoing matter for local authorities, as they move into the delivery phase of LHEES
- Delivery Area identification will likely progress, shift focus and adapt as regulation, delivery programmes, funding and support advance nationally
- Therefore, what is presented today is a snapshot of what LHEES Delivery Area identification could look like in practice, and the intention of these slides is that they should be considered **POST** 2023, as not a core priority for LHEES in the shorter-term

Delivery Area Identification Framework

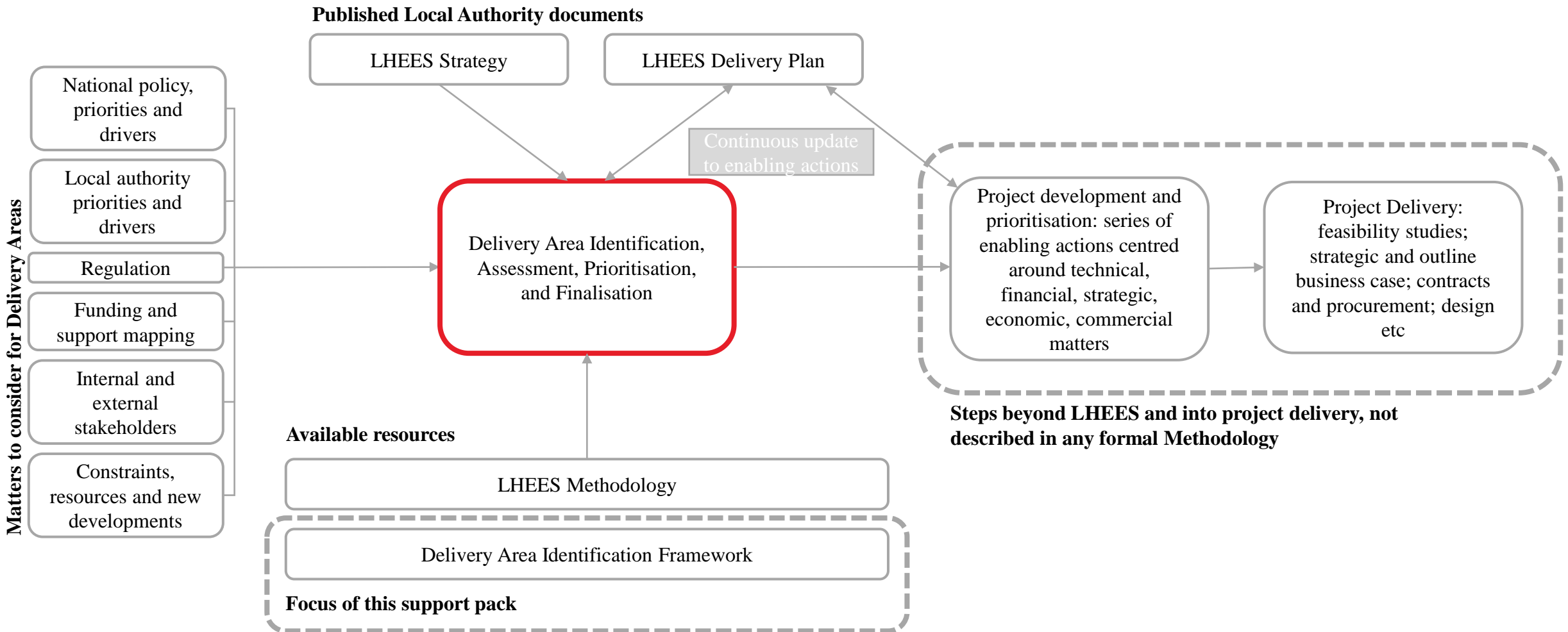
LHEES Delivery Melting Pot

(not an official visual, but used to illustrate a process to progress from Strategies to Delivery)



LHEES Delivery Melting Pot

(not an official visual, but used to illustrate a process to progress from Strategies to Delivery)



Delivery Area Identification

How do we move from Strategy and Delivery Plan actions to identifying deliverable projects?

- In the LHEES Strategy and Delivery Plan, the local authority will have started to identify project themes, initiatives or actions for delivery. These will have been informed available funding, regulations, policy and strategies or local priorities.
- Example initiatives may include:
 - Targeting domestic properties for specific funding e.g. HEEPS:ABS.
 - Improving energy efficiency of social housing properties
 - Installing heat pumps in off-gas social housing properties
 - Engaging with non-domestic properties within heat network zones that have high suitability for heat network connection

How can we identify specific projects to deliver these initiatives?

- The available evidence base generated through LHEES GIS analysis and available datasets can be used to identify properties that could be targeted for delivery projects.
- This forms the basis of LHEES Stage 4 analysis in the LHEES Methodology (see next slide).

Delivery Area Identification

Stage 4 Delivery Area Outputs

- One of the outputs of Stage 4 of the LHEES Methodology are rasters (grids) for each LHEES Consideration:
 - Off-gas Category 0, 1, 2 and 3
 - On-gas Category 0, 1, 2 and 3
 - Mixed tenure, mixed use
 - Poor energy efficiency weighted score
 - Poor energy efficiency as a driver of fuel poverty weighted score
- These summarise the count or weighted score of properties within each raster
- These rasters can be used to start to identify areas for delivery
 - e.g. clusters of rasters with a high weighted score for poor energy efficiency could be targeted for retrofit projects

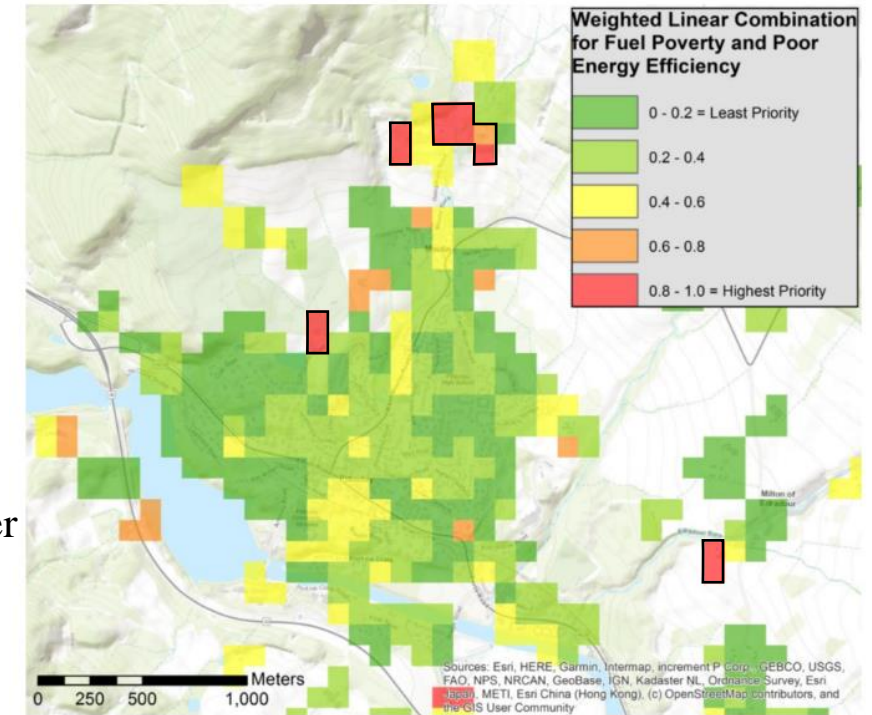


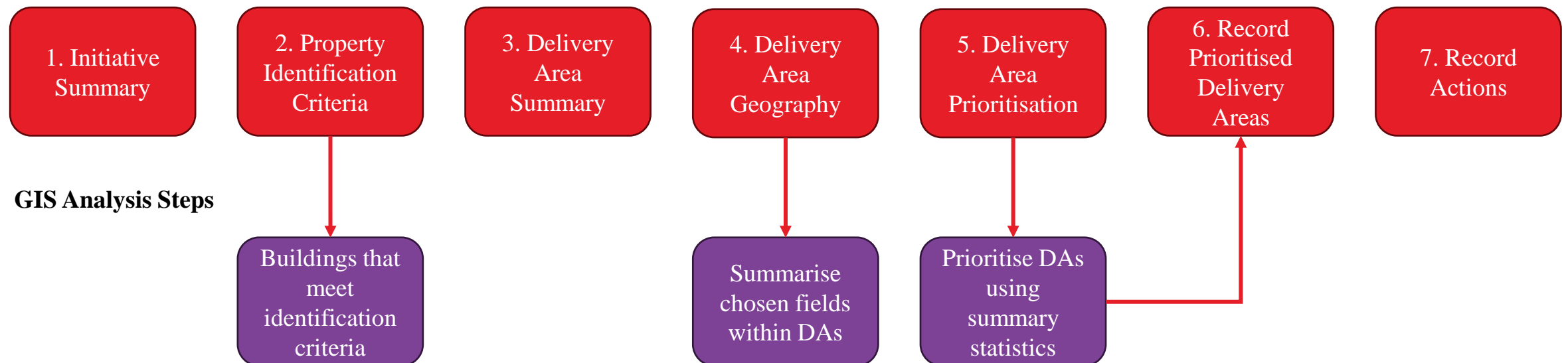
Figure 20: Example Weighted Linear Combination raster for Poor Building Energy Efficiency as a Driver for Fuel Poverty

Delivery Area Identification Framework

Overview

- Below is an example **Delivery Area identification framework**, which could be used to further interrogate the available datasets to identify and prioritise key initial Delivery Areas in a consistent, structured and strategic manner.
- The purpose of this framework is to identify properties, prioritise delivery areas, and capture additional analysis about these areas to inform Delivery Plan actions and onwards project delivery.
- The purpose of this framework is not to prescribe the exclusive approach to Delivery Area identification, but instead to present an interpretation for how this challenging aspect of onward LHEES delivery could be considered

Project identification framework



Delivery Area Identification Framework

1. Initiative Summary

1. Initiative Summary

- The first step of the framework is to identify and define the focus and purpose of any Delivery Area.
 - These may already be included in your LHEES Strategy and/or Delivery Plan; nevertheless, they may require further internal and external engagement with partners to agree.
- Following this, it would be worthwhile to record a summary of the Delivery Area Initiative, such as the relevant available funding, regulations, policy and strategies or local priorities.

Initiative	Targeting off-gas, private homes for heat pump retrofit
Initiative description	To support delivery of this initiative, Delivery Areas for off-gas private homes that are immediately suitable for heat pump retrofit will be identified. These Delivery Areas will then be targeted for engagement around heat pump installation.
Links to funding	HES loans and grants
Links to regulation	Heat in Building Strategy / potentially in Heat in Buildings Bill
Links to local/ national policy	All off-gas properties to switch to direct zero emission heating systems by 2030 (Heat in Buildings Strategy)
Links to local priorities	Prioritise off-gas areas as low-regret opportunities
LHEES Considerations	Off gas heat decarbonisation

Delivery Area Identification Framework

1. Initiative Summary - Examples

Initiative	Targeting social housing that does not currently meet regulations
Initiative description	To support delivery of this initiative, Delivery Areas for social housing that is currently EPC B or lower will be identified. This will also be used to identify where local authority and RSLs may be able to do joint projects. These Delivery Areas will then be targeted for potential retrofit projects.
Links to funding	Various
Links to regulation	EESSH2
Links to local/ national policy	Heat in Building Strategy / potentially in Heat in Buildings Bill
LHEES Considerations	Energy efficiency

Initiative	Targeting non-domestic properties suitable for heat network connection
Initiative description	To support delivery of this initiative, non-domestic properties with high potential for heat network suitability will be identified. These Delivery Areas will then be targeted for engagement and data collection around connecting to a heat network.
Links to regulation	Heat Networks (Scotland) Act targets
Links to local priorities	Prioritise off-gas areas as low-regret opportunities
LHEES Considerations	Heat networks

Delivery Area Identification Framework

2. Property Identification Criteria

2. Property Identification Criteria

- The local authority could then select the criteria to be used to identify properties for a given Initiative.
- The identification criteria will be applied to a building level dataset (e.g. Home Analytics / PEAT) to identify properties that meet this criteria.
- **Example initiative:** The following identification criteria is applied to Home Analytics to identify off-gas private homes suitable for heat pumps. Others could be more complicated than this!

Identification Criteria	Attribute
Property Tenure	Owner Occupied or Privately rented
LHEES Category	Category 1 or Category 2
Off Gas	Yes



All buildings



Properties that meet identification criteria

Delivery Area Identification Framework

3. Delivery Area Summary Information

3. Delivery Area Summary

- The local authority could then select the summary information that they want to know for each Delivery Area. This can be used to:
 - 1) Support prioritisation of areas to take forward for delivery; and
 - 2) Inform delivery planning (e.g. understand the scale of the costs, understand the number of identified properties that are mixed tenure etc).
- This summary information could come from the dataset used (Home Analytics / Scotland Heat Map / PEAT).
- **Example initiative:**

Summary Information

Fuel poverty probability of identified properties

Count of identified properties that are owner occupied

Count of properties with mixed tenure

Count of identified properties recommended for internal wall insulation (from PEAT)

Sum of total intervention cost (£) (from PEAT)

Sum of total energy savings (kWh/yr) (from PEAT)

Delivery Area Identification Framework

4. Delivery Area Geography

4. Delivery Area Geography

Summarise chosen fields within DAs

- The local authority should select the geographical boundary of the Delivery Areas, for example:
 - 100m x 100m grids (default proposed in the LHEES Methodology)
 - Postcode
 - Data zone
 - Heat network zone
- This geographical boundary will be used to summarise key characteristics of the identified properties at a higher granularity than those used for Strategic Zoning



Properties that meet identification criteria

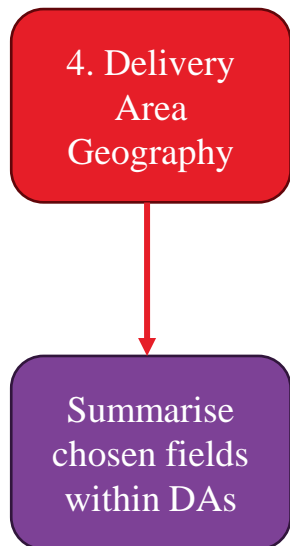
Summarise key characteristics within each Delivery Area geography



Delivery Areas with associated summary characteristics

Delivery Area Identification Framework

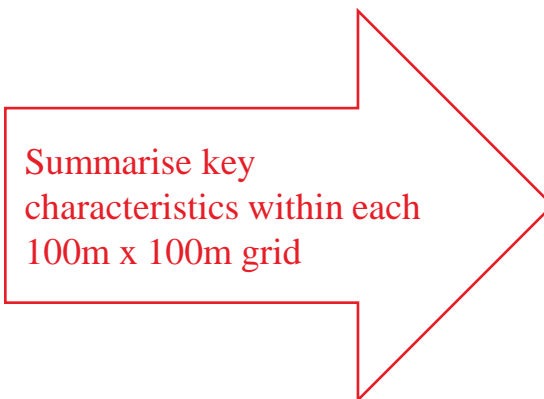
4. Delivery Area Geography



- **Example:** 100m x 100m grid selected for Delivery Area geography



Properties that meet identification criteria



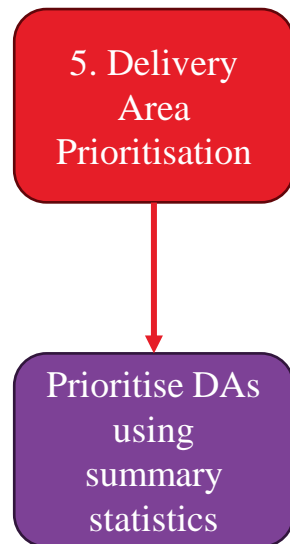
Delivery Areas with associated summary characteristics

Delivery Area ID	Count of identified properties	Fuel poverty probability	Proportion of owner occupied properties	Proportion of properties with mixed tenure	Count of internal wall insulation measures	Sum of measure cost (£)	Sum of energy saving (kWh/yr)
DA_1	10	28%	5	9	10	£8,000	600
DA_2	20	10%	10	14	15	£12,000	7000
DA_3	13	15%	3	10	4	£500	400
DA_4	8	37%	4	5	3	£600	300

Note: the values in the table do not correspond to the figures shown and are for example purposes only

Delivery Area Identification Framework

Delivery Area Prioritisation



- The local authority could then use this summary information to prioritise Delivery Areas. The summary information chosen to be used for prioritisation could be based on available funding, regulations, policy and strategies or local priorities.

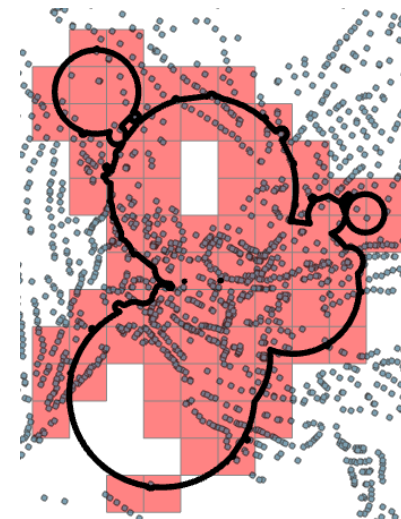
Delivery Area Identification Framework

Delivery Area Prioritisation

5. Delivery
Area
Prioritisation

Prioritise DAs
using
summary
statistics

- The local authority could then use this summary information to prioritise Delivery Areas. The summary information chosen to be used for prioritisation could be based on available funding, regulations, policy and strategies or local priorities.
- Delivery Areas could be prioritised based on:
 - A geographical area (e.g. heat network, priority ward)



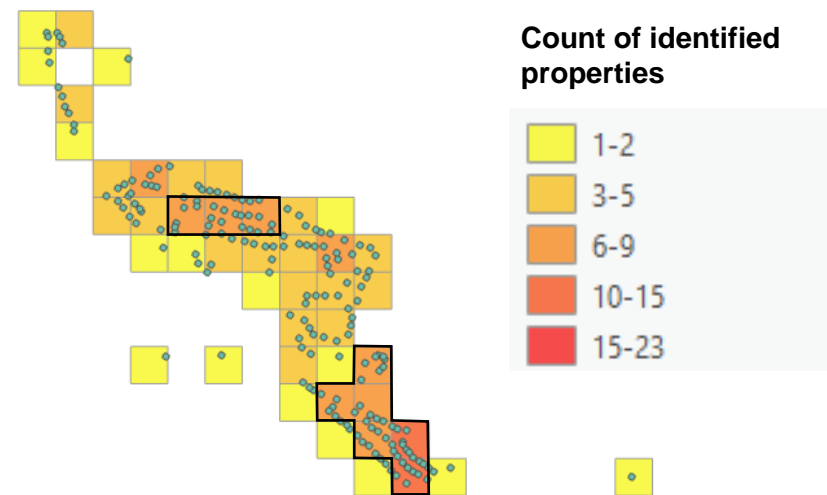
Delivery Area Identification Framework

Delivery Area Prioritisation

5. Delivery Area Prioritisation

Prioritise DAs using summary statistics

- The local authority could then use this summary information to prioritise Delivery Areas. The summary information chosen to be used for prioritisation could be based on available funding, regulations, policy and strategies or local priorities.
- Delivery Areas could be prioritised based on:
 - A geographical area (e.g. heat network, priority ward)
 - A single summary field (e.g. count of identified properties)

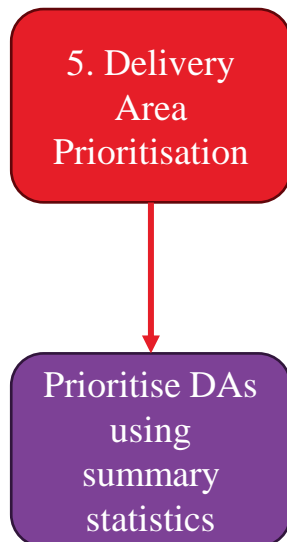


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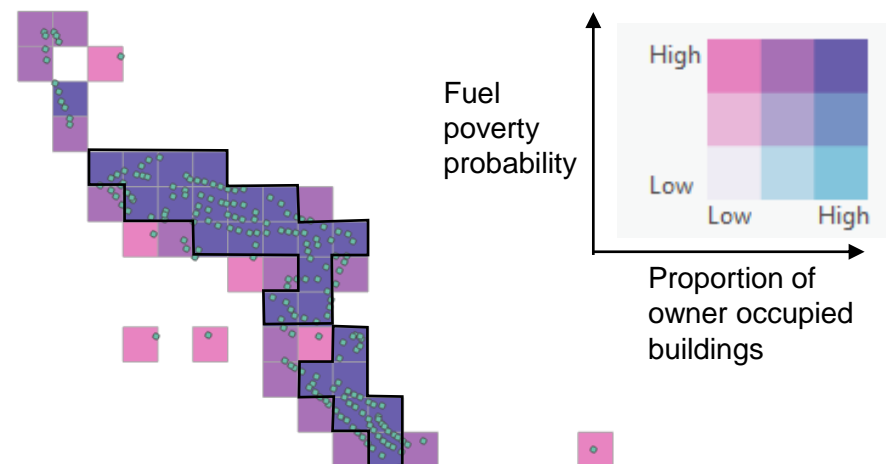
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Delivery Area Identification Framework

Delivery Area Prioritisation



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- Delivery Areas could be prioritised based on:
 - A geographical area (e.g. heat network, priority ward)
 - A single summary field (e.g. fuel poverty probability)
 - Multiple summary fields (e.g. starting fuel poverty probability and count of owner occupied properties)
 - Visualisation (e.g. bivariate mapping)



Delivery Area ID	Count of identified properties	Fuel poverty probability	Proportion of owner occupied properties	Proportion of properties with mixed tenure	Count of internal wall insulation measures	Sum of measure cost (£)	Sum of energy saving (kWh/yr)
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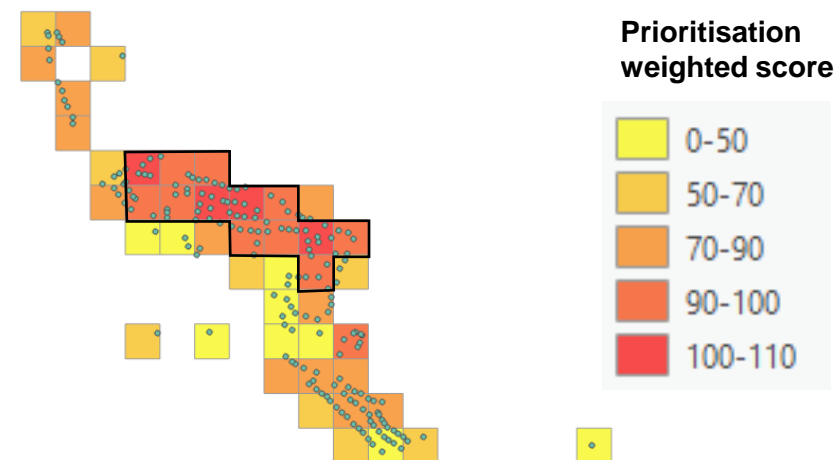
Delivery Area Identification Framework

Delivery Area Prioritisation

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Prioritise DAs using summary statistics

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 - A single summary field (e.g. fuel poverty probability)
 - Multiple summary fields (e.g. starting fuel poverty probability and count of owner occupied properties)
 - Visualisation (e.g. bivariate mapping)
 - Applying weightings and scoring



Delivery Area ID	Count of identified properties	Fuel poverty probability	Proportion of owner occupied properties	Proportion of properties with mixed tenure	Count of internal wall insulation measures	Sum of measure cost (£)	Sum of energy saving (kWh/yr)
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Delivery Area Identification Framework

Record Prioritised Delivery Areas

6. Record Prioritised Delivery Areas

- These prioritised Delivery Areas and relevant summary information could then be recorded and taken forward to develop delivery plan actions.
- If clusters of Delivery Areas are identified this could be noted. Summary statistics could be further aggregated to cluster level.

Cluster ID	Count of Identified Properties	Count of Category 1 Properties	Count of owner occupied properties	Sum of Intervention Cost
A	22	15	20	£209,000
B	15	5	10	£142,000

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Example Summary

Two clusters of prioritised Delivery Areas of off-gas private properties suitable for heat pumps were identified. The cluster in Location A and is made up of 22 identified properties. The cluster in Location B and is made up of 15 identified properties. The mean carbon savings from recommended interventions is 20%. It is estimated that the interventions will cost approximately £9,500 per property. The Council should work with delivery partners to engage this area around heat pumps and relevant funding available.

Delivery Area Identification Framework

Record Actions

7. Record Actions

- This section could set out the identified actions and/or next steps for the Delivery Areas. These could be informed by the summary statistics. Note that actions identified might vary between Delivery Areas.
- Actions could include tasks such as identifying potential stakeholders, understanding the type of measures recommended for these properties or understanding scale of funding.
- These actions can feed into the LHEES Delivery Plan as strategic or enabling actions (see *ZWS Delivery Plan Capacity Support* for more information on developing a Delivery Plan and actions).
- Following this, the Delivery Areas could be used as the basis to start to develop projects and programmes of work around – funded either through Council budgets and/or aligning with specific funding and delivery programmes.

Cluster ID	Actions
A	The Council should work with delivery partners to engage the properties within this Delivery Area around information for heat pumps and relevant funding available.

Onward Project Development and Delivery

(outside scope of LHEES)

Outline and purpose of support pack

Introduction

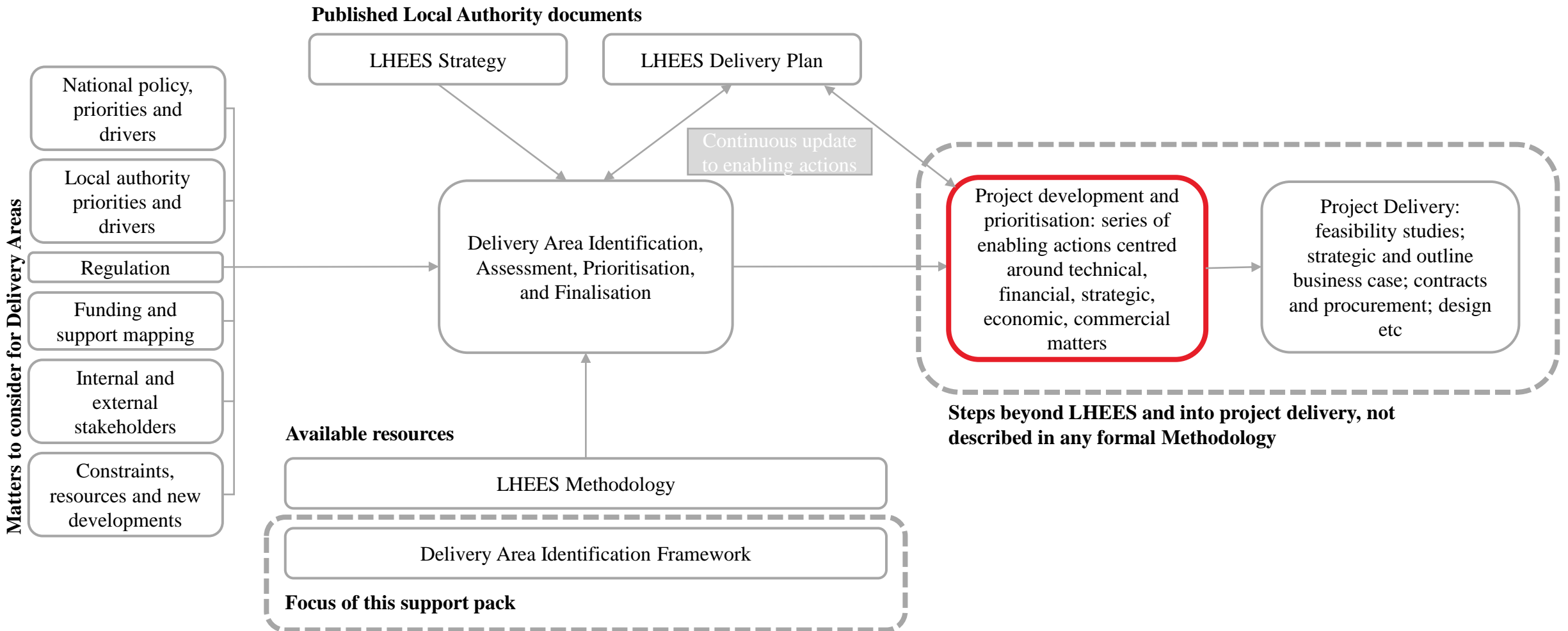
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- Present a snapshot of what each stage of the DA identification could look like in practice, what DAs may look like if finalised, and what they are used for (covered as part of LHEES).
- Present steps beyond the scope of LHEES that start to consider project development and delivery (post LHEES publication).



Project Development



Project development

- Following Delivery Area identification and capturing updated and new actions in the Delivery Plan, there would be a need to progress Delivery Areas to ensure these can develop into potential projects
- However, in many cases it is likely that the overarching Delivery Plan actions (whether linked to Delivery Areas or not) will be presented at a high level
 - In these instances, there is likely to be a lot of activity needing to go on the behind the scenes to realise them
- **Limited clear and established pathways** for local authorities to deliver against their LHEES in an effective and meaningful manner, including transitioning from heat decarbonisation strategies to projects on the ground
 - New to all stakeholders; evolving policy environment
 - Moving into new areas of activity

Example Delivery Plan Actions

The Council should work with delivery partners to engage a Delivery Area around heat pumps and relevant funding available

Develop a programme of retrofit activity for Council owned domestic buildings

Progress heat network project identification in Strategic Zones a, b and c

Develop heat pump engagement activity in Delivery Area's x, y, z

Develop joint working with registered social landlords, delivery partners and owner occupiers to support fuel poverty alleviation and retrofit coordination

Install heat pumps in all Council HQ buildings

Typical Timeline for project delivery (e.g. heat networks)



Need to a) **prioritise** and break down high-level delivery plan actions to ensure effective and meaningful delivery and b) **bridge** LHEES Strategy and Delivery Plan with wider **project development** and **delivery** requirements

* Stage headings taken from Heat Network Support Unit website
** Assumption that these stages incorporate UK Government Green Book and Business Case Guidance (where appropriate)
*** Non-heat network projects likely to have different timeline of stages for project delivery

Suggested high-level approach to enable project development

Progressing Delivery Plan actions and Delivery Areas

- Prioritisation and selection of near-term Delivery Plan actions, Delivery Area initiatives and specific areas for delivery (low regrets, solid opportunities and actions to progress as projects)

Series of Categories

- Wider categories that need to be considered for each potential project e.g. set out against UK Government Green Book 5 business case categories
- Strategic, financial, economic, commercial, managerial AND adding in technical

End-point requirement

- Requirement that should be satisfied for each category for example:
 - Technical – pre-feasibility study completed; Financial and Commercial – business models identified
 - Strategic – LHEES evidence used to generate; Managerial – governance structure assembled for delivery

Enabling actions

- Actions for local authority to follow in the short-, medium- and long-term for each specific category
- Needed to fulfil the end-point requirement set out for each category (i.e. series of enabling actions required to deliver a pre-feasibility study)

Gaps, barriers and challenges impacting delivery

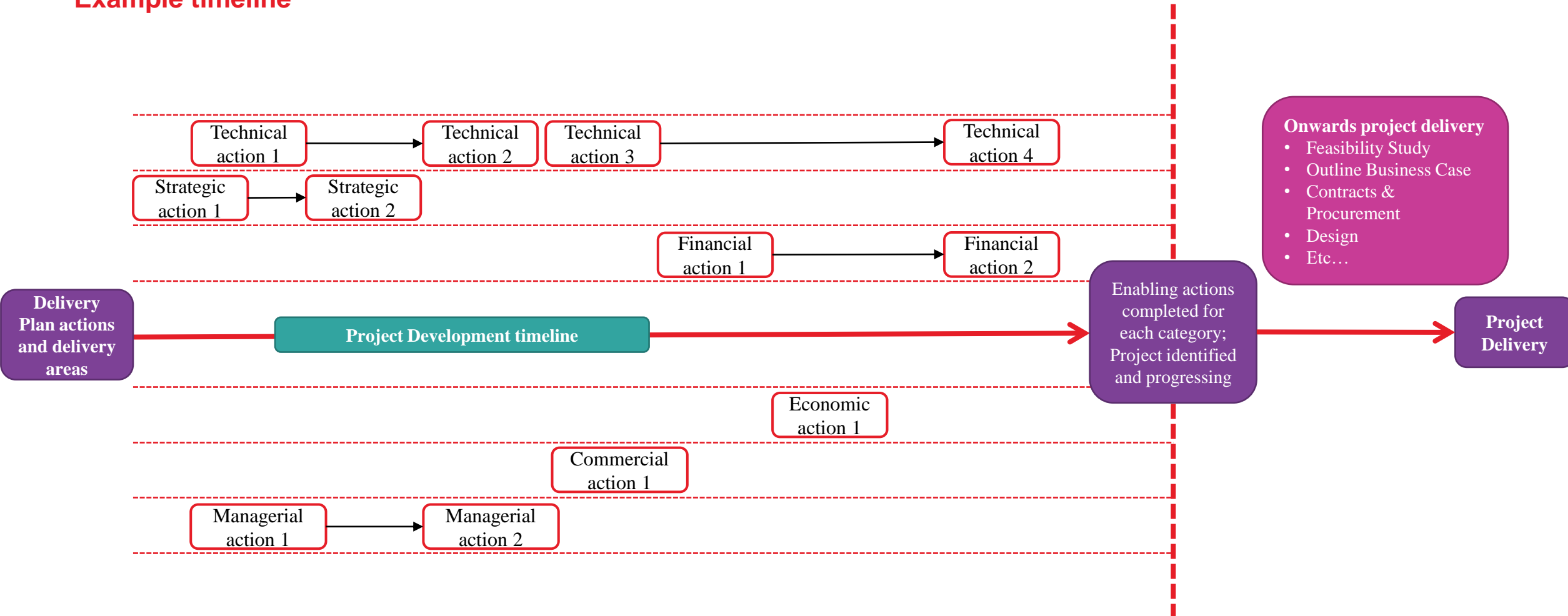
- Outline and catalogue gaps, barriers and challenges that exist now and in the future that may impact the development of projects
- Could also be set out under same headings as Business case categories (e.g. technical, managerial barriers)

Project development timelines

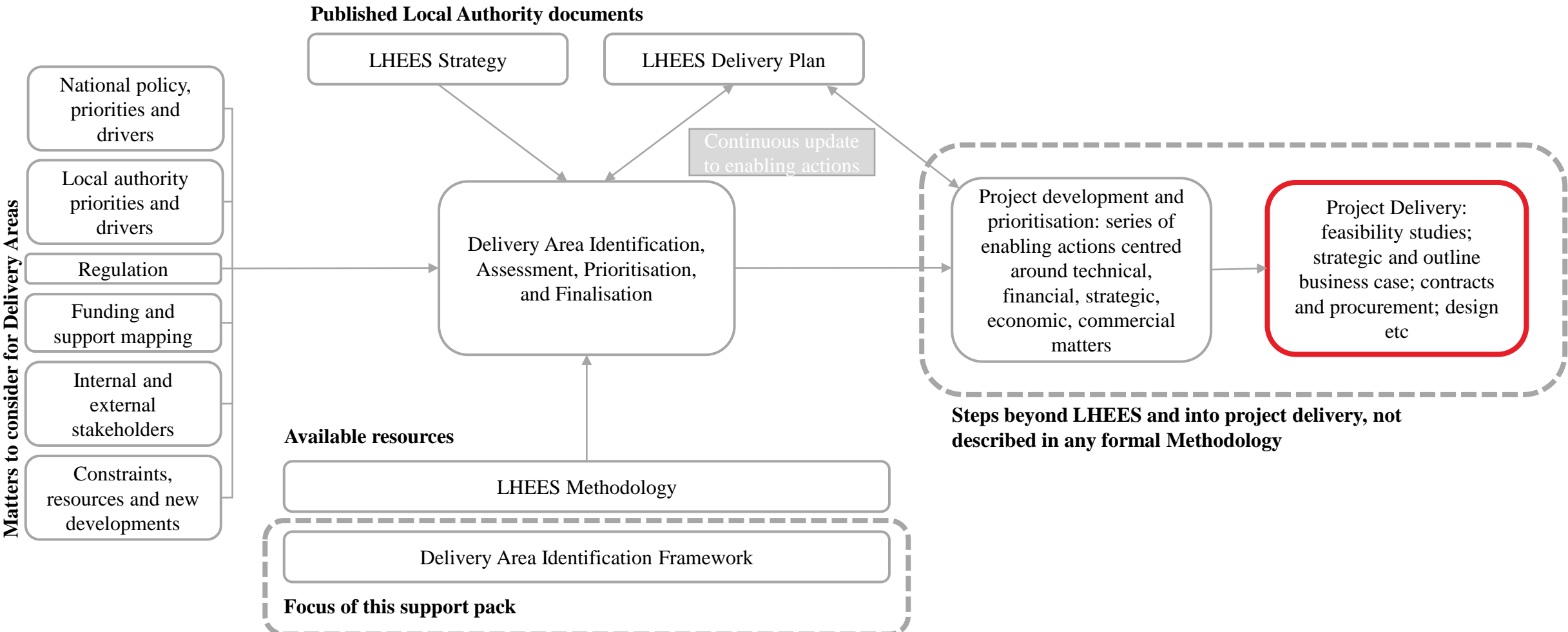
- Set out categories and enabling actions in a Project Development timeline
- Provides a simplified structure to work against when progressing from high-level Delivery Plan actions to onward project development

Onward project development

Example timeline



Project Delivery

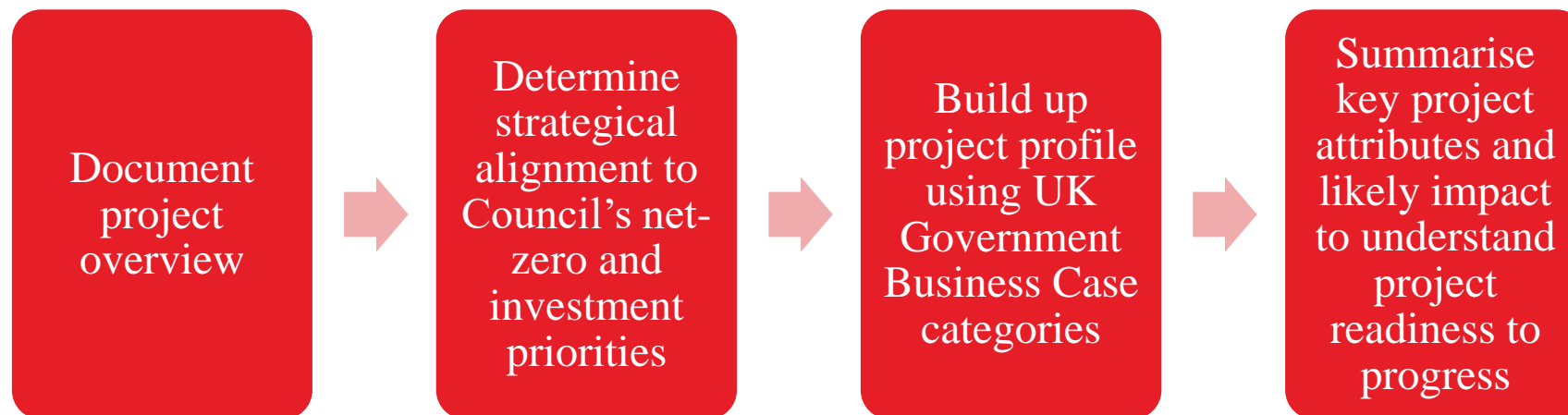


Project delivery

- Following working through a series of Delivery Plan actions and Delivery Area initiatives, it is likely that potential projects may be required to undergo further appraisal to determine which projects should go forward for business case development and/or funding
- The specifics of this process are likely to be unique to each local authority, yet it is likely that projects would need to undergo further feasibility appraisal and/or set out a Strategic and Outline Business Case for investment
 - This investment may be sourced internally, publicly and/or privately
- This is outside the scope of LHEES, but essential to understand internal processes in the near-term to ensure LHEES can lead to investible projects in a manner that is compatible with Council practices



Simplified approach to appraise projects



Simplified approach to appraise projects

Having a structured, decision-based approach in place to appraise projects would allow the Council to:

1. Confirm that a project is strategically aligned to the priorities of the Council and its LHEES, the Scottish Government and priorities of any wider partners;
2. Support the gathering of all the necessary information to begin forming a Strategic or Outline Business Case for investment;
3. Ensure that a project has buy-in from other Council services such as Climate Change, Energy Management, Finance, Legal and other departments;
4. Help members of the Council's staff to assess the readiness of their projects to progress to the Strategic or Outline Business Case stage of project development;
5. Help members of the Council's staff to compare the outcomes and attributes of different projects to allow for complementary projects to be packaged together or considered in tandem when looking for investment.

ARUP