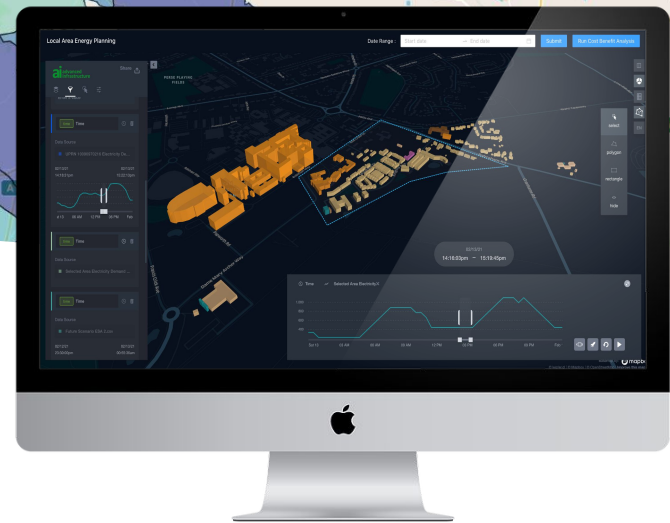


Decarbonisation Pathways and Local Area Energy Planning'

Sheryl French, Assistant Director,
Climate Change and Energy Services

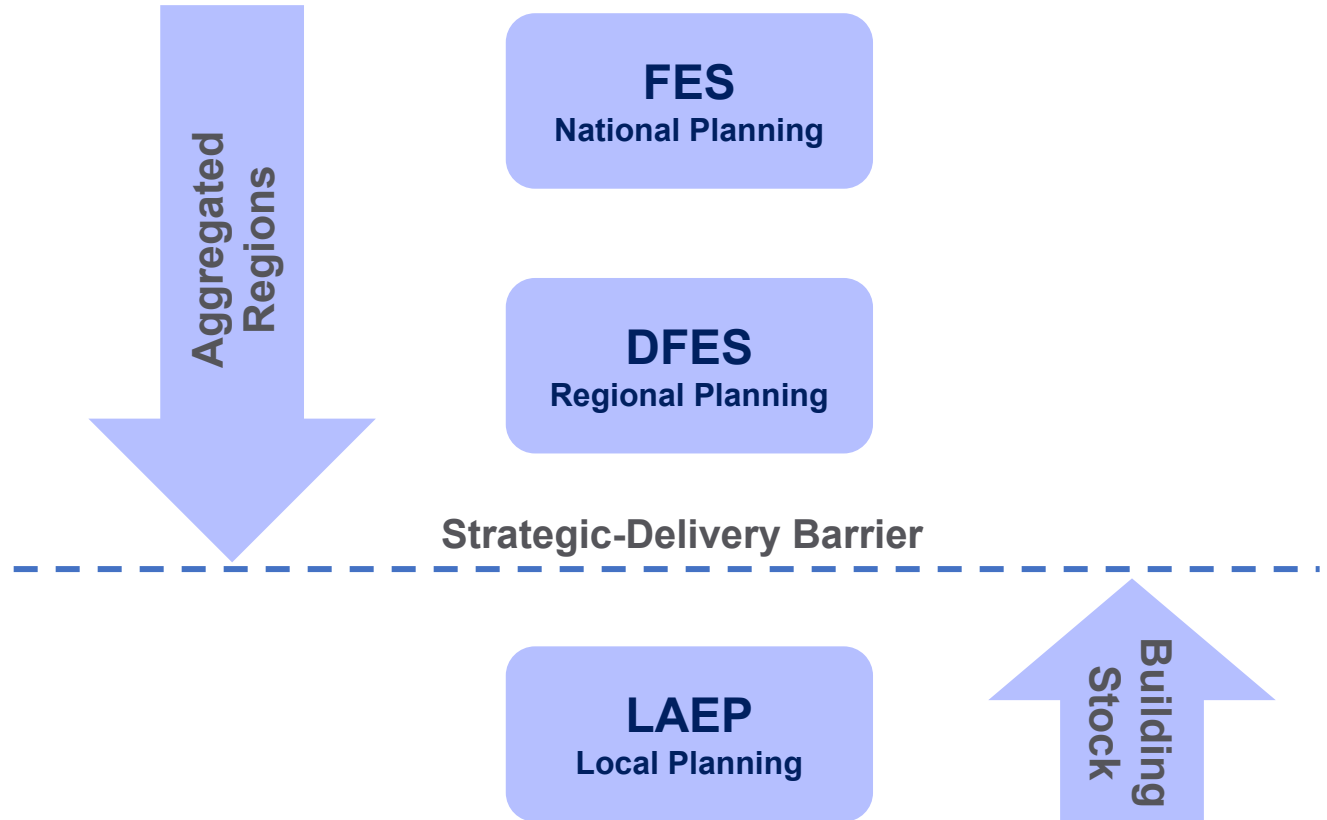
Christopher Jackson
Advanced Infrastructure



Agenda

1. What is a Local Area Energy Plan?
2. Case Study: Digital tooling to aid decarbonisation planning
3. Mentimeter: Questions to the audience

Why we need Local Area Energy Plans



Local Authorities across the UK are developing plans to deliver against Net Zero Targets. There are many different methods of planning. 20 local authorities in the UK have chosen to develop Local Area Energy Plans - an approach pioneered by Energy Systems Catapult. However, many other local authorities are taking different approaches.

What makes a good plan?

Generally, a good plan should include:

- A robust data baseline of the current system
- Stakeholder Engagement
- A data-based analysis of potential futures
- A cost benefit analysis that considers wider benefits and impacts, alongside network capacity and costs

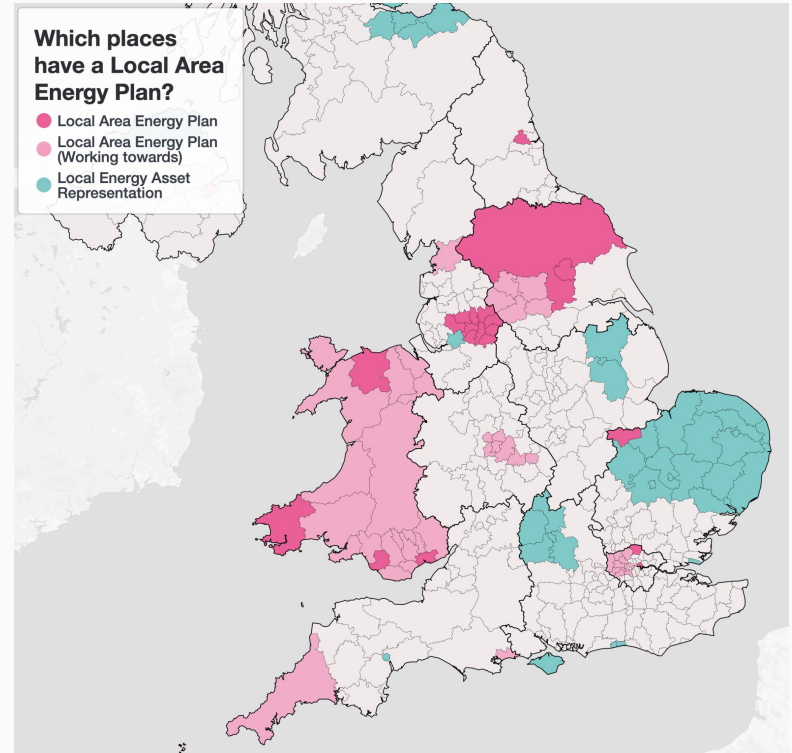
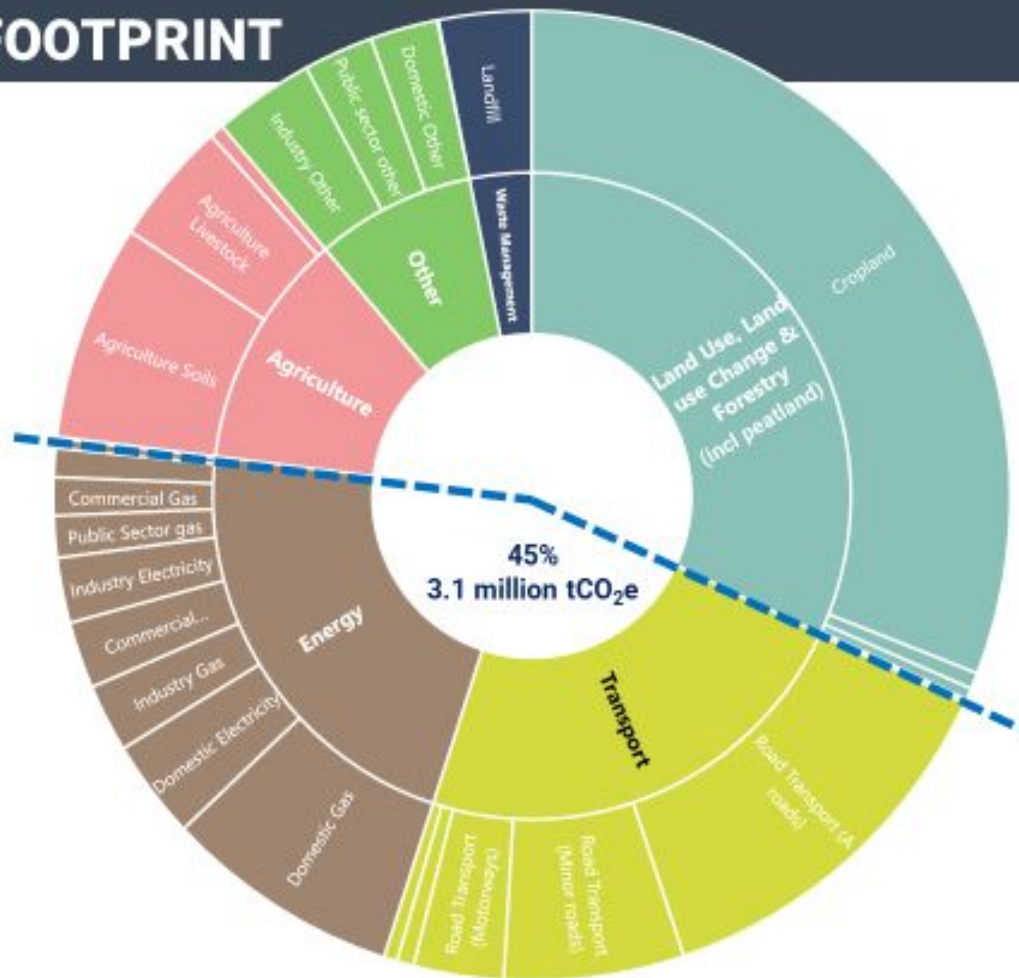


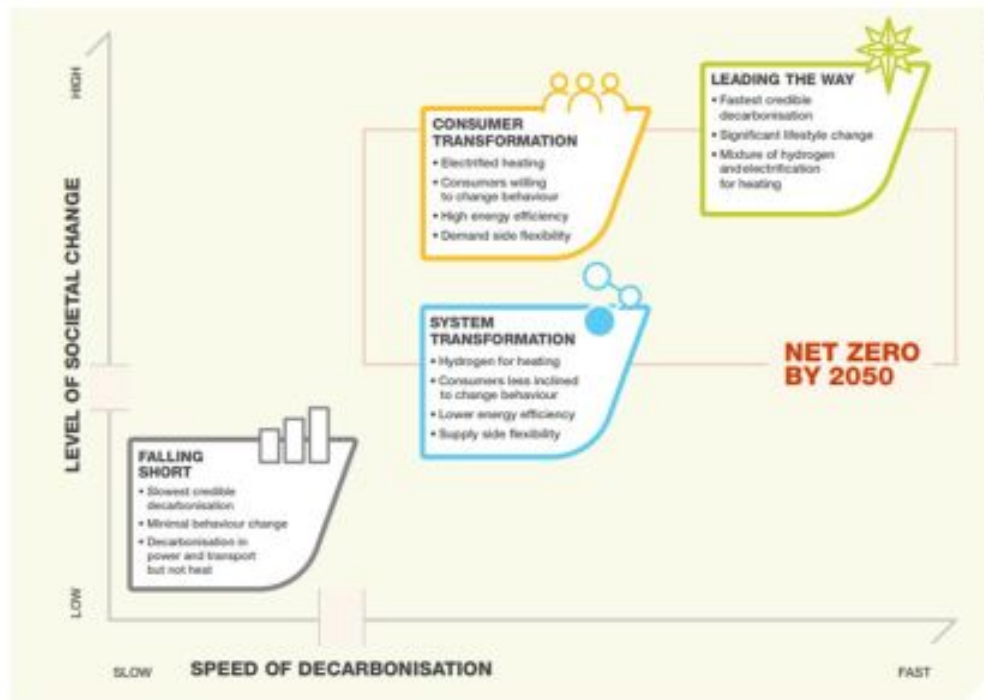
Image credit: Energy Systems Catapult

CAMBRIDGESHIRE'S CARBON FOOTPRINT

- Using the latest complete figures from government, Cambridgeshire's carbon emissions in 2020 were **6.8 million tonnes CO₂e**
- 45% of those emissions were from energy and transport – both of which required electrification to decarbonise
- Local Area Energy Planning (LAEP) will be a key mechanisms to plan this reduction
- However, we also know that the costs to deliver LAEPs can be significant!



Future Energy Scenarios 2022



In *Leading the Way*, combining high consumer engagement with significant and innovative investment enables the Net Zero target to be met in **2047** with emissions net negative in 2050.

High levels of renewables and no unabated natural gas generation will require significantly more flexible capacity than we have today.

Demand side management is key

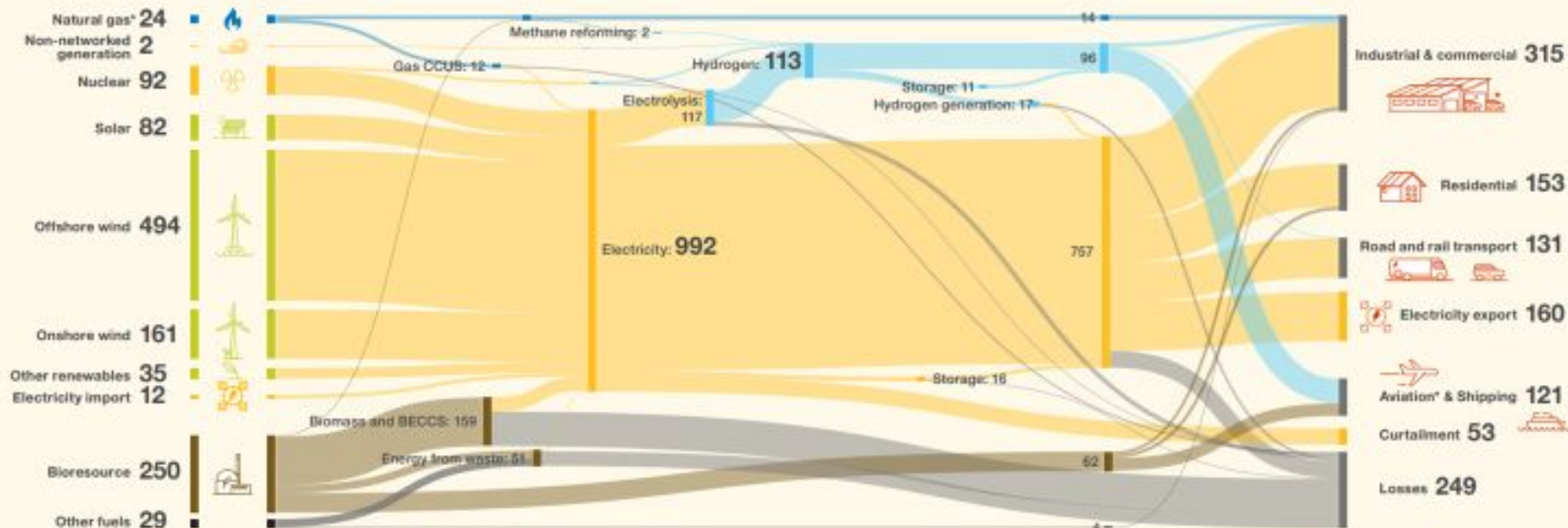
- flexible energy consumption,
- long duration storage
- Energy market signals – e.g flexible tariffs
- Digitalisation e.g most engaged consumers wont manually adjust demand (smart digital)

UK Energy flows in 2050

Future Energy Scenarios 2022

Consumer Transformation (1182 TWh)

- Home heating, transport and industry largely electrified
- High levels of energy efficiency combined with large-scale electrification lead to lowest end user energy demands across the scenarios
- Electricity generation capacity and output is highest in this scenario to meet high annual electricity demands
- High levels of renewable generation with low hydrogen production leads to highest levels of electricity curtailment across the scenarios



*including exports

*Aviation excludes some demand met by petroleum products

What we heard - Problem Statements

LAEP Understanding

Help all LA's and organisations understand Local Area Energy Planning

Unlocking Funding

Help all LA's unlock more funding to help action a LAEP

Net Zero at lowest Cost

Support LA's to make best value net-zero choices

Network visibility

Give LA's visibility to the network and plan around capacity

Understand UK Power Networks plans

Manage expectations and share UK Power Networks plans for the network

Methodology/Tools

Simplify the method and tools

Data

Provide LA's and Orgs with useful and up-to-date data

Skills/ Understanding

Provide essential education about energy networks

Capacity Requests

Streamlining capacity requests

Collaboration & alignment

Help LA's and Orgs with collaboration and alignment

Managing stakeholders

Help LA's with managing and communicating with stakeholders

LOCAL AREA ENERGY PLANNING

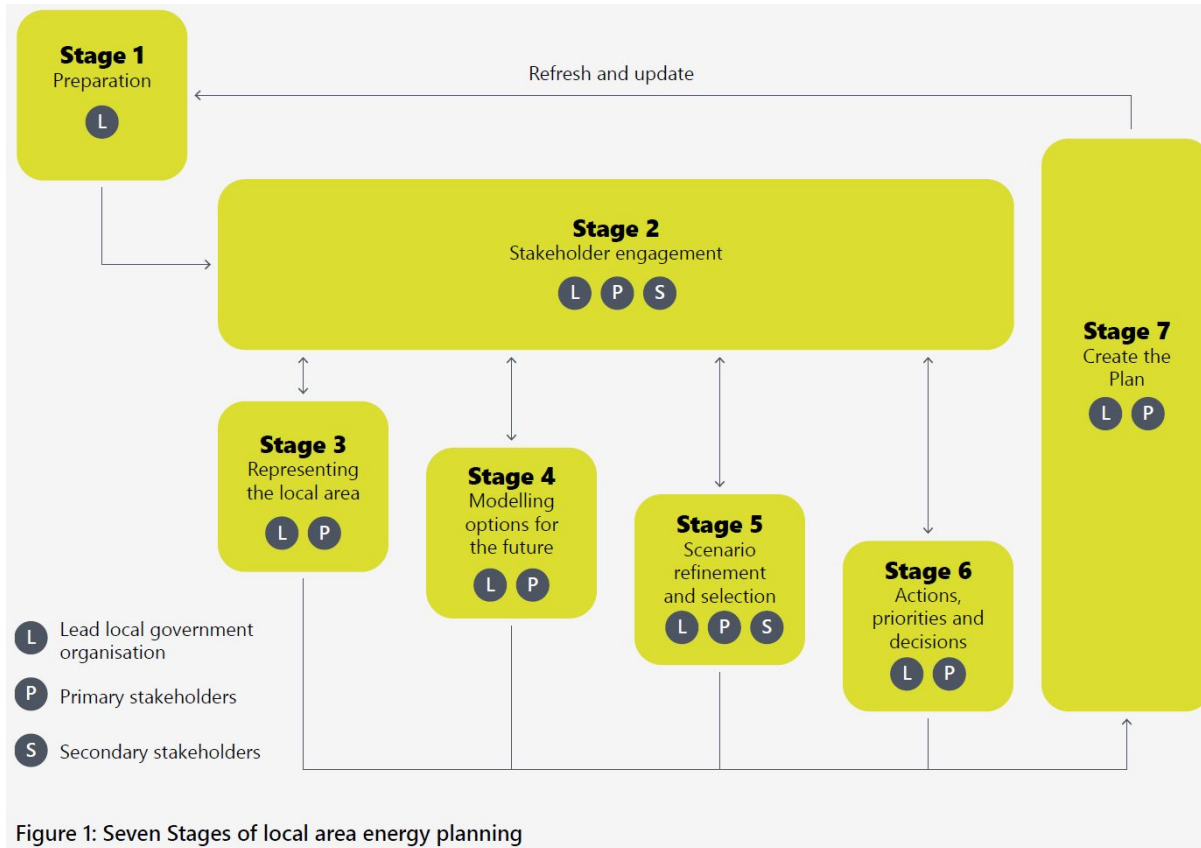


Figure 1: Seven Stages of local area energy planning