

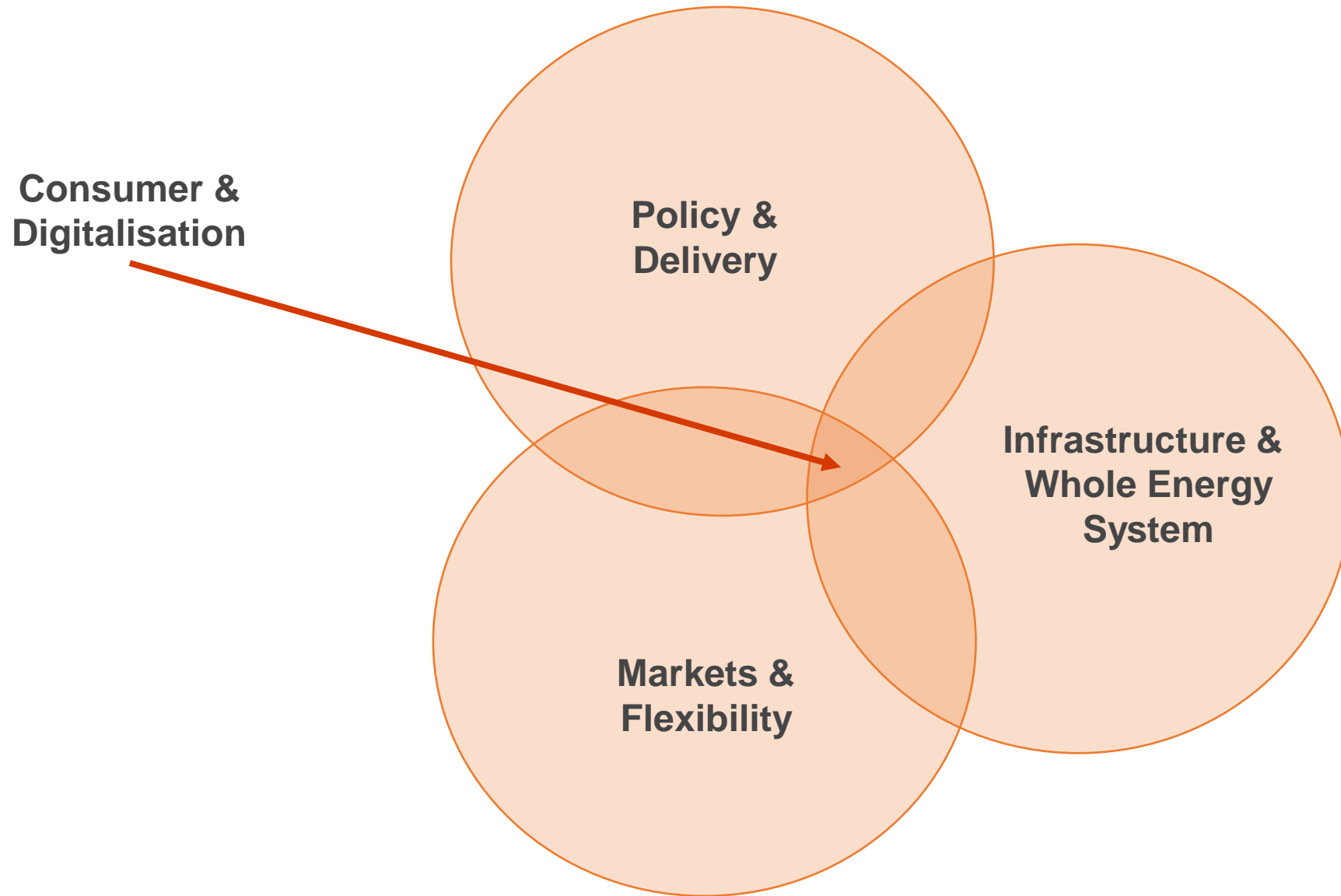
Key Message 1
Policy and Delivery
10:00 20/07/22

July 2022

Future Energy Scenarios

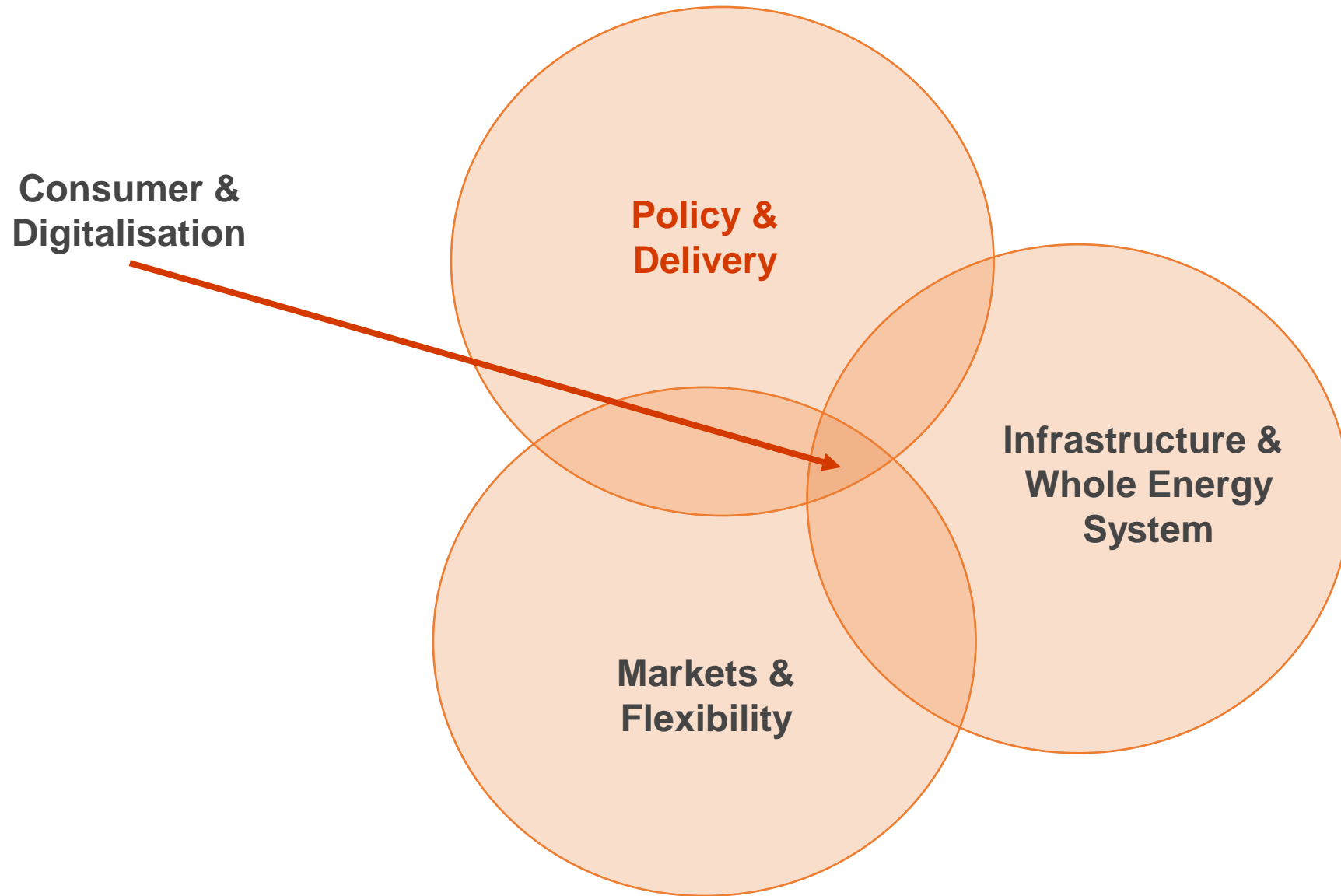
The FES 2022 key messages are all connected

Sli.do #KM1



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1

Key Message Policy and delivery

Significantly accelerating the transition to a decarbonised energy system can help to address security and affordability concerns at the same time as delivering Net Zero milestones.



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Overall end consumer demand reduces by over 40% by 2035 in **Leading the Way**

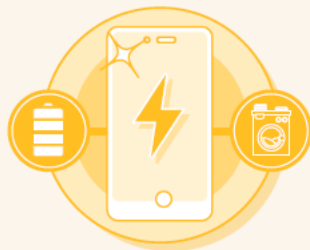


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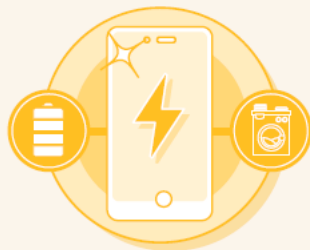


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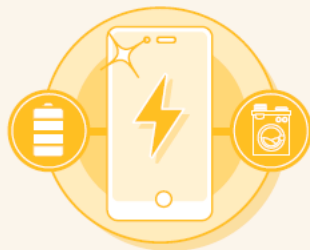


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A plan to roll out thermal insulation to buildings alongside associated financing is urgently needed to unlock these benefits.



1 Key Message

Policy and delivery

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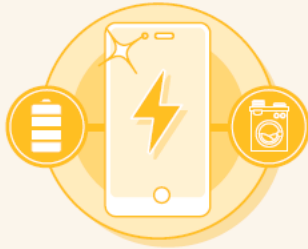
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Within a national strategy, delivery of the targeted solutions and investment required by consumers should take place at a more regional level to leverage local knowledge and improve affordability.

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Call to action

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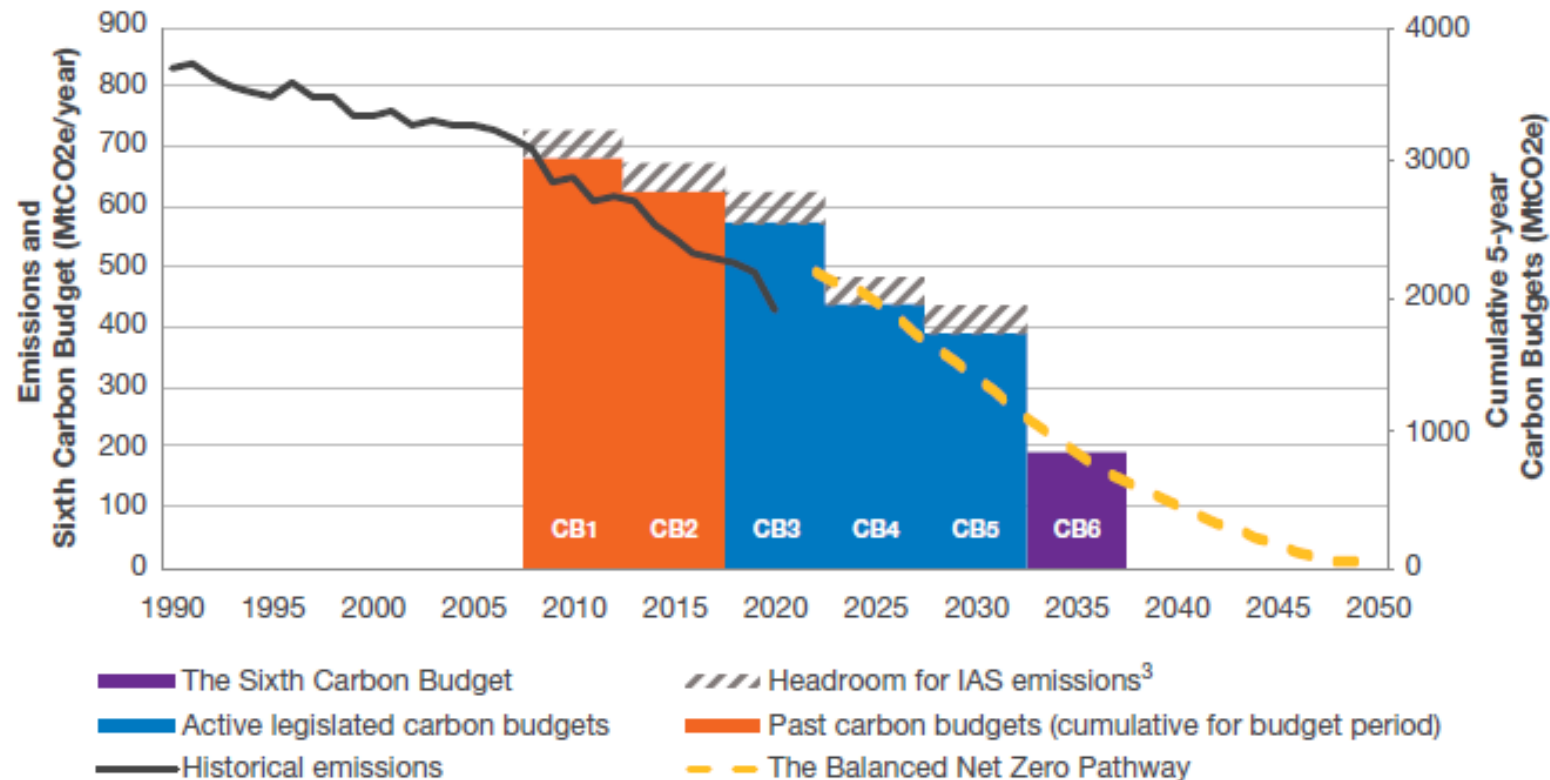
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Navigating a fair transition to Net Zero will require further policy and more action on delivery

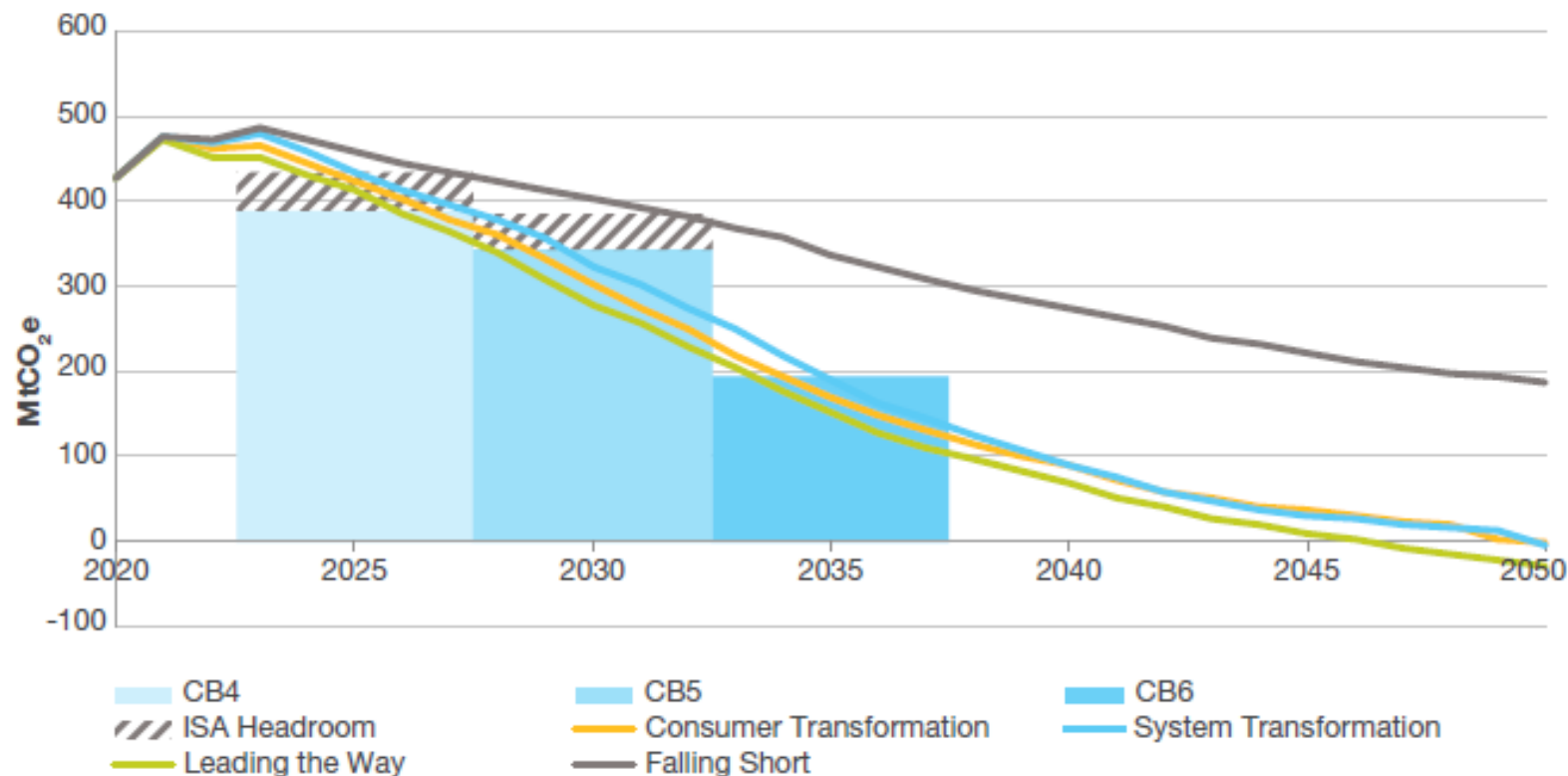
The progress so far...



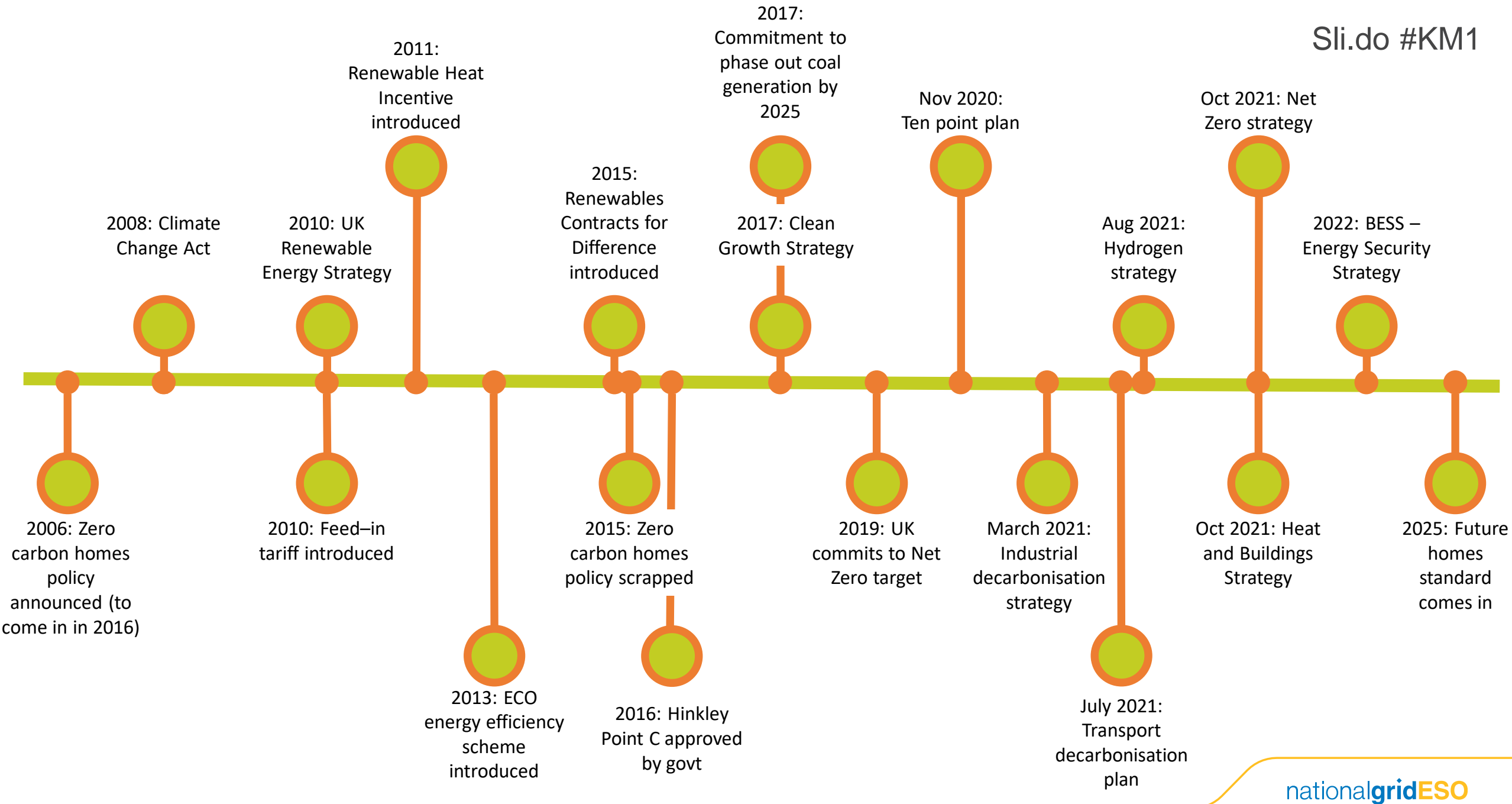
Policy to date has been important in delivering reduced emissions... but more is needed

Navigating a fair transition to Net Zero will require further policy and more action on delivery

Our assumptions

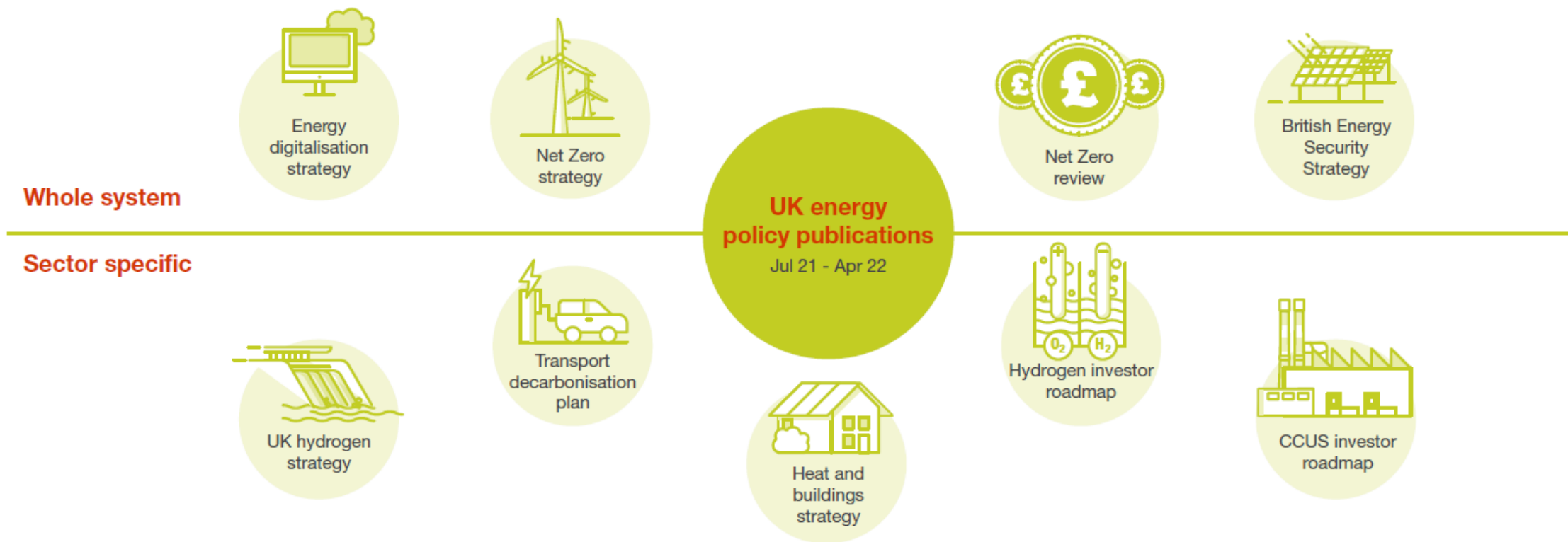


Net Zero is a whole system challenge. The energy sector will need to reach negative emissions to offset other sectors that cannot decarbonise



Net Zero policy is moving at pace

A lot has happened over the last 12 months...

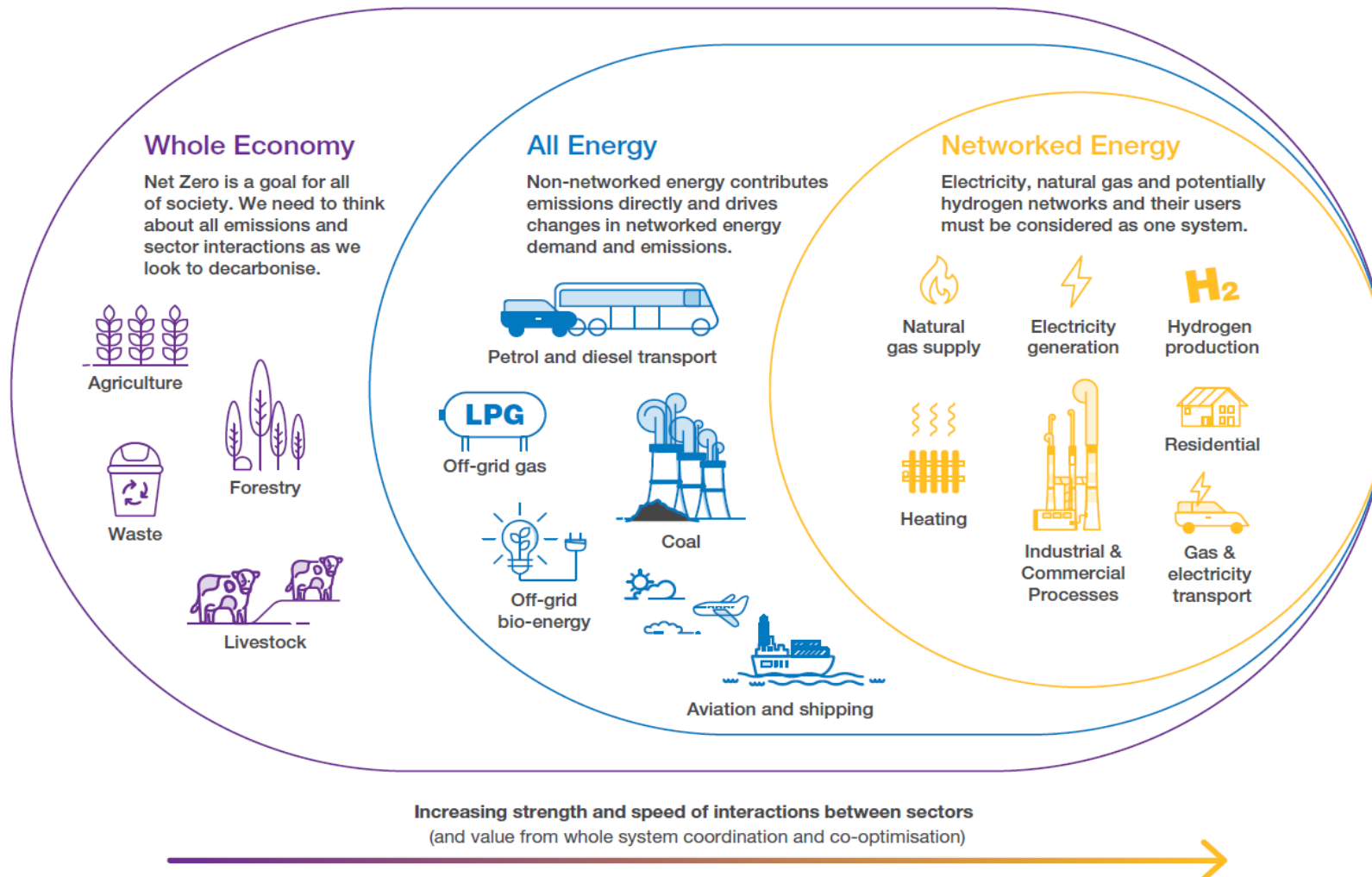


If the UK is to meet Net Zero, focus is needed on both policy and delivery

Strategic whole system thinking includes...

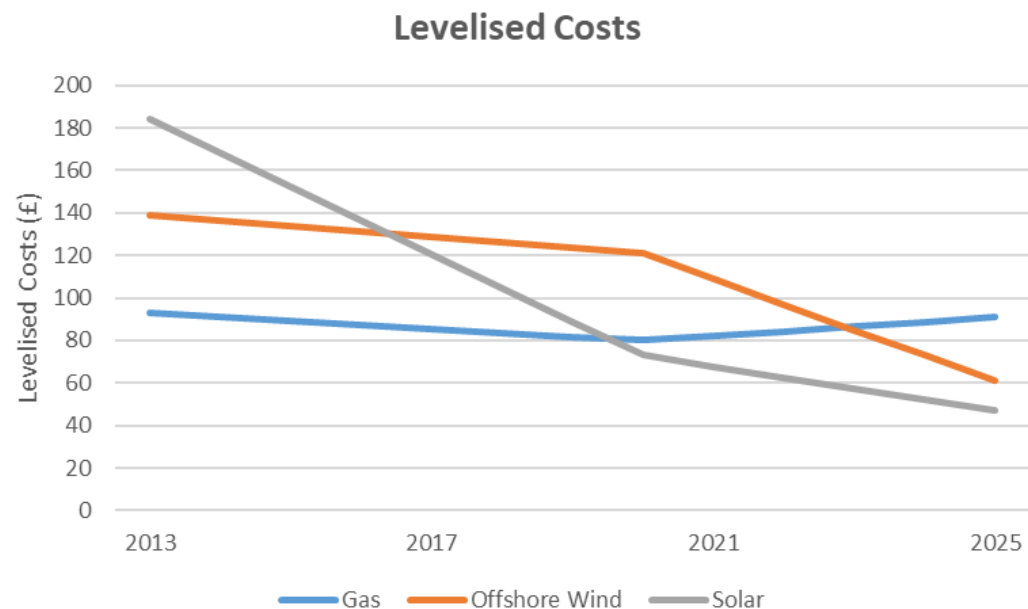
Sli.do #KM1

...treating all energy value streams as one continuous system, where benefits in one area can solve challenges in another

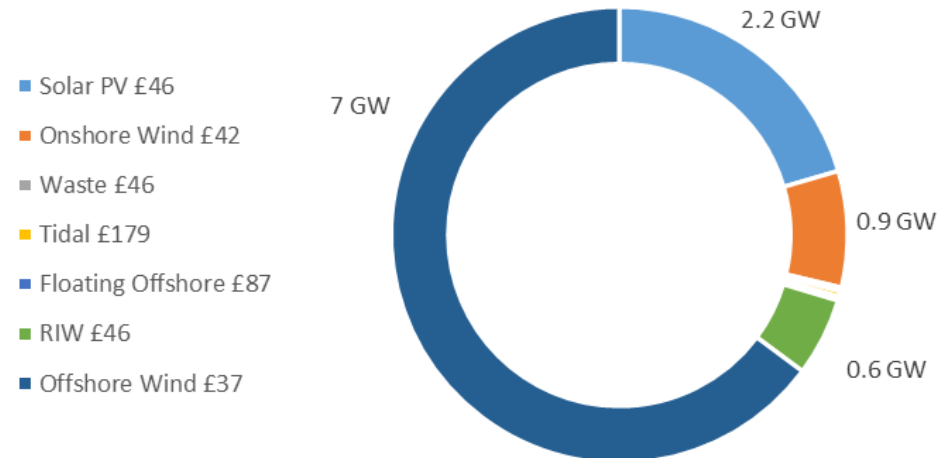


Navigating a fair transition to Net Zero

Levelised costs of wind and solar are much lower than unabated natural gas generation for projects commissioning in 2025



Contracts for difference auction 2022



The benefits brought by cheaper, lower carbon forms of generation need to flow through to consumers

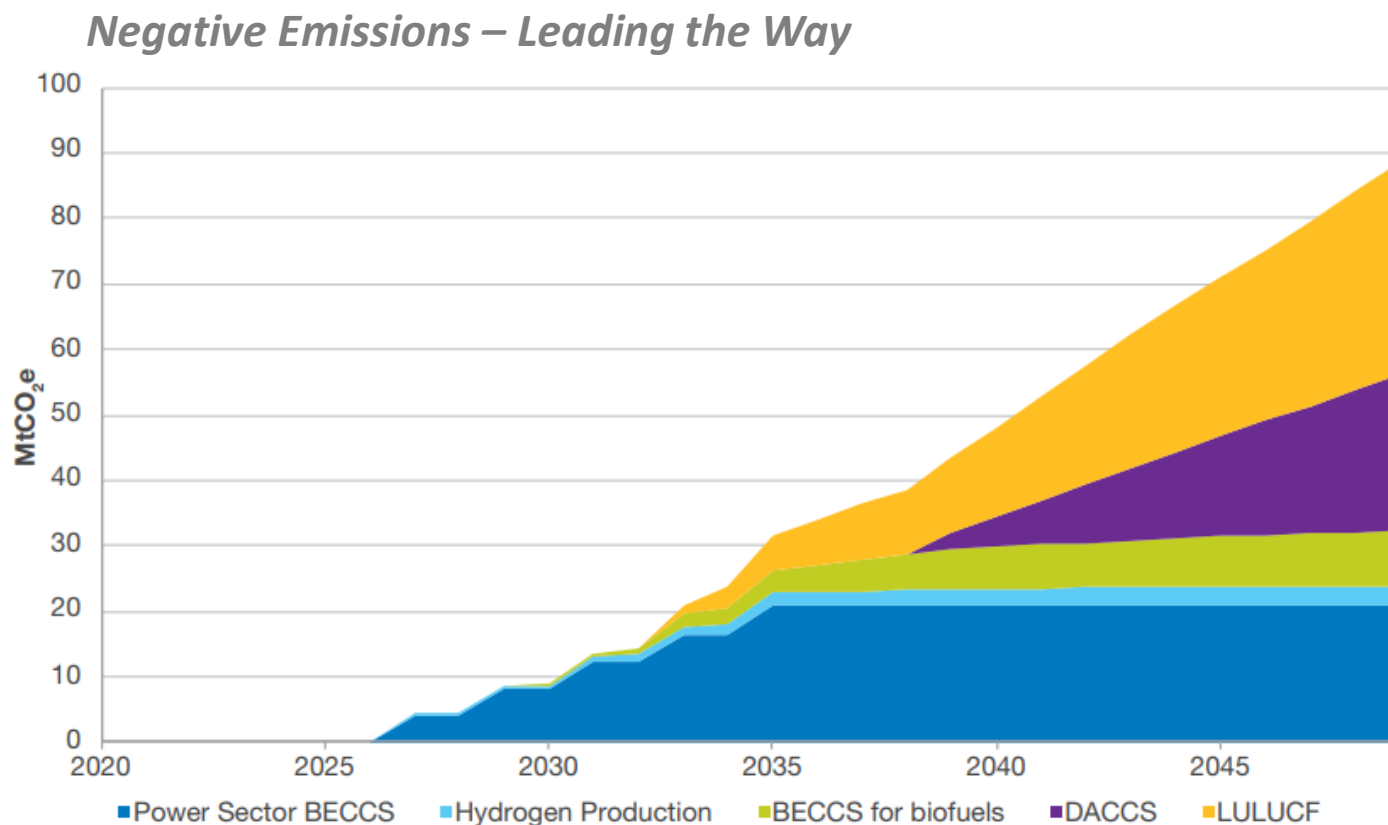
For the energy sector to reach net negative emissions, solutions which remove emissions from the atmosphere are required

	2035			2050		
	CT	ST	LW	CT	ST	LW
BECCS for power	28	23	17	52	44	21
BECCS for hydrogen	0	5	2	0	12	3
BECCS for bioenergy	3	3	3	8	8	8
DACCS	0	0	0	0	0	24
LULUCF	0	0	3	19	19	32
Total	31	31	25	79	83	88



Supply chain sustainability and carbon accounting rules must be considered when deploying BECCS

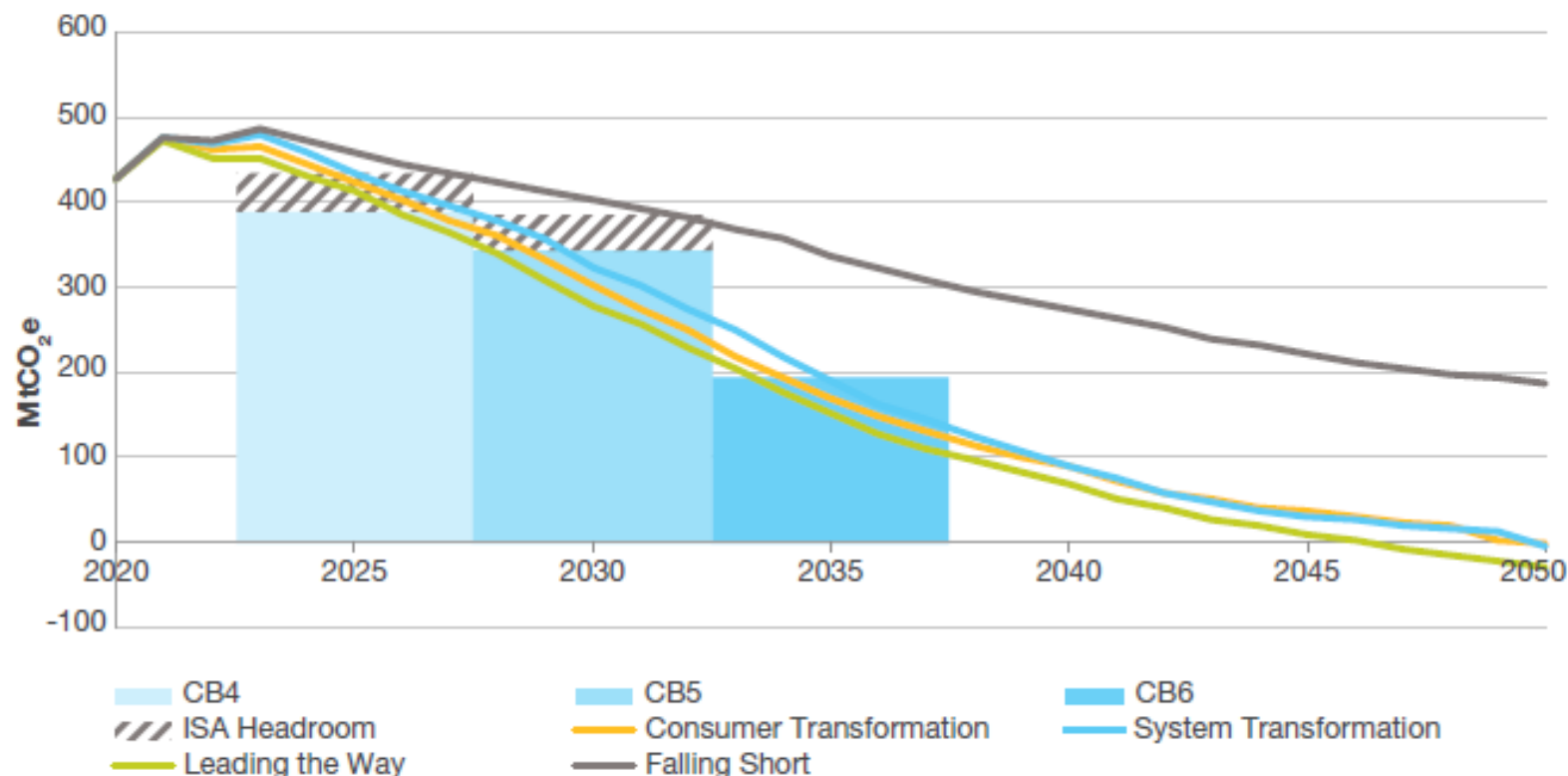
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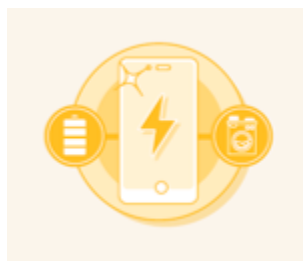
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Net Zero is a whole system challenge whereby the energy sector needs to reach negative emissions to offset other sectors that cannot decarbonise

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Demand side strategy



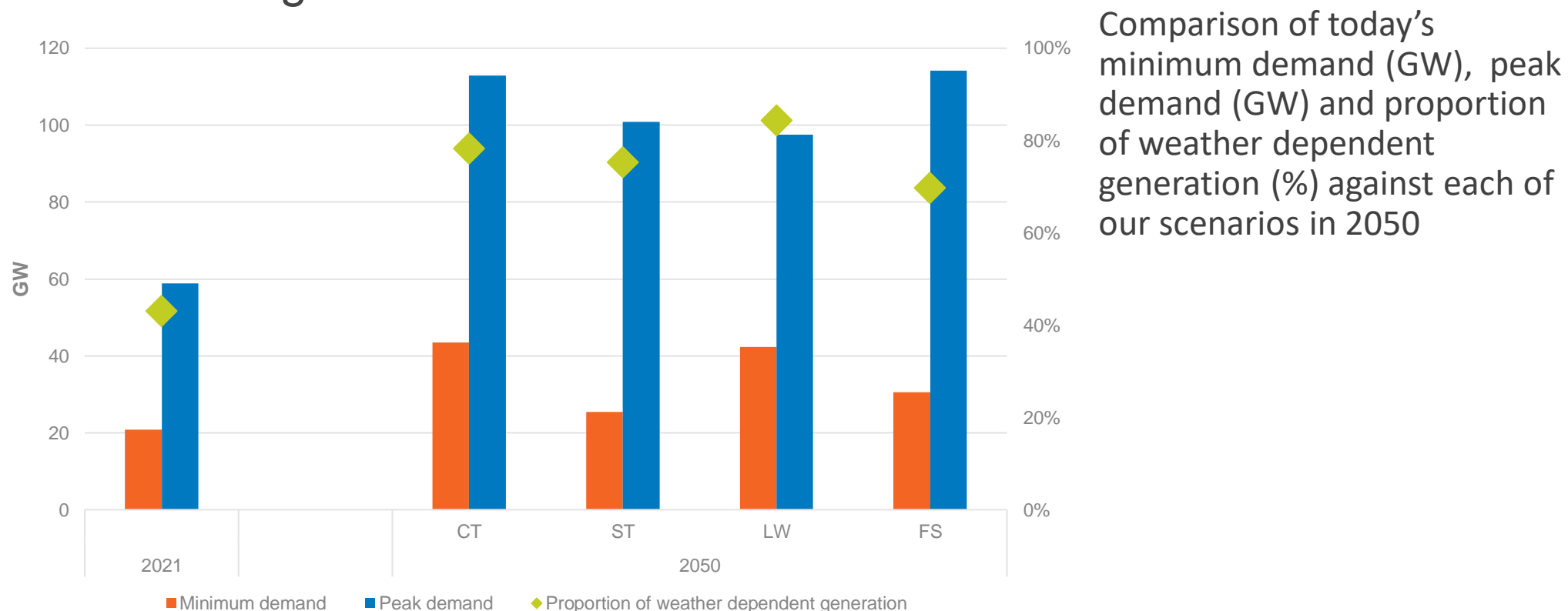
Energy efficiency



Regional focus on heat

The gap between minimum demand and peak demand is increasing

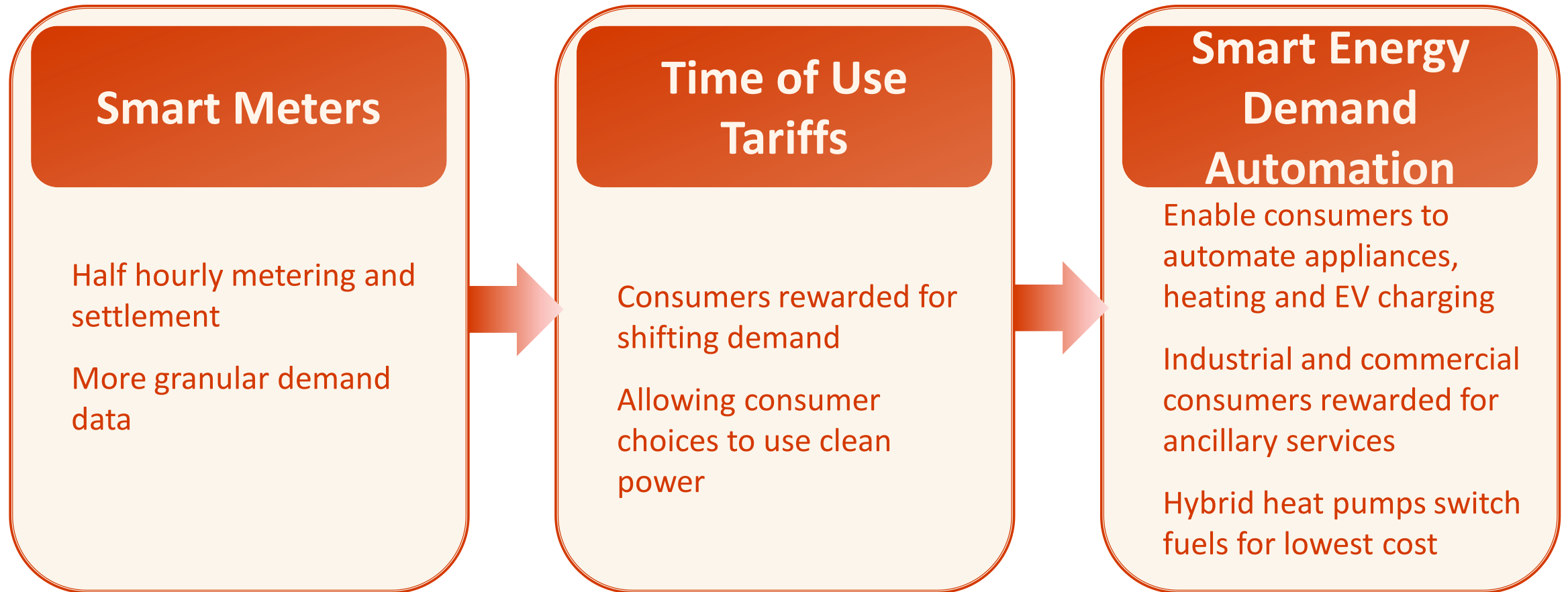
This is at the same time the proportion of weather dependent generation is increasing



Policy needs to drive demand side flexibility and long duration storage to manage under and oversupply at least cost whilst ensuring security of supply

To unlock this flexibility, consumers need to be given the right tools in a digitalised system

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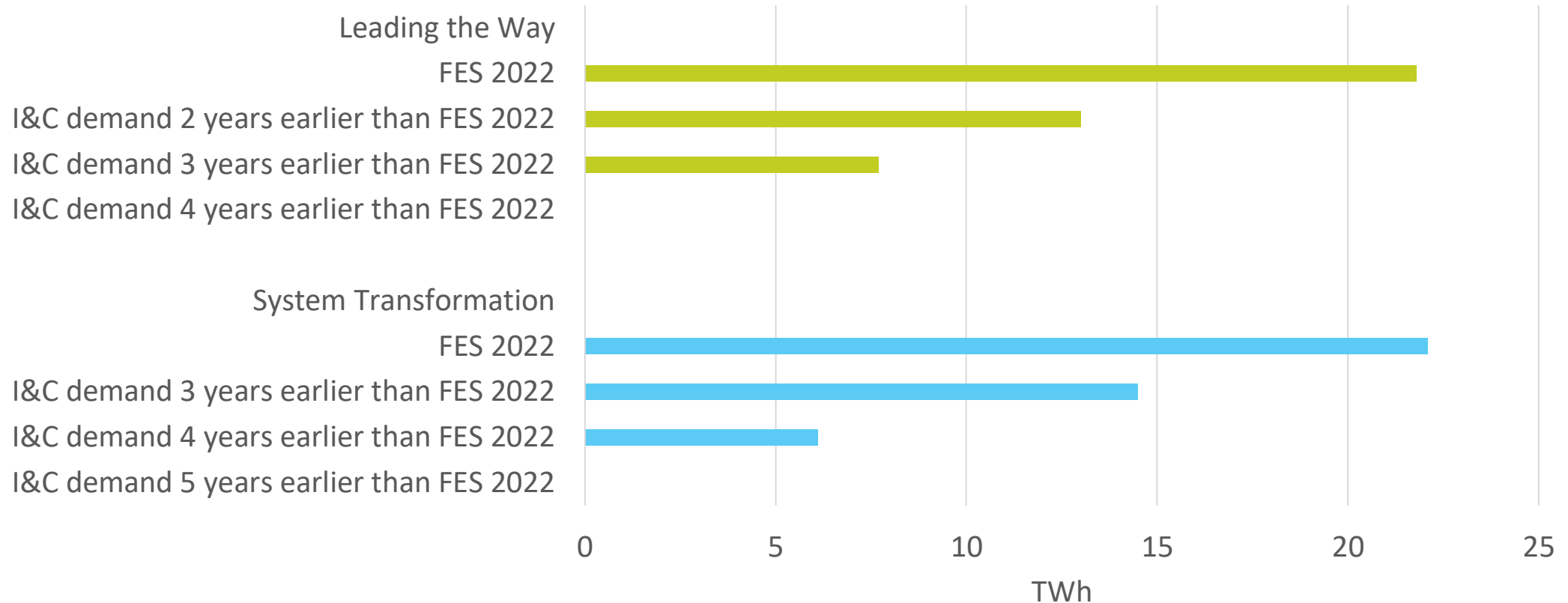


Consumers need to be offered the right value proposition and the technology to take advantage of it

Green hydrogen production provides whole energy system value by reducing levels of curtailment

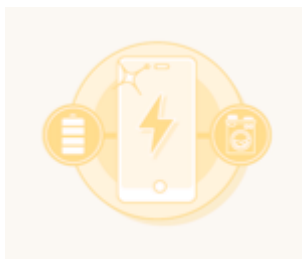
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Blended gas required in 2030 to achieve 10GW production target



A demand side strategy is needed which includes bringing hydrogen demand forward to reduce the level of blending into the NTS

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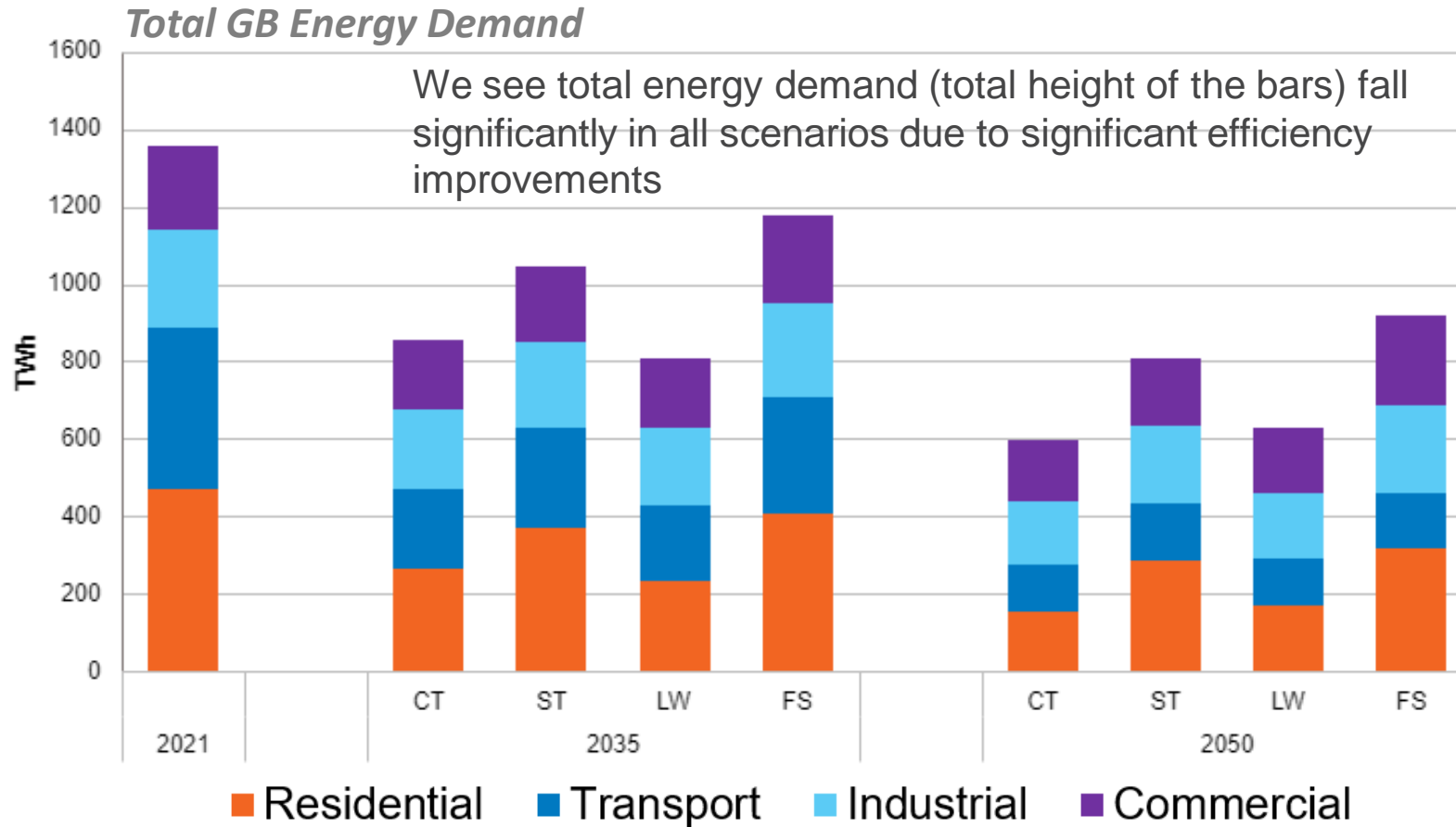
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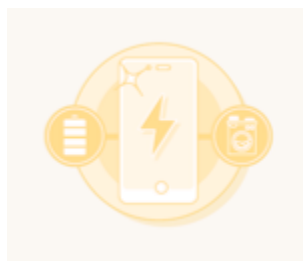
Energy efficiency means less energy needs to be produced, transported and purchased by consumers

Sli.do #KM1



- There needs to be more policy support in the form of legislation and funding for thermal insulation of building stock (new builds and extensions etc)
- Whilst the funding and legislation can be top down, delivery may be more efficient on a more local basis

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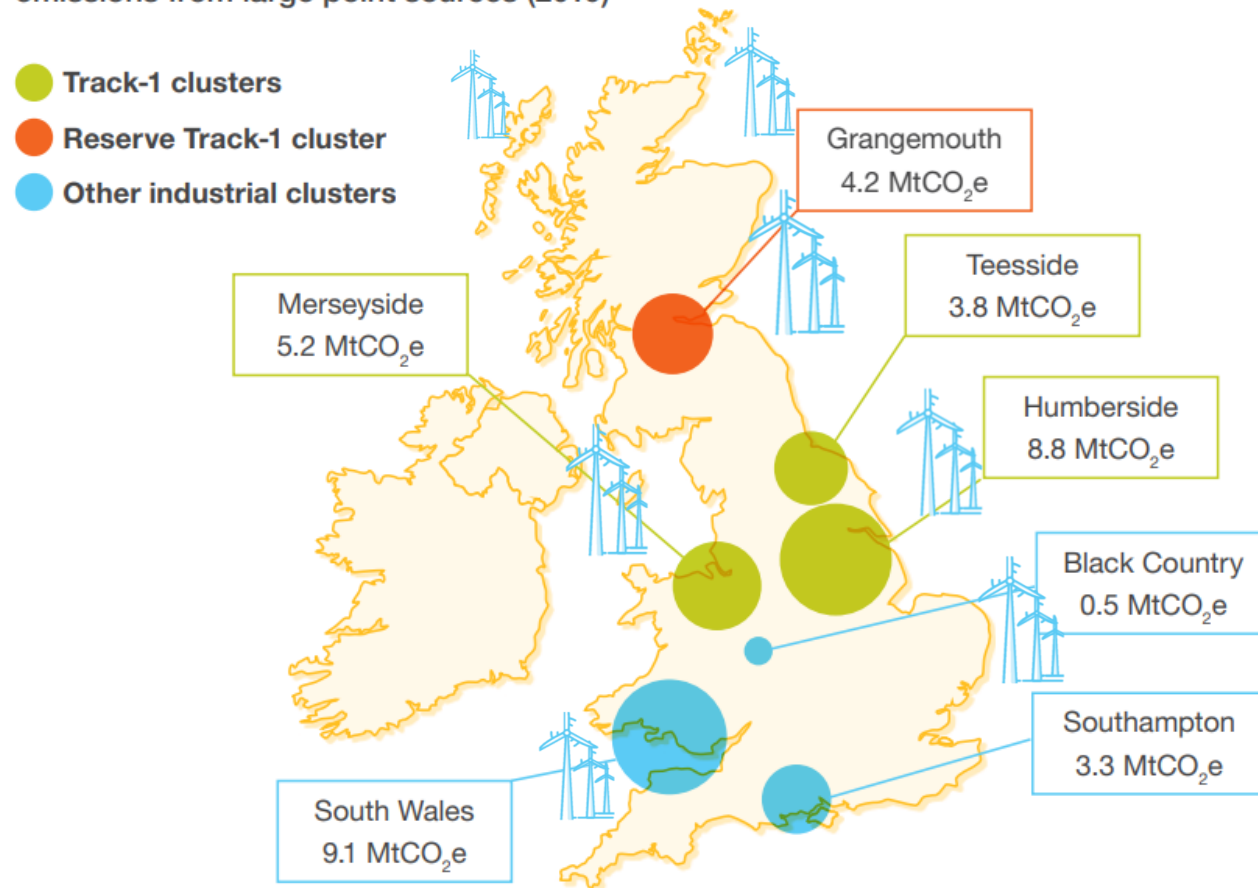


Regional focus on heat

Regional diversity is increasing, strategies and policies must reflect this for individuals and GB

Sli.do #KM1

Map of major UK industrial cluster emissions from large point sources (2019)⁵

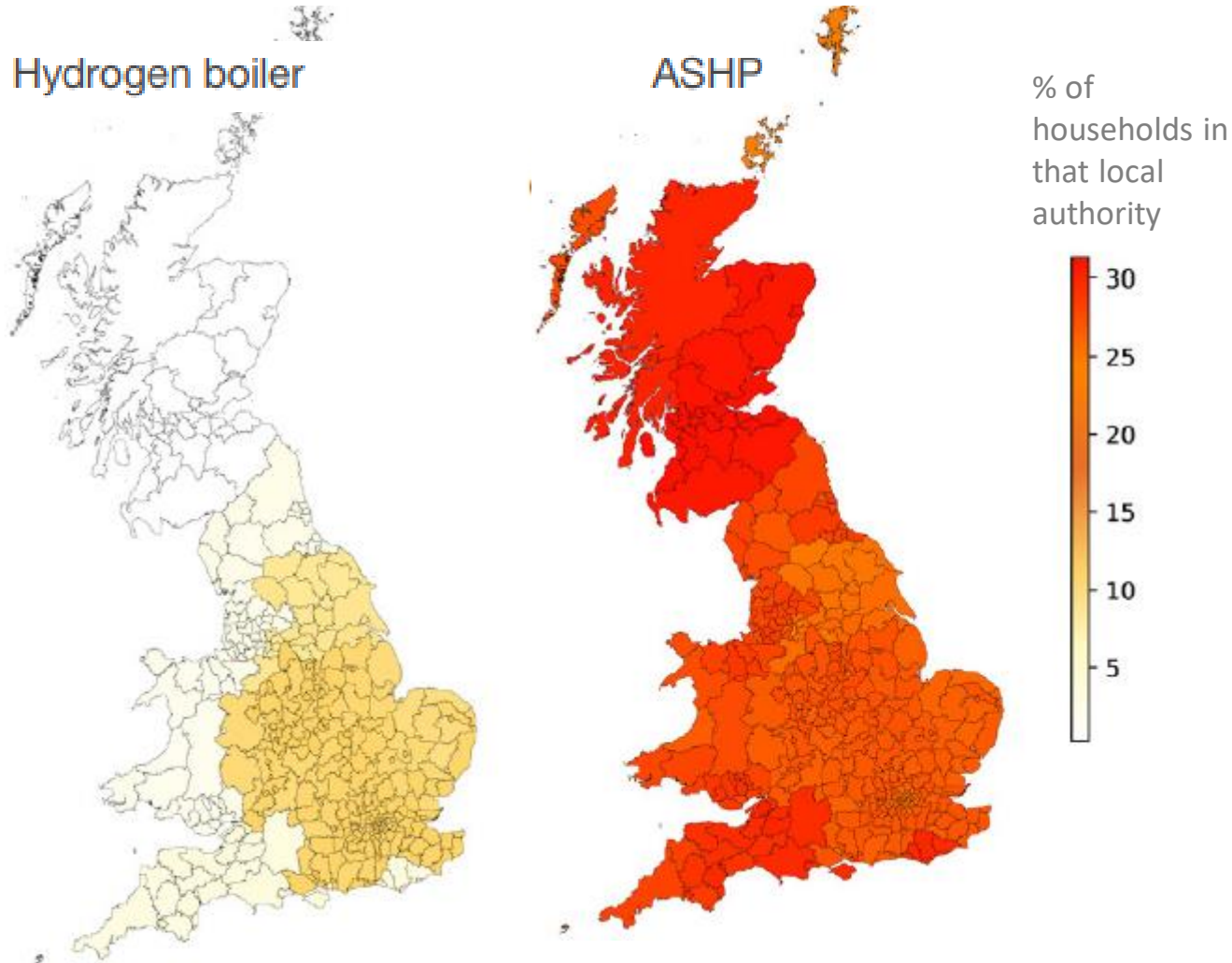


- Regional diversity will increase with North-South generation flows, demand centres and hydrogen clusters.
- Alongside this the infrastructure is different, as are people and their types of home and their regional weather.

Regional diversity is increasing, our strategies and policies must reflect this for individuals and GB

Sli.do #KM1

Technology deployment in **Leading the Way** in 2035



- Decisions on the roll out of low carbon heating, including the 2026 decision on role of hydrogen, must consider regional opportunities and complexities
- More powers and accountability should be transferred at a regional level to accelerate delivery

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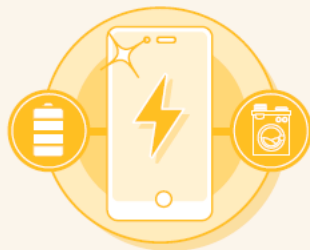


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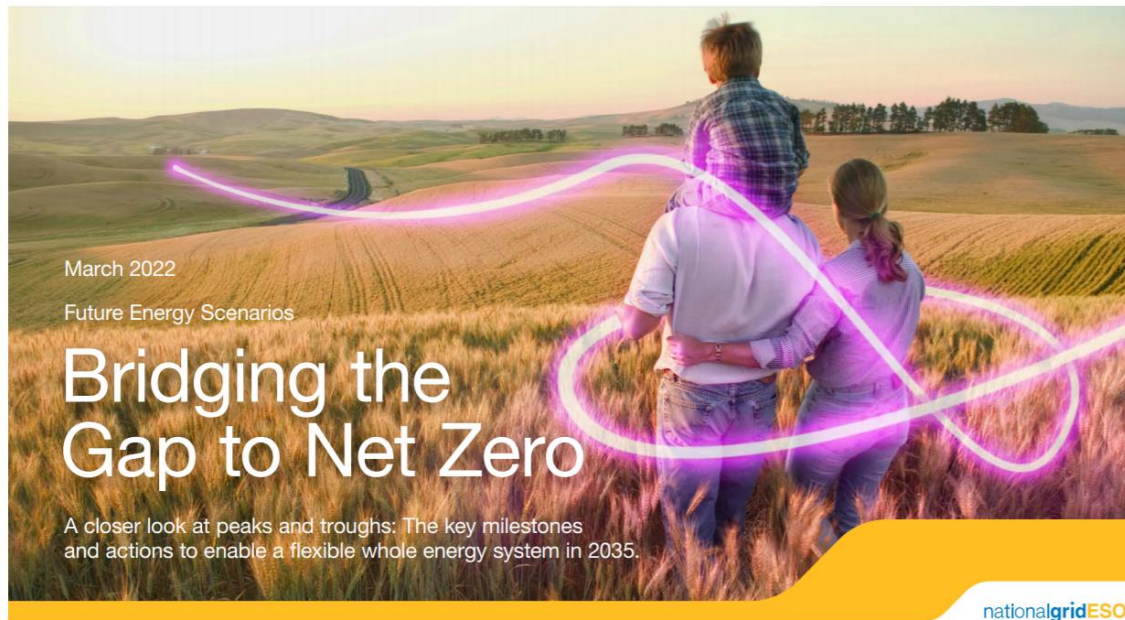
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FES Bridging the Gap update

Sli.do #KM1



The Day in the Life

The Day in the Life 2035 takes an illustrative look at how a fully decarbonised electricity system might operate on a cold, cloudy and calm winter day.

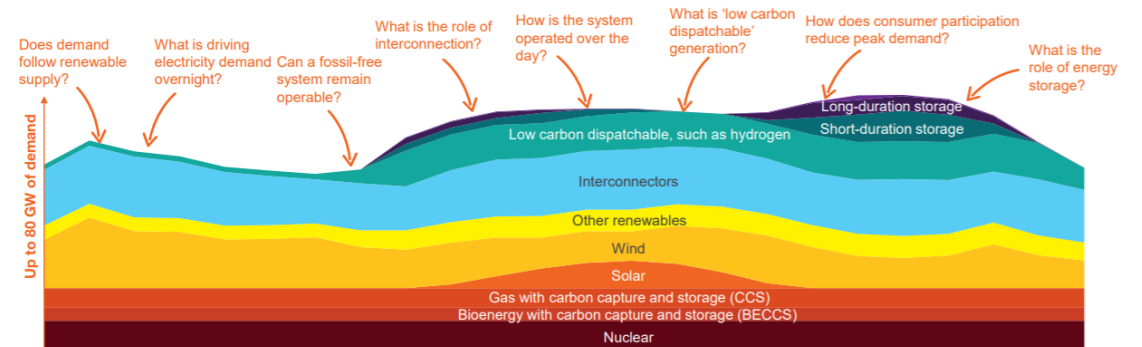
The following section goes through the day hour-by-hour, looking at the interaction between various elements of the energy system. Investigate the Day in the Life across the four sections of the day by clicking the tabs below:

> Overnight

> Morning

> Afternoon

> Evening



Introduction

The Day in the Life

The winter week

The net zero system



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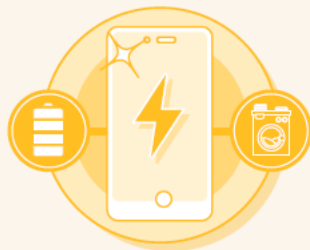


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