



2023 ESO Future Energy Scenarios

10 July
Science Museum, London

Agenda

Time	Item	Speaker	Where
10.00am	Doors open Refreshments, ESO exhibits and networking		Level 5
10.30am	Welcome	Lauren Stuchfield – host for the event	Level 4
10.35am	ESO address	Fintan Slye	Level 4
10.40am	FES 2023 Key Messages	Lauren Stuchfield	Level 4
11.00am	ESO guest speaker	Paul Wakeley (Networks)	Level 4
11.10am	External guest speaker	Emma Pinchbeck: Energy UK	Level 4
11.20am	External guest speaker	Daisy Powell-Chandler: Public First	Level 4
11.30am	Q&A with panel	Host: Matthew Wright Panel: Fintan, Emma and Daisy	Level 4
12.10pm	Lunch, ESO exhibits and networking		Level 5
1.00pm	Event concludes		All



Fintan Slye

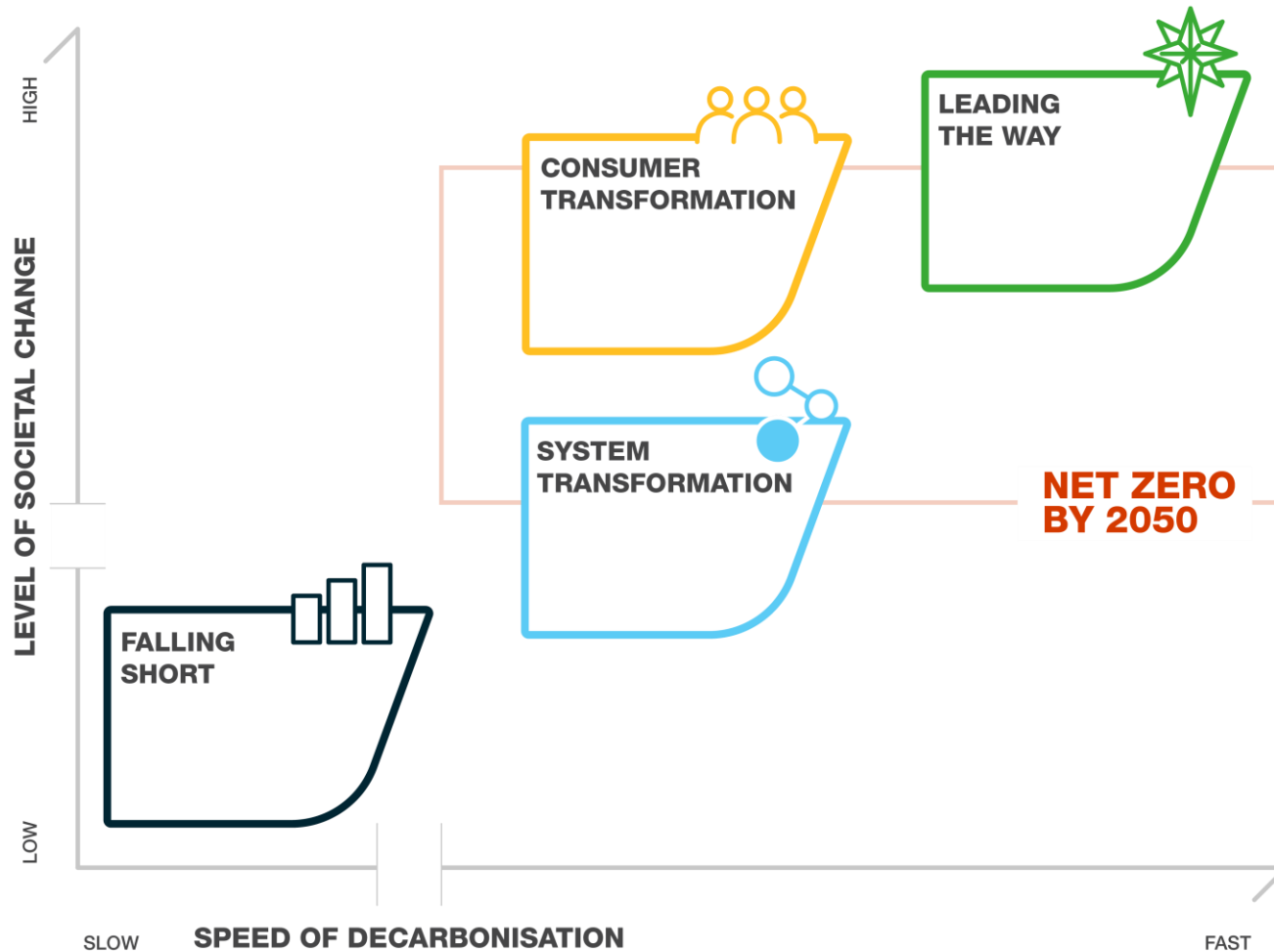
Director, ESO



Lauren Stuchfield

Energy Analysis and Insights Manager,
ESO

Our Future Energy Scenarios



Falling Short

- Slowest credible decarbonisation
- Minimal behaviour change
- Decarbonisation in power and transport but not heat

Consumer Transformation

- Electrified heating
- Consumers willing to change behaviour
- High energy efficiency
- Demand side flexibility

System Transformation

- Hydrogen for heating
- Consumers less inclined to change behaviour
- Lower energy efficiency
- Supply side flexibility

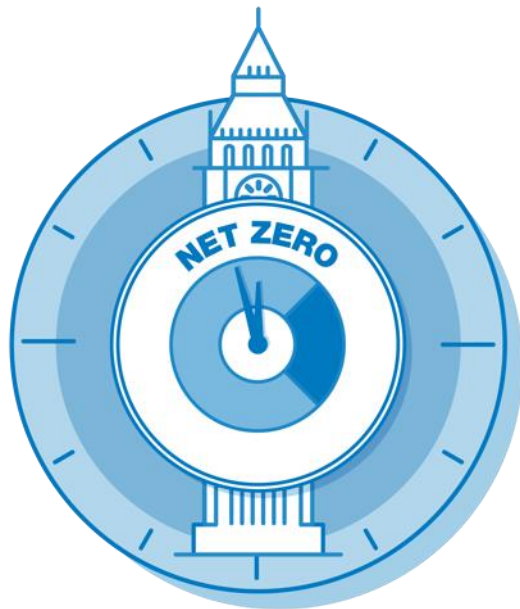
Leading the Way

- Fastest credible decarbonisation
- Significant lifestyle change
- Mixture of hydrogen and electrification for heating

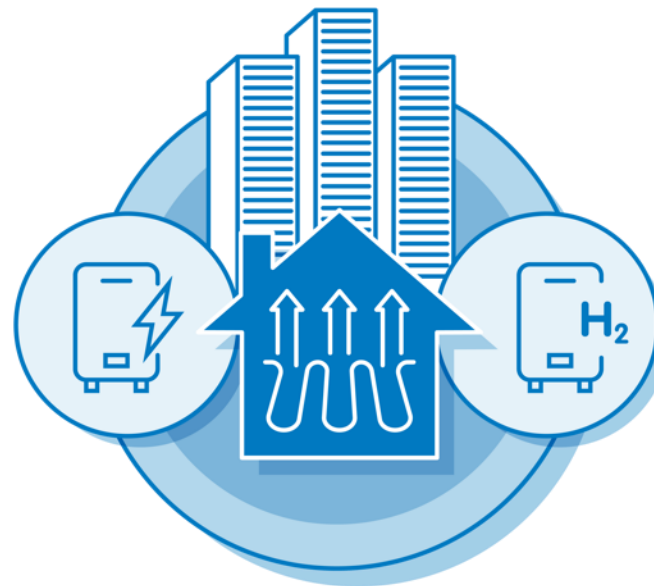
Key Messages

1 Policy and Delivery

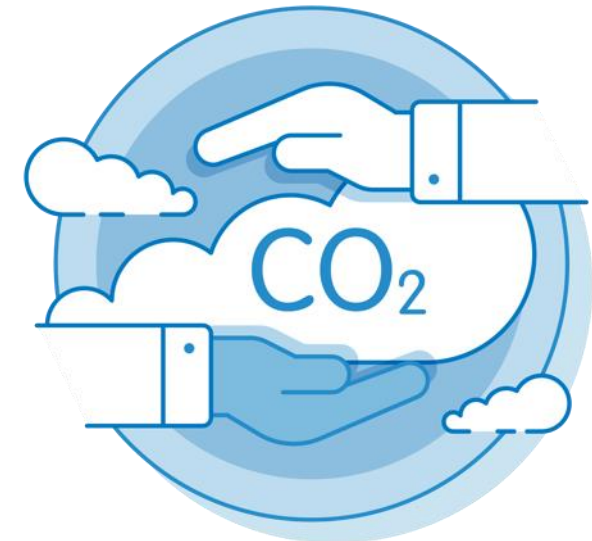
Measures to reduce uncertainty are needed to ensure the UK delivers a net zero energy system that is affordable and secure.



**Net zero
policy**



**Focus
on heat**



**Negative
emissions**

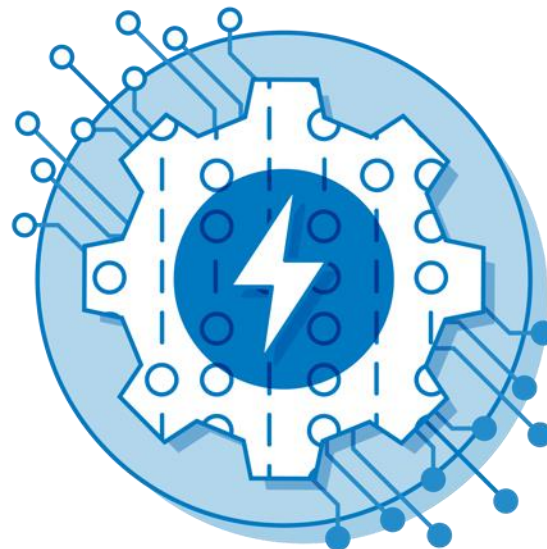
Key Messages

2 Consumer and Digitalisation

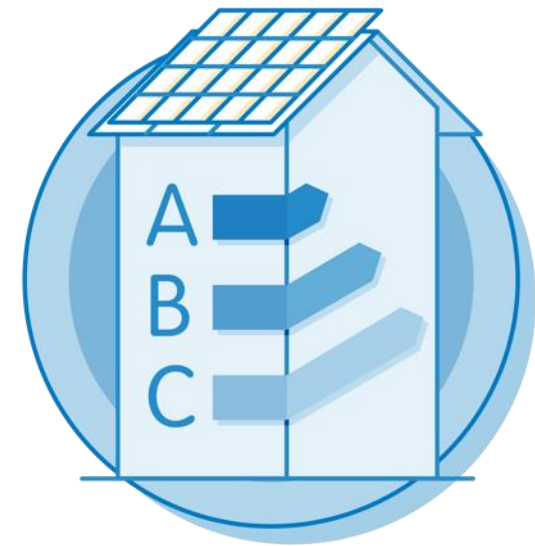
Consumer behaviour and digitalisation are pivotal to achieving net zero but easy access to information and the right incentives are critical.



**Empowering
change**



**Digitalisation
and innovation**

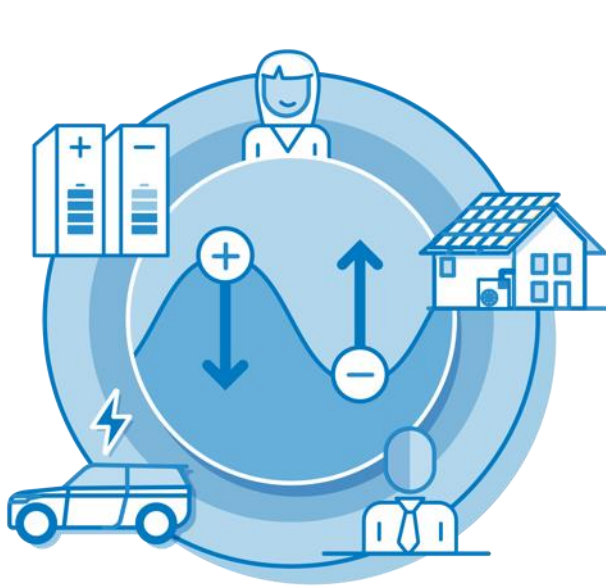


**Energy
efficiency**

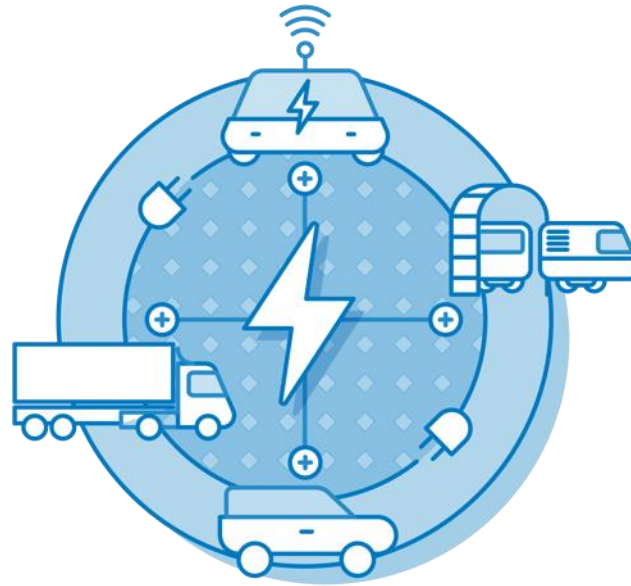
Key Messages

3 Markets and Flexibility

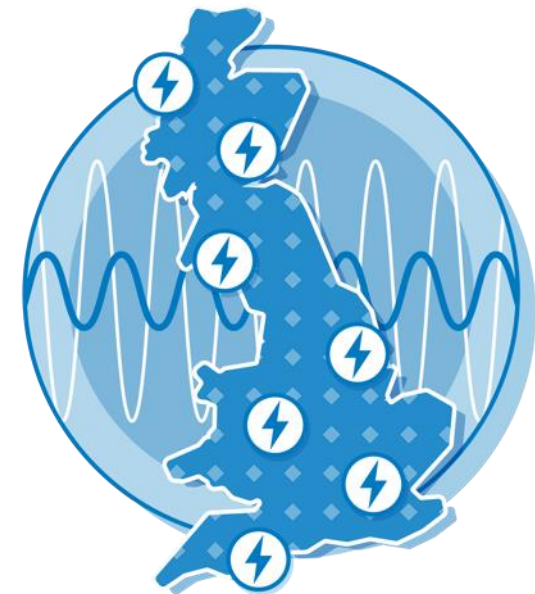
Improved market signals and new distributed flexibility solutions are key to managing a secure, net zero energy system at lowest costs to consumer.



**Distributed
flexibility**



**Transport
flexibility**

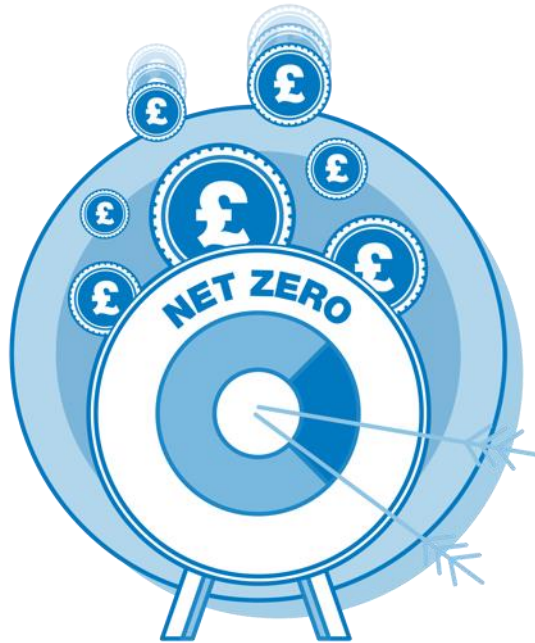


**Locational
signals**

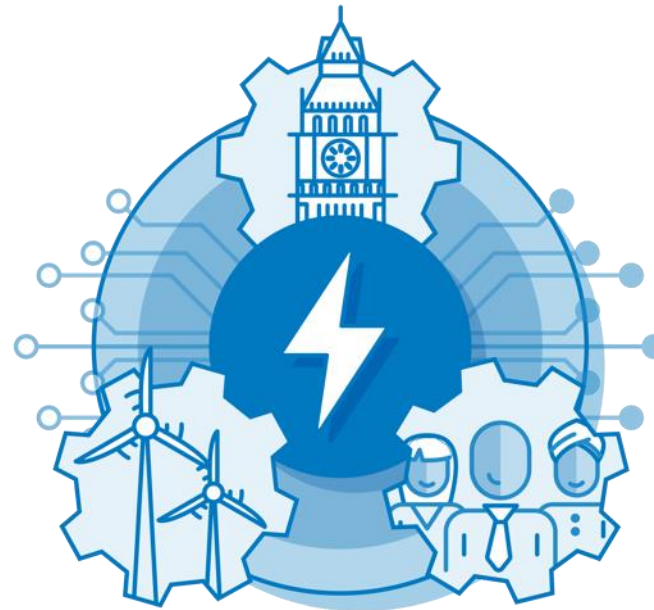
Key Messages

4 Infrastructure and Whole Energy System

Benefits to the whole energy system must be considered to optimise the cost of delivering net zero technology and infrastructure.



Strategic network investment



Connections reform



Location of large electricity demands

Paul Wakeley

Head of Strategic Network
Development, ESO

The future has already started...



We are supporting the energy transition



**Zero Carbon
Operation by 2025**

**Connection
Reform**

**Strategic Network
Planning**

**Global
Partnerships**

Emma Pinchbeck

Chief Executive, Energy UK



Daisy Powell-Chandler

Head of Energy and Environment,
Public First



PUBLICFIRST 

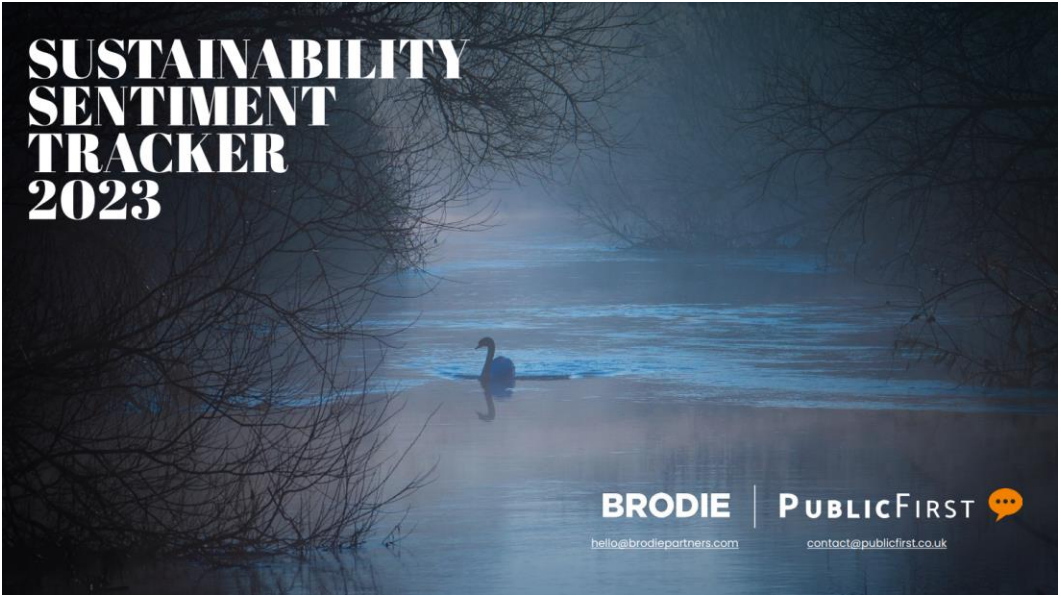
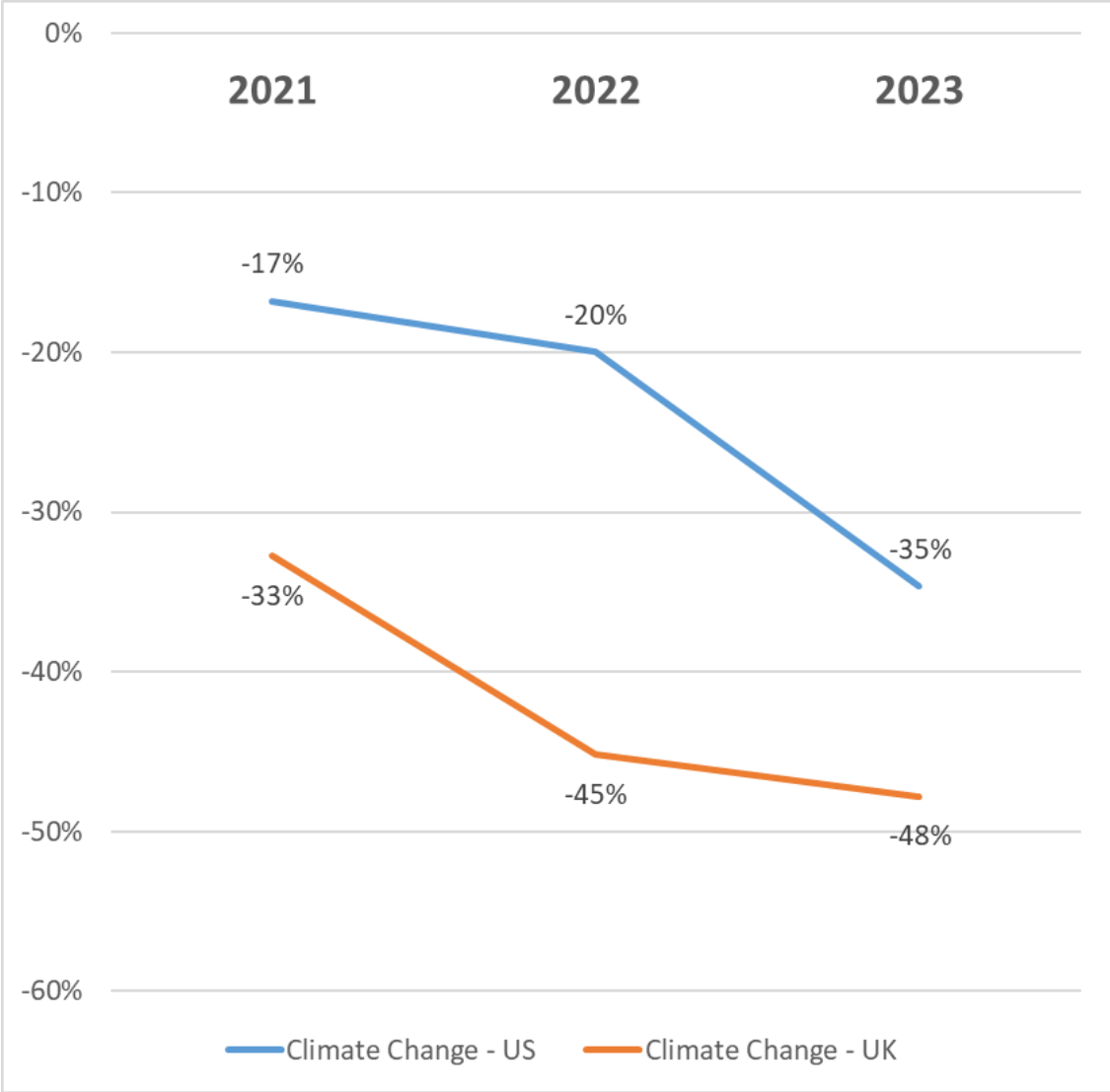
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Consumers and the energy transition

July
2023

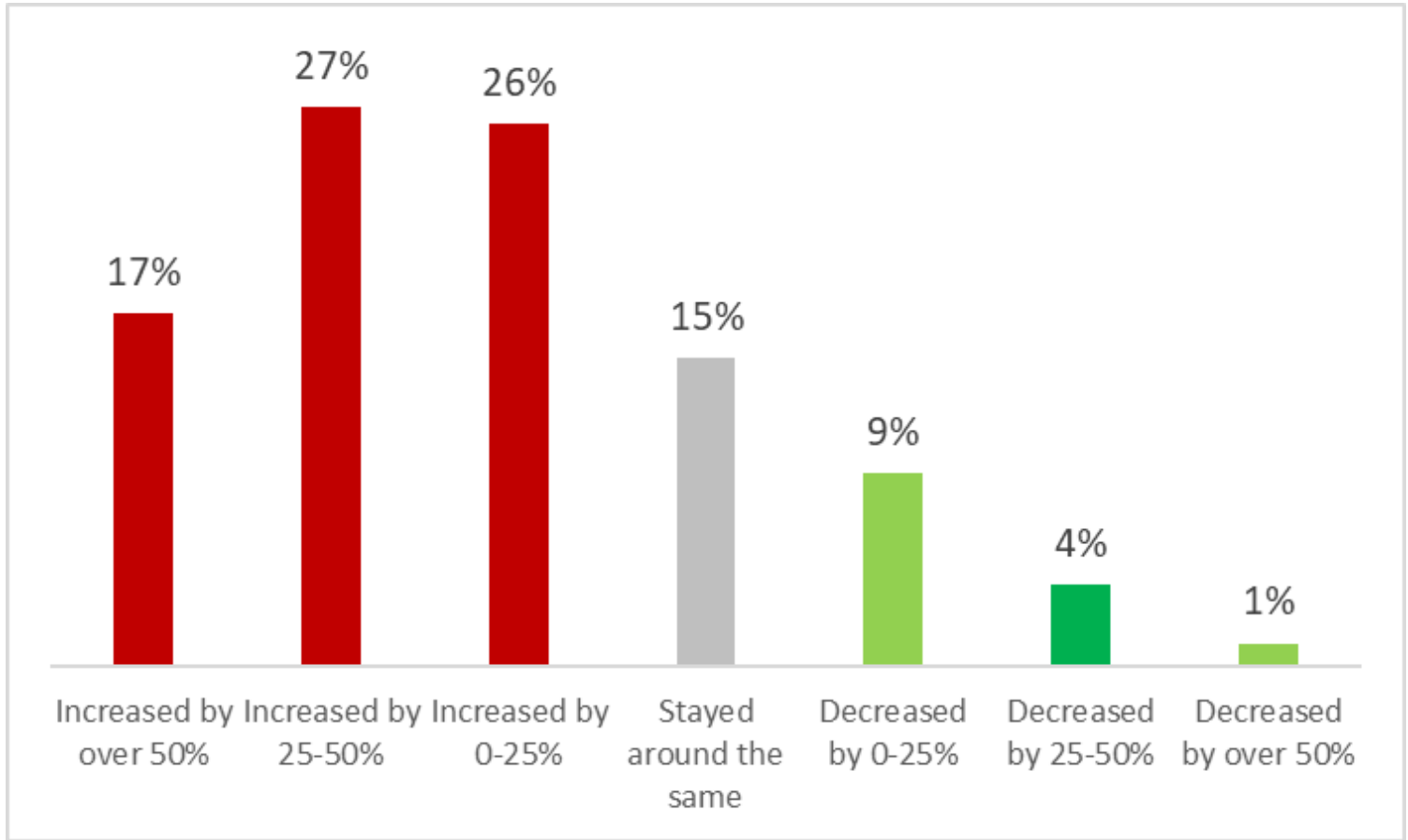


Over the next 10 years, which things on this list do you expect to get better, and which will get worse? [Better - Worse]



Source: BRODIE | Public First Sustainability Sentiment Tracker 2023

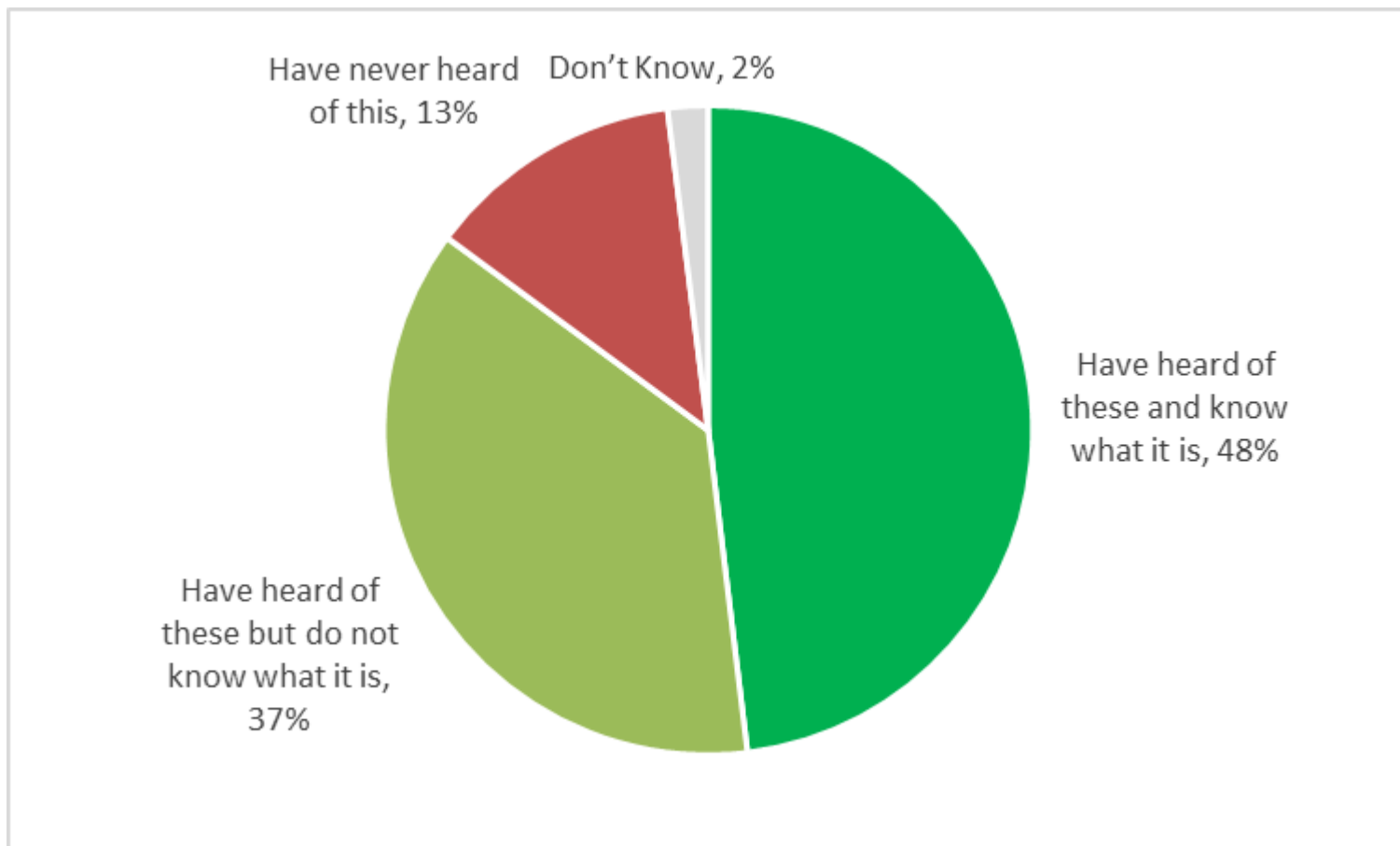
If you had to guess, how much would you expect the greenhouse gas emissions produced in the UK to have changed in the last thirty years?



Source: National Grid ESO, Empowering Climate Action, August 2021

Which of the following have you heard of before?

Heat pump

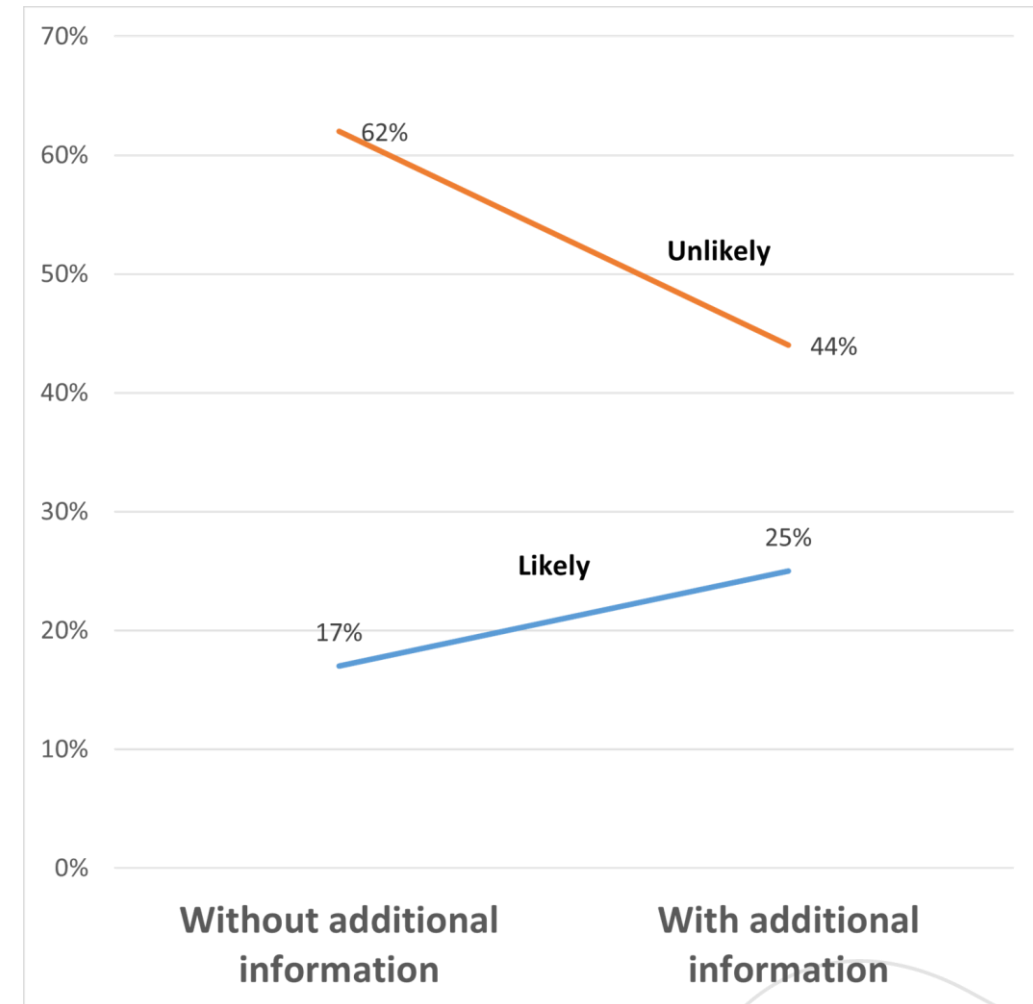


Source: British Gas Net Zero Homes Index, 2023 (out soon!)

Knowledge matters

- Two polls - both for National Grid ESO, both in 2021
- Similar questions were worded quite differently. Having more context resulted in more people being likely to make a change in their home heating
- In the first poll we asked about a long list of devices. Heat pumps and smart meters were both tested:
 - *For the following items, how likely or unlikely are you to purchase these over the next five years?*
- In the second poll we added more detail:
 - *Installing an electric heat source such as a heat-pump, which are expensive to install but mean that your home would no longer need gas*
 - *Installing a smart meter which tracks your energy usage and let's you know how to reduce it*

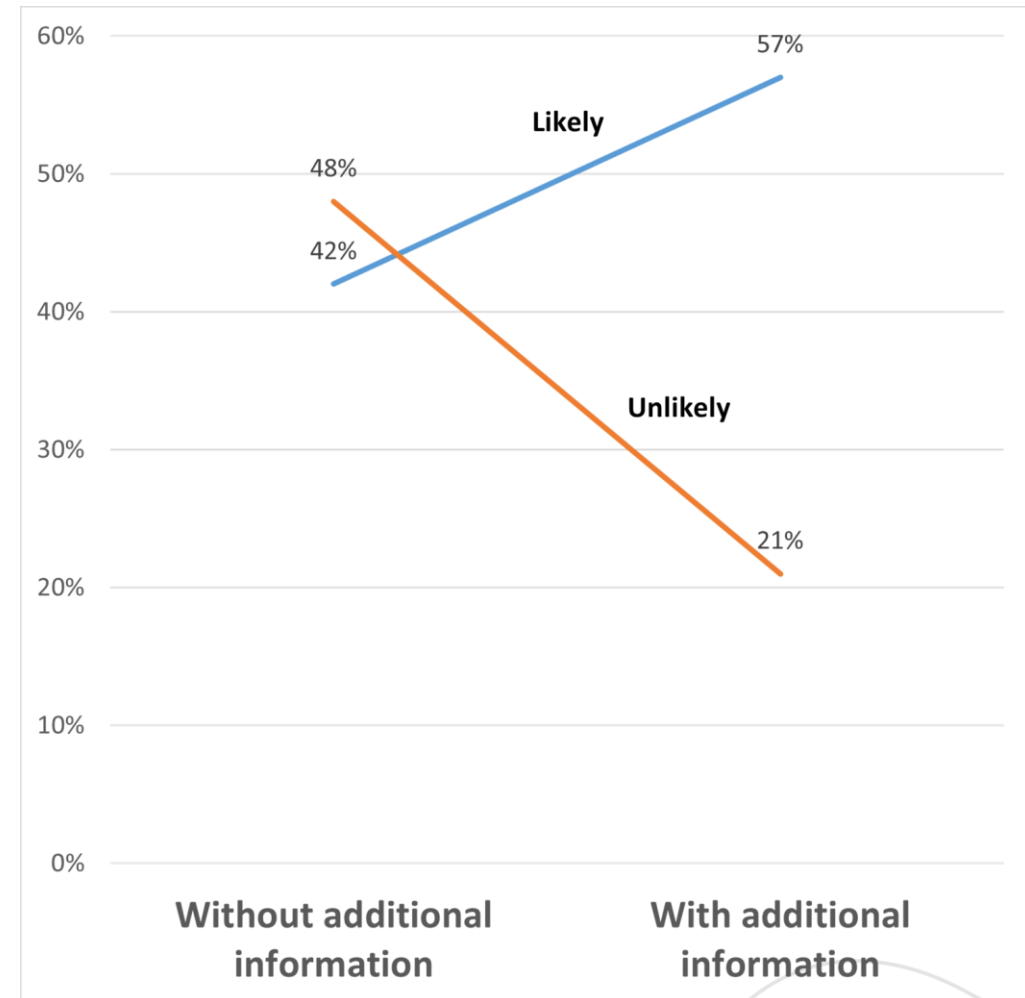
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Smart meter





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[@daisymeylands](https://www.instagram.com/daisymeylands)

Q&A #FES2023

Host

Matthew Wright
Head of Strategy and
Regulation, ESO

Panel

Fintan Slye
Director, ESO

Daisy-Powell Chandler
Head of Energy and
Environment, Public First

Emma Pinchbeck
Chief Executive, Energy UK



Find out more

We look forward to taking a deeper dive in to FES 2023 in our webinars throughout the week:

Wednesday 12 July
10am
Net Zero

Wednesday 12 July
2pm
Flexibility

Thursday 13 July
10am
Energy Consumer

Thursday 13 July
2pm
Energy System

Sign up at nationalgrideso.com/future-energy/future-energy-scenarios

Stay in touch:

FES@nationalgrideso.com

nationalgrideso.com/future-energy/future-energy-scenarios

Find out more

The full suite of documents can be found on the Future Energy Scenarios pages of the ESO website:



FES 2023



**FES in
Five**



**Energy
Background
Document**



**Data
Workbook**



**Assumptions
document**



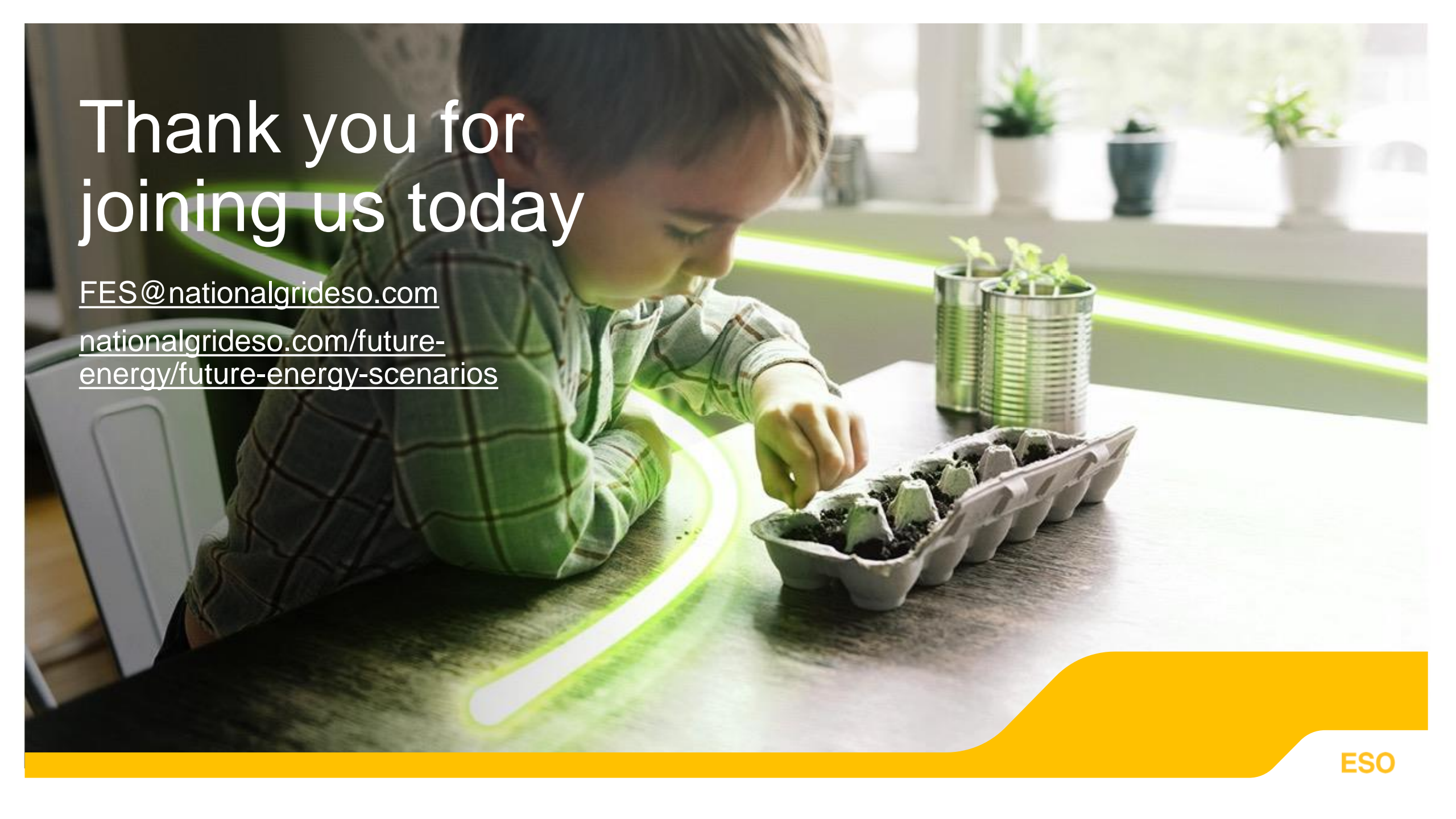
**Modelling
methods**

Your feedback matters – please complete the satisfaction survey cards.

Stay in touch:

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Thank you for joining us today

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