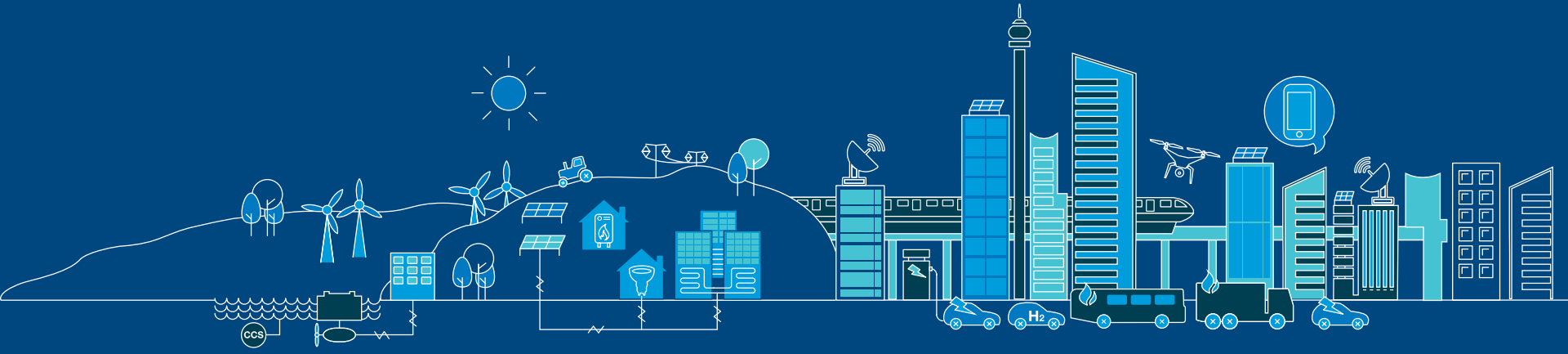


Future Energy Scenarios 2018 Stakeholder Feedback Document

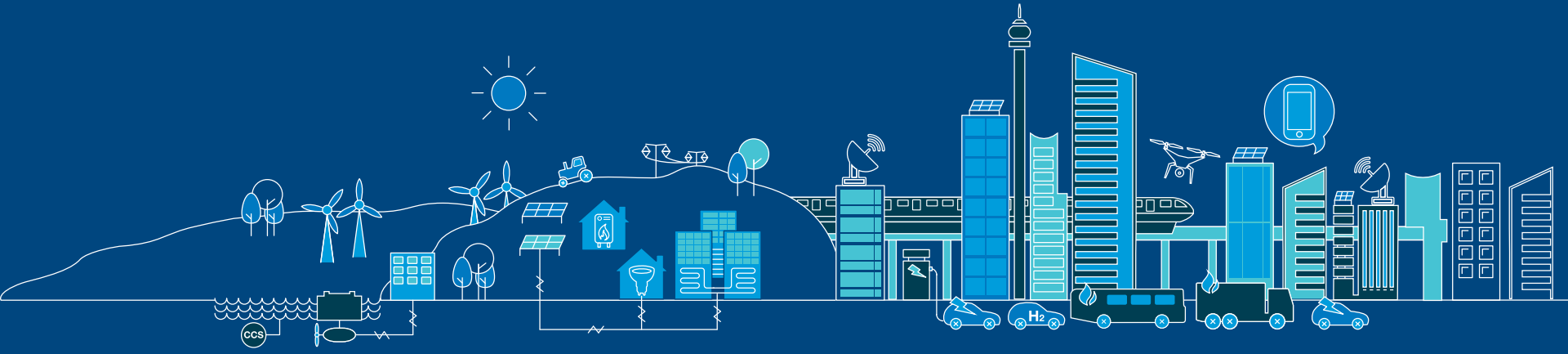


Agenda

Welcome	Katherine Iles
NEW Scenario Framework for 2018	Simon Durk
NEW Scenarios for 2018	Simon Durk
Stakeholder Engagement	Katherine Iles
Next steps	Katherine Iles
Q&A	All

New Scenario Framework

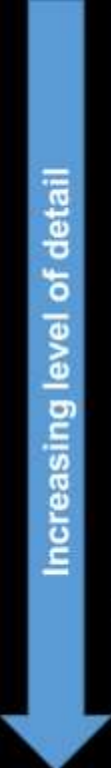

Simon Durk



The Scenario Framework

- The Scenario Framework is a structured approach which provides a single reference for all inputs and assumptions that are used to build the Future Energy Scenarios
- The Scenario Framework ensures Consistency across our gas and electricity modelling; Transparency for customers and stakeholders; and a Robust change control process

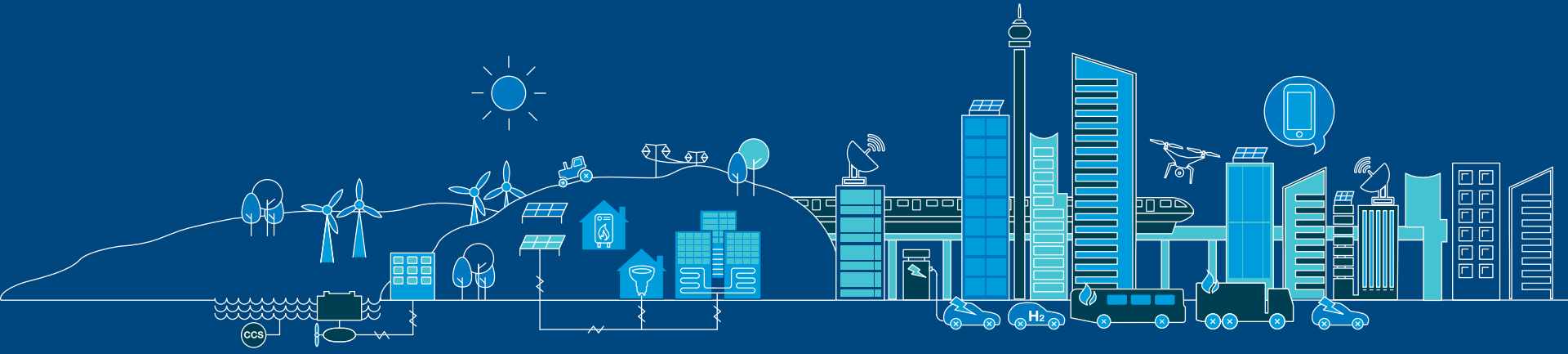
How it works

 <p>Increasing level of detail</p>	<h2>Scenario Matrix</h2>	<p>The axes that determine how the scenarios differ and the number of scenarios</p> <ul style="list-style-type: none"> - In FES 2018 there are two axes, with two steps on each, creating a 2x2 matrix 
	<h2>Common Assumptions</h2>	<p>Assumptions which are the same across all four scenarios in the matrix</p> <p>Example: Population growth, Exchange rates</p>
	<h2>Driver Levels</h2>	<p>A set of parameters that drive where the scenarios sit on the two axes</p> <p>Driver levels can be set to high, medium or low.</p> <p>Example, the driver levels for onshore wind capacity are:</p> <ul style="list-style-type: none"> • Community Renewables – High • Two Degrees – Medium • Steady Progression – Low • Consumer Evolution – Medium
	<h2>Levers</h2>	<p>The mechanisms and assumptions which help quantify the driver levels</p> <ul style="list-style-type: none"> • Low: only projects with consents are built • Medium: decisions based on intelligence gathered from stakeholders • High: no incentives required to build projects

Stakeholder feedback

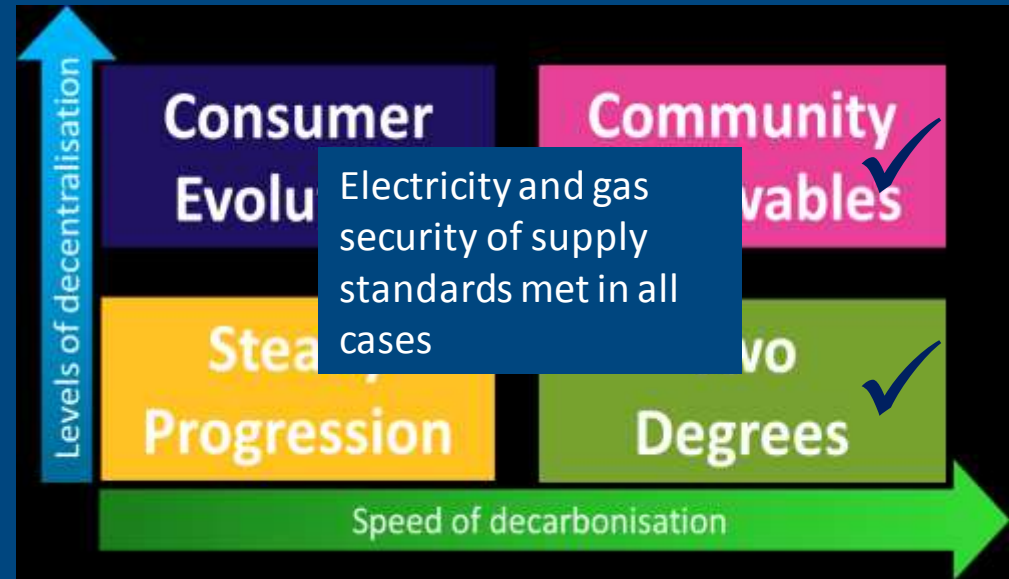
- Continued support for structured approach and 2x2 matrix
- Broad support for progressive rather than radical change
- Relationship between Green Ambition and Prosperity has changed
- Agreement that decentralisation is important
- Varied view on how many scenarios should be 2050 compliant

FES 2018 Scenarios



FES 2018 Scenarios

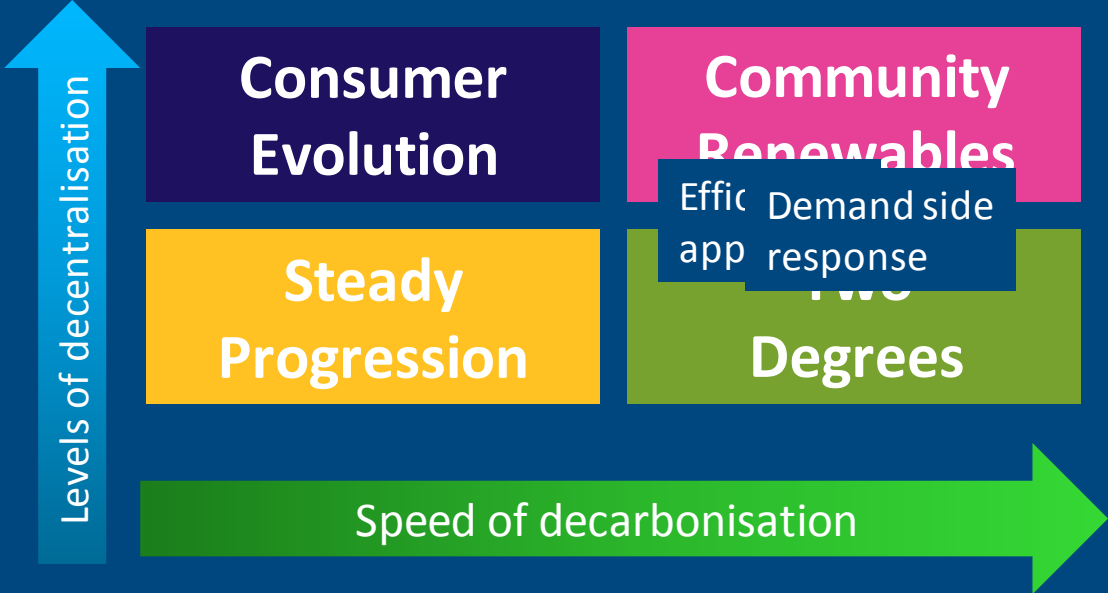
- A 2x2 matrix with axes of
 - Speed of decarbonisation
 - Level of decentralisation
- **Speed of decarbonisation** combines policy, economics and consumer attitude
- **Level of decentralisation** indicates where technology is located



<http://fes.nationalgrid.com/feedback/>

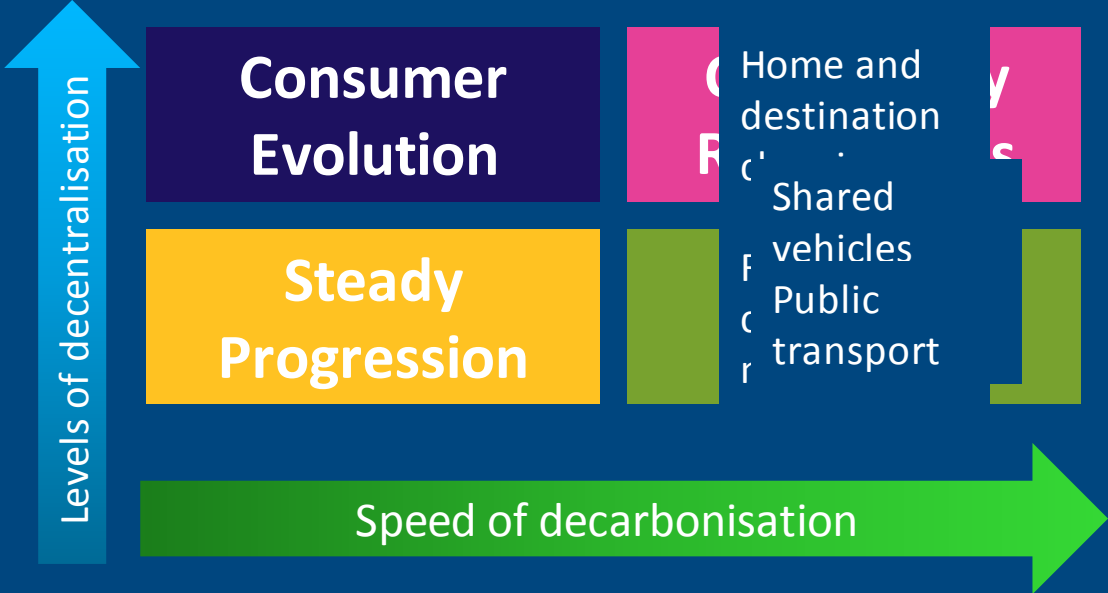
Power demand

- Smart technology in all
- More efficient appliances in compliant scenarios
- Demand Side Response



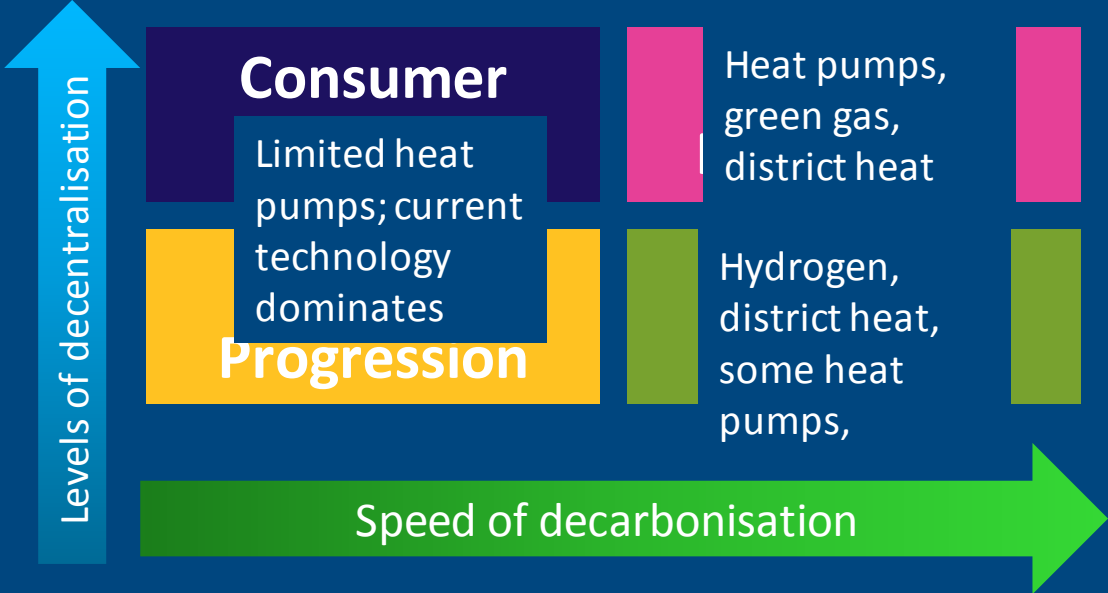
Transport

- EVs increase in all
- Hydrogen and natural gas important in commercial vehicles
- Home and destination charging in CR
- Rapid charging networks in TD
- Shared vehicles in 2050 compliant
- Public transport in TD



Heat

- Hardest to decarbonise
- Mixture of technologies in 2050 compliant scenarios
- Limited progress in CE or SP



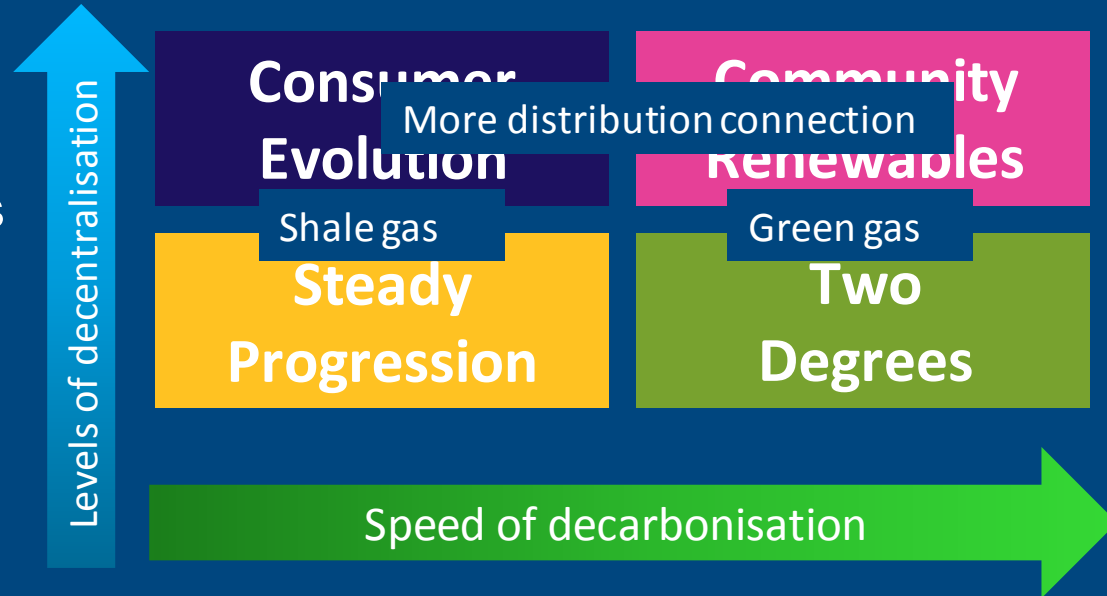
Power supply

- Big differences on the decentralisation axis
- Centralised scenarios have Nuclear, gas with CCS, Offshore wind
- Decentralised scenarios have more solar and onshore wind



Gas supply

- Gas is important.
- UKCS, Norway, continental gas and LNG in all scenarios
- Green gas in compliant scenarios
- Shale gas in non-compliant scenarios
- More connection to distribution networks in CE and CR



How we have engaged with stakeholders to inform 2018 FES



Our engagement & communication to inform FES 2018: what did we do during 2017?

Engagement

Engaged with
over 650
stakeholders

430
organisations

60 bi-lateral
meetings

Over 200 attended
October workshops:
Warwick, Edinburgh,
Cardiff and London

390 attended 2017 FES
launch conference

110 attended FES 2017
five webinars

International
engagement: France,
Denmark, Netherlands
and South Korea

Attended or presented
at over 80 industry
events to share FES and
engage wider

Communication

FES website – 60,000
hits

Newsletter reaching
out to over 6,700
stakeholders

Over 500 queries
received and resolved
through our FES email
account

Seven articles
sharing our views
and opinions –
viewed more than
10,000 times

More concise,
accessible FES main
document

FES in 5 made more
visual and
accessible

Continuing our improvements during 2018

General Engagement



Communication



FES Website



Conference



Publications



Our FES engagement cycle



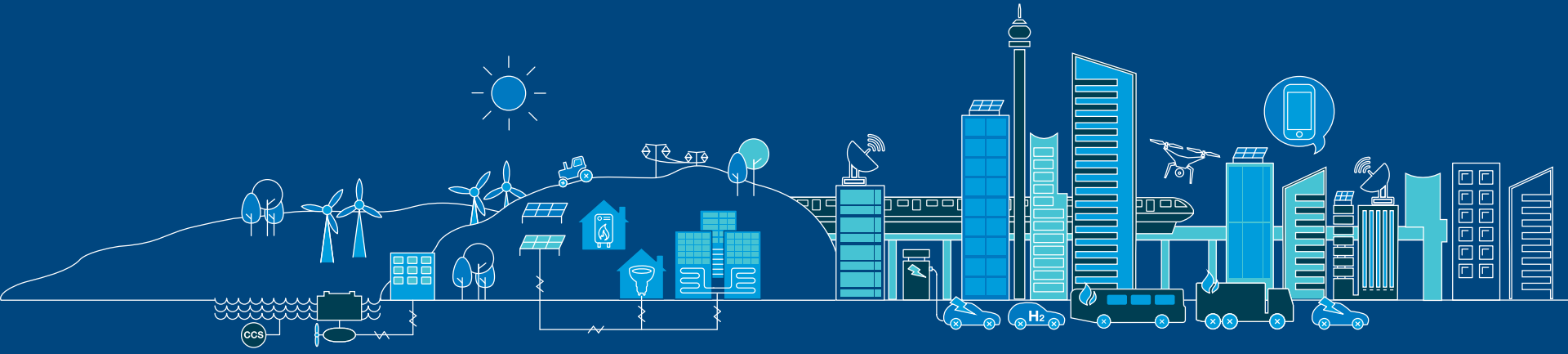
Next steps

- Modelling and analysis continues
- We'll share our early insights into our analysis through our newsletter
- FES 2018 Launch Conference – July 12th
- Sign up for the newsletter: fes@nationalgrid.com
- Your feedback is important



Questions & Answers

If you have a questions then please let us know



Close

Thank you for your time
Further information:
FES@nationalgrid.com

