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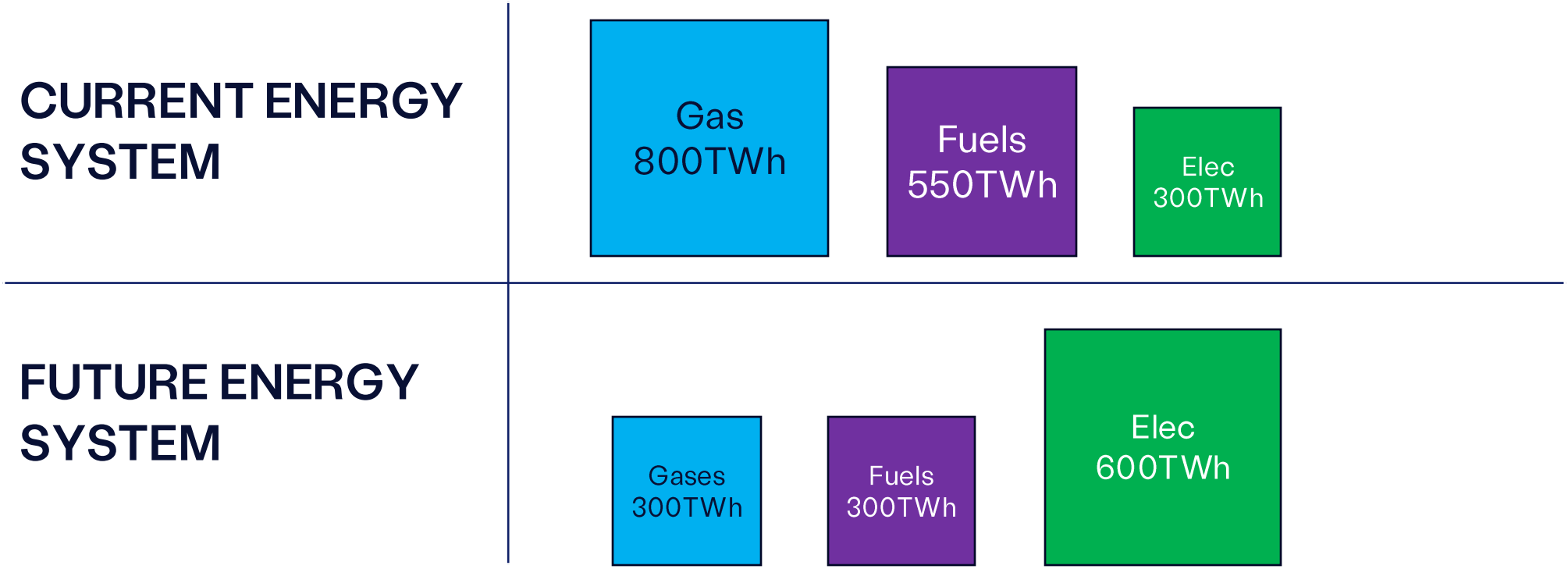
Industrial Delivery Challenges for the next phase of Onshore Energy Systems

5 November 2025

Clean Energy Transition – made simple (illustrative)



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The wider case for energy storage has become more persuasive

- Alternative methods of primary energy storage (i.e. coal) are no longer available
- Greater import dependency and reduction in local UKCS production
- GB energy market is not as integrated into European market and reliability frameworks
- Value of storage only revealed close to real time:
  - Uncertain “Black Swan” events (now more frequent) that cannot be priced into typical storage valuation models
  - Forward and derivative markets can also be impeded by reductions in liquidity and counterparty risk
- Future markets for decarbonised gases/liquids are still in development phase

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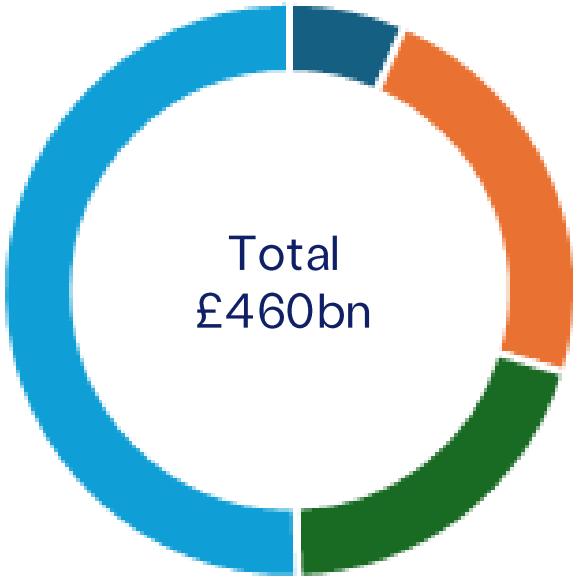
The clean energy transition requires step change in investment on a permanent basis



Current ONS data: 2024

- Production
- Networks
- Charging infrastructure
- Low carbon tech in homes and businesses
- Energy storage
- Measurement and control systems

Features of current regulatory frameworks

"RAB based"

- Initially monopoly networks, now also…
- to address uncertain costs and timelines
- Suitable for large and lumpy investments

Contracts for difference

- Initially to deal with price risk and access lower cost finance
- May partially protect consumers from gas price spikes
- Reaching its limits?

Cap and floor

- Similarities to RAB based: dealing with uncertainty
- Suitable for long duration energy storage where it is feast or famine

Capacity based

- Mature technologies
- To deal with longer term price and volume risk i.e. cannibalisation and/or low load factors
- Allows retention of short-term market signals

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Role of the market going forward

Balancing supply and demand

…still extremely important

Providing fixed annual and seasonal products

….many consumers still want this

As an investment signal

….especially for short term storage

Promoting innovation

…still underdeveloped

Pricing GHG emissions

….positive track record of ETS

As the reference for support mechanisms

….encouraging efficient operations

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Routes to saving £300 on bills

Energy efficiency

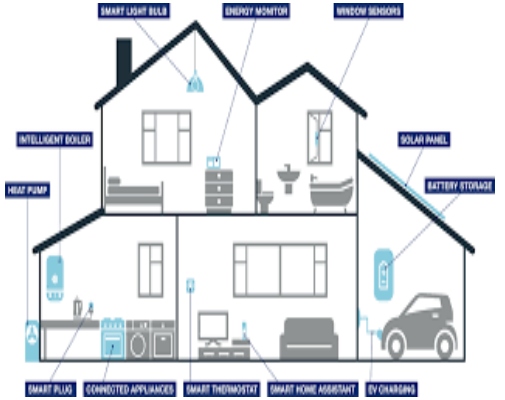
Still has more to offer

Manage policy costs on bills

Could be shifted or spread out

SMART metering and tariffs

More awareness and shifting load



New technologies in the home

Long term emission and bill reduction

Average bills: £800 gas, £900 electricity, £1500 fuel

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Thank you

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