

# Sustainable Thermal Energy Technologies Conference

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## Future Energy Scenarios 13.04.15

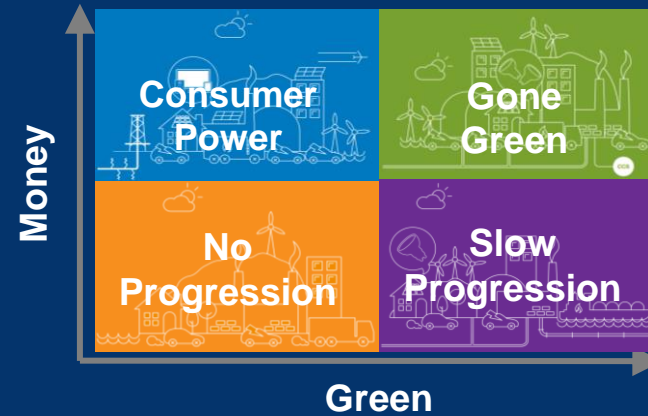
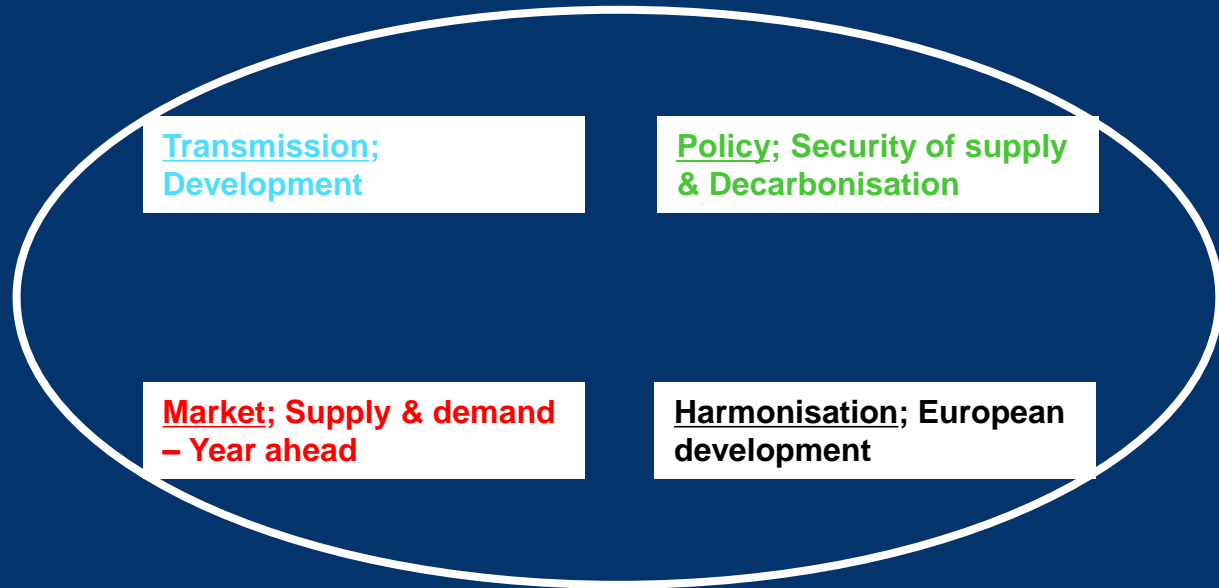
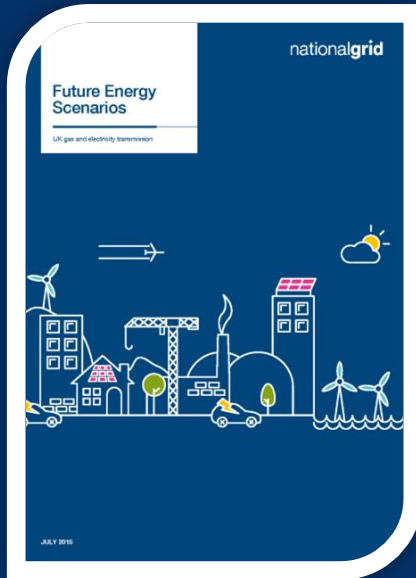


# Agenda

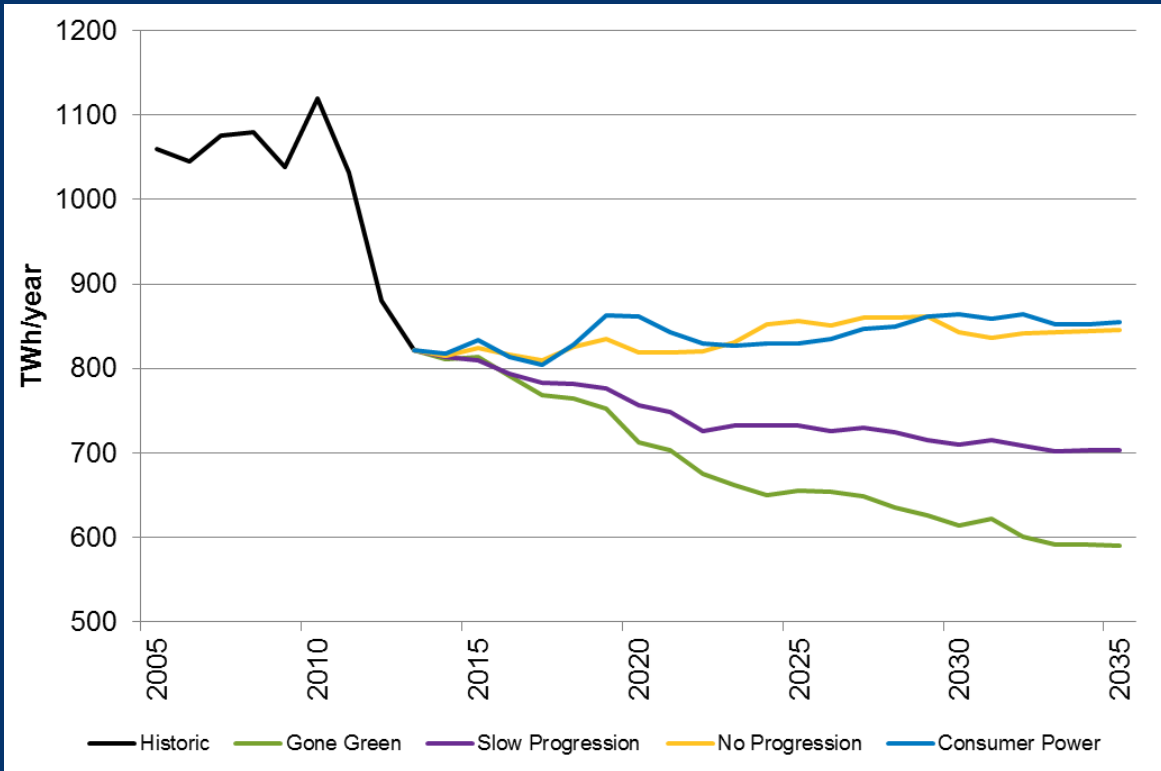
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- **Future Energy Scenarios**
  - **Summary**
  - **Heating**
- **Future Gas Demand**
  - **Low Carbon Technologies**
  - **Key Developments**
  - **Short, Medium & Long term**
- **Conclusion**

# What it is

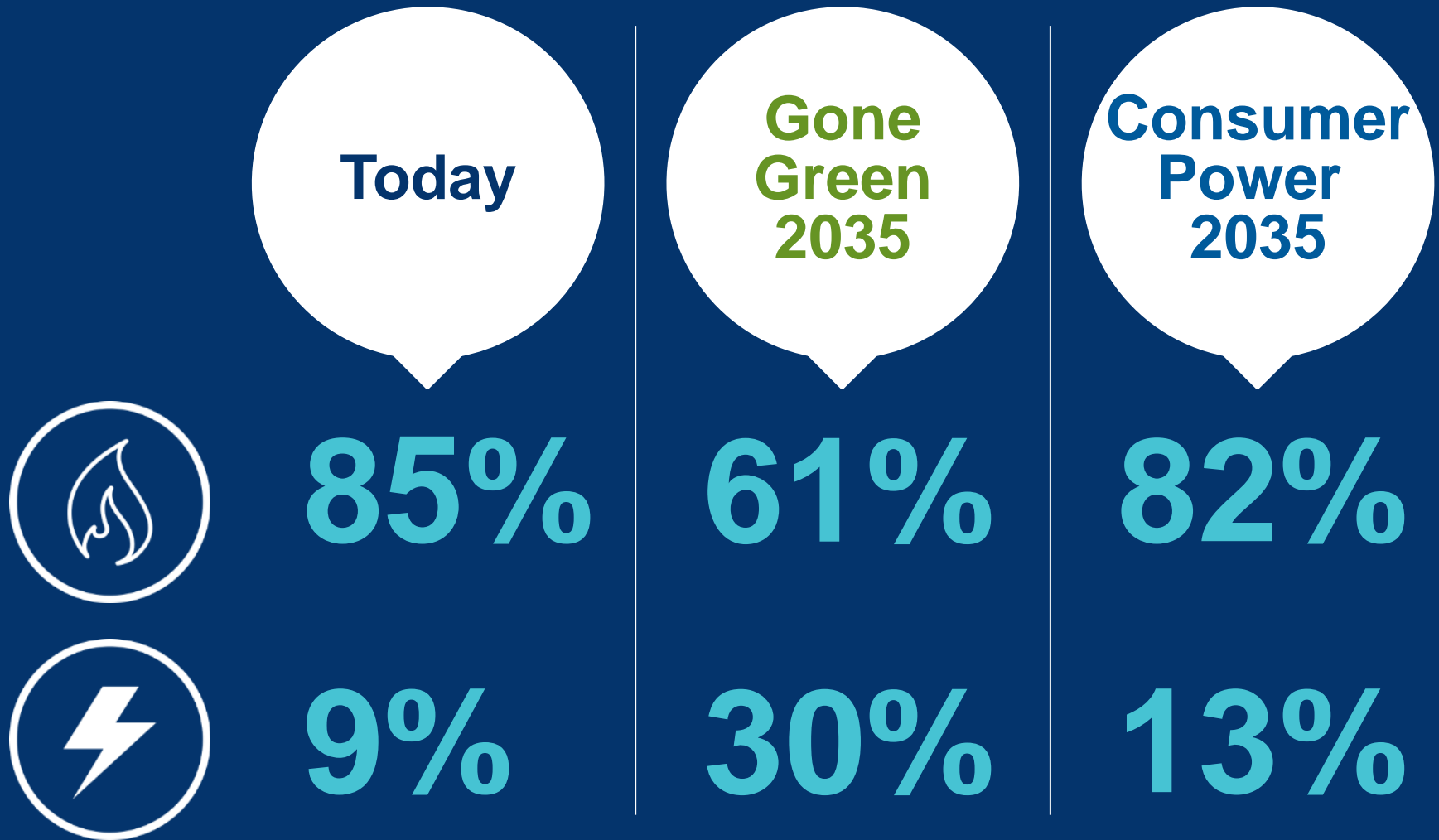


# Future Gas Demand – FES 15



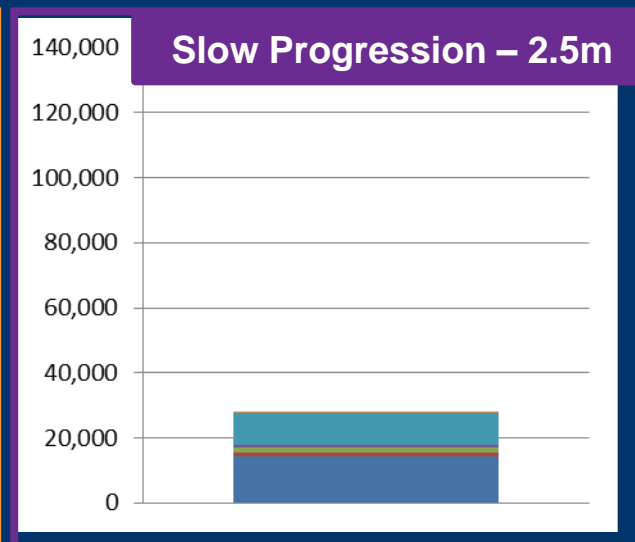
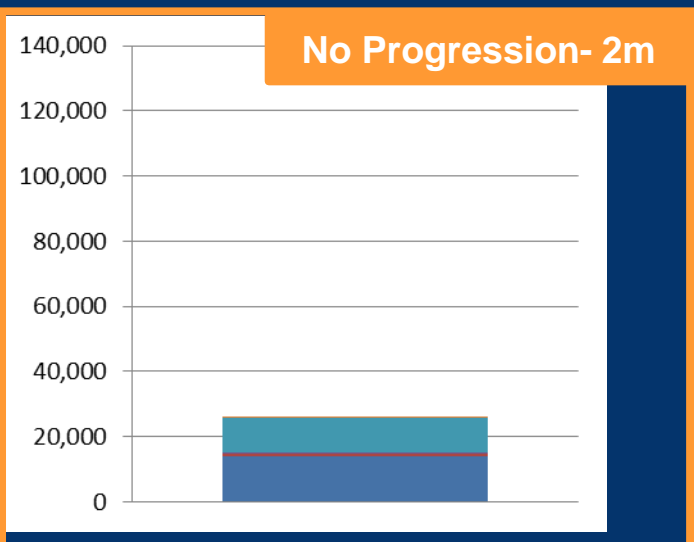
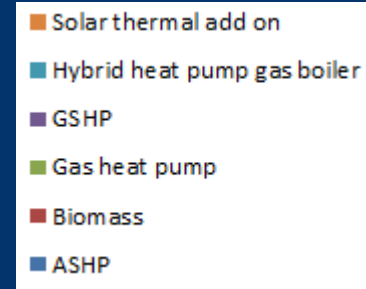
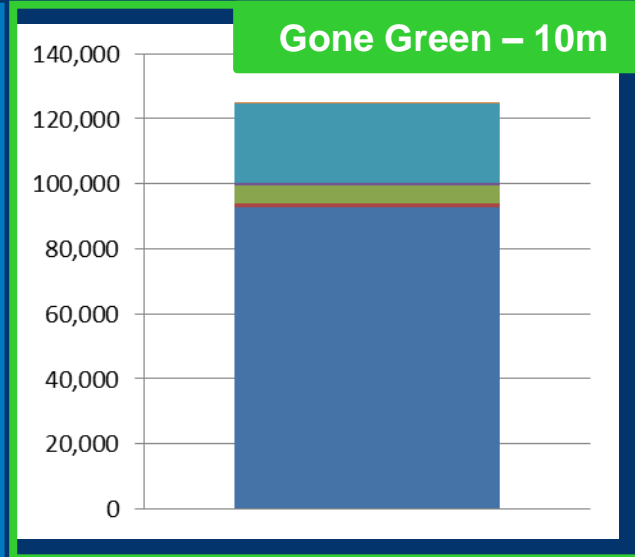
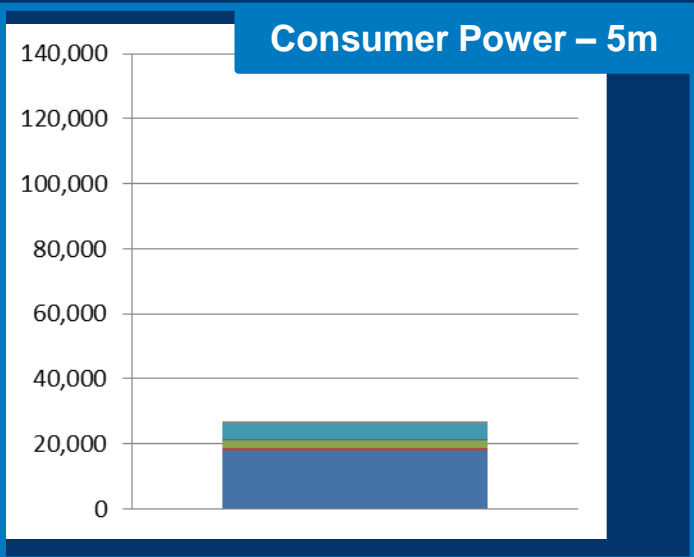
Sector	Percent age of demand (%)	Energy Demand (TWh/year)
Domestic	35.7	316
Commercial	13.2	117.4
Industrial	11	97.9
Exports	22.8	202.5
Power Station	17.2	152
Transport	0	0.3
<b>Total</b>	<b>100</b>	<b>886</b>

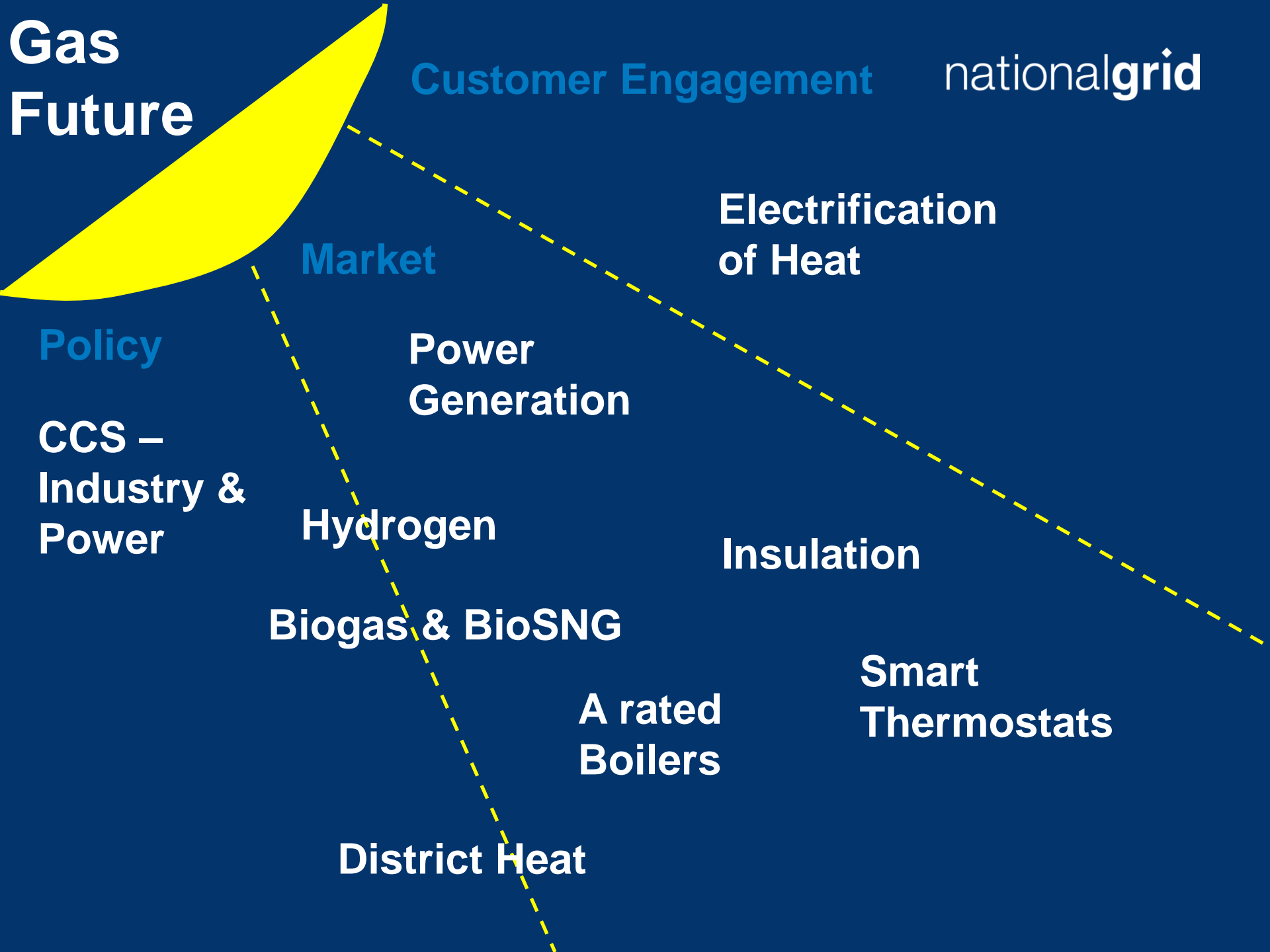
# Heating in 2035



# Gas Demand Displaced by Low carbon heating (GWh) – 2035

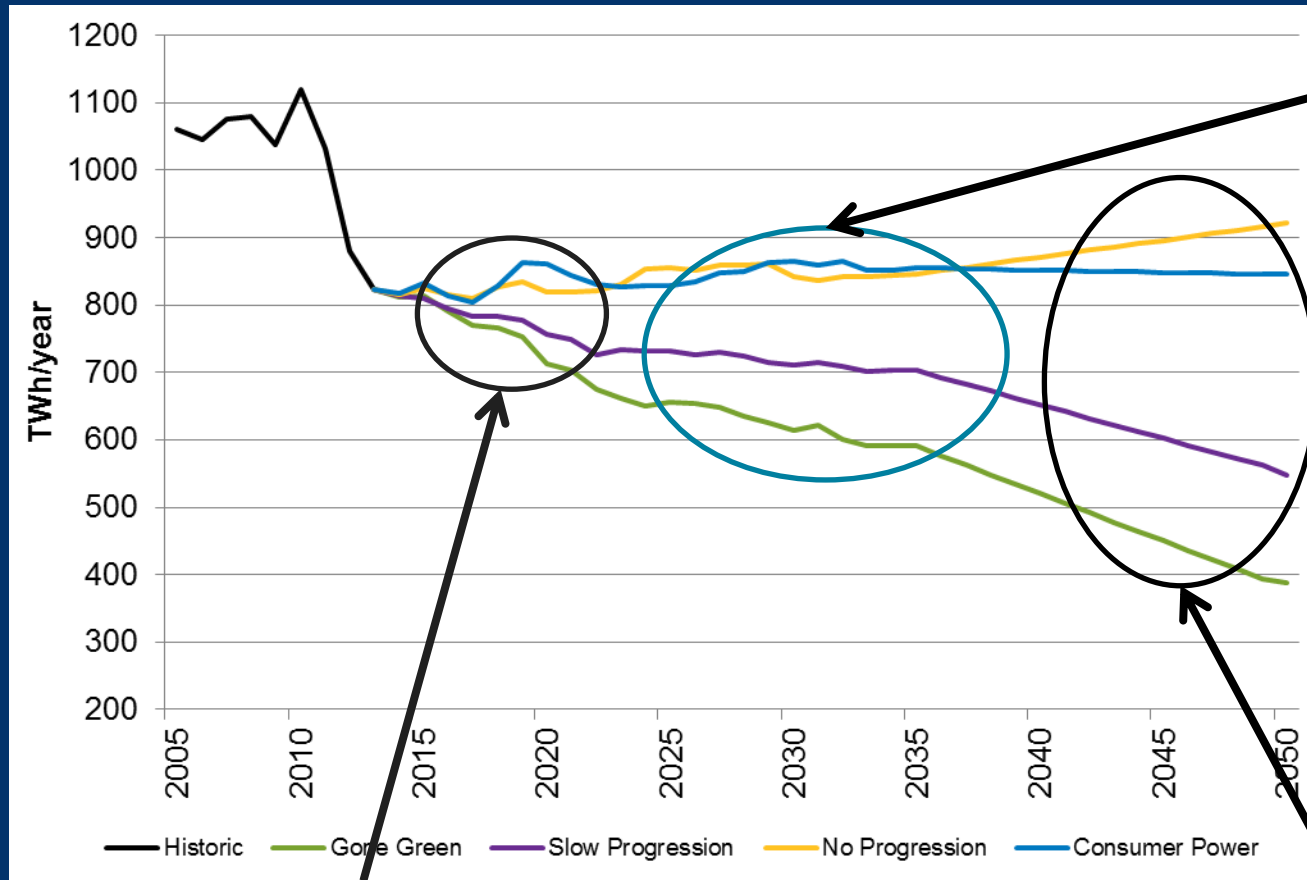
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# Where are we and what are the sensitivities?

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## Medium term

- Still Upper end??
  - New CCGTs
  - Shale development
- Impact of District Heat?
- Electrification progress?
- CCS importance increases

## Short term

- Upper end??
  - Low gas price
  - Coal plant closure
  - Slow uptake of Low Carbon Heating

## Long term

- Pathway chosen?
  - Target hit?
  - Pathway?
    - Gas to Hydrogen?
    - Electrification



## Heat is difficult to decarbonise

- **Uncertainty**
  - Cost effective decarbonisation?
  - Technology Innovations?
- **Certainty (ish)**
  - Gas important World Energy Source
  - Change takes time &
  - Costs – what can we afford
  - Customers need to be interested



# Closing

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FES 2015;

<http://www2.nationalgrid.com/uk/industry-information/future-of-energy/future-energy-scenarios/>

FES 2016; Due 5<sup>th</sup> July 2016

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