

# REA Bioenergy Strategy

## *Delivering the UK's Bioenergy Potential*

IEA Bioenergy Workshop 25 Nov 2019, Berlin (GER)  
Roles of Bioenergy Technologies in Energy System  
Pathways Towards a WB2/SDG WORLD

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# REA Bioenergy Strategy - Objectives

## An industry-led strategy for bioenergy in the UK

1. Spelling out why Government and stakeholders need to care about Bioenergy,
  - *Building on current progress to realise short term GHG savings and other benefits*
  - *Role in achieving decarbonisation targets by 2032 and in a Net Zero scenario.*
2. Identifying the contributions that bioenergy can make in a number of policy areas while recognising and addressing concerns that have been raised around sustainability and air quality associated with bioenergy.
3. Setting out a route and policy recommendations for delivering bioenergy potential in the medium and longer term

# Approach

## Project Oversight Panel

Industry, Civil Servants and Academics from  
Supergen Bioenergy Hub

## Seven Working Groups

Power	Heat	Transport	Green Gas
Sustainability	Gasification	Bioeconomy	

Public Call for Evidence in January and February 2019

Cross-sector full day workshops with REA members

[www.bioenergy-strategy.com/publications](http://www.bioenergy-strategy.com/publications)

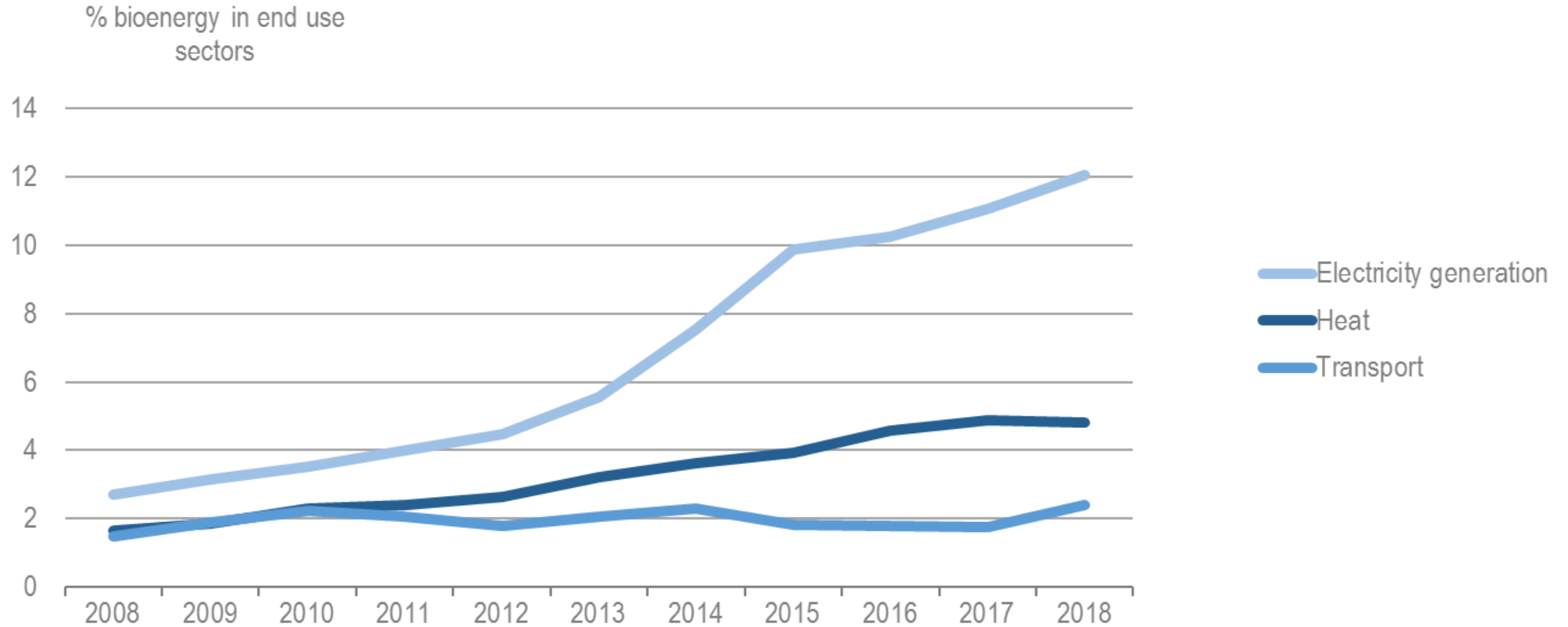
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#BioenergyStrategy

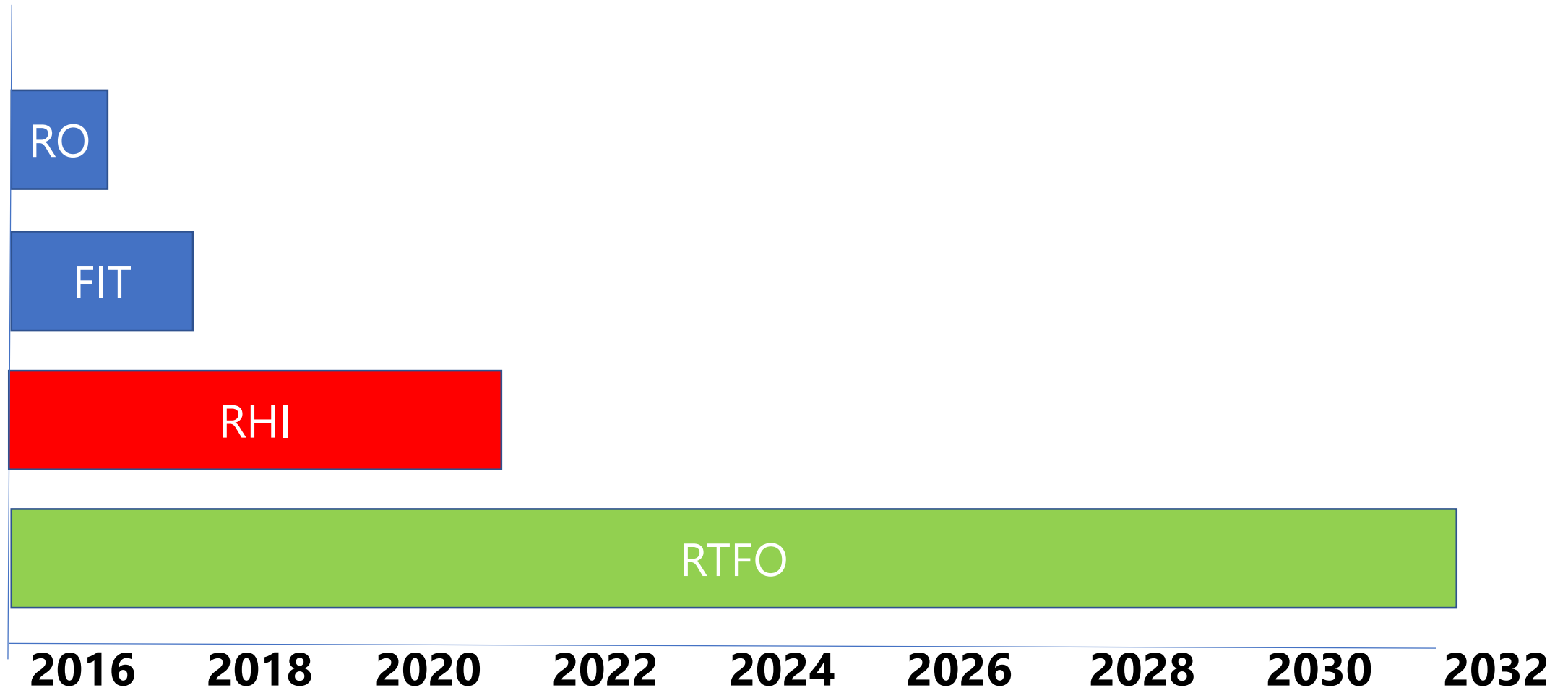


Detailed working papers on actions and on review of sustainability legislation/regulations

# Bio-electricity - the Fastest Growing Sector



# The Enabling Policy Framework is Ending



## UK Bioenergy - Opportunities

- Expand contribution to immediate carbon savings based on recognised and affordable technologies with significant other benefits
- Develop and deploy other “no regrets” options which can lead to immediate ghg and other benefits and insurance and diversity to long term direction
- Provide forward pathways towards technologies likely to be needed in long term future:
  - Bioenergy with CCS or CCU
  - Biofuels for long-haul transport

# Bioenergy Opportunities by Sector

## *Heat*

- Chip and pellet boilers
- Biomethane from AD
- Biobased liquid fuels
- Bioheat for heat networks
- Thermal biomethane
- Biopropane

## *Transport*

- Expansion of use of bioethanol and biodiesel, including E10
- Biomethane for transport
- Biofuels for aviation and shipping

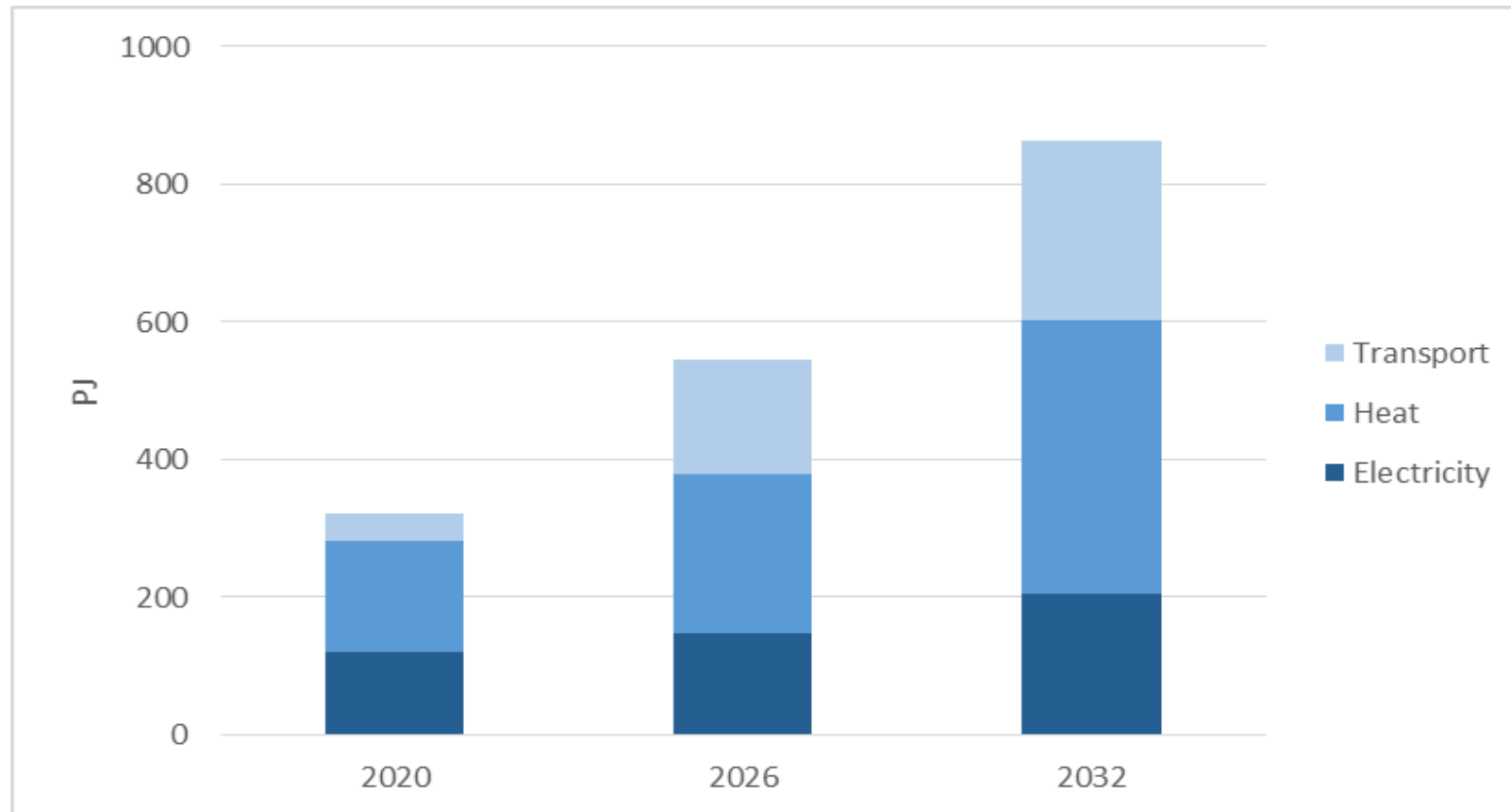
## *Electricity*

- Maintaining current generation
- Waste based CHP
- Large scale biogeneration with CCUS

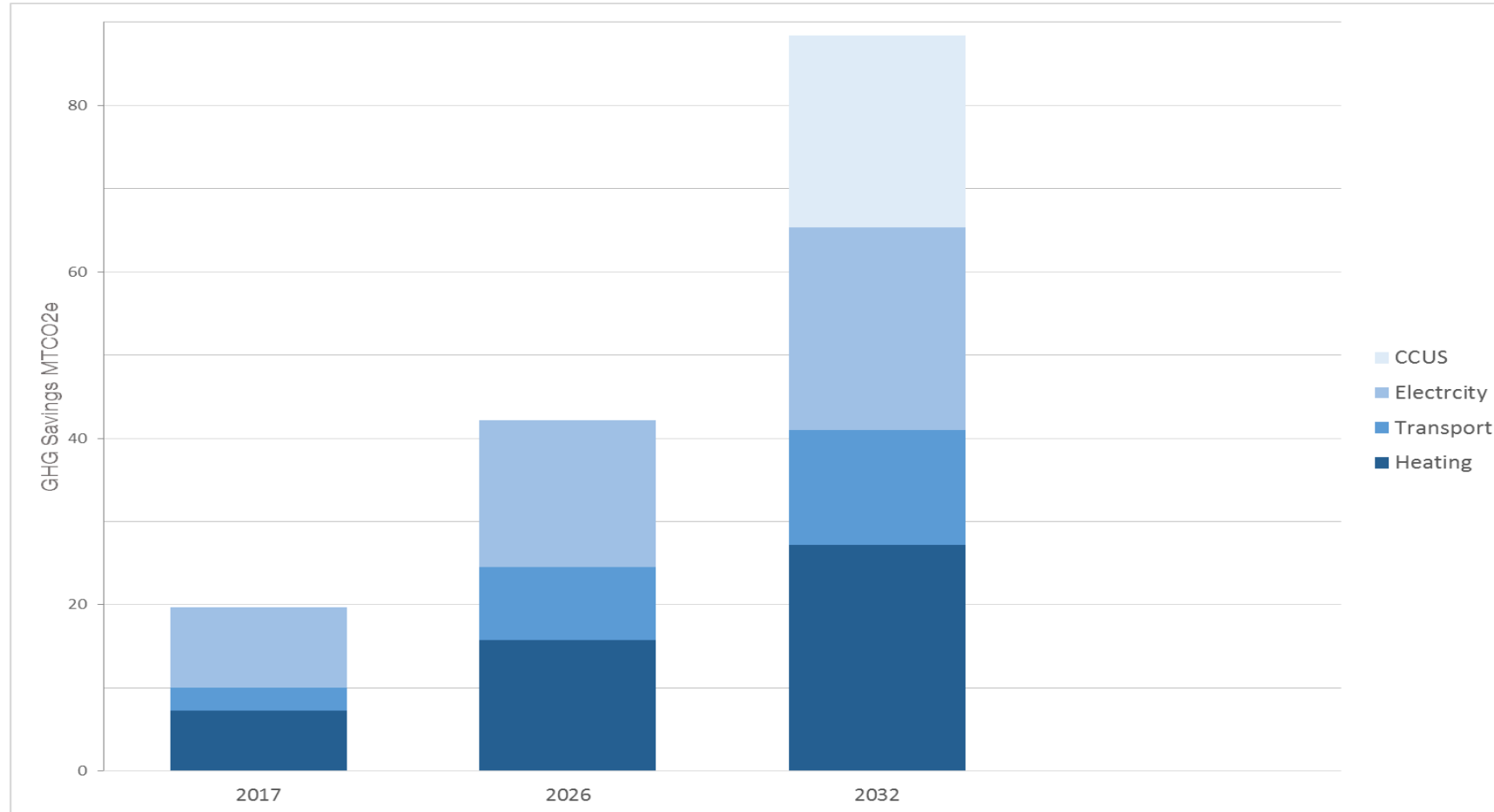
## *Bioenergy with CCUS*

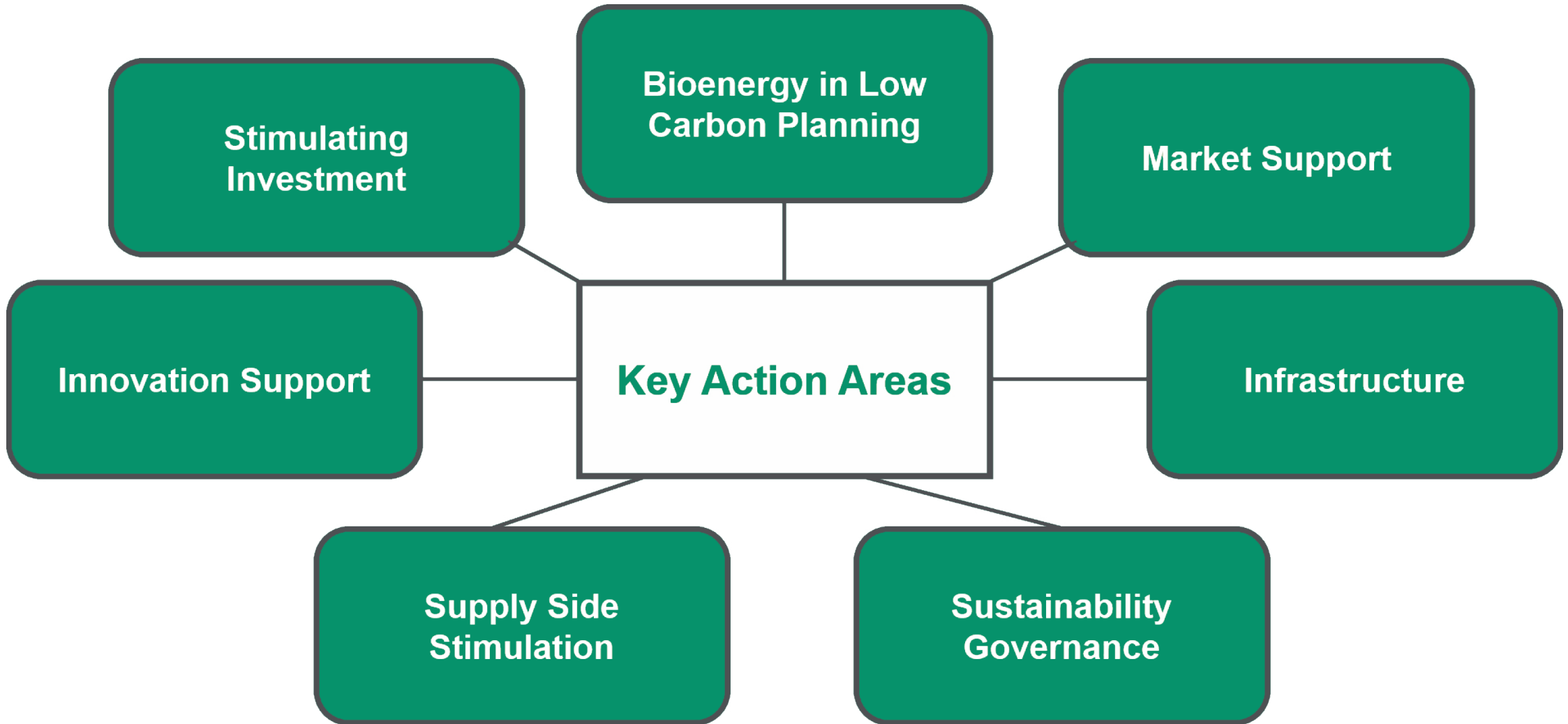
# Bioenergy Growth to 2032

Bioenergy grows to provide around 16% of UK final energy demand



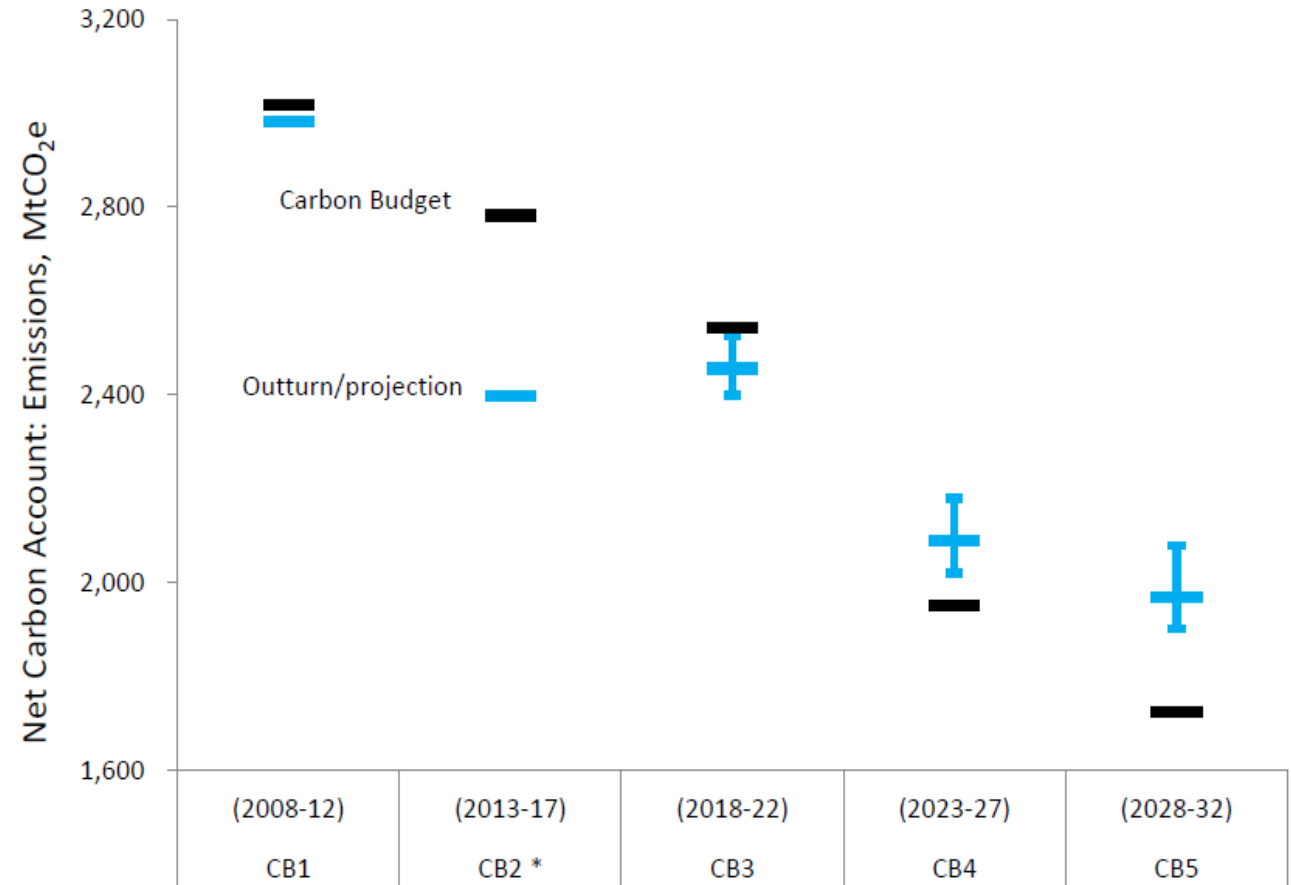
# GHG Benefits Over 80 MTCO<sub>2</sub>e per year by 2032





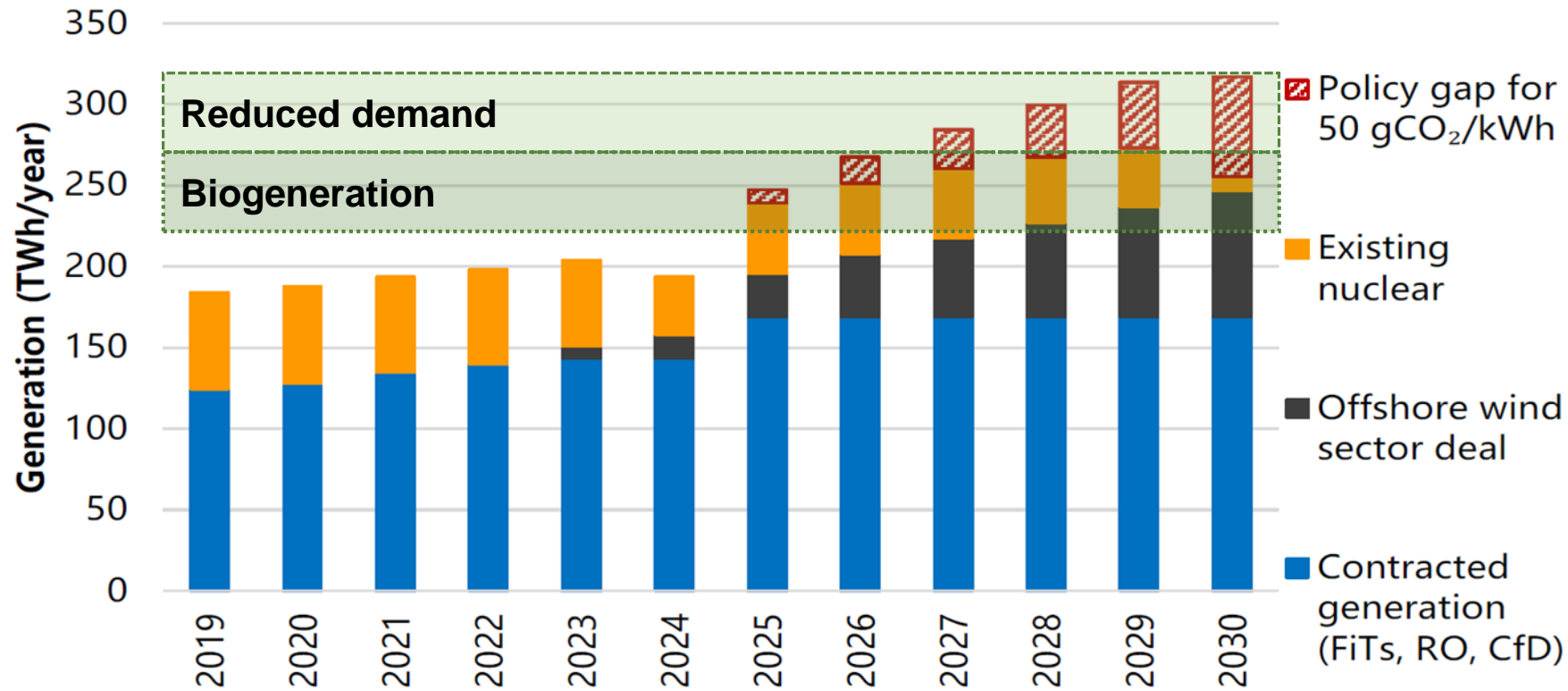
# UK Carbon budgets

- Legally binding 5 year carbon budgets under Climate Change Act based on 80% GHG reduction target
- Budgets to 2022 met
- Expected overshoot – c 50 MTCO<sub>2</sub>e by 5<sup>th</sup> accounting period
- New objective – Net Zero Target by 2050
- Projected overshoot compared to new target - c. 60 MTCO<sub>2</sub>e
- Similar to enhanced bioenergy contribution



UK BEIS Energy and Emissions Projections

# Closing the Potential “Nuclear Gap”



Source: Committee on Climate Change (2019) Reducing Emissions 2019 Progress Report to Parliament

# Bioenergy and the Low Carbon Economy

- Reduces GHG emissions in heat, transport and power sectors using established technologies, often lowest cost low carbon options in their sector along with some new technologies
- Opportunity for bioenergy with CCUS as “negative emission” energy
- Supports wider low carbon strategy by reducing the 72 TWh gap in low carbon electricity generation
  - Providing non-electricity low carbon solutions for heat and transport, reducing pressure on low carbon electricity generation and distribution
  - Biopower provides low cost, financeable alternative to nuclear power with no long term waste disposal issue
- Facilitates emission reductions from waste management and agriculture
- Stimulates forest management and planting
- Lays the ground for wider bioeconomy in terms of key enabling technologies, supply chains, sustainability governance