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UK Update

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BECCS in the UK Energy System

CCC Report[1]

- Long term bioenergy must have carbon capture and storage
- BECCS key to UK net zero ambitions

- **ETI Report[2]**

  - In the UK it is envisaged that BECCS could deliver c.-55 million tonnes of net negative emissions per annum (approximately half our emissions target in 2050) and reduce the cost of meeting the UK's 2050 GHG emissions target by up to 1% of GDP.

1. Committee on Climate Change, Biomass in a Low Carbon Economy, 2018
2. Gammer & Newton-Cross, The evidence for deploying bioenergy with CCS (BECCS) in the UK, ETI, 2016

Developing BECCS Facilities in the UK

- Kew Technology – commissioning Wednesbury facility (waste gasification)
- ABSL – commissioning Swindon facility (waste gasification with hot plasma upgrading and methane reforming for gas grid injection)

Developing Enabling Policy Frameworks

- Gasification based routes to liquid and gaseous fuels combined with CCUS key priority for proof-of-concept demonstration[1]
- Priority to confirm sufficient material available to support bioenergy facilities long term
- Supergen Bioenergy Hub & Low Carbon Vehicle Partnership working on impact of policy mechanisms in different sectors on bioenergy implementation
- Supergen Bioenergy Hub review of the role of modelling in policy development2
- Forthcoming Supergen Bioenergy Hub report and webinar on biomass resource availability for BEIS/DfT

1. Vivid Economics, Energy Innovation Needs Assessment: Sub-theme report: Biomass & bioenergy, BEIS, 2019
2. Welfle, Thornley & Roeder, A review of the role of bioenergy modelling in renewable research & policy development, Biomass and Bioenergy, 2020

Greenhouse Gas Removal Opportunities

- Current UKRI research call for Greenhouse Gas Removal Technologies including Biomass to Energy with Carbon Capture and Storage
  - Funding of up to 5 demonstrators @ £5M each; construction to start 2021

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