Supergen Bioenergy

Sustainability challenges

supergen-bioenergy.net

We work with academia, industry, government and societal stakeholders to develop sustainable bioenergy systems that support the UK's transition to an affordable, resilient, low-carbon energy future.

Supergen Bioenergy Hub

Supergen Bioenergy

EPSRC UK Research and Innovation BBSRC UK Research and Innovation

Maximizing the potential

- Occupation of land – physical and market interfaces (water, food, land, transport, products) – ecosystem & socio-economic impacts
- Multiple products/vectors – what is optimal?
- Supply chains need to align priorities of individual actors while satisfying high level sustainability objectives

1. Thornley P. et al., “What next for bioenergy? Chair’s Summary Reprot on behalf of the Advisory Board Convened for the Committee on Climate Change’s Bioenergy Review Report

Production challenges & opportunities

- Land-use
- Climate interface
- UK supply
- International supply
- Waste management & circular economy

Technology challenges & opportunities

- Agricultural technology
- BECCS
- Renewable gas (hydrogen & syngas)
- Aviation biofuels

Enhancing climate benefits

- Variation
- Variability
- Measuring carbon performance
- Ensuring sustainability

Recommendations

- Minimum performance better than fossil
- Recognize trade-offs in integrated land management
- Transparent certification for imports from low risk areas
- Multi-level governance
- Flexible governance to exclude detrimental but incentivize best practice
- Different standards in different regions recognizing institutional capacity

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