

UK Strategy and Action Plan for Anaerobic Digestion



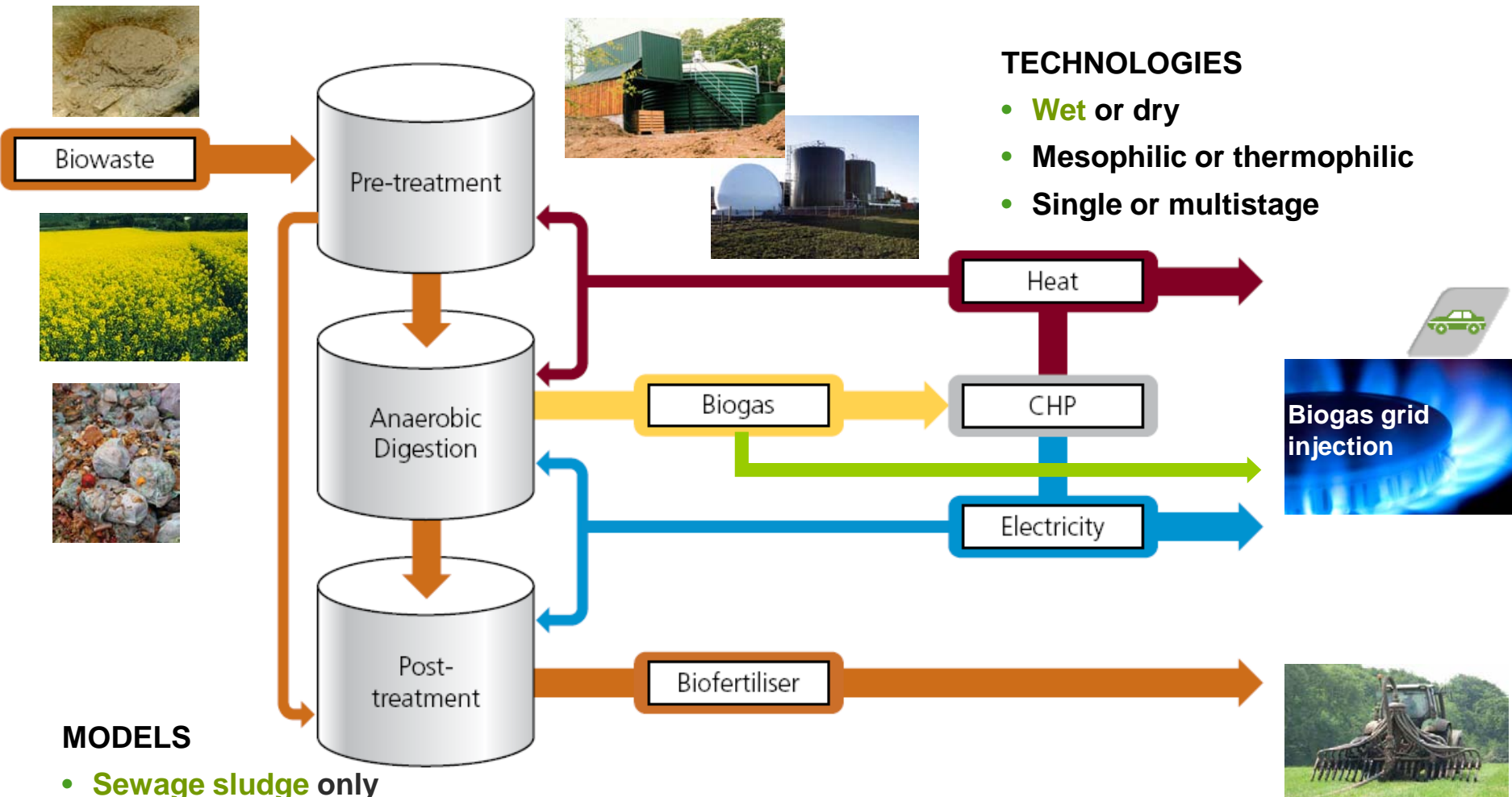
Steve Dagnall – October 2011



INTEREST REKINDLED

- **Climate Change objectives**
- **Renewable energy**
- **Renewable sources of critical resources such as phosphorus**
- **Diverting waste from landfill**
- **Green jobs**

AD Process/Models



TECHNOLOGIES

- **Wet** or dry
- **Mesophilic** or thermophilic
- **Single** or multistage

MODELS

- **Sewage sludge** only
- **Co-digestion** with sewage sludge
- **Farm feedstocks** on-site manure with/without energy crops (100kW – 1 MW)
- **Off-farm feedstocks** e.g., food/ food processing wastes (1 – 2.5 MW)

Benefits to agriculture



Managing livestock slurries

Deriving revenue

Saving money on fossil based fertiliser

Improved availability of nutrients

Reduced CH₄ emissions

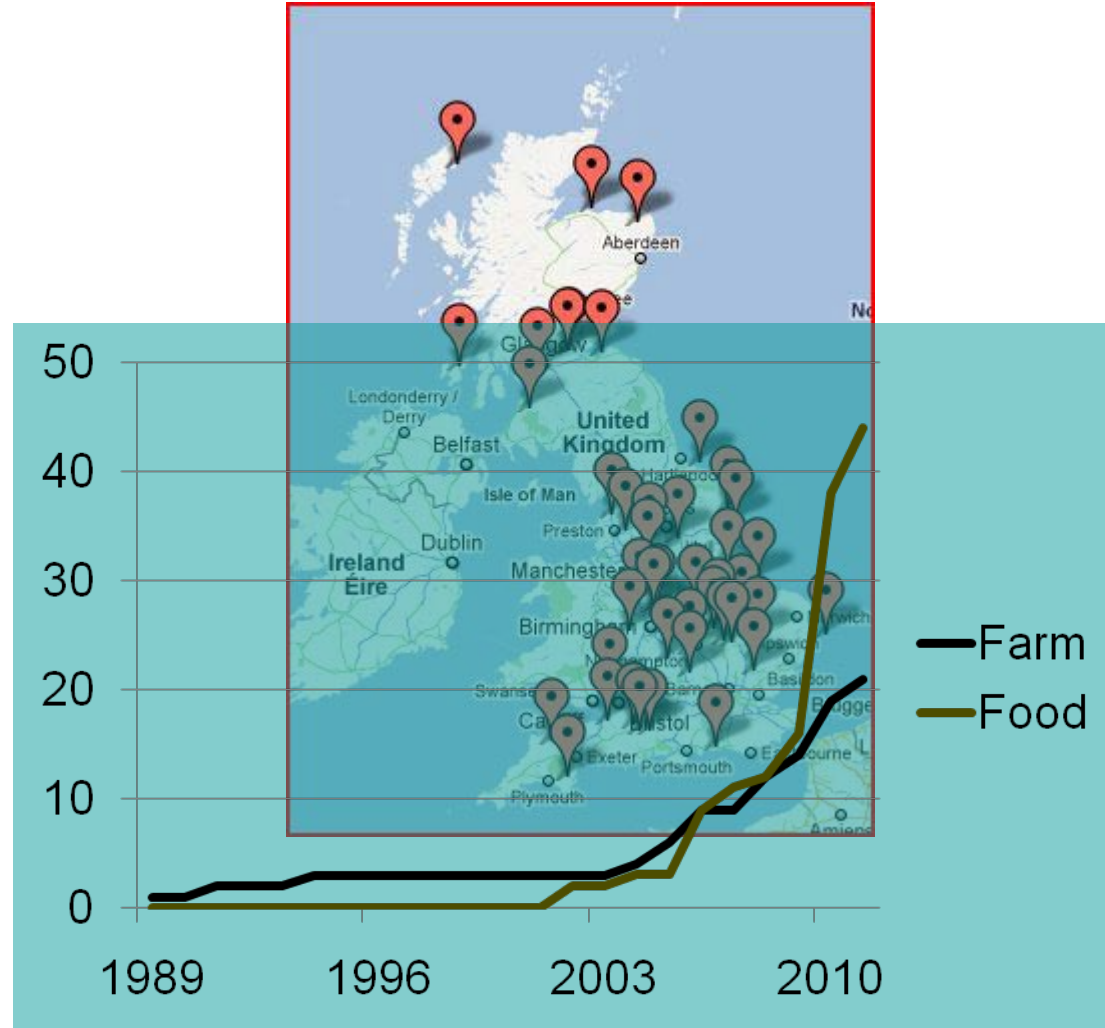


Where we are now (September 2011)

FARM FEEDSTOCK ONLY
24 plants



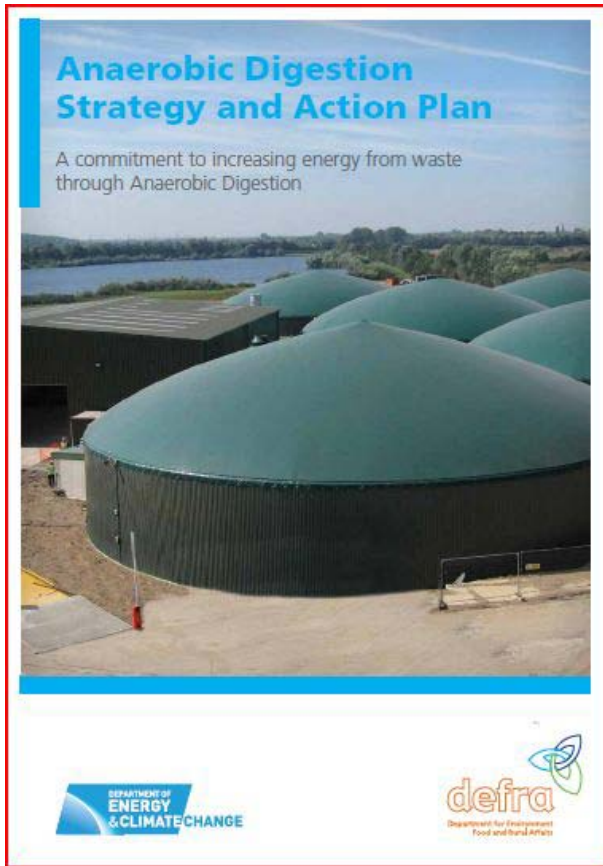
WASTE FEEDSTOCK
43 plants



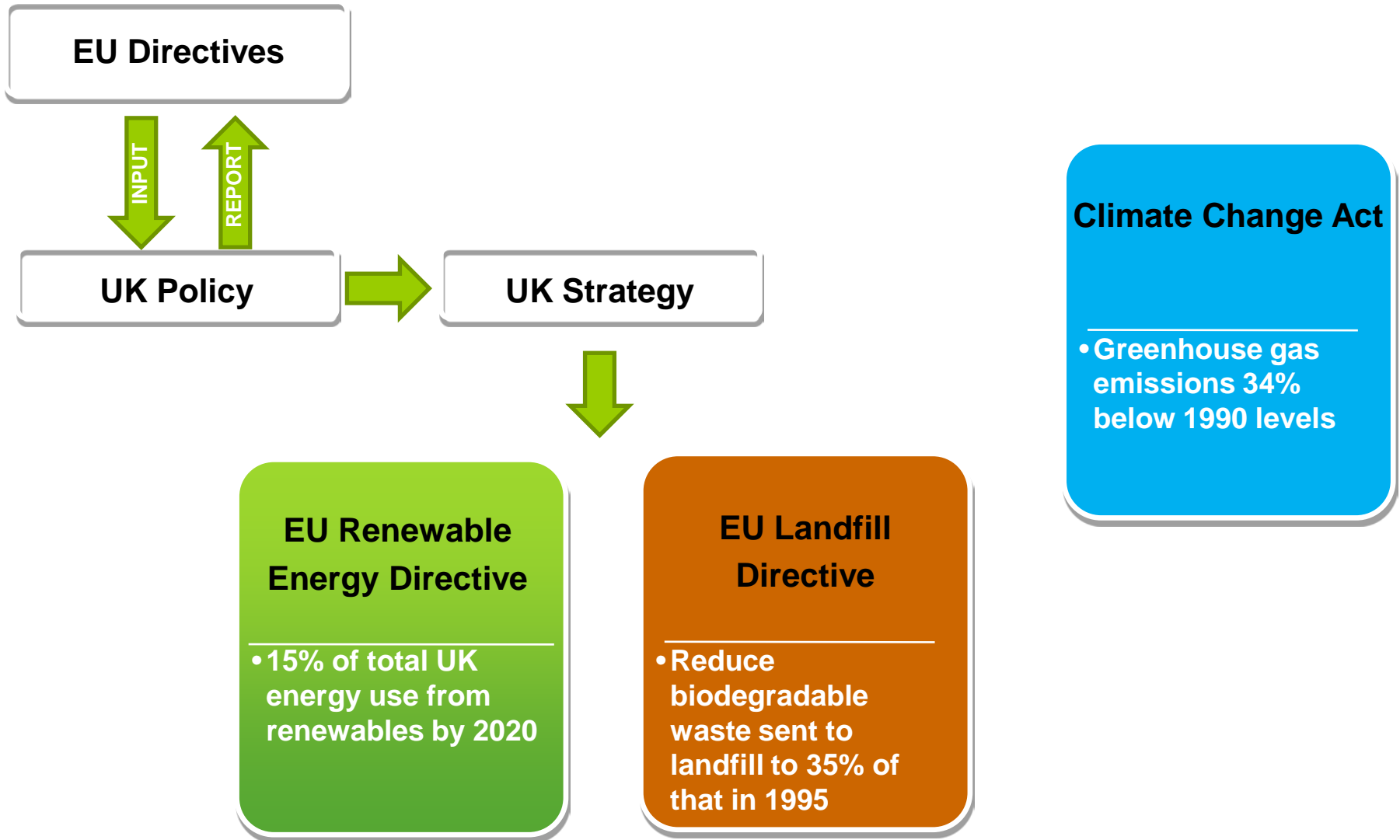
- More than 100 people and 50 organisations worked together
- **Common goal:** increase uptake of AD
- Strategy/Action Plan **published June 2011**

KEY ISSUES

- Feedstock security
- Using the digestate
- Biogas use
- Finance & financial incentives



UK Commitments and Targets



Renewables Obligation (RO)

- Increasing % of electricity sourced from renewables
- Administered using (ROCs) – traded, proof
- 2 ROCs/MWh for AD

Feed-In Tariffs (FITs)

- Encourages small-scale technologies (<5MW_e)
- AD tariffs
- 14p/kWh (\leq 250kW)
- 13p/kWh (> 250 – \leq 500kW)
- 9.4p/kWh (> 500kW)

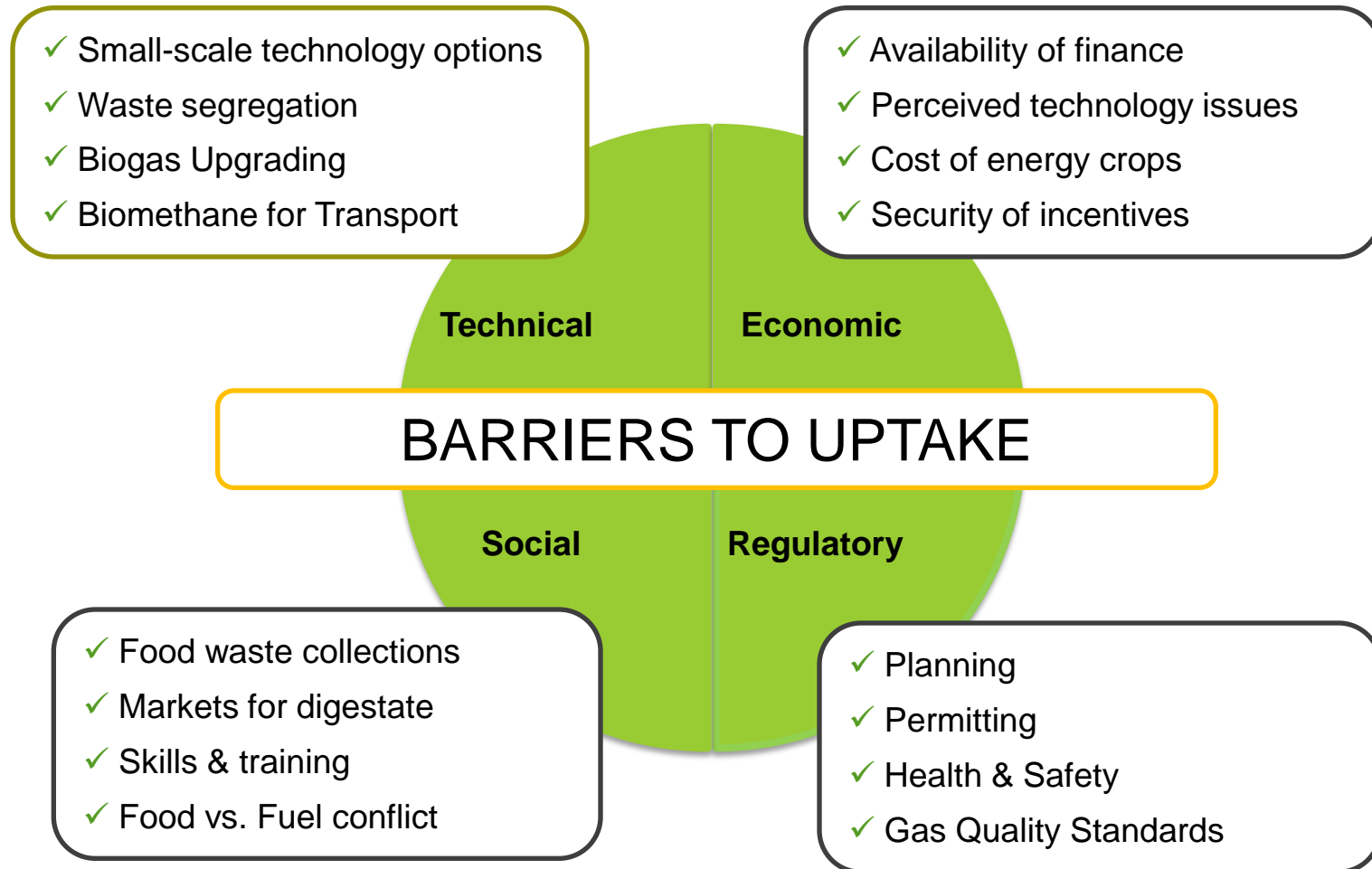
Renewable Heat Incentive (RHI)

- 6.5p/kW_th Financial support (combustion <200 kW_t)
- bio-CH₄ gas grid injection at all scales

Renewable Transport Fuel Obligation (RTFO)

- 5% of transport energy from renewables sources by 2013
- Includes bio-CH₄

Barriers to AD Development



THEME 1: Knowledge and understanding (29 actions)

Understanding of AD landscape

Building UK Skills

Markets for digestate

THEME 2: Smarter Working Models (12 actions)

Raising awareness of AD – Community AD and localism

Biomethane in transport

AD in the rural Community

THEME 3: Regulation and Finance (15 actions)

Finance

Regulation

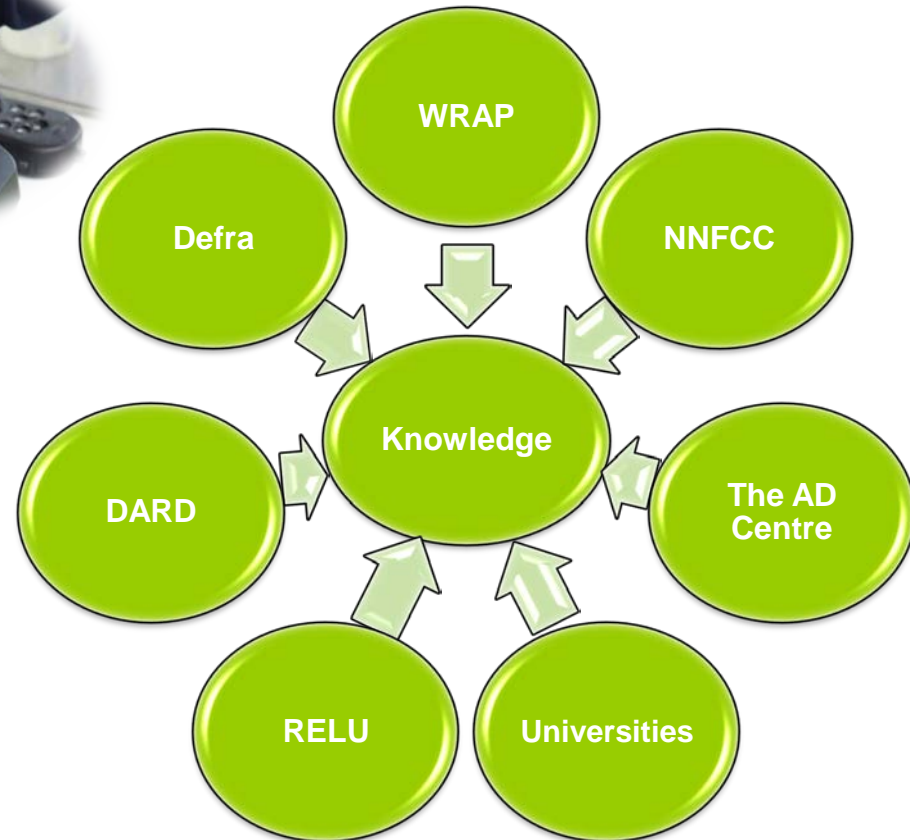
Huge information base

Demonstration projects

- Cockle farm park – NE England
- AFBI – Northern Ireland
- Organic Power - SE England

Bench-scale projects

- The AD Centre
- Southampton University



‘One stop shop’ for information dissemination

<http://www.biogas-info.co.uk>



Raising confidence in digestate

Responding to concerns of UK farm assurance and retailers

Critical literature reviews

- Allergens
- Flavour / odour taints
- *Clostridium*
- Persistent herbicides

Risk assessment

Digestate data

Digestate stability / odour

BRITISH RETAIL CONSORTIUM

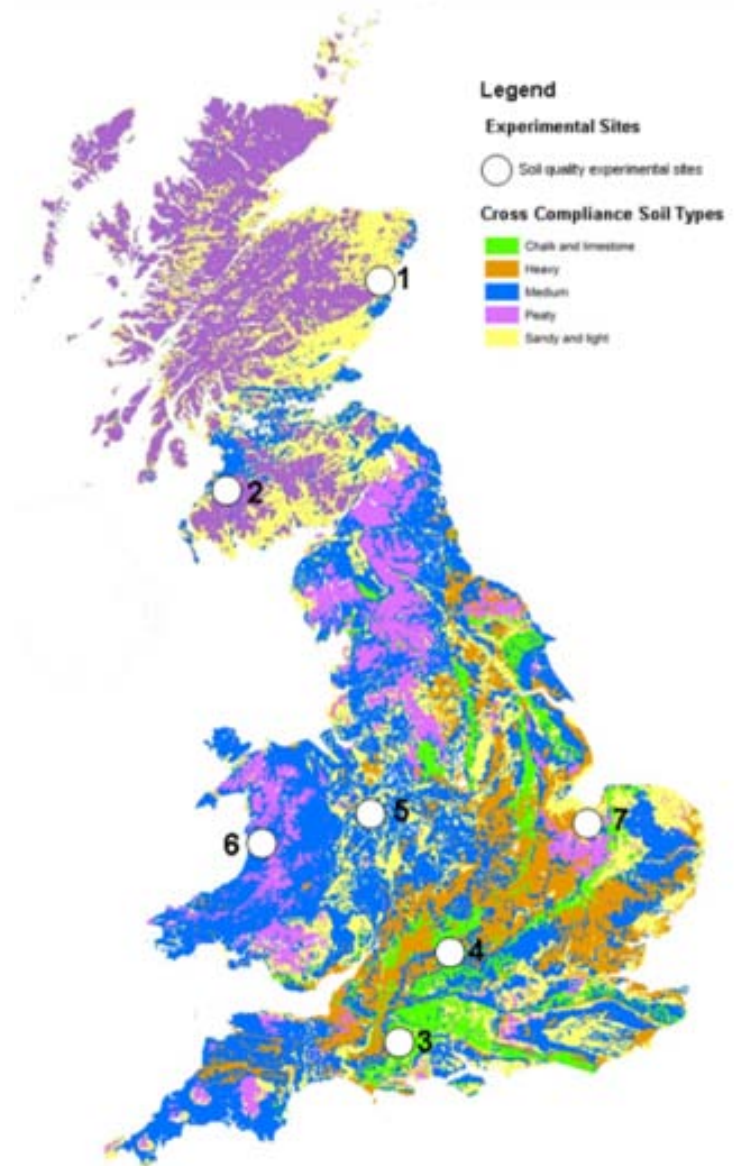


Field Experiments: Digestate in Agriculture

'To quantify the effects of contrasting digestate and compost applications on soil and crop quality, crop available nitrogen supply and emissions to the air and water environments'

2010-2014 Joint WRAP / Defra initiative is investigating

- Soil quality
- Agronomic benefits
- Crop quality / yield
- Crop safety
- GHG impact



- **Published Strategy and Action Plan in June 2011**
- **First AD Action Plan Implementation Steering Group held in September**
- **Annual Report on progress in June 2012**
- **Monitoring and evaluation for up to 24 months**



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Thank you

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