

COMPLEX POLICY INTERLINKAGES BETWEEN ANAEROBIC DIGESTION AND FOOD WASTE IN THE UK

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BACKGROUND

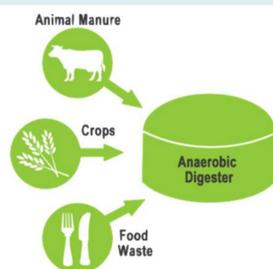
Domestic Targets



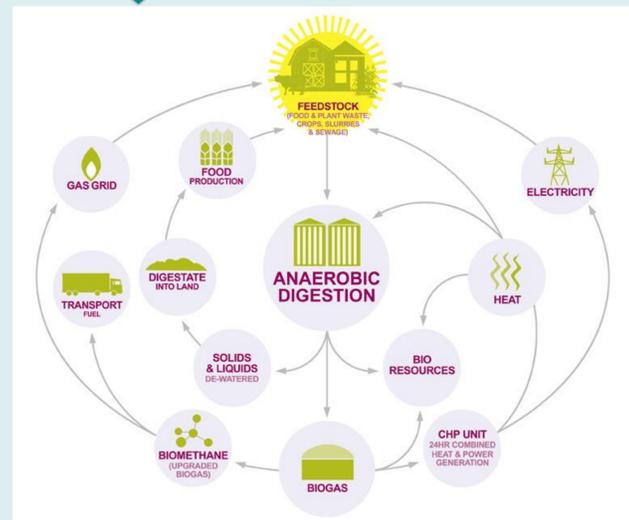
HOWEVER, 7.3 million tonnes of food waste end up in landfills each year

OPPORTUNITY:

- The technology of Anaerobic Digestion (AD)
- Digesting 1 tonne of food waste can generate 300 kWh of energy
- 400 operational AD plants and 420 projects under development in 2017



Source: Voulovlis (2015)



Source: <http://adbioresearch.org/about-ad/what-is-ad/>

RESEARCH AIMS & QUESTIONS

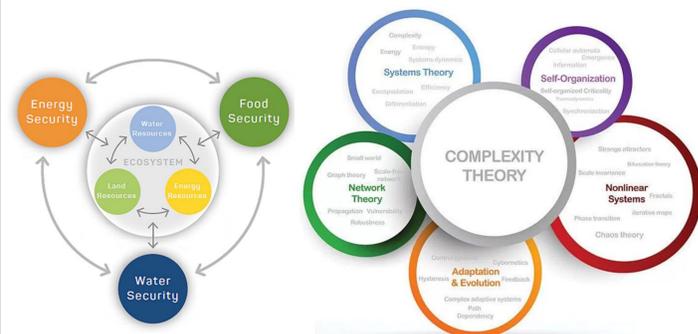
AIMS

- Provide an interdisciplinary evaluation framework which integrates environmental, political, social and economic aspects, while taking into account the policies, processes, actors and dynamics.
- Inform policies and regulations on how to support the development of a sustainable food waste collection system leading to anaerobic digestion plants.

QUESTIONS

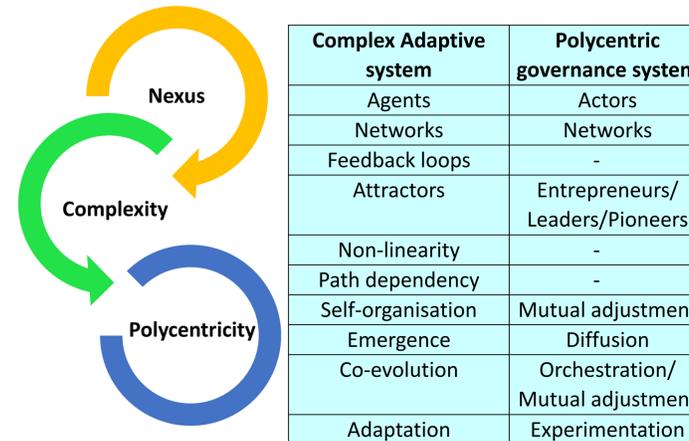
1. To what extent can the wider AD governance of the UK be described as a complex and polycentric system within the energy-water-food-environment nexus?
 - Why would this conceptualisation be useful for the UK policy actors of AD?
2. What really works in the food waste collections leading to AD plants in Scotland and Wales, compared with England?
 - What drives differences in the food waste collections leading to AD plants in England, Scotland and Wales?
3. What are the drivers and barriers for leading food waste collections to AD and what are its results at the local level?

KEY CONCEPTS



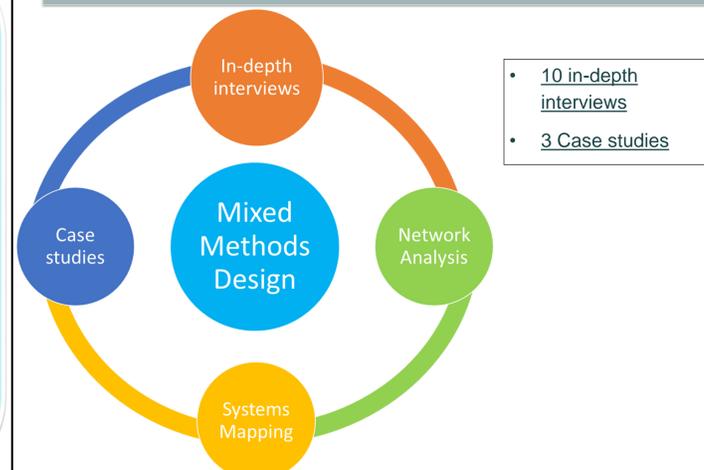
Source: <https://www.water-energy-food.org/about/introduction>

CONCEPTUAL FRAMEWORK



➤ Link the 'nexus' thinking with the 'systems' thinking

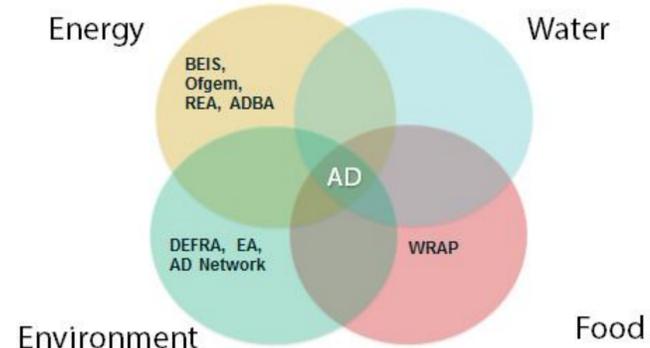
RESEARCH METHODS



- 10 in-depth interviews
- 3 Case studies

IN-DEPTH INTERVIEWS (ON-GOING WORK)

- ✓ Scoping interviews with 10 policy experts, specialising on the AD from the different 'nexus' sectors.
- ✓ Aim to understand the AD governance at the national level.



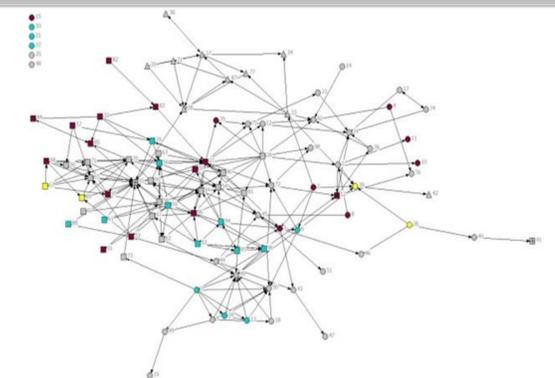
SELECTION OF CASE STUDIES (ON-GOING WORK)



- 3 Case studies: England, Scotland, Wales
- Aim of this stage of fieldwork is to identify 'what works' at the regional level
- Identify cities/towns from aggregate -level data
- This process will lead to the local level of investigation.

Data analysis

SYSTEMS MAP & NETWORK ANALYSIS (WORK UNDER CONSIDERATION)



Source: (Abström and Cornell, 2018)

CONTRIBUTION TO KNOWLEDGE

This research:

- Identifies what works and does not work in the policies and incentives regulating the linkages of AD and food waste in the UK.
- Explores in depth the interdependencies and interconnections of actors in the networks of complex energy-water-food-environment policies at the local level
- Contributes to evidence-based policymaking in the fields of AD and food waste collections, while taking into consideration the synergies and trade-offs of the energy-water-food-environment nexus.

(This CECAN funded PhD research started in January 2017).