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A review of bioenergy in the East of England

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4th Annual Smart Grids & Cleanpower 2012 Conference

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PROJECT PART-FINANCED BY THE EUROPEAN UNION
European Regional Development Fund
Investing in your future

ERDF
low carbon economic growth in the East of England

EEDA
East of England Development Agency

UEA University of East Anglia

Talk structure

1. InCrops Enterprise Hub

2. Bioenergy in the region

3. The Adapt Low Carbon Group

InCrops Enterprise Hub

adapt

- Funded by the European Regional Development Fund and East of England Development Agency to support low carbon innovation and growth in the bioeconomy in the East of England.

- The project is managed by InCrops Ltd, a spin-out company from the UEA and which is part of The Adapt Low Carbon Group.

InCrops Project

InCrops Enterprise Hub

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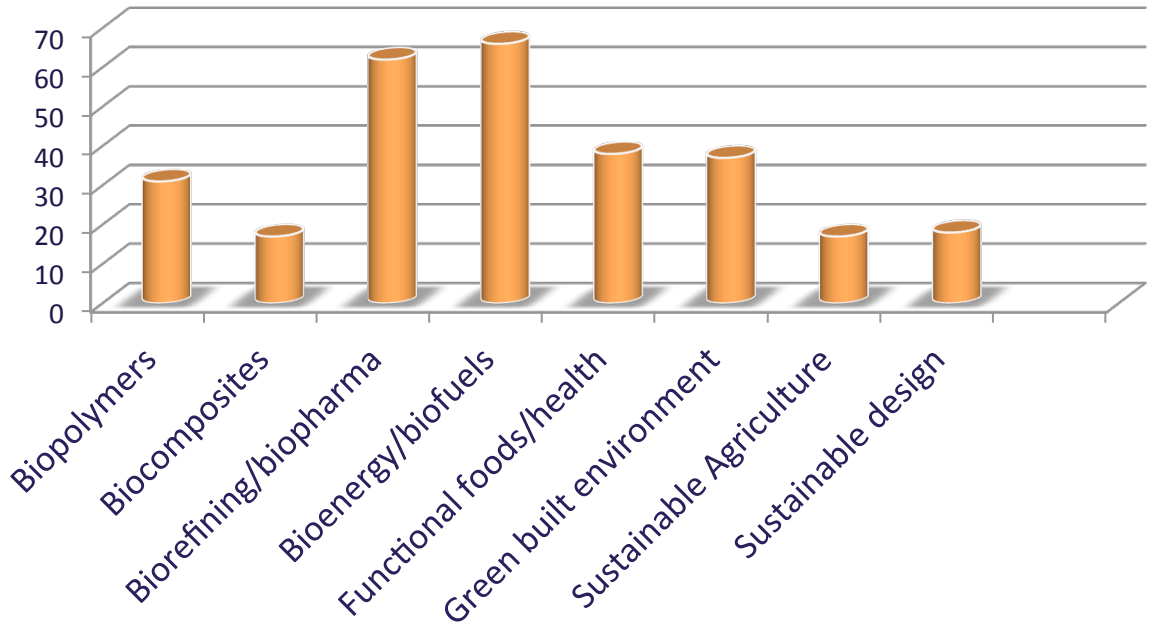
- Regional companies can access up 14 hours of free specialist support for the **development, commercialisation and adoption** of bio-renewable products, processes and services:

InCrops Project

InCrops Enterprise Hub

InCrops has supported **over 270 regional** businesses since summer 2008



InCrops clients include:

- Technology developers
- Technology suppliers
- Biomass suppliers
- Manufacturing companies
- Consultancy companies
- Farmers
- Land owners
- Project developers

InCrops Enterprise Hub

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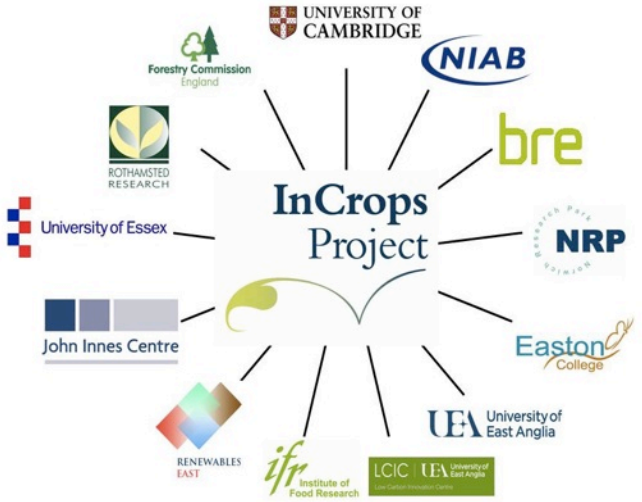
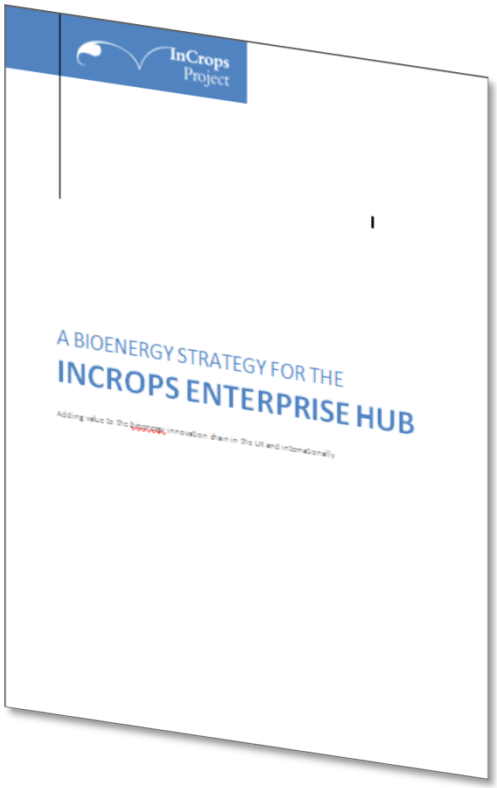
- When clients require technical or scientific support for the development or adoption of new products and processes, InCrops introduces them to academic partners.

- InCrops has facilitated over **40 industry:academia collaborations** since summer 2008.



Bioenergy in the region

- Key areas for improvement and development and in which the region has considerable expertise:
  - Sustainable production of biomass
  - Biomass conversion processes
  - Returning nutrients to the soil
  - Negative carbon energy
  - Adding value to bioenergy systems



Bioenergy in the region

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LIGNOCELLULOSIC BIOFUELS: The HOOCH project

BRITISH BIOALCOHOLS GROUP

- A Defra-funded project on the production of bioalcohols from lignocellulosic residues from the agri-food supply chain.
- A consortium of 14 academic research institutes and universities and industrial partners from different stages of the supply chain.

Bioenergy in the region

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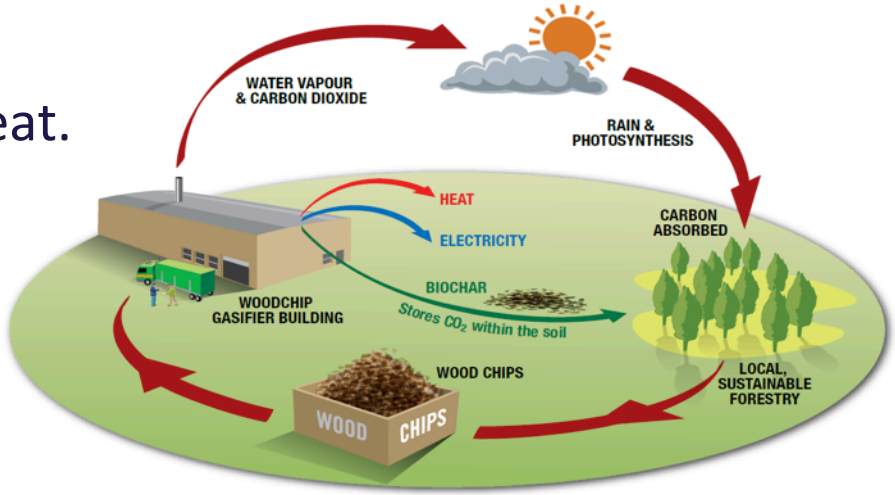
GASIFICATION: UEA Biomass Gasifier

- CHP unit capable of producing 1.4 MW electricity and 2.0 MW heat.
- Feedstock: woodchips from sustainable forestry in Norfolk.
- The plant will also generate up to 1,000 tonnes of biochar per annum.



Bioenergy in the region

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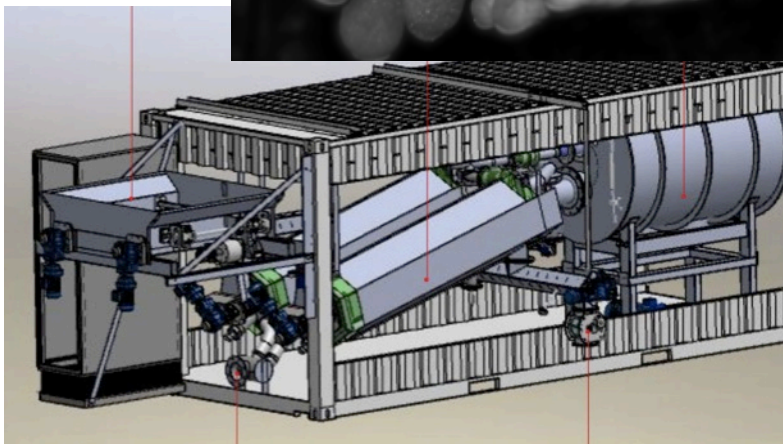
PYROLYSIS: The PYREG slow pyrolysis system

- A 500kW modular pyrolysis unit mounted inside a shipping container.

- Annual throughput rate: 1,000 to 1,200 tonnes of feedstock yielding 350 to 400 tonnes of biochar and ash.



Bioenergy in the region

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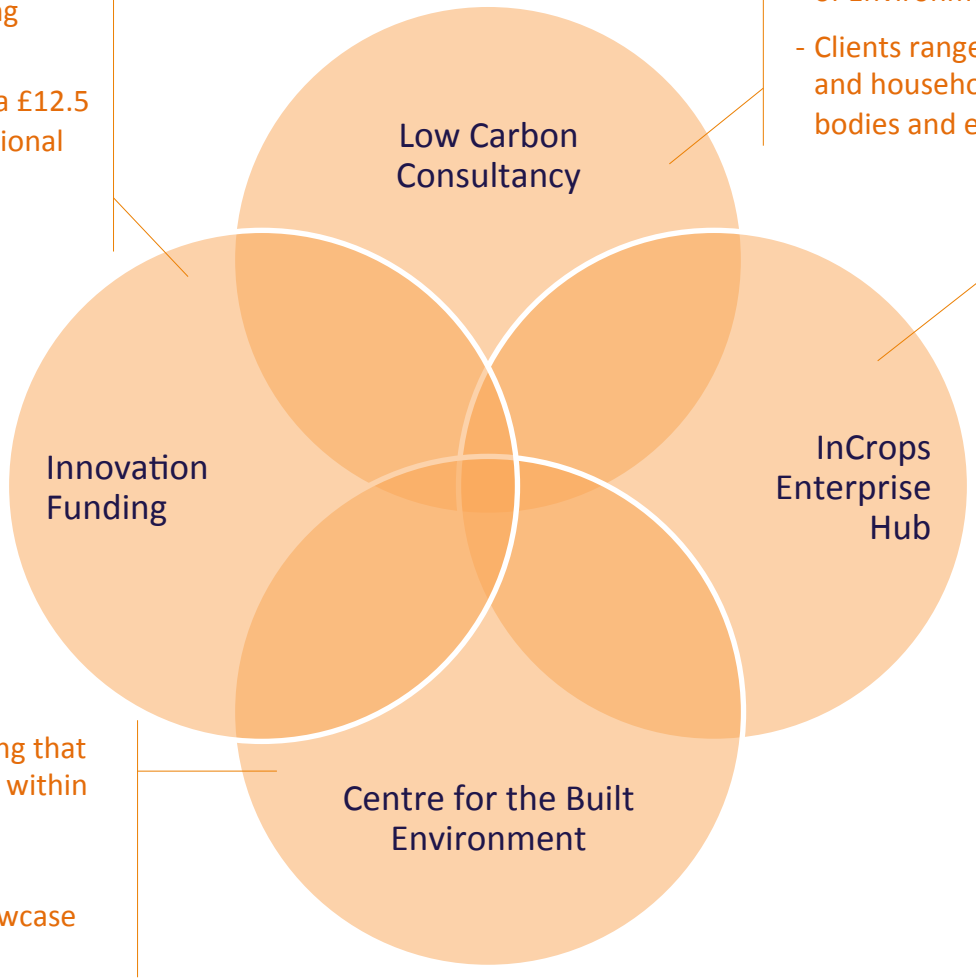
ANAEROBIC DIGESTION: Massive potential in the East of England

- Over **36 stakeholders** in the region alone involved in or interested in this area of technology
- **17 AD plants** in operation, under construction, under planning process or under concept stage
- **16 technology suppliers and project developers** - and many others with non-regional addresses operating here

The Adapt Low Carbon Group

- Over 7-years experience funding early-stage low carbon ideas
- **Low Carbon Innovation Fund**: a £12.5 M Venture Capital Fund for regional low-carbon businesses



- Commercial consultancy services that draw on the UEA's world-renowned School of Environmental Sciences
- Clients range from blue chip companies and household brands to government bodies and environmental organisations

- A partnership of 13 academic organisations supporting innovation and growth in the bioeconomy
- Over 270 regional businesses supported and over 1,000 organisations in the InCrops network

- A cluster for low carbon building that draws upon expertise available within and outside the UEA
- NRP Enterprise Centre: a £15M Exemplar Building that will showcase low carbon technologies

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