



power from the land

#### What is Biogas?

- Anaerobic digestion/fermentation to yield
- Methane (natural gas)
- Nutrient rich liquor
- Fibre
- Usually involves a pasteurisation phase to kill pathogens
- Can be expressed at small and medium scale



#### What is Biogas?

- Proven technology
- three types of plant in the UK
  - centralised plant servicing a range of customers
  - embedded plant integrated with production plant
  - farm scale plant
- Economics the key to extensive deployment eg Germany over 500 plant



## **Evaluating Biogas**

- Current Economics
- Resource scale and type
- Energy usage displace or sell?
- Overall trends in energy economics
- Bi-product sale or disposal



### **Biogas Economics**

- Avoided cost of disposal
- energy revenue
  - qualifying biomass for ROC's
  - therefore electricity price plus renewable premium
  - Currently working on HOC's which will transform value of biomass as a renewable fuel



### Resources or suitable fuels

- All putrescibles
- Can be mixed with variety of other sources eg animal slurries
- Best suited to wet resources
- Particularly suited to food type biomass
- Resource profile determines gas yield and therefore economics



# Some exemplars?

#### Holsworthy Biogas Plant Under Construction



