CLOSED LOOPS AND OTHER SYNERGIES
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OSR

Feed cake

Straw as energy source

Glycerol
CLOSED LOOPS AND OTHER SYNERGIES

- Slurry, crops, sewage
- Fertiliser
- Anaerobic digester
- Electricity, heat, gas
- Fertiliser
- OSR
- Farmer takes waste water from council
- Straw as energy source
- Feed cake
- Glycerol
- Feeds willow
- Woodchip for CHP
- Reduced footprint

Coppiced woodland
- Use of wood with little current economic value
- Charcoal

CHP

CSA model
- Farmers provide food and fuel
- Consumers feed back urine
CAN WE INDUSTRIALLY SYMBIOSE THE THREE PRINCIPAL CONVERSION TECHNOLOGIES?

- Rape
  - Straw
  - Straw
- Thermal
  - Pyrolysis oil
  - Bio-char?
  - Off-cuts and chips
- Wood
- Pellets
  - Cake
  - CHP
  - Food & other organic waste
  - Cake
  - Electricity
  - Heat
- Miscanthus/maize
- Seed
- Crusher
  - Cake
  - CHP
  - Electricity
  - Heat
- Anaerobic digester
  - Sludge/feriliser
  - Food & other organic waste
  - Sale ROCs
- SVO
  - Glycerol
  - Waste oil
- Biodiesel
  - Market for heat?