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Basics

- 550kW
- Matches building heat loss
- Gas boilers as back-up
- Large buffer vessels to prevent cycling

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How it should work

- Large hopper
- Short distance covered by 1 or 2 Archimedes screws
- Self clearing
- Low cost to run
- Charges buffer vessel overnight

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How it actually works

- 12t hopper
  - Minimum delivery quantity
  - Deliveries every 2 week
- 4 Archimedes screws
  - Over complicated sequence to get them running
  - Noisy
- Fire chamber needs frequent scraping / clearing

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How it actually works 2

- Costing approx 2 – 3 times more than gas
  - No contract in place yet
  - Costs around £2000 per 12t delivery
  - Embodied transport carbon???????
- Controls not set properly
  - Buffer vessel wasn't charging
  - So gas was leading
  - Against planning conditions

How Much Carbon?

- DEFRA Conversion Tables
  - Which one?
  - Convert to kWh/kg (4.86) – Table 11
  - Multiply fuel used by above to get kg/CO_2e
    - Still doesn't give you actual direct emissions!
  - Go to another website
    - www.biomassenergycentre.org.uk
    - As clear as mud!

How Much Carbon?

- So far (since July 10 to May 11)
- 79.35 tonnes of pellets (7 loads)
  - 79350 x 4.86 = 388,071 kg/CO_2e ???
- According to DEFRA spreadsheet:
  - 79t x 183.93(All Scopes GHG) = 14,530 kg/CO_2e
  - AND
  - 79t x 1649 (Outside of scopes) = 130,271 kg/CO_2e

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Lessons

- Get it well designed by someone with lots of experience
- Get large hopper
- Get controls set properly
- Consider chip instead of pellets
  - Deal with own wood waste on-site
- Don’t use biomass

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Thank You

Any Questions

Greening Goldsmiths

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