MAKING MODERN LIVING POSSIBLE

Case Studies (New and Old)
Geothermal Live!
30th April 2008

Phil Moore

Self-build - Glasgow

- 600m of ground loop
- Horizontal trenches
- 5 years in operation
- Running Costs £400 per year

Housing Association – Outer Hebrides

- 6 houses
- Each has 3 or 4 boreholes to 25m by local quarrying contractor
- All heating and hot water
- Underfloor heating

Community Heating Scheme - Cornwall

- 8 x 70m boreholes
- 12 apartments
- 2000 litres of DHW
- Central Plant
- Underfloor heating

Housing Association - Edinburgh

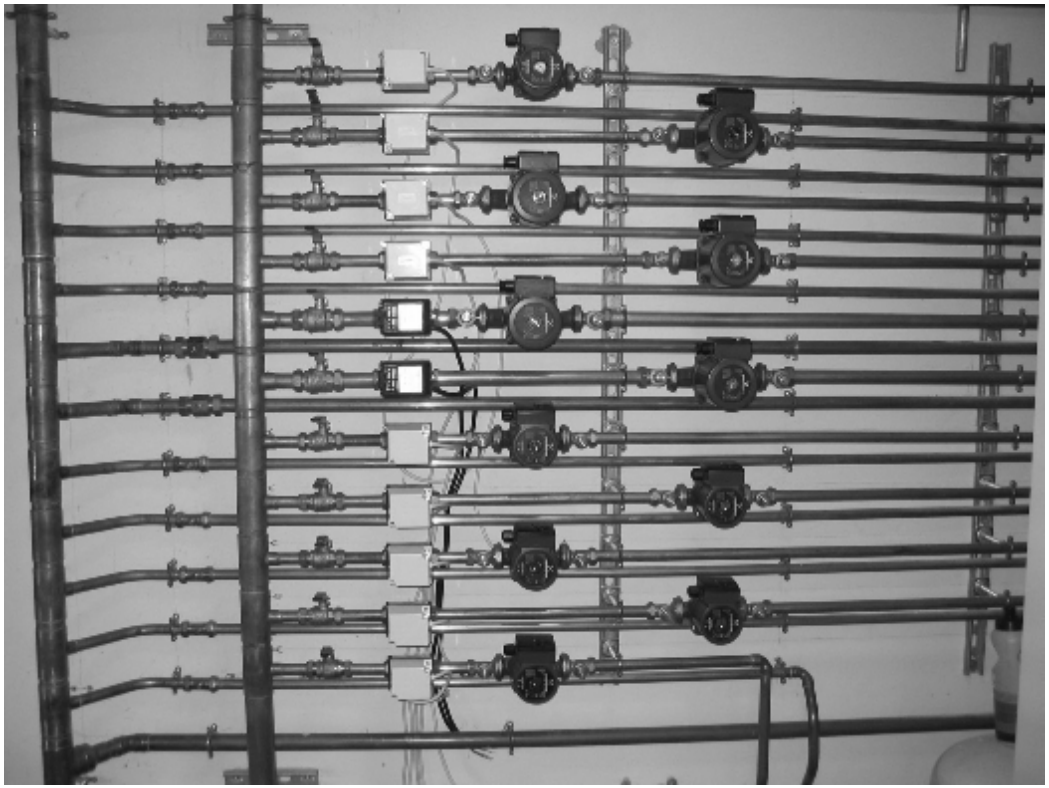
- District Heating
- 17 flats in centre of city
- Central Plant Room
- Robust heat pump unit
- 1000 litres domestic hot water pre-heat
- Underfloor heating

Housing Association Edinburgh

- Original plan was 9 x 100m holes
- Drilling rig could only get to 70m
- Re-designed to 14 boreholes
- At 50m holes returned clay drainage pipe!

Housing Association Edinburgh

- 1000 litres of domestic hot water stored and circulated
- Buffer tank installed



Maybury School - Hull

- 2500m of loop
- Horizontal trenches
- Heating Only
- 90kW
- Low Carbon Building Programme Phase 2 funding with British Gas


Robust

Sharrow School - Sheffield

- 600 pupils
- 21 x 100m boreholes
- Heating and hot water
- Passive and Active Cooling on underfloor
- 200+ kW
- Drilling by Sintec
- Thermal Conductivity by GeoWarmth


ECO HEAT PUMPS LTD


Eco Heat Pumps Ltd

Sheffield University – Advanced Manufacturing Research Centre

- 32 x 70m boreholes
- Heating and hot water
- Passive and active cooling onto fan coils and underfloor
- Wind turbine of approximately 1MW feeding building
- Drilling by Sintec
- Thermal Conductivity by Loopmaster


eco
heat pumps

Geothermal International – North Kent Police Station

- 1 MW
- 180 Piles and 80 Boreholes
- Drilling ¼ mile away from a major water source
- Managed major environmental risk

Geothermal International – Mansfield Hospital

- 5.4 MW
- Geo-Lake Plates – 5 tonne stainless steel assemblies submerged 300m out in the middle of a reservoir.
- 1km long, 1ft dia header pipe under dual carriageway

Central Oslo - Norway

- 200 x 200m boreholes
- Exhaust Air Heat recovery
- Use of river water for cooling
- Heating and Cooling provided via an ESCO

Central Oslo - Norway

- 3 x 3.3 MW heat pumps
- Heat Pumps constructed in UK
- Designed by Normann Etek
- Heating and Cooling provided via an ESCO