

## STAGE 1 LOW AND ZERO CARBON ENERGY SUPPLY STUDY

### Project Description

NHS Greater Glasgow and Clyde is the largest health board in Scotland with an energy bill and carbon footprinting commensurate with their estate. NHSGG&C identified a need for site based energy strategies for each of their six acute hospital locations. The emphasis of this project was to provide strategies that focused on the energy supply side options. Each strategy covered potential options such as renewables, combined heat & power and district heating with a view to then developing shortlisted technologies in more detail through subsequent feasibility studies. Further advice was provided on carbon saving potential of electric vehicles across NHSGG&C fleet.



### Project Details

- Project carried out in 2018
- Deliverables include detailed technical studies for each site and face to face presentation of findings to NHSGG&C Energy Team and Senior Management

### Contact

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### Our Role

ITPenergised (ITPE) worked with the board energy management team to identify and evaluate low and zero carbon energy options across the six acute hospitals sites including the Queen Elizabeth University Hospital campus and Glasgow Royal Infirmary.

The feasibility assessments considered the potential for a number of technologies including:

- Gas fired CHP - turbine/engine
- Wind turbine generation Solar PV
- Solar thermal
- Fuel cells
- Energy from Wood – Gasifier or Anaerobic Digestion
- Energy storage
- Biomass boiler
- Biomass CHP; gasifier or turbine
- Heat pumps; central or decentralised, water/air/ground
- Geothermal
- Initial Commentary on district heating

The findings of the evaluations were presented in a review report for each site which considered each technology in the context of criteria including:

- Benefits
- Barriers
- Incentives available
- Technology maturity/risk
- Supply chain maturity and after sales support
- High level costs and typical ROI

### Client

**NHS Greater Glasgow & Clyde**