

## CASE STUDY – CAPITAL PROJECTS

### ***NERV - New Cumnock Swimming Pool Air-Source Heat Pump Project***



The pool before refurbishment in 2006

#### **Introduction**

New Cumnock is a former mining village near the border of Ayrshire and Dumfries & Galloway. The village has suffered greatly since the demise of deep mining and the reduction of the textile industry losing more than a third of its population.

The outdoor swimming pool built in the 1960's was closed by East Ayrshire Council and taken over by the community under the banner of NERV, New Cumnock Environmental Volunteers, a group set up to improve the environment and leisure activities in the area. The swimming pool, under the stewardship of NERV, has undergone significant upgrading including new showers and changing rooms and tiling of the pool and surrounds.

#### **Aims & Objectives**

With a falling population and severe increases in energy costs, to keep the pool sustainable NERV looked to reducing overheads, the largest of which was gas for the boilers. The group were successful in securing funding through Eon, a local wind farm operator, to undertake a study of the pool and its energy requirements and to recommend a renewable energy system to provide the major source of heating the pool water.

The consultants originally recommended a geothermal system with either loops or boreholes as there was plenty of ground available and also an aquifer that could be tapped into, allied to a new more efficient and flexible condensing gas boiler to assist in initial heat up of the pool water.

Initial funding applications were made to the SCHRI fund, Scottish Power Green Energy Trust, Cumnock & Doon Valley Minerals Trust and Awards for All Lottery funds to fund the replacement of the existing boilers and the installation of a geothermal system. All the applications were successful.

NERV invited three geothermal companies to visit and to tender for the contract. However one of the companies suggested that as the pool was only open May to September, a better solution would be an air-source heat pump (ASHP) system and recommended a company that could give more information and give estimates to the system required and probable costs.

#### **Who was involved?**

NERV consulted with the local Energy Agency and they agreed that the ASHP system looked more appropriate and would make greater savings in carbon emissions. This information was passed back to the Consultants, CarlBro who researched the information and recalculated the energy cost savings and the reduction in emissions and agreed that the air-source heat pump system would produce greater savings.

The main funders for the renewable energy part of the project, SCHRI and Scottish Power Green Energy Trust, were contacted and revised applications submitted for the ASHP system and an additional application were made to SCHRI to part fund an upgrade to the thermal blanket and install a motorised roller system to further improve energy efficiency.

Two additional air pump suppliers were contacted to quote for the contract, however the original company Aquarius gave the best solution and cost for the supply of the heat pumps and recommended a Scottish Company, Alba Pools, as accredited installers.

### The approach

NERV from the outset sought professional advice from a variety of sources and gained funding to engage consultants to survey, research and recommend the best solution for the project. They also sought advice from the local Energy Agency who was very helpful in identifying accredited suppliers of a wide variety of renewable energy systems. They were also very helpful in doing research when, the air pump system was identified as a possible solution and liaising with the consultants.

Applications were made to the funding organisations with assistance from East Ayrshire Council's Economic Development Section's Community regeneration project officer. Offers of funding were obtained from SCHRI, Scottish Power Green Energy Trust, C&DV Minerals Trust and Awards for All.

Aquarius were chosen to supply two Heatstar heat pumps with titanium heat exchangers and a maximum thermal output of 75kW each. A Scottish Company, Alba Pools, were chosen to uplift and install the pumps and the new motorised thermal blanket.

A local heating company, Gibson Wight, have been chosen to supply the condensing gas boiler part of the project.

### Results

The heat pump system was installed in March and the new condensing gas boiler will be installed in April. The swimming pool doesn't open until May and the full commissioning of the system will not be undertaken until then. Savings in energy costs and reductions in emissions will not be available until the pool has been operational for some time. The total installed cost of the heatpump system was £30,996 plus VAT. 46% of this was funded by the SCHRI. The motorised high-efficiency thermal pool cover cost £11,625 plus VAT. Expected carbon dioxide savings are initially estimated to be around 19.55 tonnes per year over a gas-only system.

### Lessons Learned

What lessons have been learned? What advice would they give other groups?

We probably should have spoken to the Energy Agency before the Consultants were appointed as we may have identified the air-source heat pump system as a solution at an earlier stage of the process, saving time and money on the consultants report and subsequent revision.



Before and after



### Further information

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*At the time of publication and to the best of our knowledge, the information contained in this case study was correct, however the Energy Saving Trust does not warrant or guarantee any of the information contained herein. Energy saving figures and related information has been provided by the community group.*