Achieving Net Zero carbon emissions:

Is a Local Heat Network the way forward for Milton of Campsie?

The UK is committed to ensuring that we cause no more emissions of carbon dioxide than we can absorb. This is what 'Net Zero carbon emissions' means, and is part of the 2015 Paris agreement to try to reduce climate change. The UK climate change committee recommended that Scotland should aim to achieve Net Zero carbon emissions by 2045. It will be necessary to stop using natural gas for heating and cooking.

Dr Neill Simpson, a resident of Milton of Campsie, has studied renewable energy with the Open University. Together with a small team, he has proposed a Community Energy project to develop a demonstration project to find out if a Local Heat Network is a viable option for the basic heating needs of Milton of Campsie.

What is the alternative to using gas, and how are we going to get there?

There are several possible solutions, and the most suitable for each household will depend on the availability of affordable renewable energy. Every option should include a plan to help people keep warm cheaply by improving insulation. One of the options is to provide hot fluid to each household through a network of pipes. This is called a Local Heat Network. Some other countries have used this approach for many decades. Each house has a heat exchanger which uses the heat to obtain hot water.

Is there a source of renewable energy in Milton of Campsie?

Yes! The village is surrounded by flooded coal mines. This water could be used as a heat reservoir to supply the basic heating needs of the village. Using electrically-powered heat pumps, it could be used for heating fluid to the temperature of hot tap water (about 43 degrees Celsius). For technical reasons, transferring the heat to dwellings would use a transfer fluid, not the water from the mines directly. The heat energy of water in the flooded mines is continually renewed from natural sources.

Would householders have to change their heating systems?

No, not immediately. Householders who wish to keep their existing heating system would save fuel bills by using the hot fluid to pre-heat the water used in their boilers. But it would not be necessary for the householder to have a boiler if their heating system is designed to work at 43 degrees C. (for example, with underfloor heating). With this proposal, householders could make this choice at any time.

Is this a feasible proposal?

We don't know yet. It needs a technical assessment. To obtain the funding for that, we need to obtain a grant to commission an expert, probably from one of the Scottish universities. When the project team approached an expert at University of Glasgow, we were surprised to be offered the opportunity to put the proposal forward for a research project called HotScot. We are awaiting news of whether we have been selected.

What is the next step?

We need to expand the project team by recruiting some more residents of the area who are interested in renewable energy. We then wish to establish a not-for-profit organisation (a company limited by guarantee), similar to the Fintry Development Trust. This would then be able to apply for grant funding to commission technical advice. Dr Simpson is willing to answer questions about the proposal. Ideally we would like to hold a public meeting, but until Covid-19 regulation permit, all of the communication will need to be online.