

# Next Generation case study: Green Fox – Zero Carbon Schools

## April 2022

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### About Green Fox Community Energy Cooperative

Green Fox was established in 2012 to facilitate community energy in Leicester and Leicestershire and is best known for delivering award winning projects which decarbonise heat.

### About this innovation project and its impact:

The objective was to design and test an innovative new business model that would enable schools to become zero carbon without increasing their energy bills.

Green Fox partnered with Leicester City Council, Attenborough Learning Trust, Energy Systems Catapult and Loughborough University to develop the model.

The model takes a two-stage approach:

1. The Base Model measures the schools' energy consumption and costs and then implements proven low-carbon technology to reduce these, including generating energy through solar PV. The Base Model enabled a 42% saving on the energy bill. This represents a simple payback period of just over 6 years. For a community energy share offer the model provides a 3% return on investment over 20 years with capital repayments of 5% every year.
2. The 'Base Model Plus' achieves full electrification of the energy demand which totally decarbonises the schools by adding heat pump technology and newer energy-related products and benefits from emerging markets. Due to the high capital cost of heat pump technology, it represented an 18 year payback which was not financially viable.



The model is summarised in the diagram on page 2.

As well as developing these models, the project successfully:

- Provided evidence of the scale of investment required to decarbonise the UK's primary schools.
- Increased the knowledge of participating schools around decarbonisation.
- Increased the skills and knowledge-base of Green Fox which led to them working with other organisations such as Energy Systems Catapult.

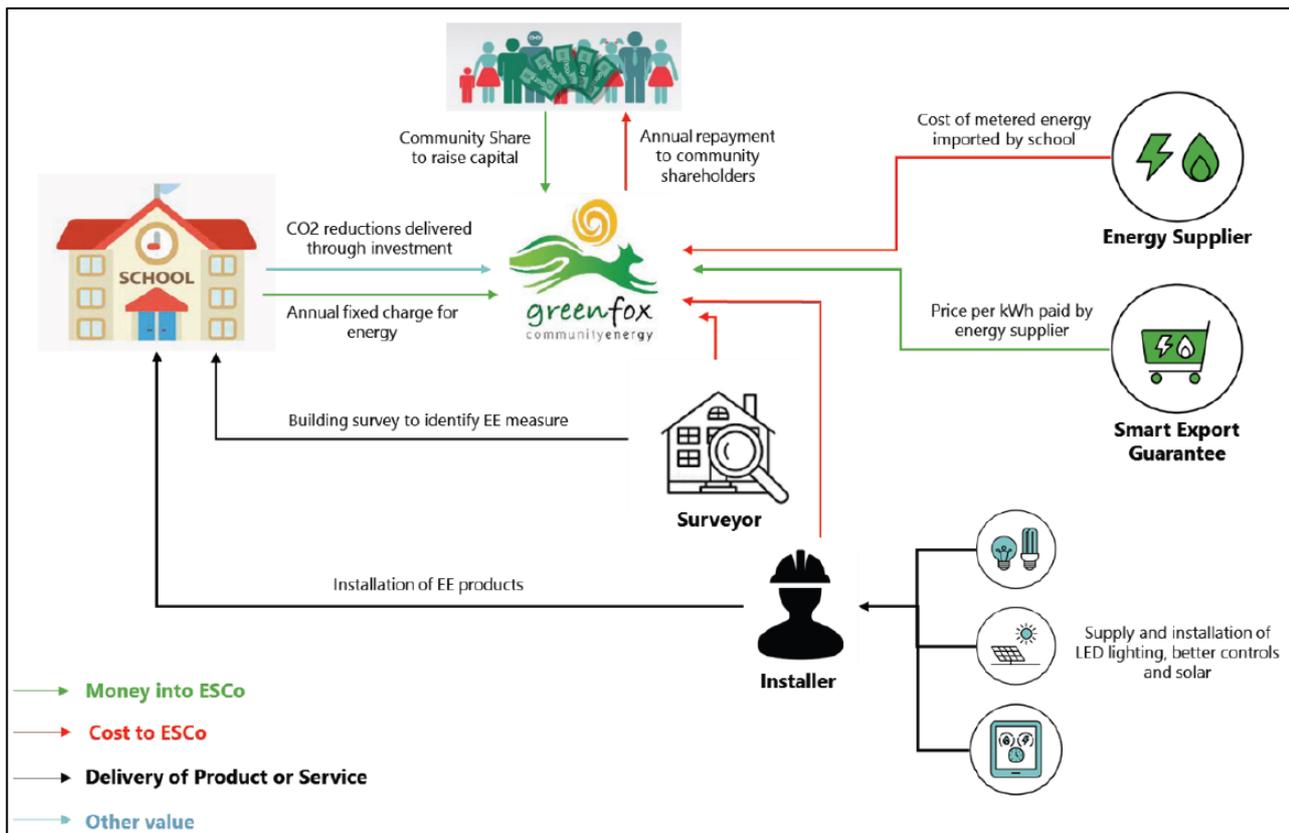


Figure 1 - Green Fox model for decarbonising schools

## Advice for other groups considering this approach:

- Involve stakeholders in the development of funding applications to help build strong relationships.
- Primary energy data is required to test the viability of different options for decarbonising a school; this will take time to collect.
- Legal documentation should be put in place as early as possible to ensure that all parties 'buy in' to the process and financial risk to the community energy organisation is mitigated.



## Key messages for policy makers

- Schools currently have neither the funding nor expertise to decarbonise their buildings; a national strategy is required.
- Implementing the zero carbon Base Model Plus in England's primary schools would cost £3.9 billion. The community energy sector could contribute to this but would need government support to make the Base Model Plus model work.
- A major barrier to community energy groups facilitating decarbonisation of schools has been the requirement to obtain Secretary of State permission for a community group to install energy generation assets on a school. Community Energy England are currently working with the Department for Education to address this.

## If you want to know more:

- [Innovation Lab webinar](#) on the Green Fox model
- Project [Final report](#)
- Base model and Base model plus spreadsheets are available on request from Green Fox

For the final reports, financial models and templates for this and other Next Generation projects see: <https://www.next-generation.org.uk/resources>