



Next Generation case study: Green Fox – Zero Carbon Schools June 2020



About us:

Green Fox Community Energy Co-operative (Green Fox) are working with Leicester City Council, the Attenborough Learning Trust (Trust), the Energy Systems Catapult and Loughborough University, in the heart of multicultural Leicester to develop a new innovative business model for the community energy sector.

Green Fox aims to enable the delivery of low and ultimately zero carbon schools and improve learning environments through an innovative approach to the procurement and operation of energy assets. A key strength of the project is the demonstration of a holistic and consolidated approach to the delivery of tangible benefits to all stakeholders.

The Trust operates and manages four primary/infant schools, all of which use existing/old buildings. The pilot project was a good fit within their ethos of Strength Through Partnership, not to mention the association of the Attenborough name.

Key points for Community Energy Organisations

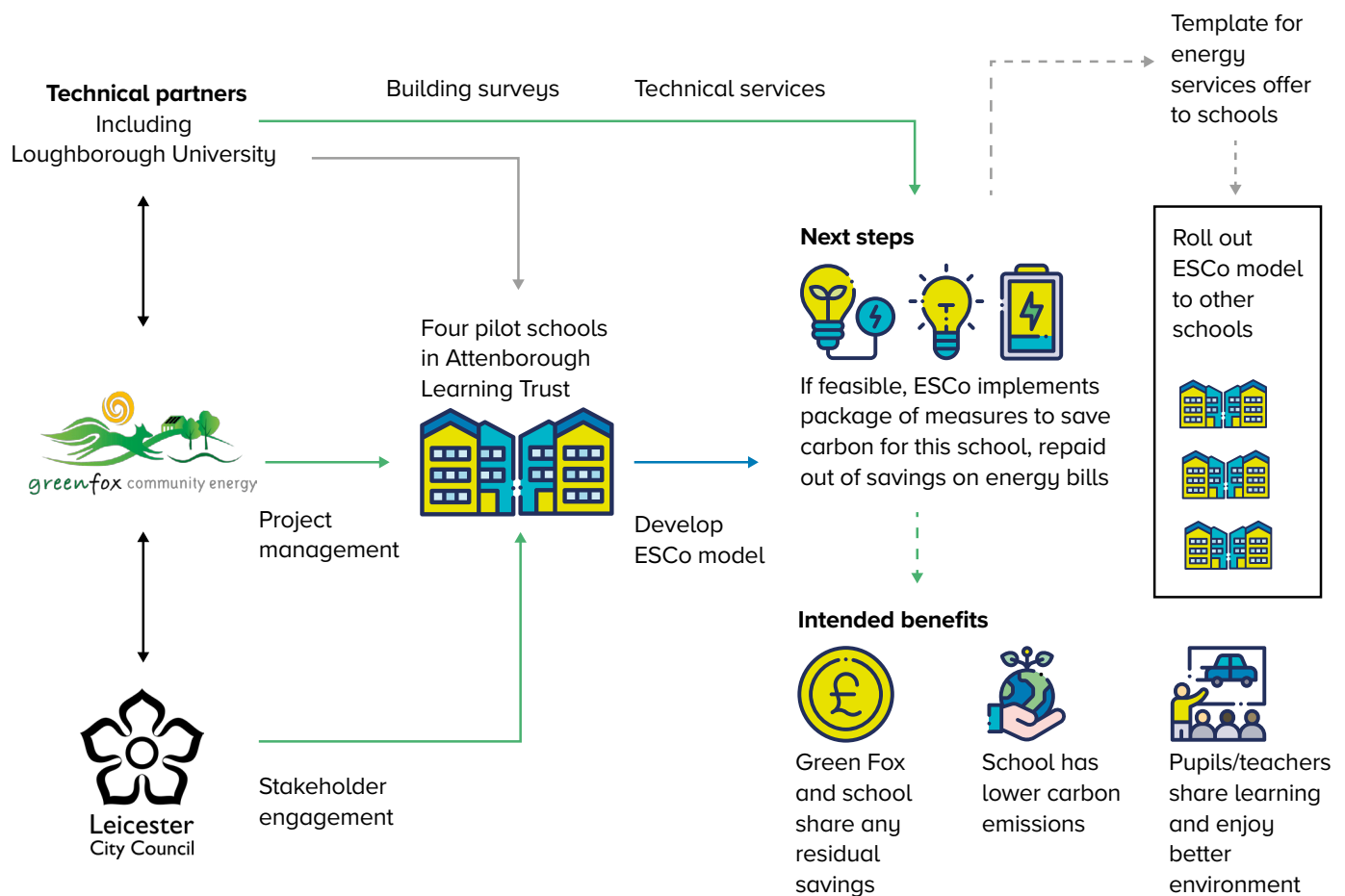
We are still in the process of developing our ESCo model and are not yet clear how viable it will be, which will depend on the energy saving opportunities and efficiencies available within particular schools. If viable, the model would potentially be widely replicable. We will report on emerging progress in a future case study. At this early stage, there are several key points for a community energy organisation to consider using a similar approach and model:

1. To recognise that the project requires initial funding. Ideally any application for funding includes all stakeholders having a monetary incentive through a joint application for a grant/or similar. This quickly helped build strong relationships with the local authority, Loughborough University and the multi-academy trust
2. To access energy data, such as bills, budgets and half hour data as quickly as possible from the outset
3. To use existing structures to ascertain energy efficiency and renewable energy generation in a practical and cost-effective way

Overview of our project:

Our project involves the development of an 'Energy Services Company' (ESCo) model aimed at multi-academy trusts which are responsible for multiple schools. The basic model is based on energy efficiency measures but a future 'basic plus' model may include renewable generation, flexibility services and so on. A schematic overview is given in the diagram below.

Green Fox Community Energy: Zero Carbon Schools



Key

(Dashed lines - actions not yet complete)

- Legal Agreement 
- Funding 
- Electricity 
- Services 
- Information 



Our learning so far:

Identification of appropriate organisations to deliver the project

At the very start of the project, Green Fox brought together several organisations to apply for Next Generation funding. All the organisations had specific roles and funded practical outputs. This did provide an unusual concept as it provided part funding for a local authority employee when historically the local authority has provided funding for environmental and sustainable development projects. The project benefited from a longstanding relationship between Green Fox and Leicester City Council.

At the time of application to Next Generation, the Attenborough Learning Trust had just amalgamated and was identified through the local authority as a potential partner. The four schools had an estimated energy bill of approximately £100,000.

Loughborough University came to the project with existing modelling capability and the Energy Systems Catapult would look to validate the modelling and bring further innovation to the project.

Collecting the baseline energy bill data

In order to provide data for a robust financial model and an energy baseline, primary energy data is required which includes:

- actual electricity and gas/heat bills, ideally over three years
- identification of energy suppliers and tariffs
- access to the schools budgeting over three years
- the current price of electricity and gas/heat
- half hour electricity data over three years
- identification of cost reduction parameters such as the climate change levy

A key learning from this process is not to underestimate the time required to collate this data, especially if dealing with multiple schools. However, it is important to be able to collate this data as soon as possible and thereby define the original cost baseline for each school.

Completing Surveys of the School Buildings/ Infrastructure

To validate the primary energy baseline, Green Fox used independent consultants to complete Salix reports encompassing all the school buildings. This provided a recognised structure and report format which has been developed over several years. Salix is already familiar to schools, and provides energy data, proposed energy efficiency measures including PV together with initial capital costs and approximate payback. The cost for a Salix report is roughly £2,000 a building.

Legal Documentation

Wherever possible, legal documentation such as Memorandum of Understanding, a Power Purchase Agreement or Licence should be put in place as early as possible to ensure that all parties 'buy in' to the process and the financial risk to the community energy organisation is mitigated.

Building a trusting relationship with all stakeholders

Communication between all stakeholders is key, and any perceived risks need to be communicated and managed. Regular and clear communication from the outset is important ensures that there are no misunderstandings, and that all parties are aligned. Preparation of a non-specialist guidance document has also been suggested to help the wider stakeholders understand the project in laymen's terms.

Once underway, the strength of the partnership approach and the interaction between the various delivery partners (Green Fox, Leicester City Council, Loughborough University and the Energy Systems Catapult) has been important to provide credible outputs and confidence to the Attenborough Learning Trust.



power to
change

business in
community
hands

What we are doing next:

Having completed the data collection, and the building surveys, the next stage will provide a financial model which may form the basis of a share offer. Loughborough University and the Energy Systems Catapult will analyse and create the model.

Green Fox has the potential to develop a front-end diagnostic tool that would allow community energy organisations a quick financial viability as to whether a given multi-academy trust is likely to be economically viable using this model.

If you want to know more:

Ben Dodd
Director Green Fox Community Energy Co-operative

Tel: 07816 846979

Email: bdodd@envconsulting.plus.com