

Making the Most of Your Energy Audit

A Guide



Contents

- 3 [What is an energy audit?](#)
- 4 [How to commission the right audit?](#)
- 5 [First think through; what are your needs?](#)
- 6 [Begin an Energy Audit: Start with Measurement](#)
- 7 [Sub-meters or a Building Management System \(BMS\)](#)
- 8 [Who can you trust to help?](#)
- 9 [Creating a Template of Specific Requirements](#)
- 10 [Dos and Don'ts](#)
- 11 [Case Study – St Micheal's Hospice, Basingstoke](#)
- 12 [Further Resources](#)

What is an energy audit?

Simply put, it's the right starting point to reduce energy consumption, cost and emissions.

It tells you:

- How much energy you are using.
- When you use it.
- Whether it's a lot or a little and how you compare to your peers.

It shows the many uses of energy and where you maybe wasting it. It also pinpoints where you can make savings, often dramatic ones, and what it would cost to achieve. **It tells us where should we start? What can we do? And whom we can trust?**

It can be confusing if you start with questions like - Should we start with Solar? What about Heat Pumps, do they actually work ?

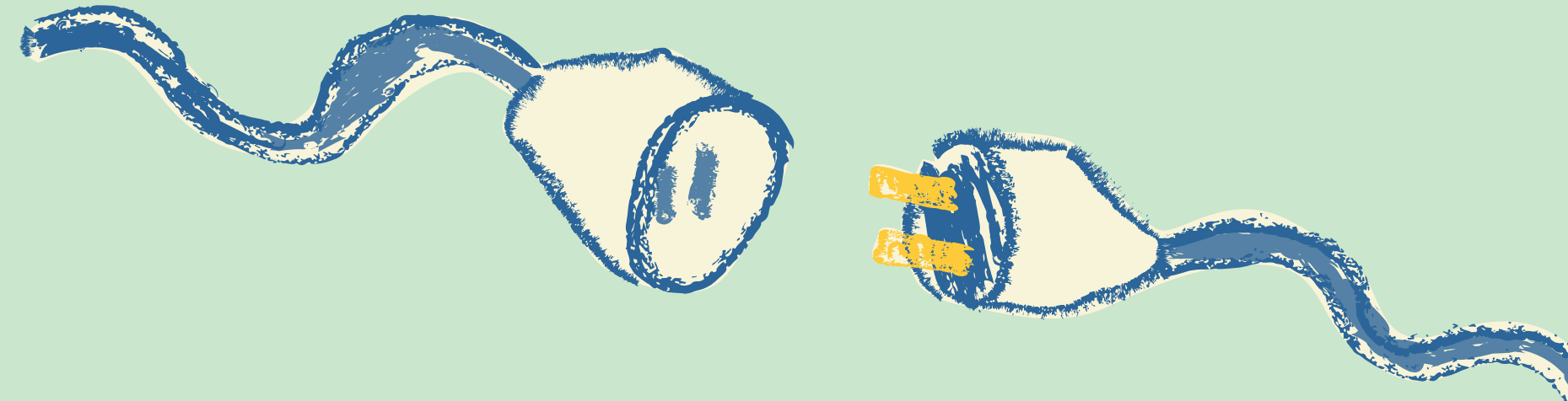
The simple truth is start with measurement, because “without data, all you have is opinions” You need to cut through many existing false opinions

Why an energy audit?

It's something we don't understand nearly enough, its complex, bewildering and misunderstood, it can change every day and suddenly, cost us a fortune without warning, and if we are not careful, will cost us our future. What's more, we use far more than we need, up to two thirds of our energy can be wasted.

For example:

"Last year the UK Hospice sector **spent £30 on energy every minute it did not need to**"



How to commission the right audit?

Many organisations offer energy audits, some meet a regulatory need, some to sell you something, some to write a report and some to actually provide the help you need. If all you want to do is "tick a box", then find the cheapest option that ticks that box!

However, if you actually want to deliver something, (lower consumption, emissions and cost) then that Audit needs to be a strategy, a route map and a financial plan, tailored for you.

Firstly, think through: Why you are really doing this and what your needs really are?

1

What are your organisation's wider goals and how should this fit with those?

- a. What are your broader strategic goals over the next 5-10 years?
- b. How do you define sustainability and what are your principles?
- c. Do you have time bound targets or compliance requirements?

2

What are your time-frames and what can you actually afford?

3

Who can you talk to who may have done this already?

Begin an Energy Audit: Start with Measurement



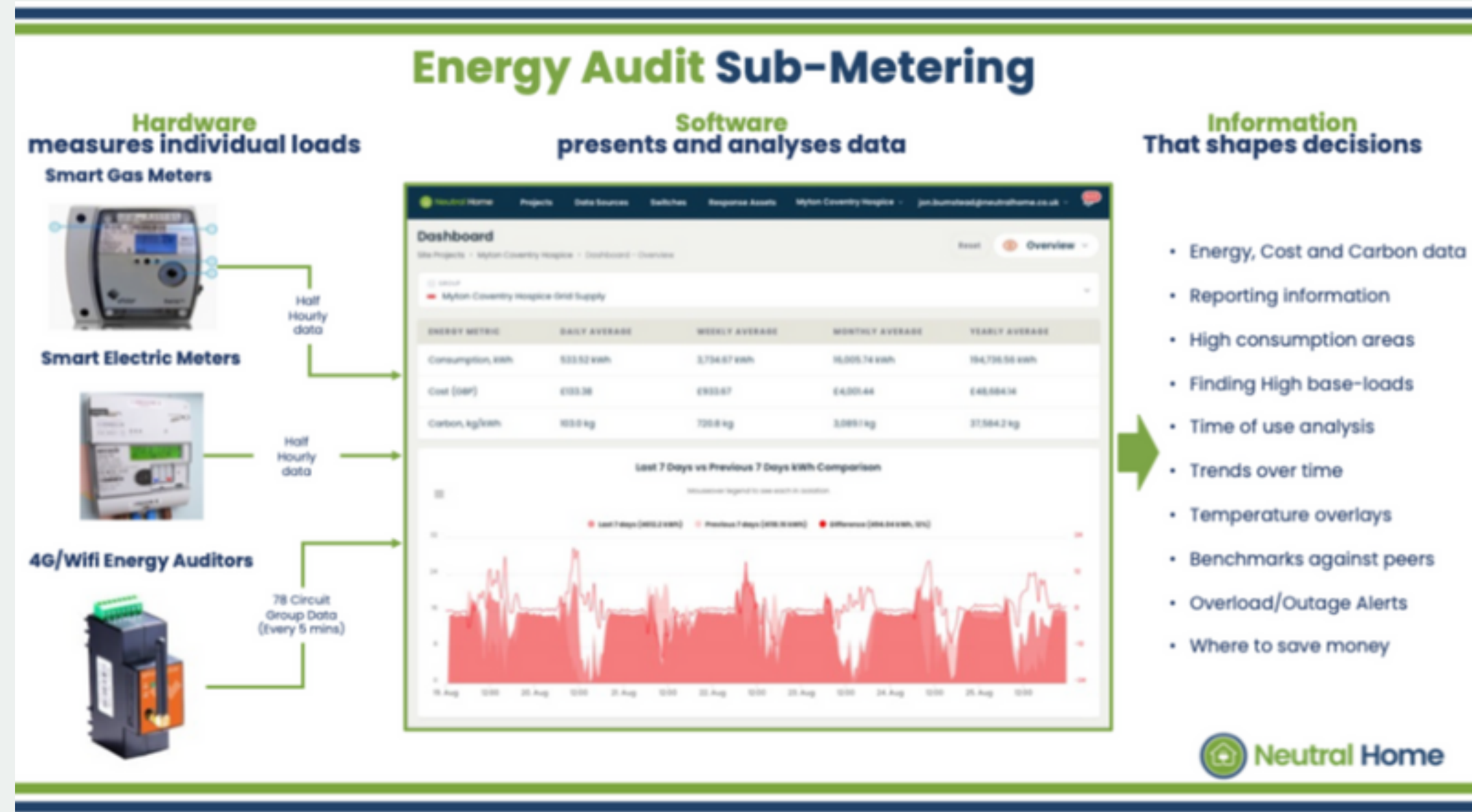
- It will tell you where you start from, how good or indeed how bad you are today?
- Highlight hidden opportunities you cannot yet see and options to improve.
- Replace “opinions” that lead nowhere with “data” that shines a light on the path.
- Provide a financial argument that quantifies the investment and the returns.
- Forges the route map for you to make decarbonisation affordable.

Go deeper with Sub-meters or a Building Management System (BMS)

How do I get this information?

You may well have a smart meter and that's a good start, but you will need to go deeper you can do this in a few ways. Through "sub-metering" which shows how the overall usage breaks down (see diagram).

Building Management Systems (BMS). These are computer-based systems installed in buildings to control and monitor the building's mechanical and electrical equipment, such as heating or cooling, lighting or energy use. Good systems provide high quality data that allows you to analyse energy use at a very local level and make change to optimise efficiency and reduce waste.



Who can you trust to help?

What to look for in a reputable company that will carry out a bespoke (not a cookie-cutter) audit tailored to your organisation.

Someone who...

Spends time with you, walks around our operation, gets to know you, looks to understand your needs and, above all, is patient.

Can bring real expertise you lack and draw parallels to you from their experience.

Makes a clear proposal what is to be done, when and what the deliverables will be.

Someone that is honest with you, builds trust and not tell you what you want to hear!

Someone that is going to measure your consumption in detail and perhaps benchmark your performance with others similar to you.



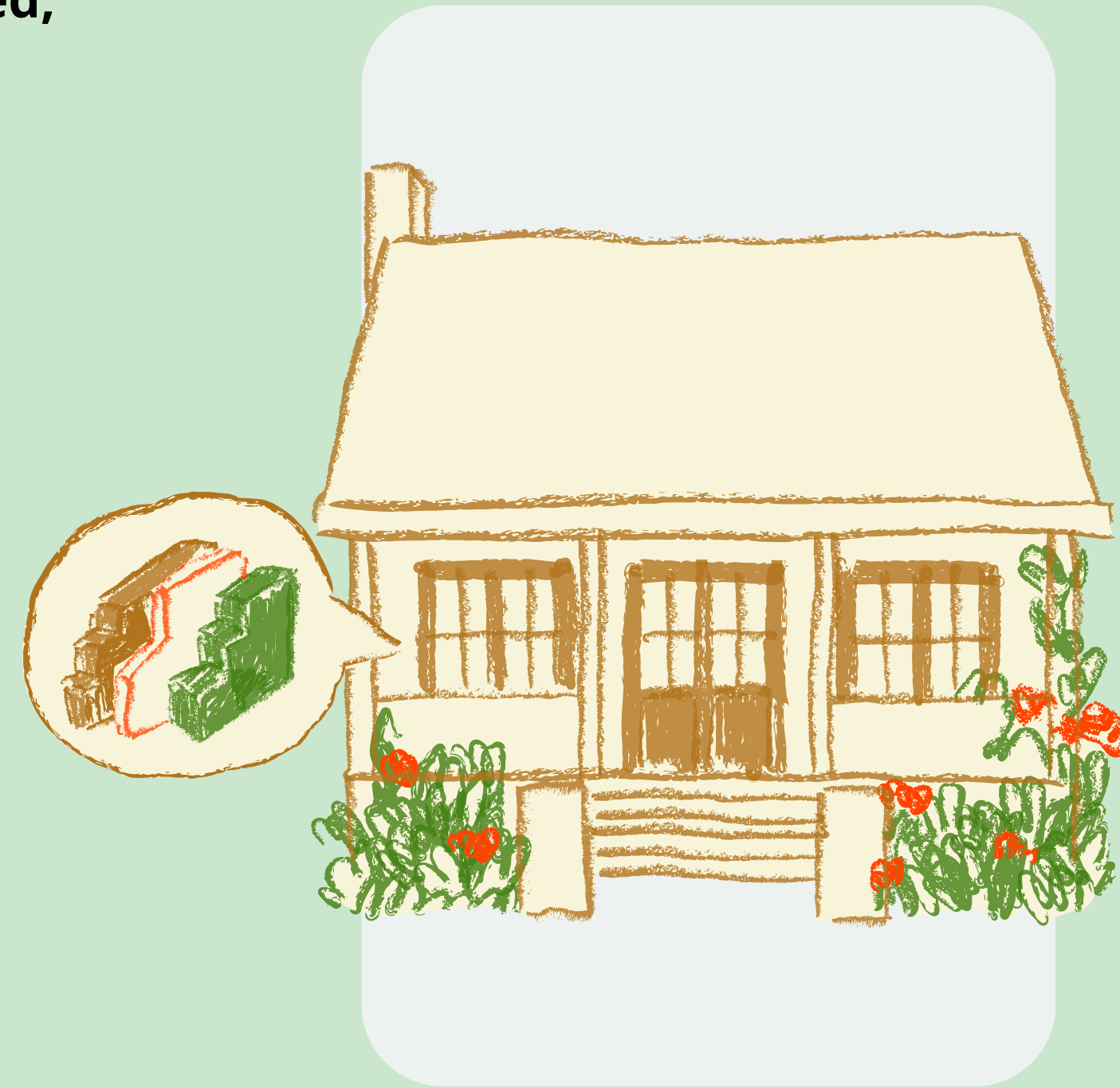
Make sure they have the right tools;

1. Measurement capabilities (sub-metering and software analysis platform).
2. Thermal image camera to assess building's thermal integrity.
3. Heat requirement survey and analysis tool-kits.
4. Energy modelling capabilities.
5. Some-one with access to equipment/service suppliers to accurately cost opportunities.

Creating a Template of Specific Requirements

The right audit will be fact based and require the following to get started;

1. Base-line of your energy consumption by month over the past 24 months.
2. Tariff rates and contract expiry dates.
3. Building layout and scale drawings if possible including the square area.
4. What changes have happened in the building in past two years and future planned expansions and changes of use.
5. Site electrical capacity limitation and planned new equipment (ie Electric Vehicle Chargers).
6. Observed hot and cold spots in the building.



Dos and don'ts

Not just an Audit - Ensuring the company can also support delivery too

The audit organization you are looking for is not to write a report then depart, but accompany you on your journey. They should build recommendations that are sensible and deliverable and actively help you walk them around your organisation to get buy-in and support. They should be part of the delivery team, providing the golden thread from start to finish.



Be Demanding -

Good engineers welcome challenge innovate and find answers.



Visit their clients -

Get a feel of what it's like to work with them.



Weekly Drumbeat -

Ask them to come to site every week to ensure progress.



Keep it affordable -

Set out an affordable budget for implementation to shape the solution from the beginning.

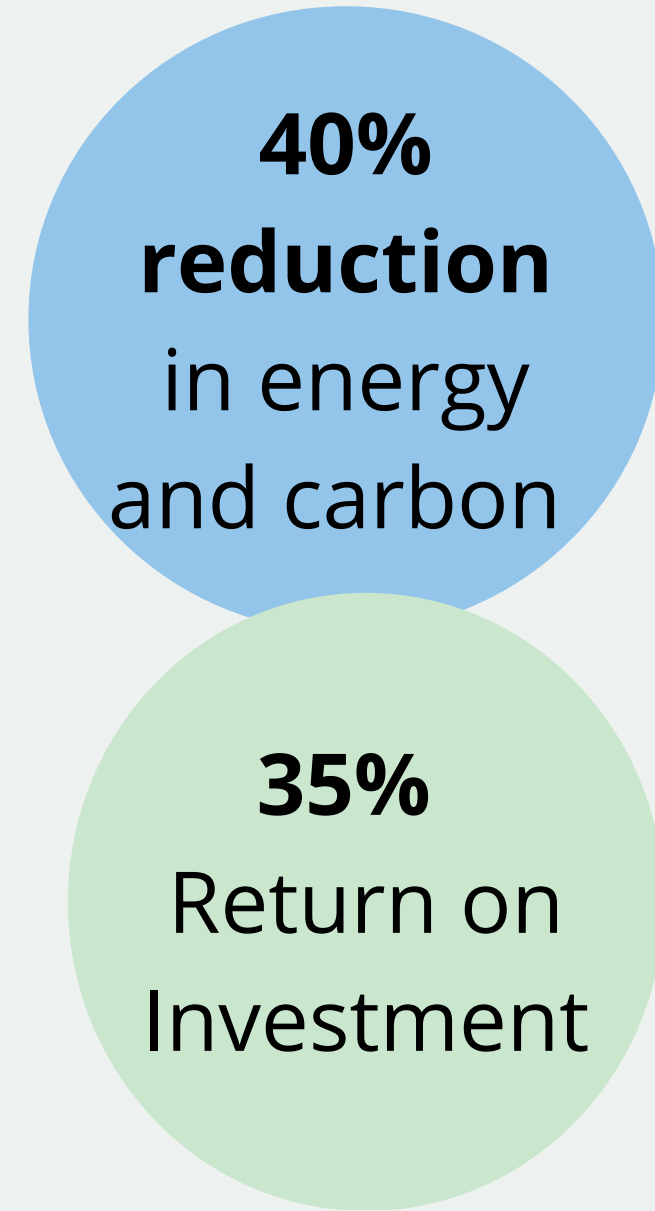
Case Studies - St Michael's Hospice, Basingstoke

St Michael's Hospice is a charity that had a looming energy disaster. The "Ukrainian Energy Crisis" was going to triple their costs, they needed to find radical solutions. They started an energy audit in 2023 and discovered they were massively overheating the building, had air handling systems that ran all day and night and were too dependent on high-cost grid electricity.

The energy audit paved the way to a short, medium and long-term business plan.

The ongoing sub metering and measurement started in the audit has been expanded and has shaped the next major step forward which is a further 25% reduction in carbon emissions. The St Michael's team strongly believe in measurement and the data has been an important factor in successful grant applications.

The short-term plan delivered:



40%
reduction
in energy
and carbon

35%
Return on
Investment

Further Resources

Here is where you can find more information how to approach successful energy audit and plan.

More detail on measurement and sub-metering;

<https://www.envisij.com>

More detail on turning and energy audits into a plan

<https://www.neutralhome.co.uk>

More detail from the British Standards Institute on building a sustainable action plan

<https://www.bsigroup.com/en-GB/our-expertise/sustainability/>

More detail from the Carbon Trust on how to plan a net zero delivery

<https://www.carbontrust.com/what-we-do/net-zero-transition-planning-and-delivery>

This guidance was originally produced as part of a grant programme run by The Linbury Trust, The Headley Trust and The Wolfson Foundation, with support from Ashden Sustainable Solutions