ESOS, SECR AND NET ZERO PLANNING

Presentation Overview

- ESOS and SECR mandatory environmental reporting.
- The energy mix and future demands
- The journey to Net Zero and shifting expenditure.
- Who can help?

ESOS Phase 3

ESOS still applies to all organisations (and their corporate groups) that were classed as large undertakings on 31 December 2022.

For the qualification date for the third compliance period (31 December 2022) a large undertaking is any UK company that either:

- employs 250 or more people
- has an annual turnover in excess of £44 million, and an annual balance sheet total in excess of £38 million

For your accounts, you should use the Bank of England exchange rate between the Euro and pound sterling at close of business on the qualification date

ESOS 3 deadline for submissions has changed to 5th June 2024 and awaits further changes to criteria.

Streamlined Energy and Carbon Reporting

Three groups of businesses are affected by the new regulations. Companies that fall within the following definitions must comply unless they meet certain exemption criteria:

1. Quoted companies of any size that are already obliged to report under mandatory greenhouse gas reporting regulations.
2. Unquoted companies incorporated in the UK that meet the definition of 'large' under the Companies Act 2006 will have new reporting obligations. This applies to registered and unregistered companies. Note that the criteria for 'large' differs from the ESOS Regulations.
3. 'Large' Limited Liability Partnerships (LLPs) will be required to prepare and file a 'Energy and Carbon Report'.

Unquoted companies or LLPs are defined as 'large' if they meet at least two of the following three criteria in a reporting year:

- a turnover of £36 million or more;
- a balance sheet of £18 million or more;

or

- 250 employees or more.

It is worth noting that charities, not-for-profit companies or others undertaking public activities – such as companies owned by universities, academies or NHS Trusts – will need to check whether they meet the above qualifying criteria.

ESOS/SECR WHAT'S INVOLVED?

Similar

Need an annual measurement of all energy use.

Evidenced with invoices, calculations and methodology.

Need to be measured against an intensity ratio relevant to the organisation and the use of energy

Differences

ESOS Require additional building audits to identify the opportunity for saving.

SECR is annual – ESOS is every 4 year

SECR requires identification of scope.

ESOS requires the identification and valuation of potential energy savings

The Energy Mix & Future demands

- The drive towards electrification (vehicles and heat)
- Our energy is produced from a variety of sources

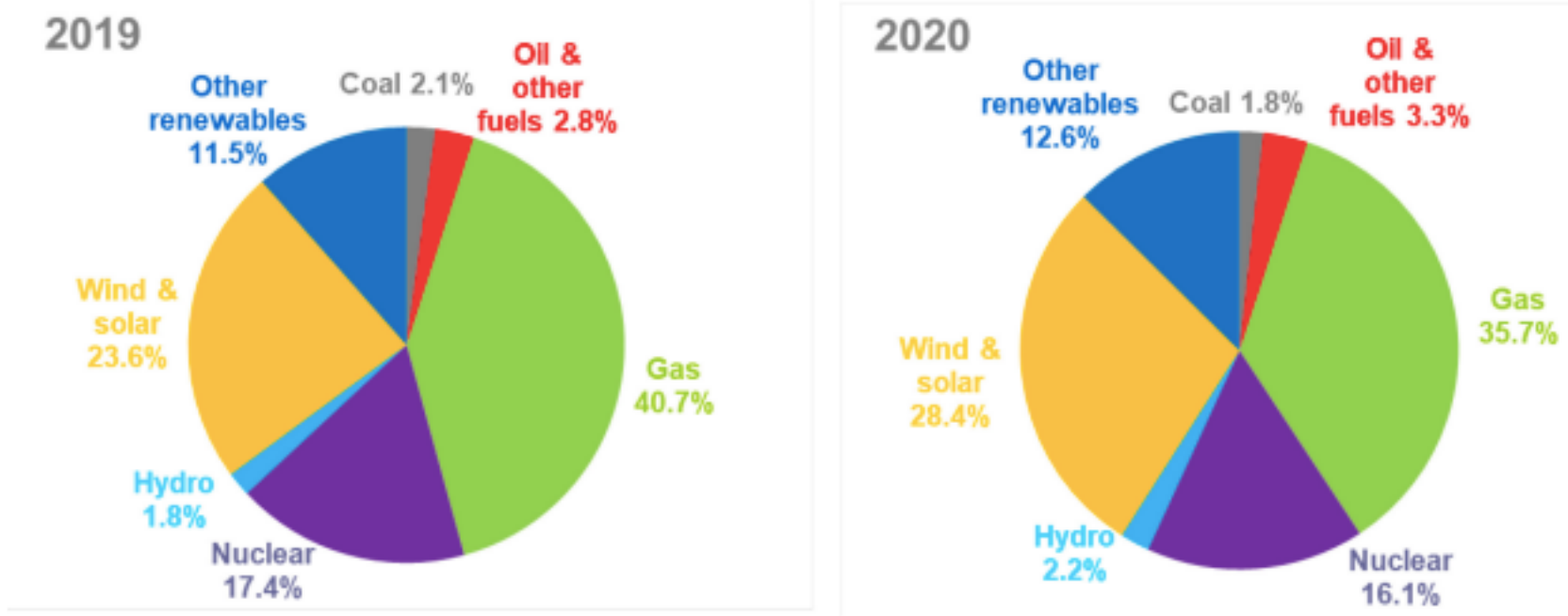
Consideration for future additions to grid consumption

- Electric Cars
- Heat decarbonization
- Increasing domestic and commercial demand?

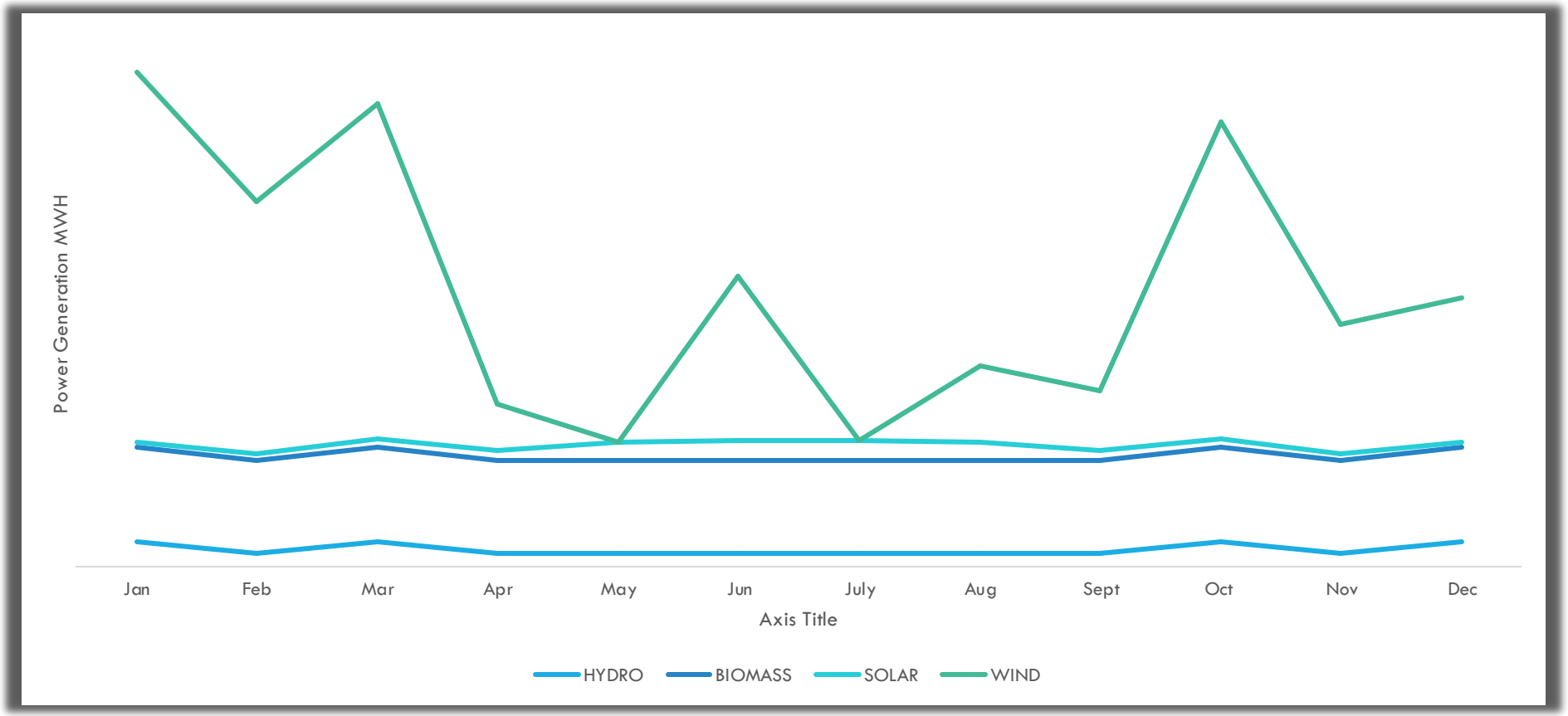
The Energy Mix

ELECTRICITY

Electricity generated by fuel type, 2019 and 2020



The Renewable Energy Mix : ELECTRIC GENERATION 2021



Variables

What could possibly change??

- Building consumption.
- The cost of energy
- Grid renewable energy generation and the carbon content
- Micro-generation output
- The cost of installing improvement measures
- The Energy Mix
- Repayment terms on improvements

The figures used here are for demonstrative purposes only.

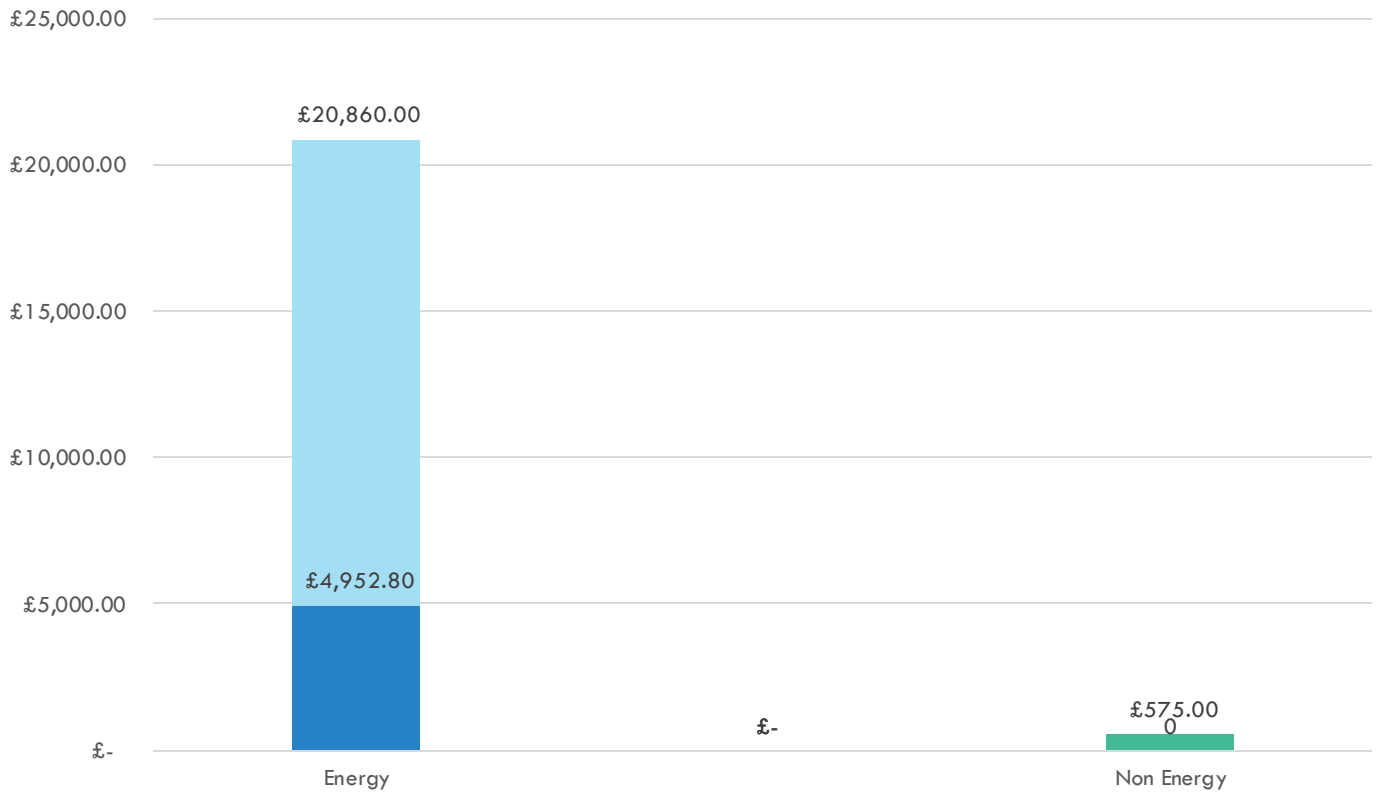
Successful Transitions to Net Zero

1. Measure and record energy use
2. Identity the opportunity for energy reduction
3. Implement low cost and behavioral change measures
4. Improve the built environment
5. Introduce on-site microgeneration

The Energy Cost Mix

	Cost	Renewable	Saving
Energy	£ 20,860.00	£ 4,952.80	£ -
	Total	Measure	Metering
Non-Energy	£ 575.00	0	£ 575.00

		kWh	Cost
Gas		100000	0.103
Electric		33000	0.32



Total Annual Cost £ 21,435.00 Annual Saving £

Monitoring and Targeting (4%)

	Cost	Renewable	Saving
Energy	£ 20,025.60	£ 4,754.69	£ 834.40
		Measure	**Metering**
Non-Energy	£ 695.00	£ 120.00	£ 575.00

Total Cost Of Measure	£ 120.00
Repayment term	1 year

		kWh	Cost
Gas		96000.00	0.103
Electric		31680.00	0.32

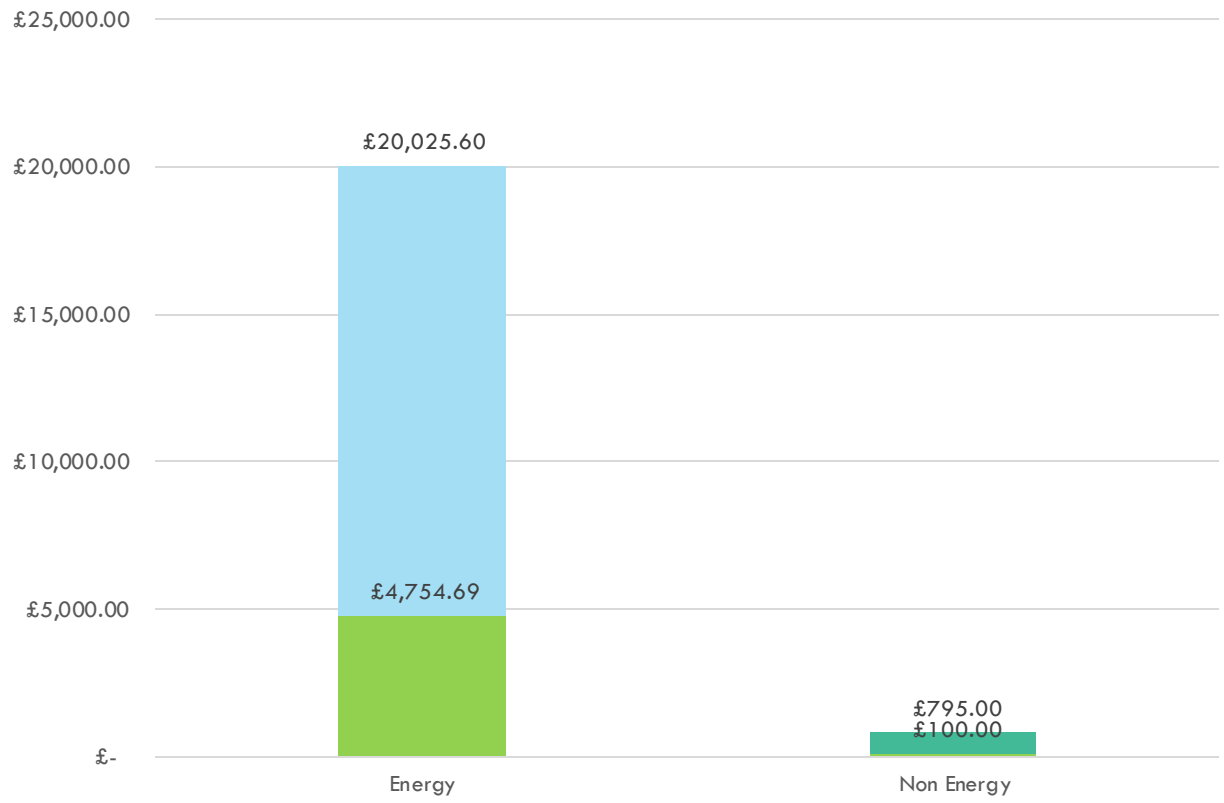
Total Annual Cost £ 20,720.60 Annual Saving -£ 714.40

Identifying the opportunity (0%)

	Cost	Renewable	Saving
Energy	£ 20,025.60	£ 4,754.69	£ -
		Measure	Metering
Non-Energy	£ 795.00	£ 100.00	£ 695.00

Total Cost Of Measure	£ 500.00
Repayment term	5 years

		kWh	Cost
Gas		96000.00	0.103
Electric		31680.00	0.32



Total Annual Cost £ 20,820.60 Annual Saving -£ 614.40

Applying low-cost measures & behavioral change

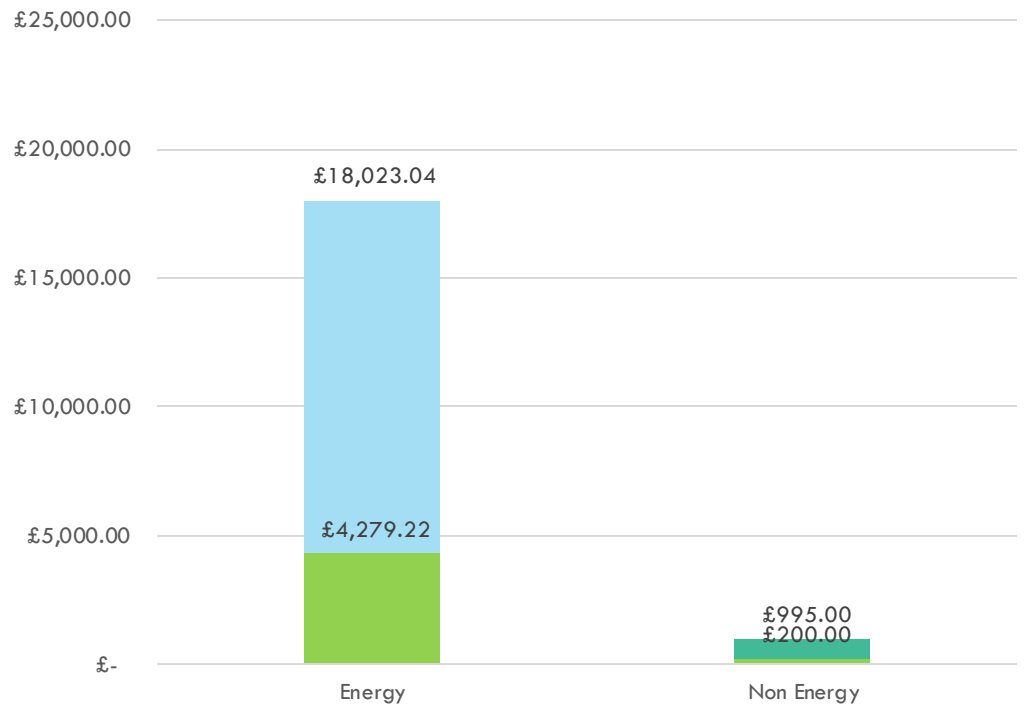
- Appointing Energy Champions
- Switching off after use
- More efficient practice.
- Increasing the tog on duvet and clothing

Low-cost measures & behavioral changes

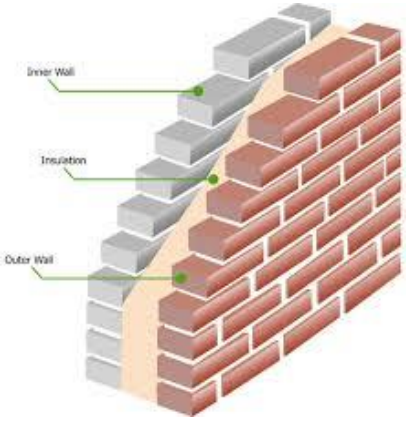
	Cost	Renewable	Saving
Energy	£ 18,023.04	£ 4,279.22	£ 2,002.56
		Measure	**Metering**
Non-Energy	£ 995.00	£ 200.00	£ 795.00

Total Cost Of Measure	£ 1,000.00
Repayment term	5 years

		kWh	Cost
Gas		86400.00	0.103
Electric		28512.00	0.32

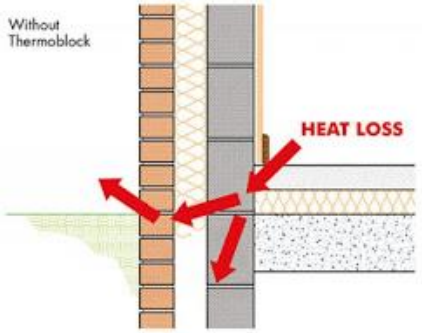


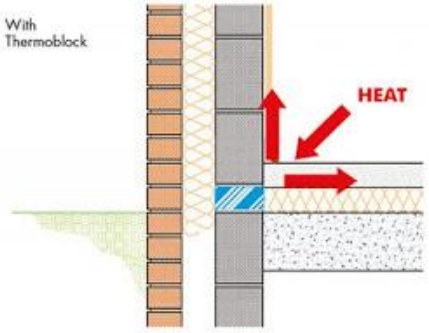
Total Annual Cost £ 19,018.04 Annual Saving -£ 1,802.56



Improvement Measures

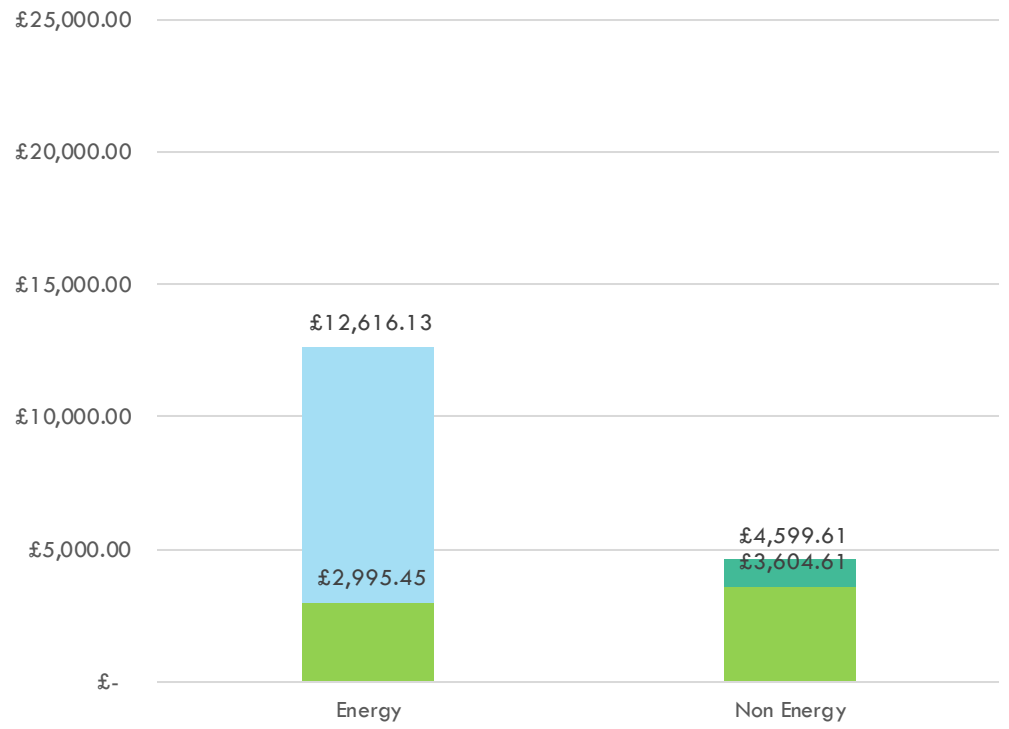
- Fabric Improvements
- Heating and Ventilation
- Heating controls and emitters
- Appliances
- Catering Equipment





Improvement Measures (30%)

	Cost	Renewable	Saving
Energy	£ 12,616.13	£ 2,995.45	£ 5,406.91
		Measure	Metering
Non-Energy	£ 4,599.61	£ 3,604.61	£ 995.00



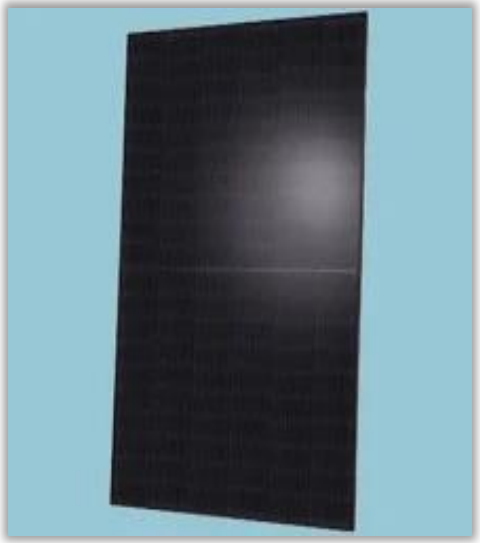
Total Cost Of Measure	£ 43,255.30
Repayment term	12 years

		kWh	Cost
Gas		60480.00	0.103
Electric		19958.40	0.32

Total Annual Cost £ 17,215.74 Annual Saving -£ 1,802.30

Renewable microgeneration

- Solar PV
- Solar Thermal
- Solar PV-T
- Wind (VAWT and HAWT)
- Hydro
- Heat recovery
- Heat Networks
- Heat pumps ASHP/ GSHP/WSHP

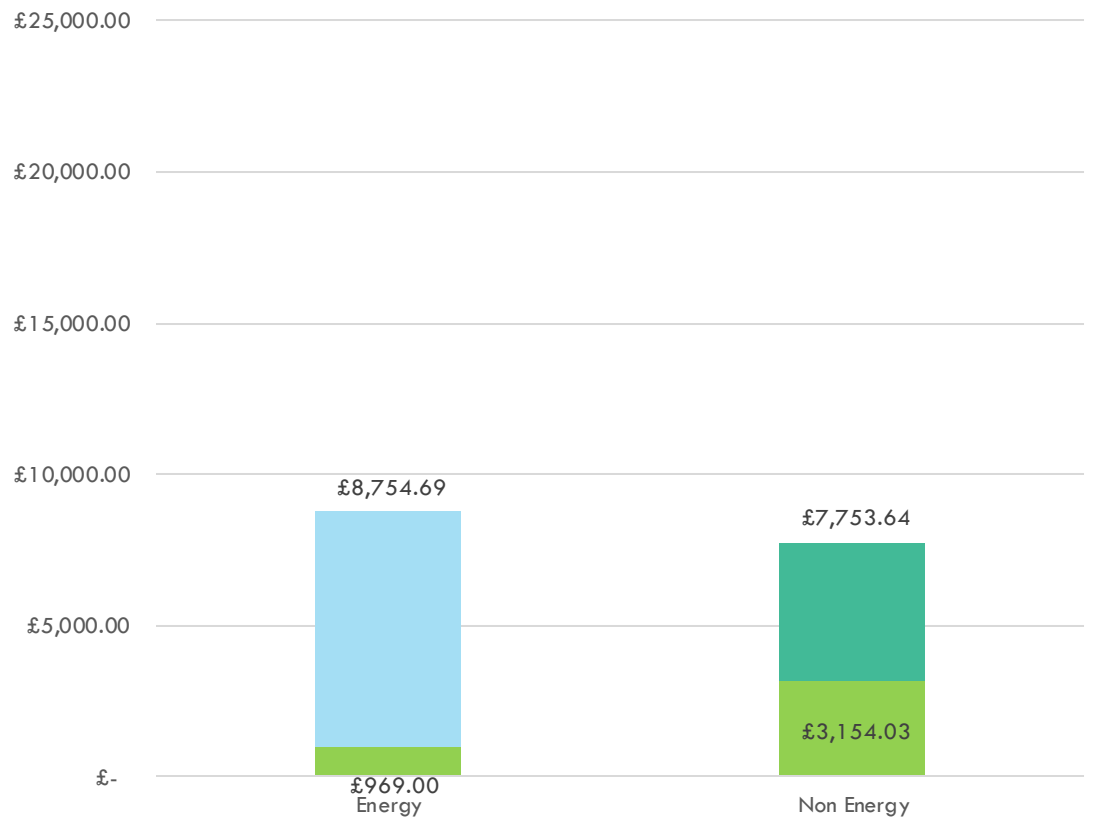


Micro- generation (30%)

	Cost	Renewable	Saving
Energy	£ 8,754.69	£ 969.00	£ 3,784.84
		Measure	Metering
Non-Energy	£ 7,753.64	£ 3,154.03	£ 4,599.61

Total Cost Of Measure	£ 37,848.38
Repayment term	12 years

		kWh	Cost
Electric		22400.00	0.32
Electric		4958.40	0.32



Total Annual Cost £ 16,508.33 Annual Saving -£ 4,926.67

The variables

- Building consumption.
- The cost of energy
- Grid renewable energy generation and the carbon content
- Micro-generation output
- The cost of installing improvement measures
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Any Questions?

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