Renergy Solutions - Independent Energy Blueprint

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Date:	08/05/26
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Executive Summary & Visual Evidence

A Personal Note from John

Thank you for welcoming me into your home. Based on my engineering assessment, here is your jargon-free guide to making your home more comfortable, cheaper to run and future-proofed as you move forward. The following sections are completed as relevant subject to the technology/ies being surveyed for; the roof structural report (if relevant) is created separately.

This report is split into three sections. Depending on the technology being surveyed for there will be photo record of items of relevance, your system recommendations and then an installation action plan.

The bottom line:

Electrics: Old but serviceable for the property – no electrical issues nor faults found. We will connect the Gateway before your consumer unit so as to not disturb it, and add a new sub-board to the garage as needed.

ASHP potential: Good, well insulated and suitable space for appropriate radiators.

Roof structural: Passed structural review – separate report created.

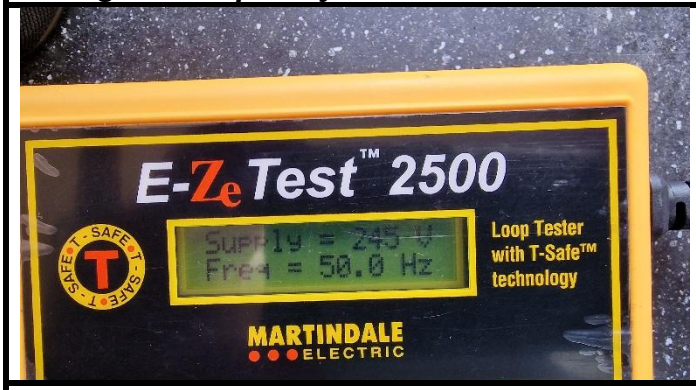
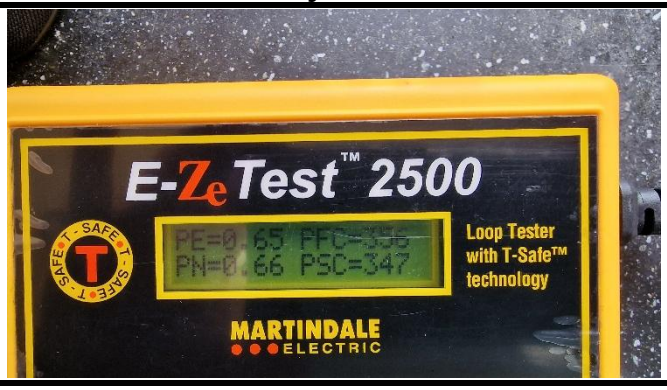
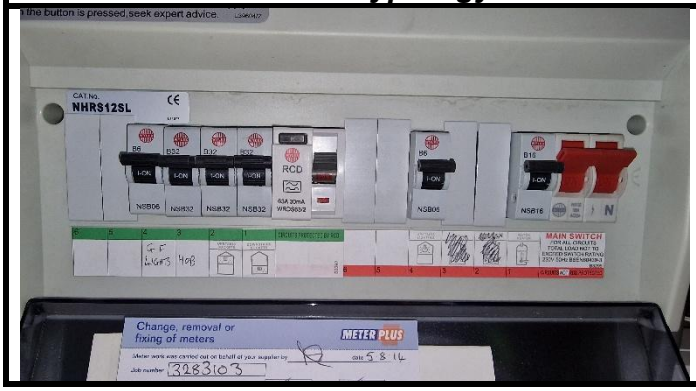
Future proofing: Home already has a 100A breaker, unlikely to need upgrading in the future. All likely predicted works are now covered in this proposal.

How to interpret your photos:

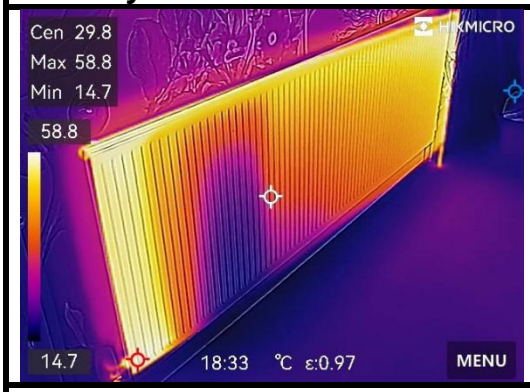
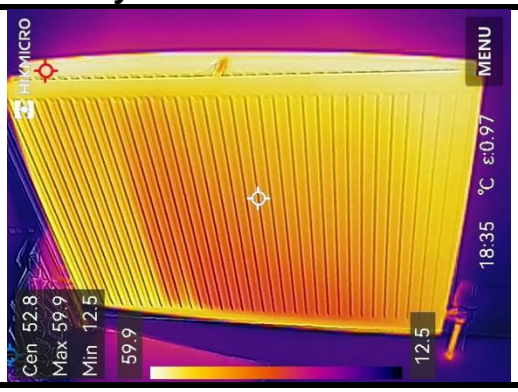
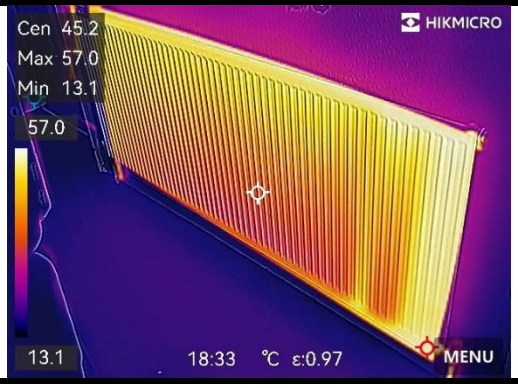
If a thermal image, then the brighter the area recorded the hotter it is, there will be a calibrated value displayed to the top left.

The electrics review images are provided, there is an interpretation guide **at the end** of this document. Typical voltage should be between 216V to 253V and have a frequency of 50Hz.

Visual diagnostic results – electrical

Voltage & Frequency	***Fault load and safety check results***
	
Consumer unit – RCD typology – AC	***Main Earthing Terminal***
	

Visual diagnostic results – thermal (if relevant)

Partially blocked radiator	***Partially blocked radiator***
	
Uninsulated pipework at cylinder	***Partially blocked radiator***
	

Your bespoke system recommendations

Note: I have only highlighted the technologies that I specifically recommend for your home based on the data we collected on site.

Technology focus	Status	Engineering recommendation & justification
Solar panels	Recommended	Specification: 22 Aiko 475w & PW3 11.04 Why: With a large clear roof and a high predicted energy load due to an ASHP installation you want decent production.
Battery Storage	Recommended	Specification: 27kWh of PW3 storage Why: With large solar production and home loads you need enough storage capacity to shift loads for the ASHP and house.
Air Source Heat Pump (ASHP)	Recommended	Specification: Grant 9kW R290 and new radiators. Why: This is the right size for your heat loss figures and does not de-rate in cold weather down to -7C. Old radiators showing signs of wear and blockage.
EV Charging	Already exists	Specification: Why:

Recommended works before installation – (blank if none)	
Solar panels and battery	
ASHP	Either upgrade consumer unit or consider location for new sub-board in the garage to run from.
EV Charging	

The Installation Action Plan (Order of Works)

If you choose to proceed, here is exactly how we will sequence the work to minimize disruption to your life:

Step 1: Book scaffold, install the PV, batteries, Gateway and a new consumer unit for the ASHP installation if not done prior. Run a double crew to install all in one day.

Step 2: Remove scaffold, install ASHP monobloc where scaffold footings were at the back of the building and replace cylinder and radiators as agreed. Internal labour predicted of 3 days.

Step 3: Commission systems, register paperwork, provide handover pack. Review ASHP settings after week one to confirm a quality handover delivery and to optimise performance.

The Engineering Guarantee

Because this system has been designed based on hard data from your home, I can guarantee that if installed to these specifications, it is legally 'Fit for Purpose' under the Consumer Rights Act 2015 and optimised for your benefit.

Next Steps & Your £250 Risk Reversal

You Own This Blueprint: We would love to install your system for you but you are also now free to take this design to any installer to ensure they do the job safely and correctly.

The Renergy Offer: However, if you would like my in-house team to install this exact system for you, we will automatically **deduct** your £250 survey fee from your final installation invoice.

Let's Talk: To discuss these findings, ask questions about the hardware, or discuss next steps for an installation please email or call me directly on 07948 570581.

Dr. John Rowlatt

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Displayed Result	An Example Reading	What it Means to a Homeowner	Safe / Expected Range (UK)
PE *(Phase-Earth)*	**0.36 Ω** (Ohms)	**The Shock Protection Path:** This measures the resistance of your safety "Earth" wire. If an appliance breaks, a low resistance ensures the electricity can escape quickly enough to trip your circuit breaker in milliseconds, preventing electrocution.	**Typically under 1.14 Ω** (for a standard 32A socket circuit). *A reading of 0.36 Ω is excellent. It means the earth connection is highly responsive.*
PFC *(Prospective Fault Current)*	**641 A** (Amps)	**The Earth Surge Limit:** This is a calculation of the massive surge of current that would flow if the Live wire accidentally touched the Earth wire. Your fuse box (Consumer Unit) switches must be rated to withstand this exact surge without melting or welding shut.	**Under 6,000 A (6kA)** for standard domestic homes. *A reading of 641 A is perfectly safe and easily handled by standard modern circuit breakers.*
PN *(Phase-Neutral)*	**0.35 Ω** (Ohms)	**The Fire Prevention Path:** This measures the resistance of the normal power loop that actually runs your appliances. A low number means the copper wires are thick enough and the hidden connections in your walls are tight. High numbers mean loose connections, which generate heat and cause fires.	**Typically under 1.0 Ω.** *A reading of 0.35 Ω indicates tight connections and very healthy wiring that will not overheat under heavy loads.*
PSC *(Prospective Short Circuit)*	**659 A** (Amps)	**The Short Circuit Surge Limit:** Similar to PFC, but this calculates the maximum explosive current that would flow if a Live and Neutral wire touched directly (e.g., if you drove a nail through a cable). Your breakers must be strong enough to "break" this current safely.	**Under 6,000 A (6kA)** for standard domestic homes. *A reading of 659 A is very safe and well within the safety limits of standard home fuse boxes.*