

Transitioning to Sustainable Energy in Surbiton

Dan Curran



Rotary
Surbiton



Just Clear®



Surbiton House

5 beds

240m²

Original roof – self insulated

1994 Cavity
Insulation

1930 Solid Brick
No Insulation

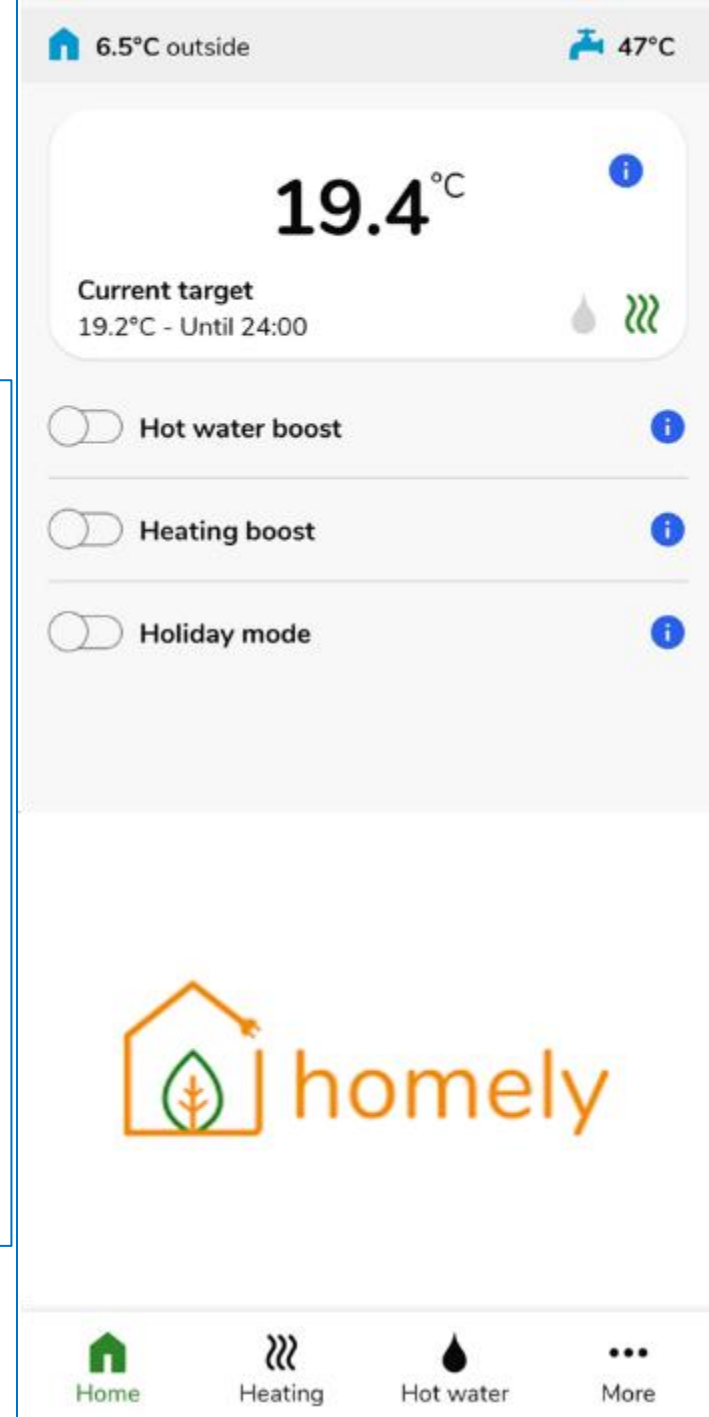
2010 Double Glazed
Windows & Doors



**Samsung
12kW R290 Mono
July 2024
(24,000 kWh gas)**



**No radiators
replaced!**

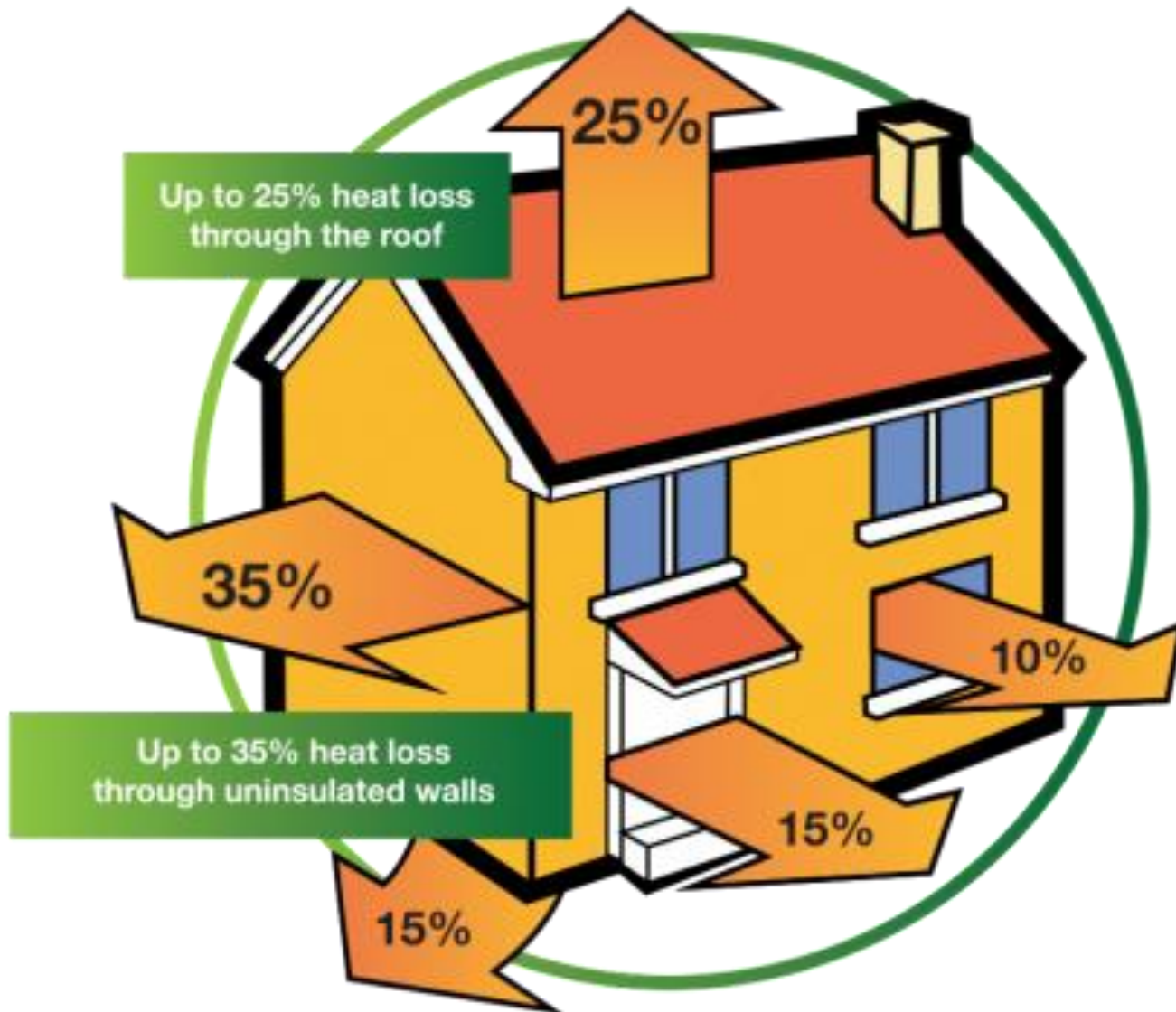




Installation
took 2
weeks



Heat Pump First – Probably!



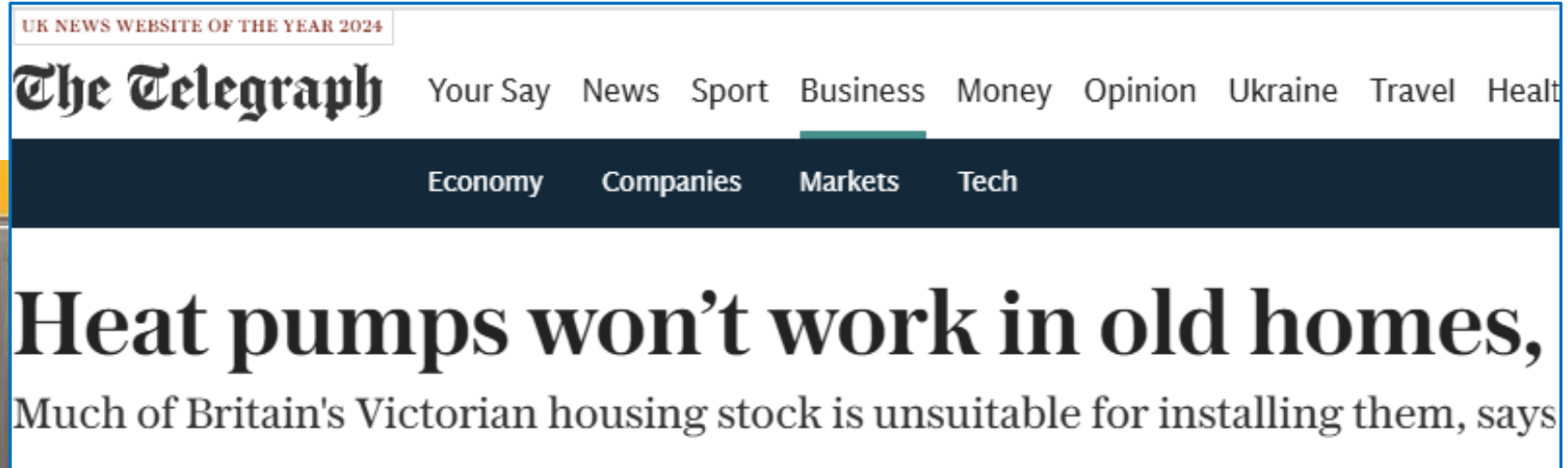
Energy rating and score

This property's energy rating is D. It has the potential to be B.

[See how to improve this property's energy efficiency.](#)

Score	Energy rating	Current
92+	A	
81-91	B	
69-80	C	
55-68	D	68 D
39-54	E	
21-38	F	
1-20	G	

Don't Believe the Heat Pump Myths!



**TOO
SMALL
FOR A
HEAT
PUMP!?!**



<https://energysavingtrust.org.uk/heat-pump-fact-check>



21 Solar Panels – 8.4kW
Nov 2024



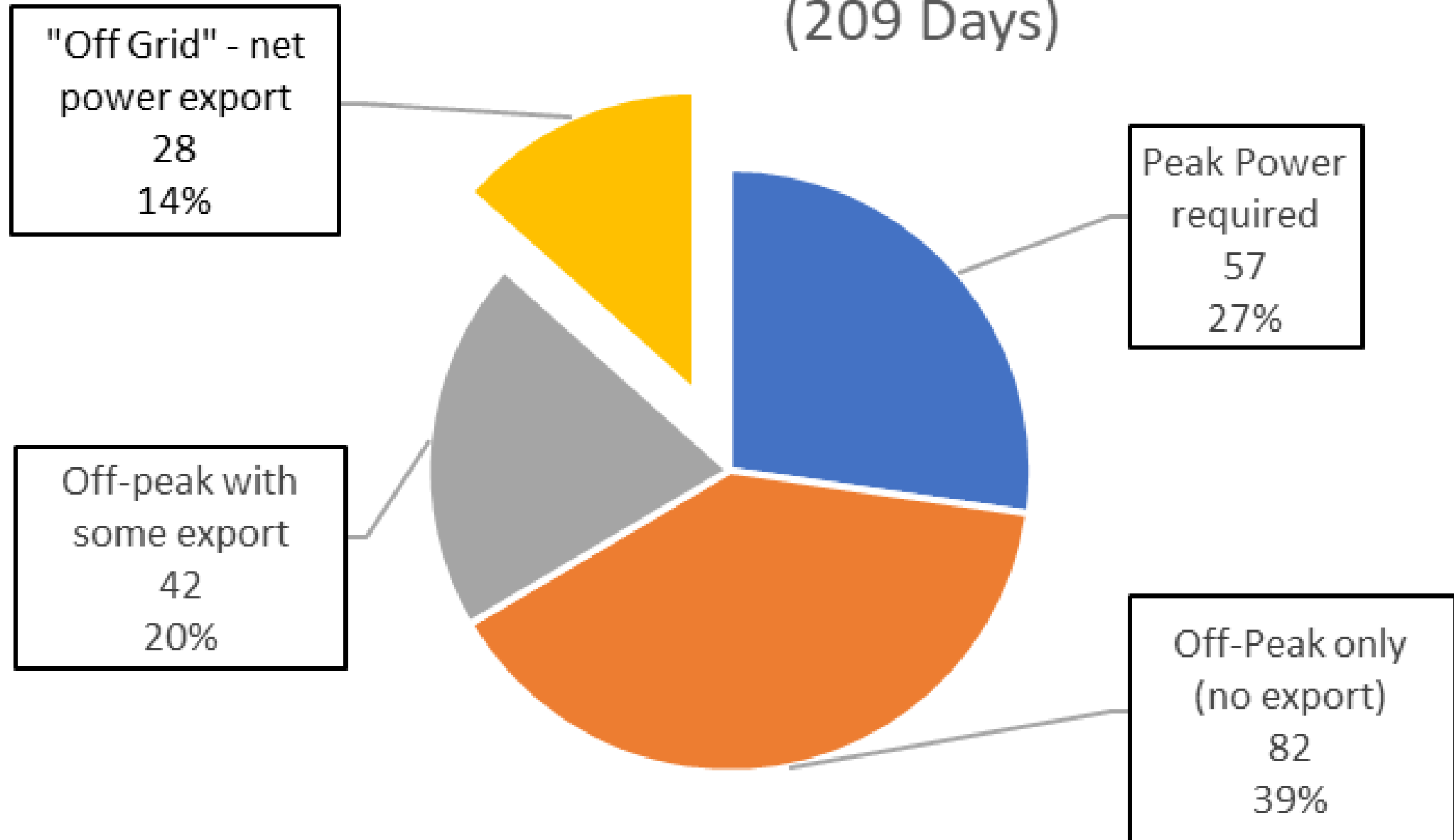
2 x 13kW
Batteries
Sept 2024

Living with Sustainable Energy

A photograph of a roof with solar panels installed on it, set against a clear blue sky. The solar panels are dark blue and rectangular, arranged in a grid pattern. The roof is covered with dark grey or black shingles. The sky is a clear, bright blue. The overall scene is well-lit, suggesting a sunny day.

- **Nov-April 25% solar powered**
- **Fully off-grid from May to September expected**
- **Constant temperature 24/7: 19.2c**
- **Relatively low heat pump noise**

2024/25 Heating Season from start of October (209 Days)



Costs

- Heat pump efficiency SCOP = 4.1 vs boiler 0.9
- Octopus Go electricity 93% off-peak
- My average cost = 6.0p/kWh vs 7.5p gas
- **Expected savings of £3-4k per year**

- Cost of Heat Pump = £11k net of BUS
- Cost of batteries = £10k
- Cost of solar panels = £15k

Environmental Benefits

4 Tonnes of CO2 saved

This compares to:

- Flying less 2T
- Electric car 1T
- Vegetarian diet 0.5T



<https://www.carbonfootprint.com/calculator>

Closing Thoughts

- 1. Research potential installation companies**
- 2. Calculate your approximate heat pump size**
- 3. Coordinate with other house redevelopment work**
- 4. Get windows and loft insulation sorted first**
- 5. Wall insulation is probably a waste of time**
- 6. Don't believe the myths about heat pumps**
- 7. Read my blog <https://thedglblog.substack.com>
& Michael de Podesta's <https://protonsforkbreakfast.wordpress.com>**

Comments & Questions Dan Curran

<https://thedglblog.substack.com>

