Full electrification of a modern Cambourne home



Thu 8th October 2026, 7-8pm

Ralph Williams Homeowner

Mark Brinkley Chair

Sophie Bretonnet Support

Funded by: COBB COMMUNITY FOUNDATION · CAMBRIDGE CITY COUNCIL · South Cambridgeshire District Council · McCarthy Architectural Design · Mole · Ac

This Talk

- 7:00 Intro
- 7.05 Our retrofit journey
- 7.25 Costs and performance
- 7.35 Q&A session
- 8:00 Close

Please put your questions into the chat

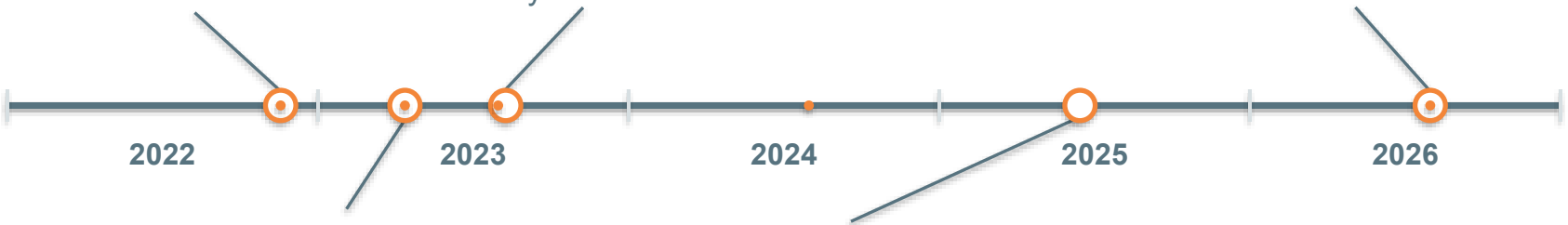

KW24 RPD

Retrofit Timeline

Winter ’22
Evaluation: Energy survey and thermal imaging

Summer ’23
Solar PV and battery

Spring ’26
Air to air heat pump



Spring ’23
EV charger and electrics upgrade, minor works

Summer ’25
Battery expanded to 20KWh

Energy Efficiency Focus

- Carbon reduction a bit of an obsession
- Reduced long term costs and resilience
- Technophile but a bit of a loner - do my own research
- Lazy and aversion to home disruption
- Quality and reliability over payback period



Solar and Battery Install

- System chosen for EV integration and back up circuit
- Install delayed 5 weeks by last minute specification change
- Video of Install by Artisan Electrics
- Minor configuration and communication issues
- 24 hour total system shutdown due to software issue
- Fully met expectations and cut electricity bill to near zero
- Integration with battery to grid tariff would be nice to have



Air to Air Heat pump

- Rejected Air to Water after survey by Octopus
  - Narrow copper pipework, too many radiators needed enlarging, no room for large water tank
- Delayed install until a system which incorporated water heating became available
- Multisplit design keeps outside visual impact to a minimum
- Specification error required a larger water tank.
  - Extra pipework needed to make room for the tank
  - Tank too big to refit air cupboard door on its hinges
  - Slower, more intrusive install
- Water heater not easy to control
- COP about 3 so far
- Well timed - just before summer heat wave and war in Iran.
- Not tested in the depths of winter yet. Have kept GCH as backup.

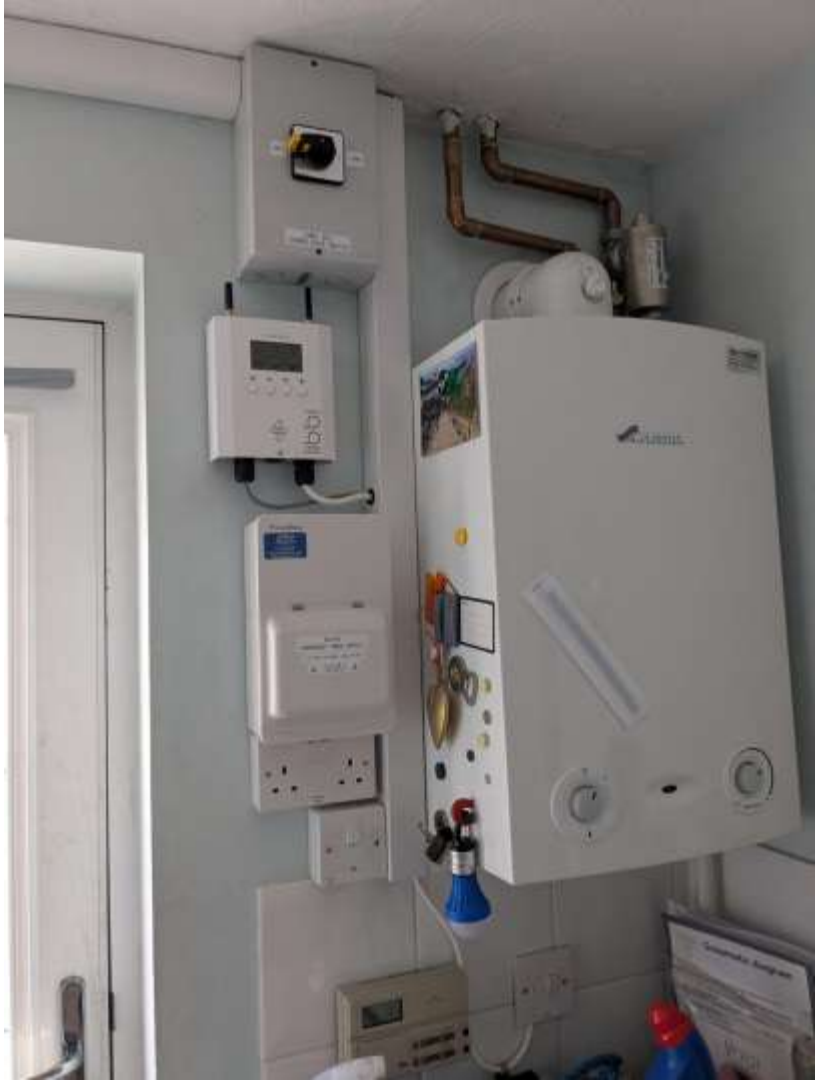














Heatwaves and Water

- A bit of an afterthought….
- A side curtain from an old gazebo
- A bucket to transfer bath and sink water to the garden



Possible future work

- I lied - we still have a gas hob. Induction hob?
- MVHR to cut heat loss from bathroom and en suites ?
- Patio doors a priority - very poor insulation
- Top up roof insulation?
- Upgraded double glazing?
- More solar - NW roof or SW garage roof ?

Companies employed

- Energy Survey : EcoFurb
- Solar and Battery : Artisan Electrics
- Daikin approved fitter : Future Electrical Services Ltd
- Energy Supplier : Octopus Energy
- EV and battery : Myenergi
- Heat Pump : Daikin

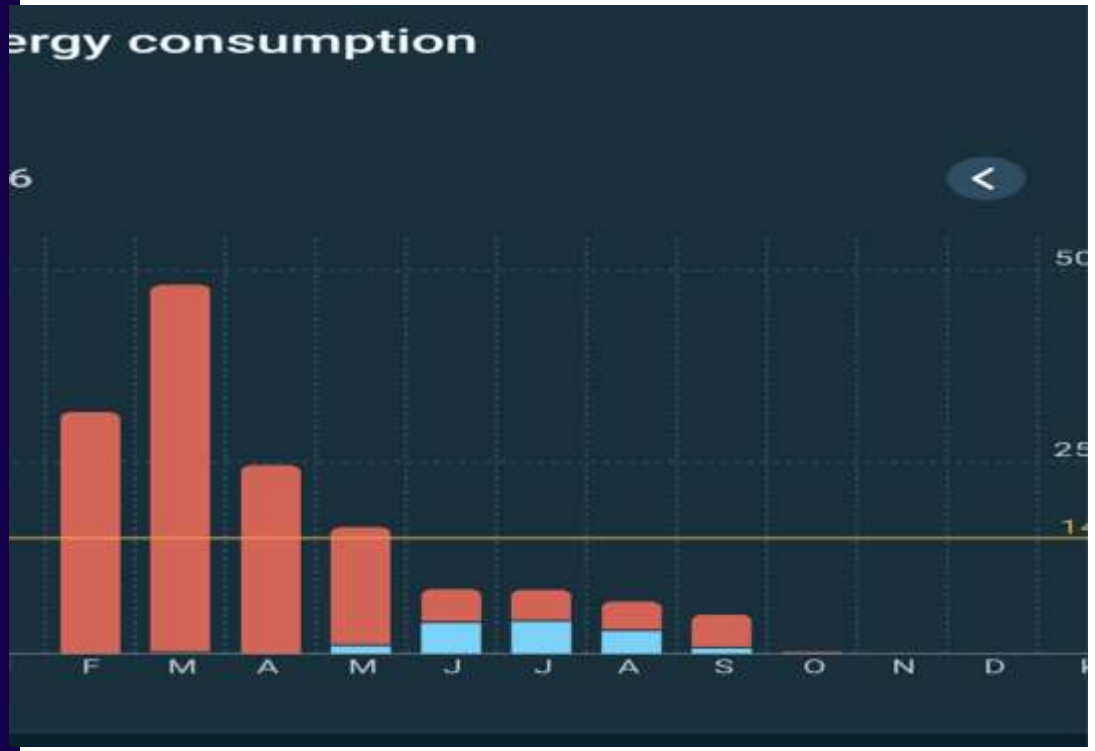
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Description	Cost
Survey	£450
EV and rewiring	£5,400
Solar PV &batteries	£26,000
Extra battery	£3,500
Heat pump	£10,700
Awning	£free

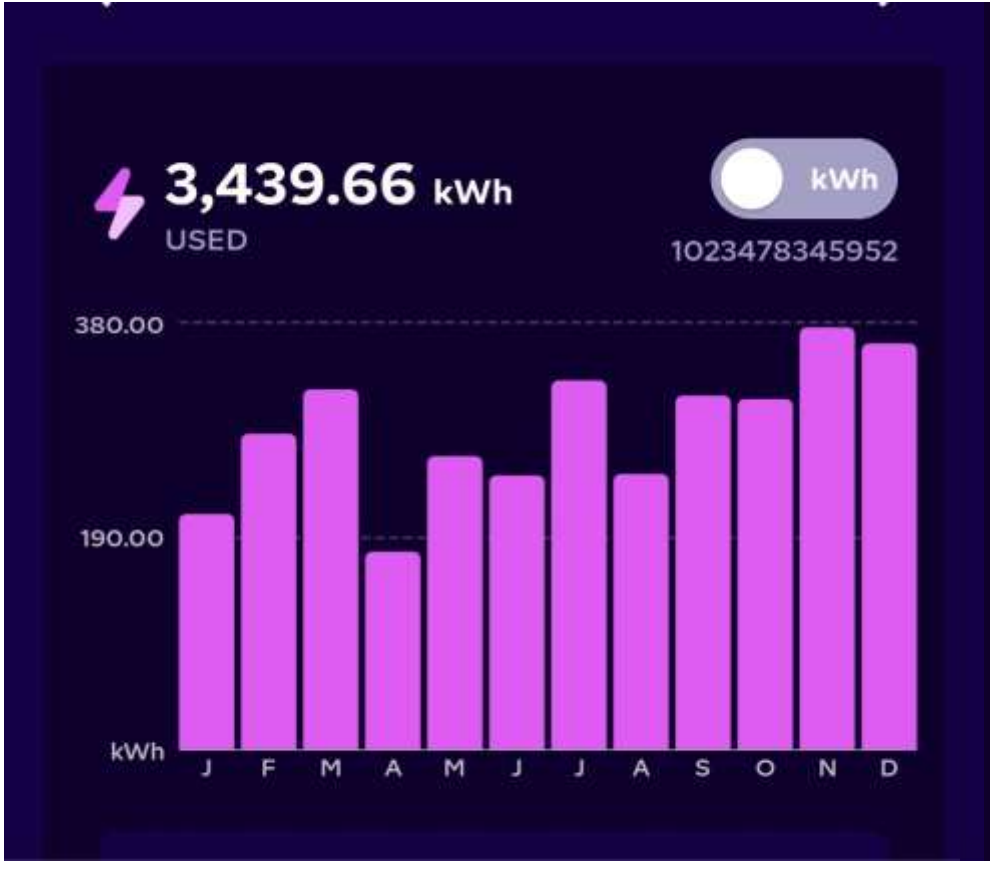


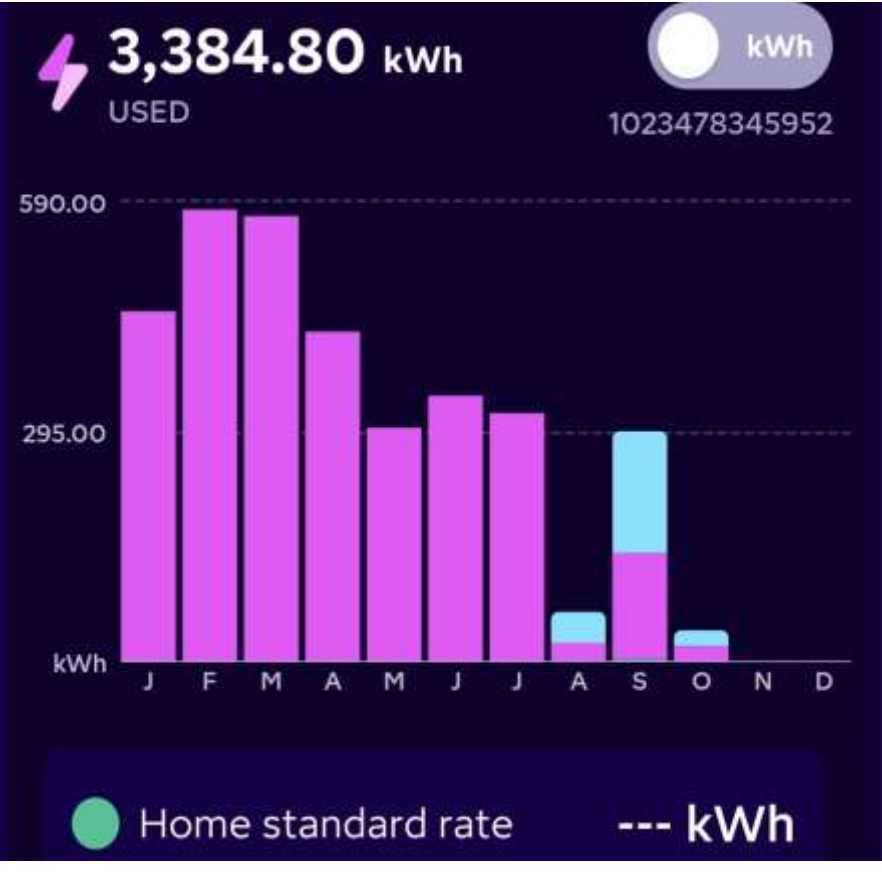
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£773.63
ESTIMATED COST
7406673606
130.00
65.00
£
J F M A M J J A S O N D
Consumption
£54.13


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The Figures


3,439.66 kWh
USED
kWh
1023478345952
380.00
190.00
kWh
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3,384.80 kWh
USED
kWh
1023478345952
590.00
295.00
kWh
J F M A M J J A S O N D
Home standard rate
--- kWh

Hints and Tips

- Plan it out, don’t have to do everything at once
- Get knowledgeable (enough to know what questions to ask!)
- Seek advice
- Shop around
- *OR*
- Get lucky, as I did !

What would we do differently

I am happy that the technology we bought was the best available match for our needs at the time. If I was starting today…

- Fit more solar - but export prices might drop in future
- Fit an EV charger with bidirectional charging potential
- Buy a battery system that could integrate with controlled charging and export tariff - equivalent to Octopus Intelligent Go
- Find a solution requiring fewer than four separate phone apps!



Q&A

Over to you

Your next steps

- Investigate your Home Energy opportunities
- Book another OEH talk or home tour
- Share your experiences on social media: #OEH2026
- Please consider making a donation to CCF

Thanks for your support !