GREEN OPEN HOMES WEEKEND

BRISTOL ENERGY NETWORK

FUNDED BY Retrofit West

Open Home Profile

Name:

Jonquil Panting and John Rudin

Contact (optional)**:**

Location:

77, King's Drive, Bishopston, Bristol, BS7 8JQ

Home Overview

Home Type (e.g., Detached, Semi-detached, Apartment, Bungalow)**:**

Semi-detached

Year built (Approx)**:**

1928

Size (Square footage or number of bedrooms/bathrooms)**:**

4 bedrooms, 2 receptions, kitchen extension, 2 bathrooms

Renovation History (Include any green renovation dates or milestones)**:**

- Outer door and windows (uPVC) installed to enclose porch, 2006
- Loft extension (bedroom and bathroom) replacing original roof, upgrading insulation, 2008
- Blown cavity wall insulation, 2022
- Solar panels and EV charger point installed, 2022
- DIY grey water recovery, 2022
- C.H.E.E.S.E. Project Thermal Imaging Survey, 2023
- Double glazing renovated with new low-e glass units, 2023
- DIY installation of wall-mounted convection heaters/larger radiators/bathroom plinth heater prior to ASHP installation, 2023/4
- DIY underfloor insulation (Sheepwool & Tyvek membranes), 2024
- Vaillant heat pump installed, 2024
- DIY installation of trickle/humidistat extractor fans in bathrooms, window trickle vents in habitable rooms, and interior door undercuts (ie. decentralised Mechanical Extract Ventilation), ongoing 2024

Green Features

Energy efficiency

Insulation (Type, areas insulated)**:**

- Cavity wall where possible (upstairs bays are single-skin).
- DIY underfloor insulation to suspended timber floors (from above), using Tyvek membranes and Sheepwool, 2024.
- Loft insulation improved when extension built 2008 (to 2006 building regulations). This isn't easily accessible to upgrade.

Windows & Doors (Type, materials used, double/triple glazing)**:**

- UPVC double glazed, new low-e glazing units to first and second floors

Green Features

Energy efficiency

Heating System (Type, efficiency rating, and control system)**:**

- Vaillant Arotherm Plus 7kW Heatpump with local and cloud app control
- Radiators upgraded to K3 in bedrooms (quieter)
- Panasonic Aquarea 'wet' fan convectors installed in kitchen and reception rooms on ground floor

Cooling System (Type, efficiency, and control system)**:**

Lighting (LED, smart controls, natural light)**:**

LED throughout

Appliances (Energy Star rated, specific energy-efficient models)**:**

(Energy Star rated, specific energy-efficient models)

Smart Technologies (Smart meter Tariffs, integration tech)**:**

- SMETS2 meter
- MyEnergi Zappi PV smart charger and cloud app
- Octopus Intelligent Go tariff - controls car charger (and solar PV export)

Energy efficiency

Solar Panels (Number, capacity, and type)**:**

- 8 x monocrystalline Si 340W panels = 2.7kWp on south-facing outbuilding roof at 45 and 30 degrees from horizontal

Battery Storage (Type, capacity, and integration):

Other Renewable Sources (Specify any additional renewable energy systems):

Green Features

Indoor Environmental Quality

Air Quality (air purifiers, low-VOC paints and materials):

Ventilation Systems (Trickle vents, wall vents, MHRV):

- ○ Cleared under-floor vent which had been blocked by cavity wall insulation beads (!)
- ○ Retrofitting trickle vents in uPVC windows to each room
- ○ Door undercuts (10mm) in habitable rooms
- ○ Trickle/humidistat fan in wet rooms (Xpelair LVCF20TX, 30m3/hr)

Natural Lighting (Skylights, sun tunnels, and window placement):

3 off velux units in loft room

Other useful information:

- ● (Water Conservation, Waste Reduction, recycled materials, EV charging station, bike storage, carpooling initiatives)
- ○ 2 x 330 litre rainwater butts - one on house, and one on outbuilding downpipes at rear of property.
- ○ Greywater collection from small kitchen prep sink (selectable in dry weather)
- ○ Greywater collection from shower/sink in first floor bathroom (selectable in dry weather)

Performance & Savings

Energy Savings (Annual kWh saved, percentage reduction compared to previous years):

Carbon Footprint Reduction (Estimate of CO2 reduction - this CO2 calculator can be a useful tool to use):

Financial Savings (Utility bill reductions, payback period for green investments):

Significant financial savings – though hard to compare directly with pre-installation, as instead of charging our car directly from our solar PV, we now export the solar power for twice the price per kWh of overnight car charging from the grid.

Green Features

Challenges & Solutions

(Issues encountered during the renovation/work):

- ○ We found woodworm in ground floor joists and floorboards on western (ie. wettest) side of the house when we lifted the dining room suspended timber floor to insulate underneath. We treated/replaced the joists, and had to scrap most of the floorboards, so replaced them with chipboard flooring (glad we found out though). By contrast, the eastern side of house had no woodworm at all in the floor, but we did find that the vital underfloor metal air vent had been blocked, because cavity wall insulation beads had filled the block it's mounted in. (Quickly solved, and we were glad we discovered this as well!)

Solutions Implemented (How challenges were overcome, any innovative approaches):

- ○ Fan convectors (wall and plinth) have too high a temperature setting for low-temperature heat pump circuits. We replaced the thermostat in the plinth heater and modified the wall heaters, so that the fans now turn on at 25C (rather than 32C).

Upcoming Projects (Planned upgrades, additional sustainability measures):

- ○ Trickle/Humidistat fan in kitchen area
- ○ Improve insulation in kitchen extension roof
- ○ Improve insulation under rear balcony/above rear bay
- ○ Replaster/paint interior single-skin bay walls with permeable materials to reduce mould from condensation on these cold surfaces

Long-term Goals (Goals for further reducing environmental impact):

- ○ Exterior wall insulation on front and rear elevations, to solve the problem of single-skin bays
- ○ Underfloor heating in kitchen extension

Any other information you'd like to share?

Insulation:

○ Added 400mm mineral wool under hard-to-access gable above front bay, after discovering loft extension insulation spec had not been followed here, 2025.

Heating system:

○ Thermix KPH 1400 Low Voltage plinth heater ('wet' fan convector) installed under bathroom cupboard, to reach heat output requirement without replacing towel rail.

For Internal Use

Your Availability

What days/times can you do? (We'll be running the days from 11-4pm)**:**

How many volunteers would you like? (You can have up to 2)**:**

How would you like people to come to your home?

Drop-in ☐ Booking ☐ Hybrid ☐

Instructions

Please return this pack to communications@bristolenergynetwork.org. We will upload your open home profile to the Green Open Homes website so that potential attendees can learn more about your home.

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