WEBINAR:
Warm Homes in Practice:
Retrofit Delivery Using Renewables

Real-world lessons from heating & renewable retrofit projects

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Webinar Agenda:

Warm Homes in Practice: Retrofit Delivery Using Renewables

15:00 - Welcome and introduction to the session – Derek Owen (5 mins)

15:05 – Case Study #1: Renewables & Heating in Practice – Red Paterson – Elnur
Real-world findings from monitored occupied homes using renewable-ready High Heat Retention heating systems (10)

15:15 – Case Study #2: Heating and excess renewable Integration a Pilot – Red Paterson – Elnur
Lessons from excess renewable energy utilisation and smart heat storage in occupied (10)

15:25 – Case Study #3: Delivering Retrofit at Scale – Steve Saxty - PDL
Practical installation, coordination and resident engagement lessons from live retrofit programmes (10)

15:35 – Key Learnings & Industry Observations – Derek Millar – PDL
Practical observations, installer considerations and key themes emerging from today's projects and case studies (10)

15:45 – Open Q&A – All - Hosted by Derek Owen (10 mins)

15:55 – Thank you and Close

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Warm Homes in Practice:
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CASE STUDY #1
Red Paterson - Elnur

Renewable Heating in Today's Homes

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Case Study #1

Renewables & Heating in Practice

What monitored occupied homes revealed about renewables-ready electric heating

Bury Council Housing Project
24 occupied homes monitored during a full heating season

KEY FOCUS AREAS

- Renewable utilisation
- Resident comfort
- Heating performance
- Real-world monitored data

Renewables & Heating in Practice

What monitored occupied homes revealed about renewable-ready electric heating

A real-world housing project exploring:

- Renewable-ready heating
- Solar integration
- Resident comfort
- Heating stability
- Occupied-home retrofit performance

Bury Council Housing Project - 24 occupied homes monitored during a full heating season

Explored how renewable-ready electric heating systems performed in real occupied homes - not laboratory conditions.

Download the case study here: elnur.co.uk/insights

Renewables & Heating in Practice

The Challenge Facing Electrically Heated Homes

Common Challenges

- High running costs
- Poor heat retention
- Peak-time electricity dependency
- Resident comfort concerns
- Fuel poverty pressures

Increasing Retrofit Expectations

- EPC improvement targets
- Renewable integration
- Warm Homes delivery
- Lower-carbon heating pathways
- Scalability across housing stock

**The challenge is no longer just replacing heating;
it's improving how homes perform day to day.**

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The Project Approach

Bury Council wanted to understand whether modern High Heat Retention heating systems could:

- Improve resident comfort
- Better utilise solar generation
- Reduce heating costs
- Support future retrofit strategy
- Improve EPC performance

Monitoring Included:

- Energy usage
- Solar utilisation
- Internal temperature stability
- Heating demand behaviour

Installed Measures:

- ✓ ECOHHR PLUS heating
- ✓ Solar PV
- ✓ Smart controls
- ✓ Improved insulation
- ✓ G-Control monitoring

The key aim was to understand how heating and renewable systems interact within normal daily living

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What the monitored data suggested

56.8%
Solar energy usage across the year

32.7%
Solar utilisation during heating season

£270
Average annual heating saving

EPC
EPC Improvement Band D → Band A

Up to **56** %more efficient than standard HHR systems when used with renewables

Key Learning Points

- Renewable integration improved heating efficiency
- Smart controls influenced energy usage patterns
- Stable heat retention improved comfort consistency
- Occupancy behaviour affected renewable utilisation

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Practical Learning Points

Delivery Observations

- Resident simplicity remains critical
- Occupied-home coordination matters
- Retrofit performance is about system interaction
- Heating stability influences resident experience

The project highlighted that successful retrofit is rarely about a single technology.

It’s about how the whole home performs together

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CASE STUDY #2
Red Paterson - Elnur

Renewables + Heating Integration – Real Project Example

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Case Study #2

Heating and Excess Renewable Integration

Exploring how excess renewable electricity can become usable home heating

Energy Cloud Ireland Pilot
Renewable electricity & occupied-home heating

KEY FOCUS AREAS

- Renewable utilisation
- Heat storage
- Smarter energy use
- Occupied-home performance

Heating and Excess Renewable Integration

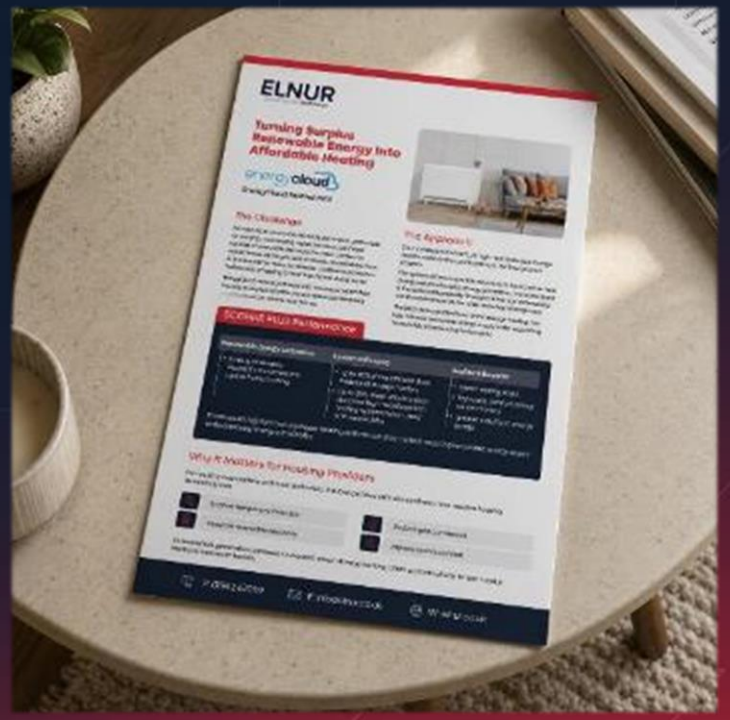
Exploring how excess renewable electricity can become usable for home heating

A pilot project examining:

- Excess renewable energy utilisation
- Smart heat storage
- Occupied-home heating behaviour
- Renewable-ready retrofit learning

EnergyCloud Ireland Pilot:

Innovative renewable energy pilot supporting vulnerable households through smart electric heating.



Download the case study here: elnur.co.uk/insights

Heating and Excess Renewable Integration

The Renewable Energy Challenge

Across Europe

- Renewable generation is increasing rapidly
- Significant renewable electricity is still curtailed
- Grid flexibility pressures continue growing

Meanwhile

- Many homes still face heating affordability issues
- Electrically heated homes face rising costs
- Residents still require stable, manageable comfort

Generating renewable energy is only part of the challenge, using it effectively inside homes is equally important.

Heating and Excess Renewable Integration

The Pilot Approach

EnergyCloud Ireland partnered with Clúid Housing to explore whether surplus renewable electricity could instead be stored and used as heat within occupied homes.

The System:

ECOHHR PLUS systems were used to:

- Store surplus renewable electricity as heat
- Release heat gradually throughout the day
- Support lower heating costs

The project explored how surplus renewable electricity could support household heating demand

Heating and Excess Renewable Integration

What the Pilot Demonstrated

1

Renewable Utilisation

Surplus renewable electricity converted into usable home heating

2

System Efficiency

- Free electricity was given to participating households when excess was being created
- Energy Cloud issue credits against energy bills reflecting off-peak heater usage at these times

3

Resident Impact

- Lower heating costs
- Improved winter comfort
- Greater stability in energy usage

Heat storage may play a growing role in bridging renewable generation and demand in occupied homes

Heating and Excess Renewable Integration

Key Learning Points

Project Observations

- Renewable-ready heating changes how homes consume energy
- Heat storage becomes increasingly important
- Controls and integration matter significantly
- Occupied-home performance differs from theoretical modelling

Wider Retrofit Themes

- Simplicity for residents remains essential
- Renewable integration requires system coordination
- Energy flexibility is becoming more important
- Retrofit delivery increasingly depends on whole-home thinking

One of the key themes from the pilot was that renewable integration only works effectively when resident usability and comfort remain central.

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CASE STUDY #3
Steve Saxty - Prism

Delivering Retrofit at Scale

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Case Study #1

Delivering Retrofit at Scale

Live Retrofit Programme
300+ homes delivered across multiple
Locations within tight time scales

Steve Saxty

Real-world insights from live projects
Across heating, renewables and occupied homes

Delivering Retrofit at Scale

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Practical installation, coordination and resident engagement lessons from live retrofit programmes

KEY FOCUS AREAS

- Installation coordination
- Resident engagement
- Retrofit logistics
- Programme scalability

Prism Delivery: Morgan Sindall Property Services Programme
300 properties | Peterborough | Northampton | Leicestershire

Case studies available on request

Delivering Retrofit at Scale

Real Delivery Challenge

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Programme Pressures

- Large programmes delivered under tighter timescales
- Multiple measures coordinated simultaneously
- Residents remain in occupied homes
- Pressure to minimise disruption
- Need for consistent quality standards

Growing Expectations

- Faster delivery
- Resident satisfaction
- PAS2030 compliance
- EPC improvements
- Renewable readiness

Successful retrofit programmes rely on efficient delivery and keeping residents informed, comfortable and supported throughout

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The Delivery Model

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PDL/ Prism adopted a fully integrated delivery approach:

Installed Measures:

- ✅ Solar PV with battery storage
- ✅ High Heat Retention heating
- ✅ Ventilation upgrades
- ✅ Airflow improvements

Delivery Included:

- Design
- Supply
- Installation
- Commissioning
- Compliance documentation

The aim was to reduce multi-trade disruption for residents throughout the programme delivery

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What the Delivery Revealed

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300	7 Months	85%	45%
Properties Delivered	*Programme Completion*	*Solar Installations*	*ELNUR ECOHHR Heating Upgrades*

Key Observations

- Coordination reduced delays
- Resident flexibility mattered
- Multiple trades require tighter planning
- Simpler delivery improves outcomes

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Delivery & Resident Experience

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Operational Impact

- Multi-measure installs coordinated
- Internal teams & specialist network
- Adaptable to resident needs
- Improved programme flow

Resident Experience

- Minimal disruption
- Improved comfort
- Better communication
- High satisfaction

The programme demonstrated that successful retrofit delivery extends beyond installation quality alone.

Coordinated delivery models and clear resident communication helped minimise disruption, improve access and support a smoother overall experience for both housing providers and residents.

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Delivery Observations

Successful delivery was supported by Elnur's Specification software and the project team.

- **Retrofit specification for heating becomes complex across a mixture of housing types**
- **Quick delivery of Elnur specifications EcoProcal supported on time, accurate delivery outcomes**
- **Clear specification plans for install teams improve install speed and reduce programme delays**
- **PDL as only part of a whole-home upgrade made Elnur tech support essential to delivery outcomes**

Webinar Workshop Agenda:

Warm Homes in Practice: What Works in Retrofit Delivery

EMPOWER ENGAGE ELEVATE

Real Support for Registered Providers

Poll #2

Which areas are currently the biggest focus for your organisation within Warm Homes or retrofit delivery?

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Key Learnings and Industry Observations

Derek Millar - Prism

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Prism Session

Key Learning & Industry Observations

Practical observations, installer considerations and examples of how Elnur support emerging from projects and PDL case studies was desirable

Derek Millar

Real-world insights from live projects

- *Lessons from live retrofit delivery programmes*
- *Importance of supplier support for specifiers and installers on retrofit upgrades*

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Key Learning and Industry Observations

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What live retrofit programmes revealed beyond the technology

Practical observations, supplier to installer support considerations from occupied-home delivery.

KEY FOCUS AREAS

- ⚙️ Practical delivery support to installers
- 🏠 Supplier support with handover in Occupied-home retrofit
- 📋 Installer supplier support considerations
- 🔄 Whole survey and specification support

Built from real housing projects and frontline delivery experience

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Emerging Themes Across Live Programmes

Delivery Expectations Rising

Project volumes & complexity needs supplier support to installers

Measure Complexity Increasing

Coordinating multi-measure installations in lived-in homes

More Technologies Per Property

Combing single supplier renewable, heating, and ventilation preferable

Less Tolerance For Delays

Supplier support critical in avoiding repeat visits or on-site errors

PDL Sector Observations

- *Retrofit delivery beyond single measures necessitates supplier technical and practical installer coordination to allow partial measure delivery within a whole-home renewable approach.*
- *Projects complexity increasing need for faster supplier product and support delivery models.*

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What Install teams Experience On Site

Real-world retrofit projects rarely follow a predictable path. Installer experience continues to highlight recurring delivery themes that influence programme efficiency, coordination and resident outcomes.

No two properties behave the same
The volume of properties and variation requires installation specification support

Specification for multi properties can quickly become complex
Elnur EcoProcal ESH software's ease of use positively impacts timelines

On time installation delivery remains non-negotiable
Next day delivery by Elnur UK direct to site influences achievable delivery

Whole-home thinking requires operation within multiple measures
Elnur flexible delivery allowed ESH measure coordination within overall programme

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Practical Supplier Support Example Checklist

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Specification support EcoProCal allowed rapid plan production	Clear specification sets specific products required, avoiding site errors to reduce disruption
Elnur Survey Reduced multi contractor visits where possible	Fewer visits mean less disruption, lower installer cost and better resident experience
UK technical understanding of mixed technology coordination	Integrated supplier & installer planning within other measures improves installer performance
On site surveying-built flexibility into PDL measures planning	Removal of the unexpected – flexible plans and supplier to installer help keep projects moving
Clear communication between suppliers & PDL pre installation	Clear communication between installer & supplier reduces site queries & improves performance
Elnur aftersales support kept the resident journey simple	Supplier site surveys & post install handovers, make a big difference to resident satisfaction levels
Simple Elnur online warranty registration for multi properties	Installer warranty registration administration significantly reduced by simple Elnur process

These themes repeatedly emerged across many delivery projects with multiple suppliers.

What Will The Next Phase Of Retrofit Look Like?

Within the next phase of retrofit we see supplier specification and onsite support to installers combining multiple renewable measures and connected technologies, as essential to allow installers to deliver within project timelines.

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Thank you

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