

THE ELMHURST ALMANAC

Turning the dial



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Reflecting on a year of significant developments for the UK energy efficiency industry, and highlighting areas for urgent and necessary change in 2023.



Introduction



Stuart Fairlie
Managing Director, Elmhurst Energy



In spring 2022 when Elmhurst launched its first Almanac, few of us could have predicted the sheer depth and scale of the fuel bills crisis we would be dealing with.

Fast forward to 2023, and we now have a patchwork of government measures intended to soften the blow to many households. Yet UK and global energy policy is still proving slow to adapt to the pace of change required if we are to loosen our dependency on fossil fuels, to reach Net Zero and to tackle climate change.

COP27 in November 2022 was a case in point on a global scale. It ended with no unanimous consensus, despite efforts to encourage nations to reduce greenhouse gases further in order to limit global warming to 1.5 degrees Celsius.

To put down a marker on where the UK currently stands for 2023, we're launching our second Almanac.

Here, we will mark the improvements from 2022 and detail the most significant energy efficiency policy developments, along with the areas in need of urgent attention.

On pages 12 to 15 you can also read our 'top 10 big asks': the areas where change is most needed for Net Zero. These include revamping the EPC, measuring the real-time actual energy performance of all buildings, and supporting consumers to use their heating systems efficiently and drive down energy consumption.

We welcome your discussion, ideas and feedback on this report. Join in the conversation on social media using the hashtag #ElmhurstAlmanac.

Key facts and figures

**17
MILLION**



Out of a total 28 million UK households estimated to be below EPC band C.

(Source: English, Scottish, Welsh and Northern Ireland housing surveys)

480,000



Green jobs targeted by 2030 as part of the Energy Security Bill.

(Source: BEIS)

**1.5
HOMES**



Require retrofitting every minute between now and 2050.

(Source: Institution of Engineering and Technology (IET))

**2.2
MILLION**



Homes predicted to have entered fuel poverty in 2022 compared to 2021, bringing the total to 6.7 million.

(Source: National Energy Action)

**3.5
MILLION**



Measures installed across 2.4 million households under ECO so far.

(Source: Household Energy Efficiency Stat Release)

1,429,193



Domestic and Non-Domestic EPCs lodged in England and Wales in 2022.

(Source: EPC Action Plan)

98%



Of Wales' lower-income households estimated to be in fuel poverty in April 2022.

(Source: National Energy Action)

**£7.5
BILLION**



Estimated annual savings if we upgrade all homes to EPC band C.

(Source: Energy Efficiency Infrastructure Group)

5%



Approximate uplift in market value of homes moving from band D to band C, after controlling for other factors such as property size and archetype.

(Source: BEIS)

**6
TONNES**



Of carbon dioxide produced by the average Scottish household annually.

(Source: Scottish Government)

**3.5
MILLION**



Measures installed across 2.4 million households under ECO so far.

(Source: EPC Action Plan)

3,970



Non-Domestic EPCs lodged by Elmhurst members in Scotland in 2022.

(Source: Elmhurst Energy)

842,366



Existing Dwellings EPCs lodged by Elmhurst members in England and Wales in 2022.

(Source: Elmhurst Energy)

20,390



Total Domestic EPCs lodged by Elmhurst members in NI in 2022.

(Source: Elmhurst Energy)

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Looking back at 2022

Some of the major developments relevant to the energy efficiency industry in 2022.



January



- **OFGEM Consultation Energy Company Obligation (ECO4). Consultation part 2** runs to gather feedback on the scoring methodology for the scheme, closing 21 January.
- The Welsh Government consultation '**Building Regulations Part L and F Review: Stage 2B**' runs, aiming at improving energy efficiency requirements for non-domestic buildings and lowering the carbon emissions of new buildings, while making them more fit for the future.

February



- **The Social Housing Decarbonisation Fund Wave 1** announces £179m funding awarded to local authorities to improve approximately 20,000 social homes rated below EPC band C.
- Elmhurst responds to **Scottish Government's consultation** seeking views on a new regulatory framework for energy efficiency and zero-emissions heating and cooling systems in non-domestic buildings.

March



- The Northern Ireland Department of Finance releases its new Technical Booklets **F1 (conservation of fuel and power in dwellings)** and **F2 (conservation of fuel and power in buildings other than dwellings)** energy performance standards.
- In the **Spring Statement 2022**, Chancellor Rishi Sunak reduces VAT on energy saving materials such as solar panels, heat pumps and loft insulation from 5% to zero for five years.

April



- **ECO4**, originally due for launch 1 April, experiences its first delay and is pushed back to 1 July 2022. ECO3 funding is extended to 30 June as an interim measure.

May



- Welsh Government releases the next version of Building Regulations and Approved Documents **F (ventilation)**, **L (conservation of fuel and power)** and **O (overheating)** for domestic buildings.
- The government's **Boiler Upgrade Scheme** launches, running from 2022 to 2025 across England and Wales, delivering grants for installation of air source heat pumps (£5,000), biomass boilers (£5,000) and ground source heat pumps (£6,000).

June



- **Building Regulations Part L (conservation of fuel and power)**, **Part O (overheating)**, and **Part F (ventilation)** come into force in England on 15 June.
- **SAP (Standard Assessment Procedure) 10.2** software providers are required to adapt for updates to Building Regulations from 15 June.
- The **new version 6.1 of SBEM (Simplified Building Energy Model)** is released for England to support the new Building Regulations. The calculation methodology for non-domestic energy professionals updates the carbon factors and will change the EPC banding for many non-domestic buildings.
- **Scottish Government publishes the next version of Building Regulations**, changing standards for energy performance, ventilation and overheating and applying to new building work from 1 December this year.

July



- Government unveils its **Energy Security Bill** in Parliament, featuring 26 measures to ensure the security and decarbonisation of the UK's energy supply, create green jobs, and protect customers from rising fuel prices.
- DLUHC releases its '**English Housing Survey, 2020 to 2021: subjective overheating and construction type**' study on overheating in England – finding that 8% of households reported at least one part of their home got uncomfortably hot.
- Independent statutory body, the **Climate Change Committee (CCC)**, releases its **progress report**, highlighting current policy and programmes from the Government will not ensure the UK meets its 2050 Net Zero target.
- Scottish Government launches its **New Build Heat Standard: consultation - part two**, which will form its proposal to improve new building standards.
- ECO4 still does not appear, while scheme administrators **Ofgem collect responses to part 2 of the consultation** into how it will be administered.
- The **Strengthening ESOS (Energy Saving Opportunity Scheme) consultation response is released by BEIS**, revealing widespread support for changes to improve the scheme.

August



- **PEPA (Property Energy Professionals Association) calls on the government** to confirm and announce ECO+.
- **Elmhurst responds to the Welsh Government consultation into improving the Welsh Housing Quality Standard**, which aims to improve the quality of social homes in Wales.

September



- Then **Prime Minister Liz Truss announces the Energy Price Guarantee (EPG)** for households, applying from October 2022, meaning an average household will pay no more than £2,500 per year on fuel bills for the next two years. She also introduces the £400 Energy Bill Support Scheme.
- The fabled 'Mini Budget' from the Government is announced by then Chancellor Kwasi Kwarteng through '**The Growth Plan 2022**', and includes the Energy Bill Relief Scheme to cut energy prices for non-domestic energy customers.
- BEIS announces £1.5 billion funding through the **Social Housing Decarbonisation Fund (SHDF) Wave 2.1** and **Home Upgrade Grant (HUG) Phase 2** for 130,000 low-income households in England.
- **Elmhurst Energy Systems and Stroma Certification** confirm they are to combine.
- Government launches its '**Net Zero Review: Call for Evidence**' to find the most efficient and fastest ways to reach the 2050 climate target, while maximising economic growth.
- The '**Decent Homes Standard in the private rented sector: consultation**' is released and open to response from landlords, tenants and professionals in the sector.

October



- The **Energy Price Guarantee** comes into force on 1 October.
- **Ofgem releases Part 1 and 2 ECO4 administration consultation** outcome on 10 October, with its accompanying guidance on delivery.
- Welsh Government publishes Non-Domestic Building Regulations, with **Approved Documents F (ventilation)** and **L (conservation of fuel and power)** for non-domestic buildings, due to come into force on 29 March 2023.
- BEIS launches its £20m **Green Home Finance Accelerator** fund to boost the choice of affordable green finance products for homeowners.
- Elmhurst responds to the consultation on the **Decent Homes Standard in the private rented sector**.
- The **Local Heat and Energy Efficiency Strategies (LHEES) guidance** is released by Scottish Government, and will be required from local government by 31 December 2023 to ensure public sector building stock no longer contributes to climate change.

November



- New Building Regulations **Part F (ventilation), L (conservation of fuel and power) and O (overheating)** for domestic buildings come into force in Wales.
- Chancellor Jeremy Hunt announces the **Autumn Statement 2022** on 17 November, pledging £6.6bn spending on energy efficiency in this parliament, plus £6bn from 2025 to 2028 for insulating homes and upgrading boilers. He launches an Energy Efficiency Task Force to help deliver a 15% reduction in energy consumption from buildings and industry by 2023.
- **COP 27** runs 6-18 November and sees some countries resisting the 1.5 degrees Celsius global heating limit.

December



- **Elmhurst wins Home Decarbonisation Skills Training funding** to deliver retrofit assessor training online across all Local Net Zero Hub regions in England.
- **Scotland's Section 6 (Energy) 2022 Standard** is delayed until 1 February 2023.
- Scottish Government launches its **Home Energy Scotland Scheme**, allowing homeowners to access a £7,500 standalone grant for energy efficiency improvements in the home.



The way forward

These are Elmhurst's top 10 big asks aimed at changing how we measure energy efficiency, fund low carbon technologies and skills, and deliver the retrofit agenda.



1. Redesign EPCs

There is fast-growing realisation that we are using the wrong measuring stick for gauging the energy performance of buildings. Energy Performance Certificates (EPCs) have been a fantastic tool in many ways for the decarbonisation of our buildings, but Elmhurst has been calling for changes since 2019.

EPCs for homes were first introduced in England and Wales in 2007 as a cost metric. The A to G rating simply shows how cheap or expensive a home might be to run. But nothing more.

Despite the current fuel price crisis, Government and public interest now goes far further than just cost.

Elmhurst would like to see a more comprehensive and informative EPC, rather like food nutrition labelling. An EPC should show the

'three Cs': energy **consumption**, energy **cost**, and **carbon** emissions. These are the things everyone now cares about.

Fortunately, the national calculation methodologies (SAP for homes and SBEM for non-domestic buildings) can present all three metrics and we believe all three should be illustrated in the EPC. Every environmental policy and regulatory campaign can then align to one or more of those metrics, and we can measure progress more easily.

2. Use the Golden Triangle for EPCs

Even as we speak, the EPC cost metric is still being used as a policy tool to reduce carbon emissions from housing and to tackle climate change. This doesn't work.

EPCs must give equal focus to energy consumption, cost and

carbon emissions for our homes to contribute to Net Zero. We need to tell the full energy efficiency story of a building.

Elmhurst's 'Golden Triangle' of information is:

- 1. Asset rating:** the predicted energy cost and consumption of the building, based upon nominal or average occupancy patterns.
- 2. Occupancy rating:** the predicted energy consumption of the building, based on the people using it.
- 3. Energy consumption:** what energy the building actually uses to run, ideally based on data from smart meters.

All three are invaluable pieces of information about a home, but using one in isolation only tells a part of the story and doesn't tell us where to focus improvements.

It's a similar problem in commercial buildings. We want to see Display Energy Certificates (DECs) used in the private as well as public sector, but these also need to be improved, taking learning from the world's best occupancy rating schemes. Elmhurst is calling for a new, fit for purpose occupancy rating methodology for commercial buildings that experts, the established DEC accreditation schemes and assessors, can deliver.

3. Ensure EPCs reflect the current state

An EPC is typically valid for 10 years and many are very out of date. Energy costs and savings available will have changed over time due to incremental property improvements, such as the installation of a new heating system, double glazing, or cavity or solid wall insulation.

Elmhurst believes the EPC should be re-assessed and re-issued whenever there is a change to a building that impacts its energy performance. Any EPC should never be older than three years to maintain the relevance of estimates and recommendations.

4. Make energy efficiency education a priority

In recent months the Government has acknowledged the importance of widespread consumer education around how to live in a more energy efficient way.

This includes using heating systems more wisely, understanding the information

coming from key tools - such as smart meters, and learning how to conserve heat in the home.

The advice of accredited energy assessors should also be sought to determine the right energy efficiency improvements householders should make, in the right order.

5. Keep updating assessment methodologies

Last year, the hottest summer on record also saw the introduction of updated Building Regulations: Part L on conservation of fuel and power, Part O on overheating, and Part F on ventilation.

With these arrived the first major update in 10 years of SAP, the science-based national calculation methodology that

underpins all energy assessments of new homes. This update has been most welcome. But there's more to be done.

The development of SAP 11 (and associated SBEM and RdSAP methodologies) must reflect the impact of new proven technologies and innovation, and the changes in power generation that impact on carbon emissions and prices. This is especially true when it comes to the energy required to cool buildings. While using energy here should never be seen as a substitute for good design, it should be included within regulated energy calculation.

The models need continual investment to ensure they remain the best tools for the year-round assessment of all UK buildings.





6. Change the ECO funding mechanism to promote whole house retrofit

After a six-month delay, the Energy Company Obligation (ECO4) finally launched in October 2022.

Now running for 10 years, the ECO scheme is a government energy efficiency initiative in Great Britain funded by energy suppliers to help reduce carbon emissions from homes and to tackle fuel poverty. ECO4 offers £1bn funding per year over four years and will upgrade an estimated 450,000 homes, focusing on the least energy efficient, owner-occupied, private rented and social homes.

Unfortunately, Elmhurst still

believes the ECO4 funding route isn't yet right. The model does not match the PAS 2030 and PAS 2035 standards the scheme was based on.

Currently, installers claim retrospectively for work, resulting in installation of individual energy efficiency measures and perpetuating industry silos that have built up around the scheme.

Funding must be placed with homeowners and landlords to appoint a retrofit coordinator who can deliver a proper retrofit strategy. This lists the right energy efficiency measures to install in the right order. Once armed with this information, homeowners and landlords can engage with fully qualified retrofit professionals to implement those improvements, knowing that the

measures will be to a required standard and, most importantly, right for their homes.

7. Use energy assessors to boost uptake of renewable technologies

In our last Almanac we reported the government's target to install 600,000 heat pumps each year by 2028 - a 50-fold increase on current levels.

Energy assessors could and should be at the front of that customer journey, advising on the choice of appropriate renewable technologies. While heat pumps are key, other technologies such as solar panels are also part of that picture, but all measures work best when the home is already well insulated, airtight and ventilated right.

Government and industry should use the skills and knowledge of the 10,000 trained and accredited energy assessors who understand where there are opportunities for improvement. New technology can be confusing, but energy assessors are good at communicating the pros and cons of various renewable technologies and supporting installers with a cost effective and time efficient process.

8. Rebalance tax applied to fuels

Currently, all green taxes get applied to electricity supply rather than to gas. This means any carbon-busting innovation that runs on electricity, such as air source heat pumps, are more expensive than traditional gas

boilers. Consequently, they won't be recommended on an EPC.

Elmhurst believes now is the time to rebalance the tax applied to low emission fuels and fossil fuels, to make heat pumps more attractive financially. Price ceilings and floors should be applied to ensure that what is right for the environment is also right for the consumer.

9. Measure actual energy performance to validate retrofit strategies

The Social Housing Decarbonisation Fund Wave 2 announcement in August 2022 recognised the importance of measuring actual energy consumption.

Using the technology available, such as smart meters and Elmhurst's Measured Energy Performance technology, we now can measure the real-time energy consumption of all buildings, calculating the heat loss through a building's walls, floor and roof. When combined with EPCs, this gives us a highly accurate picture of what is actually happening in a building.

This has huge benefits for checking compliance with Building Regulations in new homes construction or retrofit, and in proving the efficacy of our national energy modelling tools such as SAP and SBEM. Additional technologies, such as tools to measure U-Values, air tightness testing and thermal imagery are also powerful ways to help test assumptions and validate and improve energy assessment methodologies.

10. Implement a single national framework to assess Net Zero

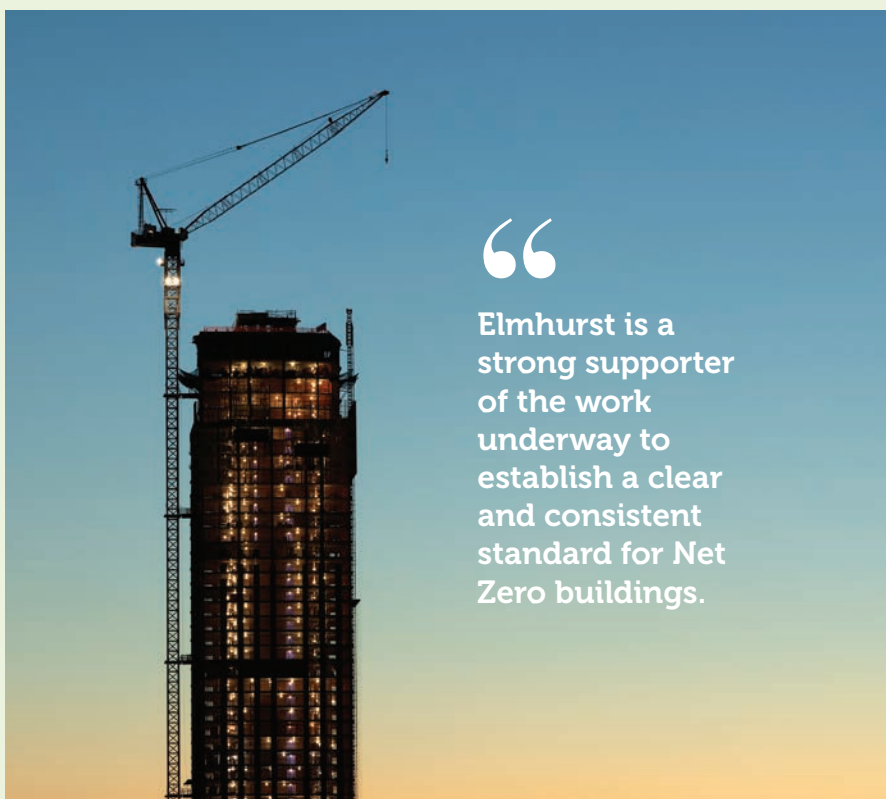
Elmhurst is a strong supporter of the work underway to establish a clear and consistent standard for Net Zero buildings. But we also urge a further step, through the creation of an independent certification or competent persons scheme, where trained and accredited carbon assessors can confirm emissions at each stage of the lifecycle of a building.

We stand ready to help those involved in the UK Net Zero Carbon Buildings Standard to produce a national methodology and to engage with the energy assessment community which has been so successful in developing in-use assessments for other buildings to date.



What would you add to this list?

Join in the conversation on social media using the hashtag
#ElmhurstAlmanac



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