

# AECB 2018 CONVENTION

14-15 September 2018 | Garway, Herefordshire

## PROGRAMME



### Day One: Friday 14 September

Please note timings may be subject to change

10.00	Conference registration opens   Welcome coffee	
11.00	<p>Welcome from AECB Chair / Vice Chair</p> <p>Welcome to the Building - <a href="#">Adele Mills</a>, Simmonds.Mills</p> <p>AECB Local Group Update – James Allen, Development &amp; Communications Manager</p> <p>A New AECB Charter: radical strategy for uncertain times? – <a href="#">Andrew Simmonds</a>, AECB CEO</p>	
11.45	<p><b>Keynote talk: Moving Capital from Energy Supply to Energy Efficiency</b></p> <p><a href="#">Dr Steve Fawkes</a>, EnergyPro Ltd</p> <p>Dr Steve Fawkes works tirelessly to ‘awaken the sleeping giant of energy efficiency’ and will talk on recent significant international initiatives to invest in energy efficiency and moving capital away from unsustainable energy supply. This is followed by a hands-on software-based afternoon workshop with AECB Member <a href="#">Tim Martel</a> to explore retrofit scenario modelling.</p>	
12.45	Lunch	
13.45	<p><b>Keynote talk: The Human System: coping and flourishing in challenging times</b></p> <p><a href="#">Nafeez Ahmed</a>, Investigative Journalist</p> <p>Nafeez will talk on the ‘crisis of civilisation’ as the result of the interdependent issues of fossil fuels, geopolitics, climate change, resource depletion and social unrest, followed by an interactive afternoon workshop to explore the issues in more depth.</p>	
14.45	Break	<p><b>Site visit A</b></p> <p><a href="#">Information</a></p> <p><b>Retrofit barn conversion</b></p> <p>Hosted by: Dai Rees</p>
15:15	<p><b>The Garway Community Centre: Resilience in the Community</b></p> <p>Short talks and tours covering perspectives from the architects, builders, supplier and the customer.</p>	
16.45	<p><b>Workshop</b></p> <p>In an age of uncertainty how can we know how best to act, and to commit to action.</p> <p>Mini sessions and debate based on the AECB strategy and mission.</p> <p>Panel: Nafeez Ahmed Chris Herring Andy Simmonds</p>	<p><b>Workshop</b></p> <p><b>Retrofit Scenario Modelling</b></p> <p>Real measures to improve energy efficiency: examples of real cost modelling and cost-benefit retrofit assessment. Investment appraisal and financial decision-making for radically reducing energy and fuel demand.</p> <p>Led by: Steve Fawkes Tim Martel</p>
17.45	<p>Break</p> <p>Drinks and World Café Discussion Groups on the above talks and AECB charter/strategy</p>	
19.00	Dinner and social evening with jazz by Big Sky Quartet	

## Day Two: Saturday 15 September

09.00	AECB AGM and election of trustees			
09.40	<b>Plenary talk: Driving Retrofit Quality: Each Home Counts and PAS 2035</b> <a href="#">Dr Peter Rickaby</a> Member of the Each Home Counts Implementation Board and Chair of the BSI Retrofit Standards Task Group.			
10.00	<b>Workshop: Main Hall</b>	<b>Workshop: School</b>	<b>Workshop: Breakout</b>	<b>Site Visits</b> Exact timings subject to change
	<b>Breaking the mould at Thamesmead</b>  <a href="#">Dr Peter Rickaby</a> Member of the Each Home Counts Implementation Board and Chair of the BSI Retrofit Standards Task Group.  <b>Creating a local market for whole house retrofit - achieving quality at scale</b>  <a href="#">Jonathan Atkinson</a> Carbon Coop <a href="#">Marianne Heaslip</a> URBED	<b>Opportunity for collaboration across the Irish sea</b>  Jeff Colley EASCA and Editor of Passivhaus Plus magazine  AECB local groups talk about radical action on the ground	<b>Off-site strawbale</b>  <a href="#">Barbara Jones</a> Straw Works	<b>Site visit B 10.00-13.00</b> <a href="#">Information</a>  <b>Silver Birches</b>  <b>Large self-build Passivhaus in Monmouth</b>  Hosted by: Sarah Browne  <b>Ty Pren: Local Garway Passivhaus</b>  Hosted by: Dave Atkinson  <b>Site visit C 9.00-13.00</b> <a href="#">Information</a>  <b>Morning tour of Hope View House - a paragraph 55 new build dwelling</b>  Hosted by: Tracey Iwanczuk with Dean Benbow, Warren Benbow Architects  <b>Fishleys: Passivhaus</b> <a href="#">Information</a>  Hosted by: Mike and Liz Hill with Architype architects  <b>Site visit D 10.00-11.30</b> <a href="#">Information</a>  <b>Handcrafted timber house</b>  Hosted by: Ed Waghorn
11.00	Refreshment Break			
11:30	<b>Workshop: Main Hall</b>	<b>Workshop: School</b>	<b>Workshop: Breakout room</b>	
	<b>Retrofit is risky: what do we and don't we know about retrofit measures?</b>  <a href="#">Andrew Simmonds</a> , Simmonds.Mills  <a href="#">Tina Holt</a> CarbonLite Retrofit Training Manager (via internet connection)	<b>Building in Herefordshire: lessons learnt</b>  Mark Barry Architype	<b>Double Jeopardy: Bats and modern roofing membranes</b>  <a href="#">Stacey Waring</a> Eaves Ecology	
13.00	Lunch			

14.00	Workshop: Main Hall	Workshop: School	Workshop: Breakout room	Site Visit
	<p><b>Exposure to fire smoke and its impact on people's health and environment</b></p> <p><a href="#">Dr Anna Stec</a> University of Central Lancashire</p> <p><b>What we need to think about post-Grenfell</b></p> <p><a href="#">Kate de Selincourt</a> Journalist and researcher</p>	<p><b>Some things we were wrong about</b></p> <p><a href="#">Nick Grant</a> Elemental Solutions</p> <p><a href="#">Alan Clarke</a></p>	<p><b>Workshop to be confirmed</b></p>	<p><b>Site visit E</b> <a href="#">Information</a></p> <p><b>Herefordshire Archive and Records Centre</b></p> <p>UK's first archival storage building to be built to Passivhaus standard</p> <p>(exact timing to be confirmed)</p>
15.30	Refreshment break			
16.00	<p><b>Panel Session</b></p> <p>Key positive things to take away from conference</p> <p>Panellists include: Andrew Simmonds, Peter Rickaby, Kate de Selincourt, Nick Grant, Adele Mills, Chris Herring, Stacey Waring, Peter Wilkinson</p>			
16.45	Summary and end of Conference			

## Notes on site visits

There is a wealth of retrofit, self-build and Passivhaus-standard houses within easy reach of Garway. We are working on a number of site visits to run alongside the workshop sessions. Places will be available on a first-come, first-served basis in order of delegate registration. You will be contacted for your choice of site visit once all visits are confirmed.

## Speaker profiles and talk synopses

### **Keynote talk: Moving Capital from Energy Supply to Energy Efficiency**

Friday 14 September 2018 | 11.45-12.45

**Dr Steve Fawkes**, EnergyPro Ltd

Steve Fawkes will talk on recent significant international initiatives to invest in energy efficiency and moving capital away from unsustainable energy supply. This is followed by a hands-on software-based afternoon workshop with AECB Member Tim Martel of OptimalRetrofit to explore retrofit scenario modelling.



### **Speaker biography**

Dr. Steve Fawkes has over 30 years experience in energy efficiency including delivering large-scale energy management programmes, co-founding two energy service companies, implementing innovative energy services deals, and advising governments. Current roles include: Senior Adviser to the Investor Confidence Project, Independent member of the Investment Committee of the London Energy Efficiency Fund and Project Manager for the EFIG Derisking Project.

He is also a Director of EESL EnergyPro Assets Ltd, a JV between EnergyPro and EESL, the Indian energy efficiency company, and a Trustee of the National Energy Foundation. In August 2017 he was awarded the American Council for an Energy Efficient Economy's "Champion of Energy Efficiency 2017 Award". He has published extensively on energy efficiency including more than 300 papers and articles, three books and a regular blog: [www.onlyelevenpercent.com](http://www.onlyelevenpercent.com).

## **Keynote talk: The Human System: coping and flourishing in challenging times**

Friday 14 September 2018 | 13.45 – 14.45

**Nafeez Ahmed**, Investigative Journalist

Nafeez will talk on the 'crisis of civilisation' as the result of the interdependent issues of fossil fuels, geopolitics, climate change, resource depletion and social unrest, followed by an interactive afternoon workshop to explore the issues in more depth.



Dr. Nafeez Ahmed is an award winning journalist, academic and change strategist, focusing on systemic crisis & solutions.

Nafeez reports, researches, speaks, consults and creates organisations on the world's most pressing global challenges and their potential solutions. He investigates, through journalism and academic research, the interconnections of global crises across climate, energy, food, money, terror and the police-state. He advises and builds organisations and networks to transform the systems that incubate these crises.

A former Guardian environment blogger, he is founding editor and chief writer for the crowdfunded investigative journalism publication, INSURGE intelligence, producing exclusive stories which routinely beat the traditional news cycle. Website: <https://www.nafeezahmed.com>

## **Workshop: Retrofit Scenario Modelling**

Friday 4 September 2018 | 16:45-17:45

Contributors: **Dr Steve Fawkes**, EnergyPro Ltd | **Tim Martel**



Tim is a freelance Chartered Architectural Technologist, Passivhaus Designer and Retrofit Co-ordinator and assists architects with newbuild/retrofit projects. He helped produce materials for the Moisture and Economics modules of the Carbonlite Training and is also a tutor for those modules. After requests from course participants he drew on previous experience developing the CLR spreadsheet first into AECB REALcosting software (2017) for retrofits and then into 'PHPP ribbon' (2018). 'PHPP ribbon' is a more comprehensive set of tools for newbuild and retrofit PHPPs, launched from a custom Excel ribbon.

## **Opening Session: Welcome to the building**

**Adele Mills** Simmonds.Mills



Sustainability for rural communities: a village hall or community centre is a key focal place in a rural village such as Garway. Various members of the community have spent up to 17 years looking at ways to renew their village hall.

Simmonds.Mills have been involved in the last 2-3 years of this process, when the community group had successfully won a development bid from BLF. The evidence is strong that this community will use this new centre to its maximum potential; they have built strong social and interest groups with long use of the old hall - these and new uses will increase. A comfortable, affordable passivhaus building can facilitate the building's viability.

Adele will talk about the links between the design process, community committees, and key client roles; the dynamic process of balancing the technical rigours of a passivhaus design against the complex wishlist for multi-functioning space.

## Plenary talk: Driving Retrofit Quality: Each Home Counts and PAS 2035

Saturday 15 September 2018 | 09.40

**Dr Peter Rickaby** Member of the Each Home Counts Implementation Board and Chair of the BSI Retrofit Standards Task Group.

*Each Home Counts* (the Bonfield Review) is an industry-led review of standards, quality and customer protection in the domestic energy efficiency and renewables industry. The review was published in December 2016, and its recommendations are being implemented by a cross-industry Board, with support from BEIS. A central feature is a new Quality Mark for all publicly-funded (and some privately funded) retrofit. The Quality Mark is supported by a Customer Charter, an industry Code of Conduct and a retrofit standards framework developed by BSI. The overarching end-to-end standard will be Publicly Available Specification 2035, which will be published in February 2019.

## Workshop session: Breaking the mould at Thamesmead

Saturday 15 September 2018 | 10.00-11.30

**Dr Peter Rickaby** Member of the Each Home Counts Implementation Board and Chair of the BSI Retrofit Standards Task Group.

Thamesmead is a 1970s estate in south-east London, recently acquired by Peabody. It includes high- and medium-rise towers and deck-access blocks built in reinforced concrete with precast cladding. Other than new windows and replacement of the district heating with individual heating systems Thamesmead has received little investment. The community is fuel poor and suffers from extensive condensation and mould. Peabody has an ambitious thirty-year renewal plan for Thamesmead. The Condensation Damp and Mould strategy aims to eliminate condensation and mould, and mitigate fuel poverty, in homes that may not be redeveloped or refurbished for some time. It involves risk assessments and surveys, energy advice, new boilers, smart heating controllers and demand-controlled ventilation.



### Speaker biography

Peter Rickaby is an energy and sustainability consultant working in the building and housing industries. He has co-authored most of the UK guidance on domestic energy efficiency and retrofit, including the RIBA's *Climate Change Tools*, the CPA's *Introduction to Low-Carbon Domestic Refurbishment*, the IFS's *Low Carbon Domestic Retrofit Guides*, the sustainability sections of the NHF's *Managing the Assets* and the NHMF's guide *Maintaining Quality Homes: Keeping Residents Warm and Healthy*.

He led the development and implementation of Peabody's Condensation Damp and Mould strategy for Thamesmead in south-east London and is now working to disseminate the techniques developed there across social housing. Peter chairs the BSI Retrofit Standards Task Group, sits on the Implementation Board for the *Each Home Counts* review, and is the UKCMB training lead.

## Building a market for deep retrofit in Greater Manchester - achieving quality at scale

Saturday 15 September 2018 | 10.00-11.30

**Jonathan Atkinson** Carbon Coop | **Marianne Heaslip** URBED

Marianne Heaslip, architect at URBED and Jonathan Atkinson, Carbon Co-op project manager, review the past five years of work in Greater Manchester developing a member-led approach to building a market for deep retrofit. The presentation will cover the establishment and development of Carbon Co-op, a peer support co-operative with 150 members actively involved in planning, commissioning and carrying out retrofit work. The presentation will examine the role of householder training, mechanisms for the delivery of

technical expertise and the challenges of developing a supply chain and will look at the policy context for this work to be replicated around the UK via Community Energy intermediaries.



Jonathan Atkinson is a board member and co-founder of Carbon Co-op, an innovative community energy enterprise based in Greater Manchester, focussed on energy efficiency, low carbon technologies and whole house retrofit.

In 2008, collaborating closely with technical partners URBED, he oversaw the development and establishment of Carbon Co-op and has since delivered much of its work as project manager. Activities have included Community Green Deal, a project delivering deep retrofit to owner occupiers at scale and an affordable prices and Nobel Grid, a European-wide smart grids projects to enable co-operatives and communities to take control of their energy systems.



Marianne Heaslip is an architect and Associate Principal at URBED (Urbanism Environment & Design) Ltd. Her work ranges from whole house retrofit and environmental conscious building design, to policy research and post-completion building assessments. She worked on the TSB Retrofit for the Future programme and Carbon Coop's 'Community Green Deal' and has provided technical retrofit advice to individual householders and housing associations, alongside assessments and training for Carbon Coop. She is involved in policy development and was as a co-author on SHAP's Green Deal for Communities report and is an assessor on 'footprint', igloo regeneration Ltd's sustainable investment policy.

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**Workshop Session: Opportunity for collaboration across the Irish sea**  
Saturday 15 September 2018 | 10.00-11.30

**Jeff Colley** EASCA and Editor of Passivhaus Plus magazine

New and old AECB local groups talk about radical action on the ground.

Additional information to follow.

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**Workshop session: Off-site strawbale**  
Saturday 15 September 2018 | 10.00-11.30

**Barbara Jones** Straw Works

Barbara will talk about designing breathable natural homes with excellent comfort and indoor air quality; discuss how to achieve good airtightness without any tapes, and how pre-fab straw panels and more traditional strawbale building methods can achieve passive house standards, with a cute and cosy moveable trailer to experience the true nature of a strawbale building.

Her strawbuild 'playhouse' will be available to view at the conference.





Barbara pioneered strawbale and natural building in the UK in 1994 and has led the growing movement to improve our built environment and promote the use of healthy, non-toxic materials, thermally efficient buildings, and low-impact foundations with simple designs that can easily be achieved by self-builders and contractors.

Her list of firsts includes loadbearing straw Council houses, 2 storey houses, terraces of straw with strawbale party walls, a strawbale Hotel, and the UK's first registered Living Building Challenge building. She works closely with self-builders and architects as a designer and teacher, and has been involved in over 500 builds. Currently she is designing pre-fabricated straw panel houses for housing developers, working with EcoCocon.

In 2014 she founded the School of Natural Building, offering a unique and empowering way of teaching practical skills on building sites, and a specialist range of courses for self-builders and designers. SNaB has an astonishing number of women students for the construction industry, and will soon to be running workshops in a former Community College in Todmorden, that will become a Centre of Natural Building, agro-ecology, and community ventures.

She is the author of *Building with Straw Bales*, the definitive manual for architects and self-builders.

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**Workshop Session: Retrofit is risky: what do we and don't we know about retrofit measures?**

Saturday 15 September 2018 | 11.30-13.00

**Andrew Simmonds**, Simmonds.Mills



Andrew Simmonds is an architectural designer & partner in Simmonds.Mills Architects as well as part-time Chief Executive of AECB – the association for environment conscious building. His architectural & building experience covers historic & contemporary buildings, innovative/traditional materials & the development of built environment energy efficiency solutions. Simmonds.Mills Architects designs sustainable low-energy domestic & non-domestic projects to the AECB Silver, Passivhaus & EnerPHit energy standards. Simmonds.Mills have completed several certified Passivhaus Buildings & Andy's family home in Hereford is an exemplar near-Passivhaus (EnerPHit) 'whole house' low energy refurbishment.

Andrew led the development of the AECB energy standards & initiated the AECB CarbonLite programme – including the AECB/TSB low energy buildings database & the CarbonLite Silver/Passivhaus/Gold detail design guidance. He also led the AECB team supporting the Technology Strategy Board's 'Retrofit for the Future' competition, including developing the low energy buildings database, & worked with AECB colleagues, setting up the Passivhaus Trust to bring to the mainstream the work of AECB CarbonLite. He worked with David Olivier on the AECB commissioned report 'Less is More – Energy Security after Oil'. He is one of the authors and tutors for the AECB online CarbonLite Retrofit training course.

His area of expertise covers: effective low energy building design and construction; best practice in moisture-robust energy efficiency retrofitting of different types of UK buildings – in the context of UK wide need for cost effective and practicable decarbonisation of heat and power.

**Tina Holt**, CarbonLite Retrofit Training Manager



Dr Tina Holt trained as an earth scientist with particular focus on the causes and impacts of climate change. She has worked in education, IT and editing technical information for a broader audience. In 2011-12 she retrofitted her own home close to the EnerPHit standard and now runs the CarbonLite Retrofit (CLR) online course.

Tina will attend via internet connection

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**Workshop Session: Building in Herefordshire: lessons learnt**

Saturday 15 September 2018 | 11.30-13.00

**Mark Barry**, Architype

Additional information to follow.

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**Workshop Session: Double Jeopardy: Bats and modern roofing membranes**

Saturday 15 September 2018 | 11.30-13.00

**Dr Stacey Waring**, Eaves Ecology

A review of research and findings which shows that non-woven roofing membranes pose a serious threat to bats as a result of entanglement. There are also numerous other concerns regarding these membranes in a bat roost, including membrane functionality and microclimatic changes. The presentation looks at possible actions and solutions and includes a look at sample materials.



Dr Stacey Dawn Waring has held a Class II Bat Licence (No. 2015-6768-CLS-CLS) for 6 years and is an Associate Member of CIEEM.

She has 8 years' experience of carrying out research at the University of Reading and has worked with several ecological consultancies conducting bat surveys for over a decade.

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**Workshop Session: Exposure to fire smoke and its impact on people's health and environment**

Saturday 15 September | 14.00

**Dr Anna Stec**, University of Central Lancashire | **Kate de Selincourt**

The toxicity of fire effluents is known to be the biggest cause of death injury from unwanted fires. Compared with natural materials (wood, wool, leather, etc.), widely used synthetic polymers (derived from oil) burn more quickly; they also generate more smoke and toxic effluents. Carbon monoxide and hydrogen cyanide concentrations increase by factors of 10 to 50 with under-ventilation where untenable conditions rapidly develop. Irritant gases (hydrogen chloride/bromide, nitrogen dioxide) and particulates are also released and

can play a major role in fire. Unwanted fires will also produce long-term toxicant such as particulates, carcinogens, respiratory sensitizers. The effects of material and fire condition for a wide range of common materials/products will be reported, providing a generic understanding of the factors underlying fire toxicity.



#### **Speaker biography:**

Anna Stec is Professor in Fire Chemistry and Toxicity at the University of Central Lancashire with a reference book on Fire Toxicity, and over 100 publications. Her work focuses on better understanding of the assessment of toxic and irritant hazards in fires, and the factors affecting fire gas toxicity. She has tested a wide range of combustible materials and identified the relationships between fire toxicity and fire conditions. An additional strand of the work is identification of the long-term toxicants and their effect on human and environment.

#### **What we need to think about post-Grenfell**

**Kate de Selincourt**, Journalist and researcher



Kate de Selincourt is a journalist and researcher specialising in sustainable building and building performance. She is a regular contributor to Passive House Plus magazine, where she has investigated topics such as the performance of natural and mechanical ventilation, the use of communal heating in low energy buildings, and retrofit both good and terrible, and she has also examined some of the background factors contributing to the disaster at Grenfell.

#### **Workshop Session: Some things we were wrong about**

Saturday 15 September 2018 | 14.00

**Nick Grant** Elemental Solutions | **Alan Clarke**

Alan and Nick question some of their beliefs about green building. We like to have ground rules to save us from re-inventing the wheel for every project, but looking back over the years many of those rules end up getting broken. Which ones are next? Is natural ventilation good? Is electric heating bad? Should you put PVs on your roof? Passivhaus is trying too hard?"



#### **Speaker biography:**

Nick Grant is an engineer working mostly on Passivhaus buildings. He is largely self-taught and approaches problems with beginner's mind, or ignorance, depending on your view.



#### **Speaker biography:**

Alan Clarke is an energy consultant and building services engineer specialising in Passivhaus design. After working for many years in this field he is now realising just how much he doesn't know.

## Site visits

### Friday afternoon: Local Retrofit

#### Site Visit A: Deep retrofit - Reform Cottage

Hosted by Gervase and Sonia Mangwana

Recently completed deep retrofit to EnerPhit standard of a small dwelling originally built in 1838, and much extended at the beginning at the end of the 20th century. This entailed excavating for new floors and wrapping the whole building in insulation, plus high-performance windows and MVHR.



#### Retrofit Barn Conversion

Hosted by Dai Rees

Further information to follow

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### Saturday morning: Passivhaus | Para 55 | Handcrafted timber



#### Site visit B: Two house tour

##### House 1: Silver Birches

Hosted by Sarah Browne

Large Passivhaus self-build replacing a 1968 bungalow.

[View website](#)

##### House 2: Garway Passivhaus Ty Pren

Hosted by Dave Atkinson.

#### Site Visit C: Two house tour



##### House 1: Hope View House

Hosted by: Tracey Iwanczuk with Dean Benbow, Warren Benbow Architects

A Para 55 new build and winner of the RIBA West Midlands Award 2018, RIBA Sustainability Award 2018.

[Further information](#)



### **House 2: Fishleys Passivhaus**

Hosted by: Mike and Liz Hill with Architype architects

Contemporary Passivhaus

[Read the owner's blog](#)

[Interview with the owners](#)

### **Site visit D: Handcrafted Timber house**

Hosted by Ed Waghorn

More than ten years in the making, this handcrafted five-bedroom house is billed as the 'longest running Grand Designs' ever. Made from individually carved wooden beams and walls of straw and clay.

[Watch Grand Designs Episode 1](#) | [Watch Grand Designs Episode 2](#)

### **Saturday afternoon: Hereford Archives Passivhaus**



### **Site visit E: Herefordshire Archive and Records Centre, Hereford**

UK's first archival storage building to be built to Passivhaus standard as well the first archival facility in the UK to be constructed to the new PD5454:2012 standard; Guidance on the storage and exhibition of archival materials.

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