

Clean Slate

No 117 Autumn 2020 £2.50

**Sustainable
transport**

Safer streets

**Local authority
climate action**

Centre for
Alternative
Technology



Canolfan y
Dechnoleg
Amgen

ecoleaf
**Zero waste
cleaning station**
reduce, reuse, refill

Refill your
bottles at
your local
Ecoleaf
stockist

**100%
RECYCLED
PLASTIC**

All plastic is Post Consumer
Recycled plastic, closed
loop recycling.

**NOW
WRAPPED
IN PAPER**

All toilet and kitchen
rolls now packed in fully
recycled and recyclable
paper.

**NATURAL HOME
CLEANING**

Discover the range at sumawholesale.com
or call 01422 313848 for your nearest stockist



8



12



21



32



CONTENTS

4. Thank you to all our community

Meet some of the amazing people of the CAT community who are making change happen – thanks to your support.

12. Designing the future

CAT's architects-in-training learn how to reimagine the world in a way that puts the wellbeing of people and planet at the core of their work.

John Carter and Gwyn Stacey share a selection of student projects.

16. Kick-starting local climate action

Local authorities and communities can be a powerful force for change.

Paul Allen looks at how a climate emergency declaration can be transformed into an action plan that supports the transition to net zero.

21. Safer streets

In north east London, one local authority is on a mission to make its public spaces safer, healthier and more enjoyable for all. Jane Sherry outlines their successes to date and explains how barriers can be overcome.

25. A just transition

As we move towards a Zero Carbon Britain, how can we ensure that livelihoods are protected and communities thrive? Tanya Hawkes explores lessons from history.

28. Sustainable transport: rural, urban and everywhere in between

Adrian Watson and Suzanne Ippa explore how policy shifts and investment in alternatives can drive a long-term change in how we travel.

32. The Green Homes Grant

A new UK Government initiative could allow householders in England to make their homes more energy efficient. Joel Rawson looks at the advantages and limitations of the scheme and outlines how those who are eligible can make the most of it.

36. Remember and be remembered at CAT

Find out how you can support CAT's work by leaving a gift in your will or arranging an in memoriam donation.

Regulars

3. Editorial

With CAT Chief Executive Officer, Peter Tyldesley.

6. CAT news

All the latest news from the Centre.

35. Cryptic crossword

Stretch your brain with Broominicks.

Cover image: Chengwei Tu/Shutterstock

Editor Catriona Toms.

Design Graham Preston (grahamjpreston@hotmail.com).

The opinions expressed are those of individual originators, not necessarily those of CAT.

If you wish to use material from *Clean Slate* for furthering the aims of the environmental movement, please contact the editor.

The printing of an advert in *Clean Slate* does not mean that the product or service has been endorsed by the magazine or by CAT.

Published by CAT Publications, CAT Charity Ltd., Centre for Alternative Technology, Machynlleth, Powys SY20 9AZ. Registered charity no. 265239

GREEN BRITAIN NEEDS YOU!



If you want a green outcome from your energy bill, building new sources of green energy is the only level of activity that makes a difference.
Join Ecotricity to invest your bill money in to building new sources of renewable energy.

ecotricity

Switch to Ecotricity and we'll send you a £50 John Lewis voucher*
Call free on 0808 123 0123 (quote OFFER) or visit ecotricity.co.uk/offer



EDITORIAL

Peter Tyldesley

As I write, the CAT site is once again a hive of activity, with students getting hands-on practice in sustainable solutions, visitors being inspired by new ways of seeing the world, and short course participants learning from our expert tutors.

It's such a joy to see the Centre coming back to life after the longest period of closure in our near-50-year history.

Opening up the Centre again has been no mean feat – as you'll discover in our news pages. I'd like to offer my heartfelt thanks to all of the CAT team and local volunteers who have worked tirelessly to revive the site and gardens after lockdown and to set up new systems and signage to support the safety of staff, students and visitors.

Thanks also, as always, to you – our amazing extended CAT family – for all of your ongoing support. Your generous donations have helped soften some of the financial impacts of the site closure, and have allowed us to continue sharing solutions online all through lockdown.

Our online courses and webinars have been hugely popular, reaching a large and varied audience, with people joining us from nearly every continent. Being able to engage a much wider range of people with climate solutions has been one positive note amidst the sadness and challenges of recent months.

We are, of course, very aware that we may have to close the site again for the safety and wellbeing of staff, students, visitors and the wider population, should the COVID situation continue to worsen. As I write this, in mid-September, things are changing frighteningly fast, with the possibility of more lockdowns in the near future. Should that happen, we're ready to switch back to digital-only delivery if needed.

These are challenging times for all of us. It is no exaggeration to say that we could not get through it without you – thank you.

Peter Tyldesley
Chief Executive Officer



Keep in touch Write to us: Centre for Alternative Technology, Machynlleth, SY20 9AZ



Visit our website:
www.cat.org.uk



Follow us on twitter:
[@centre_alt_tech](https://twitter.com/centre_alt_tech)



email us:
members@cat.org.uk



Be our facebook friend:
Centre for Alternative Technology



Read the CAT blog:
www.cat.org.uk/news



Give us a call!
01654 705988



Clean Slate is a member of INK, the Independent News Collective, trade association of the UK alternative press. www.ink.uk.com

Thank you to all our community

This has been an uncertain and scary year for so many people, and we are all still grappling with the implications of COVID-19. Despite the complexity and unpredictability, our work on climate change has intensified. We address climate change with realism, honesty and hope.

At CAT we imagine, create and build better and fairer ways of living and working that fit within our planetary boundaries. We are used to finding positive and practical solutions for challenging times. This complex work involves all of us. As a CAT supporter, you are our lifeblood and this year, more than any other year, we have felt the presence and support of being part of a connected community.

Thank you for learning, growing and building with us.

We are so grateful and we want to take this opportunity to thank you and show you some of the remarkable people making this happen, past and present.

The CAT community making a difference in the world

Bryce Gilroy-Scott

Bryce started as a CAT MSc student in 2004 and began lecturing in our Graduate School in 2005, helping Masters students develop their research into sustainability, primarily via distance learning.



He is based in Canada and his deep and thoughtful work with First Nations people means CAT students get the opportunity to learn from and work alongside The Bear Clan, developing a real-time resiliency village with this indigenous population of people who are re-occupying land stolen during colonisation, with a showcase community to be an example for Peoples of all Nations.

We are extremely privileged to have this opportunity to share and create new knowledge across international boundaries and build such valuable relationships and skills.

Agamemnon Otero MBE

Agamemnon is CEO of Repowering, Energy Garden, Hydra and Director of Brixton Energy. He co-founded industry advocacy body Community Energy England and sat on the Business, Energy and Industrial Strategy Office's Community Energy Contact Group.



Agamemnon has an MSc Architecture: Advanced Environmental and Energy Studies from CAT/UEL and previously worked as the director for Renewable Energy Project Finance and Social Responsibility at a financial institution.

In 2014 he was made a London Leader; in 2016 he was awarded an MBE for services to community energy; and in 2017 was named one of the 51 Most Impactful Green Leaders globally by the CSR Congress.

Katie Hastings

Katie is building local food systems, communities and economies.



Like many, Katie once felt overwhelmed by the issues of food insecurity, land degradation and disappearing wildlife. But after a six-month volunteer placement at CAT, she began launching local projects in Machynlleth to combine economic, social and community work with food growing.

The whole town now benefits – with free-to-pick food growing in every available corner, regular workshops and events, local grain varieties saved from extinction and a thriving network of market

gardeners delivering directly to households and businesses.

CAT is now supporting Katie's work with the ambitious Pathways to Farming programme, to train a new generation of growers in sustainable food production.

Emma Eberhardt

A kind donation helped fund Emma's student placement at CAT, working in our Engagement



Department and collating work for the Zero Carbon Britain team. She has just finished her year at CAT and is off to Bangor University to study Agroforestry and Food Security.

Emma says: "I'm incredibly grateful to have had the opportunity to work in an environmental charity like CAT. The experience I've gained from working in environmental education while gaining administrative skills will, I hope, be a gateway into a future career. I'm now looking to gain more knowledge in land regeneration by doing a part time MSc, which I hope to combine with environmental education."

Sonya Bedford MBE

"The MSc at CAT was one of the most challenging and rewarding endeavours



I have undertaken. My work in the energy industry as a lawyer now has a new dimension because of the learning from CAT. I can now truly understand renewable technologies and apply my learning to make my work much more valuable in all senses.



“Through CAT I have also developed my work in helping to deliver zero carbon projects. CAT graduates are the most successful I have met in the sustainable/energy world, I think it’s the combination of technical knowledge and the CAT magic!”

Sonya’s MSc in renewable energy has been part of her journey to becoming the Head of Energy at Stephens Scown LLP, where she advises industry on legal requirements for large scale renewable energy developments, including grid, infrastructure, policy, licensing and supply issues.

Sonya sits on the board of five community energy groups and is one of the founders of the innovative and ambitious Zero Carbon Wedmore group.

We are very pleased to announce that Sonya is joining CAT as a Trustee this year.

Colin Hastings

Colin Hastings, a CAT supporter, and organisation psychologist by background, has written and self-published *The Carbon Buddy Manual*.



The manual is a practical and approachable self-help workbook for individuals and families struggling to reduce their personal pollution. It provides a step-by-step process for measuring a household’s carbon footprint, prioritising responses, and making realistic implementation plans, whilst also addressing head-on how to overcome the many barriers (practical, financial and psychological) that hold individuals back from effective climate action.

With the bigger picture in mind, the manual also shows individuals how to become ‘propagators’, actively encouraging friends and colleagues to get started too.

Colin ran a workshop at the CAT conference in September 2019 when he was writing the manual, and CAT Information Officer Joel Rawson also

helped out with some key content. The manual is available exclusively from The Carbon Buddy Project website www.carbonbuddyproject.org

Tom Robinson

Tom worked with another CAT graduate to launch Adaptavate, an award winning company that’s rethinking



the way that building products are produced, used and disposed of to make them more sustainable.

Having been a builder prior to coming to CAT to study, Tom could see that linking his practical skills with new research techniques could help reduce the landfill waste created in the construction industry.

Steve Cole

Having graduated from CAT’s Sustainability and Adaptation course in 2019, Steve now runs Addasu, where he combines his academic research with extensive experience in new-build and renovation projects in the UK and Ghana to offer informed, practical and appropriate training, advice and construction services.



Paula Huerta Andrés

Paula graduated with an MSc from CAT in 2011, and is now an international green building consultant and circular economy lecturer with an architectural studio, ‘Studio Bambook’, in Indonesia.

Paula says: “My whole career, my whole life and my mind is totally



different [thanks to] my time at CAT. Professionally, it’s pushed me to a level that I would never have achieved with only design architecture.”

Jaise Kuriakose

Jaise was CAT’s electrical engineer from 2006 to 2012, during which time he developed his expertise in microgrid systems and contributed to our research and education work.

After leaving CAT to complete a PhD in smart grid systems, Jaise went on to become a lecturer at the Tyndall Centre for Climate Change Research in Manchester, where his research includes translating global climate change targets to local and national energy and climate policy, as well as climate impacts on energy infrastructure and smart grid solutions.

In 2020, Jaise was selected as one of the 100 BAME climate experts in the UK by Climate Reframe. He advises policymakers and gives public talks on climate change, and regularly returns to CAT to give guest lectures to our Masters students.



This is just a small selection of the thousands of members of the CAT community who are out there making the world a better place, taking the practical steps to creating and building a new, sustainable future. This, of course, includes all of our members and supporters who are helping to make this work happen.

We love hearing about the work you are doing, the groups you are forming, how CAT’s practical work is helping and guiding you – and what more we can do to help!

Please do get in touch to tell us what you are doing – we’d love to hear from you.

Contact Penny at members@cat.org.uk with your CAT story, or write to us at CAT, Machynlleth, SY20 9AZ.

Welcoming everyone back to CAT

John Challen, Head of Eco Centre

On 19 August visitors arrived at CAT for the first time since the start of the lockdown at the end of March. It was a wonderful feeling to welcome them on to the site after weeks of planning and hard work by CAT staff.

In order to get to that point, our challenge had been twofold. Firstly to reclaim the site after months of only essential maintenance and make it presentable; secondly to put in place the systems required to make it a safe place to work and visit, taking into account the COVID-19 social distancing and enhanced hygiene guidance. In doing so, we knew we would also be laying some of the groundwork that would allow us to welcome students back to site in September.

Essential maintenance

Basic site checks during the site closure were covered by Neilson Stirling and Guy Morrell from our Estates Team, working to a rota. In June, our gardener Petra

Weinmann returned, and at the beginning of August the rest of the Estates Team came back and set to work helping bring the site back to life.

One crucial task was a thorough flushing through of our off-grid water system, as well as carrying out substantial repairs to paths and driveways that had been damaged by heavy rainfall.

The greatest visual impact of closure on the site, however, was the lush vegetation that greeted staff as they returned. You can read Petra's account of the challenges this presented in the box overleaf.

We're good to go

Opening up to visitors again has meant risk assessing all aspects of the visitor experience and putting in place the safe systems required to minimise the risk of COVID transmission. This has allowed us to achieve 'We're good to go' status, a national tourism sector scheme that allows us to demonstrate that CAT is adhering to government and public health guidance,

that we have carried out COVID-19 risk assessments, and that the required processes are in place.

A great help in this have been the various networks CAT is part of, including the Mid Wales Tourism Association, the Association of Science and Discovery Centres and the Eco Attractions Group which together have provided a useful pool of shared experience.

Pre-booked visits

The result of this planning has been that all visitors now pre-book their arrival slot and pre-pay through the CAT website. This ensures that there is no queuing as they arrive and that they receive a warm, unhurried welcome and a safety briefing from our receptionists before walking up to the site. The decision was made not to operate the water balance railway this year given the lateness in the season and the restricted passenger numbers it would be able to carry.



Displays Gardener Petra has been taming the overgrown beds and polytunnels.



On arrival on site, visitors then largely have free access but with one way systems and new signage in place as needed. This is most visible in the café, which offers a range of simple picnic foods and hot drinks alongside a simplified shop offer.

As this issue goes to press, we have just run our first short courses and are beginning to welcome new students onto site, having planned safe systems of work and study to allow people to socially distance whilst learning about environmental solutions. You can read more about Graduate School plans from Head of School, Adrian Watson, overleaf.

During student weeks anyone wishing to come to our amazing site for a day visit can do so as part of a booked guided tour. This allows us to limit the amount of interaction between students and visitors whilst providing a unique opportunity to find out more about the transformational history of the site, explore climate solutions with one of our expert guides, and get a glimpse behind the scenes at some hidden secrets. The good news is that CAT members can book for free! Members can take advantage of this offer by emailing visit@cat.org.uk to obtain the members' booking

form. Initially, tours will be running through to the end of November.

Challenging times

There is no doubt that reopening the site has been a huge challenge. As an indoor/outdoor visitor attraction with a café and shop, an accommodation and venue hire provider, and a provider of residential postgraduate degrees and short courses, there is a range of different industry guidelines and best practice advice to follow, and we are always mindful of the possibility of having to close again should the COVID situation worsen or Welsh Government guidelines change.

However, with the urgency of sharing solutions to the climate and biodiversity emergency always foremost in our minds, we are pleased to be back at the Centre and able to once again offer in-person inspiration, advice and practical hands-on learning in positive solutions. 🌱

Editors' note: This issue of Clean Slate goes to print in mid-September. As things are changing quickly, please see our website for the latest updates on what's happening at CAT - www.cat.org.uk

Thank you

Everyone at CAT would like to say a massive and heartfelt THANK YOU to all of our members and supporters. Your support has helped us to develop online resources so that we could keep sharing zero carbon solutions with thousands of people across the UK and beyond while our site was closed. It has also helped to cover gaps in our income from cancelled courses, events and visits.

We've been incredibly touched by the support that we have received.

Thank you.

Our #CATatHome resources and online courses and events have been so popular that we plan to continue developing these – you can read about upcoming online events on page 11 and you can access all of our resources and events, including recordings of past webinars at www.cat.org.uk/catathome



Reclaiming the Big Polytunnel.

Reclaiming the gardens

Petra Weinmann, CAT Displays Gardener

Lockdown had a rewilding effect on the CAT site, as it did in many other places. Buzzards, bees, jays and swallows had the site to themselves, and thrived.

Unfortunately a small herd of marauding sheep also made themselves at home (with no irate gardeners to chase them off!). They kept the lawns reasonably tidy, but also did a lot of damage to the perennial plantings. There were no tall, swaying displays of helianthus, Japanese anemones or crocosmia this summer.

Nothing this year was the same – how do you plan a season and nurture plants (a measured and interactive discipline) in an ever-changing, unknowable situation? My fellow gardener Roger McLennan and I have done our best to adapt to the new circumstances. In March, when lockdown started, we had not yet sown most of our annual flowers and vegetables for the display. In June I returned to dry and empty pots, raised beds and polytunnels, while the paths were choked with weeds. Luckily there was still time for a late sowing of many vegetables and so the Big Polytunnel and Whole Home Garden could be reclaimed.

Our local area Land Army, developed to maximise local food production, worked heroically in Roger's Allotment area on the Saturday before the site re-opened. Three of the four raised beds still had the sheet mulch from last winter covering the soil, and weeds were going to seed everywhere. After much weeding, hoeing and raking we have now sown green manures, winter salads, and planted out the last of the chard and beetroot. Roger also plans an autumn sowing of broad beans and of course his garlic in October.

Unfortunately, exciting projects such as our planned new compost display and teaching area have had to be put on hold for a while as we deal with the fallout of the pandemic. In the long run however, I think the most enduring legacy of this time of neglect in the garden will be the 'seven years' seed' the weeds have left behind for us – which is not such a terrible thing for the biodiversity of the site.

Supporting in-person learning

Dr Adrian Watson, Head of School

Since March, our students have been learning entirely online, which they have responded to very positively. The fact that we already offered most MSc modules via distance learning helped make the transition easier, although several new modules being run for the first time presented more of a challenge.

As we return to site, we will continue to have a mix of students being taught at CAT and at a distance, with those on site being asked to stay and eat together in the Centre in order to be considerate and reduce contact with the wider local population.

MSc students will be taught on-site for a shorter period of time than usual, allowing us to run multiple study visits with smaller education bubbles based around their degree disciplines. This will allow more students to access in-person learning whilst minimising numbers together at any one time.

When students are at CAT the focus will be on practical sessions; these will be supplemented by those activities such as lectures that can be readily delivered remotely.

The experience we've gained working remotely over the past few months has allowed us to create an even better online learning experience than before.

As our Masters in Architecture students form a smaller cohort than our MSc students, we haven't needed to shorten their study visits to accommodate them all on-site.

As we continue through the academic year, we will monitor and assess our plans. Should the external COVID environment deteriorate, we will be able to return to our successful distance learning model for all students, but we hope to continue with systems that allow for students to have some, albeit more focused, on-site practical experience.



Dr Frances Hill gives new students an introductory practical session.



Ian Solomon-Kawall (front right) presented a webinar on the inspiring May Project Gardens in south London.

Tried and tested solutions for a green recovery: new webinar series

CAT has partnered with Ashden climate charity to offer a series of Zero Carbon Britain themed interactive webinars aimed at helping communities and local authorities address the climate emergency.

Featuring speakers with practical experience of implementing projects that have proven potential for widespread roll-out, the series offers inspiration and advice to help take us closer to net zero and increase our resilience as a society whilst supporting the post-COVID economic recovery.

So far, the monthly webinars have covered sustainable transport and natural climate solutions, including inspiring examples of solar PV generation feeding directly into the rail network, Waltham Forest's active travel initiatives (which you can read about on pages 21-22), peat restoration projects, and the May Project Gardens community growing scheme in south London.

Planned topics include retrofitting buildings, energy generation and sustainable food systems. Keep an eye on our website for more information and to book your place. www.cat.org.uk/webinars

CAT to advise Northern Ireland Energy Strategy Board

Paul Allen from CAT's Zero Carbon Britain team has been appointed to the Advisory Panel for Northern Ireland's Energy Strategy Board. This panel is made up of a group of independent external experts, whose role is to support the Board and inform the development of the Energy Strategy for Northern Ireland.

Chaired by the Permanent Secretary at the Department for the Economy, the Board includes some of Northern Ireland's most senior decision-makers.

Building on the experience of developing and communicating CAT's Zero Carbon Britain work since 2007, Paul will provide independent advice on the future strategic direction of energy matters for Northern Ireland in order to help address the climate crisis. The role will include critically reviewing and advising on emerging analysis and policy options, providing critical input on the evidence base for pathways towards net-zero carbon, and flagging up opportunities to address evidence gaps.

Paul has previously represented CAT as a member of a number of advisory boards, including the Wales Science Advisory Council (2010-14), the Climate Change Commission for Wales (2007-2015), and the board of the International Forum for Sustainable Energy (2008-2013).

Revamp for food and natural resources course



CAT's Sustainable Food and Natural Resources postgraduate course was recently revalidated for a further five years by our partner Liverpool John Moores University.

Offered as an MSc, Postgraduate Diploma and Postgraduate Certificate, through on-site, distance and blended learning options, the course enables students to develop their knowledge and understanding of the impacts of environmental change on global and local food systems and the natural world, working together to explore solutions.

As part of the revalidation process we have been able to amend which modules are available to incoming students this year, giving them the opportunity to study a broader variety of topics, including modules covering theoretical approaches to transformational social change and restoration ecology.

To find out more about our Sustainable Food and Natural Resources course or CAT's other postgraduate courses get in touch with Alis Rees 01654 705953, gsmo@cat.org.uk or visit www.cat.org.uk/gse

Zero Carbon Britain: Live Online

We've added more dates to the popular online version of our Zero Carbon Britain course, a two-day event exploring all aspects of climate solutions.

Live lectures cover a range of topics from renewable energy and energy efficiency to diets and land-use, looking at how these can work together to help us build a zero carbon future. Online workshops offer the chance for discussion and debate on how we can catalyse action across all areas of society.

The next courses take place on 14-15 October and 11-12 November, with more dates to be announced. Visit our website for more information and to book your place: www.cat.org.uk/zcb

A kind gift from an inspiring environmentalist

A huge thank you to CAT supporter Chris Mylne (1927-2018), a lifelong environmentalist who kindly left us a gift in his will.

Chris was a wildlife photographer and film-maker specialising in Scottish islands and birds. From as far back as the 1970s, he used his platform as a lecturer to get across a message about the threats to the natural world from pollution, intensive agriculture and habitat destruction, and the interdependence of wildlife and people. He tried to reflect these principles in his own life, from leading a local recycling effort collecting aluminium cans to raise money for Oxfam, growing as much as possible of his own food, and fitting solar panels on his house long before this was mainstream.

He visited CAT and was inspired by what he saw, and supported the organisation for many years, including with a final donation in his will.

Applications open to join CAT's Board of Trustees (fundraising and development expertise)

CAT's Board is keen to hear from people with well-established fundraising expertise who would like to play an active part in strategic oversight of the work of the charity.

We are entering an exciting and energetic period in CAT's development at a time when addressing the challenge of the climate and biodiversity emergency

has never been more important, and long-term sustainable funding is crucial to helping us deliver on our mission.

Our Board of Trustees is keen to provide a greater level of support in this area, and is therefore seeking expressions of interest in becoming a CAT Trustee from those with strong fundraising capability and skills (including capital grants, philanthropic giving, and other grant and revenue raising initiatives) alongside the broad complement of usual trustee skills, including commitment to the vision and mission of the organisation.

You can find out more on our website at www.cat.org.uk/vacancies.

Graduate School bursaries awarded to new students

This year's Sir John Houghton Bursary and the Ethel and Gwynne Morgan Trust Bursary, which is new for 2020, have been awarded to three new students joining CAT's Graduate School.

The Sir John Houghton Bursary was created in 2016 following a generous donation from the eminent climate scientist, who sadly passed away earlier this year. This year's bursary was awarded jointly to Sara Botero, who is beginning our Sustainable Food and Natural Resources course, and Zuzana Sojková, who will be studying for a Green Building MSc.

Joe Harvey, currently a woodworker for Glasgow Wood Recycling, is the first ever recipient of the Ethel and Gwynne Morgan Trust Bursary.

Congratulations to the recipients, and huge thanks to the Ethel and Gwynne Morgan Trust and to the late Sir John Houghton for making these bursaries possible.

Record number of students join CAT courses

A record number of students began studying climate solutions at CAT this September.

Over 250 new students joined us across our nine postgraduate degrees, studying at all levels from a Postgraduate Certificate up to a full Masters, with students having the option of studying part-time or full-time, and either entirely via distance or through a blend of distance and on-site learning.

The surge of awareness in climate

solutions over the past few years has seen interest in our courses growing year-on-year, whilst the development of our new Virtual Open Days and online events has made it easier for students from a variety of backgrounds and locations to find out more about our courses.

From students straight out of their undergraduate degrees to those already working in industry, government or third sector, based in the UK or studying with us from countries around the globe, we look forward to the inspiring mix of viewpoints and knowledge our students will bring to our courses.

A big welcome once again to our new students, and if you'd like to find out more about studying at CAT then get in touch. Visit www.cat.org.uk/gse or call Alis on 01654 705953.

CAT at Home brings experts to your living room

CAT's free evening webinars, which were developed during lockdown as part of our #CATatHome series, continue to inspire, inform and enable people from around the world in climate solutions.

Covering various sustainability-related topics, they have proved incredibly popular, with over 700 attendees to date, plus thousands more joining us via facebook live or watching the recordings.

CAT Graduate School lecturers have explored sustainable water, energy and food systems, whilst our Zero Carbon Britain team has run sessions on net-zero scenarios, climate change education and co-creative approaches to climate solutions. We have also hosted external speakers focusing on transport, community energy, ecology and more.

Interactive polls, a lively chat box and Q&A sessions allow for debate, interaction and networking between participants and speakers, creating a rich online experience.

Over 90% of attendees said the webinars had inspired them to take action, from lobbying local councils and joining community groups to embarking on further education and career changes.

If you've missed out on any of our webinars, many are available to watch again on the CAT website at www.cat.org.uk/sustainability-webinars, where you'll also find details of upcoming online events.



Explore climate solutions from your home or garden



- Online courses
- Free webinars
- Family activities
- Information and advice

www.cat.org.uk/catathome

#CATatHome

JOIN THE CHANGE



Designing the future

CAT's architects-in-training learn how to reimagine the world in a way that puts the wellbeing of people and planet at the core of their work. **John Carter** and **Gwyn Stacey** share a selection of student projects that illustrate how architecture can support a healthier, happier future for all.

CAT's Masters in Architecture course strapline is 'doing architecture differently', but in what ways does it do architecture differently? Well, at the core of its teaching is the principle that architecture must be sustainable – in its construction (and de-construction), in its use, and in its reasons for being. Think net zero carbon architecture that has been designed to be healthy and uplifting, and which addresses climate change and biodiversity loss. This stands in stark contrast to the predominant carbon-

emitting architecture of the modern era.

These essential qualities are the foundation stones of the Final Design Projects that our current students have just completed – the culmination of their MArch in Sustainable Architecture at CAT.

Each student selects their own project and then develops it, via a detailed design proposal and a technical report, over the final year of the two-year course. This is a challenging piece of work, especially given that during the final four months tuition has been via distance learning. As usual our students have risen to this challenge.

In all of these projects you will, we hope, see CAT's mission writ large. We are left wondering why many other Architecture courses are not engaging in similar explorations. After all, if architecture is to be relevant it has to be sustainable, both functionally and materially. ▶

Aidan Hogan – Reimagining the Derby Hippodrome as a community performing arts centre

As a resident of Derby, Aidan walks past the semi-derelict Hippodrome regularly. He says that "the last thing that Derby needs is another city centre multistorey car park" (the current developer-led proposal), so he set about reimagining the Hippodrome and surrounding buildings as a community-led regeneration project. The result is a creative re-use of the carbon embodied in the fabric of the building, the preservation of an important part of the cultural history of Derby, and the provision of community facilities for many of the performing arts, including music, dance, theatre and film, plus a local library. How apposite such a project is in these challenging COVID-19 times.



Flora Macrae – Y Môr Glas Blasus

In her Final Design Project, Flora has chosen to reimagine Porthgain on the west coast of Wales, as a sustainable community based on food from the sea. She takes several redundant buildings and structures and re-uses them to create seafood processing facilities, sustainable accommodation for tourists and a food and brewing hub. Her starting point for all of this is to ask the question "What is available locally?" In so doing, Flora aims to transform a village dominated by second homes into a thriving, self-sustaining community that is lived in all year round and respects and nurtures the sea and the life therein.





Roz Wells – The Wind-farmers’ Guild, Great Yarmouth, Norfolk

Roz was drawn to Great Yarmouth through her grandmother, who lives there. She quickly discovered how Great Yarmouth has become a base (or some would say staging post) for those who maintain the wind turbines out in the North Sea. Roz set out in her Final Design Project to bring townsfolk and wind-farmers and their families together. Holiday-style accommodation, to allow families to spend time with their loved ones during onshore periods, is combined with: wind turbine technology training and educational facilities; accommodation for the elderly of Great Yarmouth; a University of the Third Age; and a nursery and library/museum. The latter is housed in a restored ice-house, the thatched roof of which is taken as the inspiration for an exploration of the potential of Norfolk reed in contemporary building.



Sophie Woodhatch – The Phoenix Makers of Lewes

In this project Sophie explores the importance of making and the celebration of crafts. Her starting point is the re-use of several old industrial buildings, one of which originally housed an iron works and all of which currently provide low-cost facilities for local makers. In stark contrast to the current developer-led proposal – a new-build residential and commercial development of the site (yet more expensive houses, plus shops and coffee houses) – Sophie’s proposal is for a sensitive re-use of the existing buildings, with several new additions, to create better, more sustainable workspaces for existing and new makers.





Isis Reid – Elephant and Castle multi-cultural centre

What to do with a 1960s concrete behemoth? A developer's current proposal involves a densification of the site to create offices and luxury residential accommodation, thereby forcing local traders and local residents further out from their Elephant and Castle home base. In contrast, Isis' project looks at how it could be reinvented as a multi-cultural centre, a much-loved market and affordable housing for local people. Isis has recognised the energy locked up in the existing concrete structure and has endeavoured to re-use and reinvent it as much as possible, thereby saving embodied energy and fostering retention of the local community.

Will Webb – Newport crematorium and arboretum

Taking a near-to-city-centre site that is currently redundant following the demolition of a Sainsbury supermarket (to build a bigger one on the outskirts of the city), in this project Newport-born Will is exploring how we might bring the celebration of death in general, and crematoria in particular, in from the fringes of our conurbations. He demonstrates how celebrants might use public transport into the city centre and then enjoy a riverside walk of memory and contemplation before and after services. In so doing, Will explores how we might be more involved in death as an aid to grieving. All this, whilst working with sustainable materials and technology, in the spirit of the MArch at CAT.



About the authors

John Carter has been Programme Leader of CAT's MArch Sustainable Architecture degree since 2015. He combines his teaching at CAT with practice in Cardiff. When not at CAT he lives in and works from rural west Somerset, in a house that he designed to the low-energy Passivhaus standard.

Gwyn Stacey is the newly appointed Senior Lecturer of CAT's MArch Sustainable Architecture course, taking up the brilliant work of Trish Andrews in developing the Architecture course at CAT. Gwyn is a former student of CAT's Professional Diploma in Architecture and now, alongside his role at CAT, is developing his practice work with a community focus in rural Wales.

You can find out more about CAT's Masters in Sustainable Architecture by visiting our website at www.cat.org.uk/gse



Centre for Alternative Technology
Canolfan y Dechnoleg Amgŷn

BUY SOMEONE THE GIFT OF SUSTAINABILITY

CAT membership is the perfect gift for anyone who cares about climate change and other environmental issues and wants to know what they can do to help.

“It’s always inspiring to hear people from CAT talking. You’ve inspired us for decades.”

Eluned Morgan AM

Buy someone a membership gift pack today and they’ll become part of CAT’s thriving and growing community of changemakers, plus:

- A gift welcome pack, explaining how to make the most of CAT membership
- Clean Slate magazine, packed full of news, views and practical tips – four times a year
- Unlimited free entry to our award-winning Visitor Centre – all year round
- A gift to unwrap on the special day
- And the knowledge that your gift helps support positive solutions to the challenge of climate change



MEMBERSHIP OPTIONS

Individual £30

Joint £36

Family £40

Why become a member of CAT?

Our members tell us that grappling with the urgency of and scale of environmental issues, like climate change, can feel overwhelming and huge. Being part of CAT and a wider community of people who are working on positive solutions to environmental problems can help.

Becoming a member of CAT is a perfect way to help CAT continue its extensive educational work and ensure that we can plan the future with confidence.

Contact Penny Rowland at CAT for more information 01654 705988.

Kick-starting local climate action

Local authorities and communities can be a powerful force for change. **Paul Allen** looks at how a climate emergency declaration can be transformed into an action plan that supports the transition to net zero.



As well as having to deal with the current pandemic, many local governments clearly recognise they are also at the front line of dealing with climate emergency impacts such as flooding, fires, and storm damage. The majority of UK councils have made climate emergency declarations, and many are now working on climate emergency action plans.

This process is happening on many different scales – in cities such as Edinburgh and Bristol, in large devolved areas such as Manchester and London Metro regions, in rural market towns such as CAT's home town of Machynlleth, and in villages like Wedmore.

But how do local groups and councils kick-start such projects?

Areas of influence

In our most recent report, *Zero Carbon Britain: Rising to the Climate Emergency*, we explore how councils can make change happen simultaneously in a number of key directions (see diagram overleaf).

Councils will not be able to reverse global climate breakdown on their own, but by working in these directions they can focus their actions, either on delivering change within their own jurisdiction or putting pressure on national governments to act.

For example, by working 'sideways' councils can seek out and build links with relevant actions already underway in other areas. Are other similar town or parish councils further ahead with their action planning process? Are there already existing plans from councils above or below their level?

For every aspect, there are real life case studies that show what can be achieved. Researching and sharing relevant case studies can not only demonstrate locally that change is achievable, and help scale up actions, but also helps avoid mistakes and highlights co-benefits of climate action, such as jobs, cost savings, health benefits and community cohesion.

Another example is that by thinking 'downwards' councils can make effective action plans and review existing policies. This means being clear on what any village council, town council or local authority has direct control over, and where the complex and diffuse boundaries of responsibility lie. What changes can it make to the transport systems it runs, to its food purchasing contracts for schools, to the land it controls, to the education system it manages, or to its libraries, arts and cultural venues?

A council can also make its priorities clear when subcontracted tenders are

coming up for renewal, for example increasing local benefits and resilience by encouraging bids from social enterprises and local supply chains, as Preston Council has done.

Also thinking downwards, councils need to support the bodies they have responsibility over – for a district council, this could include the development of 'climate emergency action packs' to support the parish councils within its boundaries.

Team local

It is also worth councils investing time in identifying and engaging the most relevant local collaborators, such as health boards, universities, industry bodies, experts, non-governmental organisations, funders, schools, young farmers, think tanks and of course citizen expertise.

The framing of any process to develop an action plan should reflect what is unique or is already happening in your area. It should respect local needs, traditions and culture, linking to important local opportunities such as agriculture, health or local businesses. This helps by linking the action planning to the key issues that are relevant to your locality.

Developing plans will involve a great deal of detailed work, so it may be worth seeking initial kick-start funding for your 'project team'. But even if there is little initial funding, the current wave of citizen commitment can unleash a great deal of expert volunteer time for your various groups.

Councils taking the lead

A few current examples of emerging climate emergency action plans are outlined below. Some of these are still in the early stages whilst others are more developed, with staff and budgets allocated. They all help illustrate the types of actions that councils can take as they begin to work towards net zero emissions.

South Lakeland District Council

In June 2020, informed by public climate conversations, South Lakeland Council agreed a plan to help them reach their target of becoming carbon neutral by 2030, and supporting a county-wide target of 2037.

Measures in their Climate Change Action Plan include:

- Building-by-building reports on external and internal measures, with recommendations;
- Assessing the potential for reducing emissions and improving biodiversity on

the land and assets they own;

- Assessing and implementing measures to significantly reduce the council's travel emissions, including investigating the potential for electric vehicle and bike use for council employees;
- Reviewing procurement to optimise carbon-efficient operations in council contractors;
- Delivering climate change training for all council officers;
- Installing EV charge points and exploring the potential for discounted parking rates for low emission vehicles;
- Facilitating cycle hire provision, including electric bikes;
- Supporting businesses to become low carbon organisations, for example by helping with green audits, hosting workshops and collaborating with companies on community energy groups;
- Helping residents to have more energy-efficient homes, including promoting relevant schemes and offering grants.

Cheshire East Council

Cheshire East's cabinet have agreed the council's first Carbon Neutrality Action Plan, which focuses on the initial actions that they will take to deliver their target of the council being carbon neutral by 2025, as well as encouraging and supporting all businesses, residents and organisations within the borough to reduce emissions. Examples for measures included in their action plan include:

- Reducing business travel;
- Increasing staff engagement and awareness of carbon neutrality;
- Measures to ensure that the carbon neutral ambition has been considered in every major investment and policy decision;
- Reducing energy and fuel use in council operations, such as switching to low-emission vehicles and reducing energy demand from new and existing buildings;
- Plans to improve the supply of green energy by using renewable sources such as solar panels and working to promote renewables with others;
- Opportunities to capture carbon, through tree planting and restoring degraded peatlands.

Carmarthenshire Council

A meeting of Carmarthenshire County Council unanimously resolved that they would commit to making Carmarthenshire County Council a net zero carbon local authority by 2030.

UPWARDS

Local councils can collectively lobby district or county councils, or government, for actions beyond their own jurisdiction and for the resources needed to enable solutions.

SIDEWAYS

Leading by example encourages others to act. Councils can share their declaration, their action plan and key lessons from real life projects.

INWARDS

Councils can train their staff about the climate emergency, the necessary solutions and the role the council must play in driving a broader response.

SIDEWAYS

Councils can learn from real life projects in other areas and then trial them locally – sharing what works and what doesn't.

DOWNWARDS

Council policy and budgets can drive action within their jurisdiction; e.g. in transport systems, food purchasing or the buildings and land use controls.

Their plan so far includes:

- Developing a clear plan within 12 months for a route towards being net zero carbon;
- Calling on Welsh and UK Governments to provide the necessary support and resources to enable effective carbon reductions;
- Working with Public Services Board and Swansea Bay City Deal partners to develop exciting opportunities to deliver carbon savings;
- Collaborating with experts from the private sector and NGOs to develop innovative solutions to becoming net zero carbon.

Stroud Council

Stroud District Council has been working on tackling climate change since the 1990s. Now they are not just aiming for the council services to be carbon neutral by 2030, but the whole district.

These are just some of the ways they are meeting the challenge:

- The council have allocated an initial budget and have appointed a dedicated Carbon Neutral 2030 officer to develop opportunities and seek additional project funding. They have already invested in a renewable energy resource assessment and are establishing a Carbon Neutral 2030 Board, with representatives from all sectors.
- Improving transport links to reduce

traffic. For example, they are working with Gloucestershire County Council to upgrade key local cycle paths to encourage commuters to switch to walking or cycling.

- Encouraging staff to lift share, use public transport, and walk or cycle to work.
- Their small fleet of vehicles needs replacing, so Stroud are upgrading to more environmentally-friendly options and are considering how to encourage others to use electric vehicles.
- They are working on cutting the carbon footprint of their buildings. Six-hundred district homes have been retrofitted to make them more energy efficient. All new properties with off-road parking are constructed with EV charging points, and renewable energy is actively promoted. The council also plans to replace gas boilers with heat pumps at two of its biggest buildings, including its headquarters, with an estimated annual saving of up to 156 tonnes of carbon dioxide emissions across the two sites.

Opening new conversations

As your council begins to build back better from COVID-19, you can support them in making and delivering climate action plans.

There is growing recognition that the changes needed to get to net zero can also bring a range of other benefits, including: healthier, more resilient local communities; locally generated renewable

energy; affordable public transport; cleaner air; more efficient and easy-to-heat housing stock; greater employment; stronger local supply chains; reduced poverty; healthier food; and land systems with more space for biodiversity. Exploring such co-benefits offers the opportunity to engage with wider, more diverse participants.

CAT's Zero Carbon Britain Hub is offering regular two-day 'Zero Carbon Britain: Live Online' training courses plus a range of solutions-focused webinars – check out the CAT website for details and please get in touch to share your experiences of making a local action plan.

The next article in this series, in the winter edition of *Clean Slate*, will delve deeper into the detail of how to develop an effective climate emergency action plan. [CS](#)

Find out more

For more information on CAT's Zero Carbon Britain project, including online courses, events and resources, visit www.cat.org.uk/zcb

About the author

Paul is Knowledge and Outreach Coordinator for CAT's Zero Carbon Britain Hub. He has led our ground-breaking Zero Carbon Britain research for over 12 years, leading on the development of six reports and liaising directly with government, business, public sector and the arts to share their findings.

CAT Stories – zero carbon councils



Sarah volunteering in a local food bank.

CAT's Zero Carbon Britain courses help people from all sectors of society gain the knowledge and skills needed to help implement and inspire changes in their community.

Sarah Speakman-Jones is Senior Waste & Resource Officer at Bournemouth, Christchurch and Poole Council. She has a BSc in Environmental Protection and has worked with community action groups such as Transition Bournemouth to bring Repair Cafes and other waste prevention events to the area.

Sarah joined our 'Zero Carbon Britain: Live Online' course in May this year. CAT's Meg Stuart caught up with her to find out what she gained from the course and how she is helping to create change.

What inspired you to join the 'Zero Carbon Britain: Live Online' course?

I signed up for the course for a couple of reasons. Firstly, like many other people, I am beginning to feel that the time to tackle the issues is running out and I wanted to be sure I was focusing my efforts in the right areas. The second is because Bournemouth, Christchurch and Poole Council announced a climate emergency last year.

Alongside that, the waste and sustainability teams, though having always worked together, have recently moved into the same team and I'm hoping

there will be more opportunities to work on wider climate change projects. As my working professional knowledge is predominantly waste orientated, I wanted to widen my knowledge base.

What are the key things you took home from the course?

I have been having the feeling that we were missing opportunities for change as we return to 'normal' after the COVID-19 lockdown. However, I realised during this course, one thing that has changed is the growth of communities; perhaps these strengthened communities are the opportunity we needed to make changes.

The course showed me that the solutions are already out there, we just need to start acting.

How will what you learnt during the course inform your work, and the work of your council?

The course is already helping to focus my mind and helped me to discover my local resources, by knowing who and what to look for. I finished the two days intending to follow these up.

Since the course, I have attended my first (online) Zero Carbon Dorset event. The information and skills I gained on the course have helped me to feel more confident about sharing information in a correct and concise way.

What are your plans and the plans of your council?

I have tried to make lifestyle choices to reduce my personal impact, from volunteering on local projects like community gardens, giving up my car in 2008, to the purchase of a retrofitted 'eco-house', which is fully insulated, relies on solar thermal and a wood burner for hot water and heating, has bamboo floors, clay paint and a progressing forest garden. I've been considering how to expand on this and the course helped with that too.

I have also been asked to present a summary of the course to colleagues from across the Council who attend 'Go Green' meetings. [CS](#)

CAPITAL AT RISK. INVESTMENTS ARE LONG TERM AND MAY NOT BE READILY REALISABLE. ABUNDANCE IS AUTHORISED AND REGULATED BY THE FINANCIAL CONDUCT AUTHORITY (525432).

**Making money is great.
But only if you've got a
planet left to spend it on.**

abundanceinvestment.com

abundance.
Mobilise your money for good

Subscribers get digital access to all 30 years / 105 issues for FREE!



Giving you the tools to create your own resilient homes, farms, gardens, economies, schools and communities

A subscription delivered straight to the door costs just a few pence a day

permaculture.co.uk/subscribe or call 01730 776 582

Safer streets

In north east London, one local authority is on a mission to make its public spaces safer, healthier and more enjoyable for all. **Jane Sherry**, Behaviour Change Project Manager for Waltham Forest, outlines their successes to date and explains how barriers can be overcome.



Timed pedestrianisation leaves Francis Road free during the day for walking, cycling and generally enjoying the improved environment.

Simon Turner on behalf of Waltham Forest Council

Waltham Forest, a diverse and vibrant borough, is growing faster than any other London borough.

To ensure this is sustainable, we have invested £50 million since 2014, including £27 million of 'Mini-Holland' funding from Transport for London (TfL), to improve infrastructure and encourage a modal shift from private cars to walking and cycling. Our resulting 'Enjoy Waltham Forest' programme continues to focus on a range of infrastructural and behaviour change initiatives to ensure freedom, choice and healthier lifestyles for all our residents. We have developed 33 infrastructural schemes which have been introduced in conjunction with tailored behaviour change projects, aiming to enable residents, businesses and visitors to the borough to feel confident, knowledgeable and safe in using our new and innovative infrastructure, and encourage them to live more sustainable lives.

Infrastructure

Over 30km of direct and safe cycle routes have been introduced to support north-south and east-west movements; these are either fully or semi-segregated from road

traffic, and provide key links to workplaces and social opportunities. Our flagship cycle route, Lea Bridge Road, was completed in October 2019 and has seen a £15 million transformation with the introduction of 8km of continuous segregated cycle tracks and two new bridges to increase capacity for people walking and cycling.

In residential areas 51 modal filters (e.g. bollards, planters or mini parks) have been introduced to create low-traffic neighbourhoods, making roads quieter, safer and more pleasant for sustainable travel. To reinforce pedestrian priority, we've created 145 'Copenhagen-style' blended crossings alongside 62 pedestrian and cycle shared crossings. We've also introduced 31 new accessible urban green spaces (known as 'pocket parks') and planted over 700 new trees, creating a greener, more attractive and more fun environment for our residents to spend time in.

We have created a network of 430 bikehangars, providing 2,580 cycle parking spaces on residential streets, and 540 secure cycle parking spaces in our seven underground and overground station Cycle Hubs.

Behaviour change

To nurture the borough's growing cycling and walking culture, a range of behaviour change initiatives have been introduced alongside a comprehensive marketing and communications strategy to promote them.

We've trained over 20,000 residents in cycle skills, provided 600 free cycle loans, and have supported a wide variety of community groups and places of worship in providing specialised cycle training, including working with two Muslim women's cycling groups.

In February 2019 we launched our Community Walking and Cycling Fund in which we supported 10 organisations to deliver active travel based projects in their local communities. These included a BMX club for children, the StowSteppers walking challenge which was led by our local MP Stella Creasy, a biking with babies project, and Walk and Talk for Your Life, which was a research project that looked at the impacts of group walks and interactive health discussion sessions on older adults' feelings of loneliness. These projects have been vital in encouraging and enabling people to walk

and cycle, inspiring people to use the new infrastructure for journeys they previously would have made by car.

Co-benefits realised so far

With benefits being so far-reaching, it's hard to measure the impact of these schemes. However, external research has indicated very positive results so far, such as life expectancy increasing by 1.5 months for children born and living in the borough since 2013.

King's College London's Environmental Research Group undertook research and modelling in spring 2018 to predict the benefits of the programme. Using air quality data from 2013, researchers modelled the expected change in the exposure to air pollution experienced by pedestrians and cyclists in 2020, with findings indicating that on popular cycling routes exposure of Nitrogen Dioxide (NO₂) is predicted to reduce by up to 25%, and fine particulate matter (PM_{2.5}) by up to 13%.

Prioritising our High Streets

The programme has focused on improving two local high streets in the borough:

leaving the road free during the day for walking, cycling and generally enjoying the improved environment. The local businesses and residents have taken ownership of Francis Road and have really embraced their new public space.

The road has been featured in Time Out and City AM as a new destination in London, and with the new businesses that have opened up, including new restaurants, florists and even a book shop, it's attracting a new generation of locals and visitors alike.

Many of these new businesses are now using ZED, our zero-emission delivery service that we run in partnership with ZEDIFY, to make and receive their deliveries, which really highlights that they have embraced this new sustainable approach to business.

Overcoming challenges and looking to the future

Delivering this programme hasn't been easy and we have had to overcome a range of barriers to get to where we are today.


One of our main barriers has been overcoming resistance from the local community.

by adapting and enhancing our engagement approach to ensure that we listen to and capture concerns and ideas from the local community from the start, and use tools such as Commonplace – an online community engagement platform – to work in a transparent and interactive way.

Another challenge that we have faced is the differing cultural and travel behaviours across the borough. The south of the borough is predominantly flats that attract young professionals and families whereas the north is more detached housing with off-street parking and poorer access to public transport. These factors coupled with differing cultures and demographics mean that we can't introduce the same initiatives everywhere and expect to see the same take-up of walking and cycling.

It can be easy to just design projects for people like yourself without fully taking into consideration accessibility and cultural or personal requirements, so I would urge all councils to design for everyone. For example, researching local community groups who might be interested in providing their perspectives is one way of ensuring that any changes made will benefit a wide range of people and be accessible to all.

A third challenge that we are still working to overcome is funding – the more schemes that we implement and the more that residents see the benefits, the more we are asked to do. Whilst this is a fantastic position to be in, we no longer have the Mini-Holland funding, and like most other local authorities are facing financial pressures in light of Coronavirus. Aligning projects with other Council priorities can help provide further funding for a scheme. At the same time, costs can be reduced by using lower-cost solutions to achieve the same results, such as using planters in place of bollards as modal filters or choosing semi-segregated over fully segregated cycle lanes.

Making radical changes to road layouts takes bravery, and you need strong leadership to make sure schemes are completed and embraced by your local communities. We have been very lucky to have had a great team who have worked tirelessly over the past six years, and now have a wide range of community members who are championing schemes themselves and pushing us to do even more, which is a great position to be in. 

About the author

Jane is the Behaviour Change Project Manager at Waltham Forest Council where she has worked since 2014. Jane's work focuses on encouraging and enabling everyone to walk and cycle where possible whilst enjoying the unique culture and green spaces of the borough.



One of the borough's new rain gardens.

Jenna Selby on behalf of Waltham Forest Council

Orford Road in Walthamstow and Francis Road in Leyton. Francis Road is a key north-south route and has around 20 business units and three primary schools located on it, along with a mix of residential properties. It was in need of change, with over 5,000 vehicle movements per day, congestion and speeding, and footways blighted by parked cars. The area also suffered from a high number of vacant units and a lack of diversity in retail offer that failed to meet the demands of its changing population.

Introducing a timed pedestrianisation of the street allowed businesses to receive deliveries in the morning and evening,

When we opened our first completed scheme, Orford Road, back in September 2015, we originally planned to celebrate the launch by holding a big street party, encouraging businesses to put stalls, tables and chairs outside. However, this couldn't take place owing to protestors flooding the road demanding that we open the streets to allow them to drive to the High Street again. They even brought along a coffin to signify the death of the area!

Despite this inauspicious start, we're glad to confirm that this area is a hive of activity, with a great atmosphere and many thriving local businesses. We've overcome negativity



building shell materials • sheathing, sarking and racking boards
airtightness membranes, tapes, boards and accessories • natural
insulation, woodfibre, wool, cellulose, hemp • lime and clay plasters,
renders, mortars and putty • landscaping, groundworks, water and
drainage • natural paints, stains and treatments and much more

call 01793 847 444 or buy online
www.ecomerchant.co.uk

PRINTING
MAILING
SIGNAGE
TROPHIES

wpg Limited



Personal, Friendly, Affordable
and Knowledgeable.



We are accredited to the
ISO 14001:2015
Environmental Systems Standards.



WPG can also supply Carbon
Balanced Paper.



4 Trees are planted for every 1.5
tonnes of paper printed on.

At WPG we ensure that all
materials and waste products can be
recycled at WPG.

Contact us today for a
free no-obligation quote.

 01938 552260

sales@wpg-group.com www.wpg-group.com



Craftspeople wanted to help save the planet, one old house at a time.

JOB VACANCY



Every day our skilled craftspeople help owners of historic, listed and period properties make their homes warmer and greener. In the last 10 years we've insulated 650 homes, saving 13,000 tonnes CO2 and helped our customers save up to 50% on their heating bills. And there's lots more to do.

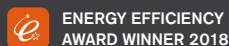
We value craftsmanship, attention to detail and dedication to a job well done, and we're looking for people to join us in a range of roles across the South West and South of England including Trainee Carpenter, Senior Carpenter and Project Manager.

Salaries are from **£20,000-£32,000**
including 5 weeks holiday and a company pension.
We provide high-quality training in our specialist systems.

If this sounds like you then contact us to find out more:

✉ simone@mitchellanddickinson.co.uk

☎ 01237 429826



Advertise here

Reach over 27,000 environmentally-
conscious readers and support CAT.
Contact Alison:

alison@emsm.org.uk



Clean Slate
the journal of sustainable living

Ecco Design 2022 Emissions ready

- With 12 Hours of heat retention from 7KG of logs
- Gives whole house heating
- Up to 93% Heat Efficiency



ECCO STOVE

More than just a stove,
Wraps your Home in Warmth

www.eccostove.com
Phone: 01527 857814
sales@eccostove.com

A just transition

As we move towards a Zero Carbon Britain, how can we ensure that livelihoods are protected and communities thrive? **Tanya Hawkes** explores lessons from history.



The ex-mining town of Treherbert in south Wales, where the Skyline forestry project aims to support the creation of up to 200 long-term, low carbon jobs.



In 1982 my dad walked out of the gates of the Gloucester Iron and Steel Foundry for the last time. He and hundreds of other men and their families were left searching for scarce ‘low skilled’ work to replace lost livelihoods.

Families fared differently according to personal circumstances. Mine, because

my parents were raising a severely disabled child and were already only just coping with the tiredness and stress, was hit hard. My dad suffered a severe stroke in his mid-forties and couldn’t work properly again. The poverty caused during that time is still affecting my family two generations later, in complex ways. We became part of the statistics of what is now familiarly known as ‘de-industrialisation’, and I witnessed first-hand the devastation caused by abrupt economic changes to an industry with no transition plan for the affected people and communities.

This isn’t a misery memoir, but rather a cautionary economic tale. My family’s experience was replicated across communities all over the UK. From the mining towns of Wales and Durham to the steel works of Sheffield, mass unemployment, outward migration of young people and lack of alternative job creation created pockets of persistent poverty and economic repercussions across whole regions.

Coal production employed a million people at its peak. Current agricultural employment is less easy to quantify, but the Annual Population Survey suggests 346,000 permanent workers, and DEFRA

calculates another 64,000 seasonal, gang and migrant workers on top of this. The iron and steel industry employed 323,000 people in 1971 and now employs less than a tenth of that at 31,900. Aviation and other transport accounts for hundreds of thousands of jobs all around the UK. The human cost of what happens when some industries decline while others prosper is a key issue for those of us working towards a zero carbon society.

Protecting workers and communities

Achieving a zero carbon Britain will involve changes to industries that people and communities rely on to survive, such as the aviation industry, North Sea oil and gas, transport, construction and agriculture. Certain workers in those industries will be more affected than others. Some transport jobs are already low carbon and can easily transition further. A large proportion of their workers are well unionised and protected. Other industries are more vulnerable to market competition, non-unionised and not easily transitioned to low carbon alternatives – aviation and oil for example – and would require government intervention to support and retrain

workers and provide economic safety nets through any transitions.

In the UK the Trades Union Congress, states that despite the ‘opportunities’ that decarbonisation offers, there is a lack of strategy for a just transition for industry and that *“highly skilled, unionised jobs, are under threat.”*

Pre-COVID-19, 4.8 million people in the UK were classed as self-employed, and nearly a million of these worked in the construction industry. Around 45,000 Uber drivers worked in London. A just transition in the UK needs to include all the stakeholders in the process: communities, local people and workers in industry. How the voices and views of this rising, non-unionised and vulnerable workforce are heard and represented is exactly the kind of challenge a just transition faces.

Globally, the unions and environmental justice groups forged the just transition movement, usually made up of people on low incomes and people of colour. Recognising that extractive industries may provide jobs, but only do so at great cost to human health and the environment, they saw that a transition was needed, and that this should be led by those most affected.

The Green New Deal, originally a concept coined by the UK New Economics Foundation, and now a global movement, is just one of the evolving blueprints for a just economic transition, and many NGOs, environmental justice groups, unions and political parties are involved in developing a just transition to low carbon industries.

The United Nations 2015 Paris Agreement takes into account ‘the imperatives of a just transition of the workforce and the creation of decent work and quality jobs.’

Restoring an ex-mining area in Wales

In the ex-mining town of Treherbert in Rhondda Cynon Taff, a forestry project is taking off that is aiming to grow timber for use in buildings, create space for growing and leisure activities, and support the creation of 100-200 long-term, secure, low carbon jobs.

Skyline is a project in one of three areas in Wales exploring the potential for the local community to plan for their future, environmentally and economically and for generations to come. Timber production and forestry management is one way that these communities can transition to a low carbon industry that combines long-term quality employment, low carbon solutions for the construction industry and a healthy environment for the local area.



It’s an example of the Welsh Government, Natural Resources Wales and community interest groups working together to create change.

Whilst the project can’t undo decades of *economic* harm caused to the area by the decline of coal, it might be able to undo some of the *environmental* harm caused by coal mining, and be used as a blueprint that could be scaled up in the future as a way of creating change that benefits the climate, local biodiversity and people’s livelihoods.

The docks at Hull and Grimsby

Both docks thrived in the early 20th Century. Coal was imported and exported from Hull. Coal power stations along the Humber estuary earned it the name ‘megawatt valley’. Grimsby was a major fishing port. The end of coal mining and the phase out of coal generation led to industrial decline. The Grimsby fishing fleet collapsed in the 1970s.

Both Hull and Grimsby ports are now

major sites of the offshore wind industry. Both ports have become important parts of the UK marine renewables infrastructure – providing port facilities for the construction and maintenance of offshore wind arrays in the North Sea.

However it’s not clear that the new jobs created by this are benefiting the people who lost work during the end of coal mining, coal power phase-out or the collapse of the fishing industry. A just transition could take this into consideration at the beginning of a winding down process, involving affected stakeholders and planning for *distributional* and procedural justice, looking at who benefits and loses from new industry, and how and by whom the process of change is decided. Because time has passed, the area might be a case for restorative justice, which aims to retrospectively invest in and support an affected community.

The low carbon jobs of the future

My dad took a job as a care worker for people with learning disabilities after his redundancy. My mum was raising a disabled child, full time, with the help of disability benefits. I worked as a carer myself for several years when I left school and college. These are also low carbon jobs. Recently COVID-19 has shone a light onto work that is essential and useful but often overlooked. Low carbon jobs are in renewables, agriculture, forestry and transport, but they are also in elderly and disability care, health and teaching.

COVID-19 will hopefully force a rethink of what constitutes essential and useful work. It has also shown us how fast government intervention can be brought to bear in a social and economic crisis. Solving climate change also offers us the chance to invest in people and in building back a better society – with work that is meaningful, useful to society and low carbon. [CS](#)

Do you have stories of what a just zero carbon transition looks like? Is your area already working on a just transition? We’d love to hear from you. Contact Tanya Hawkes tanya.hawkes@cat.org.uk to tell us about your work.

About the author

Tanya Hawkes is part of CAT’s fundraising team. She is currently researching a just zero carbon transition as part of the CAT MSc in Sustainability and Adaptation. References and further reading available on request.

NEW

VEGETARIAN SHOES®

VEGAN
FOOTWEAR
SINCE
1990



Over 200 mens and
womens styles!



LUNA SNEAKERS

NOW AVAILABLE IN BLACK & WHITE

Tel: 01273 691913 | info@vegshoes.com | vegshoes.com



IndiNature®

New 100% natural fibre insulation

Made in the UK from local hemp and flax.
Zero plastics and net carbon storage.
Healthy for you and the planet!

sales.uk@indinature.co
www.indinature.co

01908 886854

www.ecodesignconsultants.co.uk

Info@ecodesignconsultants.co.uk

ecodesign
consultants
Architects & Environmental Consultants.

Architects designing beautiful, comfortable
and sustainable buildings. Specialising in new
build and retrofit homes.



Sustainable transport – rural, urban and everywhere in between

Changing the transport system can help tackle climate change and reduce air pollution. **Adrian Watson** and **Suzanne Iuppa** explore how policy shifts and investment in alternatives can drive a long-term change in how we travel.



Since the 1960s the UK's approach to transport policy has hardly been sustainable. The past 50 years have been characterised by a lack of investment in essential infrastructure, privatisation of public transport, a reduction in the rail network, and only very limited policy support for walking and cycling.

Taken together, these outcomes have led to a rise in personal car ownership, resulting in increased air pollution and congestion in our urban centres, which were never designed for the number of vehicles we have on the road network today.

As this demand for personal mobility has increased (from 25 million vehicles in 1994 to over 38 million today in the UK, according to the Department for Transport), transport-related emissions have contributed substantively towards poor urban air pollution quality (notably nitrogen oxides and particulate matter), raised noise levels, increased exploitation of land resource, and more road traffic accidents.

Health and climate impacts

Air pollution is known to cause short and long term health effects, particularly for those with pre-existing heart or lung conditions, so many people are understandably concerned about pollution in the air that they breathe.

To meet this public health challenge, local authorities are tasked with managing air quality. In practice this means managing traffic and congestion, thereby controlling local pollution emissions and generally making transport more sustainable.

Reducing emissions from transport is also a key element in tackling climate change. Land-based transport accounts for one-fifth of UK greenhouse gas emissions, making transport one of the key areas to target in the transition to zero carbon.

Electrifying personal transport

Probably the major technological advance in making personal mobility greener has been the availability and improvement in hybrid and electric vehicles (EVs).

Most major vehicle manufacturers now have active EV development strategies, and the increased efficiency and range of newer EVs has largely addressed the range anxiety that many drivers see as a barrier to adoption.

As a result, EVs accounted for over 10% of UK passenger car registrations in 2020, up from 3% in 2016. This should also raise the availability of EVs on the used market in the next few years.

To speed up this transition, the UK government has set a deadline for the end of sales of combustion engine cars by 2040 but is consulting to bring that forward to 2035 or even sooner, with results of the consultation due before the end of 2020.

A significant modal shift to EVs will improve local air pollution but does not address all environmental concerns; there remain serious concerns regarding the environmental impact of the Lithium used in EV batteries which needs to be urgently addressed, particularly as EV use increases and Lithium demand grows.

There is also the need for improved EV rapid charging networks, especially in rural areas, and renewable energy supplies must be scaled up to ensure that the increased electricity demand is met with clean energy.

Policy support

There are many policy initiatives that local and national government can use to steer a modal shift towards more sustainable transport.

Taxation options that increase the cost of personal motoring and push the public towards public transport include: city centre congestion charging, increasing the cost of workplace carparking, fuel taxes, linking road tax to vehicle emission

levels and introducing toll roads.

Like most taxation options, these schemes can raise levels of transport poverty, so accessible and low-cost mobility alternatives need to be supported.

Alongside financial sanctions, incentives also need to be made available to support more sustainable options. Nationally, low-emission vehicles are eligible for a plug-in grant of £3,000 and small businesses in London can benefit from an Ultra Low Emission Zone (ULEZ) diesel scrappage scheme (£3,500 - £9,500) towards the cost of replacing diesel vans that don't meet the new ULEZ emissions standard in 2020.

If we are to reduce individual car use whilst maintaining current mobility levels (although increased homeworking during the COVID crisis raises the question of whether we actually need to travel as much as we do), the driving public needs to be provided with suitable alternatives to support the behaviour changes needed to deliver a permanent modal shift.

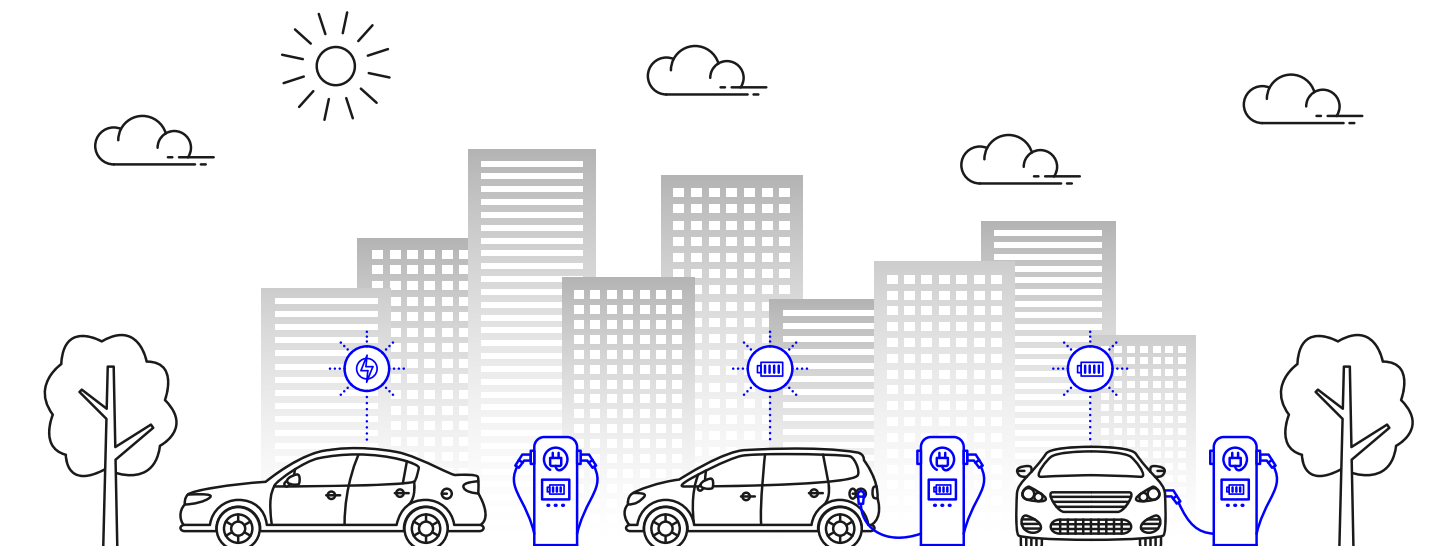
Large national or regional infrastructure schemes are hugely expensive (the HS2 rail link is likely to cost well over £80bn, for example), so there is plenty of scope for lower cost local or community-led schemes.

To successfully drive behaviour change and deliver long term sustainability, these schemes need to consider the appropriate national or local context for mobility and logistics, maintain or improve access to employment, education, food (and retail), healthcare and recreation facilities, and ideally attract community buy-in.

Cutting car use

In urban areas a fully integrated transport network that considers and promotes public transport, cycling and walking as viable alternatives to the car is key to delivering a greener alternative.

In the UK, London has probably the



best example of an integrated transport system, which is made much easier to implement thanks to transport being locally regulated by Transport for London. A single cross-ticketing system in London makes it simpler for the public to use subsidised tubes, buses, river taxis and trams. In combination with a daily congestion charge for driving in central London (which increases for more polluting vehicles such as HGVs and coaches), this has increased the uptake of public transport in the city.

Elsewhere, expensive infrastructure schemes, such as the Metrolink in Greater Manchester, have reintroduced lower polluting light tramway systems back to the UK.

Cycling is promoted through the government's 'Cycle to Work' scheme, which provides tax incentives to cycling adopters in conjunction with workplaces. Regional cycling promotion schemes such as Bristol City Council's three-year partnership with British Cycling can help increase uptake, as can community bicycle sharing schemes such as Mobikes, which are available in many city centres worldwide.

Manchester has also introduced Dutch-style cycle lanes, which reduces the space available to road users and physically separates pedestrians and cyclists from road traffic, answering many of the safety issues that cyclists face in cities.

Where a journey requires a car, alternatives to individual ownership include car club membership, where vehicles can be leased for individual journeys or short time periods.

Redesigning our towns and cities

In the mid-term timescale, the design of our town centres and neighbourhoods can

be reconfigured, reducing the need for transport and encouraging shared spaces to promote pedestrianisation and cycle use.

For many years, planning policy leading to urban sprawl and shopping malls located on the urban fringe has promoted the need for personal transport for access. Could higher density towns and cities with better located local employment, school and retail and leisure opportunities revitalise urban centres and reduce the need for transport?

A good example of a design approach to transport is a shared space scheme in the small town of Poynton in Cheshire, which has been replicated in many other locations. In 2012 Poynton's streets were redesigned with extended pedestrian areas. Traffic lights were removed, and changes to street furniture, parking and sightlines significantly reduced average traffic speeds, making the area more pedestrian-friendly and a more attractive place to live, work and visit.

Rural solutions

An example of a rural project supporting green transport that incorporates some of these technology and policy approaches is led by a community-owned development trust, Open Newtown, based in Powys.

Open Newtown aims to deliver a low carbon transport project for Mid Wales during 2020 and 2021, installing public electric vehicle charge points, which will be available to locals, visitors and businesses alike, and establishing EVs within car clubs in towns across Mid Wales.

This locally owned not-for-private-gain company will take on the assets and operations of the car clubs and has ambitions to sustain and grow the level of low carbon affordable transport across

Mid Wales.

The project received European rural (Arwain) funding during 2019 to establish public charging sites and consult with a wide variety of stakeholders to identify needs and opportunities at the town level. It will offer direct support to get EVs into car clubs, particularly in those towns across Mid Wales where none exist.

Overall, it aims to make a difference to transport poverty in Powys and to address the 'gaps' in mobility provision in this rural area.

Towards zero carbon mobility

There is a need for a change in emphasis, away from the older transport policy approaches towards sustainable transport programmes that can meet society's current and future mobility requirements. Many of the schemes and alternatives outlined here were met initially with local opposition from individuals and organisations keen to maintain the status quo. But when carefully planned, taking local context into account and gathering community support, these approaches can demonstrate improved mobility and deliver economic and environmental benefits in urban and rural settings. [!\[\]\(1f56542a42e2413e44a2b2023033aa2e_img.jpg\)](#)

About the authors

Adrian Watson has been Head of CAT's Graduate School since 2018. He has been active in research in the links between air quality, transport and health for many years, which has included advising the Greater Manchester Transport Unit and membership of the NHS Transport Working Group.

Suzanne is a poet, community worker and conservationist living in the Dyfi Valley. She is a local project coordinator for Renew Wales and for Open Newtown's Low Carbon Transport Scheme in North Powys.





Could your home improvements or renovation save you energy **AND** help save the planet?

Whether you're considering an extension, loft conversion or simply updating your interiors, Futureproof can help you make your home more energy efficient, sustainable and fit for the future.

Futureproof offers free, independent advice and support to help you decide:



- What solutions are best suited to your home, lifestyle and budget, from insulation and ventilation, to solar panels or heat pumps.
- What materials to use to ensure high quality work that stands the test of time.
- And which builders to use - connecting you with our network of trained builders and installers with the skills to deliver high-quality work.

If you live in the West of England* get in touch with Futureproof.
We make it easy to plan energy saving home improvements.



www.futureproof.uk.net

0800 038 5007

For builders in the West of England, we offer online and practical, peer-to-peer training to help you develop and deepen your sustainable building skills. We then connect you with homeowners who want this work done.

Find out more at www.futureproof.uk.net/builders



* The West of England region covers the four unitary authorities of Bristol, North Somerset, South Gloucestershire, Bath & North East Somerset.

Futureproof is an initiative run by the Bristol-based charity (298740), the Centre for Sustainable Energy, in partnership with The Green Register, that supports homeowners and builders in the South West carry out energy saving home improvements.



The Green Homes Grant

A new UK Government initiative could allow householders in England to make their homes more energy efficient. **Joel Rawson** looks at the advantages and limitations of the scheme and outlines how those who are eligible can make the most of it.



This summer the UK Government announced the new Green Homes Grant to fund energy and carbon saving measures. The suddenness of the news combined with a March deadline for spending the money implies that a key motivation is injecting cash into the coronavirus-hit economy.

More attention on home retrofits is of course welcome, but to be successful this

must be the seed for an expanded, ongoing retrofit strategy. The Chancellor's Autumn Statement should give details of if and how the scheme will continue. The choice or quality of supposed improvements could easily be compromised if both consumers and installers are just scrambling to get a slice of the pie before it disappears.

The Green Homes Grant is England only. Other parts of the UK manage their

own programmes, usually supporting households claiming certain government benefits. In addition, Home Energy Scotland provides interest-free loans to all homeowners for energy efficiency and renewable energy. Sometimes a proportion of the loan can then be claimed back, like a grant. Within Wales, interest free home improvement loans are offered in Powys and Rhondda Cynon Taf.

How much is available?

If you're on a qualifying benefit scheme you can claim a voucher for up to £10,000 of all eligible costs. Otherwise, homeowners or private and social sector landlords can claim two-thirds of eligible costs up to a £5,000 limit. One quarter of the total pot is for local authorities, to bolster existing programmes for low-income households in the worst-performing houses (EPC band E or below).

The Government estimates that the £2 billion they've allocated will be distributed to about 600,000 households. That's about 2.5% of the 23 million households in England (with 4.5 million more homes in other parts of the UK). This could be a good start, but a much larger commitment will be required to get all our homes on the path to zero carbon.

We need to create jobs in home refurbishment, but there's concern about the timeline of this scheme. A commitment beyond next spring is necessary to give companies the confidence to invest in appropriate training and accreditation for their installers.

What is eligible?

You must put at least half of the grant towards one or more of these:

- insulation of walls (solid or cavity), floor, loft or roof (flat or pitched);
- a heat pump, pellet boiler or solar water heating.

Then you can use an equivalent or smaller amount for:

- draught-proofing, heating controls and hot water tank insulation;
- replacing (or improving) single glazed windows or doors that pre-date 2002.

It covers the increase, but not replacement, of existing insulation 'to the recommended level' – so probably only the minimum under building regulations. If claiming for a heating system, the house needs 'adequate' wall and loft insulation.

If claiming for low carbon heating you can also apply for the Renewable Heat Incentive (RHI), to get support payments over seven years. However, your Green Homes Grant would then be deducted from the RHI payments, so would only help with upfront costs.

What to consider if applying

Getting a good initial survey is key – one that's much more detailed than an Energy Performance Certificate (EPC). A whole house retrofit survey should yield a robust 'fabric first' plan, and avoid the risk of measures that are inappropriate or applied in the wrong order.

If you can't implement it all straight away, have the plan broken down into steps. Design for the dovetailing of

different elements as they are added. Little details are important – such as deciding where the airtight layer will be.

A decent home retrofit goes beyond minimum insulation levels. Hopefully the administration of the grant will allow you to put in a little more of your own money and add a thicker layer where appropriate.

To be successful, insulation and draught-proofing must accompany suitable ventilation measures. Ideally you set a high standard for airtightness and then provide intentional ventilation. The grant brief mentions draught-proofing, but the building regulations minimum is well below best practice for airtightness.

Swapping a gas boiler for a heat pump could be possible with this grant. However, the first priority should always be to reduce energy use. Moving to widespread use of heat pumps without minimising heat loss will greatly increase electricity demand, making a zero carbon grid more difficult. A heat pump needs to be complemented with measures that reduce heat demand and enable low flow temperatures. The latter may mean upgrading to radiators with a large surface area. If this isn't an eligible cost, budget for it separately.

Learning from past mistakes

Cavity wall insulation is usually beneficial, but in some cases it has exacerbated damp problems. Homes at risk tend to have underlying construction or maintenance issues, and be prone to driving rain. Failure can occur if insulation measures are added without a proper survey to identify existing defects. The same problems can occur with solid wall insulation, especially internally.

The wrong approach to insulating a building can make it worse rather than better. Potential problems with the building fabric must first be identified and fixed. This is more important than getting in by the deadline. A bad insulation job can create an unhealthy home and lead to expensive remedial work.

External insulation is a good retrofit option for many houses. However, the weather expected in late winter carries more risk of damp insulation, or adding it to a damp wall. It's unclear yet if there will be any leeway to schedule in works and carry them out after the March deadline.


Using natural-fibre insulation can support the control of moisture levels within the building fabric, by encouraging breathability. However, your choice of insulation materials might be limited by the knowledge of accredited local installers. Make sure there's a plan for managing moisture risks.

Consumer protection

After the initial announcement there were widespread concerns about quality control. Subsequently, the Government said installers have to be accredited through Trustmark and the MCS (Microgeneration Certification Scheme). It's worth noting that these are government endorsed, but not government backed. Problems have to be resolved by the company that accredited the installer to the Trustmark standards.

Darren Jones MP, current Chair of the House of Commons Business, Energy and Industrial Strategy Committee, welcomed the link to Trustmark but said "we still need a properly resourced consumer complaints process."

Previous failures show that consumer protection must be robust. In *Clean Slate* 113, Jonathan Atkinson of the Carbon Co-op flagged up that a Preston retrofit project "delivered to unrealistic timescales by badly trained staff led to widespread damage, leaks, poor quality home environments and aggrieved residents seeking justice." Some of the companies involved went into liquidation, and key people could not be traced and held accountable. It took years to start to address the damage to people's homes.

But, providing you are aware of and avoid potential pitfalls, home energy efficiency measures will improve comfort levels and lead to long-term financial and environmental savings. They're a vital part of a zero carbon future. 

Further information

- For more advice about planning home retrofits and addressing the risks mentioned here see CAT's Information Service web pages, cat.org.uk/free-information-service, or contact us with your questions.
- To apply for the Green Homes Grant and identify other financial support, see the government website simpleenergyadvice.org.uk/grants.
- For local support see the Community Energy Hub directory: hub.communityenergyengland.org. Some of the organisations listed can offer energy surveys, recommend installers they've worked with, or promote local case studies. The Trustmark scheme includes retrofit co-ordinators and assessors, or see the listings of bodies like the AECB (for Carbonlite graduates) and Passivhaus Trust (with EnerPHit for retrofits).

About the author

Joel Rawson is CAT's Information Officer, providing free and impartial advice on a wide range of topics related to sustainability. He first came to CAT to volunteer in 2001, and graduated with a CAT Postgraduate Diploma in 2013.

The leading source of
information for
Renewable Energy Installers
Specifiers and Suppliers



Stay informed - receive the latest news

Sign up for the newsletter here:
www.renewableenergyinstaller.co.uk



feelgood windows

Enjoy the comfort and energy efficiency
of triple glazed timber windows and doors

green
building
store

Options to
suit all
budgets

Friendly personal service and technical support
from the low energy and Passivhaus experts

www.greenbuildingstore.co.uk

t: 01484 461705

CAPITAL AT RISK. INVESTMENTS ARE LONG TERM AND MAY NOT BE READILY REALISABLE. ABUNDANCE IS AUTHORISED AND REGULATED BY THE FINANCIAL CONDUCT AUTHORITY (525432).

We like helping you
make money.
And greener energy.
And cleaner oceans.

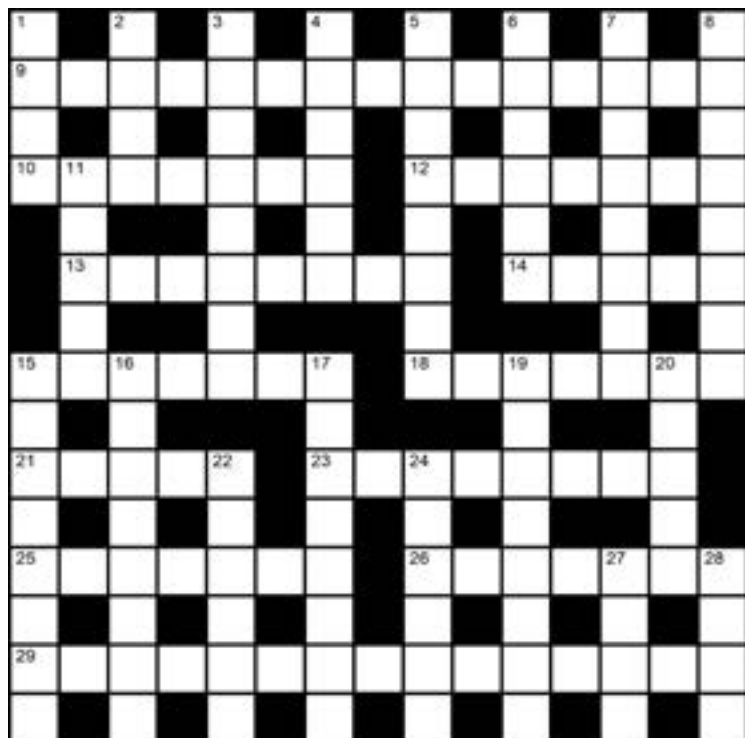
abundanceinvestment.com

abundance.

Mobilise your money for good

Cryptic crossword by Brominicks

<http://www.brominicks.wordpress.com>



To enter:

Name: _____

Address: _____

Email: _____

Phone: _____

The first correct entry pulled from a hat wins a £20 voucher for the CAT EcoStore – store.cat.org.uk.

Please send your completed crossword entry by 2 November 2020 to *Clean Slate* Crossword, Centre for Alternative Technology, Machynlleth, Powys, SY20 9AZ.

Solution will be published in the next issue of *Clean Slate*.

No winners for the last edition – 14D was 'ENDLESS'

Across

- 9 Summon waiter to take digital photograph? (4,4,7)
- 10 Individual missing from slalom championship, fell (7)
- 12 Order general to blow something up (7)
- 13 Popular records cut by men in retirement – that's rock! (8)
- 14 Grub perhaps, Genoese essentially (5)
- 15 Bicycle race departs dividing French household (7)
- 18 Make actress put on bloomers (7)
- 21 American behind America's first store (5)
- 23 Supermarket invested in tear-off sticker (8)
- 25 Children, they pinch things! (7)
- 26 Consequence of one putting many flyers around? (7)
- 29 Unwilling to see psychiatrist? (6-9)
- 7 Central American state banks are subjected to review (8)
- 8 Starfish found by rock (8)
- 11 Sportswear Company rethink appalling clothes (5)
- 15 Penny-pinching girl seen in dump (8)
- 16 Peoples movement spoke up against plethora of really awful leaders (8)
- 17 No, I'm surprised channel island supplies refugee boat (5,3)
- 19 Charity director gets brought in to go over something again (3,5)
- 20 Issue brother has pronouncing place in the Mediterranean (5)
- 22 Italian city where girl's brought up (6)
- 24 Attack that shocks US president (6)
- 27 A drop of Laphroaig from this island – wow! (1,3)
- 28 Locate state surveillance facility (4)

Down

- 1 Takes advantage of lead-free public transport (4)
- 2 Vehicle, one requiring charge to begin with (4)
- 3 Pirates unload goods near town in Merseyside (8)
- 4 I'll be straight there after wandering round (6)
- 5 Sacrifice of queen on the cards? (8)
- 6 Loose relative not the last to turn religious (6)

Clean Slate 116 Solution



 greenfibres.com



Greenfibres makes **beautiful & useful** products from untreated **organic & natural** materials made under **fair & safe** working conditions.

- organic underwear & outerwear
- organic pillows & sheets
- organic mattresses & duvets
- natural cleaning & organic skin care

01803 868001
shop: 99 high street, totnes



graham preston
creative design

We offer a comprehensive publishing design package which includes typesetting, leaflets, brochures, advertising, exhibition banners, magazine and book layout, print liaison and a consultation service

We design *Clean Slate* magazine!

Contact us for a competitive quote
grahamjpreston@hotmail.com

t. 07956159117



Remember and be remembered at CAT

You and your loved ones can be part of CAT's rich history and also a changemaker for CAT's future, by leaving a gift in your will or arranging an in memoriam dedication.

CAT's work exists because of our supporters, and we love to celebrate the people who not only make our work possible, but are very often an active part of the CAT community: volunteering, visiting us, or sending us stories of their sustainability work and activity.

CAT has been providing cutting edge practical and positive solutions to the most urgent environmental issues for nearly 50 years, and many of our supporters leave a gift to CAT in their will or arrange an in memoriam dedication as a commitment or symbol of their passion for the issues that matter to them, like climate change and biodiversity.

Every day we hear news of our supporters and their work on climate solutions. We hear how people use our research into practical solutions and turn it into activities in real life. Everything from encouraging wildlife in small spaces, working in groups to guide their local authorities to develop climate action plans, or starting their own businesses in renewable energy provision. Our supporters amaze us with the work they are doing.

Of course none of our work is possible without the gifts and donations we receive from supporters.

If you are reading this you are probably one of the people who helps support CAT's work by being a member, by learning on our courses, by donating to our appeals – or by leaving a gift to CAT in your will or arranging an in memoriam dedication for a loved one.

All across our site at CAT are reminders of the people who supported CAT's work, past and present. A plaque on a bench, a name above a room or a polished slate marker, are all symbols of the vast community of people who work with CAT and support CAT.

Leaving a gift to CAT in your will

Leaving a residuary (a percentage of your estate after providing for loved ones) or pecuniary (fixed cash) gift to CAT in your will is a great way to support CAT's work. We receive these thoughtful gifts every year and are aware of how special and meaningful they are. They provide the support that helps us to plan our work well into the future, ensuring we will provide practical solutions for generations to come.

Arranging an in memoriam dedication

The names across CAT, on rooms, on benches, on displays, are part of our history and future. They are beautiful reminders of the people who have been part of our journey, and they represent a gift to future generations.

If you would like to leave a gift to CAT in your will, or would like to arrange an in memoriam dedication to a loved one, you can arrange to talk to Tanya Hawkes, who can provide impartial information on how to arrange a will with a solicitor. If you would like to arrange a way to remember a loved one at CAT, Tanya can talk to you about prices for various ways to display names and dates of the people you might like to remember.

Please call Tanya on 01654 704950, Monday to Wednesday, for an initial chat, or email tanya.hawkes@cat.org.uk





Centre for Alternative Technology
Canolfan y Dechnoleg Amgen

GRADUATE SCHOOL OF THE ENVIRONMENT

MASTERS DEGREES

CLIMATE

SOLUTIONS

Gain the skills, knowledge and networks to help create a zero carbon world.

Practical academic courses from leading experts in behaviour change, food, ecology, energy, buildings, and architecture.

MSc Sustainability and Adaptation

MSc Sustainability in Energy Provision and Demand Management

MSc Green Building

MSc Sustainability and Behaviour Change

MSc Sustainable Food and Natural Resources

MSc Sustainability and Ecology

MArch Sustainable Architecture



**DISTANCE
LEARNING
AND
PART-TIME
OPTIONS AVAILABLE**

www.cat.org.uk | study@cat.org.uk | +44 (0) 1654 705953



@centre_alt_tech



Centre for Alternative Technology



centreforalternativetechnology



Centre for Alternative Technology
Camp for y Decnology Arger

ECOSTORE

Visit our online store for many
more eco gift ideas

☎ 01654 705959

<https://store.cat.org.uk>

Recycled bed socks

99% recycled
polyester, 1%
elastane,
100% cosy toes.
£5.50



Cuddly owl

Made with 100%
recycled material from
plastic waste
£8.00



NON PLASTIC
BEACH

60 FLUORIDE
TOOTHPASTE TABLETS
100% Plastic Free Packaging
Hand Luggage Friendly (Liquid Free)

Toothpaste tablets (60)

Plastic-free, recyclable packaging,
vegan friendly.

£3.00



Rewild Yourself

23 Spellbinding Ways to Make Nature
More Visible

£8.99



How Bad are Bananas?

£9.99



Folklore Diary

£12.00