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BRIGHT
GREEN
FUTURE



Bright Green Future, our initiative that aims to get young people engaged with a 21st century version of sustainability, has evolved over the last 12 months.

Most significantly, it is now a 12-month programme for participants, not a 24-month one; this change was made as the BGF team realised we could deliver all the same content as before, but in a shorter time frame that makes it easier to maintain momentum.

Another change is that we now enrol all BGF students into the Sustainable Futures online course created by the University of Bristol (www.bristol.ac.uk/bristol-futures). The course is a great fit with our view that sustainability needs to

be engaged on multiple levels rather than just dealing environmental issues alone. The course is fully accredited with students receiving a certificate of completion at the end of their time with us.

Bright Green Future is led by Roy Kareem, pictured, and has enriched the lives of nearly 100 young people since it began in 2016.

For the first time this year we're teaming up with the School of Social Entrepreneurs. In March 2019 we'll host a weekend exploring the myriad of social enterprises that have sprung up in Liverpool to deal with social, environmental and economic issues.

All the other core elements of BGF remain the same: our students still

work on a project in their local area, we continue to run webinars with inspiring figures in sustainability (the most recent was with the Director of Disruptive Innovation at Friends of the Earth); we still help to facilitate a five-day work placement in a sustainability related organisation; and we still have our Summer School! For 2019 we're going back to the wonderful Centre for Alternative Technology in Machynlleth. [See page 2-3 for photos from this year's Summer School.]

Applications for 2019-2020 open soon. We're promoting the programme through our usual channels and our extensive network of secondary school contacts, but if you know any young people who may be interested, please tell them about Bright Green Future.



p3 Talking about
THERMOS on
Latvian TV



p4 Energy advisor saves client over £1,000 a year in energy bills



p5 OpenLV data being used by community groups



p7 Social-indicator map goes public



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"Bad quality insulation can ruin lives; we have to get it right"



Ian Preston, CSE's Head of Household Energy Services, reacts to last week's revelations about failures in solid-wall insulation schemes ...

If insulation is done properly, it will make your house easier to keep warm, more comfortable and cheaper to heat. Done badly and it can damage your home, lead to damp and mould and blight your life.

A recent piece on BBC Radio 4's Today programme provided depressing detail on poor quality installations of cavity and solid wall insulation and the people who've suffered as a result. Alongside news of contractor bankruptcies and a significant need for remedial work for failed installations, we heard of some shockingly bad building practices. These include where the newly added external wall insulation stuck out beyond the roof, allowing rain water to collect in the space between the insulation and the wall itself and eventually, with nowhere else to go, to leach through the wall into the home.

Talk about a bodged job.

And worryingly this isn't a one-off. Bad workmanship is a common complaint about insulation schemes and is giving the sector – and wall insulation in general – a bad reputation.

This is why it's essential that insulation

schemes – e.g. those undertaken under the Energy Company Obligation (ECO) – have decent quality assurance built into the process. They must be undertaken by reputable companies and someone needs to be ultimately accountable if they go wrong. In the case of ECO, surely that's the energy suppliers who have been obligated to deliver. In the case of government-funded grant schemes, it's the government. In both cases, those accountable can chase the errant installer, but in neither case should the householder be left to seek redress from a contractor who has long since been paid.

And it's important to stress that this isn't about insulation; it's about the quality of the workmanship and the quality of the processes which oversee and assure that quality. What we're seeing is poor quality installations by building



This is decently installed solid wall insulation. But who'd be able to tell if it was a botched job?

companies who are either (being kind here) well-intentioned but inexperienced, or are (being less kind but probably more realistic) churning out low-grade work to make a quick buck.

At the root of this, in my view, is procurement which puts price ahead of quality. The cheapest bids win the work and what we see is inadequate attention to detail and weak project oversight.

What the BBC highlighted was the need for robust quality control. We'd argue that the quality assessment process should be in place before contractors are appointed, relying on inspection of their previous work as much as on their ability to complete process forms that have simply been downloaded from the internet. Post-installation quality control needs to be much more rigorous and

“ This isn't about insulation; it's about the quality of the workmanship and the quality of the processes which oversee and assure that quality

independent (and results for different contractors routinely made public). And we'd also like to see redress schemes – such as CIGA – properly regulated and held to account.

We cannot rely on householders spotting poor workmanship – too much of it isn't visible and that which is requires an expert eye. If they sign up to an official insulation scheme they have a right to expect the work to be of a high standard and to have effective redress if it isn't

Here at CSE we've turned down offers of partnership in insulation schemes that we felt haven't had quality control at their heart or where customers complaints have been dismissed rather than properly addressed.

► Bright Green Future's Summer School for 14-18 year olds brings the theories and concepts of sustainability to life, from exploring green urban planning to practicing mindfulness in nature. This year we enjoyed great facilities and lovely weather at the Centre for Alternative Technology in Machynlleth.



Alpha version of THERMOS software demonstrated in Latvia meet-up

CSE's Josh Thumim put the THERMOS district heating planning software through its paces at a project meet-up in Jelgava in Latvia in June.

The software will give planners and developers of district heating and cooling systems the ability to identify the options for thermal energy networks in any given area accurately, rapidly and cheaply. Jelgava is one of the pilot cities being mapped by the THERMOS software.

"This was effectively the 'soft launch' of the alpha version - that is, the build stage in which we focus on getting the functionality and interface right," said Josh. "Once this is done, we'll iron out any snags, work on the look and feel, and then release the beta version which will be for public viewing."

"The software is still under development, but it is performing well and our partners are pleased with what they saw," he added. "We were able to



demonstrate the features that are currently working and share our priorities and future plans."

Josh, who is Head of Research at CSE, even appeared on Latvian TV to talk about THERMOS in general and the mapping software in particular. District heating is a much more familiar concept in Latvia – and Eastern Europe in general – than in the UK.

Present at the project meeting were representatives of all project partners who are drawn from universities, city governments, energy and environmental agencies and specialist consultants.

www.thermos-project.eu



The Port of Milford Haven is a 'demonstrator' in the Smart Living Initiative and is developing a zero carbon area on the Waterfront.

In June, the Welsh Government launched a report co-authored by CSE and AD Research & Analysis that describes the progress made so far by the Welsh Government's Smart Living Initiative. The report reviews eight demonstrator projects set up to explore the concept of 'Smart Living'.

Lesley Griffiths, Cabinet Secretary for Energy, Planning and Rural Affairs, commented said: "As a government, we are committed to fully utilise smart and low carbon energy ... I believe the details of the activities described in the Smart Living report help contribute to building this narrative".

CSE trustee Andrew Darnton, agrees: "Valuable learnings have already been generated. We call on the Welsh Government to bring together the lessons from practice on a regular basis."

www.cse.org.uk/news/view/2245



Above: Josh Thumim being interviewed by Latvian national TV. Right: Martin Holley, Josh and Tom Hinton at Latvia's first large-scale biomass combined heat and power unit (top) and demonstrating the alpha version of the THERMOS software (below).



Energy advisor, Lorna Wilcox



Tariff search helps client cut energy bills by £1,000

The approach to winter is the busiest time of year for our dedicated and knowledgeable energy advisors. Our free advice line takes hundreds of calls a week - in many cases from people paying over the odds for their gas and electricity and who could save significant amounts by switching supplier or tariff.

One of the team, Lorna Wilcox, recently did a tariff check for a client and found she could save an estimated £1,219 a year off her energy bills. The client's bill is large for various health related reasons, but this still represents a significant saving.

"This is the highest amount I've ever managed to save anyone," said Lorna. "At first, the caller didn't want to discuss switching because although her bills were high she felt 'that was that' and there was nothing to be done. I encouraged her to stick with me and when we finally did a tariff check it revealed that she could save this considerable sum. We were both astonished!"

"So many people stick with 'the gas board' or 'SWEB' or whatever and never switch, and they're taken advantage of, frankly."

This is just one example – albeit a particularly striking one – of how much people can save, and of the great work that our dedicated home energy advice team does every day.

Look for the sweet spot

Our report suggests how the government can get the different strands of its household energy policy in line ...

In June, the government's Committee on Fuel Poverty (www.bit.ly/2z4Nk36) published our report examining the tensions and synergies between the three policy areas of tackling fuel poverty, reducing carbon emissions and keeping energy bills down.

The report examined how different household energy policies interact and proposed adjustments to use the funding streams for each of these more effectively.

The report identified three key tensions between the different policy measures.

1) Tackling fuel poverty vs. reducing carbon emissions. Some lower-income households in receipt of financial payments or bill discounts to help them meet energy costs and avoid fuel poverty will (understandably) use the money to heat their homes more. These payments, therefore, can increase energy consumption and carbon emissions.

2) Inefficient targeting. Targeting fuel poor households adequately is complicated. Currently, some benefits 'stack' on some types of households whilst some in need receive less support.

3) Short term vs. long term measures. Is it better to focus on helping people by giving them immediate financial support to keep warm, or take a longer view and use funds to insulate more houses so they are less likely to need that help in future?

Toby Bridgeman, who managed the project, said "The study shows existing policies can be adapted to make more progress towards the government's goals and aims, while at the same time neither removing existing benefits from most vulnerable people nor increasing the total

combined costs of these policies."

The study identified a number of high level principles to apply when developing policy that addresses these combined goals (see box).

"Thinking about a suite of policies together like this was very effective at identifying a series of policy adjustments that could result in progress on tackling prescient issues in the household sector. Hopefully this is something that government can take on board for future policy design," said Toby.

"However, what was also clear is that significantly more policy and investment will be needed for the housing sector to reach both the government's 2030 fuel poverty targets and their legal obligations to reduce carbon emissions. Even with the adjustments we have considered, the current set of household energy policies goes nowhere near far enough towards meeting these objectives"

Four principles for policy-makers seeking to address the combined goals of tackling fuel poverty, reducing carbon emissions and keeping energy bills down

- 1 Choose the sweet spot:** prioritise policies that both reduce fuel poverty and carbon emissions and avoid policies that impede one of these.
- 2 Prepare the ground for future action:** ensure plans to meet near-term targets also make it easier to meet long-term targets.
- 3 Be clear who foots the bill,** who gains the benefits and why these choices have been made.
- 4 Look across the whole suite of relevant policies** to reveal impacts and options and regularly review how household energy policies interact.



PROGRAMME LAUNCH ...

Next Generation will super-charge development of community energy

A £1m fund and expert support programme has been created to pioneer innovative community-led projects and business models. The Next Generation programme will offer up to ten grants of around £100,000 to community businesses to develop new decentralised, decarbonised, and democratised energy business models.



Next Generation is funded by Power to Change and will be delivered by a multi-disciplinary consortium led by CSE.

CSE's Rachel Coxcoon is managing the project. "The traditional community energy models - such as owning a wind turbine or large solar array - have become less viable because of changes in government policy. Nevertheless, the move to a smarter and more decentralised energy system offers the community energy sector the chance to explore opportunities in areas like time-of-use tariffs, electric-car charging or battery storage. Next Generation is designed to stimulate innovation in the community business sector and will be open to a wide range of proposals."

The programme aims to foster collaboration between community energy schemes and grid operators, policy-makers and the wider energy industry to deliver the energy system transformation that we need.

In addition to the grant programme, a further strand of the project involves buying up-and-running solar farms from private developers and selling them to the local community groups who will be skilled up and supported by Next Generation to develop other more innovative local energy business models.

Full story at www.cse.org.uk/next-gen or see www.next-generation.org.uk



Three of the communities using substation data to transform local people's experience of energy use: in Walsall (main photo), Bath (below) and Devon (bottom).

Communities get smart with substation data

Our major new innovation project, **OpenLV**, is exploring how open access to detailed monitoring data from electricity substations can enable innovative smart energy solutions.

CSE is leading the community strand of the project in which seven local projects are making novel use of this substation data.

One of these is WHG Housing Association in Walsall (top photo) where many residents in their tower blocks have challenges paying for their energy use. WHG hope to use the substation data to plan future improvements to the building's heating system and a proposed low-carbon retrofit, and also to help the community use energy more efficiently.

Another is Tamar Energy Community (right) which owns 327 kW of solar PV on schools, businesses and the local swimming pool and wants to find out if local people are willing to change their electricity consumption patterns to times when electricity is being

generated locally, or at times when the carbon emissions of the electricity from the grid are lower.

The smaller photo above is of Bath & West Community Energy who are using OpenLV data to develop local demand-management options including the greater take up of battery storage and solar PV, and also to explore the real value of community owned energy assets.

Open LV is led by project partners EA Technology and Western Power Distribution and funded by Ofgem. All the data used is anonymous.

See more at www.openlv.net



Scottish electricity network companies need to do more to support vulnerable consumers

Vulnerable households in Scotland, Southern England, Merseyside and North Wales are getting far less support from their electricity distribution companies – SP Energy Networks (SPEN) and Scottish and Southern Energy Networks (SSEN) – than is on offer from the top performing companies whose networks cover other parts of Great Britain.

That's the main conclusion of a hard-hitting policy paper, *Pylons, Pipes and People: Energy networks in Scotland and their changing role with consumers*, published by Citizens Advice Scotland (CAS). It is based on a research study undertaken by CSE with Changeworks.

The research study's particular focus was how the energy networks currently support consumers and how their role in Scotland can and should change in the future to ensure consumers, and particularly vulnerable consumers, are most effectively supported. The study involved a literature review and a series of ten in-depth interviews with senior representatives of the network companies and other key stakeholders and experts.

Simon Roberts, Chief

Executive of CSE and lead author of the report to CAS, said: "In relation to support for vulnerable households, the gap between the top-performing electricity distribution companies and the worst has now got so wide that it's become really noticeable. Every network company has some good initiatives, but not all of the companies take a strategic approach and scale up successful initiatives. Our report calls on the energy regulator Ofgem to address what risks becoming a post-code lottery for vulnerable households."

Citizens Advice Scotland spokesman Jamie Stewart said: "Each year, the energy regulator Ofgem ranks the electricity distribution companies across Britain according to their support for vulnerable consumers and stakeholder engagement. In 2016-17 the Scottish electricity distribution companies were at the bottom of the table.

"We recognise that SSEN and SPEN have invested in a number of valuable programmes to support consumers over the years. However we suggest that Scottish companies should increase the reach of programmes for vulnerable consumers. We think this is vital to ensure that the most vulnerable in society do not miss out on support in comparison to other parts of Great Britain."

Read more at www.cse.org.uk/news/view/2253



More TEA?



Great news for council tenants in Bristol. In July, the city council has confirmed that the Tenants Energy Advice (TEA) project will run for another year, supporting vulnerable tenants with energy advice and helping upgrade homes that are disadvantaged by old, expensive and unreliable heating systems like night storage heaters and backboilers.

Support is offered in a number of ways, including claiming discounts and benefits to which the tenants are entitled. We give energy advice and help tenants switch to cheaper energy tariffs, help clear fuel debt, and install energy efficiency measures such as draught proofing and LED lightbulbs.

All these little things add up to a great deal. From July 2016 to June 2018 TEA has helped Bristol council tenants save a total of £164,000.

You can read the project profile at www.cse.org.uk/tea

Winter Warmth Bundle



As winter approaches and cold weather returns our energy advisors have brought together different strands of help to which people might be entitled to make the cost of keeping warm easier.

We're calling it the winter warmth bundle and it has its own website at www.winterwarmthbundle.org.uk.

CSE's Paul Winney said "If you're on a low income and living in a cold and damp house, the approach of winter is not something you look forward to. It's a time of rising bills and rising anxiety.

"We'd like everyone to stay warm and healthy through

the winter months and there is actually a lot of support out there. We can check people's eligibility for winter entitlements, depending on their personal circumstances and where they live."

These include discounts off your energy bills (up to £765), Warm Home Discount (£140), free or subsidised cavity wall or loft insulation and financial help for new heating systems.

Please consider passing on details of the Winter Warmth Bundle to people or organisations who may be interested.



Social-indicator map goes public

Our data visualisation tool shared by Western Power Distribution to maximise impact

In October, Western Power Distribution published on their website the social-indicator map we built for them in 2017.

The map – and the data behind it – are used by WPD to inform a better understanding of the nature, scale and distribution of different types of household vulnerability. This includes those who may be eligible to be included on the Priority Services Register (PSR) and those likely to be finding it difficult to afford energy to heat their home.

See the Social Indicator Map at www.bit.ly/2DQ7QbL

Toby Bridgeman manages CSE's vulnerability mapping work for WPD and other distribution network operators (DNOs). "We're excited by the fact that WPD have made this tool publicly available. It means that the benefits of

being able to identify areas with high numbers of vulnerable customers can be shared by other organisations – councils, welfare agencies and so on. It will help them target their efforts and direct support at the people who need it most."

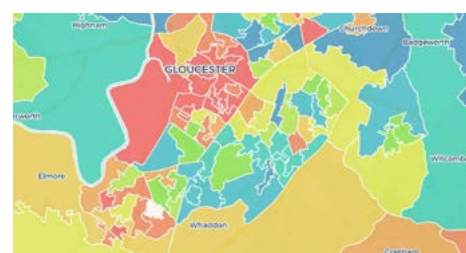
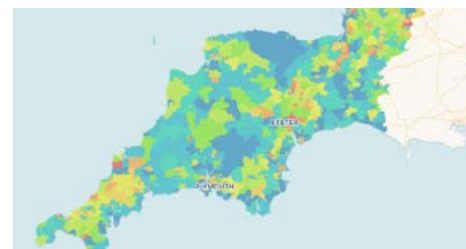
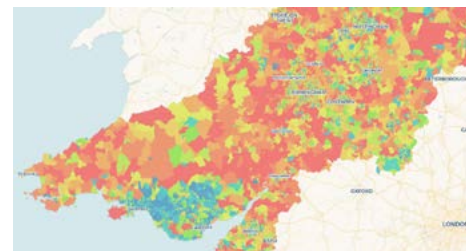
The map shows the levels of 28 indicators - e.g. pensioners living alone, unemployment, carless households, claimants of mental health benefits etc - in each Lower Layer Super Output Area (LSOA) or local authority in WPD's region.

"LSOAs have a population of about 1,500" added Toby "so the level of targetting is very refined."

A spokesperson for WPD said: "We published [the map and data] in order to help other organisations and agencies working in our region to support the most vulnerable in our society. We would love to hear from anyone interested in

developing new initiatives and working together with WPD to help support people in our region, particularly the geographical 'hotspots' revealed by this mapping exercise."

Read more about our work measuring vulnerability for DNOs at www.cse.org.uk/projects/view/1329



Local energy micro-site launched



It's been several years in the planning, but it's finally here: our local energy website.

Sitting within the cse.org.uk domain, it brings together several of our local energy-focused digital assets for the first time in one place

These are: our directory of useful resources, a list of funders, our neighbourhood planning work, and PlanLoCaL, the programme we developed to give communities the confidence and knowledge to achieve a low-carbon future for their area.

It also has a news section that replaces the monthly newsletter that we used to send out in PDF form.

See www.cse.org.uk/local-energy

For the vulnerable, extra support is needed during smart-meter installation

Could vulnerable consumers make better use of smart meters if the process of installing them was improved? To find out, we surveyed two householder types – people with arthritis and families on low incomes – and looked at two factors:

1) An 'enhanced installation' (e.g. where the installer spends more time explaining how smart meters and in-house displays work and tailoring this advice to the property condition and household circumstances.)

2) Either a follow-up home visit or phone advice after the smart meter had been fitted.

CSE's Nicky Hodges led the research. "Vulnerable people stand to gain by the

installation of smart meters, but only if they're helped to make the best use of them. What we wanted to measure was how much difference an 'enhanced' installation and a follow up advice visit or phone call would make."

Fewer households were found to participate in the research than we hoped, but despite this we can say that an unrushed, step-by-step and face-to-face demonstration by the installer did lead to an increase in understanding, and that vulnerable households should be offered a follow-up home visit.

The study was funded by the Joseph Rowntree Foundation and run in partnership with British Gas.

See www.cse.org.uk/projects/view/1353

Four new Trustees boost CSE board

Following an open and competitive recruitment process, we've appointed four new Trustees to join our board. They are:

Dr Jane Dennett-Thorpe, Interim Operations Director at the Thomas Ashton Institute for Risk and Regulatory Research, University of Manchester.

William Gillis, retired, former Managing Director of Warm Zones CIC and, prior to that, Chief Executive of National Energy Action.

Felicity Jones, Partner for

Energy Storage and Flexibility at Everoze, the sustainable energy engineering and strategy consultancy.

Shantha Shanmugalingam, Europe Commercial Director at Dyson.

Anne Obey, Chair of CSE's Board of Trustees, welcomed the new appointments: "We're delighted to be adding the knowledge, skills and experience of these four talented people to our Board. They will contribute new insights and provide fresh perspectives, helping to ensure that the Board continues to deliver sound governance for the charity and provide the executive team with important support and challenge."

www.cse.org.uk/trustees

A closer look at CSE ...

Our 2018 Annual Report is out. It highlights our work during 2017-18 in relation to the five priority areas for action set out in our 2017 three-year strategy:

- 1) No one suffers a cold home.
- 2) Everyone empowered to take action and support sustainable energy.
- 3) Every building low carbon and liveable.

4) Places shaped for sustainable energy.

5) A rapidly decarbonising energy system that works for all.

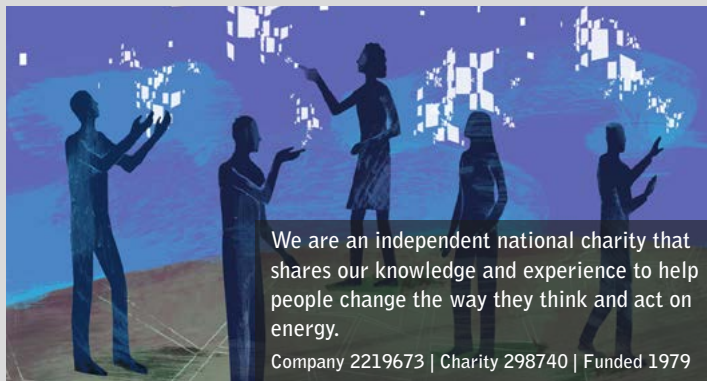
CSE's Chief Executive, Simon Roberts, said "Sharing knowledge and practical experience is central to CSE's mission; doing it well enables others to take action and so increases our impact."

www.cse.org.uk/annual-review



Centre for Sustainable Energy

Switched on since 1979



We are an independent national charity that shares our knowledge and experience to help people change the way they think and act on energy.

Company 2219673 | Charity 298740 | Funded 1979



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Who's who at CSE

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Local & Community Empowerment

Rachel Coxcoon, Head of Local & Community Empowerment | Megan Blyth, Project Worker | Rachel Haycock, Project Officer | Keith Hemphill, Snr Project Manager | Roy Kareem, Snr Project Manager | Charlie Leaman, Intern | Graham McGrath, Planner | Bridget Newbery, Snr Project Manager | Harriet Sansom, Project Manager | Ellie Stevens, Project Officer | Dan Stone, Project Manager

Research & Analysis

Joshua Thumim, Head of Research & Analysis | Dr Toby Bridgeman, Snr Researcher | Mark Gibbons, Software Developer | Daisy Goaman, Project Officer | Andrew Gonnet, Snr Software Developer | Dr Tom Hinton, Snr Software Developer | Nicky Hodges, Snr Researcher | Martin Holley, Snr Technical Project Manager | Sunita Keswani, Intern | Annette Lamley, Project Officer

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