

energise

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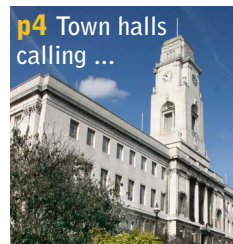
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Why diversity must be front and centre of the green movement

Roy Kareem, Director of CSE's Bright Green Future programme and a Black & Green Ambassador for Bristol, spoke at COP26 in Glasgow

The thinking that got us into our current ecological and climate crisis – material growth on a finite planet – is not the thinking that will get us out of it.

We need as many people as possible, and with as many different cultural and lived experiences, to bring all their wisdom to bear on this problem.

We need more diversity in the environmental movement. Both CSE's Bright Green Future which I direct and Black & Green Ambassadors which I represented at COP26 in Glasgow are part of a movement to build such diversity and bring it front and centre of conversations and actions around sustainability.

Both programmes

recognise that the approach to the environment, and indeed the modern environmental movement that followed, were shaped by the western-centric values of the Age of Enlightenment and Industrial Revolution. And much of the inequity and inequality of that period are with us today.

Diversity is key

Britain's environmental sector is extraordinarily non-diverse with just 3% black and brown people in the labour force, compared to a national average of 19% – only farming is lower.

What a wasted opportunity this is. People whose heritage spans the globe are in a unique position to support the fight against climate change and bridge the gaps between the countries that contribute

most to climate change and those that disproportionately bear the costs. Our families and networks are spread across continents and socio-economic classes, but our contributions have been marginalised. Such modes of thinking, and the institutions that incubate them, need to be challenged and rebalanced.

I was privileged to be invited to speak at COP26 along with my fellow Black & Green Ambassador, Olivia Sweeney, and to show that programmes like Black & Green Ambassadors and Bright Green Future point towards a more inclusive future while respecting

what has come before. We recognise humanity's gains from material development and the contribution of the modern environmental movement, but call for a future where everyone can contribute to finding solutions to our shared climate and ecological crises.

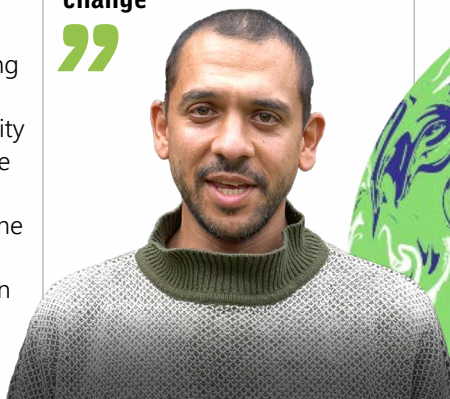
Groups that have been historically marginalised in modern environmental conversations don't simply need equality, they need the agency to act and for their voices to be heard. In our current political system this means investment of both human and capital resources.

We want to see concrete commitments to support a cohort of leadership emerging from right across society, reflecting and embracing the diverse voices and concerns of every citizen.

“

People whose heritage spans the globe are in a unique position to support the fight against climate change

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Roy by the Climate Action Hub stage at COP26 in Glasgow.

Bright Green Future is an environmental leadership programme for teenagers aged between 16 and 19 who want to create a more sustainable future for our planet. BGF trains and empowers the next generation of environmental leaders to address the need for urgent systemic decarbonisation alongside tackling the underrepresentation of Black, brown and other minority ethnic young people in environmental careers

Opportunities exist to get involved in Bright Green Future through mentoring, work placements and sponsorship. Get in touch to find out more. www.bright-green-future.org.uk



Black & Green Ambassadors

Black & Green Ambassadors empowers new leaders to work with and between diverse communities, businesses, other organisations and individuals across Bristol to explore, amplify and enable solutions leading to an environmentally and socially just future for all. The programme has been vital in amplifying the voices and needs of Bristol's under-represented communities. www.blackandgreenambassadors.co.uk

A net-zero energy system which leaves no one behind

Our chief executive, Simon Roberts, spoke at the SSEN COP26 event on the importance of achieving a just transition to net zero

To hit net zero cost-effectively, our energy system needs to become smarter and more flexible to accommodate high volumes of renewable energy. But getting there requires significant and disruptive change.

This change - already underway in places - brings with it new ways to generate unfairness by radically altering the distribution of costs and benefits between consumers. And it threatens to leave behind large numbers of people as new complexities or costs exclude them from meaningful participation.

And this is a problem because the evidence shows that public consent for, and participation in, the transition to a smarter system depends on that transition being fair and inclusive. *Smart* without *fair* is neither socially

acceptable nor politically sustainable, while *fair* without *smart* won't deliver net zero.

This is where our **Smart and Fair?** research programme comes in. We're exploring how these two vital outcomes can meaningfully co-exist in the UK's future energy market. Our work so far shows that purposeful action is required to secure both outcomes for domestic consumers. This is not just to ensure fairness in a market that is otherwise inevitably destined for smartness, but also to secure smartness itself.

Smart energy innovation is changing the relationship between suppliers and consumers and rewarding consumers for changing their patterns of energy use in ways previously unconnected to what they paid. Our future system will include things like: cheaper electricity for those

who adjust their use to avoid peaks or to match the output of renewable generation; reducing electricity use through smart kit; and becoming involved in local or peer-to-peer energy supply.

But not everyone can get involved as these changes require consumers to have capabilities and attributes that have until now been largely irrelevant to participation in the energy market.

Understanding these newly relevant capabilities and attributes has been central to **Smart and Fair?**

But here's the rub. Left to its own devices, the market for domestic smart energy offers will not become fair, putting at risk public support for change. But if fairness is required in every offer from the start, there's a danger of stifling the very innovation needed to achieve a smarter system.

Our analysis points to four areas for early-stage action.

1 Conditions need to be created to allow any consumer to participate.

2 We must avoid blunt interventions to achieve fairness.

3 We need funded pilot schemes that explore a

range of approaches to fairer participation.

4 We need to understand how definitions of consumer harm and vulnerability will change in the shift to net zero.

Barely a day goes by without someone senior in the energy sector saying that 'no one should be left behind' in the transition to net zero. Our continuing programme of work in **Smart and Fair?** is dedicated to providing the evidence base and analytical tools required to make this a reality.

Read more at www.cse.org.uk/smart-and-fair



Left to its own devices, the market for domestic smart energy offers will not become fair



Our response to the government's Heat and Buildings strategy

In October, the government launched the much anticipated Heat and Buildings strategy including plans for £5,000 grants for installing heat pumps and other low-carbon boiler replacements homes. This forms part of a £3.9bn commitment to decarbonise heat, with a target that all new heating systems in UK homes are energy efficient by 2035.

CSE has a track record in testing new approaches to installing low carbon technologies (see www.futureproof.uk.net) and we're pleased to see the new Heat and Buildings strategy making technologies like heat pumps mainstream. But there's work to be done first to ensure they work effectively and actually deliver low carbon and lower energy bills.

To meet UK heat decarbonisation targets we need to address two critical issues: the provision of independent support and advice for home owners seeking to make their homes more energy efficient; and making sure there is a skilled workforce in green housing retrofit and low carbon heating installation to meet this demand.

From our recent experience with the Green Homes Grant fiasco, we know people need support to navigate the process of low carbon home improvements. Hundreds of callers to our advice line are testament to this. But currently, there's no funding available for CSE or any other impartial advice agency to guide people on their low carbon journey. It is unlikely heat decarbonisation targets will be met without the necessary information and advice for home owners.

Growth and jobs

And one of the issues a householder faces is finding contractors who are able to do the necessary work, and do it well. We addressed this problem in our Futureproof programme which had

a built-in training programme run by The Green Register (www.greenregister.org.uk). Such skilling-up is essential for construction professionals in order to provide high quality retrofit services, and to their credit the government cited our training programme in their Heat and Buildings strategy.

But growing the supply chain takes long-term investment and further skills and training to bring new people into the sector. The workforce currently servicing our boilers is ageing – Gas Safe figures

suggest around 97,000 gas engineers (over 75% of the total) will retire in the next decade – and there are huge skills shortages elsewhere in the construction sector.

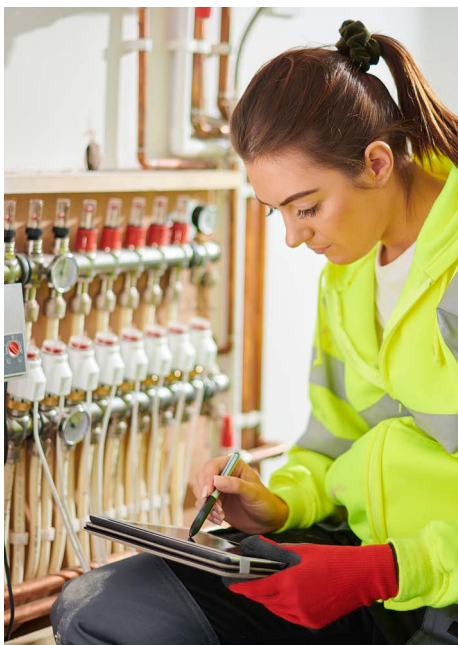
The Government's 10-point plan for a green industrial revolution identifies 50,000 jobs to support making our homes, schools and hospitals greener and warmer through energy efficiency and heat pump installation. Is this ambitious enough? CSE hopes that, as a minimum, gas engineers due to retire in the next ten years will be replaced by heat pump engineers – that's 100,000 new jobs just there.

Heat networks

It's good that the Heat and Buildings strategy acknowledges that there's no silver bullet – a single policy or technology that cuts carbon emissions to virtually zero – but rather that a diverse mix of technologies is needed.

And one of these is heat networks. In urban areas with high heat density we would like to see these becoming an essential part of the energy mix by 2035. We've been working with BEIS to model local heat zones (within which heat networks would be prioritised or even mandated) and are just completing qualitative research into stakeholders' responses to such heat zones.

Decarbonising our UK heating is one of the biggest challenges in the race to net zero and while it's positive to see progress on this, there is still much work to be done.



◀ A big challenge for homeowners wanting to reduce their carbon emissions is finding contractors to do the necessary work - solid-wall insulation, low-carbon heating etc. We need to see an expansion of green skills and apprenticeships. Installing solid wall insulation, underfloor heating (left) or heat pumps (above) correctly is a skilled job and if presented imaginatively could be seen as a valuable career path by today's school leavers.

Working with cities on decarbonisation plans

We help local authorities prioritise the best next steps to reduce carbon emissions and put their plans into action, and lately we've been working with some of England's largest councils ...

CSE is building up a client base of cities and towns where we work alongside the local council to model net-zero solutions and develop place-based net zero strategies.

A recent example is the Metropolitan Borough of Barnsley (population 227,000), whose journey to net zero started in 2019 with the declaration of a climate emergency. CSE is currently working with the council to explore what needs to happen for the borough to reach net zero and look at the evidence for the changes to transport, waste, buildings and energy use that are required.

Our contribution has been two-fold. Firstly we undertook a detailed place-based analysis establishing a carbon baseline for Barnsley followed by modelling of heat demand and energy efficiency, PV potential, power (supply, demand and flexibility) and a review of local renewable energy options. We analysed dependencies and influences on rate of progress, including trajectories to

2045. Our partners, Eunomia, covered the waste and transport sectors.

But we've also been involved with the 'softer' but equally important stakeholder-engagement process, finding out what Barnsley residents feel about the transition, and asking questions like: How do you think these changes will affect you? What does a climate-friendly future for Barnsley look like? What new jobs will this bring? What jobs will go and how might we reskill? What changes to our transport system and homes are needed? Who might lose out?

Barnsley's net-zero strategy is due next Spring.

In 2020 our home city of Bristol published a study led by us that explored key aspects of how the city could achieve its declared ambition to be carbon neutral by 2030, twenty years ahead of the legally binding national target of 2050.

It focused on cutting to near zero the carbon emissions associated with the city's use of fossil fuels, the electricity

it consumes and the waste it produces. We partnered with Ricardo (on transport) and Eunomia (on waste) to undertake the analysis.

To find out more about the Bristol One City Climate Strategy click [here](#).

We worked with Eunomia again on Liverpool council's Net Zero Carbon 2030 action plan.

This looked at four sectors – buildings and heat, power supply, transport and waste – and sets out the actions that Liverpool can take to become a net zero city in 2030, a hugely challenging target.

You can see a high-level summary of the analysis carried out to support Liverpool's route to NZC30 [here](#).

And finally, we are also working in Birmingham (the largest metropolitan borough in England) alongside the city council and the Birmingham Route to Zero Taskforce. This is 3D – 'Data to Decarbonise in a Decade' – and involves the establishment of a unique energy data hub and supporting city-wide applications of the data as well as local community projects using data to help reduce carbon emissions.

The project has its own website at www.3dhub.org.uk. The data-hub – a depository of useful datasets for Birmingham – is freely available via that site. Seven community-run climate action projects in Birmingham have been funded to the tune of £10,000 each to use the free open-source data for initiatives covering housing, travel, waste, energy and emissions. Read more about them [here](#).



A detailed place-based analysis of Barnsley district, including modelling of heat demand (using THERMOS) and PV potential, followed by an extensive stakeholder-engagement process.



In 2020, Bristol City Council published a study which CSE led exploring key aspects of how the city could achieve its declared ambition to be carbon neutral by 2030, twenty years ahead of the legally binding national target of 2050.



Liverpool has a hugely demanding target of becoming a net zero city in 2030. Our analysis and modelling for the council's action plan looked at four sectors – buildings and heat, power supply, transport and waste.



In our ICLEI-funded project, 'Data to Decarbonise in a Decade', we worked alongside the council to build a unique energy data hub and are supporting city-wide applications of the data.

We provide local authorities and activists with information and tools to change the energy system and address the climate emergency in their communities. To find out if we can help you, contact development@cse.org.uk



Boosting community energy in the North East

Achieving net zero requires everyone – individuals, communities, businesses – to think differently about how they heat their buildings, power their transport and generate their power.

Community energy groups

are widely acknowledged as significant contributors in this collective effort through projects like local retrofit schemes, wind turbines or solar farms set up by local people, or neighbourhood car sharing clubs.

But some parts of the UK are richer in community-energy

activity than others, and one of the lowest concentrations is found in the North East

To address the deficit, CSE was asked by the North East Local Enterprise Partnership with North of Tyne Combined Authority and Durham and South Tyneside councils to undertake research and set goals to boost community energy in the region. The research phase included:

- An extensive survey of the voluntary, community, and social enterprise (VCSE) sector in the North East.
- Consultations with Northern Powergrid and representatives from each of the commissioning local authorities
- Five focus groups with representatives of the VCSE sector, and elected members from all North East council areas.
- Desk-based research to

gather insights from UK community organisations.

The resulting report is packed with detail and examples of good practice, replicable business models and recommendations.

CSE's Keith Hempshall was the lead author. "We looked at a wide range of support which councils can offer, from investment to policy, and training to capacity building. We'd like to see 25-50 new community energy projects underway by 2023, covering a range of different domains, in rural and urban areas, and led by and benefitting people from all walks of life."

CSE worked in partnership with Voluntary Organisations' Network North East and Community Energy England. Read more at www.cse.org.uk/projects/view/1384 or download the report [here](#) or the executive summary [here](#).

Warm & Safe Wiltshire, our innovative fuel poverty partnership

has been recognised as an outstanding example of good practice in *Addressing the National Syndemic: Place-based problems and solutions to UK health inequality* by the Institute of Health Equity and Public Policy Projects. (www.bit.ly/3DsULj8 see page 28).

Warm & Safe Wiltshire is a ground-breaking partnership between CSE, Wiltshire and Swindon councils and Dorset & Wiltshire Fire & Rescue Service. It helps people live in warmer, healthier and safer homes and reduces preventable excess winter deaths. Project caseworkers act as a single point of contact offering a varied support service to those

Warm & Safe Wiltshire cited as an 'outstanding example of good practice'

needing help with energy bills and keeping their homes warm. It's supported over 7,000 households since 2015.

CSE's Paul Winney said; "We're proud that our work has been cited as an example of best practice, and hope more local authorities will be inspired to adopt a partnership approach to tackling fuel poverty.

"Historically, we've struggled to engage the health service, but this project has changed all of that. Many health professionals across the area now understand the link between health and cold

homes."

The case study highlights the impact of partnership working to increase service uptake. In the case of Warm & Safe Wiltshire, this was done by connecting our energy advice experts with professionals in the local authority and the health sector, and by demonstrating the health impacts of cold homes and the benefits to patients and the NHS from tackling this problem.

The project now has caseworkers embedded at the two main hospitals in Wiltshire who support patients being

discharged by ensuring their home is warm and safe to return to. The caseworkers also support health care staff with training to spot the signs of fuel poverty.

The project has a Covid Recovery Fund that provides heating improvements for vulnerable households, and employs two young trainees whose early careers had been affected by the loss of opportunities due to Covid-19, supporting them with future employment skills.

www.warmandsafewiltshire.org.uk



Shaping the energy policy landscape

Two long-standing government schemes came up for consultation this summer: the **Energy Company Obligation** and the **Warm Home Discount**. As a leading provider of advice and support to people suffering from cold homes and high energy bills, CSE has significant experience supporting the very groups these consultations will impact.

In September, CSE responded to the Government's consultation on the future design of the Energy Company Obligation (ECO4). This is a programme that requires energy suppliers to secure the installation of home energy efficiency and heating improvements. Since its introduction in 2013, it has led to insulation improvements in 2.3m homes across Great Britain, making these homes warmer and their emissions lower. As such, the ECO has a significant part to play in the country's transition to net zero.

Broadly speaking, we welcome the continuation and expansion of the scheme and the continued focus on

low income and vulnerable households. However, we are calling for a number of policy changes or clarifications:

- Any change in heating system type needs to be accompanied by adequate advice from a trained person i.e. City & Guilds in Energy Awareness or a retrofit coordinator.
- Retrofit coordinators to be independent and not be employed by the installer. The costs should be recovered separately from the installation process.
- All householders should receive advice – i.e. grants, tariffs and minor energy efficiency measures – to ensure the scheme maximises its impact on fuel poverty.
- Customer contributions to be prohibited through primary legislation.
- The solid wall minimum should be set at 70,000 homes.
- The policy should be designed to complement HUG and LADS rather than compete for the same measures.
- Increased support for broken gas boilers accessible via Gas Safe engineers rather than ECO installers.
- Install a hot water tank alongside wet low-temperature distribution systems to ensure home is retrofit-ready for a heat pump.

Meanwhile we also responded to the consultation on the Warm Home Discount (WHD) scheme, looking in particular at the Government's proposals for extension, expansion and reform for 2022-26. The WHD is an obligation on energy suppliers to provide rebates to

CSE policy work

Our policy recommendations are driven by data and research and the experience we gain from helping people struggling to pay their energy bills or to keep their homes warm.

Our response to the Energy Company Obligation consultation is here www.cse.org.uk/news/view/2638

Our response to the Warm Home Discount consultation is here www.cse.org.uk/news/view/2636



customers on the energy bills of low-income and vulnerable customers and tackle fuel poverty.

"A key point in our response was the need for appropriate support for disabled people who often face high energy bills because they need to keep their homes warmer, have additional costs for laundry or running medical equipment" said Ian Preston.

"The current WHD proposals exclude disability benefits from the broader group of beneficiaries. At the same time, ECO4 excludes non-means tested benefits, potentially resulting in no WHD and no energy efficiency support for disabled households.

"The government's ECO4 consultation says that ECO-flex could pick these households up, but we need clear assurances to ensure no one falls through the gaps."

And alongside the provision of energy advice and debt clearance, we recommend the WHD2 provides support for heating repairs – for which no funding is available currently – and minor energy efficiency measures like draught-proofing, door replacements, secondary glazing and replacement appliances.



Reaching net zero quicker has never been more important

Ian Preston reflects on a significant few months for the UK energy sector and tells us how a transition away from gas and an increased effort to insulate homes will help households now and in future...



Back in August, Ofgem announced the biggest increase in energy bill costs in a decade. It came at a time when millions of people were struggling financially due to the pandemic. Ofgem were branded the bad guy, but what's the real reason behind these price increases? And what could this mean for the UK's net zero targets?

The price hike was largely driven by the wholesale cost of gas. This was rising fast because, as the pandemic eased, the demand for oil and gas from China and India rose significantly. Russia met this demand by reducing gas flows to Europe, making it harder for European countries to refill storage facilities which were depleted after winter.

The UK no longer has any long-term gas storage so is susceptible to this kind of shock. And we've almost phased out electricity generation from coal making us more dependent on

imported gas – by a factor of 1.5 according to energy consultancy Wood Mackenzie. So it's likely we'll see high energy prices and increasing volatility for many years yet.

This brings challenges because the UK energy system – including infrastructure, suppliers and jobs – is built around gas; there are currently around 22m gas boilers in the country, including in the vast majority of British homes –

“Patterns of consumer and supply chain behaviour have been driven to gas since the 1970s, so the transition will be challenging.”

and these make a significant contribution to carbon emissions.

How we decarbonise our heat and move away from gas is one of the biggest challenges facing the UK and is not being tackled fast enough through policy, industry or consumer awareness.

The scale of change required to end reliance on gas is significant. Our systems and patterns of consumer and supply chain behaviour have been dedicated to gas since



the 1970s, so the transition will be challenging. But it's by no means impossible.

We need urgent investment in home and building insulation to reduce the demand for heat. Once we've done this, we can replace gas boilers with low carbon heat via heat pumps or, in dense urban environments, heat networks generating heat from a low carbon source.

If we act now and do the work needed to engage the supply chain, retrain skilled tradespeople and generate new jobs through apprentices and training schemes, then we may be able to reach our net zero ambitions.

The Government should prioritise insulating the homes of those in fuel poverty to reduce the amount of energy required to heat their homes as they are switched away from gas heating.

A million more in fuel poverty than thought ...

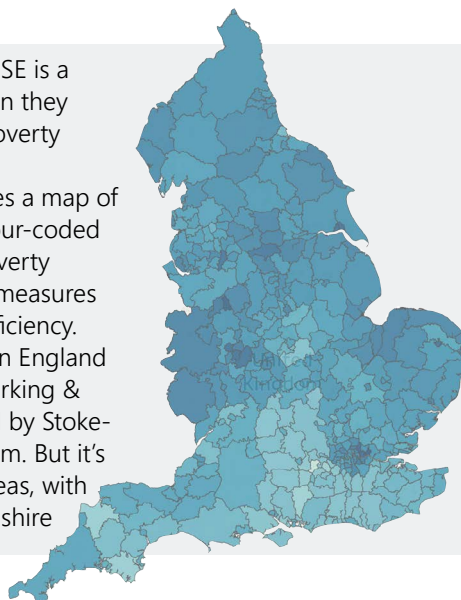
Fuel Poverty could become endemic in England unless drastic action is taken. And the energy crisis could see one in five households forced into fuel poverty.

These warnings were issued by the Fuel Poverty

Coalition (of which CSE is a proud member) when they released their fuel poverty index in September.

The index includes a map of local authorities colour-coded according to fuel poverty figures and data on measures improving energy efficiency.

The worst place in England for fuel poverty is Barking & Dagenham, followed by Stoke-on-Trent and Newham. But it's not just inner-city areas, with Shropshire, Herefordshire



and West Norfolk all struggling. Meanwhile Bracknell Forest, Runnymede and East Hampshire are among the areas least affected.

The latest calculations reveal that soaring wholesale energy prices could see the number of households classified as being in fuel poverty in England rise from the current estimate of 4.1m to 5.3m – that's 22% of the total.

www.cse.org.uk/news/view/2641

Two significant policy documents cite our work around public interest and fairness in energy policy

Our policy work drives forward discussion about the climate emergency and how the UK can create an energy system that is greener, smarter and fairer. This was illustrated by reference to CSE's work in two influential government publications in the past few months.

Our *Smart and Fair?* research which explores the transition to a net-zero energy system is referenced in the Smart Systems and Flexibility Plan (p26, footnote 33). This is an overview of

BEIS and Ofgem's priorities in developing a smart system.

"This is a welcome step forward, with much greater emphasis than before on the importance of securing a smart energy system that also produces fair outcomes for all," said our chief executive, Simon Roberts.

"The plan embraces the need to ensure widespread consumer participation in smart energy, the importance of fair prices and decent consumer protections, and the vital role for initiatives to involve and safeguard the

most vulnerable consumers.

"This will require immediate and purposeful action by the government, Ofgem and the energy industry."

And recommendations from the final report of the Public Interest Advisory Group on Smart Meter Data which we've been running for the past few years with Sustainability First is cited by the Energy Digitalisation Strategy, an investigation into the digitisation of data across the energy system by BEIS, Ofgem and InnovateUK and looks at how data can be digitalised. The final report can be downloaded at:

www.cse.org.uk/downloads/file/PIAG-phase-2-final-report.pdf



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Please let us know your preference. To have your say, press the button ...



Annual Report 2020-21

We understand the impact created when we share knowledge and practical experience to empower people to change the way they think and act about energy.

That's why our Annual Report is always something we're excited to share. Read it on the flipbook [here](#), or on a downloadable PDF [here](#).

Last year was unlike any

other. Despite the challenges of Covid-19, we achieved so much throughout 2020-21, continuing an exciting period of growth alongside healthy financial results.

We responded quickly to the pandemic, reconfiguring our work to support even more people in fuel poverty and continuing to empower communities and local authorities to address the climate emergency.



We're a charity supporting people and organisations across the UK to tackle the climate emergency and end the suffering caused by cold homes.



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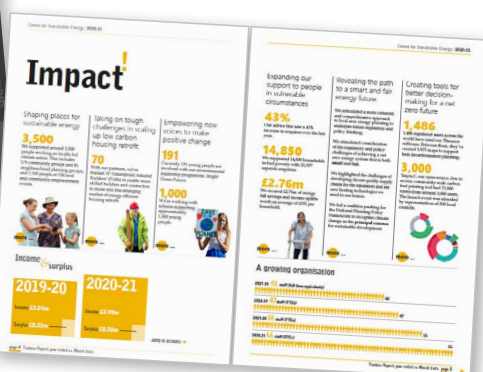
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