

Comprehensive Spending Review 2020

Community Energy England representation

Introduction to Community Energy England.

- 1. This is a response by Community Energy England which represents 250+ community energy groups and associated organisations across England involved in the delivery of community-based energy projects that range from the generation of renewable electricity and heat, to the energy efficiency retrofit of buildings, to helping households combat fuel poverty.
- 2. Our vision is of strong, well informed and capable communities, able to take advantage of their renewable energy resources and address their energy issues in a way that builds a more localised, democratic and sustainable energy system.
- 3. Community energy refers to the delivery of community led renewable energy, energy demand reduction and energy supply projects, whether wholly owned and/or controlled by communities or through partnership with commercial or public sector partners.
- 4. The overwhelming motivation of people and groups involved in community energy is to make a contribution to averting climate catastrophe, followed by a desire to bring community benefit.
- 5. We feel that all efforts of government should share these primary motivations and ensure that whatever else they achieve they also prioritise these goals.

Why Community Energy is essential to achieving net zero and should be supported by government.

- Community energy harnesses local people's passion, expertise, knowledge and capital to make a direct contribution to the UK's energy system and response to climate change, while also increasing community cohesion and resilience, and delivering a wide variety of social and community benefits.
- 7. Government, the regulator and networks agree that the future of energy is local, renewable, zero-carbon, flexible and smart. The net-zero transition will require local innovation in energy demand and supply. Community energy organisations are trusted,

- knowledgeable, well-placed and highly motivated to advocate for and deliver the change and innovation necessary to achieve net zero.
- 8. Community energy has a long track record of installing community-owned renewable energy (often on uncommercial sites), energy efficiency and fuel poverty work and, increasingly, community embedded innovation projects such as supplying cheaper local energy, district heat pumps and flexible energy with battery storage.
- 9. Community energy can engage the local community in being active participants in the energy transition, as investors, innovators, consumers and producers. Community energy is 4-5 times more effective at engaging people on energy efficiency than commercial organisations.
- 10. The government will fail to achieve net zero without the buy-in and participation of people, as the Committee on Climate Change Net Zero report makes clear, not least because behaviour change is essential for 62% of their recommended interventions for reaching zero-carbon. They state (p33) "Engaging the public to act. Much of the success so far in reducing emissions (e.g. power sector decarbonisation and even the phase-out of inefficient gas boilers) has happened with minimal change or awareness needed from the public. However, this cannot continue if the UK is to reach net-zero emissions." and (p193) "It will not be possible to get close to meeting a net-zero target without engaging with people or by pursuing an approach that focuses only on supply-side changes...Some of the difficult decisions that will be required (...) will only be possible if people are engaged in a societal effort to reach net-zero emissions and understand the choices and constraints...There is currently no government strategy to engage the public in the transition to a low-carbon economy. This will need to change."
- 11. Community energy projects deliver 12-13 times the community benefit of commercial energy installationsⁱⁱ. Benefits include additional renewable energy funded by non-commercial capital; money staying local with multiplier effect benefits; new future-appropriate jobs; greater community cohesion and resilience; locally specific demand reduction, energy efficiency and fuel poverty work which brings carbon, well-being, health and cost saving benefits.
- 12. Community energy generated £4.6m in local economic benefit in England and Wales in 2019 one of our most difficult years ever. These funds flowing back to communities could increase exponentially, hand in hand with new renewable energy, increased energy efficiency and energy system innovation. During COVID-19 well more than £300k was mobilised, as well as practical support.
- 13. Community energy yields high returns. In 2019 £31.1m investment in community energy projects in 2019 (a drop of 22% in comparison to 2018) from development funding of only

- £3.7m. Social returns on investment as high as 24:1 over 2 years have been identified on some community energy fuel poverty projects.
- 14. One million homes powered by community energy by 2020 was envisioned by the government's Community Energy Strategy in 2015. Since then, virtually every policy changeⁱⁱⁱ has made it more difficult for the sector to achieve its potential and facilitate local benefits as our **State of the Sector 2020 report**^{iv} shows. But our **2030 Vision**^v envisages 12-20x growth, powering 2.2m homes, supporting 8,700 jobs, saving 2.5m t of carbon and adding £1.8bn to the economy a sector ready to scale!
- 15. **Supporting community energy is popular.** A poll by Co-op Energy found that 82% of respondents, a record high, think the Government should do more to help local communities generate their own energy.
- 16. To fulfil community energy's potential as a grass-roots powerhouse for the energy transition the government must provide some policy and fiscal support to enable it grow exponentially again, harness local human and financial capital, drive forward the urgent energy transition to net-zero and access many millions of pounds of community benefit funding.

Community Energy England Recommendations

- 17. People, communities must be at the heart of energy, net zero and recovery policies and spending. Without their consent and participation "it will not be possible to get close to meeting a net-zero target" (Committee on Climate Change)
- 18. **Community energy**, as key to engaging people and communities on the energy transition, must be supported fiscally, financially and with policy and resources for local government to work with community energy on Local Area Energy Planning^{vi} and projects.
 - 18.1. This support should include a **new Community Energy Strategy**, a **community energy team at BEIS** and a good **cross-departmental working group** receiving input from the sector itself. This will put people at the heart of the energy system and help ensure a just transition in which no-one is left behind.
 - 18.2. Government, the regulator and networks all agree that the 'future of energy is local'. This transition must be planned locally, recognising that circumstances, need and assets vary hugely from area to area. Government, together with Ofgem, the networks and community energy should identify and fully resource at local level an approach to 'Local Area Energy Planning' that sets out a core role for community energy groups and informs national policy.

- 18.3. The CSR should create a new grants programme to encourage collaboration between Local Authorities and the community on energy projects as part of Public Sector Decarbonisation Roadmap. (See also resourcing Local Area Energy Planning above)
- 18.4. The CSR should **create a new National Community Energy Fund or revive the Urban Community Energy Fund** to complement the Rural Community Energy Fund, (which along with the Renewable Heat Incentive should be extended beyond 2021.) There is an £8m underspend from the early termination of the original Urban Community Energy Fund.
- 18.5. Community energy must remain central to the new Fuel Poverty Strategy.
- 19. The CSR must show a *significant upscaling of investment* in and courage for *unprecedented* system change (as per IPCC SR1.5 report). It must align with the UK's NDCs to be published in December to show world-leading ambition and a well-founded plan to make them happen.
- 20. **The CSR spending should be subject to a net zero test**. If investment does not contribute to achieving net zero **as soon as possible** it is debarred. (as soon as possible because current 2050 targets are already insufficient.) No investment in high-carbon industry or projects (such as aviation or road building).
- 21. The CSR must *upscale investment* in genuinely low-carbon renewable energy, which should be as local and community-based as possible, and in upgrading the distribution grid to enable this.
- 22. The CSR must urgently upscale investment in building energy retrofit and make it a sustained long term programme, to create enduring, future appropriate jobs and ensure we stand a chance of meeting carbon targets. It must take urgent measures to tackle sharply increasing fuel poverty. We endorse and support National Energy Action's CSR representation.
- 23. The CSR must *upscale investment* in clean transport and in reducing the need for travel and transportation by localisation. The 'decarbonisation' of current levels of car and road freight does not solve most of its problems. Community owned and controlled transport, 'active transport' like walking and cycling and public transport require large, ongoing investment. Cancel £27bn road programme and HS2.
- 24. The CSR must *upscale investment* in protecting and increasing biodiversity, green and wild spaces, supporting agriculture to welcome new entrants, protecting small farms and small-holdings, increasing genuine 'carbon farming' and soil protection and regeneration.

- 25. The CSR must **boost green investment both private and public**, investing particularly at a local level in people, to help them live cleaner, greener lives across the UK. It should not channel stimulus through the banks as happened after the 2008 crunch. However Net Zero Bank or National Investment Bank (with net zero/no harm to nature rule) would help.
- 26. The CSR must **protect the most vulnerable in the UK and overseas** leading the world in creating a greener, healthier and fairer future, protecting those most vulnerable to climate change.

Introduction

"We cannot keep our promise to the next generation to build an economy fit for the future,
unless we ensure our planet has a future"

Philip Hammond, reported by <u>Carbon Brief</u> Nov 2017

- 27. A primary aim of all government policy (and this spending review) must be to ensure that we have a viable future. This is the decade in which our decisions and action will dictate whether we have a future or not, starting with the Comprehensive Spending Review. It must be recognised by all policy makers that if we exceed 1.5 degrees we are over the edge of cliff from which there is no return to climate stability and the future is fundamentally vitiated for economic prosperity, and civilised life on this planet. The IPCC 1.5 report says starkly: Iimiting warming to 1.5°C is possible within the laws of chemistry and physics but would require unprecedented transitions in all aspects of society. ... Without increased and urgent mitigation ambition in the coming years, leading to a sharp decline in greenhouse gas emissions by 2030, global warming will surpass 1.5°C in the following decades, leading to irreversible loss of the most fragile ecosystems, and crisis after crisis for the most vulnerable people and societies.
- 28. The IPPC 1.5°C report summary for policymakers^{vii} says: Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems (high confidence). These systems transitions are unprecedented in terms of scale, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those option¹s.
- 29. The CSR must show a significant upscaling of investment in and courage for unprecedented system change. Anything less is planning and budgeting to fail.

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- 30. We need to treat it as an emergency, a crisis, as we have the Covid-19 pandemic. We must 'follow the science' and be prepared for *unprecedented* measures or we will be wasting money and destined to fail. Our 2050 net zero target is inadequate.
- 31. The CSR needs to harmonise with our NDC and both must demonstrate genuinely world-leading ambition and strategy to deliver real-zero and *unprecedented system and societal change*. This means aiming to *exceed current targets* in the certain knowledge that they will be soon proved to be not enough. And to engage everyone in the transition. Currently we are planning to miss carbon budgets 4 and 5 and the Government has been castigated the Institute for Government for not having a grip or a plan. The CCC recommends the UK aim for 60% reductions by 2030 heading for net-zero by 2050. This is still inadequate. The majority of councils have 2030 net zero targets which is a much more appropriate response to the IPCC 1.5 report. Our NDC needs to be published well ahead of the UNFCCC submission deadline for COP26 and it needs to be sufficiently leading the ambition curve so that laggards can increase their ambition and the average level of ambition and delivery is enough to avoid exceeding 1.5°C of heating.
- 32. It is our duty to do this both as COP26 presidents to set a practical example for the world to follow and because of our position as leading historic contributor to global heating ix. Politics is now 'the art of making the apparently impossible possible'. We know what responding to an emergency looks like now.
- 33. The spending on the net-zero transition should be funded from general taxation rather than regressive levies such as the Levy Control Framework which is hampered by what it is politically possible to add to people's electricity bills. We need to scale up and speed up 'investing to save' and have courage and long-term thinking to justify it by the benefits and savings that will result, including:
 - 33.1. The future with a stable environment and climate in which economic activity can generate good livelihoods for all.
 - 33.2. Reduced repair and recovery costs from extreme weather events and other impacts of climate change.
 - 33.3. Building energy retrofit bringing reduced health^x and social costs increased well-being and economic benefits from a sustainable economic recovery as well from money not wasted on excessive energy bills.
 - 33.4. Economic benefits from export of zero-carbon solutions.
- 34. The investment in transformation will necessitate strong, consistent, upfront investment in research and development, capacity building in supply chains and delivery, training and reskilling, financing, governance, monitoring and regulation for good standards. It must enable a just transition.

- 35. **People and communities (and community energy) are key** to the net zero transition (and the economic recovery) as explained at 10ff above.
- 36. People (with their generosity, invention and tenacity) and communities (which bring people together to be more than the sum of their parts) have hugely proved their worth during the current crisis, inventing and delivering local solutions which together add up to 'at scale'. Much of this is delivered at low or no cost to the state but deserves and needs government support if it is to continue and scale further.
- 37. But the Committee on Climate Change in its Net Zero report^{xi} warns that, (p12) "Clear leadership is needed, right across Government, with delivery in partnership with businesses and communities. Emissions reduction cannot be left to the energy and environment departments or to the Treasury." and (p33) "Much of the success so far in reducing emissions (e.g. power sector decarbonisation and even the phase-out of inefficient gas boilers) has happened with minimal change or awareness needed from the public. However, this cannot continue if the UK is to reach net-zero emissions." Whilst investment in Green Infrastructure and technology are vital, net zero cannot be 'delivered', only achieved with the consent and active participation of the people.
- 38. The Science and Technology Committee urges <u>a whole systems</u> approach to the energy system and tackling climate change. While it doesn't point out that people and society are perhaps the most complex parts of a complex system it does mention the importance of a local focus and engaging people in 'societal change'.
- 39. So **people and communities**, not just infrastructure and technology, **must be at the centre of energy, net zero and green recovery policies** and must be invested in just as much. Community energy must be supported by government as a key, trusted, motivated, knowledgeable, local advocate and deliverer of the urgent and radical energy (and attitude) transformation necessary to achieve net zero. (see detailed recommendations at 18. above).
- 40. We support the recommendations in the Climate Coalition's Priorities for the Spending Review 2020 CSR representation.

Meeting the policy aims of the Comprehensive Spending Review

41. strengthening the UK's economic recovery from COVID-19 by prioritising jobs and skills

- 41.1. The CSR, and green recovery plans, must prioritise decarbonisation, moving to a new resilience and solidarity economy to develop enduring and future-appropriate jobs.
- 41.2. The scale of the recovery challenge is equalled only by the scale of the climate mitigation (and adaptation) challenge that we face thus creating an opportunity.
- 41.3. **Building energy retrofit** is the lowest hanging fruit. About 30% of our emissions (40% if you include construction including embedded carbon) come from our buildings. We, alongside National Energy Action, welcome the £9.2bn for building energy retrofit in the Queen's Speech and the £3bn promised in July. But the **CSR is the opportunity to commit huge and ongoing upfront investment in building energy retrofit** to create the certainty upon which investment and training can be built to create hundreds of thousands of jobs. This can ultimately be cost neutral due to increased tax revenues and reduced costs from greater employment as well as reduced social costs from people living in better conditions. It must be targeted locally rather than via large outsourcing or energy supply companies. It must target the most vulnerable first and actively encourage community energy and local businesses to deliver it. This will have swift payback time and ultimately high returns on investment in terms of costs savings and increased tax revenues.
- 41.4. The Energy Efficiency Infrastructure Group Net-zero Litmus Test report^{xii} estimates £1b a year from government is necessary to meet the government's Clean Growth Strategy pledge to get all homes to EPC C by 2035. "Appraised as an infrastructure investment, the net present value to the economy, reduced power system investment needs and from improved health amounts to an additional £47 billion"
- 41.5. PWC's 2020 report^{xiii} 'Rebuilding the UK economy: fairer, cleaner, more resilient' recommends "Launch a centrally funded, long-term national energy-efficiency, low carbon and smart building-retrofit programme"
- 41.6. The New Economics Foundation in its Green Stimulus for Housing report estimates it needs public capital investment over 2020-2024 of an average of £8.66 bn per year much aimed at low-income homes as grants, which would unlock £71.95 bn of private capital. This could create '117,811 new direct jobs in year one, rising to a peak of 382,885, in year four. This is an average of 294,527 new jobs between 2020-2023/24, a 22% increase in total construction employment and a 162% increase in the renovation, maintenance and improvement sector. This rises to an average of 515,157 when factoring in indirect jobs.'

- 41.7. IPPR's Transforming the Economy after Covid-19 report^{xv} which estimates that investing in tackling climate/nature and inequality crises could create 1.6m jobs with investment in energy efficiency, low-carbon heat and zero carbon social homebuilding yielding 560,000 jobs.
- 41.8. Institution of Engineering and Tech Nottingham Trent's Scaling up Retrofit 2050 report^{xvi} urges cities and Local Authorities to develop long-term plans (with additional support) [see Local Area Energy Planning above] and engage with consumers using trusted intermediaries such as community energy.
- 41.9. The Centre for Local Economic Strategies Owning the Future report^{xvii} echoes the emphasis on the **local**: (p10) 'By developing and maintaining a deep understanding of the local economy and the impacts of the Covid-19 pandemic in their area, local authorities will be critical to creating a local economy which addresses the interconnected priorities of poverty, ill-health, social isolation and inequality.' The pandemic has seen Local Authorities build a foundation of relations with local communities and businesses now is the time to develop this to recover and rebuild new localised fairer economies.
- 41.10. The CSR (via its **Net zero test**) must not subsidise fossil fuels, bioenergy, aviation or globalisation. Especially post Brexit the most reliable and profitable markets are likely to be domestic and local, which also reduces emissions and other wasted resources involved in transport. For example, in 2019-20 the UK exported 290,366 tonnes of fresh and seed potatoes and imported 252,636 tonnes of the same xviii.
- 42. levelling up economic opportunity across all nations and regions of the country by investing in infrastructure, innovation and people thus closing the gap with our competitors by spreading opportunity, maximising productivity and improving the value add of each hour worked.
 - 42.1. Community Energy England welcomes the increasing recognition above that **people** are as important as infrastructure and innovation and need investment to realise their full potential which, when they are enabled to act collaboratively and collectively, as in community energy groups, is so often more than the sum of the parts. Investing to support community energy is key to achieving net-zero.
 - 42.2. The CSR must *upscale investment* in genuinely low-carbon renewable energy, which should be as local and community-based as possible (see recommendations at 18 above) and in upgrading the distribution grid to enable this. The CSR should remove funding from incineration and large-scale biomass generation, limit funding to future unicorn/silver bullet projects like Carbon Dioxide Removal such as CCUS and

- BECCS in favour of the low-carbon technologies that we know work. The Council on Science and Technology recommended this in their recent 'Whole systems approach to net zero' report and letter to the Prime Minister^{xix}. People and communities are the most complex part of this 'whole system'.
- 42.3. SMEs, community and social businesses and cooperatives must be actively protected and enabled in the CSR. SMEs are proving highly adaptable^{xx} to the crisis, serving local markets in new ways. Over half surveyed grew their customer base. SMEs and social businesses are generating more jobs^{xxi} and local benefit^{xxii} per £ invested and transacted. Community businesses and SMEs are more likely to be highly committed to serving their local communities. The benefit of and need for local and community resilience, increasingly recognised in the current pandemic, must be valued in the CSR.
- 42.4. The CSR must prioritise and support localisation and community ownership and control of energy, supply chains, jobs and more. Local and community based production, (of energy, food etc) creates resilience and reduces waste and the need for travel and transportation and generates economic benefit for the community. The fashion industry has been leading the way in localisation where transport and storage savings and agility benefits are outweighing the old benefits of cheap labour and economies of scale. Economies of scale, centralisation, outsourcing rarely produce the promised benefits and often hide many externalised downsides.
- 42.5. The CSR must make energy retrofit an infrastructure priority and invest heavily in it at a local level (see Climate Assembly report^{xxv}) We endorse National Energy Action's recommendations in their CSR representation which also embrace more immediate fuel poverty measures such as the Warm Homes Discount, reforming ECO.
- 42.6. We urge that the £300m fund available to councils should be prioritised for those councils that are collaborating with Community Energy Groups. Community energy is 4-5 times better at engaging communities on energy efficiency than commercial players as this report^{xxvi}, commissioned by DECC, shows.
- 42.7. All the various energy efficiency funds must be designed to be accessible to community energy groups. Given the advantages, in terms of effective delivery, of working with community energy groups, government should dedicate sufficient funds to ensuring they can participate, for instance, by getting the requisite Trustmark certification.
- 42.8. The Chancellor should take the opportunity of the CSR, if possible, to announce reduction of VAT on Energy Saving Measures to zero and a VAT reduction on retrofits

- that achieve a high level of carbon saving. Social Investment Tax Relief should be extended beyond 2021 and should be re-instated for community energy.
- 42.9. The CSR must **invest** in **low carbon infrastructure ie not roads**, **fossil fuel generation**. The CSR must reverse the £27bn road building programme and HS2 which will likely never recoup its upfront carbon emissions^{xxviii}. Increasing road capacity only increases traffic through 'induced demand' ...
- 43. improving outcomes in public services, including supporting the NHS and taking steps to cut crime and ensure every young person receives a superb education.
 - 43.1. Local authorities are key to the delivery and regulation of many essential services and infrastructure that is appropriate to local conditions and needs. They should be key to the rollout of the green recovery and net zero. Many do not have the best relations with residents although it is almost always better than the big energy companies. Community energy is trusted intermediary, locally knowledgeable and expert in energy and carbon matters. Collaboration between Local Authorities and community energy to do Local Area Energy Planning and delivery must be adequately resourced and will save money even in the short term.
- 44. making the UK a scientific superpower, including leading in the development of technologies that will support the government's ambition to reach net zero carbon emissions by 2050.
 - 44.1. In the same way that people and communities are as important as infrastructure and technologies, so "soft technologies" such as good facilitation/participatory democracy (Citizens' Assemblies, participatory budgeting, consensus working, Open Space Technology) will be key to engaging the wider community to support and participate in the radical changes necessary to achieve the net zero transition. These must be resourced at the Local Authority and community level, but save money and smooth pathways even in the short term. This should be acknowledged and provided for in the CSR.
 - 44.2. The majority of spending is on centralised, large-scale, supply side technologies. Low-tech, demand side measures and technologies eg 'draught-busting', insulation', are routinely under invested and deprioritised because they don't have big industrial lobbies behind them. 'Reduce (conservation, efficiency)' is at the top of the energy hierarchy and must be resourced commensurately.
- 45. strengthening the UK's place in the world.

- 45.1. The UK already leads the world in community based energy action. But the relative monopoly of the big energy companies has meant that the transmission, distribution and supply model has favoured them compared to Denmark and Germany where a substantial part of the distribution network for instance is community owned, enabling local supply from local generation and innovative locally-appropriate synergies. The removal of virtually all support mechanisms for community energy over the last 5 years has meant that only 10% the government's strategic vision in 2015 of 1 million homes powered by community renewable energy by 2020, has been realised and the sector is frustrated xxix. It is increasingly impossible to make a business case to do anything, especially renewable generation. Community energy is active but unable to realise its huge potential to be a local powerhouse for the energy transition. With the right fiscal, financial and policy support it will be able to grow exponentially again as our 2030 Vision xxx and the Future of Community Energy^{xxxi} report show, powering 2m+ homes, delivering millions of tonnes of carbon saving, 8,700 jobs and billions for the economy.
- 45.2. To have a really world-leading community energy sector, the essential bottom up complement to the technological and system innovations, requires some government support (see detailed recommendations at 18ff above)
- 46. improving the management and delivery of our commitments, ensuring that all departments have the appropriate structures and processes in place to deliver their outcomes and commitments on time and within budget.
 - 46.1. We support the Climate Coalition's Green Recovery Plan CSR representation that there should be a **Net-zero test** that ensures all spending and Treasury decisions get the UK on track to net zero as soon as possible. (Current planning reform should strengthen the 'purpose of planning' to 'ensuring net-zero is achieved as soon as possible')
 - 47. Given the vital importance, outlined above in paragraphs 12ff above, of people and communities being at the heart of energy, net-zero and green recovery policies, and the essential role of community energy in engaging those people and communities, community energy must be supported to realise this role. See recommendations at 18ff above.

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FURTHER INFORMATION

Community Energy England (CEE) was established in 2014 to provide a voice for the community energy sector, primarily in England. Membership totals 250+ organisations. Many of the member organisations are community energy groups, but membership extends across a wide range of organisations that work with and support the community energy sector.

www.communityenergyengland.org

i DECC commissioned report 'Community groups and energy efficiency' https://bit.ly/2ErXOj0 para 3.3.3 for example.

https://www.gov.uk/government/publications/community-renewable-electricity-generation-potential-sector-growth-to-2020

iii This includes the removal of ROCs, the Feed-in Tariff, Export Tariff, the Urban Community Energy Fund and Tax Relief, punitive business rates on root-top solar, planning constraints on on-shore wind and increasing VAT on solar panels, batteries and 'energy saving measures' from 5% to 20%.

iv https://communityenergyengland.org/pages/state-of-the-sector

v https://communityenergyengland.org/pages/2030-vision see also independent report

http://wpieconomics.com/publications/future-community-energy

 $[\]frac{\text{vi}}{\text{https://es.catapult.org.uk/wp-content/uploads/2018/12/Local-Area-Energy-Planning-Supporting-clean-growth-and-low-carbon-transition.pdf}$

vii https://www.ipcc.ch/sr15/chapter/spm/

viii https://www.instituteforgovernment.org.uk/sites/default/files/publications/net-zero-government-climate-change-target.pdf

https://www.climatechangenews.com/2014/01/17/uk-has-made-largest-contribution-to-global-warming-says-study/
By 2025 Britain will have used up its per capita fair share of the remaining global carbon budget to keep within 1.5C
https://www.cusp.ac.uk/themes/aetw/zero-carbon-sooner/#

Health cost of poor housing £1.4-£2bn every year: BRE Cost of Poor Housing report. https://www.bre.co.uk/filelibrary/pdf/87741-Cost-of-Poor-Housing-Briefing-Paper-v3.pdf

xi https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf

https://www.theeeig.co.uk/media/1063/eeig_net-zero_1019.pdf

xiii https://www.pwc.co.uk/industries/power-utilities/insights/rebuilding-uk-economy-fairer-cleaner-more-resilient.html

xiv https://neweconomics.org/2020/07/a-green-stimulus-for-housing

xv https://www.ippr.org/research/publications/transforming-the-economy-after-covid19

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