

A Rapid Assessment of Opportunities presented by BEIS' 'Energy White Paper' and UK Gov's 'Ten Point Plan for a Green Industrial Revolution'

1 March 2021

Bristol Advisory Committee
on Climate Change



HM Government

The Ten Point Plan for a Green Industrial Revolution

Building back better, supporting green jobs, and accelerating
our path to net zero

ENERGY WHITE PAPER

Powering our
Net Zero Future

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A note from the Bristol Advisory Committee on Climate Change

The Bristol Advisory Committee on Climate Change (BACCC) has produced this rapid assessment of the opportunities presented by the UK Government's [Ten Point Plan for a Green Industrial Revolution](#) and [BEIS Energy White Paper](#) for the benefit of informing strategic economy recovery efforts whilst delivering upon themes outlined in the One City Climate Strategy, supporting Bristol in its goal to become carbon neutral and climate resilient by 2030.

The committee notes the huge opportunities for growth in green jobs and alignment with Bristol's net zero ambitions arising from this Plan and White Paper, and has therefore taken steps to: summarise the Plan and White Paper in high level detail; identify the key funding opportunities referenced within as open or forthcoming; highlight anticipated barriers and constraints; and provide comments on potential alignments with One City Climate Strategy delivery themes (Annex 1) for the benefit of key stakeholders.

Key asks to stakeholders

- **To note, consider and pursue the opportunities identified**, in particular those which bring potential funding and investment to accelerate city efforts and create green jobs. We have shared this document directly with representatives from the One City Environment, Economy, Homes & Communities board, the West of England Local Enterprise Partnership and Bristol City Council colleagues.
- **Help create the commercial conditions enabling the £11bn of private investment required for housing retrofit during 2020s.**
- Where possible use natural environment funding and investment opportunities for measures which **enable Bristol to mitigate and prepare for consequences of urban heat waves**, such as planting climate resilient tree species for shade and installing new drought tolerant infrastructure.
- Actively identify and engage with key stakeholders who are in a position to **raise awareness and facilitate take up of the Green Homes and Clean Heat Grants and**

other upcoming retrofit grants, including local estate agents, banks, building societies, building control, contractors, architects and DIY suppliers.

- Work with Western Power Distribution and Bristol City Council to **develop infrastructure and create grid readiness for an increase in electric vehicles and decentralised energy generation opportunities.**

The committee thanks you for your consideration of this rapid assessment and is ready to provide technical advice and support on potential approaches to maximise the opportunities outlined.

Headline summaries of plan and paper

The Ten Point Plan for a Green Industrial Revolution

Published November 2020 – a plan for ‘building back better, supporting green jobs, and accelerating our path to net zero’.



Aims to mobilise £12 billion of government investment, and potentially 3 times as much from the private sector, to create and support up to 250,000 green jobs. Includes the following aims:

1. **Offshore wind:** 40GW by 2030, supporting up to 60,000 jobs.
2. **Hydrogen:** aim to generate 5GW of low carbon hydrogen production capacity by 2030.
3. **Nuclear:** Advancing nuclear across large scale nuclear and developing the next generation of small and advanced reactors (could support 10,000 jobs).
4. **Electric vehicles:** Backing car manufacturing bases to accelerate the transition to EV. Transforming national infrastructure to better support EVs.
5. **Public Transport:** Making cycling and walking more attractive ways to travel and investing in zero-emission public transport.

6. **Jet Zero and greener maritime:** Supporting difficult-to-decarbonise industries to become greener through research projects for zero-emission planes and ships.
7. **Making homes, schools and hospitals greener and more energy efficient:** creating 50,000 jobs by 2030, target to install 600,000 heat pumps every year by 2028.
8. **Carbon capture:** Becoming a world-leader in technology to capture and store harmful emissions, with a target to remove 10MT of carbon dioxide by 2030
9. **Protecting and restoring our natural environment:** planting 30,000 hectares of trees every year, whilst creating and retaining thousands of jobs.
10. **Innovation and finance:** Developing the cutting-edge technologies needed to reach these energy ambitions and make London the global centre of green finance.

BEIS Energy White Paper

Published December 2020 - an 'energy white paper setting out how the UK will clean up its energy system and reach net zero emissions by 2050.'



Includes the following proposals:

- **40GW of offshore wind by 2030**, including 1GW floating wind, alongside the expansion of other low-cost renewables technologies.
- Establishing a new **UK Emissions Trading System**.
- Aiming to bring at least **one large-scale nuclear project** to the point of Final Investment Decision by the end of this Parliament.
- Consulting on **ending gas grid connections to new homes being built from 2025**.
- Growing the **installation of electric heat pumps to 600,000 per year by 2028**.
- Building **world-leading digital infrastructure for our energy system**, publishing the UK's first Energy Data Strategy in spring 2021.
- Aim to deliver **4 low-carbon Industrial clusters by 2030** and at least one fully net zero cluster by 2040
- **Investing £1 billion up to 2025 to facilitate the deployment of CCUS** in 2 industrial clusters by the mid-2020s, and a further 2 clusters by 2030, ambition to capture 10MtCO₂ per year by the end of the decade.
- Aiming to develop **5GW of low-carbon hydrogen production capacity by 2030**.

- Creating the framework to introduce opt-in switching, consulting by March 2021.
- Assessing what market framework changes may be required to **facilitate the development and uptake of innovative tariffs** and products engaging with industry and consumer groups throughout 2021 before a formal consultation
- Establishing the **Future Homes Standard** which will ensure that all new-build homes are zero carbon ready.
- Consulting on **regulatory measures to improve the energy performance of homes**, and on how mortgage lenders could support homeowners in making these improvements
- Enquiring that **all rented non-domestic buildings will be EPC Band B by 2030**
- Extending the **Energy Company Obligation to 2026 and expanding the Warm Home Discount to £475 million per year** from 2022 to 2025/2026.

Funding Opportunities to boost Bristol One City Climate Strategy delivery and achieve a Green Recovery

Upcoming funding opportunities highlighted:

- **Green jobs** - New strategy for upskilling through the “green jobs taskforce”, which will mainly focus on “installers to retrofit existing buildings with energy efficiency and clean heat measures”, and a [National Skills Fund](#), to be launched in 2021.
- **Buildings** - The [Green Homes Grant](#) Voucher and Local Authority Delivery schemes, together worth **£2 billion**, were launched in September 2020 (extended to 2021 with further £1bn). £5k vouchers for improving energy performance; £10k in the low-income households; to be spent on cavity wall and loft insulation and air-source heat pumps, to draught proofing and replacing single glazing with double or triple glazing. For private rental - an ambition to bring EPC rating to C, delivery planned 2025-28 (consultation in 2020, no funding announced). For social rental - ambition to upgrade a “significant” proportion of homes to EPC rating C; £50m announced for kick-start retrofit projects. Seeking **£11 bn** of private investment over 2020s.

- **Heat** - Support for Local Authorities to designate new heat network zones, no later than 2025. Zoning entails the identification of areas which can be readily connected to a low-carbon heat network and mandating connection unless it is not cost-effective to do so. £122 million of funding towards a new Heat Network Transformation Programme.
- **Clean Heat Grant** - The government will launch a new [Clean Heat Grant](#) to encourage households to switch from fossil fuel heating to heat pumps, with details expected next year. This will build on the £3bn Green Homes Grant, launched as part of the government's "green recovery" plans and help pay for home upgrades including heat pumps, insulation and solar panels.
- **EV Charge points** - Government Investing £1.3bn to accelerate the rollout of charge points for electric vehicles in homes, streets and on motorways.
- **Smart local energy systems** – 'community-based initiatives which bring together a range of energy issues, typically including heat, power and transport, to reduce emissions in an integrated way, while also promoting local jobs and businesses. Local Authorities are key to delivering these systems by combining energy into their wider statutory work on housing, transport, waste and planning, making delivery more cost-effective and preparing for a net zero future. Government will provide funding for Local Authorities to deliver programmes that support decarbonisation and will continue to work with communities to enable projects to be tailored and delivered to meet local needs.' R&D projects for smart and local energy systems are also typically funded by [Ofgem](#) (now closed), [Innovate UK](#) (£40m of energy funding now open), [UK Research and Innovation Council](#). (various opportunities open).
- **Jet Zero and greener maritime:** Supporting difficult-to-decarbonise industries to become greener through research projects for zero-emission planes and ships. Investing £15m into FlyZero as well as running a £15m competition to support the production of sustainable aviation fuels in the UK. £20m [Clean Maritime Demonstration Competition](#), which will support the UK design and development of clean maritime technology. Accelerating the shift to zero emission vehicles could support around 40,000 new jobs by 2030. More details on ensuring all modes of transport are on a pathway to net zero will be set out in the forthcoming [Transport Decarbonisation Plan](#).

- **Renewables:** Government establishing a Ministerial Delivery Group, which brings together the relevant government departments to oversee the expansion of renewable power in the UK. **Competitive Contracts for Difference (CfD) allocation**- next auction in late 2021 will be open to onshore wind, solar photovoltaics and other established technologies, 12GW of capacity will be awarded.
- **Public Transport:** Making cycling and walking more attractive ways to travel and investing in zero-emission public transport. **£4.2 bn on city public transport and £5bn on buses and active transport.** Money to be spent on: redesigning franchise model (rail), rail electrification, integration of bus and train routes, integrated ticketing, bus lanes, zero emission buses, developing electric bus towns/city centres, new segregated cycle lanes, low pollution school streets, and low traffic neighbourhoods (LTNs).
- **Nature:** Protecting and restoring our natural environment, planting 30,000 hectares of trees every year, whilst creating and retaining thousands of jobs. Creation of green jobs with a **£40 million second round of the [Green Recovery Challenge Fund](#)** (£80m announced in total over 2020). Investment of **£5.2 billion** in a 6 year programme for flood and coastal defences including new innovative approaches to work with the power of nature to not only reduce flood risk, but deliver benefits for the environment, nature and communities.
- **Innovation and finance:** Developing the cutting-edge technologies needed to reach these energy ambitions and make London the global centre of green finance. Committed to raising total **research & development investment to 2.4 per cent of GDP by 2027.**

Anticipated barriers and constraints

- **Lack of awareness of and preparedness for available funding opportunities** which can often be announced with short notice and challenging to engage with for a mainstream audience. Coordination across regional stakeholders to ensure readiness, will help Bristol and region achieve funding and investment to contribute to the huge effort and resource required to realise its ambitions.

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- **Clean Heat /Green Homes Grant** – the Green Homes Grant is expected to end in 2021 - but learnings from issues experienced, particularly the issue with finding contractors to complete the work, should be considered and applied to future opportunities.
 - **Heat** – The Plan and White Paper lacks detail on how the target for 600,000 heat pumps will be achieved, considering the need for local skill development required.
 - **Use of locally produced energy** - There are few mentions of the need to encourage consumers and businesses to use renewable energy when it is available in their local area- and no commitment to exploring local flexibility markets.
 - **Onshore wind and solar** - The White Paper has a commitment to the role of wind and solar, however policy measures are focused heavily on offshore wind. Action is also required to reduce barriers to onshore wind and solar development.
 - **Role of community energy organisations** - Beyond the discussion of smart local energy systems there is a lack of consideration of the important role of and opportunities created by community energy organisations. This is locally important as Bristol has a very large and active community energy sector.
 - **Energy efficiency in buildings** - The White Paper sets out a range of policy measures to support remedial work to improve the energy efficiency of buildings, but these cover a relatively small number of properties and, considering the need for more ambitious action, lack detail on areas where enforcement may be required.
 - **Lack of available information about future consultations** - There are a lot of relevant policy consultations coming up over the next year which will provide additional details.

Authors

This rapid briefing has been authored by members of the Bristol Advisory Committee on Climate Change. Thank you to BACCC members Professor Jim Longhurst, Josh Bullard (and colleagues at Hydrock), Dr Ola Michalec, Professor Bill Gething, Dave Tudgey and Dr Rebecca Windemer, a member of BACCC's expert register, for contributing to this report.

About the Bristol Advisory Committee on Climate Change

The [Bristol Advisory Committee on Climate Change](#) (BACCC) acts as an independent technical committee to advise the Bristol City Office, the six One City thematic boards, Bristol City Council and other stakeholders on mitigating greenhouse gas emissions and adapting to climate change. The committee's terms of reference are available [online](#).

Through its actions, the Committee will seek to accelerate Bristol City's progress to achieving net zero by 2030 and to adapt to climate change in an effective, efficient, inclusive, and just manner.

[Bristol Green Capital Partnership](#) provides secretariat services to the BACCC. To contact the committee for further information, or to discuss this briefing, please contact contact@bristolgreencapital.org.

Annex 1: Alignment of 10 point plan and BEIS Energy White Paper opportunities with One City Climate Strategy delivery themes and items

Delivery theme	Item	Alignment with opportunities	Comments
Transport	"90% of vehicles are ULEV"	Good	The UK Gov is interested in supporting national infrastructure to achieve this - an opportunity to work with the regional Distribution Network Operator (Western Power Distribution, see this document on the engagement with local authorities). Diesel vehicles are planned to be phased out by 2030, £1.3 bn for EV charge points and £582m for consumer incentives when switching.
	"modal shift towards public and active transport - aiming at 40% reduction in vehicle miles. Significant improvements to accessibility of sustainable transport".	Partial	Many of the changes proposed in the 10 Point Plan are already present in Bristol. In surveys with local residents, transport is repeatedly a number 1 issue . Therefore, Bristol stakeholders should not miss the opportunity to gain funding in this area. Bristol Quality of Life survey suggests improvements to bus reliability and frequency, especially on longer and sub-urban routes. The reliability of public transport could be improved if we reduce congestion through modal shift but the proposed £5 bn to invest in zero emission buses will not make a difference if they are perceived as unreliable, poorly connected or late. This MSc report from the University of Bristol quantified the necessary modal share and suggested policy options how to achieve it. Funding opportunities for public transport, cycle lanes or Low Traffic Neighbourhoods (LTNs) should be on the local stakeholders'

			<p>radar. BACCC understands the heated public debate around LTNs; we are currently working with the council of comms strategy around LTNs and Bristol's upcoming transport strategy. Transport issues have previously been effectively communicated as matters of health, accessibility and children's wellbeing and we support further activities under the banner of 'clean air' or 'healthy schools'.</p>
	"Freight consolidation with green last mile delivery"	Not aligned	<p>Local stakeholders ought to tie the freight consolidation plans to Electric Vehicle or Low Traffic Neighbourhood bids</p>
	"Existing transport infrastructure enhanced to withstand future climate projections"	Not aligned	<p>Infrastructural resilience and climate adaptation gather significantly less attention compared to climate mitigation agenda. The latest document is National Adaptation Programme from 2018. However, the programme does not come with any funding promises. We suggest Bristol stakeholders connect with critical infrastructure operators to raise the issue on the agenda.</p>
Buildings	"New buildings are carbon neutral and climate resilient. BCC Identifies new powers and regs for building standards and tightens enforcement and pace of improvements"	Partial	<p>There is an opportunity for Bristol stakeholders to respond to Future Buildings Standard consultation. Bristol would need extra capacity to enforce new standards - we recommend BCC plan this resource into their planning team. In addition to climate targets, other local documents (Homelessness strategy, One City Plan) stress the importance of ending rough sleeping (2027 target) and speeding up the delivery of affordable homes.</p>
	"The energy performance of existing buildings in the city is improved"	Good	<p>Where possible, the national government's target should be exceeded. However, this item is high-up on the UK Gov's agenda with significant funding already announced. Bristol's knowledge about its housing stock/exposure to hazards is summarised in this report. It is estimated that 117K homes</p>

			<p>in Bristol, or 59% of the total, are EPC band D or worse¹; the cost of retrofit is currently estimated at £190-220m. Bristol stakeholders (no cold homes working group, BCC, Bristol Energy Network) have the opportunity to further promote Green Homes Grants and upcoming Clean Heat Grant and to assist with increased uptake among low income households. Bristol stakeholders should anticipate and counteract potential apathy or resistance by learning from previous projects (e.g. smart meters rollout, Green Deal 2013 programme).</p>
Heat Decarbonisation	“electric heat pumps installed in 95k well-insulated buildings; 65k buildings connected to heat networks”	Good	<p>Heat decarbonisation is also high on the UK Gov’s agenda. Insulation and heat pumps can be purchased with Green Homes Grant and the new Clean Heat Grant (details expected next year). Heat network delivery is underway (see City Leap updates; and current delivery of £10m project). The evidence base report by Centre for Sustainable Energy emphasizes the need to upskill and employ a cohort of heating engineers and building contractors - there is an opportunity to work with city-wide stakeholders (education, engineering, tradespeople) on writing a skills and employment action plan - due to the urgency of the issue and timescales of education & recruitment, we suggest this is delivered in rapid policy development mode.</p>
Electricity	“Extensive adoption of smart electricity solutions. Local electricity network is reinforced, smarter and more resilient”	Good	<p>The smart energy agenda is currently at the R&D stage, with Bristol-based companies like Kaluza, Homelync, research centres (Smart Internet Lab, Cabot Centre, Bristol+Bath R&D) or EU-funded projects</p>

¹ Scaled estimate based on [Energy Performance of Buildings Data England and Wales](#)

			<p>like REPLICATE. This represents an opportunity to tighten collaborations between research institutions and the city and ensure that each project has city objectives enshrined from the beginning. Due to the current hype surrounding digital innovation, each “smart energy” project ought to evidence positive impacts on sustainability, security, justice and energy reliability.</p>
“Maximising renewable generation with 350 MW solar”	Partial		<p>The National Government stresses the importance of solar in the energy mix, although it does not provide an estimate of anticipated level of investment. Currently, there is 12GW announced to be open in 2021 through “Contracts for Difference” allocation. In the meantime, Bristol requires up to £625m to upscale its local capacity according to the CSE report. There is an opportunity to develop and scale the photo-voltaic (PV) market due to the fact these are currently good investments without additional subsidy for a range of households and organisations and there are bulk-purchasing schemes which can help reduce the price. This has potential to create schemes linking businesses with community energy initiatives on rooftop solar projects.</p> <p>In the absence of solar PV-specific funding, there is a risk that the vision of a decentralised energy and locally connected system will not be realised (Green homes grants cover solar for water heating but not PV; Feed-in-Tariffs ended and the current remaining scheme is an export tariff “Smart Export Guarantee”). If Western Power Distribution is serious about decentralising energy and a transition to the so-called “Distributed Systems Operator”, they should collaborate with other Bristol stakeholders and bid for accelerated</p>

			investments from Ofgem/BEIS/Innovate UK. We're currently at 28 MW, hence this action should be a high priority.
Consumption & Waste	"At least 65% of all 'waste' is repaired, recycled or re-used."	Partial	Waste-to-Energy is currently considered as a part of UK Gov's Bioenergy Innovation. There are plans to release a Biomass Strategy in 2022. This creates an opportunity for Bristol stakeholders to get involved in setting strategic priorities for the city and wider population.
Business & Economy	"All businesses and organisations in Bristol are carbon neutral (direct and supply chain emissions) and will annually record and measure scope 1, 2 and 3 GHG emissions in accordance with the Greenhouse Gas Protocol. All businesses (especially those with high GHG footprints) are supported in the transition to carbon neutrality to ensure that Bristol's economy is diverse. This will include training, engagement, management and operation support."	Not aligned	Currently, the scope and the tone of local ambitions is significantly different from the strategy presented by the National Government. While Bristol's One City Climate Strategy focuses on accountability and capacity building for all businesses; the UK Gov's papers are effectively wishlists for major projects: with an interest in particular industries (Hydrogen, Ports, Off-shore wind) and creating conditions for innovation (CCS). Support for the existing businesses, especially for small and medium enterprises (SMEs) is limited to energy efficiency grants. As such, policy "sticks" and mundane measures are somewhat lacking. There is a clear gap for the Bristol stakeholders to address how local businesses will be kept accountable and supported in their transition to net zero.
Public, voluntary, community and social enterprise services (VCSE)	"All public and VCSE service organisations are carbon neutral (...), supported in the transition to carbon neutrality and improved resilience to climate hazards"	Not aligned	See comments under Business & Economy theme. Covid pandemic has already demonstrated the importance of VCSE services for community resilience: they have the local knowledge to identify residents in needs as well as the awareness of the diversity of needs (e.g. due to age, illness or cultural background). The recent MSc research recommends safeguarding financial support for these organisations and devolving decision making power away from complicated hierarchies
Natural Environment	"New developments use blue and green infrastructure to protect from climate events and enhancing sequestration potential"	Partial	The UK Gov expresses an interest in developing flood defences. Apart from flooding measures, Bristol needs funding to cope with urban heat (e.g. providing shade, improving ventilation, provision of benches), planting climate resilient species and drought measures (e.g. in allotments). It is recommended that Bristol

			stakeholders leverage the importance of natural infrastructure using health framing and public health or urban planning funding.
	“Everyone lives and works within a 10 mins walk of a quality green space”	Partial	10 point plan focuses on tree planting in rural areas, so it might be out of the scope for city-level funding. However, the notion of accessibility to green spaces is at the heart of Low Traffic/Liveable Neighbourhoods and ought to be considered during neighbourhood design efforts.
	“The city natural environment has been restored, preserved and enhanced to maximise carbon sequestration and climate resilience”	Not aligned	It is likely that urban trees will fall outside of the scope of point 9 in the Ten Point Plan (tree planting commitment). We recommend Bristol stakeholders seek funding for the natural environment using resilience, health and quality of life funding/framings. England Tree strategy will be released in 2021 and provide more details.
Food	All items	Not aligned	Currently, the food sector and agriculture are outside of the scope UK Gov strategies.
Infrastructure interdependencies	All items	Not aligned	Currently, this theme is not aligned with the UK Gov strategies. Please note, National Infrastructure Strategy is due to be published in 2021.