

One Planet Cardiff Scrutiny – Written Submission Pack – 1st December 2020

In advance of the scrutiny of the Draft One Planet Cardiff Strategy witness groups were asked to provide a written submission to reflect their views on the document. As an aid to structuring a response, the Committee provided each of the witness groups with a series of eight questions to base the submission around. The eight questions are set out below:

One Planet Cardiff – Stakeholder / Witness Questions

- 1) What do you think of the draft One Planet Cardiff Strategy? In responding to this please comment on the following:
 - Themes.
 - Projects.
 - Targets / timescales.
 - Planned actions.
 - Potential influence.
 - Challenges and opportunities.
 - Is there anything you would change?
- 2) The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?
- 3) Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?
- 4) What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?
- 5) Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

- 6) How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?
- 7) What is your organisation currently doing to promote carbon reduction and sustainable living?
- 8) How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

The Committee received twelve submissions, with nine for organisations participating in the meeting and a further three that were submitted in writing only. All of these submissions are included in this pack, and are set out to correspond to the running order of the meeting.

▪ 3b (i) - Cardiff University

One Planet Cardiff: Stakeholder / Witness Questions - Cardiff University response

About us

Cardiff University is an ambitious and innovative university with a bold and strategic vision. Our world-leading research was ranked fifth for quality and second for impact amongst UK universities in the 2014 Research Excellence Framework. We provide an educationally outstanding experience for our students. Driven by creativity and curiosity, we strive to fulfil our social, cultural and economic obligations to Cardiff, Wales, the UK and wider world.

Cardiff University launched our Environmental Sustainability Enabling Strategy in 2018, embedding the [Seven Wellbeing Goals](#) of the Welsh Government's Wellbeing of Future Generations (Wales) Act 2015 and the [UN Sustainable Development Goals \(SDGs\)](#) into our work. We signed the Environmental Association of Universities and Colleges (EAUC) [SDG accord](#) in 2016, committing to an annual report on embedding the SDGs into our business and academic processes. By signing the [SDG Accord Global Climate letter](#), we have declared a climate emergency and have committed to being carbon neutral by 2030. We must firmly embed sustainability into everything we do. This will include: taking measures to make major reductions in our carbon emissions over the next decade; changing and rationalising our use of energy, water, finite resources and plastic; and minimising pollution and waste by repairing, reducing, re-using, and recycling. In November 2020, we delivered our white paper "Our route to net zero"¹ having carried out work to identify our Scope 1, 2 and 3 carbon emissions², which clearly identified the largest challenge lies within Scope 3. We are currently developing an action plan and associated business cases.

Overview

Cardiff University welcomes the principle of the Cardiff Council's intention to develop a meaningful strategy to deliver carbon neutrality by 2030. This provides a common goal for developing and delivering strategies and action plans to achieve a shared ambition. At present, beyond the commitment for zero carbon by 2030, the draft does not really present a strategic direction for efforts, for the following reasons:

¹ Our Route to Net Zero

² These can be summarised as:

- Scope 1: covers direct emissions from owned or controlled sources;
- Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company;
- Scope 3 includes all other indirect emissions that occur in an organisation's value chain.

For further clarification see: the Carbon Trust <https://www.carbontrust.com/resources/briefing-what-are-scope-3-emissions> (Accessed 26th November 2020)

- The document begins as a strategy – but too quickly jumps to actions, piecemeal activities – that are no longer aligned to the strategic objectives required by such a document. Such strategic objectives would enable decisions to be made on scope and timing of potential activities. There is effectively a missing tactical layer. We recommend:
 - Setting of strategic objectives for each area of the scope as defined.
 - Presenting case studies of good practice to bring these objectives to life illustrating the potential they will provide for the city.
 - Presenting existing actions and potential actions aligned to the activities.
- Currently the scope of the activities required is not clear – there are three key realms of activities that are mentioned that would usefully be pulled out clearly:
 1. **Cardiff Council’s own emissions and impact:** That which is within the council’s own scope – its owned estate both public and housing, the city’s infrastructure, as well as influencing the behaviour of its own employees and housing occupants.
 2. **The influence and importantly partnership working that the city can have over business, industry, institutions and NGOs.** Here the potential scope of change to policy that the city can affect to influence change is also key.
 3. **Actions and projects that promote behavioural change** of the city’s residents, workers and visitors is an important third strand.
- It is also important that the strategy aligns to policies and initiatives and national, UK national and international levels.
 - The strategy should identify and signpost to the council’s own policies – what needs to be reviewed and updated to enable this transition to zero carbon?
 - The strategy should be more clearly influenced by Wales’ own policies, including demonstrating alignment to the Wellbeing and Future Generations (Wales) Act 2015, the Welsh Agricultural Bill that aims for Wales to become the first 100% agroecology nation, and other Welsh Government initiatives such as [Better Homes, Better Wales, Better World: decarbonising existing homes in Wales](#).
 - International alignment to Sustainable Development Goals and an articulation of how Cardiff can engage and influence on the international stage.
- Finally, it is very important that Cardiff Council commits to this strategy being defined and owned as something that is for the future of the city, Wales and the world. Climate Change is a challenge that all major parties agree presents a threat to the world’s social, economic and environmental functioning and as such it is important that this strategy is maintained throughout the ten years of its delivery.

Cardiff University would very much welcome strategic partnership working in the development and ongoing delivery of this strategic plan and the next stage action planning to delivery this transformation. And as we work on our own climate emergency strategic planning and actions, it is vital that we work effectively with key strategic partners to develop and deliver our responses in a joined up and coordinated manner. We see this consultation response as the first stage of this partnership working that can deliver a zero-carbon future for our city.

We believe we can contribute to the strategy's ongoing development through three areas of Cardiff University expertise:

- **Research:** As a research-led institution, we have key expertise in sustainable places, water biodiversity, sustainable food, sustainable cities and low-carbon built environment and infrastructure as well as behavioural change expertise that can support both the strategic direction and measurement and monitoring of the delivery of our collective plans.
- **Teaching:** We would welcome opportunities to work with you to open the city as a “living lab” for our students. This would enable our students to work in partnership with communities, businesses and institutions, as a part of their studies and extracurricular activities to participate and contribute to real projects that enable the delivery of this strategy.
- **Strategic Modelling:** With regards modelling of both Cardiff Council's and the wider city's emissions, the work already being undertaken in collaboration with the Cardiff Urban Sustainability Programme (CUSP) research group in the School of Engineering. Demonstrating what partnership working between Cardiff University and Cardiff Council can achieve.

Our responses to the detailed [consultation questions](#) are set out overleaf.

Witness question 1

What do you think of the draft One Planet Cardiff Strategy? In responding to this please comment on the following:

Themes / Projects / Targets & Timescales / Planned Actions / Potential Influence / Challenges & Opportunities / Anything you would change?

Cardiff University response:

See above for overarching response to this question, in particular this overview highlights the changes that we would encourage to this strategy document.

Themes: we would encourage you to consider the [Seven Wellbeing Goals](#) of the Wellbeing of Future Generations (Wales) Act as well as [Bioregional's 'One Planet Living' criteria](#). Both highlight the need for such strategies for climatically responsible transformation to place social and cultural factors at their heart, with themes such as Health, Happiness, Equity, Local Economy, Culture and Community. Further to this the significance of the scale of Scope 3 emissions, such as those resulting from procurement activities of materials and products, should not be underestimated, and a clear strategy for the reduction of this is vital to the achievement of a low carbon future.

Projects: Those proposed are all relevant to the cause with the procurement activity, however, without clear strategic objectives it is difficult to assess the extent to which these will achieve the zero-carbon objective.

Targets & timescales: These are largely absent from the document – apart from the 2030 overarching deadline. Staged targets and timescales for each areas of activity need to be set with clear SMART³ objectives set. Perhaps focussing on the short (next 1-2 years), medium (within 3-4 years) and long term (5-10 years).

Planned actions: these are all clearly relevant to the overarching ambition. However, their prioritisation needs to be reviewed in the light of SMART strategic objectives to understand which are likely to be most effective in achieving

Potential influence: it will be possible to achieve influence with an effective strategy that focusses on engaging individuals, businesses and institutions; however, these should focus initially on working with residents and communities alongside partnerships with larger businesses and organisations. Cardiff University are willing to play our part by working with the council to develop and implement a city-wide climate-based behavioural change project.

Challenges and opportunities: the significant opportunities lie in working in partnership and engaging with residents, workers and visitors, while the corollary is also true, imposition of policies and changes in the absence of this will promote challenge.

³ SMART stands for: Specific, Measurable, Achievable, Relevant or Realistic, Time bound.

Witness question 2

The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?

Cardiff University response:

As noted previously, it is difficult to prioritise the proposed projects without timescales and strategic objectives in place with which to assess their effectiveness. However, for Cardiff University, we have found that our Scope 3 emissions account for 85% of our total carbon emissions, so we suggest the prioritisation of a project evaluating emissions in Scope 3, much of which is affected by procurement. Alongside this, a near-term review of scope of council policies, including those that can promote and enable resilient development, to influence development and delivery of low-carbon futures would be welcomed, with work to enhance their effectiveness is also supported.

Further, alignment with the Welsh Government's "Better Homes, Better Wales, Better World" strategy to deliver the largescale housing retrofit activity would be welcomed.

Consultation question 3

Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?

Cardiff University response:

We would like to offer to work with you to set the measuring and monitoring and reporting plans for this programme. Following the development of a clear strategic plan, action plans will follow that can be evaluated through an effective monitoring and evaluation framework.

For example, with regards the **Green Infrastructure & Biodiversity** theme, it is suggested that this should align with [Natural Resource Wales' DECCA criteria](#):

- Diversity: both of trees, habitat types, and animals found within greenspaces;
- Extent: % tree coverage;
- Connectivity: green corridors;
- Condition composition of treescapes in terms of habitat complexity;
- Adaptability: how well does it provide ecosystem services such as flood control.

Witness question 4

What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?

Cardiff University response:

The main barriers that Cardiff University believe currently prevents our institution from delivering change in this field are:

- 1. Behavioural change:** Every student and staff member needs to personally engage with behavioural change to deliver the challenging target of zero carbon by 2030.
- 2. Staff capacity:** Supporting the necessary enhanced staff numbers, time and capacity to consider this agenda and prioritise its embedding throughout our activities.
- 3. Funding:** Securing the funding to deliver infrastructure investment to deliver the estate transformation necessary is challenging in the current climate; especially during and following the impact of COVID-19 on HEI financial sustainability.

Consultation question 5

Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

Cardiff University response:

We would like to suggest the following as examples of possible best practice in the fields of carbon reduction and sustainability. Through further consultation with our academic colleagues it is likely that we will be identify many more:

1. **C40 Cities:** a network of sustainable cities that “*taking bold climate action, [are] leading the way towards a healthier and more sustainable future*”. The website provides numerous case studies across the themes defined in this strategy for action.
2. **Heat Networks:** The roll out of the Cardiff Heat Network is a welcome initiative and will change the landscape of heating buildings in the long term. Cities in Scandinavian countries such as Sweden ([Stockholm](#)) and Denmark ([Copenhagen](#))
3. have shown that the use of a heat networks can significantly help reduce carbon emissions from heating buildings by making use of the waste heat resources available across a city.
4. **Decarbonisation of the gas supply:** Up to 20% hydrogen can be used in existing pipes and appliances (saving 6% CO² compared to natural gas) as a first step in the transition to 100% Hydrogen with upgrading of pipes, meters and boilers, but not requiring changes to heat distribution in the building.
5. **Whole Lifecycle Approach:** With an expected 14,00 new homes as well as buildings for other uses – need a “whole life-cycle” approach which includes embodied energy [London’s Whole life-cycle carbon assessments guidance](#) maybe a useful reference
6. **Built Environment:** [Better Homes, Better Wales, Better World: Decarbonising existing homes in Wales](#), informed by CU academics from the Welsh School of Architecture.
7. **Governance:** [Vitoria-Gasteiz Green Urban Infrastructure Strategy \(2018\)](#) A key aspect of this strategy is that the initiative has been maintained for the past 30+ years, in that there has been a consensus in the municipality that this was a focus irrespectively of the leading party.

Witness question 6

How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?

Cardiff University response:

Cardiff University, Cardiff Council, the Welsh Government and other key organisations in Wales have recently declared a climate emergency. This provides an opportunity for us to work in partnership to develop our strategies, action plans and evaluation together, pooling our expertise and resources to ensure that we work effectively and efficiently together to deliver this challenging target. We would very much welcome sitting on Cardiff Council's proposed Climate Emergency Partnership board to ensure that we can deliver this transformation together. Doing so would align to our own civic mission aspiration to play our part in supporting Wales' green recovery from the economic impacts of COVID-19, bringing to bear our academic expertise on climate issues and working with partners across the Cardiff Capital Region and beyond.

We are already planning partnership working in the context of Cardiff University's first Ecosystem Resilience and Biodiversity Action Plan (ERBAP), which will be implemented from January 2021. In it is a detailed plan of Cardiff University's green spaces, condition, resident species and environmental improvements that can be made. The ERBAP is based on a plan to assess and characterise the green infrastructure, monitor it, maintain or enhance green infrastructure and a programme for engagement with the Cardiff University and city communities. Our steering committee includes the Council's Conservation Officer, with the aim of coordinating efforts and actions across the cityscape. This is an example of how partnership working can enable Cardiff University to support the One Planet Cardiff Strategy as well as deliver its own climate emergency strategy and associated actions.

Consultation question 7

What is your organisation currently doing to promote carbon reduction and sustainable living?

Cardiff University response:

In November 2020, Cardiff University delivered its White Paper “Our Route to Net Zero” to our senior management board, detailing the actions we will need to take with scenarios of how we can reach our target of 2030. Actions required span all elements of our academic and business processes. Our key goals within the next two years will be to enhance our behavioural change programme to maximise the difference all staff and students can make in reducing our consumption. We will also maximise the impact that COVID-19 has had on international travel and embed actions to ensure there is a sustained behavioural change relating to staff international travel and a review of how we deliver field trips. We will be undertaking a programme of education and awareness across all areas of the organisation to ensure that all decision making includes an understanding of climate impact and adaptation and that this is embedded within our committee structure as well as ensuring that our staff and students are provided with the knowledge to be able to implement change both within the workplace and within their everyday life.

Further information on our climate emergency declaration and our wider proposals for how we will tackle these issues as an institution can be found in our [briefing note](#) (also [available in Welsh](#)).

Consultation question 8

How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

Cardiff University response:

As part of the potential strategic partnership between Cardiff University and Cardiff Council in delivering transformation towards a Zero Carbon Future, it would be beneficial to develop a strategic and widespread project to deliver behavioural change across the city's residents, workers and visitors. [The Centre for Climate Change and Social Transformation](#), hosted by Cardiff University would be keen to work collaboratively to develop a strategy for behavioural change at the city scale.

- **3b (ii) - Dwr Cymru**

One Planet Cardiff – Stakeholder / Witness Questions9) *What do you think of the draft One Planet Cardiff Strategy?*

Welsh Water is of the opinion that the overall strategy document is a good way to gather the views of its residents, businesses and other stakeholders, to make a carbon neutral city a reality.

The main themes that have been outlined in the strategy are similar to the ones that the Water Industry has identified as part of their net zero roadmap development and there is a lot of alignment with the Welsh Water 2050 vision, which outlines our vision to become a truly world class, resilient and sustainable water service for the benefit of future generations. This document outlines our 18 strategic responses to realise our vision and respond to the challenges (e.g. climate change) and opportunities that future trends present to us (see link to the document below).

<https://corporate.dwrcymru.com/en/about-us/our-plans/water-2050>

Often the emphasis is put on the threat that climate change brings, to need to change and how it “forces” individuals to change the way they live their lives. We are of the opinion that the change required to counter the impact of climate change, provides a great opportunity to improve the quality of life in Cardiff and elsewhere, rather than solely pose a threat.

It isn't fully clear on how much of the themes are relying on Cardiff residents & businesses to take action (i.e. require Cardiff Council to influence) and how much is in the council's or governments' control. It would be good to clearly state, which part of the challenge needs to be delivered by the council and which part is dependent on its residents & businesses, together with how such changes are to be afforded.

The current strategy document might suggest that it's all “in-hand” and therefore we would recommend an additional theme that is focussed on behavioural change, which supports all other themes to nudge residents & business to take action to

support the “One Planet Cardiff” strategy and presents the benefits of the change, alongside the restrictions it might pose.

In the energy & built environment themes, we would like the council to call out the direct link between water consumption & energy use at home. The direct link between energy use & carbon is well known, however the link between climate change and water use is less known. Over 90% of the carbon emissions within the water cycle are associated with water use at home (heating of water to shower, bath, wash, etc.) and this water use is determining over 20% of households’ energy bills. Therefore, there is a direct correlation between the city’s water use and its carbon footprint.

A reduction in water use isn’t only impacting energy use in Cardiff, conserving water also mitigates against the impact of climate change on the long-term availability of drinking water (see strategic response 2: “Enough Water for all”). Welsh Water would encourage the council to adopt a target water consumption of less than 100 litres per person per day from a current average of ~140 litres, as part of its “One Planet Cardiff” strategy.

The outlined projects generally support the themes that have been set out, however we believe it would be good to quantify the targeted reduction of each individual project and how this relates to the overall challenge of becoming Carbon Neutral.

It would also be good to call out the need for collaboration between the council, businesses and its residents. A carbon neutral city can only be achieved with successful collaborations that are mutually beneficial, for example the private wire connection between the Lamby Way solar farm and the Cardiff Wastewater Treatment facility. Other examples of a successful collaboration between the councils and Welsh Water have been the Greener Grangetown project and the Welsh Water Organic Energy facility that converts food waste into green electricity used by the Cardiff Wastewater Treatment facility.

- 10) *The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?*

Welsh water would encourage the council to initiate the behavioural change program with its residents & business and prioritise the projects that show Cardiff Council leadership on this topic (for example: Greening the City and Low Energy, Active Transport). These projects are highly visible and if done correctly, “proof” to its residents that adapting to climate change is a positive change. Behavioural change also could take a long time, therefore it’s important to start sooner rather than later.

The council could consider bring together multiple organisations – including us – to agree a city-wide behavioural change campaign that we could all support to get to net zero.

Somewhat linked and similar to the behavioural change program, the transition to low-emission vehicles by Cardiff’s residents and its businesses will take time. There is a need to swiftly establish a reliable & widely accessible Electric Vehicle (EV) charging infrastructure, to make EV take-up more practical (e.g. it will be very difficult to provide EV infrastructure in terraced streets) and gain confidence in the technology to encourage adoption of the EV technology. The absence of a reliable & widely accessible EV charging infrastructure in Cardiff, makes meeting UK and Welsh Government 2030 target, very challenging.

- 11) *Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?*

Welsh Water firmly believes that the Council should measure & monitor its carbon footprint (both operational and that embedded in the products and services it buys) across the council, as well as the main lead indicators (energy use, transport, waste and water consumption). The latter will provide feedback to the residents & businesses on how the council is progressing towards its net zero goal.

However, the current strategy document isn’t clear on the scope of the net zero commitment, in particular the scope 3 emissions that are and more importantly aren’t included in the commitment. Setting a clear scope will ensure that the right decisions are being made regarding the total carbon emissions across the life of a new asset/facility (embedded carbon versus operational carbon).

- 12) *What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?*

Welsh Water has reduced its operational carbon emissions (scope 1,2 & 3) in the last 10 years by ~80% compared to the 2010 baseline, to just below 60,000 tonnes of CO₂ per year. It's done this by significantly investing in renewable energy generation, which provides ~25% of the company's energy needs across Wales and makes it 100% self-sufficient in green gas. The remaining electricity need is supplied by Renewable Energy Guarantee of Origin (REGO) backed electricity.

The remaining operational carbon emissions are mainly from transport and process emissions, i.e. Methane and Nitrous Oxide emitted by treating wastewater and spreading digested sludge to land. The latter emissions that equate to an estimated emission of 40,000 – 50,000 tonnes of CO₂e, are difficult to reduce fully without a complete replacement of the treatment works across Wales.

Welsh water has have started to monitor it's embedded carbon emission through it capital investment program and it's currently estimated that these contribute a further 40,000 tonne of CO₂ per year (mainly from emissions associated with concrete & steel production, used to build new treatment facilities and replace). Reducing these emissions will require Welsh Water to maximise the opportunity for nature-based solutions to mitigate against the effects of climate change (e.g. flooding), which not only reduces the need to use steel & concrete but also can enhance biodiversity. The achieve the latter, regulators & other stakeholders will need to work together to deliver a common goal, rather than work in isolation to meet their individual goals.

Having the continued support of the Council to implement sustainable urban drainage systems would be invaluable to continue this work.

- 13) *Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?*

Our Sustainable Urban Drainage (SUD) agenda, is a just such an example, as it not only assists drainage systems to be more resilient, but also reduces the amount of sewage needing pumping and treating thereby reducing our energy and chemicals use. It also embeds partnership working, and improves the social wellbeing of

communities, and so assists educate and support the other behavioural changes we need, to achieve a 'One planet Cardiff'.

Consideration of the role that SUD can play to mitigate against the effects of climate change, should be made an integral part of the wider development of Cardiff in close partnership with property developers. Similarly, the need to encourage all new builds to be water as well as energy efficient.

- 14) *How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?*

Welsh Water is keen to work with Cardiff Council and other stakeholders in the capital, to collectively achieve a "One Planet Cardiff". We would like to build on partnerships & work relationships that we have developed over time when working closely together on the Green Grangetown, Cardiff Food waste and Lamby way solar farm projects. The recently announced project, funded by Innovate UK to look into creating green hydrogen from sewage sludge, to fuel heavy goods vehicles across the council (incl. refuse collection vehicles, buses and other HGV's). The latter is a great example of a circular economy in action.

- 15) *What is your organisation currently doing to promote carbon reduction and sustainable living?*

Welsh Water is actively looking to increase the suitability of our company and the Welsh Water 2050 vision document outlines our vision to become a truly world class, resilient and sustainable water service for the benefit of future generations. The document outlines our 18 strategic responses to realise our vision and respond to the challenges (e.g. climate change) & opportunities that other future trends present to us. Our AMP7 investment program include actions that will be taken to start addressing the challenges outlined in our strategy document.

Welsh Water wants to be a business, which uses its land holdings and other assets to maximise the well-being of its customers, encouraging healthy lifestyles and recreation, and supporting biodiversity and ecosystems. To this end we are developing Lisvane and Llanishen reservoirs as a hub for recreation, health and

wellbeing, reconnecting people with water and our beautiful environment whilst protecting and enhancing the unique ecology of the site.

The new visitor hub at Lisvane and Llanishen reservoirs will have in addition to the passive design measures it will:

- Have the provision of ventilation and wastewater heat recovery.
- Generate zero-carbon electricity through solar photovoltaic panels on the roof.
- Use green gas generated from our core operations of treating sewage sludge.

Welsh Water has made significant investment in Wales' first operational "gas to grid" facility. This generates enough renewable gas to heat around 3,500 domestic properties and makes the company a net producer of renewable gas.

Our Enabling Natural Resources and Well-being (ENRaW) project is an innovative partnership funded by Welsh Government. Through the ENRaW partnership we are working with the local Reservoir Action Group, Cardiff Council Parks & Gardens and Cardiff & Vale University Health Board and a range of organisations to offer activities to benefit people's own health, while also helping enhance the site's environment and biodiversity. We are currently supporting the creation of a Friends group to help care for the site in the future; and are starting to explore opportunities for the social prescribing of volunteering, events and water sports activities working in partnership with the healthcare sector

16) *How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?*

The concept of carbon emissions is abstract and a lag indicator on climate change, therefore it's important in our opinion to focus on the "lead" indicators, clearly make a link between their actions/choice and the impact on the city's carbon emissions; small actions can deliver large results.

For example, a 10 litre per person per day reduction in water consumption for bathing/showering will decrease the energy consumption across the Cardiff 6,500 tonnes of CO₂ associated with the heating of the water (~2% reduction in emissions associated with domestic gas use). So using "one bucket" less of water during bathing and/or using the shower 1 minutes less than normal will make a significant

impact. Let alone dropping Cardiff's average water consumption to similar levels that Copenhagen is aiming at, i.e. 100 litres per person per day, which will reduce over 25,000 tonnes of CO₂ per year across Cardiff.

▪ **3b (iii) - Labour for a Green New Deal (LGND)**

Response to One Planet Cardiff consultation document for the Environment Scrutiny Committee by Cardiff Labour for a Green New Deal

What do you think about the draft One Planet Cardiff Strategy?

Global warming is the greatest threat that humanity has faced since the last ice age. Unless urgent global action is taken to stop the extraction and burning of fossil fuels and begin reducing the levels of greenhouse gasses in the atmosphere we face an uncontrollable and irreversible heating of the planet that will threaten the very existence of human society. We believe that the One Planet Cardiff Strategy is the most crucial policy initiative that the Council has developed since its creation in 1966 and therefore we welcome the publication of the draft enthusiastically (although not uncritically).

In broad terms, we believe that the consultation document recognises the scale and the urgency of the crisis that confronts us, but the proposals within it don't all display the ambition that will be required over the next ten years to meet it.

Themes

The strategy's seven themes encompass all the key areas in which we must make dramatic changes if we are to successfully prevent climate chaos, although we suggest that the Waste Management theme would more accurately describe the Council's new priorities by re-titling it Waste Reduction and Management.

Projects

The seven overall projects listed are all important and necessary. However, while the section on transport lists the admirable work already in train or planned, no additional high level policy developments are mentioned.

Targets/timescales

A criticism that is often made of high level strategy documents such as this is that they lack clear measurable targets and timescales, and while to some degree that criticism could be laid against elements of this consultation paper the Council has

recognised that in confronting the climate emergency, what needs to be achieved must be clear and measurable and that time is absolutely of the essence. The document states unequivocally that the Council is committed not only to becoming a zero carbon authority by 2030, but also that it is committed to doing everything that it can to ensure that Cardiff is a zero carbon city. Those targets and that timescale are absolutely necessary and correct and the Council is to be congratulated on so firmly setting such demanding goals for itself and the city.

Many of the planned actions associated with the seven key themes don't have explicit targets or timescales in the document. Clearly, most, if not all of them, will have both objective measures and timescales published in a whole range of committee papers that are, in theory publicly available online, but the clarity and credibility of this document as a tool for genuine consultation would be greatly enhanced if both a measurable target and a timescale were set against each planned action.

Planned actions

The planned actions listed throughout the document (sometimes, a little confusingly, rather repetitively) add up to a most impressive action plan for radically reshaping the city. However, some of them have problematic elements and there are a number of important omissions.

Energy:

In the section on energy, there seems to be a lack of ambition in the proposals for reducing the Council's own carbon footprint, for example;

- There is a very welcome commitment to *'Develop up to 20MW of renewable energy generation across the Council's Estate'*, but no target is set for this and no explanation of how this, on the face of it, relatively modest figure was arrived at.
- The document states that the council is 'investigating the feasibility of a target to reduce the Council's Carbon emissions from gas and electricity consumption by 60% over the next 10 years' - why no commitment to purchasing electricity solely from suppliers of 'green' electricity? And of course, how can the Council aspire to

be zero carbon in 10 years if only 60% of the energy it uses comes from zero carbon sources?

- The document says that that the council will *'Roll out the Cardiff Heat Network phases 1, 2 and 3 to connect large buildings to a low carbon heat source'*. This is problematic because it involves the use of 'waste heat' from the Viridor incineration plant, which is most definitely not low carbon. Incinerators emit large quantities of CO₂, roughly one tonne of CO₂ for every tonne incinerated. About half of this CO₂ derives from fossil sources such as plastic. Viridor plant burned 363,000 tonnes of waste in 2018.
- The 'carbon intensity' of electricity produced through waste incineration is more than 23 times greater than that for low carbon sources such as wind and solar and even more than coal; as such, incineration is clearly not a low carbon technology. That's not to say that the heat from the Viridor plant should not be used for a district heating scheme - making good use of a waste product from a dirty industrial process contributes to lessening the harmful effects of that process overall - but it doesn't contribute to reducing the council's carbon footprint.

Built environment:

In the section on the built environment, the document notes that the Council has *'installed around 9,500 energy efficiency measures in homes across Cardiff'*.

Retrofitting insulation and other thermal efficiency measures are among the most important ways that we can reduce GHG emissions and and at the same time can contribute to fighting the scourge of fuel poverty and create many new jobs, but there is a huge task ahead in retrofitting thousands of homes right across the city and the document doesn't give an indication of by how much the programme will be accelerated, nor does it suggest any targets or timescales. Only 39% of homes are well insulated in Cardiff. and 24% of households are in fuel poverty. We will need to upgrade the insulation of more than 9,000 homes per year to ensure all homes are properly insulated by 2030. As gas is phased out we will need to switch from gas central heating to eco-heating such as heat pumps. The government provides grants for installing eco-heating yet apparently by the end of last year there were only 35 government funded eco-heating systems in the Cardiff area.

The document makes clear that in terms of zero carbon urban development, the Council wants to lead by example, and makes the firm statements that *'We want to build all new schools to a Carbon Neutral standard by 2023'* and that *'all New Planned Council Developments are built to a low-carbon standard by 2025'*. It also refers to delivering, with Wates, the *pilot* zero carbon housing estate project at the old Eastern High School site. However, there is no excuse for any new Council development - or any building development in the city for that matter - to be built to anything less than zero carbon in use standard. There is no longer any need for pilot projects to test the concept of affordable zero carbon homes - local authorities all over Britain are building zero carbon council housing, often to the more demanding Passivhaus standard. An outstanding example is the Stirling Prize winning Goldsmith Street scheme in Norwich, a new development of around 100 homes, built by Norwich city council, without a profit-hungry developer in sight. They are, incidentally, not homes that fit into the murky class of 'affordable' - they are proper social housing, rented from the Norwich Council with secure tenancies at fixed rents. The document should contain an explicit commitment that all planned new Council developments (or Council funded developments) of all kinds not already onsite will be built to zero carbon standard.

The majority of new private sector developments in Wales, including those springing up around the city, are little more than a collection of houses, often physically isolated, with little in the way of the social amenities that people need if those developments are going to develop into healthy communities; workplaces, nurseries, schools, shops and community spaces. In addition, developers make little or no provision for public transport, rarely have layouts which encourage walking and cycling. Thus, residents are forced to become reliant on private car use in order to access shops, education, health, employment and social and community life. We believe that Wales's revised planning guidelines and Cardiff's revised LDP and SPG should include the requirement that all new housing developments should provide adequate provision for cycle storage and safe cycling and walking routes through the development, as well as ready access to an existing (rather than merely proposed) bus route.

The document makes the very welcome commitment that *'We plan to put climate change at the heart of the updated Local Development Plan; facilitating a city wide Carbon Neutral shift.'* Clearly, the revised LDP will be a key tool for the Council's armoury to ensure that any new development contributes to the aim of making Cardiff a zero carbon city with less motor vehicle traffic and with more tree cover and more and better green spaces. Both Covid 19 and the climate emergency are fundamentally changing our world and schemes and plans that seemed, perhaps, possible or even desirable even a few months ago are so no longer. In this context, it is difficult to see how the Council's flagship project of a 15,000 seat arena in the Bay and (especially post Covid) additional offices development are compatible with the One Planet Cardiff strategy.

Green infrastructure:

Leaving to one side the undoubted value of woodlands to our physical and mental well being, the establishment of sustainable woodland is the only currently viable CO2 removal strategy available and, of course, a major tool for the prevention of flooding. The Committee on Climate Change believes that there should be 152,000 hectares of new woodland planted in Wales by 2050, which means an annual target of 5000 hectares (just 80 hectares were planted last year).

The document makes a very welcome commitment to increasing the tree coverage across the city. However, most of our woodland is north of the urban part of the city and there's a real shortage of tree cover within the urban area. However, young trees absorb relatively little CO2 and atmospheric pollution. Therefore, in addition to planting new trees, conserving our mature woodland - especially within the city itself, where mature trees play a key role in countering air pollution - is absolutely vital. We believe that our planning guidance, currently under review, should, in effect, place a blanket tree preservation order on all mature trees in urban areas, with specific planning permission required for their exceptional felling.

Planning rules should be strengthened and then enforced to protect open spaces and to constrain development on greenfield. New developments should be required to include green infrastructure as a condition of approval - and that requirement should be enforced when developers ignore it.

Water:

The proposal to re-open Canal Dock Feeder along Churchill Way is eye catching initiative which would not only demonstrate a sustainable approach to water management but also greatly enhance the city centre and could help to popularise the overall One Planet Cardiff strategy.

Procurement:

Developing procurement policies which will use the Council's significant purchasing power to stimulate the growth of a local low carbon economy could not only be a significant fillip to local businesses, particular in the post Covid economic downturn that we are facing, but could also serve to build support for the other aspects of the strategy. It would be even more effective if it was done in concert with that of the city's universities, Cardiff and the Vale Health Board and other partners), following the 'Preston model' which has proved successful elsewhere in Britain, and we suggest that both the universities and the NHS should be encouraged to become active partners in the development and implementation of the overall strategy right from the start, and the obvious vehicle for this partnership is the Climate Emergency Partnership Board which the Council has already set up.

One important lesson to be learned from the Preston model is the need to ensure that contracts are packaged so that they are not too large for local suppliers, builders, architects etc. to bid for, and that the insurance requirements are not too onerous.

Potential influence

The graphic in the document is extremely clear and helpful.

Challenges and opportunities

Clearly, achieving these changes is a huge challenge - one which the Council, constrained as it is by its limited powers and even more limited finances, can't possibly meet on its own. These annual reductions in emissions require national action and funding as well as building partnerships with the key players in the city economy and civil society. This strategy is clearly very much in line with those of the Welsh Government, but involving the Government as a partner financially as well as politically is both a major challenge and a major opportunity.

Is there anything you would change?

The Council's Transport White Paper makes clear that the congestion, pollution and generation of greenhouse gases (GHGs) caused by the current numbers of motor vehicles within and travelling into the city is already unsustainable and that some form of road pricing to reduce their numbers is inevitable. We believe that the consultation document should explicitly state that there is an incontrovertible need to drastically reduce the number of cars on the city's streets and that the Council is committed to the principle of road pricing, both for commuters and city residents.

London has already established a soon to be enlarged Ultra Low Emission Zone and Bristol plans to ban diesel cars in parts of its centre by the end of 2021. We should consider the following their examples.

Both the White Paper and the One Planet Cardiff Strategy carry the implication that it is necessary to re-allocate street space on the basis that favours people over motor vehicles - a hierarchy of use: walking, then cycling, then buses, then motor vehicles. However this is nowhere made explicit, and we believe that it is vital to the success of many of the measures in the strategy that it contains such an explicit statement.

The lack of any mention of Low Traffic Neighbourhoods (LTNs) is a serious omission. These are places where through motor vehicle traffic has been removed or reduced so only residents and deliveries and services have access. These are networks of quieter streets where children can play out, air pollution is lower, and walking and cycling are the natural choice for everyday journeys. They have proved that cutting through traffic on side streets doesn't add significantly to congestion on main roads - and it's cheap to do too. These schemes are inspired by those in Dutch cities including Groningen, Utrecht and Amsterdam and stand alongside approaches such as Barcelona's 'Superblocks'. While introducing low traffic neighbourhoods is not without its challenges, examples from across London and elsewhere have shown they do work and once in, are incredibly popular.

The Welsh Government's 'A New Wales Transport Strategy' states that in order to reduce the need for car use within urban areas it is essential that the Government and local authorities *'facilitate home-working for as many workers as possible through initiatives such as '20-minute neighbourhoods', 'Transforming Towns' and by*

implementing the 'Town Centre First' approach set out in Future Wales. We believe that the strategy should include the development of policies and projects to ensure that all new housing development around the city should be designed as '20 minute neighbourhoods' and existing local shopping centres enhanced to better support the needs of their local neighbourhoods.

The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?

Clearly, in the short term the key priority areas are those that are likely to make the greatest impact as far as GHG emissions are concerned in the shortest amount of time, as well as those with immediate co-benefits, such as the rapid expansion of the housing retrofit programme, the creation of people friendly streets, the development of a better, cheaper and cleaner public transport system and the creation of more and better green spaces within the city. However, the projects and the specific issues they address are so interlinked and interdependent that the strategy must be seen and treated as an organic whole.

Moving forward, how do you think that the Council and its partners should measure, monitor and report?

The One Planet Cardiff strategy encompasses and overarches virtually all aspects of the Council's work. It's critical that there should be a named Member to take responsibility for liaising with and co-ordinating Cabinet members and senior officers in the development and implementation of the overall strategy - and for being the public face of the strategy. Given the overwhelming importance of the strategy, which will see the city dramatically and fundamentally reshaped, it would be best if that overall lead was taken personally by the Leader of the Council.

The Council should establish performance indicators for each of the planned actions that are part of the One Planet Cardiff strategy and report publicly on them on a regular basis, rather than simply in officers' reports going to various Cabinet members and scrutiny committees. The key measure, of course, is the amount of CO2 and other GHGs emitted by the city each year and the rate at which it is

declining. We believe that the Kate Raworth's Doughnut model of sustainable development, combining as it does the concept of planetary boundaries with the complementary concept of social boundaries, is an incredibly useful visual framework for explaining sustainable development and suggest that it, along with the idea of charting Cardiff's progress in terms of its journey towards a one planet carbon footprint, should be used to produce popular and widely disseminated annual reports.

We suggest the establishment of an independent expert group similar to the Leeds Climate Commission (itself modelled on the UK Committee on Climate Change) which could both establish and monitor the measures by which to assess the progress of the strategy and provide advice to the Council on its further development. The expert group would report to the Council and its partners on the Climate Emergency Partnership Board.

It's vital that the Council is as transparent as possible in reporting on the progress (and perhaps sometimes lack of it) of the strategy, which must be directly to the people of Cardiff, not buried in documents that nobody except Council officers will read. One critical element of that reporting will be explaining the contribution that individual actions have made, or need to make, towards achieving targets.

What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?

N/A

Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

When it comes to reorganising space in cities and towns to give people - on foot, on bikes and in buses - priority over private cars, and in the creation of small neighbourhood green spaces, the towns and cities of the Netherlands give endless examples of best practice. Utrecht has even re-converted an urban motorway back to a canal through the city as an inspiration to us for the renaissance of Churchill Way!

Waltham Forest's 'Little Holland' Low Traffic Neighbourhood schemes have proved to be cheap and easily replicable. The first LTN saw motor traffic levels fall by over half inside the residential area and by 16% even when including the main roads. Motor traffic levels went down by over 5% on the main road nearest the second scheme.

York has announced plans for at least 600 council homes across eight sites. Each home will have solar panels and heat pumps, and embodied energy in construction materials will be considered. Importantly, each site, not just each individual home, is being designed to be zero carbon. That has involved both urban planning and building design integrating the sites into the city transport network, with cars banished to the edges of sites, and provision made for trees and allotments.

In Cardiff, the long-delayed regeneration of Dumballs Road, with proposals for 2000 homes, would be ideal for a zero carbon car-free neighbourhood, given its location close to the central train and bus stations.

How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?

We believe that we can best help achieve the aims and objectives of the One Planet Cardiff strategy by:

- Spreading awareness of the scale and urgency of the climate emergency and of the necessity of developing and fully implementing the strategy in order to make a healthier, sustainable and more people friendly city, within the communities in which our members live and work.
- Helping to organise practical community based activity in support of the strategy.
- Being a critical friend to the Council and lobbying for ongoing examination, development and improvement of the strategy and its implementation.

What is your organisation currently doing to promote carbon reduction and sustainable living?

See above

How best do you think that Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

The implementation of elements of this strategy is certain to generate vociferous opposition from a minority of local residents, commuters and local traders - and of course, well funded opposition from the vested interests of developers and the car lobby. Much of this opposition (apart from that of the vested commercial interests) will be based on ignorance and misunderstanding and will be relatively short lived as people realise that their streets are safer and more pleasant and local traders find that their business in fact improves rather than collapses.

In order to counter this initial opposition it is vital that the Council ensures the widest possible awareness of the strategy and the benefits it will bring to ordinary people in the city. This concerted and ongoing promotional campaign to win hearts and minds should include measures such as the delivery of an accessible popular booklet delivered to all homes in the city, presentations to all students in the city's schools and colleges and, when Covid restrictions permit it, a Council 'roadshow' which can make presentations to the Council's own staff and local communities and community organisations in neighbourhoods throughout the city.

The document rightly states that the success of the strategy will depend on the widespread public support for its aims and to a significant degree the active involvement of Cardiff citizens, communities and community organisations.

Therefore the Council should establish a One Planet Cardiff Forum, perhaps along the lines of Leeds Climate Forum, that brings together as many sections of Cardiff civil society as possible, both to inform them in the most transparent way possible of the progress of the strategy and to learn from them their needs, aspirations and experience of dealing with all aspects of the climate emergency, from developing new green spaces to the problems and possibilities of developing Low Traffic Neighbourhoods, play streets and other people friendly initiatives.

- **3b (iv) - Natural Resources Wales**



One Planet Cardiff – NRW Response

We welcome the One Planet Cardiff strategy. It aligns well with NRW's Corporate Plan and the South Wales Central Area Statement which was published earlier this year. The Area Statement outlines the key challenges facing South Central Wales, of which Cardiff is an important part, what we can all do to meet these challenges and how we can better manage our natural resources for the benefit of future generations. We believe that the One Planet Cardiff strategy is an important opportunity for local action to help address both the climate and nature emergencies. The full area statement is available here:

naturalresources.wales/about-us/area-statements/south-central-wales-area-statement

We welcome further involvement in this planning process and are keen to seek opportunities for partnership working to deliver the action plan.

Scrutiny Committee Witness Questions - December 1st 2020

1. Response to the strategy

Themes

We support the range of themes identified in the One Planet Strategy and the systems thinking they represent.

We support the emphasis on developing new green infrastructure and protecting and enhancing biodiversity.

We suggest that referencing ecosystem resilience and connecting people with nature in the Green Infrastructure & Biodiversity theme would align with the Area Statement for South Wales Central and help the strategy to support the Section 6 Duty set out in the Environment (Wales) Act 2016.

- **Ecosystem Resilience**

When natural resources flourish, society and the economy thrive as well. We need to improve the resilience of our ecosystems, enhancing the benefits they provide and preventing the loss of biodiversity.

The Environment (Wales) Act 2016 provides the attributes that are considered to contribute to ecosystem resilience: Diversity; Connectivity; Scale and Extent; Condition, and; Adaptability.

- **Connecting People with Nature**

Protecting and enhancing Biodiversity starts with an appreciation and understanding of the benefits and services that the natural environment presents us. By enhancing our connection with nature, we can improve not only our general health and well-being but also our knowledge of, and ability to address, environmental issues more commonly associated with urban landscapes, for instance flooding (surface water and rivers) and air quality.

Broadly we support the focus on nature-based services and solutions, however the integral value of nature should also be valued in order to support these priorities.

We offer support to ensure that Cardiff, as the capital of Wales, leads on developing Urban Ecosystem resilience and connecting people with nature, in partnership with NRW.

Projects, targets and timescales

We welcome the focus on priority projects in the short term. We recognise the work already completed and the ambitious timetable needed to meet 2030 carbon neutrality targets.

We suggest that an adaptive planning and evaluation process, in collaboration with key partners, would enable wider projects to be considered to help meet collective

targets for de-carbonisation. Also, to identify and overcome blockers in cross-organisation working and to maximise opportunities to join up. For example, through Flood Risk Management and national tree planting initiatives.

In addition to taking a project led approach to deliver the urgent actions needed, organisations will need to identify any changes that are required in their structure, delivery models and decision making to make sure changes are effective and sustained.

Planned Actions

We welcome the planned actions identified and ask that you consider these additions:

Food

- Given the significant disruptive nature of the UK leaving the EU on January 1st 2021, and the development of a Welsh Government led Sustainable Farming Scheme with a renewed focus on sustainable land management, we suggest that Cardiff City Council works with NRW via the Area Statement to take a regional approach to food sustainability and security.

Water

- The third cycle of the Water Framework Directive River Basement Management Plan is currently being developed. The Taff and the Ely have been identified as a priority via Opportunity Catchments; a national initiative to take a more integrated and collaborative approach to catchment management, tackling water quality, quantity and ecosystem resilience. We suggest that collaboration to develop and deliver this 7-year programme and associated funding would support this strategy.
- SuDs are a key mechanism for delivering carbon savings and mitigation as well as reducing flood risk. We also suggest that they should support wider benefits to ecosystem resilience, biodiversity, air quality, active travel and wellbeing.

Challenges and Opportunities

We welcome the examples provided in this section and ask that you consider these additions:

- Ecosystem collapse is a major risk and would have a devastating impact on biodiversity and the ecosystem services we rely on, for example, for clean air, clean water, carbon sequestration and pollination.
- Communities and individuals in Cardiff with protected characteristics under the Equalities Act 2010 currently experience inequalities for examples, in their access to green space, the impacts of air quality and related health outcomes, which, among other inequalities, will be exacerbated by climate change. We suggest that existing and historic inequalities are a challenge to be tackled and that this plan should also be an opportunity to avoid further inequality of access, exposure to environmental health risks and health outcomes.
- We would also welcome a focus on nature-based solutions as an opportunity.

2. Rank the projects in order of priority

We support the broad list of projects and their prioritisation as the most efficient ways to minimise emissions.

3. Monitor and report on the progress of the One Planet Cardiff Strategy

We suggest that by aligning the strategy with Area Statement themes, and Public Service Boards Well-being assessments and plans, that NRW and other PSB partners can collaborate to support Cardiff City Council to meet these targets.

We would also support the further development of an accessible community platform to report on these actions and outcomes to reinforce the commitment to continuous improvement and accountability required to meet these ambitious targets.

Monitoring and reporting tools

The NRW Carbon Positive project used the GHG Protocol Corporate Standard. The Greenhouse Gas Protocol provides a comprehensive global framework to measure and manage greenhouse gas (GHG) emissions. Further information is available at:

<http://www.ghgprotocol.org>

NRW also commissioned Carbon Forecast to deliver an independent assessment of potential greenhouse gas (GHG) emissions accounting approaches for the public sector:

Advice on emissions accounting and reporting methods to inform Welsh public sector decarbonisation policy delivery.

The full report is available here:

<https://cdn.cyfoethnaturiol.cymru/media/689021/assessment-of-accounting-and-reporting-methods-welsh-public-sector-decarbonisation.pdf>

The results from this project have demonstrated that while there is no single reporting standard that would meet all of the Welsh public sector emissions reporting requirements, by combining the suite of GHG Protocol standards and guidance, along with the IPCC standard to cover sequestered carbon and minor elements of additional standards, all of the requirements can be met.

Mitigation measures were also evaluated. We created a shortlist of mitigation measures that were identified as potentially suitable for implementation in NRW. To understand the contribution each identified measure could make to support decarbonisation, we conducted a detailed evaluation, which researched and collated information on financial costs and savings, carbon savings or capture (carbon benefit) and wider benefits the measure would deliver. Gathering this information involved a combination of conducting desk-based research, seeking the experience of others, evaluating the results from our demonstration projects, and commissioning pieces of work with industry experts. Information gathered, included:

- carbon benefit – for each measure, we estimated the potential carbon emission reductions or additional sequestration it would provide on an annual basis and over the lifetime of the measure.

- financial costs – for each measure, we captured financial implications of adoption, including:
 - capital cost
 - annual maintenance or recurring costs
 - lifetime of the measure
 - payback period
 - potential financial support, e.g. grants and other financial incentives
 - potential cost savings, e.g. reduced energy costs
- wider benefits – with some measures, we also recorded where the measure would deliver wider benefits. For example, delivering improved water quality, reduced air pollution, improved staff working conditions.

4. The main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable

At a national level, via the Carbon Positive project, we have identified that purchased goods and services, and the processing and transport of sold timber products as our main sources of emissions at 59%.

At a local level we have identified that better collaboration with partners, stakeholders and communities is a key area of development to meet our climate ambitions.

5. Examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy

Greener Grangetown (a partnership between Cardiff City Council, Dŵr Cymru Welsh Water and NRW) and NRW's Carbon Positive project have already been identified in the strategy. Additional case studies and reports commissioned through the Carbon Positive project can be found on the Carbon Positive project website:

naturalresources.wales/about-us/corporate-information/carbon-positive-project

6. How can NRW help achieve the aims and objectives set out in the One Planet Cardiff strategy

Area Statements were published in March 2020. Viewed together, the seven Area Statements can be seen as a collaborative response to the Welsh Government's Natural Resources Policy setting out place-based priorities, risks and opportunities for the sustainable management of natural resources, in particular how to:

- Deliver nature-based solutions to manage natural resources
- Increase renewable energy and resource efficiency
- Take a place based approach

Our Operational teams in South Wales Central are committed to working in partnership with Cardiff City Council and the city to deliver on this plan in line with the Area Statement and our Corporate Plan.

A report for the Nature Smart Cities project partnership by Imperial College London identified that the major constraints to delivering Green Infrastructure in UK cities and counties are threefold:

- Due to financial pressures (the need to prove value, revenue costs and funding);
- Due to conflicting priorities (within the local authority or partners), and;
- Due to organisational capacity (cuts in their operational budgets, which affect their capacity both to develop ideas into projects).

[Getting more Green Smaller municipalities' approaches to delivering green infrastructure](#) (June 2020)

A joined-up approach will be necessary to overcome these challenges and deliver outcomes on the ground.

NRW can support this strategy locally by leveraging a number of national and regional initiatives, for example:

- NRW Woodland Creation Programme
- NRW Opportunity Catchments
- Partnering as a member of the Cardiff PSB

- NRW Strategic Allocated Funds programme
- NRW small grants to third sector programme
- NRW Flood Risk Management

NRW can also support the development of green infrastructure through our Green Infrastructure Data Set and guidance.

In addition, in relation to the city-wide heat network, using waste heat which has been identified; NRW regulates major industries who are required to be combined heat and power ready for when network opportunities arise.

7. What is your organisation currently doing to promote carbon reduction and sustainable living

At a national level the NRW Carbon Positive project continues to ensure that:

- We are [evaluating our net carbon status](#), accounting for both greenhouse gas emissions and carbon sequestration across the whole of our owned and managed estate.
- We are [identifying mitigation opportunities](#) to reduce our carbon impact as an organisation, and [delivering projects to demonstrate these measures](#).
- The project will also put in place a plan for future implementation of mitigation measures and [embed carbon management across the organisation](#).
- Through [sharing our approach and experience](#), we will help to disseminate best practice in carbon management across the Welsh public sector.

NRW has identified 10 priorities to deliver substantial carbon benefits in response to the Climate Emergency:

- Peatland restoration
- Woodland creation
- Renewable energy
- Electric Vehicles and infrastructure
- Heat and energy efficiency
- Procurement
- Welsh public sector advice
- Planning and regulatory systems
- Behaviour change and staff engagement
- Evaluation and communication of current impacts

We can provide further details on the carbon benefits of these actions and the key multiple benefits identified.

8. How Cardiff citizens can help achieve the aims and objectives set out in the One Planet Cardiff strategy

We support continued engagement and public participation in the planning and delivery of the strategy and open and transparent reporting to encourage and enable Cardiff citizens' involvement.

In the Welsh Assembly Government planning policy guidance Technical Advice Note (TAN) 16 on [Sport, Recreation and Open Space \(2009c\)](#), open space is classified as:

Parks and gardens; natural and semi-natural urban greenspaces; green corridors; outdoor sports facilities; amenity greenspace; provision for children and young people; allotments, community gardens and urban farms; cemeteries and churchyards; accessible areas of countryside in the urban fringe; civic spaces and water.

Household and community involvement in the planning, planting, maintaining, ownership and use of these open and green spaces can also contribute to connecting people with nature and carbon emission reduction.

Water usage, growing food and food consumption are also key areas of citizen and household action.

NRW is a signatory to the Healthy Travel Charter and encourages our staff who live and work in the city to adopt active and sustainable travel options.

▪ **3b (v) - Size of Wales**

Size of Wales Welcomes Cardiff Councils One Planet Cardiff as we are facing a climate and nature crisis. Despite irrefutable evidence that man-made emissions are heating our planet and destabilising our climate, global greenhouse gas emissions continue to rise. With Wales leading the way in declaring a climate emergency, its Local Government's policies need to reflect the national commitments to this agenda and the driving factors of this climate emergency such as deforestation.

Fast and deep cuts to global emissions are needed, and trees and forests are an essential part of the solution. An estimated 18 million hectares (44.5 million acres) of forest are being lost globally every year. That is roughly nine times the size of Wales, every year. Global deforestation itself is now estimated to account for 10-15 per cent of global manmade greenhouse gas emissions. The evidence is clear that stopping global deforestation and restoring degraded forests is critical to limiting global temperature rises to 1.5°C above pre-industrial levels, and the Intergovernmental Panel on Climate Change (IPCC) has stressed that we now only have 10 years left to act. Forests are crucial for life on earth.

The main drivers of tropical deforestation globally are the production of beef, soy, palm oil, timber, coffee, cacao and rubber. Many of these commodities are imported into Wales and used in everyday items ranging from cosmetics and food to furniture and animal feed.

A zero-deforestation commitment would align with Cardiff's decarbonisation plans. Committing to tackling deforestation in public procurement, alongside the already outlined plans, would ensure Cardiff is not outsourcing its emissions in its procurement of goods and services and investments. For these reasons and clear alignment with existing commitments, we would welcome Cardiff Council making a deforestation free pledge alongside pledges towards net zero emissions.

For more information on how Cardiff can commit to become a deforestation free city please visit <https://sizeofwales.org.uk/education/deforestation-free-nation/>

▪ **3b (vi) - Sustrans**



Draft 'One Planet Cardiff' Strategy: Sustrans response to the Environmental Scrutiny Committee

November 2020

About Sustrans Cymru

Sustrans is the charity making it easier for people to walk and cycle. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

We believe that facilitating active travel can address many of the challenges we face today such as poor air quality, climate change and health crises such as cancer, diabetes and obesity.

At Sustrans, we want to design our cities for people, not for cars. In a liveable city it is easy to walk and cycle and there are good transport links and everything easy to access. The space has wide pavements, cycle parking and green space. Children can play in the street and the environment welcomes social connection. Because there is very little traffic, the air is cleaner and everyone is more healthy.

We welcome the opportunity to share our views on the One Planet Cardiff strategy and hope to work with the authority to deliver the goals identified.

Detailed response:

1) What do you think of the draft One Planet Cardiff Strategy?

We welcome the One Planet Cardiff Strategy and commend the City of Cardiff Council for being bold and ambitious in these plans.

The draft strategy sets out the challenge well, making a clear case for change and it provides an inspirational vision which could deliver a healthier, happier city for future generations.

We welcome the ambition for Cardiff to become a carbon neutral city and the use of Oxfam Cymru's doughnut model as a framework for this plan.

Themes:

TRANSPORT

Cardiff has made outstanding progress on active travel and we commend the authority for its response to COVID which has accelerated action on active travel and streets for people across the city. We also welcome the Council's ambition for mobility across the city which includes a focus on reducing the need to travel and a commitment to active travel schools.

The strategy recognises the impact of transport on air quality and social cost of this which demonstrates a clear understanding of the imperative for action.

It is key to understand how the built environment can support transport aims. We set out opportunities for 20-minute neighbourhoods and school streets in the relevant section below. It is important to note that this can have a positive impact on transport by reducing the need for long journeys and therefore, the two should not be addressed in silo.

Travel for work

We recognise the reference in the document to the organisation's own practices and acknowledgement of the leadership role as an employer, and the recognition of staff as ambassadors for the city and therefore the importance of how staff travel to and for work.

We welcome the commitment to reducing emissions for business travel including the staff commute. This could be taken further by considering how Council-owned property could be used to create local working hubs that would facilitate people from inside and outside of the organisation working in their own communities. There are also levers that could be maximised through procurement that would ensure contractors to Cardiff Council take similar action to promote active travel and change their own working practices to reduce transport emissions, role-modelling the change they want to see from other employers.

Working across Local Authority boundaries

There is a need to work across authorities to ensure that the 80,000 people who commute into Cardiff every day have sustainable transport links that provide realistic alternatives to car travel. If this is not achieved, work in one authority will just displace the problem rather than solve it completely. Cardiff has made great strides in developing the city's cycle infrastructure but this now needs to extend to surrounding authorities to ensure safe routes into Cardiff.

Electric vehicles (EV)

In terms of buses, we support the switch to electric, but suggest that increasing bus patronage through modal shift should also be a consideration. For low-carbon freight, we suggest that Cardiff pilots an e-cargo bike scheme to improve deliveries of light-weight goods within the city boundary. This could allow businesses to trial a range of e-cargo bikes to decide what model best suits their needs before investing.

The focus for transport needs to be on modal shift. The strategy recognises that *'by using a more efficient petrol or diesel car, a home could save 0.9 tonnes of CO per year. A fully electric vehicle could save 2 tonnes per year.'* Energy is in the top three sectors for carbon emissions and electric cars will only add pressure to this. By promoting a switch to electric cars rather than active travel or public transport, it places further pressure on the energy sector and may displace emissions caused by transport rather than reduce them overall.

The strategy states that *'collectively, we need to power down our energy consumption'* yet the drive for electric cars contradicts this aim.

We should also consider the impact of electric charging points on the public realm if they were introduced en-masse in areas with high housing density such as terraced streets.

We need to stop promoting electric cars as a low carbon solution and make sure people understand that they are not 'zero environmental impact' and actually we should focus on achieving modal shift for day to day journeys.

We welcome the implementation of electric car clubs and support this so that people can have a car when they need it but they don't need to have a car. This is a positive advancement for a city like Cardiff where there is limited street parking and local journeys can generally be made by other means.

BUILT ENVIRONMENT

Aims for low carbon improvements for the built environment should go further than energy use in homes. New developments need to link up to transport aims which means that transport links including active travel routes should be in place before the first home is built.

Over the last 50 years, we have allowed the built environment to create a culture of car-dependency which exacerbates inequalities. Cardiff's One Planet strategy should require sustainable transport to be part of the initial proposals for a new development to ensure access from the outset. When people move house, it provides a key opportunity for behaviour change so ensuring these links are in place from the beginning could shift travel patterns to become more sustainable and healthy. Developments should also provide for bike storage and parking to promote active travel and ensure there is the space required to own a bike. Cardiff Council should work with developers to ensure this shift happens as a matter of urgency.

20 minute neighbourhoods

Developments should put people and community first, ensuring public space is attractive and facilitates social connection. We have long promoted a vision where people in towns and cities can access everything they need is within a 20-minute walk. In these neighbourhoods, children can play in the street and can walk and cycle to school safely and everyone feels connected to where they live and to each

other. This is key to reducing carbon emissions through transport and Cardiff Council should consider how this can be achieved for communities.

School streets/zones

At Sustrans we are working with schools across Wales to create school streets or zones which are traffic free to enable children to walk, cycle or scoot to school safely. The projects are developed with the children, their parents and local residents to identify opportunities to reorganise space and redirect traffic to create a child-friendly environment that is safe and healthy.

GREEN INFRASTRUCTURE & BIODIVERSITY

Cardiff is one of the best cities in the UK for access to green space and this strategy is important to ensure the city's natural assets are protected and enhanced. In building new developments and improving existing urban space, this plan should seek to increase green infrastructure across the city. This year, more than ever, we have all come to understand the importance of green and blue space for health and wellbeing. It is especially important to have access to public spaces for those who have no outdoor space at home and where possible, we should be looking to introduce more green infrastructure into our neighbourhoods.

At Sustrans, we promote greater investment into the National Cycle Network to create green and blue corridors which are traffic-free, connecting communities to all kinds of destinations for commuting, everyday journeys or leisure and recreation, as well as providing people with a chance to connect to nature around them. We see this as being as important for people as a new motorway and even more so when you consider all the benefits this can bring.

2) The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?

Our priorities are around transport and connecting communities so we would prioritise the continued development of active travel infrastructure, promoting green and blue transport corridors and working with neighbouring authorities to ensure this can be door to door for those commuting into the city.

We would also prioritise supporting people to live more locally and improving neighbourhoods through urban design projects. This means supporting people to work closer to home, ensuring services can be accessed within 20 minutes of home and also providing more green space for communities.

In terms of additional action, the authority should consider what more provision could be made for active travel such as secure cycle storage, cycle parking and facilities (e.g. showers, lockers and changing facilities) in Cardiff centre & Cardiff Bay.

3) Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?

The need for effective monitoring and evaluation to measure delivery against targets is well established and should capture progress on the outcomes sought at a national level to tie into Welsh Government strategy.

Therefore, whilst we welcome the ambitions set out in this strategy, we strongly recommend the council focuses its delivery on impact. This will require the setting of ambitious and varied targets that do not only tie in with wider national strategic objectives, but also reflect the vision of the council to see a genuine change in the city and the way people work, live and travel.

Cardiff Council's approach should include the early development of a consistent framework for monitoring and evaluation, which sets out clear quantitative and qualitative measures that will enable the council to monitor the progress against this vision. This framework for monitoring should also ensure data collection methods are clarified early on, so that the data that is being gathered is adequate and a true reflection of reality.

We suggest this may be made easier by collaborating with those organisations that will support the delivery of the strategy, as some may be able to assist in the collection of data, which could be used to make the reporting process of the council more robust by enabling data aggregation. Also, it may help to draw on expertise

from organisations with knowledge of evaluating impact of behaviour change and modal shift.

4) What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?

At Sustrans, we are a charity that promote sustainable transport and as such, we attract people who live our values and use active travel or public transport in their day to day lives. We provide storage space for bikes on our premises in Cardiff Bay and also ensure staff have access to bikes and waterproof clothing, as well as national standards training.

We promote sustainable travel to other organisations and facilitate behaviour change in communities, creating urban spaces that prioritise people and supporting organisations to encourage healthy journeys. Infrastructure safety and reliability, accessibility of sustainable options, and lack of incentivising are some of the greatest barriers faced by people seeking to reduce their carbon footprint.

5) Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

Low traffic neighbourhood (LTN)

Across the UK, funding for active travel has increased in response to the Covid-19 crisis which has led to changes in the allocation of road space. Reshaping residential areas to make streets safer and more appealing to walk and cycle is part of creating a 'Low Traffic Neighbourhood' (also referred to as 'Liveable Neighbourhoods' or 'Active Neighbourhoods').

In an LTN scheme, access for motor vehicles in residential streets is greatly reduced. This is done by minimising the amount of traffic that comes from vehicles using the streets to get to another destination. Private vehicles can still have easy access to all homes and businesses without driving directly through the neighbourhood. This opens up networks of streets so people can safely travel through the area on foot, bicycle, by wheeling or by bus. Emergency vehicles can

also be prioritised to reach their destinations quicker. Making space on our streets is key to achieving cleaner air and a lower carbon footprint whilst building healthier, safer and more resilient communities.

6) How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?

We can help Cardiff Council to facilitate behaviour change across the city and within the organisation through journey planning and cycle skills. We also provide advice to ensure infrastructure is up to current standards and we can deliver urban design initiatives such as school streets and parklets. We are already working with schools to promote active travel and facilitate healthy journeys.

7) What is your organisation currently doing to promote carbon reduction and sustainable living?

We make it easier for people to walk and cycle in order to deliver our vision for a society where the way we travel creates healthier places and happier lives for everyone. We do this by creating liveable cities and towns for everyone which transforms urban spaces and the school run and we ensure infrastructure provides paths for everyone. We contribute to shaping sustainable infrastructure, and also seek to shape peoples' every day travel behaviours.

8) How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

It is good that there are clear ideas set out in the strategy to empower citizens to play their part in achieving the goals. Another suggestion is that citizens could commit to changing behaviour by walking or cycling for at least some of their journeys or reducing their own speed when driving to make it safer for others to travel on foot or by bike.

We would like to see a meaningful engagement process with citizens in the development of this strategy, by actively seeking the engagement of community groups and particularly underrepresented groups, to ensure this vision and its

delivery genuinely represents the citizens of Cardiff and empowers and enables them.

For further information, contact: paula.renzel@sustrans.org.uk

▪ 3b (vii) - Wales & Wests Utilities

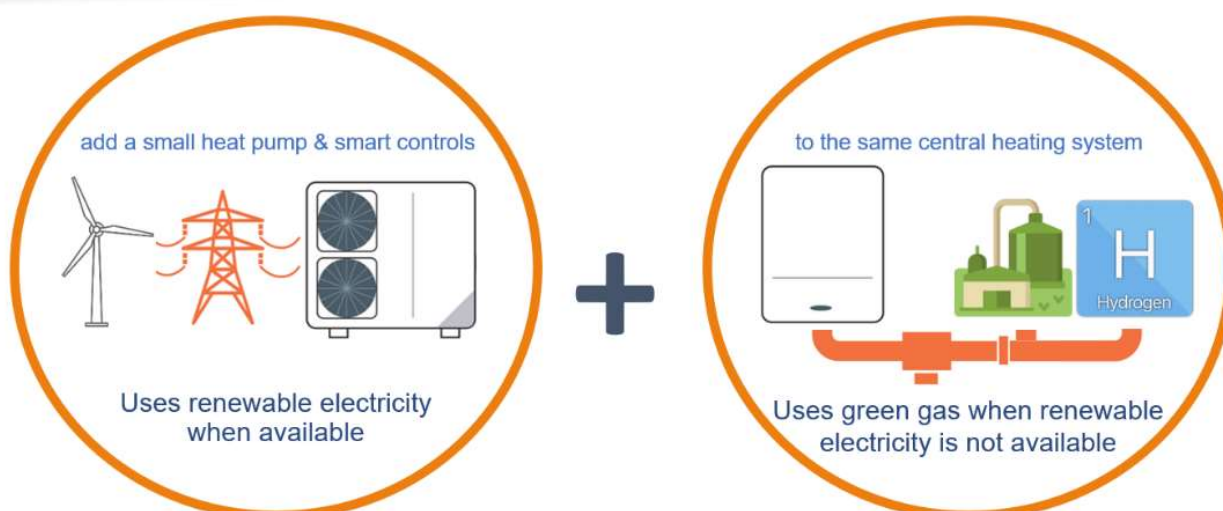
One Planet Cardiff – Stakeholder / Witness Questions

Wales & West Utilities Response

Introduction

- i. We are Wales & West Utilities – the gas distribution network and system operator keeping the gas flowing to heat homes, power businesses and keep the lights on for 7.5 million customers across Wales and south west England. We respond to gas emergencies, connect new homes and upgrade the gas network, making sure it's ready to deliver reliable, affordable and sustainable energy long into the future.
- ii. Our network acts as a large battery that stores and releases 58GWh of energy each day, equivalent to six million Tesla Powerwalls. The inherent UK gas system provides a seasonal storage capacity of 210TWh, equivalent to 21 billion Tesla Powerwalls. The daily demand for energy from our own gas network ranges from 77GWh in the summer to 517GWh on a peak winter day. On cold days, over 80% of heat and power demand is provided through our gas network. In the evening on 16 June 2020, 70% of electricity generation in GB came from the gas grid.
- iii. In recent years we have also connected 19 biomethane sites to our network – enough capacity to supply 150,000 homes with green gas, or 750,000 homes

The simple message for hybrid heating systems



Least Cost | Easiest Action | Limited Disruption | Lowest Cumulative Carbon

using hybrid heating systems. With new sites due to be connected, this will rise to 180,000 homes, or 900,000 homes using hybrid heating systems.

- iv. We have seen a rapid increase in the number of flexible power stations connecting to our distribution network, with 42 connected at a total capacity of over 1.5GW. These integrate the gas and electricity distribution networks and support the increase in electricity demand from heat pumps and electric vehicles, whilst enabling renewable generation through backfilling for periods of low intermittent supply.
- v. Currently we have four vehicle refuelling stations connected to our gas grid for both freight and bus fleets, with a fifth due to connect.

17) What do you think of the draft One Planet Cardiff Strategy?

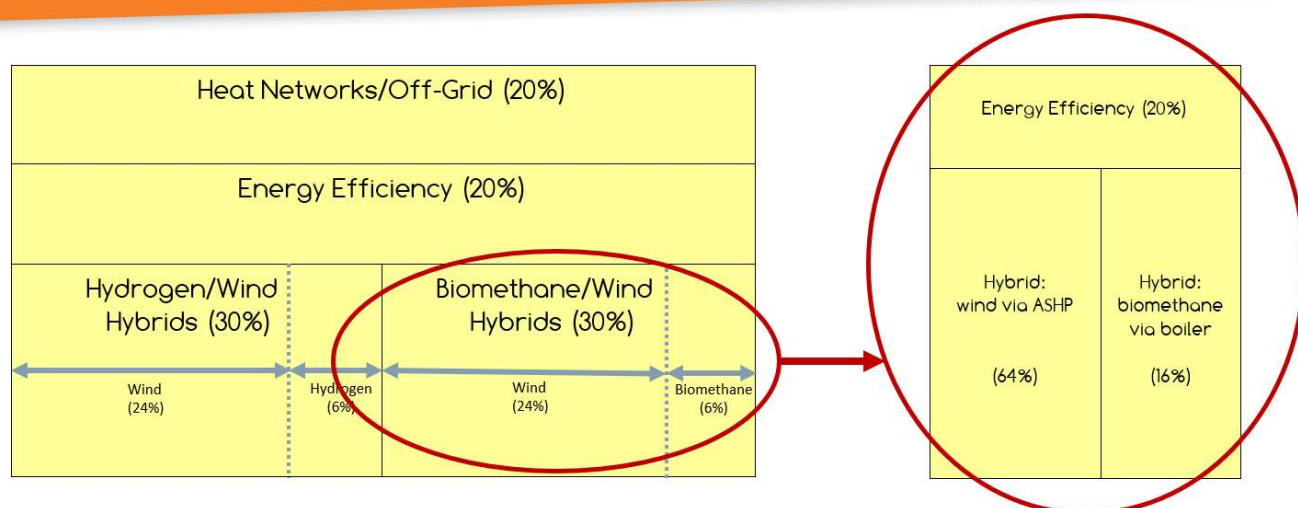
- **Themes**

- vi. The themes look to encompass much of what needs to be covered in such a strategy. I think our biggest warning would be to not silo these – particularly Energy, Built Environment, Transport and Waste. They are all interlinked and if approached in a joined-up way can form complimentary steps that offer a low regrets and least cost outcome – rather than going ‘hard’ against all four themes individually.

- **Projects**

- vii. Working with utilities to decarbonise the gas and electricity grids is a welcome priority. Hybrid heating solutions for the wider city helps green gas go 5x further, with the heat pump in a hybrid picking up a large portion of the demand and the clean gas boiler the smaller portion.

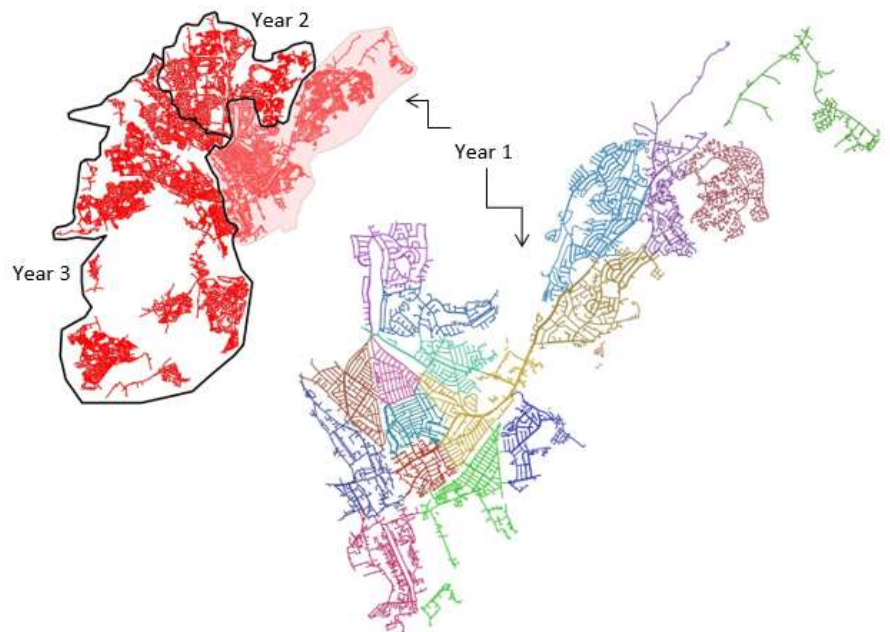
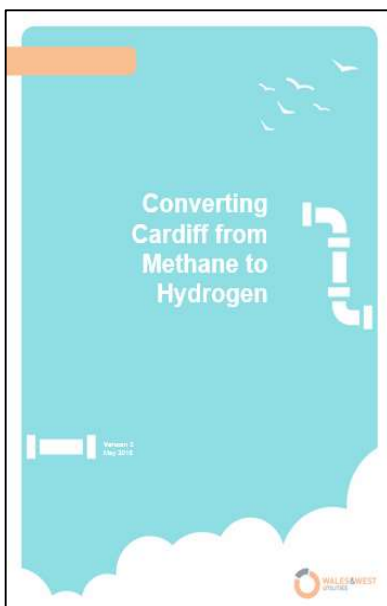
Full domestic heat decarbonisation with hybrids



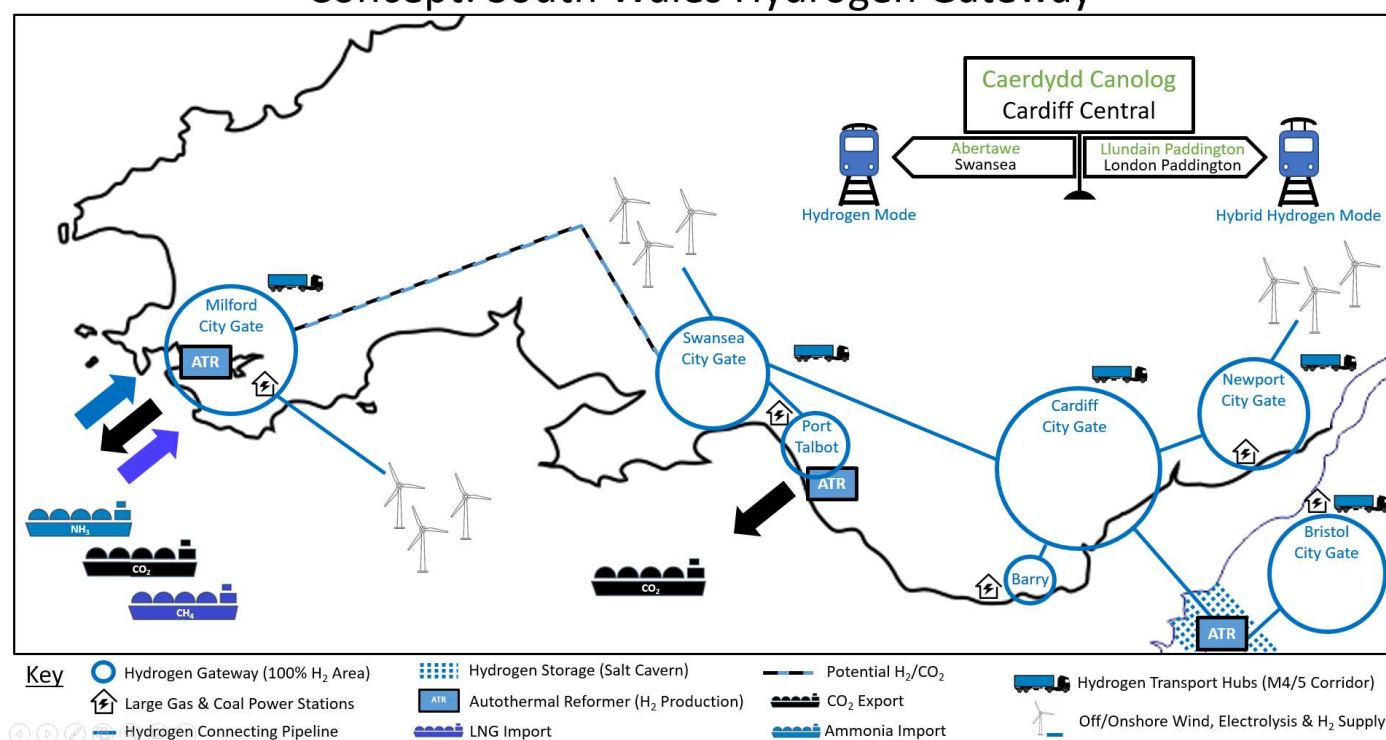
- viii. Largescale Housing Retrofit: improving energy efficiency is very important, however it must be noted that there is a point at which measures become uneconomic, above which decarbonisation costs more than using more low carbon energy supplies. The Energy Research Council and UKCCC suggest that the maximum economic energy reduction is between 12% and 19%. Our own whole energy systems modelling uses 20%. We would suggest the UKCCC 'hybrid first' approach to technology roll-out to deliver quickest decarbonisation of homes with low disruption, low behaviour change and lowest heat bills.
- ix. Low Cost Efficient Energy: we suggest making sure the role of potential solutions in scenario planning is viewed in a 2050 context with hourly supply and demand modelling. This energy balancing approach keeps potential for regretful investment low and ensures that a system is put in place that is secure, affordable and meets the net zero ambition of the city, Wales and the world. For example, annualised modelling may suggest installing solar and heat pumps; however, they are diametrically opposed and create a seasonal storage issue that needs significant additional investment to rectify. You could look to maximise green gas entry to the gas grid with the Green Gas Support Scheme – this clean biomethane gas can then be used flexibly for home heating, power generation, industry and heavy transport.

- x. Low Energy Healthy Transport: we suggest a transition phase for buses and heavy goods vehicles using biomethane – John Lewis, Argos, Waitrose, Hermes, ASDA etc are replacing their fleet for green gas trucks. Other cities, like Bristol, are investing in a green gas bus fleet. Nottingham, which you’ve singled out as an example for electric bus park and ride, have over 120 biomethane buses, which are lower carbon than electric buses. These are deliverable now and supported by the Renewable Transport Fuel Obligation. Hydrogen for buses, HGVs, trains and, potentially, cars and vans as developed by Riversimple, will need to follow – but encouraging the fledgling hydrogen economy now will help it to bear fruit earlier. As the gas network in Cardiff, we are working on the basis that we’ll be transitioning the city over from natural gas with biomethane blends to a 100% hydrogen supply. Close engagement with the South Wales Industrial Cluster will be key to taking advantage of industrial fuel switching to hydrogen as a catalyst for action on transport and buildings – we are a Partner in this looking at the hydrogen distribution infrastructure.

We have completed an outline hydrogen conversion plan for Cardiff as part of the H21 project:



Concept: South Wales Hydrogen Gateway



- **Targets / timescales**

- x. The 2030 target for the Council's operations is ambitious and deliverable. The target for developing a roadmap for the entire city by 2030 is welcome – it allows for a very focussed decade through the 2020s, but also gives time to take stock of evidence and trials/demonstrations to make firm decisions for balanced, well-judged and affordable actions for a net zero outcome.
- xii. The households' action on heating are sound. Where available and desirable, 5% of homes on the gas grid opting to connect to a heat network, with 95% benefiting from a decarbonising gas supply.

- **Planned actions**

- xiii. Liverpool and Manchester are good examples to highlight – they are strongly linked to their local industrial cluster (HyNet) to introduce hydrogen blending in their gas grids. In particular, the gas and electricity networks in Greater Manchester have collaboratively worked with the Combined Authority on a net zero energy infrastructure plan for their ambitious 2038 net zero target. This plan shows that for all homes in the Greater Manchester region, 47% will be on a hybrid heating system (heat pump and hydrogen boiler), 34% on a hydrogen boiler and new/very efficient homes on full electric (15%) or a heat network (4%). It is worth noting that UK Government has worked with industry and developed hydrogen boilers, cookers, hobs and fires in readiness for cities or regions to embrace a hydrogen future.
- xiv. Consider, as has been before, the role of hydrogen production from the Lamby Way site – this could be turned into green gas using captured carbon dioxide at the nearby waste water treatment centre and injected into the gas

grid. From 2023, according to industry timescales and the Prime Minister's 10 Point Plan, the hydrogen could be directly injected into the gas grid at up to 20% blend by volume.

▪ **Is there anything you would change?**

- xv. We would recommend following the UKCCC recommendation for domestic heating – installing ‘hybrids first’. Hybrid heating systems are a combination of heat pumps and existing gas boiler systems. They are lower carbon than heat pumps on their own and always chose the lowest cost way to heat a home. They will ultimately use cheap renewable electricity when available and green gas when the wind doesn't blow and the sun doesn't shine – helping to keep the lights on too.
- xvi. It is unfortunate to be locked-in to carbon intense, inflexible electricity generation regarding energy from waste from incineration. It is, however, understandable that waste heat from this plant should be used in the best way. An alternative energy from waste plant in Swindon is due to commence operation in early 2021 which converts black bag waste to a clean gas for injection to the gas grid – with options being explored to undertake carbon capture and usage to make the process carbon negative. This is flexible and valuable for the energy system, allowing energy storage in the gas grid that can be used for decarbonisation of heat, power, industry and transport. These waste gasification plants can provide a hydrogen output instead of biomethane and so are able to flexibly work with the energy transition.
- xvii. Consider thinking outside of Cardiff and potential for investments beyond your boundary. Solar and batteries are an expensive addition to buildings when renewable generation that delivers a better profile of supply can be provided from offshore wind. Since we need a lot of offshore wind to supply electricity demand in winter, these wind assets will also work in summer, rendering solar as a low value asset. It is recommended that Cardiff considers investing in a slice of the offshore wind opportunity to benefit future generations of billpayers in Cardiff.
- xviii. Position Cardiff at the forefront of hydrogen rail as the hub for reaching all the parts of Wales that won't have electrified lines.

18) The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?

- xix. It is very hard to prioritise when there are so many that bring passion from diverse opinion. It may be worth considering a citizens assembly to aid prioritisation and to guide decision making – since we have learned from the UK Climate Assembly that cost and disruption are important matters, particularly with home heating where hydrogen was ranked above heat pumps.

- xx. It would be sensible to take action in low regrets areas that can be deployed now. For transport, that is gas for HGVs and buses with biomethane procurement, but ideally having a local source of the green gas. For heating, that is hybrid heating – where emissions can be saved immediately and no further interventions at the home or on energy networks are necessary to enable their installation, unlike disruptive and higher carbon full heat pump systems.

19) Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?

- xxi. Easy to digest infographic updates on progress annually with an accompanying annex of data for those who desire to have access to it. Any strategy changes will need to be clearly explained. We would expect this to be a 'live' document, with further analysis, such as hourly supply and demand scenario modelling, revealing updated pathways of least regrets and least cost for a net zero outcome.

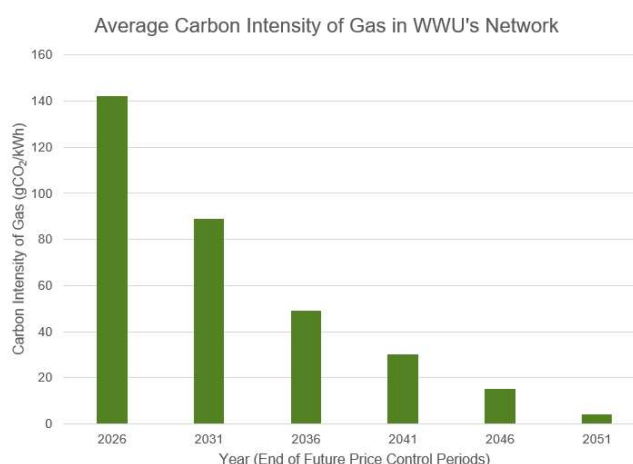
20) What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?

- xxii. We have an ambitious plan to become net zero, but crucially to invest in our network to be net zero-ready by 2035. This means that our gas network in all parts of Wales and the south west of England we serve will be ready for any decarbonised gas – and for Cardiff that will be hydrogen. Please see Chapter 13 of our investment plan (pp109-125) to Ofgem outlining our net zero proposals: [3-wwu-business-plan-december-2019.pdf \(wwutilities.co.uk\)](https://www.wwu.co.uk/business-plan-december-2019.pdf)

xxiii. If our plans are supported, the average carbon intensity of the gas in our network will reduce as shown in the graph, below.

WWU Network: Carbon Intensity of Gas Trajectory

- Based on investment in & policy for our ambitious net zero plan
- Set out by future price controls
- Assumes a whole system approach:
 - Increasing biomethane entry
 - Hybrid heating roll-out
 - Economic fabric retrofit
 - Blending in North Wales by 2026
 - South Wales Industrial Cluster by 2031
 - Smart gas grid (inc. compression)
 - Cities converting to hydrogen



21) Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

xxiv. Best practice with energy systems emissions is to look across the integrated, whole energy system and not isolate different sectors or challenges into silos. Hourly modelling of supply and demand should also be employed to determine the path of least regrets and the most affordable journey to a One Planet Cardiff.

22) How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?

xxv. We should engage to help you with modelling your ambitions and timescales, as well as alternative scenarios. Cardiff Council is kindly a participant in our Tools of Engagement project, funded by Ofgem, to provide a simplified whole energy systems model to local authorities to help develop net zero strategies to test scenarios at a high level. When this project is complete, we will be able to give your energy team access to use it. Subject to the outcome of Ofgem's Final Determination, we hope to be able to provide further support in more detailed Local Area Energy Planning assessments.

xxvi. We would also like to distil the learnings from the HyHy Project to you once it has completed in the coming month or two – this is looking at the conversion

of the Cardiff gas networks to Hydrogen and the role of hybrid heating systems, including the benefit on hydrogen production, storage, CO₂ export shipments and an assessment of the regional hydrogen supply price and total energy costs to households.

- xxvii. We would be pleased to engage with you on the blending of biomethane into the gas grid from existing biogas sites and in the development and connection of any new facilities.

23) What is your organisation currently doing to promote carbon reduction and sustainable living?

- xxviii. Wales & West Utilities is actively engaged with the UKCCC, BEIS, Ofgem, Welsh Government and a number of local authorities to support an accelerated pathway to net zero at least cost and least disruption, working jointly across gas and electricity to decarbonise heat, power, transport and industry and optimise investment across technology, building fabric, networks and energy supplies. Please see our net zero business plan (link above).

24) How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

- xxix. This is a challenge – the UK Climate Assembly needed several weekends to establish understanding of the issues and options. However, the message from them over the ‘heat’ weekend was to minimise disruption and costs, with hydrogen favoured over full electrification. Hybrids were included in the evidence provided in the hydrogen session. You may consider a similar citizen’s assembly approach to aid prioritisation and to guide your decision making.

▪ **3b (viii) - Wales Co-operative Centre**

One Planet Cardiff Strategy Consultation 1st December 2020

About Wales Co-operative Centre

We are a not-for-profit co-operative organisation that supports people in Wales to improve their lives and livelihoods. Since we were founded in 1982, we have been right at the heart of Wales's vibrant social economy, bringing people together to make our communities more confident, more co-operative, more capable and more ambitious.

We work for a fairer economy. We help to create and retain wealth within our communities through the growth of co-operatives and social businesses. We provide people with the skills to take more control of their own lives and strengthen their communities. Everything we do is shaped by our own commitment to co-operative values and our close collaboration with funders and delivery partners to achieve shared goals.

Introduction

We welcome the One Planet Cardiff Strategy and Cardiff Council's plans to respond to the climate emergency. The Wales Co-operative Centre is keen to support the council to achieve its aims and objectives. Cardiff Council is a co-operative council and, as such, adopts the international co-operative values and principles. These values and principles are relevant to the delivery of the strategy. It is only by working in partnership with citizens, other public bodies, the charity sector and local businesses, including social enterprises, that we will be able to achieve the goals of the strategy.

Our response will focus on the areas in which we work, notably social enterprise and digital.

The role of business and social enterprises The themes set out in the document are important ones. We believe that the strategy could have a greater emphasis on the role of businesses in delivering the objectives. As the document acknowledges, we

will only succeed in tackling the climate emergency with everyone's involvement. Cardiff will not be able to meet its targets without the commitment of the business community.

We would encourage the council to put more emphasis on engagement with businesses and social enterprises in the delivery of the strategy. In particular, social enterprises could be a key part of that business engagement. Social enterprises have a unique business model that includes a triple bottom line, taking account of their environmental and social results not just their financial ones. As such they are businesses that align most closely to the goals of the Well-being of Future Generations Act. We would propose that you include a social enterprise or co-operative representative on any governance or advisory structures that oversee the delivery of the action plan.

▪ 3b (ix) - Welsh Government Energy Services

Gwasanaeth Ynni
Energy Service

One Planet Cardiff Strategy

Jane Forshaw
Strategic Lead
30th November 2020

30/11/2020

Gwasanaeth Ynni
Energy Service

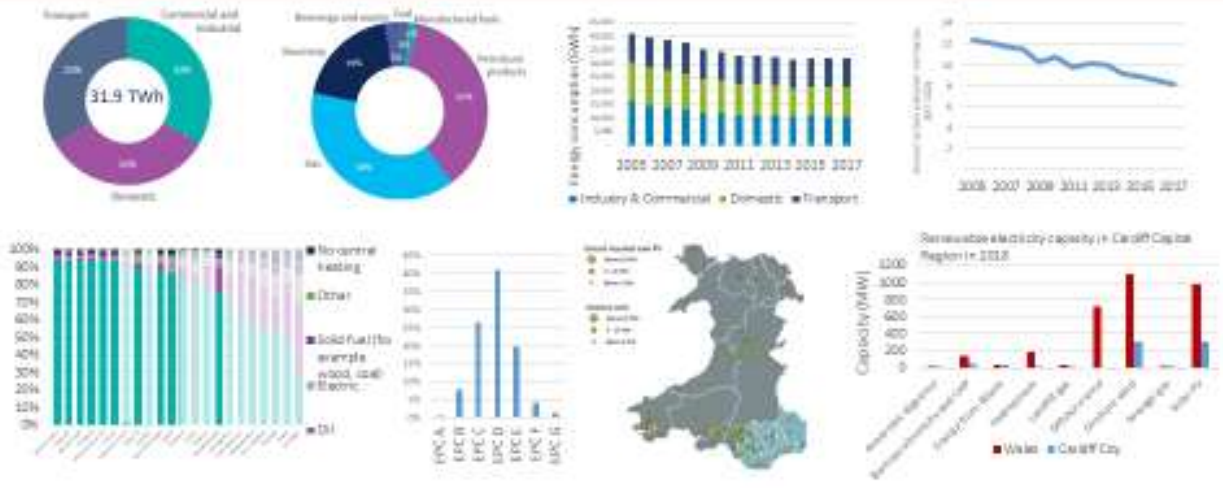
Prifddinas
Ranbarth
Caerdydd | Cardiff
Capital
Region

The regional energy modelling assessed:



Gwasanaeth Ynni Energy Service | Prifddinas Ranbarth Caerdydd | Cardiff Capital Region

Baseline:



Gwasanaeth Ynni Energy Service | Prifddinas Ranbarth Caerdydd | Cardiff Capital Region

The energy modelling scenarios are determined by:

Business as Usual	Energy System Vision
<p>80% decarbonisation compliant? X</p> <p>Net zero carbon compliant? X</p> <p>Applying the future energy scenarios (FES): National Grid's Steady Progression continuing existing trends, policies and deployment rates</p>	<p>Net zero carbon compliant? ✓ (as per absolute contraction method)</p> <ol style="list-style-type: none"> 1. Calculating the required emissions reductions to be on a pathway to achieve net zero by 2050. 2. Assessing local advantages, resources, opportunities, and challenges. 3. Considering the National Grid's Two Degrees and Community Renewables scenarios and accelerating these trends where required. 4. Taking into account stakeholder feedback.

2030 versus 2050 national target

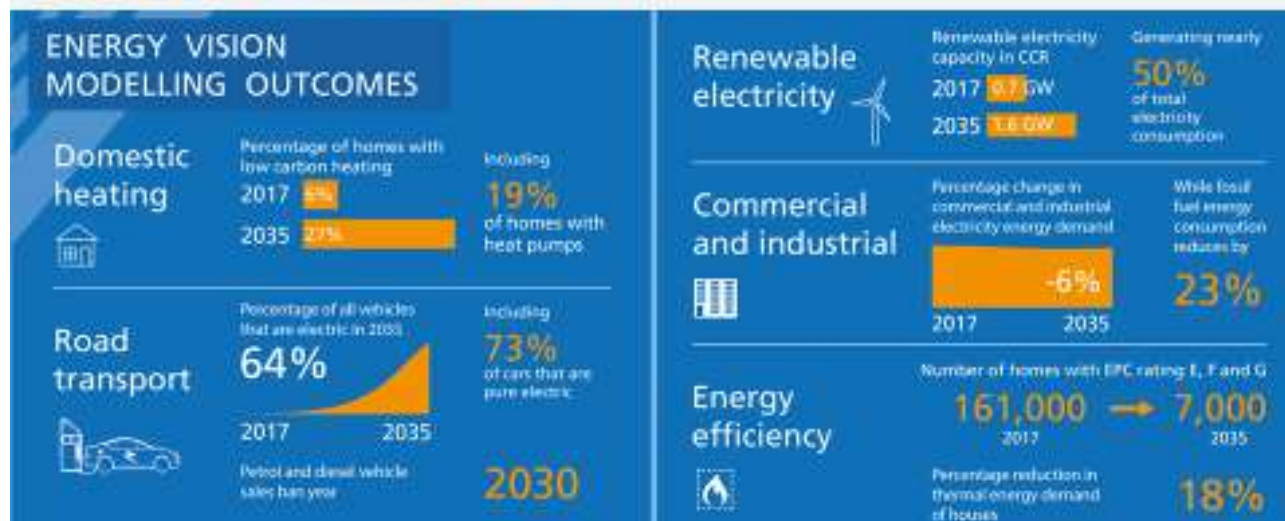
30/09/2021

Energy Vision 2035 decarbonisation by sector







Sectoral decarbonisation necessary to achieve -55% decarbonisation in the Welsh regions that have studied.
(Swansea Bay City Region Energy Vision: assessed in previous IWA/Regen study)



Energy Vision highlights



CCR energy efficiency jobs and investment

	BAU	ESV	ESV vs. BAU
Jobs 	21,970	31,318	9,348
Investment 	£4.6b	£6.6b	£2b
Number of measures 	3.7m	5.3m	1.6m
GVA 	£1.3b	£1.9b	£555m

CCR Energy Generation jobs and investment

		BAU	ESV
Jobs		32,737	40,166
Investment	£	£366m	£1.1b
GVA		£4.1b	£4.9b

**Gross and annual job figures have been calculated based on UK or international direct job intensity indicators per technology. These full time equivalent indicators include both short term (construction) and long term (operations and maintenance) jobs. However, short term jobs are weighted against the lifetime of the plant. Non-manufacturing direct electricity generation jobs are typically more likely to be held by residents local to an energy site. The experience of Wales to date is that many of the long term operational and maintenance jobs associated with these technologies are held by persons outside of the region who travel into Wales to perform their duties.*

Governance Questions:

- Who will own the objective of decarbonising the whole City?
- Who is the accountable body for strategic decision making within the City?
- Who will take responsibility for the development and implementation of an action plan for decarbonising the City?
- Where are the internal **resources and budget** for this work ?
- Who is responsible for leading the initial discussions on One Planet governance?
- Who is responsible for defining good governance for the strategy?
- Has good governance been defined elsewhere for other city scale strategy work?



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Written Submissions

▪ Friends of the Earth Cardiff

Cardiff Council One Planet consultation - Cardiff Friends of the Earth response

Summary

Cardiff Friends of the Earth warmly welcomes the opportunity to engage in the One Planet consultation - as presented in the below format - and we look forward to opportunities in the future to continue dialogue and encourage citizen participation in the plan.

The proposed strategy is a positive step forward for the city with a strong indication of Cardiff Council's sense of duty over the next 10 years.

Our concerns largely centre around the deliverability of the vision without an appropriate funding strategy which reaches beyond restricted council budgets; or indeed a robust framework for monitoring and enforcing targets in line with the Paris Climate Agreement.

Whilst we understand that this is a vision document, we would value more statistical data to establish a clear baseline and appropriate targets in order to best assess the plan. This includes details on the modelling used to calculate net zero carbon emissions and whether this accounts for imported and exported emissions or just council operations.

In addition to this, we have grave concerns about local planning policy which fails to take account of global climate targets, or the ability to achieve the outcomes set out in this strategy. We would advocate for a much more robust implementation of binding [Planning Policy Wales](#) guidance as well as tough Supporting Planning Guidance (SPG) which specifically accounts for the wider / global impact of local planning decisions.

We look forward to reading the published response once all views and considerations have been taken into account.

Consultation questions

1) What do you think of the draft One Planet Cardiff Strategy?

Proposed actions and timescales have been incorporated into each statement on the following themes. Whilst every effort has been made to focus on the individual themes, the plan doesn't recognise the integration between the different themes as much as it should and the themes within themselves are somewhat limiting.

Green infrastructure and biodiversity

- Objectives for Green Infrastructure & Biodiversity must be SMART and include budget allocation, details for the roll out of a volunteer network, funding allocation, project management and also address inconsistencies within the planning system.
- In order to set SMART goals for increasing the canopy, we need robust systems to monitor tree/canopy loss and gains (public and private). Which i-tree project recommendations will be actioned? By when? How many trees have been lost since the i-tree report?
- The LDP is failing to protect trees and green spaces and is inconsistent with the vision set out in One Planet.
- Huge gaps exist between Cardiff's parks and green areas, which has a negative impact on our local wildlife and biodiversity. The creation of green corridors would improve connectivity for citizens and wildlife to safely flow between biodiverse areas.
- Nottingham Council has set a target to be carbon neutral by 2028. They are committed to planting 50 000 trees over the next three years. Can this be achieved in Cardiff? This would support green recovery, training and education as outlined in the Cardiff plan.

Energy

- Disappointing to see no mention of community-led energy projects. It would be good to see how the Council has supported or might be able to further support and develop new community energy projects such as [Cardiff Community Energy](#), [Awel Co-op](#), [Engi Co-op](#). Reinvestment from the pension fund could be used to support locally owned power generation.

- More detail on how energy generation ambitions may be matched. How will the use of private finance and municipal investment schemes be used to maximise ambition and how might divested pension fund investments be targeted locally.
- We believe that a commitment from the Council not to use Negative Emissions Technology (NETS) or false Net Zero solutions to offset emissions is required. In particular, Carbon Capture and Storage (CCS) Bioenergy, Carbon Capture and Storage (BECS) and the use of (new) incineration and wood biomass plants should be excluded from the Council's energy mix. This should be reflected in the local development plan and local planning guidance.
- All electricity purchased by the council to exclusively come from renewable energy sources. All existing and new contracts with energy companies should reflect this as soon as possible with 100% renewable energy companies favoured.

Food

- We support the development of the Cardiff food strategy and its aims. We would like to see more detail on how growing food in the city can be used to directly benefit the most vulnerable communities in Cardiff.
- A commitment from Cardiff Council to root out deforestation in its supply chain.
- We welcome the focus on procurement and supply chains as a vitally important part of the food strategy.

Water

- We feel as if this theme doesn't look at the bigger picture and needs more integration with planning policy.

Waste

- We support the overall objective to reduce waste, which is in line with the zero waste by 2050 goal set by Welsh Government. However, we feel this goal is in danger of being undermined by continued incineration.
- We would like to see Cardiff set a zero municipal waste target for 2030 rather than 2050 which includes phasing out the use of Cardiff's existing incinerator and refusing permission for anymore.
- Working with local businesses to create a deposit return scheme for bottles.

- Use the Council's buying power to reduce environmental impacts at home and overseas by creating a sustainable procurement supply chain.

Transport

- We welcome the large amount of progress made by the council in this area and look forward to seeing many of the planned changes put into place.
- The Cardiff Cross rail and Cardiff Circle Tram line finally brings Cardiff into the present day, making it more accessible as a city. However, some areas are frequently left out of exciting new proposals such as large housing developments on the outskirts of the city. For example, Pontprennau will again only see improvements to bus services. There is a fear that this will not go far enough in reducing car reliance in these areas.
- We have previously called for a fair and socially-just clean air zone in Cardiff. This is mentioned in the Cardiff Transport White paper, but not in much detail. We would like to see this option explored further for the city centre.

Built Environment

- The mention of fuel poverty in relation to Large Scale Housing and Development Retrofit is welcome, as well as the Council's proposed action to develop a zero carbon pilot housing estate at the Eastern High School site. However, it is essential that affordability is at the heart of this, with around half of homes available as social housing, similar to the Cardiff Living Scheme.
- The cost of retrofitting is huge, given that Wales has some of the oldest housing stock in Europe. However, to see that this is the number one area of focus for the council, above building new energy efficient homes first is very welcome.
- New housing developments must be within easy access to public transport. In the past few decades, residents in new housing estates have had to rely more and more on car use. Housing schemes such as the Cardiff Living scheme need to be within walking distance to the proposed Cardiff Crossrail and Cross city bus network, as mentioned in the planned action for transport.

Challenges and opportunities

- The plan is highly ambitious and so these schemes will need to be staffed sufficiently. A substantial amount of work needs to be done and it would be

encouraging to see investment put in place to support departments and staff to deliver the aims.

- We are very pleased to see the doughnut economic theory highlighted in the plan. We would strongly advocate for its integration at the heart of the strategy. [Oxfam's Welsh doughnut framework](#) is a good place to start.
- Planning policy is a central issue and concern. A complete overhaul of the planning system and cultural shift is required if Cardiff is serious about carbon neutrality. The current planning system disregards many climate, green and biodiversity issues in its decision making process. We would recommend that the council creates an SPG (Supporting Planning Guidance) specifically about the wider / global impact of local planning decisions.
- More detail is required on how plans will be funded. The ideas won't be worth the paper they are written on without clearly outlined funding plans.
- Will proposed developments be assessed for their net carbon output? Will the assessment include the extraction, manufacturing and transportation of materials used?

2) The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?

It is difficult to rank projects in terms of priority, as we do not see one of more significance to the other.

3) Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?

- For the One Planet strategy to be a success, the most disenfranchised and vulnerable communities in the city need to be at the heart of the change and should benefit the most from changes made in the city. In order for behaviours to change in the city, diversity and representation should be at the core of the action plan.
- Use additional decision-making approaches for complex or contentious choices, such as representative citizen assemblies or citizens' juries, participatory mapping and budgeting, etc.

- Emissions reporting must align to international frameworks in line with the Paris Climate Agreement. Modelling of emissions reduction targets must be robust and account for imported and exported emissions. We would advocate the use of [SCATTER](#).
- Align all council statutory and non-statutory plans, policies and guidance with our climate, nature and green economy goals, including areas such as procurement and infrastructure development.
- Identify both a councillor at cabinet level and a lead officer as Climate and Nature Champions, who are required to publish a twice-yearly independent and audited public report on progress in meeting climate change and nature targets.
- Set interim and measurable targets for Cardiff Council to rapidly grow the green economy and achieve climate and nature goals. These should be SMART.
- An independent external board which is representative of Cardiff's public and private interests should be set up in order to help scrutinise progress.

4) **What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?**

N/A

5) **Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?**

[Oxfam's Welsh doughnut framework](#) as mentioned previously.

6) **How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?**

N/A

7) **What is your organisation currently doing to promote carbon reduction and sustainable living?**

We advocate for green, clean and sustainable solutions to our global climate crisis. We engage local Cardiff citizens as part of a worldwide network of concerned

individuals willing to speak up and act on climate and environmental issues. We campaign for greater accountability at a local and national level.

8) How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

Whilst individual responsibility is important, specific emphasis should not be placed on Cardiff citizens in making this a success. However, engagement is vitally important and the appropriate resources, opportunities and infrastructure need to be in place in order for citizens to fully embrace the strategy and act accordingly.

There needs to be an easy decision-making process for individuals to choose more sustainable living options. An individual may choose to live in a new build, low energy cost home, but if there are unreliable transport links, frequent car use is bound to offset the 'good sustainable' decisions already made by the individual.

▪ **FOR Cardiff**

One Planet Cardiff – Stakeholder / Witness Questions

1) What do you think of the draft One Planet Cardiff Strategy? In responding to this please comment on the following:

▪ **Themes**

The themes are relevant and perfect in their number.

▪ **Projects.**

There are clear and well considered projects presented in a format for all to understand.

▪ **Targets / timescales.**

The target is challenging yet achievable if people work together. Too long a deadline and the need for a sense of urgency is gone. Too soon and buy in will reduce as it is seen as unachievable.

▪ **Planned actions**

These are practical, achievable, numerous across the themes and well considered.

▪ **Potential influence.**

A high profile buy in from key stakeholders is crucial in much the same way as the Healthy Travel Charter was conducted. Senior level commitments are crucial in disseminating the Strategy and its aims and actually achieving the targets set.

▪ **Challenges and opportunities.**

Nothing to add.

▪ **Is there anything you would change?**

No, I think it is an excellent Strategy which covers all aspects required to be addressed. I would suggest that there needs to be slightly more emphasis on the audience being businesses as well as individuals / residents.

2) **The draft strategy includes a broad list of projects that the Council and partners are looking to deliver. Are you able to rank the projects in order of priority?**

Top priority first:

Transport:

Encouraging the use of active travel and public transport; accelerating the use of 'clean' vehicles.

Energy:

Reduce energy consumption in general, and our reliance on fossil fuels in particular.

Built Environment:

Manage energy consumption in buildings; reduce the heat and electricity energy demand of buildings by up to 60%..

Waste:

Boost recycling rates and minimise waste to make Wales a Zero Waste nation by 2050.

Green Infrastructure & Biodiversity:

Re-prioritising the city's green infrastructure to increase and connect green spaces

Water:

Preparing for extreme weather events such as flooding.

Food:

Minimise the impact our food choices make on the environment.

3) Moving forward, how do you think that the Council and its partners should measure, monitor and report on the progress of the One Planet Cardiff Strategy?

Measure – annual business and residents surveys, defined qualitative and quantitative KPIs

Monitor – trends should be used to determine the rate of growth / buy in etc to ensure that progress is being made against targets – these should be quantifiable and not be afraid to call out where not enough progress is being made.

Report – the presentation of the Strategy and its accompanying website is a great way of communicating the work being done in a format which is readable for all ages. Infographics and easy to read, digestible format is crucial. A champion for the work being done, similar in style to Sophie Howe's role would be great at promoting and reporting on the work being done.

4) What do you think are the main barriers that prevent your organisation from reducing its carbon footprint and becoming more sustainable?

Poor alternatives to employees using their car to get to work eg. public transport.
Lack of where to go to seek an independent audit of what we practically could do to reduce our carbon footprint and be more sustainable. This would be invaluable.

5) Are there any examples of best practice in terms of carbon reduction and sustainability that you think could be added into the One Planet Cardiff strategy?

None at this moment in time.

6) How do you think your organisation could best help achieve the aims and objectives set out in the One Planet Cardiff strategy?

Our 5 year Business Plan for 2021-2026 is currently being written with the aim of seeking support from city centre businesses to run for another 5 year term (the majority of businesses who vote will have to be supportive of our aims when we go to ballot in June 2021). We are very keen to promote elements of the Strategy in this document subject to the desires of the businesses with whom we engage.

Our work in informing businesses of key activities, workstreams, events etc allows us to help promote aspects of the strategy to over 750 city centre businesses across a range of sectors.

7) What is your organisation currently doing to promote carbon reduction and sustainable living?

We are currently working with partners (including Cardiff Council) to identify an opportunity to use Welsh Govt. Transforming Towns funding to utilise and disused city centre building and turn it into a secure bike storage area. The aim is to encourage bikes as a mode of transport for workers and visitors to come in and out of the city and to not have the issue of bike security preventing them from doing so.

We have also played a lead role with Public Health Wales in promoting the Healthy Travel Charter to the private sector in Cardiff and promoting its existence on an ongoing basis with the aim of encouraging more businesses to sign up.

Employees are able to sign up to a Bike to Work scheme allowing them tax incentives on the purchase of a bike.

8) How best do you think Cardiff citizens could help achieve the aims and objectives set out in the One Planet Cardiff strategy?

We believe that a Charter and Pledges are a great way of ensuring people buy into the concept and be kept updated on progress.

Neighbourhood 'Planning for Real' exercises, a regeneration concept popular in the 90's is a great way of engaging with local communities and all ages to help determine what they can do to help in their area in a simple fun expressive way. Tailored to the One Planet Strategy, buy in and a sense of ownership would get off to a strong start.

▪ **British Countryside Alliance**

BCA Response to One Planet Cardiff

Introduction

We were hugely encouraged to read the One Planet Cardiff report. It is imperative that action is taken to protect the natural environment and roll back the tide of climate change while ensuring economic prosperity is attained. As an organisation, we found lots of common ground in the report's sections on transport, biodiversity, green infrastructure, and personal responsibility. Alas, we still have some outstanding questions and concerns about some aspects of the report, particularly pertaining to financing. Nonetheless, we are heartened that these constructive policy discussions are taking place, and we look forward to working together to come to solutions that benefit everyone.

The following paper will articulate the British Conservation Alliance's response to the One Planet Cardiff Report. In doing so, it will begin by highlighting the BCA's role as an organisation, before delineating the aspects of the report which we appreciated and which we believe should be further strengthened. We have provided a set of initiatives, policies, and guidelines that we believe will help to achieve the goals of the strategy, whilst also ensuring that it is possible to implement. Subsequently, our questions and concerns raised by the report will be outlined, before providing a succinct summary of our position.

What is the BCA?

Formed in September 2019, the British Conservation Alliance (BCA) is a non-profit and non-partisan organisation dedicated to advocating pro-market environmentalism and conservation. Its board of advisors includes the likes of Former Secretary of State for Energy and Climate Change, Amber Rudd, and Michael Shellenberger, President of Environmental Progress. At its core, the organisation believes that a greener future can be best achieved through the government taking a pro-innovation stance, and fostering a positive change through the economic and social movements that allowed us to achieve our current prosperity.

Since its launch, the BCA has grown at an incredible pace to establish itself as the largest environmental student network in the UK, with a presence in over 30 universities across all four UK nations. At the same time, the BCA has built an extensive network of scientists, parliamentarians, and environmental organisations, with whom it produces policy papers and research. Just this year, the BCA launched its seminal book ['Green Market Revolution'](#) in collaboration with the Austrian Economics Centre, with contributions from former MEP Daniel Hannan over 15 environmental organisations from around the world that sold thousands of copies in over 90 countries.

The BCA's social media posts have received well over 2 million engagements, and the organisation has had nearly 100 media hits and placements over the past year - including on BBC Radio, The Times, The Daily Telegraph, and elsewhere. Our leaders have spoken at in-person and digital conferences in over 15 countries and advised politicians, parties, and think-tanks around the world on market environmentalism.

With its core mission to change the environmental narrative, the BCA continues to spearhead its effort to empower a new generation of leaders to promote market-based, innovative solutions to combating climate change.

What We Appreciate

“What can you do?”

An emphasis on personal responsibility in the “What can you do?” areas are very positive and constructive. It provides readers with a clear set of steps to take to help reduce their carbon footprint. Widespread, bottom-up coordinated individual actions are the most efficient way of transforming our systems. Solutions should come from the bottom up, not the top down. It is vital that these points are promoted by outlining the beneficial nature of these decisions and making individuals aware of the positive nature of personal change. An important role is also to be played by businesses, contributing to that effort by showing their impact on the environment and allowing the customers to make sound, environmentally-friendly decisions. We advise that Cardiff City Council pursues initiatives that will promote such activities.

One Planet Energy

Cardiff City Council has made positive steps to reduce carbon emissions, however, this progress must be continued. Developments into cost-effective decarbonisation solutions are crucial, as innovative minds continue to produce efficient alternatives to non-renewable energy sources. A new Solar Farm will go some way to decarbonise National Grid electricity, but it is important to consider the costs of the project, how far it will go, and how much focus it deserves? Also, individual initiatives in this field are extremely important. One does not have to build an extensive Solar Farm if most houses have solar panels installed. The individual approach tends to be cheaper and easier to implement, given that the right incentives are provided and there is enough public knowledge to encourage such developments.

One Planet Green Infrastructure & Biodiversity

This is an extremely big step on the road to a sustainable community. Personal responsibility is a paramount part of society, utilising it in the fight for the environment will improve where we live and remove litter from woodlands. Whilst this is already enforced through fines, it should be encouraged in schools through education to act as a bottom-up approach to tackling the issue. Without proper infrastructure, it is impossible to make any changes on the individual level. With the help of the

government allowing the private sector to move in that direction, such changes can be implemented faster and more efficiently.

One Planet Transport

The ideas for transport are constructive and very encouraging. More cities need to go 'Dutch' in the sense of cycling. "Fast, safe and fully segregated" cycle lanes around the city will increase the accessibility of the mode of transport and the health benefits that come with it. Dedicated bike lanes have been expanded, and trialled, by councils across the UK. The benefits of these have been widespread. Additionally, this infrastructure has the potential to help businesses such as delivery services that use cyclists to deliver products. Importantly, not only will conventional cyclists benefit from dedicated bike lanes but electric bicycle and scooter users too. Introducing more cycle lanes will encourage commuters and visitors to take up sustainable means of transport, as a low-carbon alternative to internal combustion engine-powered vehicles. However, it is crucial that the expansion of dedicated bike lanes is continued and met with other active forms of encouragement when required.

Electrifying the Council's fleet of vehicles will act as a great way of improving public perception. Whilst building a citywide network of electric vehicle charging stations will only increase their appeal more. Electric vehicles act as an efficient low-carbon alternative form of transport, but they are costly. To encourage their use, infrastructure must be developed, as well as subsidies considered, to afford electrical alternatives an equal platform to thrive. In order to lower the cost of the transition, it would be beneficial to explore opportunities to partner with a company (or several ones) that could provide the cars, or partially sponsor them as part of their promotion.

One Planet Waste

A movement to a more circular economy is fundamental to improve our environmental sustainability without eliminating our economy. Improving the accessibility of the three R's (reduce, reuse, recycle) is a vital part of that, as well as, promoting it by campaigning. The less cumbersome it is for people the more likely it is that they will participate, thus, the storage and pick-up of waste have to be streamlined. Additionally, all government institutions should continue their work to waste fewer resources by, for example, digitalisation of their bureaucracy. Additionally, the government should explore opportunities to make their waste management more efficient and profitable by considering opportunities for private companies to work within it. This can be done through various campaigns (like having local companies use local recycled materials to produce their products and then putting a Cardiff seal on them to show they are locally sourced and recycled), but also providing them with access to the recycled material. Educating the population on the matter is also very important, especially children but also adults so that reducing waste becomes part of their daily routine.

One Planet Food

Allowing for easier innovation in the agricultural sector is going to be crucial to provide food security whilst decreasing the negative impact of the industry on the environment. Initiatives like vertical farming should be promoted and made easier to implement, to lower the impact on the environment without sacrificing food accessibility. Innovation in the agricultural sector will drive productivity and limit the current dependence on water supply and the use of pesticides.

One Planet Water

Water management is crucial for sustainable city management. Improving the treatment of sewage, establishing better mechanisms for rain-water storage and drainage, and encouraging better individual use, are all vital initiatives to make the city greener and more sustainable. Many initiatives in water management could be implemented in cooperation with the private sector. As it is an emerging industry, looking at the project in Copenhagen, we can see that many cities are looking to improve their water systems using a wide variety of approaches, for which Cardiff could be a testing ground. Opening up the city to such projects would allow for a lowered cost and high innovation of introducing such projects. Whilst expensive to introduce, water management provides high savings over time, which is why lowering the cost of implementation could be a crucial advantage. Additionally, initiatives that target reforestation could be useful to implement alongside water management, as forests are responsible for holding water in the ground, preventing floods and droughts. Our [National Tree Strategy](#) proposal, which encourages a move towards sustainable reforestation methods, is a good example of an initiative that could provide further support to the water management efforts.

Our Questions and Concerns

Strategy Key Themes

The 7 'Key Themes' of the policy outline the aims of the policy well. However, some key areas either lack acknowledgement or are missed out altogether. For example, within 'One Planet Transport' there is no mention of Cardiff Airport and the sustainable developments within the aviation industry that can aid the work towards becoming a carbon-neutral city by 2030.

Targets & Timescales

The 2030 deadline is definitely ambitious. At a time when the COVID-19 pandemic has resulted in huge amounts of spending and difficult times for business and the individual, thus, it is absolutely necessary to take steps that will not result in long-term negative effects for the life-quality and city's financial sustainability for the prize of more environmental benefit. Some sacrifices might be necessary but it is vital to make sure that the project is possible to be implemented and will not require further financial instability for the city and its citizens. Further, pursuing side-goals like 'equity' and

'social wellbeing', while noble, will not help tackle climate change and it is fundamental that the environmental policy puts the environment at the centre of its aims.

Social wellbeing, for instance, is a byproduct of a healthy environment and a prospering economy. Clean air and sustainable jobs will be consequences of moves towards a more climate-conscious economy; by putting the focus on the environmental policy the social wellbeing will come with it, thus, it is important to be mindful of putting the causal effect in one way not the other, and remembering what are the actual goals of the programme.

Low-energy Healthy Transport

The expansion of ULEZ zones does little to help the people that the document is claimed to, by increasing costs for businesses and workers, these do little to incentivise greener travel through promoting the benefits. These zones may well reduce the emission of polluting gases but this goal can and should be achieved through different methods. One vital point in achieving more sustainable transport is electro-mobility (electric scooters, bikes, mopeds, and cars), both personal and shared. By eliminating the regulations that prohibit e-vehicle sharing companies from operating in Cardiff, and inviting them to operate in the city, it can achieve great strides in limiting car-use across the town. All around Europe and beyond, cities that allowed for electro-mobility to thrive have seen decreases in their carbon emissions with very little cost on the side of government.

Sustainable low-cost healthy food

One should not approach the production of food as a clear-cut easy solution issue. The current style of production requires extensive amounts of fertilisers and pesticides/herbicides, impacting how "eco" it is. There needs to be a discussion on what are the priorities in terms of accessibility of food against how environmentally friendly the production is. The main way to make food sustainable, ignoring soil mineral balance, is to make the energy it requires sustainable. It is important to consider how such developments like GMO and vertical farming could contribute to our food production, making it more accessible and less damaging to the environment. By promoting rather than discouraging such initiatives we can achieve increased flexibility and efficiency of agricultural production, whilst being less detrimental to the environment. A lower-cost requires higher efficiency, and if we do not want to use more chemicals in production, then we need to look to other alternatives.

Procurement

The proposals in this section are mostly positive but will require incentives, such as tax breaks or fines on unwanted waste. It is imperative that we achieve these goals without interfering more than is necessary for private enterprise so that we can make our economy sustainable. This area needs to be approached with some caution; if done incorrectly, overregulation can strangle businesses. If it is executed carefully and

with the needs of innovators and entrepreneurs kept in mind, we will be able to build a sustainable economy in the long term.

Our [Clean Asset Bonds](#) programme for funding sustainable innovation projects, would appear to aid the desirable goals of this proposal. By demonstrating that projects will have a positive environmental impact and reduce carbon emissions, these bonds help to encourage innovation and entrepreneurship. Driving down capital costs and helping green projects off the ground allows for environmental benefits powered by private investment instead of public finance expenditure.

Costs and finance

A significant concern is the costs of these measures. While undoubtedly noble and beneficial, the proposals need to be realistic and feasible. This doesn't appear to be addressed in the paper as it stands, as the paper lacks clarity on the financial impacts of the policies throughout. We should be very cautious whenever phrases like "creating jobs" or "circular flow" appear within the context of government action. Such a demand-side government stimulus is not only inefficient in the long run; its results are highly distortionary. Thereupon, the more green jobs will be left for the market to create, the more adequate the allocation of resources for transportation into a "greener economy" will be. Additionally, every government expenditure should be considered twice at a time of financial instability and made clear to those that will be discussing it. By making the project too extensive in its cost, it may be very difficult for it to come to fruition.

Conclusion

While ambitious, the One Planet Cardiff report is a significant step forward in tackling climate change and we welcome its publication. Moreover, as outlined, we share its positions on transportation and planet green infrastructure and biodiversity, in addition to its emphasis on what individuals can do themselves to make a meaningful contribution. However, the report demonstrates a critical lack of consideration for the cost-effectiveness of the measures it proposes.

Mistakes made in this field can decide not only whether this programme will be successful, but also whether it can ever be implemented. While some of the changes here stand as advice, other ones are necessary for this project to not become a never-ending stream of expenditure without results. This is especially significant these days, given the budget gap in the city funds. If the costs aren't cut or shifted towards private investors (for which they need to receive benefits) the project may never come to fruition.

With that in mind, we believe that the report is a step in the right direction, and with some necessary amendments, wider engagement with the private sector, a deeper focus on innovation, and adding more empirical evidence, it can serve as a good path for the city's development moving forward. It is absolutely necessary to on one side

look beyond the basic policies proposed in many places across the country, and look to what actually works, rather than adopting everything whether it is efficient or not. The more is achieved for each pound spent, the better for everyone and especially the environment, as the funds are needed for people, government, and businesses to afford to be more environmentally friendly.

By implementing the changes we advised in this document BCA strongly believes that Cardiff can stand as the gold standard of post-pandemic green innovation in city management, making the city a landmark case for such initiatives elsewhere. Other cities in the UK and beyond are already implementing many groundbreaking policies, for example, Milton-Keynes, so in order to lead the way rather than stay behind, the local government has to implement sound and innovative policies. As an organisation, we are immensely thankful for seeking our advice on this matter, and we are more than happy to carry on helping the city reach its goals of environmental sustainability. Looking forward, we are very hopeful and excited to hear about further developments in the proposal.

With great hopes,

British Conservation Alliance

A handwritten signature in black ink, appearing to read 'Marcin Branowski', written in a cursive style.

Marcin Branowski

President of British Conservation Alliance